2008
PROSPECTUS







BRAC UNIVERSITY

BRAC University

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Prospectus 2008

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Vice Chancellor's Message

Welcome to BRAC University! Selecting a university is among the most important decisions that you will ever have to make. As you browse through this prospectus I hope it will assist you making a choice.

Since its inception in April 2001, BRACU has attained a reputation for providing quality education in different disciplines. You will find an extensive selection of courses, a helpful environment and committed teachers and staff. Through continuous improvements in our curricula and developments in our learning facilities and resources we try to ensure that you receive the best education and experience a memorable university life.

BRACU's underlying philosophy is to develop ethical graduates, who will grow as individuals, gaining in self-confidence and developing a sense of leadership. Through a vibrant and rewarding campus life with diversity of co-curricular and extra-curricular activities, we try to make BRACU a truly *learning community*.

We are committed to your success and we put your personal and academic development as our number one priority. BRACU is the only private university in the country to provide a residential semester. Through different courses offered and co-curricular programs organized during the residential semester in the relatively quiet environment away from the city, we aim to develop self-confidence, adaptability, team work and enhanced communication skills in students.

The strength of BRACU breeds from the unique strengths and contributions of our faculty and staff and our distinctive pedagogical approach that culminates in all-rounded students ready for this dynamic society and the ever changing job market.

I hope you will make the best use of our educational facilities.

Professor Jamilur Reza Choudhury
Vice Chancellor


boichit
Intra University Football Tournament
BRAC UNIVERSITY
Club Fair

GENERAL INFORMATION

About BRAC University

BRAC University was established by BRAC in 2001. From a modest beginning almost thirty years ago, BRAC has today grown into one of the largest non-government development organizations in the world. It works in a number of closely related areas such as poverty alleviation, rural health care and non-formal education among many others to bring about socio-economic changes for a large number of our people, mostly women and children, whose lives are dominated by extreme poverty, illiteracy, disease and malnutrition. BRAC continually revisits its approaches to ensure its effectiveness as a catalyst for change. BRAC recognizes that development strategies, information technology and effective management can play significant roles in modernizing Bangladesh and in securing meaningful jobs for the Bangladeshi workforce at home and abroad.

In line with BRAC's continued support to education as a force of change and development, BRAC University has been established to provide a high quality of education to meet the demands of the modern age. BRAC University is 'not for profit' institution accredited by the University Grants Commission (UGC) and approved by the Ministry of Education, Government of Bangladesh.

Mission

The mission of the BRAC University is to foster the national development process through the creation of a centre of excellence in higher education that is responsive to society's needs, and able to develop creative leaders and actively contributes to learning and creation of knowledge.

Goal

The goal of the university is to provide an excellent broad based education with a focus on professional development for students, in order to equip them with the knowledge and skill necessary for leading the country in its quest for development. Along with this, the university provides an environment for faculty development in order to ensure a dynamic teaching environment. Faculty will be provided with an environment in which they can further their teaching skills and contribute to the creation of new knowledge by developing and using their research skills.

Scope

At present, the university offers following undergraduate degrees: Bachelor of Architecture (B. ARCH), Bachelor of Business Administration (BBA), Bachelor of Science (BS) in Computer Science and Engineering (CSE), Bachelor of Science (BS) in Computer Science (CS), Bachelor of Science (BS) in Electronics & Communication Engineering (ECE), Bachelor of Science (BS) in Physics, Bachelor of Laws (LLB Hons), Bachelor of Social Science (BSS) in Economics and Bachelor of Arts (BA) in English. The University offers following graduate degrees: Master of Business Administration (MBA), Master of Development Studies (MDS), Master of Bank Management (MBM), Master of Science in Biotechnology, Master of Disaster Management (MDM), Master of Arts (MA) in English, Master of Science in Applied Economics (MS.AE), Master of Arts in Governance and Development (MAGD), Master of Public Health (MPH) and Master of Education (MEd).

BRAC University also offers Post Graduate Diplomas in Disaster Management, Development Studies and Certificate courses in Disaster Management, ICT and Development, Social Communication, CISCO Certified Network Associate (CCNA), English Proficiency and Development, and IELTS (Preparatory)

As the university grows and as its institutional capacity is built up, the University will offer programs in a large number of disciplines. BRAC University will provide instruction and confer degrees in all branches of Arts, Social Science and Science including Medicine, Engineering, Architecture, Agriculture, etc. Degrees will be granted at the undergraduate, graduate and postgraduate (doctoral) levels. In addition, the University will offer Diploma programs on professional courses.

Organizational Structure

The Honorable President of the People's Republic of Bangladesh is the Chancellor of BRAC University. The Governing Board is the highest policy making body of BRAC University and is responsible for ensuring the highest level of educational and administrative standard at BRAC University. A number of committees assist the Board in matters essential to the smooth functioning of the University. The committees are: Academic Council, Course Committee, Finance Committee, Selection Committee, Audit Committee, Committee on Student Affairs, Disciplinary Committee, Committee on University Development and Committee on Medical Facilities. The Vice Chancellor (VC) is the Chief Executive and Academic Officer of the University. The academic wing of the University consists of Deans of Faculties/Schools, Chairpersons of the Departments and Faculty Members. The Director of Research is responsible for research, advisory services and publications. The Director of Student Affairs co-ordinates and supports all extra-curricular activities. The Librarian who is assisted by a Deputy Librarian and Assistant Librarians head the University library. The Registrar with Deputy Registrar, Assistant Registrar and Officers are responsible for day-to-day administration, human resource management, technological services and records.

Residential Campus, Savar

GOVERNANCE

Chancellor
Professor Dr. Iajuddin Ahmed
Hon'ble President, People's Republic of Bangladesh

Vice Chancellor
Professor Jamilur Reza Choudhury

Pro-Vice Chancellor
Dr. Salehuddin Ahmed

Treasurer
Mr. Sukhendra K. Sarkar

Registrar
Mr. Mahmood Hasan

Governing Board

The Governing Board is the highest policy making body of BU. It is responsible for ensuring that the highest level of educational and administrative standards are set and maintained at BU. The current Governing Board consists of the following eminent personalities of Bangladesh:

President

Mr. Fazle Hasan Abed
Founder & Chairperson, BRAC

Members

Professor Jamilur Reza Choudhury
Vice Chancellor
BRAC University

Dr. Salehuddin Ahmed
Pro-Vice Chancellor
BRAC University

Mr. Faruq Ahmed Choudhury
Former Foreign Secretary
Ministry of Foreign Affairs

Professor Anisuzzaman
Department of Bangla
Dhaka University

Prof. A. Mushtaque R. Chowdhury
Deputy Executive Director, BRAC
Dean, James P. Grant School of Public Health, BRAC University
and
Professor of Population and Family Health, Mailman School of Public Health, Columbia University, New York

Advocate Sultana Kamal
Executive Director
Ain O Salish Kendro (ASK)

Dr. Riaz Khan
Advisor, Governing Board
BRAC University

Professor Dilara Chowdhury
Department of Government and Politics
Jahangir Nagar University

Mr. Abdul-Muyeed Chowdhury
Chairman
BRAC Net

Mr. Sukhendra K. Sarkar
Treasurer
BRAC University

Dr. Mahabub Hossain
Executive Director
BRAC

Member Secretary

Mr. Mahmood Hasan
Registrar
BRAC University

Academic Council

The Academic Council recommends the educational policies of the university and determines the curricula and courses that can help achieve high educational standards. The council is currently composed of the following academics and professionals:

Chairperson
Professor Jamilur Reza Choudhury
Vice Chancellor, BRAC University

Members
Dr. Salehuddin Ahmed
Pro-Vice Chancellor, BRAC University

Professor Iqbal Mahmud
Former Vice Chancellor, BUET

Professor Zarina Rahman Khan
Department of Public Administration, Dhaka University

Professor Ainun Nishat
Country Representative, International Union for Conservation of Nature (IUCN)

Dr. Riaz Khan
Advisor, Governing Board, BRAC University

Dr. Debapriya Bhattacharya
Executive Director, Centre for Policy Dialogue

Dr. Imran Matin
Director, Research & Evaluation Division, BRAC and Africa Program, BRAC
Director, Development Studies Program

Mr. Mamun Rashid
CEO, Citibank, NA

Mr. Mahbub Jamil
Chairman & Managing Director
Singer Bangladesh Ltd.

Mr. Emad-Ul-Ameen
Director, Human Resource
GrameenPhone Ltd.

Dr. Perween Hasan
Professor of Islamic History and Culture
Dhaka University

Prof. A. Mushtaque R. Chowdhury
Deputy Executive Director, BRAC
Dean, James P. Grant School of Public Health
Professor of Population and Family Health, Mailman School of Public Health, Columbia University, New York

Dr. Manzoor Ahmed
Director, Institute of Educational Development, BRAC University

Professor Iftekhar Ghani Chowdhury
Dean, BRAC Business School, BRAC University

Dr. Sayeed Salam
Chairperson, Computer Science and Engineering, BRAC University

Professor Fuad H. Mallick
Chairperson, Architecture, BRAC University

Professor Firdous Azim
Chairperson, English & Humanities
BRAC University

Dr. Anwarul Hoque
Chairperson, Economics and Social Sciences
BRAC University

Professor Mofiz Uddin Ahmed
Chairperson, Mathematics and Natural Sciences
BRAC University

Dr. Shahdeen Malik
Director, School of Law, BRAC University

Mr. Khondoker Shamsuddin Mahmood
Head, Undergraduate Program
School of Law, BRAC University

Ms. Syeda Sarwat Abed
Director, CfL, BRAC University

Barrister Manzoor Hasan
Director, Institute for Governance Studies
BRAC University

Member Secretary
Mr. Mahmood Hasan
Registrar, BRAC University

Administration and Management

Professor Jamilur Reza Choudhury
Vice Chancellor
Dr. Salehuddin Ahmed, *Pro-Vice Chancellor*
Mr. Sukhendra K Sarkar, *Treasurer*
Mr. Mahmood Hasan, *Registrar*

Deans, Chairpersons, Heads, and Directors
Professor Iftekhar Ghani Chowdhury
Dean, BRAC Business School
Professor A. Mushtaque R. Chowdhury
Dean, James P. Grant School of Public Health
Professor Fuad H Mallick
Chairperson, Architecture
Professor Firdous Azim
Chairperson, English & Humanities
Dr. Sayeed Salam
Chairperson, Computer Science and Engineering
Dr. Anwarul Hoque
Chairperson, Economics and Social Sciences
Professor Mofiz Uddin Ahmed
Chairperson, Mathematics and Natural Sciences
Mr. K. Shamsuddin Mahmood
Head, Under Graduate Program, Law
Professor Taslima Monsoor
Head, LLB (Evening) Program
Dr. Shahdeen Malik
Director, School of Law, BRAC University
Dr. Imran Matin
Director, Development Studies Program
Ms. Syeda Sarwat Abed
Director, Center for Languages
Barrister Manzoor Hasan
Director, Institute for Governance Studies
Dr. Manzoor Ahmed
Director, Institute of Educational Development

Vice Chancellor's Office
Mr. Obaidullah Al Zakir, *Public Relations Officer*
Ms. Rofequnnesa Amin, *Secretary to the VC*

Office of the Registrar
Mr. Mahmood Hasan, *Registrar*
Ms. Shreyasee Sarma Pati, *Deputy Registrar*
Ms. Iris Pervin, *Assistant Registrar*
Mr. Md. Arifuzzaman
Sr. Registration and Program Officer
Ms. Nazmus Sabeka
Examination &Transcript Officer
Mr. Sreekanta K. Chowdhury
Admission & Registration Officer

Students Affairs
Dr. Zainab F. Ali, *Director*
Mr. Mohammad Jahangir Alam, *Assistant Director*
Mr. Atiqur Rahman, *DCO*

Career Services Office
Ms. Farzana Choudhury, *Sr. Assistant Director*
Ms. Sabrina Shahidullah, *Career Services Officer*
Mr. Mir Sajjad Hussain, *Career Services Officer*

BRAC University Writing Lab
Mr. A T M Sajedul Huq, *Coordinator*

Accounts
Mr. Monojit Ojha, *Head of Accounts*
Ms. Tanjima Tamanna, *Senior Accounts Officer*
Mr. Emdadul Islam, *Accounts Officer*
Mr. Suman Chandra Das, *Accounts Officer*
Mr. Md. Golam Kibria, *Accounts Officer*
Ms. Nusrat Zahan, *Junior Accounts Officer*

Relationship Management Office
Ms. Shamsun Nahar, *Assistant Director*
Mr. Saiduzzaman Shikder, *Student Counselor*

Human Resources Office
Ms. Rosy Sharif, *Sr. HR Officer*
Ms. Erin Islam, *HR Officer*

IT Systems Office
Mr. Mohammad Hossain, *Sr. System Administrator*
Ms. Fahima Khanam, *Sr. System Administrator*
Mr. Mohammad Rezaul Islam
Asst. System Administrator
Mr. Aminul Islam, *Asst. System Administrator*
Mr. Ali Al Asadullah Md. Shafi
Asst. System Administrator
Mr. Aurongojeb, *Network Support Engineer*

BRAC University Savar Campus
M Habibur Rahman, *Campus Superintendent*

Medical Center
Dr. Mahbuba Ferdous, *Medical Officer*
Ms. Lovely Mendes
Resident Nurse (Savar Campus)

Administration Office
Mr. Md. Nurul Islam, *Administrative Officer*
Mr. Md. Shahidul Islam, *Administrative Officer*

Procurement Department
Mr. Abdul Moghni Chowdhury
Procurement Manager

Logistics
Mr. Md. Luthfur Rahman, *Logistics Officer*

Campus Supervisor (Mohakhali)
Mr. Muhammad Shahjahan, *Campus Supervisor*

Counselor Office
Ms. Mahbuba Naznin Sani, *Counselor*

Departmental Coordination Officers
Mr. Md Lutfor Rahman
DCO, Department of Architecture
Mr. Mostak Ahmed, *DCO, BRAC Business School*
Mr. Satyajit Modak, *DCO, MBA, MBM Program*
Mr. Jabed Rasel, *DCO, BRAC Business School*
Ms. Momena Begum
DCO, Dept. of Computer Science & Engineering
Mr. Theophil Nokrek
DCO, Department of Economics and Social Sciences
Mr. Nurul Ahad Md. Saifur Rahaman
DCO, Department of English and Humanities
Ms. Shadia Alam, *DCO, Center for Language*
Ms. Nurunnesa Sabera, *Asst. DCO, CfL*
Mr. Mohammad Shamim Azad
DCO, Mathematics and Natural Sciences
Mr. Rayhanul Haque, *DCO, School of Law*
Ms. Sadeka Banu
DCO, Development Studies Program
Mr. Donald Bapi Das
DCO, School of Public Health

Ayesha Abed Library
Ms. Hasina Afroz, *Deputy Librarian*
Ms. Syeda Nasima Begum, *Sr. Asst. Librarian*
Mr. Kh. Ali Murtoza, *Asst. Librarian*
Mr. Md. Kamal Parvez, *Junior Librarian (IT)*
Mr. Md. Ahmad Parvez, *Junior Librarian*
Mr. Md. Shahadat Alam, *Junior Librarian*
Mr. Halal Rabbani
Junior Librarian (Savar Campus)

Faculty and Staff

BRAC Business School

Professor Iftekhar Ghani Chowdhury, *Dean*
Professor Mojib U. Ahmed, *Director, MBA Program*
Mr. Mahmudul Haq, *Assistant Professor*
Mr. Zahidul Alam Khandaker, *Assistant Professor*
Mr. Suntu Kumar Ghosh, *Senior Lecturer*
Mr. Md Zakir Hossain Sharkar, *Senior Lecturer*
Ms. Afsana Akhter, *Senior Lecturer*
Mr. Ali Salman, *Lecturer*
Mr. Anup Chowdhury, *Lecturer*
Mr. Suman Paul Chowdhury, *Lecturer*
Ms. Syeda Rownak Afza, *Lecturer*
Mr. Shamim Ehsanul Haque, *Lecturer*
Mr. Probal Dutta, *Lecturer*
Ms. Syeda Shaharbanu Ahmed, *Lecturer*
Ms. Sabina Khan, *Lecturer*
Ms. Sharawat Islam, *Lecturer*
Mr. Mohammad Khaleq Newaz, *Lecturer*
Mr. Edward Probir Mondol, *Lecturer*
Ms. Shireen Abedin, *Lecturer*

On Study Leave

Mr. Shawkat Kamal, *Senior Lecturer*
Mr. Shahnawaz Ahmed Shishir, *Lecturer*

BRAC School of Law

Dr. Shahdeen Malik, *Director*
Mr. K. Shamsuddin Mahmood, *Associate Professor & Head, Under Graduate Program*
Professor Dr. Taslima Monsoor, *Head, LL.B. (Evening) Program*
Dr. Saira Rahman Khan, *Assistant Professor*
Dr. Tureen Afroz, *Assistant Professor*
Ms. Sharmin Jahan Tania, *Lecturer*

BRAC School of Public Health

Dr. A Mushtaque R Chowdhury, *Dean*
Dr. Anwar Islam, *Professor*
Dr. Shahaduz Zaman, *Associate Professor*
Dr. Sabina F Rashid, *Assistant Professor*
Dr. Muhammmad Mizanur Rashid Shuvra, *Lecturer*

Research and Administration

Ms. Sabiha Chowdhuri, *Research Associate*
Dr. Farhana Sultana, *Research Associate*
Dr. Farah Mahjabeen, *Research Associate & Academic Officer*
Dr. AZM Zahidur Rahman, *Sr. Program Associate*
Dr. Tanvir Ahmed, *Research Associate*
Mr. Tarique Mohammad Nurul Huda, *Research Associate*
Mr. Ilias Mahmud, *Research Associate*
Ms. Nasima Selim, *Research Associate*
Dr. Kausar Iqbal, *Research Intern*

Department of Architecture

Professor Fuad Hassan Mallick, *Chairperson*
Dr. Zainab F. Ali, *Associate Professor*
Dr. Q M Mahtab-Uz-Zaman, *Associate Professor*
Mr. Tariq Mahbub Khan, *Senior Lecturer*
Ms. Huraera Jabeen, *Lecturer*
Ms. Nesfun Nahar, *Lecturer*
Mr. Khondaker Hasibul Kabir, *Lecturer*
Ms. Sheikh Rubaiya S. Munni, *Lecturer*
Ms. Sarah N. Shuchi, *Lecturer*
Ms. Yasmin Ara, *Lecturer*
Mr. A M Rahat Mujib Niaz, *Lecturer*
Mr. Imon Chowdhooree, *Lecturer*
Ms. Rehnuma Parveen, *Lecturer*
Mr. Golam Sarwar, *Lecturer*
Mr. Shams Mansoor Ghani, *Lecturer*
Mr. Md. Shajjad Hossain, *Lecturer*
Mr. Md. Nafisur Rahman, *Lecturer*

On Study Leave

Mr. Hafizul Hasan, *Lecturer*
Mr. Iftekhar Ahmed, *Senior Lecturer*

Department of Computer Science & Engineering

Dr. Sayeed Salam, *Chairperson and Professor*
Dr. Mumit Khan, *Professor*
Dr. AKM Abdul Malek Azad, *Associate Professor*
Dr. Tarik Ahmed Chowdhury, *Assistant Professor*
Ms. Sadia Hamid Kazi, *Sr. Lecturer*
Mr. Matin Saad Abdullah, *Sr. Lecturer*
Ms. Amina Hasan Abedin, *Sr. Lecturer*
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Mr. Shahrear Iqbal, *Lecturer*

On Study Leave
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Mr. Risat Mahmud Pathan, *Sr. Lecturer*

Department of Economics and Social Sciences

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Dr. Wasiqur Rahman Khan, *Assistant Professor*
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Mr. Mohammad Jahangir Alam, *Lecturer*
Ms. Mahbuba Naznin Sani, *Lecturer*
Mr. Md Kamrul Hasan, *Lecturer*
Ms. Moshahida Sultana, *Lecturer*
Ms. Ishrat Jahan, *Lecturer*
Ms. Dina Tasneem, *Lecturer*
Ms. Afifa Shahrin, *Lecturer*
Ms. Wahida Ferdousi, *Lecturer*
Mr. Navil Chowdhury, *Lecturer*

On Study Leave
Ms. Irum Shehreen Ali, *Lecturer*
Mr. Abu Zafar Shahriar, *Lecturer*
Ms. Sakiba Zeba, *Lecturer*
Ms. Humaira Husain, *Lecturer*
Ms. Shaila Parveen, *Lecturer*

Department of English and Humanities

Professor Firdous Azim, *Chairperson*
Professor Syed Manzoorul Islam, *Visiting Faculty*
Ms. Sohana Manzoor, *Lecturer*
Ms. Nazia Hussein, *Lecturer*
Ms. Tabassum Zaman, *Lecturer*
Ms. Rukshana Rahim Chowdhury, *Lecturer*
Ms. Sahana Bajpaie, *Lecturer*
Mr. Mohammad Mahmudul Haque, *Lecturer*
Mr. Razeen Abhi Mustafiz, *Lecturer*
Ms. Shenin Ziauddin, *Lecturer*
Ms. Nausheen Eusuf, *Lecturer*

On Study Leave

Ms. Ruhma K. Choudhury, *Lecturer*
Ms. Asma Anis Khan, *Lecturer*

Department of Mathematics and Natural Sciences

Professor Mofiz Uddin Ahmed, *Chairperson*
Professor A A Ziauddin Ahmad, *Professor*
Professor Naiyyum Choudhury, *Coordinator, Biotechnology Programme*
Professor Gauranga Deb Roy, *Professor*
Dr. Aparna Islam, *Assistant Professor*
Mr. A. K. M. Shafiq Ullah, *Lecturer*
Ms. Sharmina Hussain, *Lecturer*
Mr. Iftekhar Md. Shafiqul Kalam, *Lecturer*
Mr. Mohammad Maruf Ahmed, *Lecturer*
Ms. Moushumi Zahur, *Lecturer*
Ms. Gulshan Khatun, *Lecturer*
Ms. Ferdousi Ara Begum, *Lecturer*
Mr. Md. Anisur Rahman Molla, *Lecturer*
Mr. Mahabobe Shobahani, *Lecturer*
Ms. Hasibun Naher, *Lecturer*
Ms. Fahmida Homayra, *Lecturer*

On Study Leave
Mr. Md. Moshiour Rahaman
Mr. Md. Jakir Hossen
Mr. Rezwanur Rahman
Mr. Muhammad Nasimul Haque
Mr. Md. Lutfur Rahman

Institute of Educational Development (BU-IED)

Research and Administration

Dr. Manzoor Ahmed, *Director*
Ms. Kaniz Fatema, *Education Advisor*
Dr. Sudhir Chandra Sarker, *Program Coordinator*
Mr. Ali Mohd. Shahiduzzaman, *Education Specialist*

Institute of Governance Studies (IGS)

Barrister Manzoor Hasan, *Director*
Dr. Rizwan Khair, *Academic Coordinator*
Dr. Shahnaz Karim, *Assistant Director*
Dr. M Emdadul Haq, *Professor*
Ms. Tahmina Rahman, *Research Coordinator*
Mr. Mohin Khan, *Programme Development Officer*
Mr. Sydur Rahman Molla, *Programme Officer*
Mr. M Morshed Alom, *Research Associate*
Mr. Haydory Akbar Ahmed, *Research Associate/ Lecturer*
Mr. Sanjan M Shahrear Haque, *Research Associate/Lecturer*
Mr. Asif Mohammad Shahan, *Research Assistant*
Mr. Niloy Ranjan Biswas, *Research Assistant*
Mr. Quazi Tariqul Alam, *Programme Officer-admin*
Mr. Arsil Islam, *Programme Assistant*
Ms. Afroja Khanam, *Programme Assistant*
Ms. Sk. Jenefa K. Jabbar, *Sr. Project Officer*
Mr. Ekram Hossain, *Project Officer*
Mr. Saiful Bhuiyan, *Project Associate*
Ms. Nuzhat Jabin, *Research Intern*

Development Studies Program (DSP)

Professor Syed M Hashemi, *Director*
Professor S.R. Osmani, *Visiting Professor*
Dr. Mirza M. Hassan, *Visiting Associate Professor*
Dr. Ferdous Jahan, *Assistant Professor & Academic Coordinator*
Ms. Maheen Sultan, *Coordinator, Pathways of Women Empowerment Research*
Ms. Simeen Mahmud, *Coordinator, Deepening Democracy, Building Citizenship and Promoting Participation Research*

Postgraduate Programs in Disaster Management (PPDM)

Professor Fuad Hassan Mallick, *Director*
Mr. Md. Humayun Kabir, *Assistant Professor & Coordinator*
Dr. Q M Mahtab-uz-Zaman, *Associate Professor*
Mr. Md. Hafizul Hassan, *Lecturer (on leave)*
Mr. Md. Aminur Rahman, *Teaching Assistant*

Visiting Faculty
Professor Ainun Nishat
Professor Rosie M Ahsan
Professor K M Maniruzzaman
Dr. K Iftekhar Ahmed
Dr. S I Khan
Mr. Ian Rector
Dr. Ashraf M Dewan
Mr. Mohd. Saidur Rahman
Ms. Dilruba Haider
Dr. A S M Maksud Kamal
Dr. Shahaduzzaman
Mr. Mohd. Gawher Nayeem Wahra

Center for Languages (CfL)

Ms. Syeda Sarwat Abed, *Director*
Mr. Ivan Shafaat Bari, *Coordinator*
Mr. Sheikh Fazle Shams, *Lecturer*
Ms. Jesmine Zaker, *Lecturer*
Ms. Mahmuda Yasmin Shaila, *Lecturer*
Ms. Effat Hyder, *Lecturer*
Ms. Sadra N. Siddiky, *Lecturer*
Ms. Samina Nasrin Chowdhury, *Lecturer*
Mr. Md. Golam Jamil, *Lecturer*
Ms. Liza Reshmin, *Lecturer*
Mr. AQM Khairul Basher, *Lecturer*
Mr. Sanjoy Banerjee, *Lecturer*
Ms. Tanzina Halim, *Lecturer*
Ms. Farrah Jabeen, *Lecturer*
Ms. Ishrat Jahan, *Lecturer*
Ms. Shaheen Ara, *Lecturer*
Ms. Janette Mary Jenkins, *Part Time Faculty*
Ms. Tahreen Ahmed, *Lecturer*
Ms. Rizwana Yasmin, *Lecturer*
Ms. Moutushi Khandaker, *Lecturer*
Ms. Tahmina Anwar, *Teacher*
Mr. Mohammad Aminul Islam, *Teacher*
Ms. Rumana Rahman, *Teacher*
Ms. Israt Ara Islam, *Teaching Assistant*
Ms. Suma Saha, *Teaching Assistant*

Partners in Education

Over the years BRAC University has partnered with the following reputed academic institutions around the world to enhance our own educational experience by learning from others.

Institute of Governance Studies

Kennedy School of Government (KSG), Harvard University, USA
University of Manitoba, Canada
Korea Development Institute School of Public Policy and Management, Seoul, South Korea
Key Centre, Griffith University, Brisbane, Australia
Monash University, Australia
George Mason University, Virginia, USA

BRAC University Institute of Educational Development

George Washington University, Washington, DC, USA
National University of Educational Planning and Administration, New Delhi
University of Sussex, UK
Columbia University, New York, USA

James P. Grant School of Public Health

Harvard School of Public Health, Harvard University, USA
Bloomberg School of Public Health, Johns Hopkins University, USA
George Washington University, USA
London School of Hygiene and Tropical Medicine, UK
Mailman School of Public Health, Columbia University, USA
Uppsala University, Sweden
Karolin Institute, Sweden
University of Amsterdam, Netherlands
ICCDR, Bangladesh

BRAC Business School

Asian Institute of Technology, Bangkok
Asian Institute of Management , Manila
University of South Australia

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RESOURCES, FACILITIES AND SERVICES

Resources at BRAC University

BRAC University has significant faculty and human resources, physical and financial resources. BRAC University has managed to create an ideal environment for students to acquire knowledge.

Faculty

BRACU faculty comprises of a unique blend of teachers, researchers and practitioners. The faculty consists of a distinguished body of scholars with proven teaching and research excellence. Many have doctoral degrees from universities abroad. Many others are postgraduate degree holders and professionals with varied experience. Visiting faculty members from USA, Canada, UK, Australia and other countries bring diversity and richness in the learning environment.

Campus

The present campus of the University located at 66, Mohakhali in Dhaka City has excellent communication links to all parts of the city as well as outside the city. Taxis, baby taxis, rickshaws, and buses are readily available. Moreover, the campus is situated five minutes away from Mohakhali's Premium and Volvo bus stand. The five-storied University Building accommodates a lounge, an information desk, a student counseling office, classrooms, seminar rooms, computer laboratories, a language laboratory, the Registrar's office, administrative office, accounts office, the Computer Science and Engineering (CSE) Department, Executive floor, a cafeteria, a student's common room and a semi outdoor sitting plaza (Prangan). BRACU occupies eighteen floors of Aarong House (AH), a twenty-storied building situated adjacent to the University building. The BU library extends over two floors of this structure. BRAC Business School (BBS), English and Humanities (ENH) department, classrooms, computer labs and internet facilities for students are also located there. The University also occupies six floors of Civil Engineers Bhaban (CB), a building located a block away from the main University building. These floors house the Departments of Architecture, Economics and Social Sciences and Mathematics and Natural Sciences and the Schools of Law and Public Health. The Institute of Governance Studies (IGS) is located in Gulshan, while the Institute of Educational Development (IED) is in Niketan.

The University plans to shift its activities to the new campus in 4 to 5 years. The process of acquiring land in Badda, Gulshan and constructing the permanent building is under process.

Residential Semester

All students are required to attend a Residential Semester within first year of admission. The first semester will be held in Mohakhali campus and one of the following two semesters will be a residential semester in Savar Campus. The Residential semester aims at enhancing the communication skills of the students, especially in English. It will also emphasize, through various exercises and activities, the development of leadership qualities as well as the ability to live and function together as a group.

Facilities for Learning

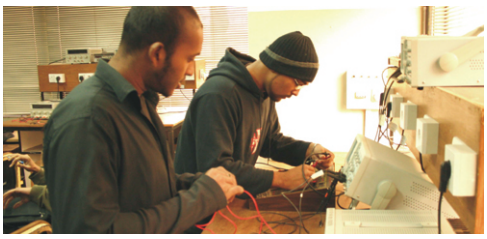
Classrooms

BU has classrooms of various sizes, ranging from regular ones that can hold 30-50 seats, to large ones with a capacity of 60-80 seats. Each classroom is fully air-conditioned and equipped with multimedia projectors, overhead projectors and computers with access to the Internet. Some classrooms have, in addition to these, televisions, VCR and equipment that can be used for teleconferencing. Furthermore, BU has access to facilities at BRAC Centre Inn and BRAC support facilities all over Bangladesh for the use of teachers and students during field visits.

Computer Labs

Currently there are three labs at the University Building (UB), six at Aarong House (AH), including the library, one at Standard Tower, Four in the Savar campus, including a SPSS lab that is used exclusively by MPH students, and one in the Institute of Governance Studies (IGS) at Gulshan. These computer labs have a total of 345 computers, of which 80 are in the Savar campus and 26 are in the Rajendrapur campus. These are all latest model personal computers with built-in multi-media connected to IBM xSeries 226 and 236 Servers by a Windows NT local area network (LAN). For all lab work, there is one computer for each student. Computers are connected to a host of other peripheral devices such as scanners, printers, digital cameras, etc. Suitable UPS units back up electric power supply to all computers and peripheral devices. Furthermore, stand-by generators back up other electric equipment. All these facilities are continually being upgraded to keep pace with changing technology. Furthermore, all servers have been upgraded with new configurations, as have the student, staff and faculty main servers.

Digital Lab



The purpose of establishing a separate digital lab was to enhance students' understanding of microprocessors, circuits and electronics. This lab contains a wide variety of equipment, including oscilloscopes, trainer boards, microprocessors, digital multimeters, ammeters, wattmeters, rheostats, generators, inductors and other such equipment.

Electronic Systems Laboratory

This laboratory provides support for instruction and research in the areas of basic analog and digital logic design, discrete component testing, fundamental circuit design, microprocessing interfacing, assembly language programming and communication theory. The laboratory is equipped with digital systems development including FPGA/VHDL for advanced course work and thesis research, CAD facilities capable of schematic capture, circuit simulation and fault detection. The lab utilizes various test equipment to include but not limited to oscilloscopes, signal generators, spectrum analyzer, DSO & logic analyzer, multimeters and high-speed data acquisition equipment.

Telecommunication Laboratory

The telecommunications laboratory, a state-of-the-art facility, is fully equipped with hardware and software to support a multitude of instructional and thesis/project activities on the broad area of digital communications, wireless and mobile communications, multimedia communications and network simulation. Lab facilities also include PCM analyzer/Frame analyzer, PCM performance analyzer and trainer for modulation and keying (e.g., PSK, FSK, ASK, QPSK etc).

Signal Processing Laboratory

This laboratory supports instruction and thesis/research in the area of Digital Signal Processing. Research and thesis work include data modeling and processing, image analysis and modeling, signal detection and classification, multi-rate processing and other areas. Lab facilities include several PCs equipped with the latest MIDAS Engineering hardware and standard software package.

Electromagnetics Laboratory

This laboratory supports instruction and project/thesis in the area of microwave systems and technology. This is accomplished with a mix of hardware, instruments and test systems. The Lab facilities include Microwave communications teaching set (scanTEK 2000) with CT60 and CT60IS.

Control Systems Laboratory

This laboratory emphasizes problem based learning and research using pilot plant. Lab facilities include servo control stations (CA06, LJ Group) and associated computers (equipped with A/D and D/A data acquisition cards, Matlab/SIMULINK software and RT-Linux for RTS) that are used to conduct simulations and physical experiments, modeling, analysis, and design of control systems.

Optical Electronics Laboratory

The Optical Electronics Laboratory provides educational and project/thesis support in the areas of fiber optics, integrated optics and electro-optics. The Lab facilities include fiber optics instrumentation (optical fibres DL 3155M63, De Lorenzo Group) set. This laboratory supports ECE340 and ECE410 courses.

Cisco Networking Laboratory

The Cisco Laboratory of BRACU has the Cisco Premium Bundle 1.6, which includes 2600 routing products, switching products and other support products. Students will learn how to install and configure Cisco switches and routers in multiprotocol networks using local-and wide-area networks (LANs and WANs), provide Level 1 and 2 troubleshooting services, and improve network performance and security. Additionally, instruction and training are provided in the proper care, maintenance, and use of networking software tools and equipment. The laboratory caters for the networking courses into which the CCNA certification Program has been integrated. Along with that this lab is also used for some introductory and intermediate Computer Science and Engineering courses' laboratories.

Linux Laboratory

BRACU has a dedicated Linux Laboratory using the Fedora Core 6 distribution at the time of this writing. The Linux Laboratory is used for all the advanced Computer Science and Engineering laboratory courses, as well as for some of the introductory and intermediate ones. It is also heavily used for undergraduate thesis projects. The Linux Laboratory is set up so that the software on the client computers can be installed, or upgraded, and managed using a solution that does not require any operator intervention.

Laboratory Facilities of the Mathematics and Natural Sciences Department

For its undergraduate program in physics laboratory experiments on different topics of physics have been set up. These labs supplement the theory courses and strengthen students' theoretical concepts. Students of other departments taking physics courses also carryout experiments using the physics lab facilities in addition to their theory classes.

MNS Department also has a mathematics lab where students solve mathematical problems on calculus, numerical analysis, matrices, ordinary & partial differential equations etc. using the athematica software.

A unique feature of the MS. in biotechnology course run by the MNS Department is to give emphasis to lab exercises. This is facilitated by having MOU'S with BRAC ARDC at Gazipur, ICDDR,B and the University of Dhaka. These agreements will make it possible for the students to use these lab facilities whereby they can acquire the very necessary hands on experience. It is also envisaged to set up the different biotechnology labs at BRACU gradually.

Language Laboratory

The language lab in BRACU is one of the first of its kind in the country. It is meant to help students improve their language and communication skills. The lab is divided into individual cubicles, each equipped with headphones, recording and playback devices.

Video Conferencing Centre

BU is the only university that has its own Video Conferencing Centre. This is located on the 18th floor of Aarong House and is used to conduct live meetings, corporate affairs, seminars and presentations among people who are geographically apart. Furthermore, it enables virtual tours and participation in global events. Around 20 people can participate at a time.

IT Network

The IT Network of BU enables all members, students and faculty alike, to maintain personal user accounts with an email account and a home folder. In addition to this, all members can access certain common folders. This makes sharing and distribution of class lectures, assignments and other such information a mouse click away. BU now has 620 workstations linked together through Local Area Network (LAN) and Wide Area Network (WAN).

Architecture Studios

There are eight architecture studios at BU, each equipped with large drawing tables, worktables, equipment such as rulers, lockers and plenty of space in which to display the final outcomes. Each of these studios can hold up to 20 students at a time.

Ayesha Abed Library

Spread over two floors of Aarong House, the library of BU covers an area of 9,000 square feet. The library currently has over 17,000 textbooks, journals, magazines, research papers and other digital

resources. In addition, BU has a subscription to the journal archive, JSTOR (www.jstor.org). Six professional librarians staff the reference/circulation desk, perform literature searches, offer training, referral and bibliographic services. E-mail facilities for individual students and photocopying are available. Agora and Hinari full text journal databases provide web access to over 4,000 serial titles covering medicine, development, appropriate technology and social sciences. The library online book catalog is available through the Internet.

The library on the third floor of Aarong House has workstations, a newspaper corner, a CD corner, silent study rooms, discussion rooms as well as a general study area. BRAC employees also have access to the library. Inter library loans and cooperative information exchange with other major libraries supports reference and research responses.

Library hours

Over sixty computers are located on the 2nd floor of Aarong House, which provide on-line access to Internet. The library is open from 9:00 a.m. to 9:00 p.m. on all working days and from 10:00 a.m. to 6:00 p.m. on Saturdays.

BU Cafeteria

The Cafeteria of the university is a spacious and well-lit area that can hold up to 150 students at any given time. It serves a variety of snacks, meals and Drinks. Adjacent to the cafeteria is the Indoor Games Room, with provisions for playing table tennis, carom and chess.

Prangan

Prangan, located on the first floor of the University Building, is an open-air garden with a capacity of 100 students. This area includes a snack bar that serves tea, coffee and snacks, a provision for indoor games such as carom and chess and plenty of seats where students can lounge around and enjoy the fresh air.

Career Services Office (CSO)

The chief mission of the Career Services Office (CSO) at BRACU is to prepare students for the job market in Bangladesh. CSO will provide a knowledge base in career planning skills & tools. The activities at CSO are partnership-effort oriented; it will make a match between the individual student and the employing organization. CSO provides a variety of programs, workshops, and individual

counseling opportunities to help students to develop themselves professionally. The services provided to students is consistent with the instution's mission.

Ways to develop skills:

- Internships
- Through BU Clubs, Organizations, Extracurricular Activities
- Professional Skills Development Program (PSDP)
- Workshops

Services that we offer from the office are:

- Career counseling
- CV referrals for jobs
- CV critiquing
- Arranging internships
- Arranging networking sessions

Services we offer to assist in the job search process:

- Job postings
- Job search materials
- Professional Skills Development Program
- Networking opportunities

Teaching Learning Centre (TLC)

The Teaching Learning Centre (TLC) at BRACU works both with faculty and students to examine attitudes towards teaching and learning. TLC was introduced in the year 2006 with the mission to build awareness among students, encourage and facilitate a student centered learning environment across the departments of the University. TLC currently organizes:

- Retreat two-day workshops for teachers
- Two-day orientation workshops for students that introduce as well as implement the concept of self-rules at the Residential Semester
- Study skill workshops for Residential Semester students
- Individual counseling for students with study problems

In addition, TLC offers support in developing student centered learning courses. Recently, it has helped restructure the Ethics and Culture course that is conducted at the Residential Semester of BRACU. The course now includes self-reflection essays, discovery of self, Ethics Committees and dramas. Evaluation has shown that students now enjoy, participate and learn much more in the course.

Center for Languages (CfL)

Center for Languages (CfL) is devoted exclusively to teaching, training, improving and supporting the English language skills of students and professionals of all stages. All faculty members are English language specialists with extensive experience in teaching at all levels. The facilities provided by CfL are varied and customized and focused on the maximum output in terms of teaching delivery, assessment, course design and logistics. CfL believes that language learning has a parameter beyond the scope of classrooms. Hence, it involves students in extra-curricular activities in its residential campus in Savar to bring out students' latent potential and talent.

Centre for Research on Bangla Language Processing (CRBLP)

The Centre for Research on Bangla Language Processing is the only research centre in Bangladesh that is dedicated to software localization. It was established in 2005 with seed funding from the International Development Research Corporation (IDRC) of Canada through its PAN Localization Network (PanL10n) program, and has since secured additional support from the Microsoft Corporation of USA. CRBLP has a 3-fold mission: (i) to develop multilingual ICT solutions to aid national development, (ii) to build human resource capacity in the field of Computational Linguistics to develop these technologies, and (iii) to advance policy to bring sustainability and focus to this effort in Bangladesh. For more information on CRBLP, please visit its website at http://www.bracu.ac.bd/research/crblp/.

Economics and Social Sciences Research Cell (ESSRC)

The Department of Economics and Social Sciences (ESS) has established a research cell to facilitate research by its faculty and graduate students. The objective of this cell is to create a supporting environment for research by providing services ranging from basic research and data collection, to the broader issues of problem identification and mentoring by senior faculty. The cell organizes regular seminars and workshops as a means to disseminate research results, and to foster collaboration among the researchers within and beyond the university. The ESS research cell is planning to bring out a journal annually to disseminate original research findings, and to create a database of primary and secondary data.

BRACU Journal

Six issues of BRACU journal were published. The journals contained articles relevant to the departments of BRACU. The contributions came from both within and outside BU.

Student Activities

BRACU's mission is to achieve excellence in all round education. The components of all round education, i.e., learning, development and identity formation are interactive and add to each other. The students can experience all of these through participating in co curricular activities along with regular studies. University's Student Affairs Office (SAO) provides full support in this respect.

Clubs and Forum

The co curricular arena of the university is quite vibrant and student-oriented. There are a total of 28 student clubs and forums in categories of:

Arts/Culture

Social Welfare/Community service

International

Entrepreneurial

Subject related

Sports

Science

These clubs and forums provide opportunities for developing leadership, confidence, goal setting, sense of ownership, time management, collaboration and teamwork. The clubs and forums are:

- AIESEC BU (International Club)
- Art Society BU
- Business Club Biz Bee
- BU Student Newsletter
- Computer Club BUCC
- Cricket Club BU Cricket Club
- Cultural Club BUCuC
- Debating Club BUDC
- Drama and Theater Forum BUDTF
- ECE Club
- Economics Club BUEC
- Entrepreneurship Development Forum EDF
- Environment Awareness Forum BUEAF
- Film Club BUFC
- Football Club FCBU
- Global Affairs Forum GAFBU
- Indoor Games Club BUIGC
- MBA Forum (for MBA Students)
- MIS Club
- OIKOS Dhaka (International Club)
- National Heritage Forum BUNHF
- Photography Club BUPC
- Natural Sciences Club BUNSC
- Social Development Forum SDF
- Social Entrepreneurship Forum BUSEF
- BRACU MIS Forum
- Rotaract Club of BRACU
- Rural Development Club BURDC

The composition of each club or forum includes teacher/staff advisors, a coordinator and student representatives. Enrolment of members is done during the club fair held each semester. The Director of the Student Affairs supervises the activities with the help of an assistant director and a department coordination officer.

A multiuse hall, two eighty-seat lecture halls, cafeteria and a planted semi-outdoor space with technical support are used for seminars, workshops, exhibitions, indoor games, competitions, fairs and cultural activities. The residential campus in Savar provides a play field for games. The facilities of BRAC throughout the country such as training centers with dormitories, transport and guides to places are available for tours and other events.

A yearly award system has been introduced for the students with major contributions as well as for the most active club. The SAO has currently adopted the 'Ambassador Program', where students good in leadership, time management, collaboration and teamwork are selected from clubs and forums and trained to represent the university.

Annual assessment of the co curricular activities has been conducted since 2006. University rules have been introduced for participating in the activities without hindering academic performance.

Major activities of clubs and forums include:

- Club Fair
- Cricket, Football and Indoor Games Tournament
- Community Volunteer Work
- Seminar and Workshop
- Celebration of national and international events such as Pohela Boishakh, International Mother Language Day, Independence Day, Victory Day.
- Annual Drama
- Annual Cultural Program
- Concert
- Film Show
- Trade Fair
- Voluntary Blood Donation Campaign
- Art, Photography and Hobby Exhibition
- Competitions in Art, Debate, Music, Photography, Computer programming & Business plan
- Publishing Newsletter
- Study Tour
- Archives
- Research
- Help group/Help sessions

The Student Affairs Office emphasizes on the wholeness of university experience through synchronized development of body, mind and spirit. It aims at integrating co curricular with academic learning, and stresses on service learning through community volunteer work.

BRACU Alumni Association

Objective of this association is to promote the interests of BRACU Alumni network, guide and mentor students and alumni and ensure that BRACU stays dynamic and constantly updated in response to the changing needs of society.

Our mission is to connect alumni to BRACU and, provide each other valuable benefits, services and resources and support to the University's mission of teaching, research and service.

The association provides professional and personal enrichment opportunities for alumni and friends through educational, informational and social events. Working closely with the University, the Association informs alumni of the University's events and news provides a forum for continued dialogue with the University.

The association is intended to provide services such as helping students finding jobs, career advice for freshers, sharing job experiences, building fund-raising support, providing suggestions to change the BRACU curriculum which will meet the current demands of the market and strengthen BRACU's outreach.

Any graduate of BRACU, who has obtained an honorary or regular degree (undergraduate or postgraduate), certificate or diploma from BRACU; or was formally enrolled at BRACU as a full-time or part-time student for a period of not less than two semesters or equivalent; as well as all alumni of BRACU, is considered to be members of the BRACU Alumni Association. An executive committee consisting of six members carries out the operations of the association. Each executive committee stays in office for one year. To assist the executive committee in their duties, there are several subcommittees, each in charge of different aspects of the organization.

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ACADEMIC SYSTEM

Undergraduate Programs

BRAC University follows a model of higher education consisting of semesters, courses, credit hours, continuous evaluation and letter grading.

Academic Standards

In keeping with its mission and goals, the University strives to insure high academic standards by implementing well-designed curricula, carefully selecting high quality students and faculty, utilizing modern and effective instructional methods and aids, and by continuously monitoring and rigorously evaluating all the pertinent activities and systems. As mentioned earlier, BRAC University has built up resources and facilities to ensure high academic standards.

Semesters

There are three equal semesters-Spring, Fall, and Summer. The duration of each semester is 13 working weeks. An additional week for each semester is allocated for final exams. Usually the Spring semester commences in January, the Summer semester in May and the Fall semester commences in September. The Semester Calendar provides deadlines for registration, add/drop courses, withdrawals etc. This has financial and academic implications.

Course Numbering System

Each course is identified by a two-part numbering system. The first part with three alphabets represents the subject area and the second part refers to the level of the course as follows:

1st Year courses: 100-199
2nd Year courses: 200-299
3rd Year courses: 300-399
4th Year courses: 400-499

The series 100, 200, 300 and 400 numbers are intended to indicate progressively more demanding content of the course and correspondingly increasing competence on the part of the students enrolled in the course. For example, ACT 301 Intermediate Accounting is a third year course and it is assumed that a student registering in this course has already attended one or more second year (200 levels) courses in Accounting. A student may register in this course before third year if he has already fulfilled the prerequisites for the course. The course may be taken after third year also when the student has fulfilled the prerequisites. Courses numbered 001-099 are remedial or non-credit courses.

Student Classification and Course Load

Students enrolled in the undergraduate programs of BRAC University are classified as Freshman, Sophomore, Junior, Senior and Advanced Senior based on the number of credit hours earned towards a degree. The basis and classification are as follows:

Level	Earned Credits
Freshman	0 to 30
Sophomore	31 to 60
Junior	61 to 90
Senior	91 to 140
Advanced Senior	140+

A student who registers for 12 credits or more is considered to be a full time student. A full-time student taking 12 credits in each semester will be able to complete the program in less than four years. Fee waivers, scholarships and academic honors are considered for full time students only.

Maximum period to complete the undergraduate program is eight years from the date of first admission to the university and minimum period to complete the undergraduate program is three years.

Credit hours

Students take courses each semester and these courses have credits assigned to them and the credits are counted towards the degree. Credit hours for a course are assigned on the basis of a 13-week semester. One (1) credit hour means that the course meets for 50 minutes in a class each week; Three (3) credits mean that the class will meet twice a week for 80 minutes in each session. The tutorial/lab/ workshop sessions meets for 100 - 150 minutes each week. Two (2) credit courses mean that the course meets twice every week for 50 minutes in each class.

Student Advising

Good advising is critical for successful graduation. For most students, University will be the first time that they will be responsible for things such as selecting courses or choosing a major. An academic advisor a faculty member can help with these and other decisions; however, advising is a two-way street. Students and advisors share the responsibility for successful advising.

Performance Evaluation

The performance of the students will be evaluated throughout the semester by class tests, quizzes, assignments, and midterm exams. End of semester evaluation includes comprehensive final exams, term papers, project reports etc. Numerical scores earned by a students in tests, exams., assignments etc are cumulated and converted to letter grades at the end of the semester.

Grading System

The grades at the university will be indicated in the following manner:

90	-	100	=	A	(4.0)	Excellent
85	-	<90	=	A-	(3.7)	
80	-	<85	=	B+	(3.3)	
75	-	<80	=	B	(3.0)	Good
70	-	<75	=	B-	(2.7)	
65	-	<70	=	C+	(2.3)	
60	-	<65	=	C	(2.0)	Fair
57	-	<60	=	C-	(1.7)	
55	-	<57	=	D+	(1.3)	
52	-	<55	=	D	(1.0)	Poor
50	-	<52	=	D-	(0.7)	
<50			=	F	(0.0)	Failure

Grades without numerical value:

P: Pass
I: Incomplete
W: Withdrawal

Pass/Fail Option: A course may be taken for a pass/fail grade, providing that the instructor approves the option and the student carries 12 credits for regular letter grades in that semester. A maximum of 16 credits may be taken for credit with the pass/fail grading option. No more than four credits may be taken with the pass/fail grading option in any one semester. Departments may not approve the pass/fail grading option for some courses counting towards the major.

Incomplete Grade: An Incomplete (I) grade is assigned only when a student has failed to complete one or more requirements of the course for an unavoidable reason/accidental circumstance and has applied for I grade. The students who are permitted to appear in make up examination(s) will be assigned an 'I' grade for that course and this grade will stay until the student appears in the make up examination at the first available opportunity; if s/he fails to appear in the make up examination the 'I' grade will automatically be converted to 'F' grade."

Withdrawal (W): is assigned to a student who withdraws from the course within the deadline for withdrawal with 'W' grade. A student who withdraws after this date will earn the grade based on his performance before his withdrawal. Exception to this rule may be made on medical ground and on terms and condition imposed by the University.

GPA Computation

The Grade Point Average (GPA) is computed in the following manner:

$$\text{GPA} = \frac{\text{Sum of (Grade points} \times \text{Credits)}}{\text{Sum of Credits attempted}}$$

Grades Review Procedure

The Committee on Academic Standard administers the Grading Regulations and reviews course grades submitted by the Departments.

Academic Standing

Students will be expected to maintain standards in their academic work. They should be taking the requisite number of courses and maintain satisfactory grades in these courses. In particular students are expected to maintain a GPA of 2.00 (both semester and cumulative), otherwise the student will be put on probation for the following semester. If the student fails to maintain a CGPA of 2.00 in the following semester, then the university will review the student's record and may recommend further action that may include options such as changing course of study, taking extra courses or in some cases withdrawing from the university. If a student on probation fails to raise CGPA to 2.00 in three semesters, s/he will be dismissed from the University. Students whose grade point average is below 1.0 in their first semester may be asked to withdraw from the university.

Courses for Audit and Credit

Audit is a registration status allowing students to attend a course without receiving credit. Both undergraduate and postgraduate students enrolled in BRAC University may audit courses. Graduates of BRAC University or other universities acceptable to BRAC University may enroll for "Audit" of courses. The performance of students auditing a course will not be evaluated or graded and they will receive a grade 'AU'.

Students and alumni of BRAC University will have to pay 50% of tuition fees and other fees. All other students will have to pay full tuition and other fees.
Students currently enrolled in universities acceptable to BRAC University may enroll as a credit student in at best 10 courses (30 credits) on payment of full tuition and other fees of the university. Candidates seeking admission in one or more audit/credit course(s) must apply in prescribed form and the applications will be considered as individual cases. The university reserves the right to accept or reject the applications.

Credit Transfer

Credit transfer from an educational institution with a system similar to BRAC University may be considered after admission. Such candidates will have to apply with required documents and are subject to credit transfer rules of BRAC University.

The total credits transferred by a student from other universities should not exceed 50 credits and 65 credits for students of Architecture Department. The student must meet the residency requirement of at least two years at BRAC University.

Requirements for the Degree

As BRAC University is based on the US University system, all undergraduate degrees are for about four years duration. For each degree at least 120 credits are required. Students are responsible for meeting degree requirements. Before selecting the courses in each semester students should consult their academic advisor. The university reserves the right to bring in change into programs and curricula without notice whenever circumstances warrant such changes.

Following are the requirements for graduation in an undergraduate program:

- A minimum of 120 credits for a bachelor's degree out of which at least 70 must be earned at BRAC University. For students of Architecture Department at least 134 credits must be earned at BRAC University.
- Attending Residential semester is compulsory for all BRACU students. Completion of all course requirements for the degree including General education courses, non-major area courses, major area courses, elective courses, courses for double major or minor.
- A student must complete the requisite number of credits of course work and meet other requirements depending on the program in which he/she is enrolled and must maintain a minimum CGPA of 2.00.
- A student must have clearance from BRAC University Accounts, Library and Registrar's Office.

Fulfillment of the above conditions does not necessarily mean that a degree will be conferred on the student. The University reserves the right to refuse the awarding of degree on disciplinary or similar grounds.

Graduate Programs

The curriculum for degree requirements of graduate programs vary depending upon the degree offered.

Transfer of Credits

Transfer of credits from institutions having equivalent curriculum, grading system and grading standard may be allowed for a maximum of 30 credits provided that the student has obtained at least B+ grade(s) in the course(s) eligible for transfer. The university will consider applications for transfer of credit on a case-by-case basis.

Methods and Medium of Instructions

The university follows modern teaching methods including interactive Internet, simulation, lab work, case analysis, and field study. A special feature of BRAC University teaching is the workshop/lab sessions designed to assist students in learning application of concepts and theories. The medium of instructions in BRAC University is English.

Grading System

The grades at the university will be indicated in the following manner:

90	-	100	=	A	(4.0)	Excellent
85	-	<90	=	A-	(3.7)	--
80	-	<85	=	B+	(3.3)	--
75	-	<80	=	B	(3.0)	Good
70	-	<75	=	B-	(2.7)	--
65	-	<70	=	C+	(2.3)	--
60	-	<65	=	C	(2.0)	Fair
57	-	<60	=	C-	(1.7)	--
55	-	<57	=	D+	(1.3)	--
52	-	<55	=	D	(1.0)	Poor
50	-	<52	=	D-	(0.7)	--
<50	--	--	=	F	(0.0)	Failure

Grades without numerical value:

P: Pass
I: Incomplete
W: Withdrawal

GPA Computation:

The Grade Point Average (GPA) is computed in the following manner:

$$\text{GPA} = \frac{\text{Sum of (Grade points} \times \text{Credits)}}{\text{Sum of Credits attempted}}$$

Pass/Fail Option

A course may be taken for a pass/fail grade, providing that the instructor approves the option and the student carries 12 credits for regular letter grades in that semester. Within the total credits

required for a degree, a maximum of 16 credits may be taken for credit with pass/fail grading option. No more than 4 credits may be taken with the pass/fail grading option in any one semester. Departments may not approve the pass/fail grading option for some courses counting towards the major.

Incomplete Grade: An Incomplete (I) grade is assigned only when a student has failed to complete one or more requirements of the course for an unavoidable reason/accidental circumstance and has applied for I grade. The students who are permitted to appear in Make up examination(s) will be assigned an 'I' grade for that course and this grade will stay until the student appears in the make up examination at the first available opportunity; if s/he fails to appear in the make up examination the 'I' grade will automatically be converted to 'F' grade."

Withdrawal (W): is assigned to a student who withdraws from the course within the deadline for withdrawal with W grade. A student who withdraws after this date will earn the grade based on his performance before his withdrawal. Exception to this rule may be made on medical ground and on terms and condition imposed by the University.
Grades

Review Procedure

The Committee on Academic Standard administers the grading regulations, and reviews course grades submitted by Departments.

Academic Standing

Students are expected to maintain a consistently high standard in their academic work. They should be taking the requisite number of courses and maintain satisfactory grades in these courses. In particular students are expected to maintain a CGPA of 2.50 (both semester and cumulative), otherwise they will be put on probation for the following semester. If a student fails to maintain a CGPA of 2.50 in the following two semesters, then the university will review the student's record and recommend further action which may include options such as changing course of study, taking extra courses or in some cases, withdrawing from the university. First year students whose grade point average is below 1.0 may be asked to withdraw from the university.

Requirements for the Degree

For graduation, a student must complete the requisite number of credits of course work and meet other requirements depending on the program in which he/she is enrolled and must maintain a CGPA of 2.50. The University, however, reserves the right to refuse the awarding of degree on disciplinary or similar grounds.

Student Advising

When students first join the university, they are assigned an advisor, a faculty member who helps them in choosing their courses for the first year. Later students are assigned an advisor who then guides the student in choosing the courses of his/her major. Students will develop the direction of their study in consultation with their advisor.

Remedial Courses

Many students joining the university would be coming from Bangla medium schools and therefore would have to adjust to English as the medium of instruction. They may be asked to attend Remedial English courses during or proceeding the semester in which they take regular courses. Students from non-science background or who are weak in Mathematics may be asked to attend a remedial course in Mathematics. The University may ask the students to attend other remedial courses if necessary.

ADMISSIONS

UNDERGRADUATE PROGRAMS

Minimum qualification for applying

Minimum GPA of 2.50 in SSC and HSC separately and a total GPA 6.0.
Alternatively O-Level in five subjects and A-Level in two subjects with a GPA of 2.5 at each level according to BRAC University scale: A= 5, B= 4, C= 3, D=2 & E=1. Only one E is acceptable.

GED is not acceptable

Candidates who have completed higher secondary education (12 years of schooling) under a system different from SSC/HSC or O/A levels will be considered for equivalence by the university on a case to case basis.

Candidates for BS in Computer Science must have Mathematics at HSC or 'A'-Level

Candidates for BS in Computer Science & Engineering, BS in Electronics & Communication Engineering and in Physics must have Physics & Mathematics at HSC or 'A'-level
Candidates with break of study of more than two years will have to apply separately stating the cause of break of study.

Note: The criteria for admission may change depending on the decision of the University

Application for Admission

The Application Form, Admission Instructions, Prospectus of BRAC University and further information are available at the Admission Desk on the Ground floor of BRAC University
Completed Application with a test fee must be submitted to the Admission Desk.

A complete application includes:

1. Completed Application Form
2. Two passport size color photographs, duly attested
3. Attested copies of all certificates and mark sheets
4. Testimonial / letter of recommendation from Institution last attended
5. Admission test fee receipt

Admission Test

All candidates will have to qualify in the admission test consisting of a written test and an interview. The written admission test will consist of the following sections:

- Candidates for BA in English and LLB (Hons): Written admission test in English and Logical Reasoning. Candidates for BBA, BS in Computer Science, BS in Computer Science and Engineering, BS in Electronics and Communication Engineering, BS in Physics, BSS in Economics: Written Admission test in English, Logical Reasoning, and Mathematics.
- Candidates for Bachelor of Architecture (B.Arch): Written admission test in English, Logical Reasoning, Mathematics and a test in Drawing.
- In order to qualify, candidates must pass each section and subsection separately with minimum 40% marks.

Provisional Admission

Many students willing to join the university might not have the required standard of proficiency in English language. If the students fail to attain the minimum standard of English proficiency required by the University they may be asked to attend Remedial English courses before the admission to the University. In the end of this course they will have to take an English Proficiency test and if qualified might be admitted to BRAC University.

Conditional Admission

Candidates who have appeared for all the HSC/A Level examinations at the time of making the application may be conditionally allowed to appear for the admission test. If the results of their HSC/A level examinations are published and are satisfactory before the classes start the candidates should submit the records to the registrar's office. If the results are not published before the classes start, the complete results have to be submitted before the end of the first semester of classes. If the results are not satisfactory the admission will be cancelled and the admission fee will not be refunded. Admission test results are valid for one year from the date of publication of the final results of the admission test*. If within this period the candidate are able to submit improved results, which meet the University's admission criteria they may be readmitted without payment of admission fees.

Fee Structure

Non-refundable Fees*

Admission Fee	Tk. 10,000 (one time)
Computer Lab Fee	Tk. 1,000 per semester
Students Activity Fee	Tk. 500 per semester
Library Fee	Tk. 500 per semester

*Subject to change.

Tuition Fee per Credit*

BBA	Tk. 4,000.00
BSc in Computer Science	Tk. 4,000.00
BSc in Computer Science & Engineering	Tk. 4,000.00
BSc in electronics and Communication Engineering	Tk. 4,000.00
BSS in Economics	Tk. 4,000.00
BA in English	Tk. 4,000.00
LLB	Tk. 4,000.00
BSc in Physics	Tk. 4,000.00
Architecture - Lecture Courses	Tk. 4,000.00
Architecture - Studio Courses	Tk. 5,000.00

*Subject to change.

Financial Aid

- Full tuition waiver to those who obtained GPA of 5.0 (without 4th subject) in SSC and GPA of 5.0 (without 4th subject) in HSC from Science, Arts & Commerce groups or have 7 'A's in 'O' Level (in one sitting) & 3 'A's in 'A' Level
- BRAC-FORD Foundation offers full tuition waiver, living and book allowance for meritorious students from disadvantaged financial backgrounds who obtained (without 4th subject) a GPA of 4.5 from Science, and GPA of 4.0 from Arts and Commerce groups in HSC Examinations.
- Tuition waiver based on performance at BRAC University.
- Tuition waiver based on financial needs.
- Parents with two children at BRAC University are offered 50% tuition waiver for the second child.
- Physically challenged students will receive special fee waiver at various rates to be determined by the Scholarship Committee on case-by-case basis.
- All Scholarship criteria are subject to change without notice.

GRADUATE PROGRAMS

Minimum qualification for applying

To get admitted into a graduate program of BRAC University a candidate must meet the following requirements:

a) A total of 15 years of study and at least a bachelor's degree; however some programs may have different criteria for admission.

b) A CGPA of 2.50 or above in the bachelor's degree, or six (6) points calculated as follows:

Certificate/Degree	Division/Class	Points
SSC*	1st	2
	2nd	1
HSC*	1st	2
	2nd	1
Bachelor (Pass)	1st	1
	2nd	1
Bachelor (Honors)	1st	3
	2nd	2
Masters	1st	3
	2nd	2

Alternatively, HSC-Letter grades / O-Level (in five subjects) & A-Level (in two subjects with a GPA of 2.5 or above), will be calculated according to BRAC University scale: A=5, B=4, C=3, D=2 & E=1. Only one E is acceptable.

c) Candidates with third division or CGPA of 2.00 at any level of education are not eligible to apply.

d) Qualify in the admission test consisting of a written test and an interview.

Application for Admission

The Application Form, Admission Instructions, Prospectus of BRAC University and further information are available at the Admission Desk on the Ground floor of BRAC University.

Completed Application with an Admission test fee must be submitted to the Admission Desk within the announced deadline.

A complete application includes:

1) Completed Application Form
2) Two passport size color photographs, duly attested
3) Attested copies of all certificates and mark sheets
4) Testimonial / letter of recommendation from Institution last attended
5) Admission test fee receipt

Fee Structure

Non-refundable Fees*

Admission Fee	Tk. 10,000.00 (one time)
Computer Lab Fee	Tk. 1,000.00 per semester
Students Activity Fee	Tk. 500.00 per semester
Library Fee	Tk. 500.00 per semester

Tuition Fee per Credit*

MBA	Tk. 4000.00
MBM	Tk. 4000.00
MDS	Tk. 4000.00
PPDM	Tk. 4000.00
LLB (Evening)	Tk. 4000.00
MA in English	Tk. 4000.00
MSAE	Tk. 4000.00
MS in Biotechnology	Tk. 4000.00

*Subject to change without notice

Refund Policy

Only tuition fees will be refunded to a student who withdraws from a semester after registration as per the following rates:

100% within seven days from the day classes begin

75% within 16 days from the day classes begin

50% within 23 days from the day classes begin

No refund after 23 days

Admission and other fees will not be refundable.

Academic Programs

Blank

Architecture

BRAC has been concerned with and involved in development issues throughout Bangladesh for the last 29 years. Its commitment to national development through the creation of a workforce suitable for both home and abroad is one of the reasons for the formation of BRAC University. BRAC University is committed to provide education of the highest standards that is responsive to society's needs. This context provides an excellent opportunity for a department of architecture, which addresses issues relevant to the development of the country in relation to global issues in architecture

The Department offers the following degree:

Bachelor of Architecture (B. Arch.)

DESCRIPTION OF PROGRAM

BACHELOR OF ARCHITECTURE (B.ARCH) PROGRAM

Introduction

BRAC is concerned with and involved in development issues throughout Bangladesh for the last 29 years. Its commitment to national development through the creation of a workforce suitable for both home and abroad is one of the reasons for the formation of BRACU. BRACU is committed to provide education of the highest standards that is responsive to the society's needs. This context provides an excellent opportunity to establish a department of Architecture, which addresses issues of the built environment relevant to the development of the country in relation to global issues in architecture, through creative application of knowledge. The department was established in 2002.

Mission Statement

Recognizing BRAC's background, the University's commitments and goal, a mission statement for the department of Architecture can be defined as:

> An education to prepare tomorrow's architects for the challenges of a technologically developing world and the challenges that face our nation. To seek solutions that respect the social, cultural and aesthetic needs of the people they serve and work towards the development of an ecologically balanced and sustainable built environment and to learn and to creatively apply modern skills to a modernizing society.

Curriculum Structure

The total credit requirement for the degree of Bachelor of Architecture is 199 credits. A regular student should take about 15 credits per semester. Depending on the student's academic standing and the advisor's recommendation a student may take a maximum of 21 credits per semester. Considering a reasonable and even distribution of credits the length of study for the degree is recommended to be 5 years (15 semesters).

The following are the core areas in which courses are offered:

Design and Communications	Building Science / Services
and Lecture Courses in the following streams	Environmental Sciences
Architecture / Planning	Humanities & Social Sciences
History of Architecture	

Structures

These are supported by elective courses offered at various stages.

Architectural subjects

The main components of the architectural education are the design studios; related studio subjects are working drawings, landscape and interior design. To support them are the studio courses in communications that include courses in graphic and digital media. In the final semesters, Seminar courses are offered to complement design studio work. The design studios carry a substantial amount of credit hours so that the emphasis remains in design.

The course wise distributions of credits in architectural subjects are as follows:

Areas	No. of Courses	Credit Hours
Studio Courses		
Design Studios	10	81
Studios related to Design	4	6.5
Communications Studios	8	13.5
Graphic	3	6
Digital	3	4.5
Written	2	3
Total in Studio Courses	**22**	**101**
Lecture Courses		
History of Art and Architecture	6	12
Planning and Urban Design	4	8
Building Sciences/Services	5	10
Environmental Sciences	3	6
Electives	5	10
Others (research methods)	1	2
Total in Lecture Courses	**24**	**48**
Total in Architectural subjects	**46 courses**	**149 credits**

Credits in Studio Courses

Unlike the taught courses, in the studio courses of the B. Arch program credits earned do not correspond to the contact hours/week.

In the design studio courses the credits earned for the ARC101 (Design I) is 4.5 and the corresponding contact hours/week is 9. In the design studio courses that follow this gap is narrowed and in the final design studio ARC502 (Design X) the contact hours are 15 and the corresponding credits earned is 12. In other studio courses related to design such as ARC311 (Working Drawings I), ARC413 (Estimation) etc the credits earned are almost always half of the contact hours/week (1.5 credits for 3 hours/week). The studio courses require one-to-one contact between the teacher and the student and usually there is more than one teacher per studio and it is only on occasions (project briefing, reviews etc) that the teacher addresses the whole class (unlike the case in lecture courses).

Electives

A student is required to complete 10 credits in elective courses. Of the number of elective courses on offer students may choose from a list of 8 courses from the second semester of studies onwards. The rest 5 are higher-level courses and may only be taken from the fifth semester onwards.

Non-Architectural subjects

The course wise distribution of credits in non-architectural subjects are as follows:

Areas	No. of Courses	Credit Hours
Humanities		
English	2/3	3.5
Sociology/social history	2	4
Psychology	1	2
Philosophy	1	2
Economics	1	2
Planning/Urbanism	2	4
Sciences		
Basic Computing	1	1.5
Physics	1	2
Mathematics	1	2
Environmental Sciences	1	2
Civil Engineering	7	14
Electrical Engineering	1	2
Mechanical Engineering	1	2
Accounting	1	2
Management	1	2
Total in Non-Architectural subjects	**24 courses**	**47 credits**

Practical Training

As a requirement for the degree of B. Arch a student is required to complete a semester of practical training in an Architectural office and go through work in the office as well as at the site of a construction project undertaken by that office. A student will have to complete 110 credits before being able to undertake practical training. Students will have to maintain a daily log of their activities signed by the supervisor and a complete portfolio of the work done. Grade will be assigned on the basis of the supervisor's confidential report and an interview by board consisting of teachers of the department.

List of Courses

a) Architectural Courses

Studio Courses

Design

ARC101	Design I
ARC102	Design II
ARC201	Design III
ARC202	Design IV
ARC301	Design V
ARC302	Design VI
ARC401	Design VII
ARC402	Design VIII
ARC501	Design IX
ARC502/ ARC503	Design X

Related to Design

ARC311	Working Drawings I
ARC312	Working Drawings II
ARC411	Interior Design
ARC412	Landscape Design

Communications

Graphic

ARC111	Graphic Communication I
ARC112	Graphic Communication II
ARC413	Estimation

Digital

ARC113	Computer Aided Design
ARC214	Computer Graphics
ARC315	Digital Visualization

Written

ARC511	Seminar I
ARC512	Seminar II

Lecture Courses

History of Art and Architecture

ARC121	Introduction to Architecture
ARC122	History of Art and Architecture I
ARC123	History of Art and Architecture II
ARC224	History of Art and Architecture III
ARC225	History of Art and Architecture IV
ARC326	History of Art and Architecture V
ARC327	History of Bengal Art and Architecture

Planning/Urban Design

ARC331	Urban Design
ARC431	Rural Architecture
ARC432	Housing and Development

Building Sciences/Services

ARC241	Construction I
ARC242	Construction II
ARC343	Technology and Construction
ARC441	Specifications
ARC541	Professional Practice

Environmental Sciences

ARC251	Design with Climate
ARC252	Lighting and Acoustic Design
ARC452	Design for the Environment

Others

ARC522	Research Methods

b) Elective Courses

Studio Courses

ARC291	Sculpture
ARC292	Painting
ARC293	Music Appreciation
ARC294	Photography

Lecture Courses

ARC391	Rural Housing
ARC392	Tropical Architecture
ARC393	Building for Disasters
ARC394	Contemporary South Asian Arch.
ARC491	Architectural Conservation
ARC492	The City in Development
ARC493	Contemporary Architecture Thought
ARC494	Ecology and Sustainable Development
ARC495	Computers in Architecture

c) Non-Architectural Courses

Humanities

English

ENG091	Foundation Course
ENG101	English
ENG203	Communication Skills

Sociology / Social History

ANT103	Society and Development
SOC102	Bangladesh History Culture and Society

Philosophy

PHI521	Philosophy & Architecture

Psychology

PSY421	Psychology for Architects

Economics

ECO104	Introduction to Economics

Planning / Urbanism

ARC231	Concepts in Planning
ARC232	Urbanism

Sciences

Basic Computing

CSE103	Introduction to Computing

Physics

PHY103	Fundamentals of Physics

Mathematics

MAT104	Mathematics

Environmental Sciences

ENV151	Introduction to Environmental Sciences

Civil Engineering

CEE211	Structure I
CEE212	Structure II
CEE213	Plumbing
CEE311	Structure III
CEE312	Structure IV
CEE411	Structure V
CEE412	Structure VI

Mechanical Engineering

MEE344	Mechanical Services

Electrical Engineering

EEE345	Electrical Services

Accounting

ACT511	Accounting

Management

MGT511	Construction Management

d) Practical Training

ARC300	Practical Training

Business Administration

The BRAC Business School began its journey in 2001 as a department within BRAC University before being turned into the school in 2006. Within this short period the school has made its mark as a centre of excellence in the academic and business community through a rigorous, discipline-based approach to business education. The goal of the school is to transform the students into confident and efficient professionals who can become leaders as they shape their organizations in this age of rapid discontinuous changes.

The school has three distinct programs i.e. BBA, MBA and MBM catering to different segments of the market. Though the programs vary in pedagogy, they have one common goal of creating professionals for business organizations. The students go through various processes from class room lectures to interactive case sessions to delving in real life situations as they are attached to organizations for case work plus a semester long internship. The activities are further supplemented by industrial visits, special lectures by business professionals and a compulsory residential semester in a cross-disciplinary environment where students of different backgrounds participate and compete.

The Dean heads and manages the activities of the school with the support of the program directors of programs i.e., the BBA, MBA and MBM. The faculty together with the staff creates an informal yet intense environment within which the students learn and grow.

The school offers the following degrees:

Bachelor of Business Administration (BBA)
Master of Business Administration (MBA)
Master of Bank Management (MBM)

DESCRIPTION OF PROGRAM

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

The Bachelor of Business Administration (BBA) program of the school is a broad based program in business education covering a period of four years of full-time study followed by a 3-month internship in an external organization. During the final year of studies the students are required to choose areas of concentration (Major and Minor) among a list of alternatives. The provision for double major is also available.

The total program is divided into four modules as follows: (i) courses in general education covering fundamentals of natural and social sciences, languages and liberal art subjects (ii) basic business courses in Accounting, Finance, Banking and Insurance, Marketing, E-Business, Human Resource Management, Computer Information Management, and Entrepreneurship (iii) courses in concentration areas to enable the students acquire skill in particular areas of business in terms of career objectives (iv) internship.

At the end of the program the normal progression for majority of the students is entry-level executive positions. Although the majority of graduates pursue career primarily in business organizations and financial institutions, a large number also opt for organizations like utility companies, autonomous bodies, international agencies and government. And then there are graduates who want to start something of their own.

Requirements for the Degree

To earn a BBA degree a student must complete at least 130 credits for the program that includes a compulsory internship in an external organization. The following is a description of how these credits are distributed among the courses.

a. 7 courses totaling 21 credits in the area of humanities, social and natural sciences
b. 9 courses totaling 27 credits in courses outside Business
c. 18 courses totaling 54 credits in foundation & core courses of business
d. 5 courses totaling 15 credits in the major and 3 courses of 9 credits for a concentration minor in business
e. A 3-month internship consisting of 4 credits at the end of all courses
f. A minimum CGPA of 2 throughout the program

Admission Requirement and Eligibility

To enroll into the BRAC Business School, a student must fulfill the requirements of the school. The admission test and interview for admission are held before each semester as decided by the BRACU.

Eligibility

To apply for admission into the undergraduate school of business, one must fulfill the following criteria:

a. Minimum GPA of 2.50 in SSC and HSC separately and a total GPA 6.0

   OR

   O-Level in five subjects and A-Level in two subjects with a GPA of 2.5 at each level according to BRACU scale: A= 5, B= 4, C= 3, D=2 & E=1. Only one E is acceptable.
b. GED is not acceptable

Candidates who have completed higher secondary education (12 years of schooling) under a system different from SSC/HSC or O/A levels will be considered for equivalence by the university on a case-to-case basis.

Candidates with break of study of more than two years will have to apply separately stating the cause of break of study.

Admission Test

The BBS implements a two-stage process for admitting students. The first stage is a written test in English, Logical Reasoning, and Mathematics. In order to qualify, candidates must pass each section and subsection separately with minimum 40% marks. This test may be waived if the student has given their SAT with a minimum score of 1200. Once a student has passed the written test he/she will then be called for an interview for a test in communication.

Based on the total marks obtained by the applicants from the two tests, the BBS will make the final selection of the enrolling students.

Credit Transfer

Transfer of credits from institutions having equivalent curriculum, grading system and grading standard may be allowed for a maximum of 30 credits provided the student has obtained at least "B" grade(s) in the course(s) eligible for transfer (Subject to approval of the equivalence committee). The applications for transfer of credit will be considered by the university on a case-by-case basis.

Program Structure

The structure of the BBA Program is presented in the table below:

Areas	No. of Courses	Credit Hours
General Education (Basic Requirement)	**7**	**21**
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Allied Courses (Non-business)	**9**	**27**
Foundation & Core Courses (business)	**18**	**54**
Elective Courses (concentration)	**8**	**24**
a) Major	5	15
b) Minor	3	9
Internship	-	**4**
Total	**42**	**130**

A student may also be required to take non-credit, remedial courses in English to make up his/her deficiency.

General Education Courses

These courses are given to provide the BBA students some basic education in mathematics, natural sciences, and an overview of our country, Bangladesh. A special focus is also given on English language and Ethics and Culture.

Allied Courses

The BBA students are required to take these courses as they provide foundation for the upcoming core courses of business. They are required to take these courses to understand the concepts used in future business courses better.

Foundation & Core Courses

These are the fundamental and core courses of business. These courses enable the students to master the language and concepts of business, use tools and techniques of analysis and familiarize themselves with the environment of business. Functional courses are also included here that focus on the internal operations of business organizations. The students will be acquainted with the activities, issues and decisions involved in each function and how to manage the functions effectively so that they contribute to the overall business performance and profit. Finally, after most core and major courses have been completed, students will take the capstone course of Strategic Management that helps the students integrate insight across core courses and functional areas, gain an understanding of the entire business in its environmental context and formulate strategies and policies for the company to attain competitive advantage.

Elective Courses (Concentration)

The elective courses may be chosen from any of the nine areas of concentration as given below. The number of courses taken in an area, as per program structure, determines the major and minor areas of concentration corresponding to areas of specialization.

- **Accounting**
  This area focuses on financial accounting, managerial and cost accounting, tax planning, auditing, international accounting, accounting for decision-making and control and accounting for mergers and acquisitions. The courses prepare students for careers in both public and private accounting.

- **Computer Information Management (CIM)**
  The area focuses on the use of computers in management, on how to organize and use information to make an organization perform efficiently and effectively. The courses prepare students for careers in information and management of technology.

- **E-Business**
  This major provides students with an additional capability to understand analyze and participate in electronic commerce and electronic business activities in new and established firms.

- **Entrepreneurship**
  This concentration will shape the future entrepreneurs to understand the concepts and practical issues one will deal with. It provides a diverse set of options for students to hone their entrepreneurial skills.

- **Finance**
  Here, students will get a broad introduction to financial markets and to the tools financial managers use. It aims to prepare students for careers in commercial or investment banks, non-banking financial institutions and corporations.

- **Banking and Insurance**
  In addition to learning different banking procedures and practices, the concentration will include the techniques useful to corporations, organizations, and individuals in minimizing the potential financial losses arising from their exposure to risk. Students will be prepared for positions with national and multi-national banks, insurance companies, and corporate risk management departments.

- **Human Resource Management**
  This is a growing area of study and practice in Bangladesh. Students concentrating in this field will learn different personnel management techniques, regulations regarding labor and human rights and overall management of the human resources.

- **Marketing**
  This popular concentration offers a solid ground for understanding consumer and organizational buying patterns, as well as practical experience in areas such as new product development, advertising, and retailing. Students prepare for work in brand management, sales, marketing research and consulting, as well as entrepreneurial ventures.

- **Operations Management**
  Here students will focus on the effective planning, scheduling, use and control of a manufacturing or service organization through the study of concepts from design engineering, industrial engineering, management information systems, quality management, production management, and inventory management. Students will be prepared for positions in the business field of production and telecommunication.

Major

A student will have to take 15 credits from any of the above areas to qualify for a major.

Minor

The requirement for a minor in the school is 9 credits. However, a student may select a minor from another school/department of the University. The requirement for a minor in other department can be different in terms of credits required and students should check this requirement from the concerned department.

Internship

Once the student has acquired a total of at least 90 credits, he/she is ready to go for the internship. The internship aims at providing an on-the-job exposure to the students and an opportunity for translation of theoretical concepts in real life situation. Students are placed in business enterprises, NGOs and research institutions for internship. The duration of the internship program is 10 weeks of organizational attachment and 2 weeks of report finalization work. The report is graded and a student must get at least C grade, which is the passing grade in the internship program. Failure to obtain passing grade will require the student to repeat the internship.

List of Courses

General Education (Basic Requirement): 21 Credits

a) Science **Compulsory courses: (6 credits)**
MAT 101 Fundamentals of Mathematics
CSE 101 Introduction to Computers Science
Students are required to take one course from the following: (3 credits)
PHY 101 Introduction to Physics
BIO 101 Concepts of Biology (Theory)

b) Arts and Humanities: (9 credits)
ENG 101 English Fundamentals
ENG 102 English Composition
HUM 103 Ethics and Culture

c) Social Science: (3 credits)
DEV 101 Bangladesh Studies

Allied Courses (Courses outside Major Area): 27 Credits
STA 101 Introduction to Statistics
ECO 101 Introduction to Micro Economics
(Students must complete Math 101 before they are eligible to take this course)

Any one of the three
MSC141 C Programming for Business
MSC142 Visual Basic Programming for Business
CSE110 Programming Languages
ECO 201 Math. For Business & Economics
GEO 101 Introduction to Economic Geography
ECO 102 Introduction to Macro Economics
ECO 202 Statistics for Business and Economics

Any one of the two

HUM 101 World Civilization and Culture
HUM 102 Introduction to Philosophy

Any one of the two

SOC 101 Introduction to Sociology
PSY 101 Introduction to Psychology

Foundation & Core Courses (compulsory): (54 credits)

Foundation

Area	Subject	Prerequisite
Accounting	ACT 201: Financial Accounting	
Business	BUS 101: Introduction to Business	
	BUS 203: Business Environment	BUS 101
Management	MGT 211: Principles of Management	BUS 101
Marketing	MKT 201: Principles of Marketing	BUS 101

Core

Area	Subject	Prerequisite
Accounting	ACT 202: Management Accounting	ACT 201
Business	BUS 201: Business & Human Communication	ENG 101, ENG 102
	BUS 202: Business Law	BUS 101
	BUS 302: Research Methods in Business and Management	BUS 101, MAT 101, ECO 202
	BUS 301: International Business	ECO101, ECO102, FIN 301, MKT301
	BUS321: Entrepreneurship Process and Principles	FIN 301, MKT 301
Finance	FIN 301: Financial Management	BUS 101, ACT 201
Management	MGT 201: Organizational Behaviour	BUS101
	MGT 301: Human Resource Management	MGT211
	MGT 401: Business Strategy	MGT 301, MKT 301, MSC 301, FIN301, BUS 321
Marketing	MKT 301: Marketing Management	MKT 201, MGT 201
MIS	CSE 371: Management Information System	MAT 101, MGT 211, CSE 101
Operations Management	MSC 301: Operations Management	MAT 101, ECO 202, MGT 211

Elective Courses (Major/Minor)

Each subject area is divided into two parts i.e. compulsory and elective. The compulsory courses are obligatory. For major in an area a student has to take at least 15 credits including the compulsory courses. For minor in an area the requirement is 9 credits with or without the compulsory courses.

Accounting

Compulsory courses	
ACT 422	Cost Accounting
ACT 301	Intermediate Accounting
ACT 431	Advanced Accounting
Elective Courses	
ACT 423	Fundamentals of Taxation
ACT 421	Accounting Information System
ACT 425	Principles of Auditing
ACT 432	International Accounting
ACT 434	Accounting for Specialized Institutions

Computer Information Management (CIM)

Compulsory Courses	
MSC 444	Systems Analysis
MSC 445	Management of Information Systems
MSC 443	Applied Database Management
Elective Courses	
ACT 421	Accounting Information System
MSC442	Information Technology
MSC449	Business Data Communications
MSC 451	Local Area Network Administration
MSC452	Distributed Information Systems For Business

E-Business

Compulsory Courses	
MSC 441	Introduction to Electronic Commerce
MSC 446	Marketing on the Internet
MSC 452	E-Commerce Programming
Elective Courses	
MSC 453	E-Business Accounting
MSC 447	Technology Fundamentals of Electronic Commerce
MSC 448	Management of Online Business
MSC 455	Java Programming for the Internet
MSC 456	E-Commerce Infrastructure
MSC 457	E-Commerce Risk and Security Management
MSC 458	Cyber law
MSC 459	Designing Web Usability
MSC 454	Managing e-Commerce Projects

Entrepreneurship

Compulsory courses	
BUS 421	Venture Development
FIN 422	Project Appraisal & Management
MKT 428	Strategic Marketing
Elective Courses	
MGT 422	Small Business Management
MSC 421	Productivity Management
BUS 423	Business Plan Development

Finance, Banking and Insurance

Compulsory courses	
FIN 421	Corporate Finance I
FIN 427	Corporate Finance II
FIN 424	Management of Financial Institutions
Elective Courses	
FIN 425	International Financial Management
FIN 422	Project Appraisals and Management
FIN 423	Securities Analysis & Portfolio Management
ACT423	Fundamentals of Taxation
FIN441	Bank Management and Electronic Banking
FIN 461	Insurance and Risk Management
FIN 431	Financial Derivatives
FIN428	Real Estate Finance

Human Resource Management

Compulsory courses	
MGT 425	Man Power Planning and Forecasting
MGT 423	Training and Development
MGT 424	Industrial Relations
Elective Courses	
MGT 422	Compensation Management
MGT 426	Change Management
MGT 427	Strategic Human resource Management
MGT 421	Leadership: Theory Practice
MGT 431	Industrial Psychology

Marketing

Compulsory courses	
MKT 426	Basic Marketing Research
MKT 421	Introduction to Consumer Behaviour
MKT 425	International Marketing
Elective Courses	
MKT 422	Selling and Salesmanship
MKT 429	Business Logistics
MSC 423	Brand Management
MKT 424	Advertising
MKT 427	Retailing
MKT 428	Strategic Marketing
MKT 431	Services Marketing
MKT 432	Channel Marketing

Operations Management

Compulsory Courses	
MSC 424	Operations Research (Quantitative Methods For Decision Making)
MSC 427	Operations Planning and Control
MSC 422	Total Quality Management
Electives	
MSC 445	Management of Information Systems
MSC 425	Materials Management
MSC 428	Managing Process Improvement
MSC 429	Service Quality Management
MSC 431	Operations Design and Logistics System
MSC 421	Productivity Management
MKT 429	Business Logistics

MINOR IN BUSINESS (for the students of other departments)

Total of 21 credits from the following segments
Prerequisites: (9 credits): STA 101, ECO 101, ECO 102

a. Compulsory courses (15 credits):
BUS 101 Introduction to Business
ACT 201 Financial Accounting
MGT 211 Principles of Management
MGT 201 Organizational Behaviour
MGT 301 Human Resource Management

b. Elective any two courses from the following (6 credits)
BUS 202 Business Law
ACT 202 Management Accounting
MKT 201 Principles of Marketing
FIN 301 Financial Management
MSC 301 Operations Management
CSE 371 Management Information System
MGT 401 Business Strategy

DESCRIPTION OF PROGRAM

MASTER OF BUSINESS ADMINISTRATION (MBA)

The MBA Program of BRAC Business School is designed for students who aspire careers in business, commerce and industry. These students are drawn from a wide spectrum of life; ranging from those coming from liberal arts to applied science to commerce to those at various stages of career trying to identify a business niche to professionals trying to enhance their skill and knowledge base to restless individuals trying to start new business. Depending on the individual experience and knowledge level the duration of the program for an individual varies from just over a year to about three years. The curriculum is a careful blend of global business programs of repute adapted to the local environment so that at the end of the program the graduates can easily link up their education

with their chosen vocation. Besides covering the basic elements of business, theory and practice, the students are helped to develop their abilities to perform in a wide range of sectors both within the country and abroad.

Program Objectives

The basic objectives of the MBA program is to enable the students to attain synergistic combination of knowledge, skill and experience as well as develop their insight and acumen, and build innovation and leadership ability.

On completion of the MBA Program, the graduates are expected to find executive positions in different organizations, or work independently as entrepreneurs. The emphasis is given on the following individual character traits:

Think creatively and take sound decisions;
Communicate effectively;
Lead, negotiate and motivate;
Work well with people

Program Features

A skill based, 60 credit (20 courses and an Internship) program
Hands on learning and exposure to business environment
Professional, career and leadership development
Full time or part time registration
Classes and workshops held in the evening
Faculty from home and abroad with teaching and managerial experiences
Scholarships and financial assistance for deserving students
Career guidance and Job placement assistance after graduation

Admission Requirements

For admission into MBA program, a candidate must:

i) have at least a bachelor's degree in any discipline;
ii) have a CGPA of 2.50 in the bachelor's degree Or six (6) points calculated as follows:

Certificate/Degree	Div/Class	Points
SSC	1st	2
	2nd	1
HSC	1st	2
	2nd	1
Bachelor (Pass)	1st	2
	2nd	1
Bachelor (Honors)	1st	3
	2nd	2
Master	1st	2
	2nd	1

* Alternatively, HSC-Letter grades / O-Level (in five subjects) & A-Level (in two subjects with a GPA of 2.5 or above), will be calculated according to BRAC University scale: A=5, B=4, C=3, D=2 & E=1. Only one E is acceptable.

iii) Qualify in the admission test consisting of a written test (80% weight) and an interview (20% weight)

Note: Candidates with third division at any level of education are not eligible to apply. A candidate with a GMAT score of at least 500 can be exempted from written test.

Degree Requirements

For graduation, an MBA student must complete the requisite number of credits of course work and meet other requirements depending on the program in which he/she is enrolled and must maintain a CGPA of 2.50 throughout the program. The University, however, reserves the right to refuse the awarding of degree on disciplinary or similar grounds.

Specifically, the MBA degree requires completion of:

12 compulsory totaling 36 credits in core courses of business.
4 courses from one functional area for declaring major equaling 12 credits.
3 elective courses equaling 9 credits from the major area
1 capstone course-Strategic Management of 3 credits.
Internship/ dissertation with at least "C" grade (non credit)
A minimum CGPA of 2.5 through out the program
A satisfactory record of conduct and behavior.

A Full Time MBA student can receive a maximum exemption of 9 courses totaling 27 credits, subject to the following:

Courses in which the student is seeking exemption should have a minimum grade of B
Exemptions also depend on the discretion of equivalence committee.
No exemptions can be obtained in any courses in the functional area of Major, Capstone course and course related to major area in the core compulsory.

Program Structure

The structure of the MBA Curriculum is presented in the following table:

	Areas	No of Courses	Credit Hours (Non Credit)
1	Foundation Course (Non Credit)	4*	
2	Core Courses	12	36
3	Functional Area Courses	4	12
4	Capstone Course (Integration & Overview)	1	3
5	Concentration Courses (Electives)	3	9
6	Internship (Non Credit)		
	Total	**20**	**60**

A student may also get an exemption in the Foundation (non credit) courses provided he/she takes a comprehensive exam before the program in order to prove his/her expertise in the foundation courses.

Foundation Courses

These courses are given in order to equip the MBA students with some basic knowledge on combined business subjects prior to starting the main Program. The completion of the courses will help the students to form a sound foundation of business knowledge that will be required in order to grasp the more sophisticated matter in the Business Administration studies.

Core Courses

These are the fundamental and core courses of business. These courses enable the students to master the language and concepts of business, use tools and techniques of analysis and familiarize

themselves with the environment of the business. Functional courses are also included here that focus on the internal operations of business organizations. The students will be familiarized with the activities, issues and decisions involved in each function and how to manage the function effectively so that they contribute to the overall business performance and profit. Finally, after most core and major courses have been completed, student will take the capstone course of Strategic Management that helps the students integrate insight across core courses and functional areas and gain an understanding of the entire business in its environmental context and formulate strategies and policies for the company to attain competitive advantage.

Functional Courses

The MBA students are required to do these courses in order to be informed about the areas, which run side by side of business. The thorough knowledge in these areas is necessary in order to carry out business more efficiently.

Concentration Courses (Major)

The concentration course enables students to specialize in their chosen field of business. BRAC Business School offers the following areas for business concentration as a major or minor.

Bank Management

In addition to learning different banking procedures and practices, the concentration will include the techniques that are useful to corporations, organizations, and individuals in minimizing the potential financial losses arising from their exposure to risk. Students will be prepared for positions with national and multi-national banks, insurance companies, and corporate risk management departments.

Entrepreneurship

This concentration will shape the future entrepreneurs to understand the concepts and practical issues one will deal with. It provides a diverse set of options for students to hone their entrepreneurial skills.

Financial Management

Concentrating in this area enables the students to a broad exposure to financial markets and acquaintance with the tools financial managers use. It aims to prepare students for careers in commercial or investment banking, non-banking financial institution and corporate houses.

Human Resource Management

This is a growing area of study and practice in Bangladesh. Students concentrating in this field will learn different personnel management techniques, regulations regarding labor and human rights and overall management of the human resource.

Information Technology & System Management

The students will learn the use of computers in organization; Organizing and staffing the information system functions; Contingency Management & the MIS function; Planning and administration; control and evaluation; Technology trends and implications; Computer capacity planning; managing systems Development; Hardware and Software acquisition etc.

Marketing Management

This popular concentration offers a solid ground for understanding consumer and organizational buying patterns, as well as practical experience in area such as new product development, advertising,

and retailing. Students are prepared for work in brand management, sales marketing research and consulting, as well as entrepreneurial ventures.

Operations Management

Here students will focus on effective planning, scheduling, use and control of a manufacturing or service organization through the study of concepts from design engineering, industrial engineering, management information systems, quality management, production management, and inventory management. Students will be prepared for positions in the business field of production and telecommunication.

Internship

After a student has completed all the required courses for the program, he/ she is sent for internship. The internship aims at providing an on-the-job exposure to the students and an opportunity for translation of theoretical concepts in real life situation. Students are placed in business enterprises, NGOs and research institutions as suitable. The duration of the internship program is 12 weeks: 10 weeks of organizational attachment and 2 weeks of report finalization work. The passing grade of the internship is C. Failure to obtain passing grade requires the student to repeat the internship.

List of Courses

Foundation Courses (Non credit)

ENG 092 Basic Course in English Language
CSE 093 Basic Course in Business Computing
MAT 091 Basic Course in Mathematics
STA 091 Basic Course in Statistics

Core Courses (Each course carries 3 credits)

(Students will choose 36 credits in consultation with their academic advisers)

ACT 501 Financial Accounting & Analysis
ACT 502 Managerial Accounting & Control
BUS 501 Business Law
BUS 502 Managerial Communication
BUS 503 Environment and Business
BUS 505 Business Statistics
BUS 506 Research Methods in Business and Management
BUS 510 International Business and Management
ECO 501 Managerial Economics
ECO 502 Macroeconomics & Business Forecasting
MAT 501 Mathematics for Decision-making
MGT 501 Management of Organizations & Systems
MGT 521 Organizational Behavior & Leadership
MSC 640 Information Management
MSC 649 Advanced Computer Programming

Functional Area Courses (Compulsory for all students)

FIN 501 Financial Management
MGT 522 Human Resource Management
MKT 501 Marketing Management
MSC 601 Operations Management and Policies

Capstone Course (Compulsory for all students)

MGT 601 Strategic Management

Concentration Areas

(A student seeking concentration must complete 9 credits in the selected area. A concentration area will be offered only when at least five students register in the course and suitable course teachers are available)

Bank Management
Entrepreneurship
Financial Management
Human Resource Management
Information Technology & Systems Management
Marketing Management
Operations Management

DESCRIPTION OF PROGRAM

MASTER IN BANK MANAGEMENT (MBM)

Introduction

The MBM Program of BRAC University is a skill based, 60-credit (20 courses and an internship) two-year full time program. A student may also enroll in the MBM Program as a part timer but in that case, completion of graduation requirement will take a longer time depending on the number of courses taken.

Admission Requirements

For admission into MBM program, a candidate must:

i) have at least a bachelor's degree in any discipline;
ii) have a CGPA of 2.50 in the bachelor's degree Or six (6) points calculated as follows:

Certificate/Degree	Div/Class	Points
SSC	1st	2
	2nd	1
HSC	1st	2
	2nd	1
Bachelor (Pass)	1st	2
	2nd	1
Bachelor (Honors)	1st	3
	2nd	2
Master	1st	2
	2nd	1

*Alternatively, HSC-Letter grades / O-Level (in five subjects) & A-Level (in two subjects with a GPA of 2.5 or above), will be calculated according to BRAC University scale: A=5, B=4, C=3, D=2 & E=1. Only one E is acceptable.

iii) Qualify in the admission test consisting of a written test (80% weight) and an interview (20% weight)

Note: Candidates with third division at any level of education are not eligible to apply. A candidate with a GMAT score of at least 500 can be exempted from written test.

Graduation requirements

Students enrolled in the MBM program of BRAC Business School have to complete a 60-credit hour course requirement as laid down in the structure and curriculum of this prospectus with a minimum cumulative grade point average (CGPA) of 2.50 in order to obtain an MBM degree from the university. Students have to maintain a minimum CGPA of 2.50 every semester. Students falling short of this minimum CGPA requirement will be on probation. Failure to maintain a CGPA of 2.50 or above for three consecutive semesters will result in cancellation of admission. The internship in the MBM program is a mandatory non-credit requirement for graduation. A student has to obtain a minimum grade of C on internship to be considered satisfactory.

Structure of the MBM Curriculum

The MBM Program is divided into a number of areas as shown in the following table. The students are expected to follow the given sequence as they move from the Foundation to the Concentration areas.

Areas	No. of Courses	Credit Hours
Preparatory*	4	Non credit
Foundation**	8	24
Core	8	24
Capstone Course	1	3
Concentration (Electives)	3	9
Total	24	60
Internship	Compulsory	Non-credit

*Course waiver may be applicable.
** Course waivers may be applicable as per University rules.

Preparatory Courses

The MBM students come from diverse educational and professional background. The foundation courses are offered to help them either refresh or make up deficiency in the area so that they can begin the formal coursework on an equal footing with their classmates. These courses are offered in English language, Mathematics, Business Computing and Statistics. A student may be required to take one or more foundation courses to make up his/her deficiency in the area. Each foundation course is treated as equivalent to 3 credits for assigning class loads but these are not included in credit calculation. The students must, however, pass each course.

ENG 092 English Fundamentals
ITS 093 Basic Course in Business Computing
MAT 091 Fundamentals of Mathematics
STA 091 Basic Course in Statistics
BNK 091 Fundamentals of Banking

Foundation Courses

The Foundation courses enable students to master the language and concepts of business and management and familiarize them with business environment. The courses also help them learn uses of tools and techniques for analysis of business and environment. Exemption from one or more foundation courses may be given if a student (ii) has passed these *or* similar courses at the undergraduate or graduate level, and acceptable to BRAC University or (ii) can demonstrate a good grasp of the subject at a written test and interview.

ECO 501 Managerial Economics
ECO 502 Macroeconomics and Business Forecasting
BUS 509 Quantitative Methods in Business
ACT 501 Financial Accounting
BUS 502 Managerial Communications
MGT 503 Management of People & Organization
FIN 501 Financial Management
FIN 502 Financial Institutions

Core Courses

The core courses familiarize the students with the functions and operations of banks; help master the language and concepts of banking, use tools and techniques of analysis. Exemption from one or more core courses may be given if a student (i) has passed these or similar courses at undergraduate or graduate level and acceptable to BRAC University or (ii) can demonstrate a good grasp of the subject at a written test and interview. The list of the core courses is provided below.

BNK 601 Banking Law and Practice
BNK 604 Commercial Bank Management
BNK 605 Foreign Trade and Foreign Exchange
BNK 606 Central Banking and Commercial Bank Supervision
BNK 607 Electronic Banking
BNK 608 Marketing of Bank Services
BNK 609 Risk Analysis and Management of Financial Institutions
BNK 610 Treasury Management

Capstone Course

BNK 619 Strategic Management of Banks, a 3-credit capstone course, helps students integrate insight across foundation and core courses, gain an understanding of the entire banking business in its environmental and organizational context and formulate strategies and policies for the bank to attain competitive advantage and growth.

Concentration Area Courses

The concentration area courses enable students to specialize in' his chosen field. MBM Program offers concentration in Banking, Financial Management, Micro finance and Information Technology. If a student completes 9 credits of elective courses in a concentration area, he can claim it as his area of concentration. However, a student has the choice of not concentrating in any area and may choose courses equaling 9 credits from different areas. The concentration area courses are listed below.

Area: Banking (any 3 courses, 3 credits each)
BNK 621 Corporate Planning in Banks
BNK 622 Ethics in Banking and Legal Environment
BNK 623 Investment Banking
BNK 624 Banking and Financial Innovations
BNK 625 International Banking
BNK 626 Bank Financial Analysis
BNK 627 Islamic Banking
BNK 628 Special Banking Issues
BNK 629 Management of Specialized Banks

Area: Financial Management (any 3 courses, 3 credits each)
FIN 620 Financial Analysis
FIN 621 Corporate Finance
FIN 624 Investment Management
FIN 625 Portfolio Management of Financial Assets
FIN 630 Project Preparation and Appraisal
FIN 641 Fixed Income Securities and Interest Rate Derivatives
FIN 642 Financial Engineering

Area: Micro finance (any 3 courses, 3 credits each)
BNK 631 Micro finance
BNK 632 Accounting for Micro finance and NGOs
BNK 633 Advanced Topics in Micro finance
BNK 634 Strategic management of Not-for-Profit Organizations
BNK 635 Management of NGOs

Area: Information Technology (any 3 courses, 3 credits each)
ITS 510 Management of Information System
ITS 501 Computer Programming
MSC 641 Data Base Management
MGT 647 Management of Information Technology

Other Courses: (3 credits each)
An MBM student may choose to take additional courses outside the 60-credit graduation requirement if he/she wishes to broaden his/her knowledge base in the field of research methodology, entrepreneurship, and small and medium enterprise management.

STA 510 Research Methodology
BUS 521 Entrepreneurship Process and Principles
BUS 623 Small and Medium Enterprise Management

Internship

The internship program gives the student an opportunity to acclimatize himself in bank's work environment, translate his learning into practice and refine his problem-solving skill through a project work. For internship, the students will be placed in selected banks or financial institutions for eight weeks. On completion of the internship, the student will prepare and defend an internship report. An in-service student will not require placement in organization; s/he will submit and defend an internship report. Alternatively, a student may pursue a research project on selected topic approved by the University and write and defend a dissertation. Internship carries no credits but a student has to pass it by obtaining at least C grade.

The Center for Languages, BRAC University

Through its hard work and focus on creative and forward thinking teaching concepts, the English Language Programme (EL Pro) has now become The Center for Languages, BRAC University (CfL BU)

CfL BU will offer a new and exciting range of languages, such as English, Chinese, French, Spanish, and of course, Bangla. The Center's learners will include students who need a foreign language for successful admission to a graduate program, and adults who need a foreign language to be successful in the global economy. We hope to assist expatriates living in Dhaka, who need to or would like to learn Bangla.

In addition to the new services, CfL BU will continue to offer its high quality English language classes to all the university's undergraduate and graduate students. These classes are based on the students' skill level, which eliminates not only the possibility of having mixed ability classes, where some students flourish and some fail, but it also ensures small classes with excellent interaction between the teacher and learners. In addition to the university classes, CfL BU offers pre-university classes, for students who need extra help with their language skills, before they can be successful university students.

CfL BU is looking forward to continuing its excellent relationship with the BRAC Professional Development Program and BUIED. English language classes are offered to these learners to help them develop into top-level managers and mentors.

The Center for Languages at BRAC University will bring a whole new world of language learning to the university, the community and the country.

Computer Science, Electronics and Communication Engineering

The Department of Computer Science and Engineering was established by BRAC University in April 2001. The goal of this department is to produce well-rounded and well-balanced graduates who can use Electronics and Communication Engineering and/or Computer Science tools to solve real world problems.

At present, the department offers the following degrees and certificate courses:

Bachelor of Science in Computer Science (BSCS)
Bachelor of Science in Computer Science and Engineering (BSCSE)
Bachelor of Science in Electronics & Communication Engineering (BSECE)

DESCRIPTION OF PROGRAM

BACHELOR OF SCIENCE IN COMPUTER SCIENCE (BS CS)

The objective of the degree is to produce a well-rounded and well-balanced graduate who can use Computer Science tools to solve real world problems. In designing the course, the requirements of IEEE and standards laid down by American, Canadian, British and Indian universities and institutes have been taken into consideration.

Structure of the Bachelor Degree in Computer Science (CS) Program

The Bachelor Degree in Computer Science (CS) consists of general education courses, mathematics and natural science courses, CS core courses, courses outside CS major, elective courses and a thesis/project/internship. Each student is required to successfully complete a minimum of 124 credit hours to graduate. The student is required to take courses of 120 credits. The remaining 4 credits will be made up of thesis or project/internship report submission. A student may also be required to take remedial and supplementary non-credit courses to improve study skills, presentation and communication skills.

Students from other departments may choose to complete a minor in Computer Science to increase their experience in this important and practical subject beyond fundamentals and introductory courses. The structure of the minor is similar to the major and is a subset of it. This requires seven core courses and at least two CSE elective at the 200-level or above to complete the minor

Areas	No. of Courses	Credit Hours
Basic Requirements (General Education)	7	21
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Major Area (CS Courses)	16	48
Courses Outside Major Area	9	27
Free Elective Courses	8	24
Thesis / Project / Internship	1	4
Total	**41**	**124**

List of Courses

1. General Education Courses [21 credits] (Compulsory for all students unless exempted to take higher level/alternative courses)
   - ENG091 Foundation Course (non-credit)
   - ENG101 English Fundamentals (3 credits)
   - ENG102 Composition I (3 credits)
   - CSE110 Programming Language I (3 credits)
   - MAT110 Mathematics I: Differential Calculus & Co-ordinate Geometry (3 credits)
   - DEV101 Bangladesh Studies (3 credits)
   - HUM103 Ethics and Culture (3 credits)
   - PHY111 Principles of Physics I (3 credits)

2. Courses Outside Major Area [27 credits] (Following courses are recommended and remaining credits to be made up by students by taking courses from other departments in consultation with their Academic Advisors)
   - MAT120 Mathematics II: Integral Calculus and Differential Equations
   - MAT215 Mathematics III: Complex Variables & Laplace Transformations (3 credits)
   - MAT216 Mathematics IV: Linear Algebra and Fourier Analysis (3 credits)
   - STA201 Elements of Statistics and Probability (3 credits)

3. Course Requirements for the Computer Science Major [52 credits]
   - CSE111 Programming Language II (3 credits)
   - CSE220 Data Structures (3 credits)
   - CSE221 Algorithms (3 credits)
   - CSE230 Discrete Mathematics (3 credits)
   - CSE260 Digital Logic Design (3 credits)
   - CSE321 Operating System (3 credits)
   - CSE330 Numerical Methods (3 credits)
   - CSE331 Automata and Computability (3 credits)
   - CSE340 Computer Architecture (3 credits)
   - CSE370 Database Systems (3 credits)
   - CSE420 Compiler Design (3 credits)
   - CSE400 Thesis/Project/Internship (4 credits)
   - CSE421 Computer Networks (3 credits)
   - CSE422 Artificial Intelligence (3 credits)
   - CSE423 Computer Graphics (3 credits)
   - CSE470 Software Engineering (3 credits)
   - One 3 credit CSE elective (3 credits)

4. Course Requirements for the Computer Science Minor [27 credits] (For students of other departments)
   - CSE110 Programming Language I (3 credits)
   - CSE111 Programming Language II (3 credits)
   - CSE220 Data Structures (3 credits)
   - CSE221 Algorithms (3 credits)
   - CSE230 Discrete Mathematics (3 credits)
   - CSE260 Digital Logic Design (3 credits)
   - CSE340 Computer Architecture (3 credits)
   - Two 3 credit CSE elective (6 credits)

5. Elective Courses [24 credits] (Following course is recommended and remaining credits to be made up by students by taking courses from his/her major department or other departments in consultation with their Academic Advisors [to do major or minors, if desired])
   PHY112 Principles of Physics II (3 credits)

DESCRIPTION OF PROGRAM

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING (BS CSE)

The objective of the degree is to produce a well-rounded and well-balanced graduate who can use Computer Science tools to solve real world problems. In designing the course, the requirements of IEEE and standards laid down by American, Canadian, British and Indian universities and institutes have been taken into consideration.

Structure of the Bachelor Degree in Computer Science and Engineering (CSE)

The Bachelor Degree in Computer Science and Engineering (CSE) consists of general education courses, mathematics and natural science courses, CSE core courses, courses outside CSE major, elective courses and a thesis/project/internship. Each student is required to successfully complete a minimum of 136 credit hours to graduate. The student is required to take courses of 132 credits. The remaining 4 credits will be made up of thesis or project/internship report submission. A student may also be required to take remedial and supplementary non-credit courses to improve study skills, presentation and communication skills.

Areas	No. of Courses	Credit Hours
Basic Requirement (General Education)	7	21
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Major Area (CSE Courses)	20	60
Courses Outside Major Area	9	27
Free Elective Courses	8	24
Thesis / Project / Internship	1	4
Total	**45**	**136**

LIST OF COURSES

1. General Education Courses [21 credits] (Compulsory for all students unless exempted to take higher level/alternative courses)
   ENG 091 Foundation Course (non-credit)
   ENG 101 Fundamentals of English (3 credits)
   ENG 102 English Composition I (3 credits)
   CSE 110 Programming Language I (3 credits)
   MAT 120 Mathematics II: Integral Calculus and Differential Equations (3 credits)
   DEV 101 Bangladesh Studies (3 credits)
   HUM 103 Ethics and Culture (3 credits)
   PHY 111 Principles of Physics I (3 credits)

2. Courses Outside Major Area [27 credits] (Following course is recommended and remaining credits to be made up by students by taking non-CSE courses in consultation with their Academic Advisors)

   MAT 110 Mathematics I: Differential Calculus & Co-ordinate Geometry (3 credits)

3. Course Requirements for the Computer Science and Engineering Major [64 credits]

   CSE 111 Programming Language II (3 credits)
   CSE 220 Data Structures (3 credits)
   CSE 221 Algorithms (3 credits)
   CSE 230 Discrete Mathematics (3 credits)
   CSE 250 Circuits and Electronics (3 credits)
   CSE 251 Electronic Devices and Circuits (3 credits)
   CSE 260 Digital Logic Design (3 credits)
   CSE 320 Data Communications (3 credits)
   CSE 321 Operating System (3 credits)
   CSE 330 Numerical Methods (3 credits)
   CSE 331 Automata and Computability (3 credits)
   CSE 340 Computer Architecture (3 credits)
   CSE 341 Microprocessors (3 credits)
   CSE 350 Digital Electronics and Pulse Techniques (3 credits)
   CSE 370 Database Systems (3 credits)
   CSE 420 Compiler Design (3 credits)
   CSE 400 Thesis/Project/Internship (4 credits)
   CSE 421 Computer Networks (3 credits)
   CSE 422 Artificial Intelligence (3 credits)
   CSE 423 Computer Graphics (3 credits)
   One 3 credit CSE elective (3 credits)

4. Elective Courses [24 credits] (Following courses are recommended and remaining credits to be made up by students by taking courses from his/her major department or other departments in consultation with their Academic Advisors [to do major or minors, if desired])

   CSE 360 Computer Interfacing (3 credits)
   CSE 460 VLSI Design (3 credits)
   CSE 461 Digital System Design (3 credits)
   CSE 470 Software Engineering (3 credits)
   CSE 471 Systems Analysis and Design (3 credits)
   MAT 215 Mathematics III: Complex Variables & Laplace Transformations (3 credits)
   MAT 216 Mathematics IV: Linear Algebra & Fourier Analysis (3 credits)
   PHY 112 Principles of Physics II (3 credits)

BACHELOR OF SCIENCE IN ELECTRONICS AND COMMUNICATION ENGINEERING (BS ECE)

The objective of the degree is to produce a well-rounded and well-balanced graduate who can use Electronics and Communication Engineering tools to solve real world problems. In designing the course, the requirements of IEEE and curricula of North American and European universities and institutes have been taken into consideration.

Structure of the Bachelor Degree in Electronics and Communication Engineering (ECE)

The Bachelor of Science Degree in Electronics and Communication Engineering (ECE) consists of general education courses, mathematics and natural science courses, ECE core courses, courses outside ECE major, elective courses and a thesis/project. Each student is required to successfully complete a minimum of 124 credit hours to graduate. The student is required to take courses of 120 credits. The remaining 4 credits will be made up of thesis/project submission. A student may also complete an optional non-credit Internship course. The duration of internship will be a maximum of 8 weeks. A student may also be required to take remedial and supplementary non-credit courses to improve study skills, presentation and communication skills.

Areas	No. of Courses	Credit Hours
Basic Requirement (General Education)	7	21
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Major Area (ECE Courses)	17	51
Courses Outside Major Area	9	27
Free Elective Courses	7	21
Thesis/Project	1	4
Internship (Non-credit and Optional)	-	0
Total	**41**	**124**

LIST OF COURSES

1. General Education Courses [21 credits] (Compulsory for all students unless exempted to take higher level/alternative courses)

   ENG 091 Foundation Course (non-credit)
   ENG 101 English Fundamentals (3 credits)
   ENG 102 Composition I (3 credits)
   CSE 110 Programming Language I (3 credits)
   MAT 110 Mathematics I: Differential Calculus & Co-ordinate Geometry (3 credits)
   DEV 101 Bangladesh Studies (3 credits)
   HUM 103 Ethics and Culture (3 credits)
   PHY 111 Principles of Physics I (3 credits)

2. Courses Outside Major Area [27 credits] (Following courses are recommended and remaining credits to be made up by students by taking courses from other departments in consultation with their Academic Advisors)
   - MAT 120 Mathematics II: Integral Calculus and Differential Equations (3 credits)
   - MAT 215 Mathematics III: Complex Variables & Laplace Transformations (3 credits)
   - MAT 216 Mathematics IV: Linear Algebra & Fourier Analysis (3 credits)
   - STA 201 Elements of Statistics and Probability (3 credits)
   - PHY 112 Principles of Physics II (3 credits)
   - PHY 210 Quantum Physics of Atoms, Solids and Nuclei (3 credits)

3. Course Requirements for the Electronics and Communication Engineering Major [55 credits]
   - CSE 260 Digital Logic Design (3 credits)
   - ECE 200 Electrical Circuits I (3 credits)
   - ECE 201 Electrical Circuits II (3 credits)
   - ECE 202 Electronic Devices and Circuits I (3 credits)
   - ECE 203 Electronic Devices and Circuits II (3 credits)
   - ECE 210 Electromagnetic Waves and Fields (3 credits)
   - ECE 220 Signals and Systems (3 credits)
   - ECE 230 Semiconductor Devices and Materials (3 credits)
   - CSE 320 Data Communications (3 credits)
   - CSE 350 Digital Electronics and Pulse Techniques (3 credits)
   - ECE 310 Introduction to Communication Engineering (3 credits)
   - ECE 320 Microwave Engineering (3 credits)
   - ECE 328 Digital Signal Processing (3 credits)
   - ECE 330 Telecommunication Switching Systems (3 credits)
   - ECE 360 Measurement and Instrumentation (3 credits)
   - CSE 460 VLSI Design (3 credits)
   - ECE 400 Thesis/Project (4 credits)
   - ECE 421 Wireless and Mobile Communications (3 credits)

4. Elective Courses [21 credits] (Credits to be made up by taking courses from his/her major department or other departments in consultation with their Academic Advisors-to do major or minors, if desired)

   A List of Sample Elective Courses from the CSE Department
   - CSE 101 Introduction to Computer Science (3 credits)
   - CSE 111 Programming Language II (3 credits)
   - CSE 310 Object Oriented Programming (3 credits)
   - CSE 321 Operating System (3 credits)
   - CSE 330 Numerical Methods (3 credits)
   - CSE 340 Computer Architecture (3 credits)
   - CSE 341 Microprocessors (3 credits)
   - ECE 322 Multimedia Communications (3 credits)
   - ECE 340 Optoelectronic Devices (3 credits)
   - ECE 350 Control Systems (3 credits)
   - CSE 421 Computer Networks (3 credits)
   - CSE 424 Pattern Recognition (3 credits)
   - CSE 425 Neural Networks (3 credits)
   - CSE 428 Image Processing (3 credits)
   - CSE 431 Natural Language Processing (3 credits)

CSE 432 Speech Recognition and Synthesis (3 credits)
CSE 461 Digital System Design (3 credits)
CSE 490 WAN Routing and Technologies (Special Topics) (3 credits)
ECE 410 Optical Communications (3 credits)
ECE 422 Digital Communications (3 credits)
ECE 423 Analog Integrated Circuit Design (3 credits)
ECE 424 Power Electronics (3 credits)
ECE 425 Theory and Fabrication of Integrated Circuit Devices (3 credits)
ECE 430 Satellite Communications (3 credits)
ECE 440 High Performance Communication Networks (3 credits)
ECE 470 Biomedical Instrumentation (3 credits)
ECE 471 Protocol Engineering (3 credits)
ECE 481 Telecommunication Policy and Management (3 credits)
ECE 490 Special Topics (3 credits)
ECE 491 Independent Study (3 credits)

Development Studies Program

Introduction

At the beginning of the new millennium, we are going through momentous changes in economic, social, cultural, political, technological, and natural environment of the world. These changes have far reaching implications for poverty, economic growth, social harmony and political stability all over the world, particularly in developing countries, posing fresh challenges to the cause of human development. There are no simple answers to these challenges, yet the quest for sustainable human development remains a matter of utmost importance. Development is the instrument as well as the process through which people strive to achieve the goals of peace and prosperity. A systematic and multi-disciplinary examination of the factors affecting development is essential for identifying appropriate policies and processes necessary for the promotion of equitable and sustainable development. Development Studies Program at BRAC University aims to address as well as understand these important issues and factors through teaching, training and research.

The Program offers the following degree and certificate courses:

Master of Development Studies (MDS)
Development Professional course (DevPro)

The DSP also houses two research projects:

Pathways of Women's Empowerment Research
Deepening Democracy, Building Citizenship and Promoting Participation Research

DESCRIPTION OF DEGREE & CERTIFICATE COURSES AND RESEARCH PROJECTS

1. MASTER OF DEVELOPMENT STUDIES (MDS)

Introduction

BRAC, the largest national development organization in Bangladesh and founder of BRAC University, has been active both in development operations in the field and in research since 1972. BRAC University shares the concern of BRAC for development and contributes to its effort by offering academic programs. Master of Development Studies is the most prominent academic program to this end. Development academics and professionals from home and abroad constitute the faculty members of MDS. Moreover, MDS frequently draws upon the vast human and field resources of BRAC for its courses.

Objectives of the Program

As the development sector evolves and challenges itself to deliver on more complex development problems, one of the biggest constraints it faces is that of human resources. The sector now needs more than ever before development professionals who are able to approach emerging challenges and formulate solutions innovatively. This is what the MDS program aims to do to create development professionals who can effectively engage with the emerging development challenges and opportunities with deeper insights, the right skill mix, and creative actions. The need for such development professionals, have never been more urgent.

The Students

As the program is a multi-disciplinary one, students are selected from different disciplines.

The student body includes:

1. Graduates and post-graduate diploma holders in development or related studies who want to deepen their understanding of the subject;
2. Social science and other graduates who want to specialize in development studies;
3. Professionals who are working in NGOs, development organizations or in the private sector with a development focus;
4. Academics and researchers who want to refine their knowledge and research skills in development issues.

Degree Requirements

The MDS degree requires
1. Completion of three foundation courses;
2. Completion of six compulsory core courses totaling 18 credits;
3. Completion of at least three elective courses totaling 9 credits;
4. Completion of Research Concepts, Methods and Application courses of 9 credits;
5. Earning a CGPA of 2.5.
6. Maintaining a satisfactory record of conduct and behavior.

Structure of the program

The Master of Development Studies (MDS) is a postgraduate program of 45 compulsory and 3 optional (thesis) credits. It consists of 3 Foundation courses (9 credits), 6 core courses (18 credits), 3 elective courses (9 credits), comprehensive courses on Research Concepts, Methods and Application (9 credits) and a thesis (optional). All MDS courses are three credit hour courses. In addition, a student may be required to take one or more preparatory courses if his/her undergraduate preparation is not deemed adequate for the program.

Following is the structure of the program:

Course Type	No. of courses	Credits
Foundation/Prerequisite courses	3	9
Core courses	6	18
Research Concepts, Methods and Application	3	9
Electives courses	3	9
Thesis (optional)	-	3
Total		**48**

List of Courses

A. Foundation courses:

The foundation courses are designed to build the basic multi-disciplinary knowledge base for the core courses. The current foundation courses are:

DEV 300 Economics and Development
DEV 301 Fundamentals of Social Science I-Sociology and Anthropology of Development
DEV 302 Fundamentals of Social Science II-Politics, Political Economy and Government in Bangladesh

Core Courses

These courses are designed to provide a thorough understanding of some of the core issues of development studies. Each course carries 3 credits and all the courses are compulsory:

DEV 501 Development Perspectives
DEV 502 Poverty--Concept, Measurement and Policy
DEV 503 Global Dimensions of Development
DEV 504 Rural Development
DEV 505 Gender and Development
DEV 506 Monitoring and Evaluation of Development Programs

Research Concepts, Methods and Application

Each student will be required to take 3 courses on research concepts, methods and application each containing 3 credits. These courses will concentrate on concepts, methods and techniques of social science research. Students will get the first hand opportunity to apply the research tools and techniques. Each student will produce a research proposal and an extended essay on a chosen topic under the supervision of a Research Guide. The student will present and defend the proposal before a committee. A student maintaining a CGPA of 3.5 may choose to write a thesis (optional) if the proposal is satisfactory. The courses are as follows:

DEV 690 Research Methods and Concepts
DEV 691 Statistics and Computer skill development
DEV 692 Research Design and Proposal Writing
DEV 693 Thesis (optional)

Elective Courses

Each course carries 3 credits. At least 3 elective courses totaling 9 credits must be studied. A student may choose to concentrate in a specific area of study by opting for appropriate elective courses in consultation with his/her academic advisor. The elective courses are:

DEV 601 Comparative Development Experience
DEV 602 Development Informatics
DEV 603 Education and Development
DEV 604 Environment and Development
DEV 605 Governance and Development
DEV 606 Health and Development
DEV 607 Indigenous Knowledge in Development
DEV 608 Microfinance and Development
DEV 609 Nationalism, Identity Politics and Development
DEV 610 NGOs and Social Entrepreneurship
DEV 611 Population and Development
DEV 612 Project Appraisal and Management
DEV 613 The Rights based Approach to Development

DEV 614 Technology and Development
DEV 615 Urban Development
DEV 616 Financial Management
DEV 617 Law and Development
DEV 618 Social Communication

Duration of the Program

The duration of the program will vary depending upon the number of credits a student registers for. If a student registers for 12 credits every semester, the duration for him/her will be 4 semesters or sixteen months.

2. DEVELOPMENT PROFESSIONAL PROGRAM (DevPro)

Introduction

Boosts for planned and specialized development efforts got momentum mostly after Second World War. These efforts along with fast-paced globalization have brought changes in the development environment of many countries. The changing global and national contexts demand development professionals to have better understandings of development practices around the world in general and in the context of Bangladesh in particular. There is a need to create a more pro-active and entrepreneurial culture for future through a solid understanding of development concepts and practices in the global, national and organizational contexts. Development Professionals Program (DevPro) is a one-month long intensive residential certificate course designed to equip development professionals with concepts, strategies and practices concerning development in national and global context. Renowned development professionals and academics work as trainers in this course.

Objectives of the Program

Upon completion of DevPro, a student will be able to comprehend the evolution of development thinking, different theories and debates of development and its global perspectives. He/she will also be familiar with issues like the importance of protecting environment and its role for sustainable development; poverty and its multidimensionality; rights based approaches to development etc. Students will acquire in-depth analytical knowledge regarding Poverty Reduction Strategies (PRS) of Bangladesh and its linkages with Millennium Development Goals (MDGs); fundamentals of national economic performance and the structure of growth and; the state of Bangladesh's sectoral development.

The Students

DevPro is a practice-oriented professional course and the primary target audience are mid level development managers and professionals who are working in NGOs, development organizations or in the private sector who have keen interest in development issues.

Course Requirements

Every student is required to
1. Demonstrate a satisfactory performance in each block
2. Prepare for and participate fully in all classes and activities in a manner consistent with the norms established during the program
3. Read carefully all required texts in preparation for written coursework and activities

4. Carry out all the specified team and individual course assignments
5. Make individual presentations and team presentations as directed
6. Keep to all deadlines for assignments
7. Attend all lectures and participate in activities

List of Courses

DevPro contains six learning blocks to be taught in four weeks. The learning blocks are,

Block-1 (6 days): Development Thoughts, Theories and Debates
Block-2 (2 days): Human Rights and Development
Block-3 (4 days): Poverty, MDG and PRSP
Block-4 (4 days): Agriculture, Food Security and Development
Block-5 (5 days): Development Programs in Bangladesh
Block-6 (3 Days): Evolution of Development Organizations

3. PATHWAYS OF WOMEN'S EMPOWERMENT RESEARCH

Pathways of Women's Empowerment is an international Research Program Consortium (RPC) of which the Development Studies Program of BRAC University is a member. It involves universities in Ghana, Brazil, Egypt and IDS, Sussex as well as UNIFEM. The purpose of the research program is to understand how empowerment of women is happening-the means by which economic, political and reproductive rights are enjoyed by women in practice. The objective is to *make these pathways visible* in order to bring about radical shifts in policy and practice that can build on these revealed successes.

The research projects at Pathways address the following four themes:

1. Building constituencies for gender justice
2. Empowering work
3. Changing narratives of sexuality
4. Conceptualising empowerment

The Pathways Research Program at BRAC University represents the South Asian hub of the consortium. The regional partners in the research are Simorgh, Pakistan and Sustainable Development Policy Institute, Pakistan. Discussions are going on about possible collaborations in Afghanistan.

4. DEEPENING DEMOCRACY, BUILDING CITIZENSHIP AND PROMOTING PARTICIPATION RESEARCH

The case of Bangladesh is paradoxical in that on the on the one hand, we have a fragile democracy, weak and non-accountable governance structure with high levels of corruption, nepotism and patronage and on the other, we have made significant gains in poverty reduction, economic growth and human development. While these two different scenarios seem irreconcilable, it is the hypothesis that it is civil society organizations, largely NGOs that have played a significant role in creating awareness and consciousness around citizenship rights at the grassroots level that has contributed to the pressure on the state or compelled the state to provide for those "who have the greatest capability deficits".

The aim of the research is to understand *mobilizing and mediating practices* of grassroots development organizations by exploring several avenues through which people gain a citizen consciousness and identity, assert their citizenship and strengthen their engagement with the state. The research will also identify specific outcomes that can be related to the different mobilization strategies and approaches: improvement in economic and social status of members and their households, reduction in vulnerability, improvement in access to services, participation in the community and the economy, increase in cognitive skills, awareness of rights and obligations, and political participation. This research project is being funded by IDS-Sussex.

The research is being conducted in partnership with members of 8 grassroots membership organizations in 7 districts of Bangladesh. Among these organizations, two concentrate on mobilizing poor women to deliver micro credit (Grameen Bank and ASA); two mobilize poor women to deliver micro credit but also emphasize non financial inputs like health, education, awareness, leadership, etc (BRAC and Proshika); two mobilize poor women and men around rights to resources (Nijera Kori and Samata); and two mobilize women and men agricultural workers (Kormojibi Nari and Bangladesh Sramajibi Kendra).

Economics and Social Sciences

BRAC University's Department of Economics and Social Sciences aims to provide its students with a fully rounded and comprehensive yet demanding and innovative Bachelor of Social Science (BSS) in Economics. The department strives to meet the needs of students in all areas, from introducing them to the basic concepts and issues in economic theory and discourse, to offering them challenging upper level courses that will sharpen and focus their understanding and engagement with the discipline. ESS attempts to focus students' thinking in their chosen field, as well as teach them to apply the concepts learnt in the classroom to real life.

In addition to a Major in Economics, the department also offers a Minor in Economics and a Minor in Sociology. The Minor in Economics will enable students of other disciplines to gain a strong foundation in theoretical and applied micro and macroeconomics along with a basic understanding of the techniques of economic data analysis. The Minor in Sociology, on the other hand, will help students integrate the theoretical knowledge gained in their undergraduate majors such as Economics, English, Business Administration etc with a deeper understanding of the greater social context as well as impart analytical skills and theoretical knowledge.

The Department offers the following degrees/programs:

Bachelor of Social Science (BSS) in Economics (BSS Econ)
Master of Science in Applied Economics (MSAE)

DESCRIPTION OF PROGRAM

BACHELOR OF SOCIAL SCIENCE IN ECONOMICS (BSS ECON)

BRAC University's Department of Economics and Social Sciences (ESS) offers its students a broad, comprehensive, demanding and innovative Bachelor of Social Science (BSS) degree in Economics. The BSS program in Economics is designed to:

- Provide a firm grounding in modern economic theory
- Develop independent thought about economic policies and problems
- Develop the capacity for quantitative research
- Provide a descriptive knowledge about the world economy

The core courses of the Economics major program will create a strong theoretical base for any further study in economics. Then electives courses can be chosen from a broad range of higher level theoretical as well as applied courses. This gives the students an opportunity for an understanding of various areas in economics.

Depending upon their interest, students may choose theoretical courses, which enable the scope of graduate studies in respective areas, or applied courses in different areas for a career in those fields.

Structure of the Program

The undergraduate Economics curriculum consists of general education courses, non-major area courses, major area courses and elective courses. A student may also be required to take non-credit, remedial courses in English and Mathematics to make up his/her deficiencies. The areas, number of

courses and credit hours required for graduation are given below:

Areas	No. of Courses	Credit Hours
General Education	**7**	**21**
I. Science	3	9
II. English and Humanities	3	9
III. Social Science	1	3
Non-Major	**8**	**24**
I. Social Science Non-Major Courses		
II. Other Non-Major Area Courses		
Economics Major	**16**	**48**
I. Economics Core Courses		
Electives	**9**	**27**
I. Economics Electives		
II. Other Electives		
Total	**40**	**120**

General Education (21 Credits)

The students must complete 21 credit hours in general education which comprises of courses in English Language, General Science and Social Science. To fulfill the requirement of general education, the students need to complete two courses in English fundamentals and English composition, one course in Ethics and Culture, one course in Mathematics, and one course in basic computer applications. In addition, students must take Bangladesh Studies, a course on the social, cultural, historical and economic dimensions of Bangladesh and choose one natural science course from physics, chemistry or biology. A detailed list of general education courses are provided below:

I. Science Compulsory courses: (9 credits)

MAT 101 Fundamentals of Mathematics
CSE 101 Introduction to Computer Science

Students must choose one course from the following:
PHY 101 Introduction to Physics
CHE 101 Introduction to Chemistry
BIO 101 Introduction to Biology

II. English and Humanities Compulsory courses: (9 credits)

ENG 101 Fundamentals of English
ENG 102 Composition I
HUM 103 Ethics and Culture

III. Social Science Compulsory course: (3 credits)

DEV 101 Bangladesh Studies

Non-Major Area (24 Credits)

In addition to the general education course requirements, students must complete 24 credit hours outside the major area of study. For the BSS Economics Program, students are advised to take other

introductory Social Science courses like Sociology, Political Science and Anthropology. These courses establish a broad foundation in the Social Sciences and provide Economics students with a wider perspective of their discipline.

SOC 101 Introduction to Sociology
POL 101 Introduction to Political Science
ANT 101 Introduction to Anthropology

Also, those students who intend to pursue higher studies in economics may also choose to take mathematics and statistics courses offered by other departments, since they prepare the students for a more in-depth understanding of higher level economics courses, such as the following:

STA 101 Introduction to Statistics
MAT 110 Mathematics I: Differential Calculus & Co-ordinate Geometry
MAT 120 Mathematics II: Integral Calculus and Differential Equations

Students planning to pursue corporate careers may choose to take related business courses for a better understanding of the business world.

BUS 101 Introduction to Business
ACT 201 Financial Accounting

Students may also choose Non-major area courses from other departments in consultation with their advisor.

Economics Major (48 Credits)

In addition to completing the general education requirements of the BSS program, students majoring in Economics must complete 48 credit hours of Core Economics courses. On the one hand, these courses include core components of economic theory, such as microeconomics, macroeconomics, mathematical economics and econometrics. On the other hand, these Economics major courses also include specific applications of economics, such as, international trade, environment, monetary economics, etc. The list of core courses is provided below:

ECO 101 Principles of Microeconomics
ECO 102 Principles of Macroeconomics
ECO 201 Mathematics for Business and Economics
ECO 202 Statistical Methods for Business and Economics
ECO 203 Intermediate Microeconomics
ECO 204 Intermediate Macroeconomics
ECO 303 Introduction to Econometrics
ECO 308 International Trade
ECO 309 Public Finance
ECO 310 History of Economic Thought
ECO 311 Economic Growth and Development
ECO 312 Cost Benefit Analysis
ECO 313 Environmental and Resource Economics
ECO 324 Bangladesh Economy
ECO 431 International Finance and Economic Policy
ECO 432 Money and Banking

Elective Courses (27 Credits)

The remaining 27 credit hours are elective courses, which can be selected from any department. However, a student is advised to take some elective courses in Economics and some from outside the department. In consultation with their academic advisor, a student may choose to take up a minor area of study like Business, or Mathematics, English or Computer Science etc. along with the major in economics. They may also choose to take more elective courses from economics for a broader or more rigorous understanding of the discipline.

The electives courses in Economics are designed to enrich the background of the student in economic institutions and the analysis of policy problems. The requirement for Economics Electives can be satisfied from the wide range of advanced theoretical and applied courses offered by the department, which includes public economics, industrial organization, labor economics, monetary economics, agricultural economics, economic growth and development, international economics, health economics, environmental and resource economics and other courses. The following courses are offered as elective courses in economics from the department:

ECO 205 Mathematics for Economics-II
ECO 301 Microeconomic Analysis
ECO 302 Macroeconomic Analysis
ECO 304 Agricultural Economics
ECO 305 Labour Economics
ECO 306 Urban Economics
ECO 322 Gender and Development
ECO 323 Health Economics
ECO 325 Political Economic Analysis
ECO 331 Corporate Economics and Finance
ECO 401 Research Methods in Economics and Social Sciences
ECO 421 Welfare Economics and Development
ECO 422 Human Capital and Development
ECO 430 Econometric Analysis
ECO 491 Introduction to Game Theory
ECO 492 Advanced Mathematical Economics
ECO 493 Industrial Organization and Public policy
ECO 494 Open Economy Macroeconomics
ECO 497 Seminar on Special Topics
ECO 498 Independent Study
ECO 499 Undergraduate Thesis (6 Credits)

The elective courses in economics are offered on the basis of the availability of teachers as well as the required minimum number of students.

Minor in Economics

In addition to a Major in Economics, the department also offers a Minor in Economics. Combining the Minor in Economics, with a Major in Business or English gives the students an added advantage in pursuing corporate, public and development sector careers. The requirements for completing a minor in economics are provided below.

Structure of the Program

Students of other departments can attain a Minor in Economics by fulfilling the following requirements.

Requirements	Credits
Required Courses:	12 Credits
Intermediate level microeconomics and macroeconomics	
Mathematics and statistics for economics	
Electives:	9 Credits
3 electives from economics	
Total Courses:	21 Credits
7 Courses in Economics	

List of Courses for a Minor in Economics

I. Compulsory Economics (12 credits)

ECO 201 Mathematical Methods for Business and Economics
ECO 202 Statistical Methods for Business and Economics
ECO 203 Intermediate Microeconomics
ECO 204 Intermediate Macroeconomics

II. Economics Electives (9 Credits)

Students must choose three approved 300 or 400 level courses in Economics. These elective should be chosen from below in consultation with an academic advisor from the department of Economics and Social Sciences.

ECO 303 Introduction to Econometrics
ECO 304 Agricultural Economics
ECO 305 Labour Economics
ECO 306 Urban Economics
ECO 308 International Trade
ECO 309 Public Finance
ECO 310 History of Economic Thought
ECO 311 Economic Growth and Development
ECO 312 Cost Benefit Analysis
ECO 313 Environmental and Resource Economics
ECO 322 Gender and Development
ECO 323 Health Economics
ECO 324 Bangladesh Economy
ECO 401 Research Methods in Economics and Social Sciences
ECO 421 Welfare Economics and Development
ECO 422 Human Capital and Development
ECO 431 International Finance and Economic Policy
ECO 432 Money and Banking
ECO 491 Introduction to Game Theory
ECO 493 Industrial Organization and Public policy
ECO 494 Open Economy Macroeconomics

In order to take the required courses for the Minor in Economics, the students must also complete the necessary prerequisite courses. These are given below:

ECO 101 Principles of Microeconomics
ECO 102 Principles of Macroeconomics
STA 101 Introduction to Statistics

Minor in Sociology

The Department of Economics and Social Sciences (ESS) offers a Minor in Sociology. A Minor in Sociology will help students integrate the theoretical knowledge gained in their undergraduate majors such as Economics, English, Business Administration etc with a deeper understanding of the greater social context as well as impart analytical skills and theoretical knowledge. A sociology minor aims to provide students with core courses that offer a thorough grounding in the theoretical, analytical and methodological aspects of the discipline, along with a wide range of elective courses that will allow the student to explore different areas of sociology according the their specific interests.

Students who are undertaking a major in Economics, Business Administration and English will all be able to integrate the Sociology minor into their degree requirements. With planning and consultation, students from other degrees could also be eligible for the minor.

Structure of Sociology Minor

Requirements	**Credits**
Required Courses	
Core Sociological Theories	9 Credits
Additional Courses	
4 Approved additional courses in Sociology (With at least 3 from 300-Level)	
1 Approved 400-Level Course	15 Credits
Total Courses	
8 Courses	24 Credits

List of Courses for Sociology Minor

Total credit hours required for Minor in Sociology is 24 credit hours. Since each of all the courses is of 3 credit hours, students will be required to take 8 courses.

The following courses are compulsory for all intending students:
SOC 101 Introduction to Sociology
SOC 201 Stratification, Inequality & Power
SOC 301 Sociological Theory

Students must take at least 4 courses with at least 3 from 300-level courses from the following alternatives:

ANT 101 Introduction to Anthropology
SOC 325 Theories and Problems of Nationalism
SOC 310 Population and Society
SOC 320 Political Sociology
SOC 330 Sociology of Development

SOC 335 Urban Sociology
SOC 350 Women and Society
SOC 370 Sociology of Marriage and the Family
SOC 390 Sociology of Deviance
ECO 322 Gender and Development

Students must take at least one course from the following 400-level courses:

ECO 401 Research Methods in Economics and Social Sciences
SOC 410 The Individual, Society and Social Control
SOC 420 Sociology of Religion

DESCRIPTION OF PROGRAM

MASTER OF SCIENCE IN APPLIED ECONOMICS (MSAE)

Introduction

The Master of Science in Applied Economics (MSAE) has been mainly designed with the aim of creating highly competent economics professionals to serve in the private and public sectors of Bangladesh. A key feature of the program is the importance it attaches to the application of tools in practical settings. Thus, it aims to strike a balance between theory and practise. On completion of the MSAE program, graduates can expect to pursue careers in banks, financial organisations, non-government organisations and international agencies. Furthermore, completion of the core component of the program (details below) should provide a satisfactory grounding in the requisite theory that will enable graduates to carry on to the Doctoral level if they be so inclined.

Admission Requirements

Applicants should ideally possess at least a Bachelor's degree in economics from a recognised university. However, a person with a Bachelor's or Master's degree in any other discipline can apply provided certain quantitative skills are met. Such candidates may be required to take some or all of the non-credit foundation courses which are mentioned below.

Structure of the Program

The MSAE program is structured as follows:

Areas	No. of Courses	Credit Hours
Foundation Courses (if required)	03	Non-Credit
Core Courses	05	15
Primary Concentration Courses	03	09
Free Electives / Concentration Courses	02	06
Thesis	N/A	06
Total		**36**

The program is designed to be completed in three semesters of full time study (one year) or four semesters if foundation courses are required.

List of Courses

Foundation Courses (3 courses, non-credit)

Students from a non-economics background may be required to take all or some of the following non-credit undergraduate courses before the MSAE program is commenced.

ECO 203 Intermediate Microeconomics
ECO 204 Intermediate Macroeconomics
ECO 303 Introduction to Econometrics

Core Courses (15 credits)

The following courses form the core requirement of the MSAE program with the aim of providing an in depth theoretical and practical knowledge of the core fields in economics.

ECO 511 Principles of Quantitative Analysis (3 Credits)
ECO 512 Microeconomic Theory and Applications I (3 Credits)
ECO 513 Macroeconomic Theory and Applications (3 Credits)
ECO 514 Microeconomic Theory and Applications II (3 Credits)
ECO 515 Advanced Econometrics (3 Credits)

Primary Concentration Courses (9 credits)

Along with core courses in economics, the students may choose one of three concentration fields for a thorough understanding of that particular area of economics. A student needs to complete 9 credits, in consultation with the academic advisor, from one of three fields below to complete the requirements of a primary concentration. An interested student can complete more than one area of concentration.

Free Electives / Secondary Concentration (6 credits)

Each student is also required to complete 6 more credits of elective courses from any of the fields below. By taking these 6 credits from one particular area in consultation with his/her advisor, a student can acquire a secondary concentration in that particular field.

Thesis (6 credits)

Successful completion of the program also requires the student to prepare and defend a thesis (ECO 690) of acceptable academic standard.

Fields of Concentration

1. **Econometrics**
   a. ECO 611 Time Series Analysis and Forecasting (3 Credits)
   b. ECO 612 Models of Qualitative Choice (3 Credits)
   c. ECO 613 Econometric Analysis of Panel Data (3 credits)
   d. ECO 614 Topics in Econometric Analysis (3 Credits)

2. **Financial Economics**
   a. ECO 621 Corporate Finance and Economic Analysis (3 Credits)
   b. ECO 622 Capital Markets and Investment Strategy (3 Credits)
   c. ECO 623 Asset Pricing and Financial Derivatives (3 credits)

d. ECO 624 Risks, Uncertainty and Insurance (3 credits)
e. ECO 625 Managerial Economics (3 credits)
f. ECO 626 Topics in Financial Economics (3 credits)

3. Public Policy

a. ECO 631 Public Economics (3 Credits)
b. ECO 632 Project Appraisal and Management (3 Credits)
c. ECO 633 Resource and Environmental Economics (3 Credits)
d. ECO 634 Trade Policies and Development (3 Credits)
e. ECO 635 Economic Development Policies in Bangladesh (3 Credits)
f. ECO 636 Topics in Economic Policy Issues (3 Credits)

Transfer of Credits

Prospective students who wish to transfer credits to the MSAE program should bring it to the attention of the Department. The final decision to transfer credits resides with the Departmental authorities.

English

The curriculum of the Department of English offers students the opportunity to explore a wide variety of English writing from different historical periods and regions. Courses focus on close reading of texts, authors and literary genres. Students are encouraged to explore the relationship of literary works to their historical contexts and to other disciplines. They are also given a fair amount of grounding in critical theory, cultural traditions and the history of ideas. Together with providing historical and critical perspectives from which to read and analyze canonical and non-canonical texts, the courses deepen students' insight into their own experience. Courses also aim to develop students' abilities to express their ideas orally and in writing.

The department seeks to instill in the students a desire to become proficient and intelligent readers and writers. To that end it aims to develop their ability to think critically and creatively, and to express ideas clearly and forcefully.

The Department offers the following degrees:

Bachelor of Arts in English
Master of Arts in English

DESCRIPTION OF PROGRAM

BACHELOR OF ARTS IN ENGLISH (BA IN ENGLISH)

Introduction

The BA in English is designed to acquaint students to a broad area of English writing. The program is divided into 3 options, and each option seeks to sharpen students' critical and creative abilities. Courses are designed to develop understanding of culture and society, and special emphasis is given to post-colonial and feminist approaches to literature. Students are also required to take a fair number of writing courses, thus honing their writing skills. Teaching skills and techniques are imparted through specially designed courses. Pedagogical methods followed emphasise interaction and communication, so that students graduate with confidence in both oral and written communication abilities.

Structure of the Program

The curriculum puts a special emphasis on writing courses, which are expected to develop students' writing skills. The department seeks to instill in the students a desire to become proficient and intelligent readers and writers. To that end it aims to develop their ability to think critically and creatively, and to express ideas clearly and forcefully.

Students have three options:

Option A (Literature)
Option B (Linguistics and Language) and
Option C (Media and Cultural Studies)

Students must have 60 credits in English to complete the major requirement. Out of these 60 credits, 30 are compulsory for students from all streams.

Students who take Option A must take ENG 213, ENG 214, ENG 215 and ENG 466.

Students who take Option B must take at least 2 courses from the following: ENG327, ENG328, ENG332, ENG335 and 1 course from the following: ENG434, ENG437 or ENG438. ENG439: Teaching Practicum is compulsory for this option.

Students who take Option C must take either ENG331 or ENG333 and at least 2 courses from the following: ENG401, ENG404, ENG405 or ENG465.

The following are the compulsory courses in the Major area:
ENG 111 Principles of Linguistics
ENG 113 Introduction to English Poetry
ENG 114 Introduction to English Drama
ENG 115 Introduction to English Prose
ENG 201 Composition 2
ENG 217 Shakespeare
ENG 301 Research Methodology
ENG 334 ELT Methodology
ENG 466 Dissertation (6 credits)

Structure of the Undergraduate Program in English

The undergraduate English program consists of 6 general education courses (18 credits)16 Major area courses, 9 courses outside the Major Area, 7 Free Elective Courses (within the courses offered by the English Department) and a Dissertation (6 credits). The structure of the undergraduate English program is as follows:

Areas	No. of Courses	Credit Hours
Basic Requirements		
(General Education)	7	21
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Major Area	16	48
(English)		
Courses Outside Major Area	9	27
Free Elective Courses	6	18
Dissertation	2	6
(Equivalent to 2 courses)		
Total	**40**	**120**

The course codes, course titles and course descriptions are given in a separate section of this Prospectus. The program consists of compulsory and elective courses. The compulsory courses in the General Education area are: ENG101, ENG102, CSE101, BIO101/PHY101, MAT103 and DEV101. If a student has completed any such compulsory course(s) at the HSC or A level or equivalent program of study, s/he may be exempted from taking such course(s), but will be required to take course(s) recommended by the Student Counsellor and approved by the Chair of the department. Of the remaining credit courses, 16 are Major Area courses (of which 11 will be compulsory, which are listed below), 7 Free Elective courses, and 9 courses to be taken from outside the Major Area. In addition, students will have to write a dissertation in a specialised area to be decided by the department in consultation with the students.

LIST OF COURSES

ENGLISH MAJOR

General Education Courses (18 Credits):

A. Science Courses (3 Credits)
CSE 101 Introduction to Computer Science

B. Natural Science (3 Credits)
BIO 101 Introduction to Biology / PHY 101: Introduction to Physics

C. Mathematics (3 Credits)
MAT 101 Introduction to Mathematics / MAT 103: Introduction to Mathematics

D. Social Science (3 Credits)
DEV 101 Bangladesh Studies

E. Humanities (6 Credits)
ENG 091 Foundation Course (in English), non-credit
ENG 101 Fundamentals of English
ENG 102 Composition I

Major Area (48 Credits)

Core Courses (24 credits)
ENG 111 Principles of Linguistics
ENG 113 Introduction to English Poetry
ENG 114 Introduction to English Drama
ENG 115 Introduction to English Prose
ENG 201 Composition II
ENG 217 Shakespeare
ENG 301 Research Methodology
ENG 334 ELT Methodology

Compulsory courses (Concentration: Literature, 24 credits):
Students need to take at least eight courses from the elective list of Literature courses.

Compulsory courses (Concentration: Linguistics and Language) 24 credits:
ENG 211 Sociolinguistics
ENG 212 Psycholinguistics
ENG 221 Discourse Analysis
ENG 332 Teaching Techniques
ENG 327 Second Language Acquisition
ENG 434 Material Design
ENG 437 Testing and Evaluation
ENG 439 Teaching Practicum

Compulsory courses (Concentration: Media and Culture), 24 credits:

ENG 331 Cultural Studies/ENG 333: Globalization and Media
ENG 401 Editing
ENG 404 Copywriting
ENG 440 English for the Print Media
ENG 465 Translation Studies

Any three courses either from Literature or Linguistics & Language.

Elective Courses out side the Major (27 Credits)

HUM 103 Ethics and Culture

Students can take these courses from MGB, LAW, CSE, and ECO department and courses from ARCH.

Free Elective Courses (21 Credits)

Literature Courses

ENG 213 Survey of English Literature I
ENG 214 Survey of English Literature II
ENG 215 Survey of English Literature III
ENG 218 Post Colonial Writing in English
ENG 319 Modernism
ENG 343 Classical Literary Theory
ENG 355 Survey of American Literature II
ENG 358 Survey of World literature in Translation II
ENG 366 Major Texts of the Feminist Tradition in the West
ENG 367 English Writing and British Colonialism
ENG 414 Twentieth-Century English Literature
ENG 458 Women of Talents
ENG 461 Modern British Drama
ENG 462 Post Colonial Literary Theory
ENG 464 Post Colonial Literature

Language and Linguistics Courses:

ENG 211 Sociolinguistics
ENG 212 Psycholinguistics
ENG 221 Discourse Analysis
ENG 327 Second Language Acquisition
ENG 328 Advanced Grammar
ENG 332 Teaching Techniques
ENG 434 Material Design
ENG 437 Testing and Evaluation
ENG 438 Syllabus Design
ENG 439 Teaching Practicum

Media and Culture:

ENG 331 Cultural Studies
ENG 333 Globalization and Media

ENG 401 Editing
ENG 404 Copywriting
ENG 440 English for the Print Media
ENG 465 Translation Studies

Thesis / Internship (6 Credits)
ENG 466 Dissertation (two semesters long)

Minor in English
Department of English and Humanities (ENH) offers a minor in English.

Total credit hours required for a Minor in English: 27
Each course comprises three (3) credit hours, and the students will be required to take a total of nine (9) courses.

Compulsory courses (6 credits)
ENG 217 Shakespeare
ENG 301 Research Methodology

Two courses from the following: (6 credits)
ENG 111 Principles of Linguistics
ENG 113 Introduction to English Poetry
ENG 114 Introduction to English Drama
ENG 115 Introduction to English Prose

Two courses from the following: (6 credits)
ENG 211 Sociolinguistics / ENG 212: Psycholinguistics
ENG 213/ENG 214/ENG 215: Survey of English Literature I/II/III
ENG 218 Post-Colonial Writing in English

Two courses from the following: (6 credits)
ENG 319 Modernism
ENG 331 Cultural Studies
ENG 327 SLA/ENG 334: ELT Methodology (Pre-requisite ENG 111)
ENG 355 Survey of American Literature 2
ENG 366 Major Texts of the Feminist Tradition in the West

One course from the following: (3 credits)
ENG 434 Material Design
ENG 462 Post-Colonial Theory/ENG 464: Post-Colonial Literature
ENG 404 Copywriting/ENG 440: English for the Print Media

DESCRIPTION OF PROGRAM

MASTER OF ARTS (MA IN ENGLISH)

Introduction

English is now the most dominant language in the world and there is a renewed emphasis given on the teaching and learning of English in most countries of the world, and Bangladesh is no exception. People from all walks of life acknowledge the need to deepen their knowledge of English and to raise their proficiency in using it for a wide range of purposes. The Department of English and Humanities at BRACU has been concentrating on a course of studies that combines literature teaching with language, as well as media and cultural studies, in its undergraduate program. The same approach is followed in our MA program, thus distinguishing it from other MA programs offered elsewhere. BRACU MA in English program has two concentrations: a) Literature, and b) ELT and Applied Linguistics. The program is based on the conviction that students will benefit from an in-depth study of many aspects of English language and literature.

Objectives

The curriculum of the MA in English (Literature and ELT & Applied Linguistics) is designed for persons holding a bachelor's degree in English or a related field who wish to enhance their skills and knowledge of English in a specialized stream whether it is language or literature. The program seeks to prepare students to engage in the process of critical thinking and to carry out research and inquiry into their chosen area of interest. The MA program also aims to provide a bridge between undergraduate studies and the demanding dissertation work required for the MPhil or PhD. It will also add on some necessary courses to supplement or to enhance the literary competence of students from related disciplines, who might have limited background in literary or language study at the undergraduate level.

Admission Requirements

The following criteria will be followed in admission of students into the program:

- A 4-year bachelor's degree, with at least second class or CGPA 2.0. (Candidates with a 3-year B.A. will need to take more courses.)
- At least 2nd division in SSC and HSC. Alternatively, 5 'O' Levels and 2 'A' Levels with a GPA of at least 2.0, according to BRACU scale: A=5, B=4, C=3, D=2, and E=1, only one E being acceptable.
- Qualifying in a100-mark admission test consisting of a written test (80%) and an interview (20%).

Transfer of Credits

Transfer of credits from institutions having equivalent curriculum, grading system and grading standard may be allowed for a maximum of 12 credits provided the student has obtained at least B grade(s) in the course(s) eligible for transfer. The university will consider applications for transfer of credit on a case-by-case basis.

Degree Requirements

Students will have to complete a minimum of 36 credits for the MA, distributed as follows:

- 3 core courses (9 credits)
- 5 elective courses (15 credits)
- MA Thesis (12 credits)

In addition, students entering without the necessary prerequisites will first have to complete four pre-requisite courses (12 credits) in the Foundation Semester.

Students must attain a minimum CGPA of 2.0 and a minimum grade of 'B' in the thesis.

Program Structure

The proposed MA in English at BRACU is a 36-credit program designed to be completed in 3 semesters. It will require 12 credits of coursework for the first two semesters, followed by 12 credits of thesis work in the last semester. However, students lacking the necessary pre-requisites will need an additional Foundation Semester of 12 credits before proceeding with the regular MA courses.

Semester	Courses	Credits
Foundation Semester	4 pre-requisite courses (if necessary)	4 x 3 = 12 credits
Semester I	3 core courses + 1 elective (Literature) 2 core courses + 2 electives (Language)	4 x 3 = 12 credits
Semester II	4 elective courses (Literature) 1 core course + 3 electives (Language)	4 x 3 = 12 credits
Semester III	Thesis	12 credits

The distribution of courses and credits is given below. The pre-requisite courses in the Foundation Semester (12 credits) will be waived for students who have taken equivalent courses in their undergraduate studies.

Areas	No. of Courses	Credits
Pre-requisites (if needed)	4	12
Core Courses	3	9
Elective Courses	5	15
Thesis		12
Total		**36** credits (or **48** credits with Foundation Semester)

Course Contents

Concentration Options

The MA in English can be done with a concentration in Literature or a concentration in Applied Linguistics and ELT. While the Foundation Semester (prerequisite) courses are almost the same for both concentrations, during Semester I and II, students will take courses in their chosen concentration. Finally, in Semester III, all students will be required to write an MA thesis.

Even though students will be concentrating in either Literature or Applied Linguistics and ELT, they will be encouraged to take at least one or two elective courses outside their concentration for a more well-rounded education.

Concentration in Literature

Courses Offered

Foundation Semester

These courses are compulsory for students lacking the necessary prerequisites.

ENG 601	Advanced Writing Skills	3 credits
ENG 603	Reading and Writing for Teaching ESL	3 credits
ENG 604	Research Methodology	3 credits
ENG 605	Contemporary Literature in English	3 credits

Semester I

Some students may need to take a combination of Foundation and Semester I courses.

One course in Literary Criticism from the following:

ENG 611	Basic Readings in Feminist Literary Criticism	3 credits
ENG 612	Basic Readings in Postcolonial Literary Criticism	3 credits
ENG 613	Basic Readings in Postmodern Literary Criticism	3 credits
ENG 614	World Literature in Translation	3 credits
ENG 616	Classical Literary Theories of the Eastern & Western Traditions	3 credits

One of the following electives:

ENG 615	Nationalism and Literature	3 credits
ENG 617	Literature and Popular Media	3 credits
ENG 671	Cultural and Media Studies	3 credits
An elective course outside the concentration		3 credits

Semester II

The literature concentration offers a choice of three streams of study. Students can focus on one, or combine courses from different steams. Each stream has at least one course focusing on application of theory to the real world.

Stream 1: Feminist Approaches to Literature

ENG 618	Tracing a Feminist Tradition: 18th & 19th Century Women's Writing	3 credits
ENG 619	Twentieth Century Feminist Readings of Literature	3 credits
ENG 620	Transnational Feminism: Reading Literature Interculturally	3 credits
ENG 621	Gender Theories and Feminist Readings in English	3 credits

Stream 2: Postcolonial Literary Readings

ENG 622	Reading English Literature Postcolonially: From Shakespeare to Defoe	3 credits
ENG 623	Colonialism and Literature: The Nineteenth Century	3 credits
ENG 624	Postcolonialism and the Contemporary World: Reading "Other" Englishes	3 credits
ENG 625	Translation and the Study of Literature	3 credits

Stream 3: Postmodernism and Literature

ENG 626	Postmodernist American Literature: from the 1960's to the present	3 credits
ENG 627	Postmodernist British Literature: from the 1980's to the present	3 credits
ENG 628	Postmodernism in Translation: Spanish and French traditions	3 credits
ENG 629	Postmodernism and the Visual Media	3 credits

Semester III

ENG 699 MA Thesis 12 credits

Students in the Literature concentration are required to complete a thesis of 15,000 to 20,000 words on a topic of their choice and approved by their thesis advisor. ENG 699 (Thesis) will have to be taken during Semester III, and the student will be guided by a thesis advisor. The thesis will have to be presented and defended in front of a committee composed of at least two faculty members and one external examiner.

Elective Courses

Each course carries 3 credits and at least 5 elective courses must be completed. A student may focus on a specific field of interest by selecting the courses from one stream, or take courses from more than one stream.

ENG 618 Tracing a Feminist Tradition: 18th and 19th Century Women's Writings
ENG 619 20th Century Feminist Readings of Literature
ENG 620 Transnational Feminism: Reading Literature Interculturally
ENG 621 Gender Theories and Feminist Readings in English
ENG 622 Reading English Literature Post Colonially: From Shakespeare to Defoe
ENG 623 Colonialism and Literature: The Nineteenth Century
ENG 624 Postcolonialism and the Contemporary World: Reading "Other" Englishes
ENG 625 Translation and the Study of Literature
ENG 626 Postmodernist American Literature: from the 1960's to the present
ENG 627 Postmodernist British Literature: from the 1980's to the present
ENG 628 Postmodernism in translation: Spanish and French traditions
ENG 629 Postmodernism and the Visual Media
ENG 671 Cultural and Media Studies

Concentration in ELT & Applied Linguistics

Foundation Semester

These courses are compulsory for students lacking the necessary prerequisites.

1. ENG 601 Advanced Writing Skills 3 credits
2. ENG 603 Reading and Writing for Teaching ESL 3 credits
3. ENG 604 Research Methodology 3 credits
4. ENG 609 Aspects of Language 3 credits

Semester I

Some students may need to take a combination of Foundation and Semester I courses.

ENG 641 Methods and Techniques in ELT 3 credits
ENG 642 English as a Second Language: Theory and Practice 3 credits
ENG 643 Sociolinguistics and Psycholinguistics 3 credits
ENG 644 Approaches to Teaching Grammar 3 credits
ENG 645 Discourse Analysis 3 credits
ENG 646 Computer Assisted Language Learning 3 credits
ENG 647 World Englishes 3 credits

Semester II

Students may choose 4 courses from the following courses, with the option of taking one course from the list of the Semester I courses.

ENG 648	Teacher Education	3 credits
ENG 649	Material Design and Evaluation	3 credits
ENG 650	Teaching English for Specific Purposes	3 credits
ENG 651	Testing and Evaluation	3 credits
ENG 652	Curriculum and Syllabus Design	3 credits
ENG 653	Teaching Practicum	3 credits
ENG 654	Phonetics and Phonology	3 credits

Semester III

ENG 699	MA Thesis	12 credits

Students in the Applied Linguistics and ELT concentration also have to take ENG 699 (Thesis) in their final semester. They may write a thesis (of 15,000 to 20,000 words) on a topic of their choice and approved by their thesis advisor; or they may complete a semester-long internship in lieu of the thesis. If they take the second option, they must write a report based on their internship, which then has to be presented and defended in front of a committee composed of at least two faculty members and one external examiner.

Elective Courses

Each course carries 3 credits and at least 5 elective courses must be completed. A student may focus on a specific field of interest by selecting the courses from one stream, or take courses from more than one stream.

ENG 643 Sociolinguistics and Psycholinguistics
ENG 644 Approaches to Teaching Grammar
ENG 645 Discourse Analysis
ENG 646 Computer Assisted Language Learning
ENG 647 World Englishes
ENG 649 Material Design and Evaluation
ENG 650 Teaching English for Specific Purposes
ENG 651 Testing and Evaluation
ENG 652 Curriculum and Syllabus Design
ENG 653 Teaching Practicum
ENG 654 Phonetics and Phonology

Institute of Governance Studies

The twenty-first century poses new promises as well as threats to the developing world. Not only is an understanding of changes in globalization necessary, the state must be effective in ensuring good governance as an essential prerequisite for sustainable development. In the context of Bangladesh, the discourse on governance in not merely an academic exercise but a means to understanding if and how the openness, transparency and accountability of the system will impact on the effectiveness of services delivered to the poor and marginal. The Institute of Governance Studies at BRAC University (formerly known as Centre for Governance Studies) in Dhaka was established in 2005. The mission is to promote and support effective, transparent, accountable, equitable, and citizen friendly government in Bangladesh. In pursuit of this mission, the Institute is dedicated to understanding the strengths and weaknesses of governance in Bangladesh through research and academic pursuit.

The Institute aims at ***'bringing value to public life'*** through excellence in research, innovative training and teaching.

Core Programmes

Graduate Studies

MA in Governance & Development

Research

Publication of annual *'The State of Governance in Bangladesh'* reports

Public Policy Papers

Training

Executive Training

Graduate Studies

MA in Governance & Development

This one-year residential post-graduate programme is designed to improve academic qualifications and build a constituency for good governance among the future leaders of Bangladesh. In an attempt to develop the future leaders of Bangladesh and transform them into advocates and catalytic agents of change the programme adopts a multi-disciplinary curriculum with courses drawn from a wide-range of disciplines.

The Students

The MA in Governance and Development programme is offered to government officers/civil servants but is open to participation by executives from industry, NGOs, the media, and civil society in the future. IGS hopes to enhance their knowledge and capacity to contribute towards better governance.

Objectives

The MAGD programme prepares the students to confront the complexity of governance and development. On satisfactory completion of the programme, they will acquire the analytical capacity

to examine issues of governance from a broad interdisciplinary perspective in the local and global context. Students will learn to articulate their views in an effective manner and to apply their knowledge to real world challenges. In addition to its core content, the programme offers a number of elective courses so that students can pursue their interests in accordance with their career objectives.

Teaching Method

Given the diversity in modules the MA programme provides for a variety of teaching methods like lecture, discussion, panel session, debate, seminar, role-playing, case-study, workshop, project/group works, and research. The faculty offering the course will select the methods appropriate for the course and lesson objective.

Faculty

Qualified faculty from BRAC University and a number of partner institutions from home and abroad will teach the courses. Team-teaching may be used for multi-disciplinary courses or courses requiring both theoretical analysis and practical experience.

Partnership with Institutions of Excellence

A number of world reputed academic institutions have been lined up for specific inputs in the form of faculty for the programme. The Institutions are: Kennedy School of Government (KSG) in Harvard University, Monash University in Australia, Key Centre of the University of Griffith in Australia, George Mason University of USA, Korean Development Institute School of Public Policy and Management, Seoul, Korea, and University of Manitoba, Canada.

Foreign faculty from these institutions will come to IGS to offer selected courses in the area of their expertise. The purpose of involving foreign faculty is to expose students to cutting-edge curriculum around which students will be encouraged to develop case studies on Bangladesh.

Structure

The MA in Governance & Development programme, residential in nature, comprises of 36 credits to be completed in 3 full semesters in 12 calendar months. It consists of 5 Core Courses (15 credits, 3 credits each), 4-6 Elective Courses (12 credits, 2-3 credits each), and a Dissertation of 9 credits. In addition, students have to take non-credit preparatory courses in Principles of Economics and Basic Course in Computing.

Course Type	No of Courses	Credits
Preparatory	2	0
Core	5	15
Elective	4-6	12
Dissertation	1	9
Total		**36**

The **Core Courses** are:

Introduction to Governance
Economics for Public Leadership
Strategic Management

Lessons in Development
Leading Issues in Governance in Bangladesh

The **Elective Courses** are grouped into the following Clusters:

Global Policy Framework
Enhancing Performance
Building Partnership
Accountability
Inclusive Citizenship & Innovations

The **Dissertation** containing 9 credits will span all the three semesters. In the first semester, each student will be required to choose a topic for dissertation, get trained in writing skills in English, computer literacy and research methodology, write a research proposal and defend it before a Committee. In the second semester, a student will study relevant literature, write the survey chapter, the theoretical/methodology chapter and research design for collection of data. In the third semester, the student will collect, collate and analyze data, and complete a 30-40-page dissertation.

School of Law

'Law' is much more than just principles and provisions-it is about justice, equity and fairness as well as the values around which societies organise themselves through orderly institutions. Law is also intertwined with economy, development, business and the emerging globalised order. For a jurist, law does not exist in a vacuum and law is very closely related to and interacts with other social forces and issues. Hence, a law student at the BRAC University School of Law will also take up subjects from other disciplines. In fact a law student will take 9 courses outside Law-Economics, English, Development Studies and even Photography if they wish; the choice is wide and varied.

The School of Law is committed to remain at the forefront of preparing law professionals for today and days beyond.

The school offers the following degrees:

Bachelor of Laws LL.B. (Hons.)

Bachelor of Laws (LL.B.) (An Evening Program designed for individuals who have already obtained their first graduation degree in a discipline other than law.)

DESCRIPTION OF PROGRAM

BACHELOR OF LAWS [LL.B. (Hons)]

The undergraduate law program at BRACU School of Law is designed to prepare students for careers in law-judges, lawyers, administrators, and academics-and leadership roles in tomorrow's globalised economy and society. The four-year academic programme would enable students to pursue a range of fundamental topics in law and the legal system. Moreover, flexibility of curriculum would make it possible for them to pursue their individual academic interest in practically every area of law by selecting elective courses and topics of their own choice from one of the broadest selections available in any School of Law or University in Bangladesh.

Law is much more than principles and provisions-it is about justice, equity and fairness as well as the values around which societies organised themselves through orderly institutions. Law is also intertwined with economy, development, business and the emerging globalised order. For a jurist, law does not exist in a vacuum and law is very closely related to and interacts with other social forces and issues. Hence, a law student at the BRACU School of Law will also take up subjects from other disciplines. In fact a law students will take 9 courses outside law-Economics, English, Development Studies and even Photography; and the choice is wide and varied.

Mission Statement

'To the Romans, Justice was a goddess whose symbols were a throne that tempests could not shake, a pulse that passion could not stir, eyes that were blind to any feeling of favor or ill will, and the sword that fell on all offenders with equal certainty and with impartial strength.' Now, Justice-in the name of Rule of Law is a sine-qua-non for the maintenance of peace and tranquility in a given polity. Moreover, in a society advancing rapidly, it is the law that gives the lead to society and places before it ideals and values to which people should conform. Recognising BRAC's background, BRACU's commitment and goal, the School of Law would endeavor and strive to impart an education to seek legal solution that respects social, cultural and aesthetic needs of the people and prepare tomorrows lawyers to meet the challenges of the new millennium and the realities of globalisation.

Requirements for the Programme

Minimum GPA of 2.50 in SSC and HSC separately or O-Levels in five subjects and A-Levels in two subjects with a GPA of 2.0 at each level (A=5, B=4, C=3, D=2 & E=1). Only one E is acceptable. Candidates for the programme will be selected on the basis of a written admission test consisting of English fundamentals and logical reasoning. However, there will be no written admission test and a full tuition waiver for candidates having (a) GPA of 5 in both SSC and HSC without the fourth subject in either; and (b) 7As in O-Levels and 3As in A-Levels, each in one sitting. Also, there will not be any written admission test for candidates having a score of 1750 in SAT and at least 550, including TWE of 4 in TOEFL (213 CBT) or a score of 5.5 in IELTS (with no subject score below 5).

Structure of the Programme

Bachelor of Laws [LL.B. (Honours)] programme consists of 12 semesters-3 equal semesters every year. A student shall have to successfully complete 45 courses comprising of 6 General Education Courses, 21 Major Compulsory Law Courses including Dissertation Paper and Moot-Court Sessions, 9 Courses Outside Major Area along with 9 Elective Minor Courses. In the last semester, students would be required to participate in mock trials. Moreover, for practical orientation, towards the end of the program, students would attend courts and lawyers' chambers.

The course requirements and structure for the undergraduate Bachelor of Laws [LL.B. (Honours)] programme is presented in the following Table:

Area	Courses	Credit Hours
General Education Course		
a) English Language	2	6
b) CSE	1	3
c) Mathematics	1	3
d) Natural Science	1	3
e) Arts or Social Science	1	3
Major Law Courses	21	63
Elective Law Courses		
a) 5 Major Concentration	5	15
b) 4 Minor Concentration	4	12
Courses Outside Major	9	27
Total	**45**	**135**

List of Courses

a) Foundation Courses/General Education

General Education Courses: 18 Credits

The General Education Courses are compulsory in terms of BRACU's academic requirements for undergraduate programs.

b) Major Area

Major Law Courses: 63 Credits
Core Courses in Law
[All courses are compulsory]

LAW 101 The Jurisprudence of Legal Concepts and the legal system of Bangladesh
LAW 102 Obligations: Contract Law
LAW 103 Delict: Law of Tort
LAW 104 Constitutional Law
LAW 201 Equitable Principles and Specific Relief
LAW 202 Muslim Family Law and Reforms
LAW 203 Property Law and Transfers
LAW 204 Law of Registration and Limitation
LAW 205 Business Law
LAW 301 Agricultural Law and Reforms
LAW 302 Criminal Law
LAW 303 Company Law
LAW 304 International Law [Public]
LAW 305 Principles of Civil Procedure
LAW 306 Evidence
LAW 307 Laws on Insurance
LAW 308 Criminal Procedure
LAW 401 Conveyancing and Legal Writings
LAW 402 Legal Research and Methodology [Dissertation Paper]
LAW 403 Moot-Court Sessions
LAW 404 Law of Trusts and Codicils

c) Electives

Elective Law Courses: 27 Credits

The following elective courses are offered and distributed in relation to particular branch / area of law to enable students to choose their field of concentration/specialisation. Thus, for example, one may opt to choose "A" from the elective courses to have a unique opportunity of concentrating on Commercial Laws. One may, however, choose to specialise in Economic Laws and prefer to study courses contained in "B" or might be inclined to know and appreciate evolution of legal theories and system of the present modern world and, therefore, prefer to study "C"-Legal Philosophy, Rights and Dispute Resolution. Again, one may specialise in Estate Maintenance and Succession Laws by choosing courses under "D". Alternatively, a student may prefer to have a combination of all the above four disciplines of legal studies without concentrating in any particular field.

A: COMMERCIAL LAWS

Business and IP Matters
LAW 322 Intellectual Property Law

Law of Carriage/Law of Carriers
LAW 423 Maritime Law and Carriers
LAW 424 Inland Shipping Law

Cyber Law
LAW 425 Cyber Law
LAW 426 Legal Informatics

B: ECONOMIC LAWS

Economic Laws
LAW 331 Banking and Securities Law
LAW 332 Laws on Foreign Exchange Investment and Anti-money Laundering

Recovery and Taxation Laws
LAW 433 Public Demand Recovery and Money Loan Court Act
LAW 434 Taxation Law including Customs and VAT
LAW 435 Labour and Industrial Law

C: LEGAL PHILOSOPHY, RIGHTS AND DISPUTE RESOLUTION

Philosophy of Law
LAW 341 Comparative Law
LAW 342 Legal System and Institutions
LAW 343 Criminology and Penology

Law of Rights and Dispute Resolution
LAW 344 Alternative Dispute Resolution (ADR) and Arbitration
LAW 345 Women, Law and Legal Protection
LAW 346 Environmental Law
LAW 447 Human Rights
LAW 448 Administrative Law

D. ESTATE MAINTENANCE AND SUCCESSION LAWS

Inheritance Laws
LAW 351 Hindu Law and Succession
LAW 352 Succession, Social Policy and Law Reforms

Estate Maintenance Laws
LAW 353 Law of Town planning and Environment
LAW 453 Construction Laws

E. OTHERS

Students may also opt for independent seminar course or write a substantial paper on topics related to any of the groups of specialised elective courses.

d) Courses outside Major for Law Students

Courses outside Major: 27 Credits

For courses outside major students will be encouraged to pursue basic introductory courses from any discipline that would adequately prepare him/her to continue with major law courses afterwards. Students may also take introductory "Social Law Courses" (please see below) of the

school itself but with prior consultation with academic advisors and the Chairperson of the School.

e) Minor programme

Courses for doing Minor in Law [from other Departments]: 27 Credits
[All courses are compulsory]

LAW 101 The Jurisprudence of Legal Concepts and the legal system of Bangladesh
LAW 102 Obligations: Contract Law
LAW 103 Delict: Law of Tort
LAW 104 Constitutional Law
LAW 202 Muslim Family Law and Reforms
LAW 203 Property Law and Transfers
LAW 302 Criminal Law
LAW 303 Company Law
LAW 304 International Law [Public]

LAW & SOCIETY

The School of Law is planning to offer following "Social Law Courses" open for any student of BRACU. Students from any discipline (including law) may opt to pursue such courses as outside major courses to obtain the required amount of credits for their graduation. The courses include:

Introduction to Bangladesh Legal System
Contractual Rights and Civil Wrongs
Introduction to Property Law
Human Rights and Law
Women and the Law
Introduction to Labour Rights
Introduction to Bangladesh Constitution
Right to Environment and Law
Law and Development
Consumers' Rights and Law
Introduction to Criminal Law
Bangladesh Securities Market Law

BACHELOR OF LAWS (LL.B.) [Evening Programme]

This Law Programme, unlike the four-year Undergraduate Bachelor of Laws (LL.B. Honours), is designed for individuals who have already obtained their first graduation degree (either with honours or not) in a discipline other than law. They have either entered a profession or are in the midst of their career, but are in need of acquiring knowledge and skill in law for a better understanding of the society including such dimensions as governance and human rights, legal regulations of economic transactions, the role of law in developments and other related issues. Others, who plan a career in legal profession and other allied fields, may also prefer this evening programme for being relatively less time consuming in comparison to the LL.B. (Honours) programme. Though the primary emphasis of the programme is on law and legal profession, yet it would also prepare the mature students for a career in legal departments of companies, non-governmental organisations and social sectors dealing with law and legal activities. Thus, the objective of the LL.B. degree programme is to equip individuals to develop the specific skill, legal acumen and the breadth of knowledge and judgment required of a successful career in law or continue their current profession with much better skill, understanding and expertise.

No less importantly, this Law Programme is specifically designed to accommodate professionals who may be pre-occupied with their work and other activities during the day-time hours and can only attend classes in the evenings. Hence, the classes and teachings of the Law Programme will be conducted only in the evenings and offers the flexibility of completing the required course credits within a span of two to four years.

The Graduate Law Programme begins with a sequence of fundamental law courses. All basic law subjects would be taught as *'core courses'*, which form the nucleus of the degree. Thereafter, a range of other law subjects of practical importance have also been incorporated in the curriculum as *'elective courses'* to made the programme more versatile to cater for specific needs of different groups of professionals and mature students.

Entry Requirements
The course is specifically designed for those graduates who have obtained a minimum of 6 (six) points (1st Division=3; 2nd Division=2 and 3rd Division=1 point) with not more than one Third Division below the graduate level in their previous public examinations with an average of 45% marks in English.

Candidates with a previous Master's Degree and at least 2 years of work-experience will be preferred. The medium of instruction for the Law Programme is English.

Duration
The Bachelor of Laws (LL.B.) degree, as indicated, is a two-year evening programme, spread over 5 (five) equal semesters. Each academic year is divided into three semesters (Spring, Summer and Fall). The Fall and Spring Semesters commence in September and February, respectively, and continues for 14 weeks each while the Summer Semester is scheduled between June and August each year for a duration of 9 weeks.

To be eligible for a LL.B. Degree, a student needs to complete a total of 60 credits (most courses are for 3 credits while a few are for 2 or 4 credits) spread over 6 (six) to 12 (twelve) semesters. In other words, students may opt to take upto 4 or 5 courses in Fall and Spring semesters and 2 or 3 courses in Summer semesters and complete the programme in 2 years (6 semesters); or take fewer courses (2 to 3 courses per semester) to complete the programme in upto 12 semesters (4 years).

For obtaining the LL.B. degree the graduate students shall have to successfully complete 20 courses and submit a dissertation of 10,000 to 12,000 words as a requirement of the Research Methodology

and Dissertation course (see course description for LWP 402 below).

17 of the required 20 courses are '*core courses*' for a total of 51 credits, which are compulsory for all students. Along with these core courses, students will choose another 3 courses for an additional 9 credits from *'elective courses'* according to student's own choice.

Most of the courses are for 3 credits while a few are for 2 or 4 credits.

Classes are scheduled from Sunday through Thursday, from 05.30 pm to 09.30 pm. Each class is for 50 minutes and a 3-credit course entails three classes of 50 minutes each in a week while a 2-credit course consists of 2 classes a week.

Course Requirements and Structure

The following divides the courses into semesters. After the first two semesters, or upon the completion of courses designated by the first numerical of 1 and 2 (e.g., LWP 101, LWP 102 and LWP 201, LWP 205, etc.) students are free to choice the semesters in which they would take a particular course.

'Elective Courses' are listed separately in the table of contents. Students are required to select 3 courses of their own choice according to course requirement/structure.

YEAR & SEMESTER	COURSE NO	COURSE TITLE	CREDIT
YEAR I			
Spring	LWP 101	Legal System of Bangladesh	3
	LWP 102	Law of Contract and Tort	4
	LWP 103	Jurisprudence	3
	LWP 104	Muslim Law and Reform	2
Summer	LWP 105	Labour and Industrial Laws	2
	LWP 106	Laws of Taxation, Registration and Limitation	3
	LWP 201	Constitutional Law	3
	LWP 202	Property Laws and Transfer	3
Fall	LWP 203	Business and Commercial Laws	3
	LWP 204	Laws and Principles of Equity, Trust and Specific Relief	3
	LWP 301	Laws of Crime and Punishment	3
	LWP 302	Law of Civil Procedure and Evidence	4
YEAR II			
Spring	LWP 303	Public International Law	3
	LWP 304	Law of Criminal Procedure	2
	LWP 305	Laws of Company and Partnership	3
	LWP 401	Workshop on Advocacy I: Trials and Advocacy Skills	1
Summer	LWP 402	Research Methodology and Dissertation I: Research Methodology	2
		Elective Course *(Students choice)*	3
	LWP 401	Workshop on Advocacy II: Trials and Advocacy Skills	3
	LWP 402	Research Methodology and Dissertation II:	
		Conveyancing and Dissertation	2
		Elective Courses *(Students choice)*	3
		Elective Courses *(Students choice)*	3
TOTAL: 52 credits for 17 core courses & 9 credits for 3 Elective courses=			**61 credits**

Mathematics and Natural Sciences

To quote I. I. Rabi, Nobel Laureate in Physics, "Science is an adventure of the whole human race to learn to live in and perhaps to love the universe in which they are. To be a part of it is to understand oneself, to begin to feel that there is a capacity within man far beyond what he felt he had, of an infinite extension of human possibilities-not just on the material side……" Rabi proposed that science be taught "with a certain historical understanding, with a certain philosophical understanding, with a social understanding and a human understanding." Basic science plays a pivotal role in the development and progress of modern technology, be it in the realms of physical sciences, biosciences, medicine, social sciences, engineering, agriculture, business, commerce or management.

The Department of Mathematics and Natural Sciences (MNS) at BRAC University envisages providing quality education in basic and applied sciences and mathematics. The Department offers courses in physical and biosciences, mathematics, statistics, economic geography and environmental sciences. It started undergraduate programs for the degree of Bachelor of Science in Physics from Fall 2005 Semester. The Department also started the M.S. Biotech Program in the Spring, 2007 Semester. The Department plans to introduce undergraduate programs in Applied Physics and Electronics, Biotechnology, Pharmacy, Microbiology, Biochemistry and Mathematics in the near future. The MNS Department also envisages starting M Phil and MS programs in Physics.

At present the following degree programs are running at the MNS Department.

BS in Physics
MS in Biotechnology

DESCRIPTION OF PROGRAM

BACHELOR OF SCIENCE (BS) IN PHYSICS

Physics essentially deals with observations and measurements. In Einstein's opinion "Our job in physics is to see things simply, to understand great many complicated phenomena in terms of a few simple principles and thoughtful analysis of actual experiments". Understanding of physics equips a person to appreciate the intricate forces of nature and all the exciting and interesting yet some time quite complex phenomena occurring around him. Physics is not only hard facts but if taught and presented in an attractive way it is possible to unfold before the inquisitive mind the mysteries of nature in an exquisite way. Understanding physics has been a continuous process starting from the olden days when physics was synonymous with natural philosophy (even now in some places Department of Natural Philosophy actually means Department of Physics) till today.

Mission and Goal

We see around ourselves the applications of physics principles in every aspect of a person's life. Physics is cutting across the edge of all aspects of engineering, information technology, biology, medicine, economics and even sociology. Physics by its very nature trains a mind to be analytical and questioning-an essential trait which makes a physicist capable of facing any challenge however daunting that may be. With this in mind an undergraduate programme in physics started in BRACU from Fall 2005. This bold step, it is expected, will make a significant contribution towards the development of science & technology in Bangladesh in general narrowing down the technological & economic gap between the developed countries and Bangladesh.

Structure of the Programme

A physics undergraduate programme has been designed including topics of current interest and applications. Once a student undergoes this course successfully he will be well equipped to face the challenges of life. The programme of study includes courses for improving communication skills, strengthening mathematical background and acquainting the student with the socio-economic & historical background of Bangladesh. With this background it should not also be a problem to find a suitable and satisfying job in various universities & R/D organizations in the country. The total credit requirements for the degree of Bachelor of Science in Physics is 132. Out of these 21 credits are for general education. Twenty one major area compulsory courses account for 63 credits. The students are required to complete 3 courses (4.5 credits) of Physics Lab and write a dissertation/report on a suitable thesis/project topic. The thesis/ project work spread over the last two semesters will have a total of 4.5 credits. The students will be required to complete 12 credits choosing from several elective courses in their major field and 27 credits from outside their major specialization. The students may also be required to take non-credit remedial courses in English.

Areas	No. of Courses	Credit Hours
General Education	7	21
a) Science	3	9
b) Arts	3	9
c) Social Science	1	3
Major Area (Core Courses)	21	63
Elective Courses	4	12
Physics Lab	3	4.5
Courses Outside Major Area	9	27
Thesis / Project	1	4.5
Total	**45**	**132**

List of Courses for Bachelor of Science in Physics

a. General Education: (21 credits)
1. PHY 110 Mechanics and Properties of Matter
2. CSE 110 Programming Language I
3. DEV 101 Bangladesh Studies
4. ENG 101 English Fundamentals
5. ENG 102 English Composition I
6. HUM 103 Ethics and Culture
7. MAT 102 Introduction to Mathematics

b. Core Courses: (63 credits)
1. PHY 113 Waves, Oscillation and Acoustics
2. PHY 114 Thermal Physics and Radiation
3. PHY 115 Electricity and Magnetism
4. PHY 201 Solid State Physics
5. PHY 202 Optics
6. PHY 204 Classical Mechanics and Special Theory of Relativity
7. PHY 205 Statistical Mechanics
8. PHY 301 Classical Electrodynamics
9. PHY 302 Fluid Mechanics

10. PHY 303 Quantum Mechanics
11. PHY 304 Atomic and Molecular Physics
12. PHY 305 Nuclear Physics I
13. PHY 306 Basic Electronics
14. PHY 401 Reactor Physics
15. PHY 402 Atmospheric Physics
16. PHY 403 Plasma and Astrophysics
17. MAT 105 Calculus
18. MAT 203 Matrices, Linear Algebra and Differential Equations
19. MAT 204 Complex Variables and Fourier Analysis
20. MAT 205 Introduction to Numerical Methods
21. STA 201 Elements of Statistics and Probability

c. Elective Courses: (12 credits)

1. PHY 308 Methods of Experimental Physics and Instrumentation
2. PHY 309 Introduction to Materials Science
3. PHY 310 Advanced Solid State Physics
4. PHY 311 X-Rays
5. PHY 312 Nuclear Physics II
6. PHY 404 Electronic Devices and Circuits
7. PHY 405 Mathematical Physics
8. PHY 406 Medical Physics and Instrumentation
9. PHY 407 Mathematical Modelling in Physics
10. PHY 408 Advanced Quantum Mechanics
11. PHY 409 Physics of Radiology
12. PHY 410 Laser Physics
13. PHY 411 Geophysics
14. PHY 412 Dynamical and Tropical Meteorology
15. PHY 413 General Theory of Relativity
16. PHY 414 Field Theory
17. PHY 415 Neutron Scattering
18. PHY 416 Radiation Biophysics
19. MAT 301 Group Theory
20. MAT 303 Tensor Analysis

d. Lab: (4.5 credits)

1. PHY 116 PHY Lab I
2. PHY 203 PHY Lab II
3. PHY 307 PHY Lab III

e. Thesis/Project: (4.5 credits)

1. PHY 400 Thesis/Project

f. Courses Outside Major Specialization: (27 credits)*

1. ANT 101 Introduction to Anthropology
2. ARC 292 Painting**
3. ARC 293 Music Appreciation**
4. BI0 101 Introduction to Biology
5. CSE 101 Introduction to Computer Science
6. ECE 310 Introduction to Communication Engineering
7. ENV 101 Introduction to Environmental Sciences

8. ECO 103 Principles of Economics
9. HUM 111 History of Science
10. HUM 101 World Civilization and Culture
11. MGT 211 Principles of Management
12. PHY 313 Physics for Development
13. HUM 102 Introduction to Philosophy
14 POL 103 Introduction to Political Science
15. POL 245 Women, Power and Politics
16 PSY 101 Introduction to Psychology
17. SOC 101 Introduction to Sociology
18. SOC 401 Gender and Development

* Or any other BRACU course outside major specialization
** 2 Credit courses

Double Major in Physics

To satisfy the needs of students studying in various disciplines of BRACU desirous of pursuing a double major degree is also offered by the MNS Department.

Students who want to do a double-major, one of them being physics, will have to complete a total of 66 credits, the break down of which is given in the following:

A. Core Courses

Theory Courses: (45 credits)
PHY 110 Mechanics and Properties Of Matter
PHY 113 Waves, Oscillation and Acoustics
PHY 114 Thermal Physics and Radiation
PHY 115 Electricity and Magnetism
PHY 201 Solid State Physics
PHY 202 Optics
PHY 204 Classical Mechanics and Special Theory of Relativity
PHY 205 Statistical Mechanics
PHY 301 Classical Electrodynamics
PHY 303 Quantum Mechanics
PHY 304 Atomic and Molecular Physics
MAT 105 Calculus
MAT 203 Matrices, Linear Algebra and Differential Equations
MAT 204 Complex Variables and Fourier Analysis
STA 201 Elements of Statistics and Probability

Lab Courses: (4.5 credits)
PHY 116 PHY Lab I
PHY 203 PHY Lab II
PHY 307 PHY Lab III

Elective Courses: (12 credits)
PHY 302 Fluid Mechanics
PHY 305 Nuclear Physics I
PHY 306 Basic Electronics

PHY 308 Methods of Experimental Physics and Instrumentation
PHY 401 Reactor Physics
PHY 402 Atmospheric Physics
PHY 403 Plasma and Astrophysics
PHY 407 Mathematical Modelling in Physics
PHY 410 Laser Physics
PHY 411 Geophysics
MAT 205 Introduction to Numerical Methods

Thesis: (4.5 credits)
The thesis work should be in line with one of the majors or on some interactive topic involving the two majors.

Minor in Physics

The MNS Department also offers the programme of minor in physics for students doing a major in CS, CSE, ECE or any other relevant discipline. Such major-minor combination will stand the students in good stead in the job market.

The details of the Minor in Physics programme are given below.

Total credit requirement: 27 credits
There will be seven compulsory courses, each of three credits, which are as follows:

PHY 111 Principles of Physics I
PHY 112 Principles of Physics II
PHY 204 Classical Mechanics and Special Theory of Relativity
PHY 205 Statistical Mechanics
PHY 210 Quantum Physics of Atoms, Solids and Nuclei
PHY 301 Classical Electrodynamics
PHY 305 Nuclear Physics I

Students may choose any two courses from the following list of elective courses each of three credits offered by the Department.

PHY 302 Fluid Mechanics
PHY 308 Methods of Experimental Physics and Instrumentation
PHY 309 Introduction to Materials Science
PHY 311 X-Rays
PHY 313 Physics for Development
PHY 409 Physics of Radiology
PHY 403 Plasma and Astrophysics

or any other physics course with the permission of the Chairperson of the MNS Department.

DESCRIPTION OF PROGRAM

MASTER OF SCIENCE IN BIOTECHNOLOGY

Introduction

The MS Biotech Program of BRACU has been designed to offer a postgraduate degree based on courses in both advanced and recent developments in various fields of biotechnology and a research project. The unique feature of this course lies in giving emphasis to lab exercises to be conducted in a specially constructed lab in Gazipur. In addition BRACU has an agreement with the ICDDR,B for allowing its students to use the laboratory facilities of the ICDDR,B for research and project work The program is designed to impart to the students both theoretical knowledge and also teach hands-on cutting edge skills, so that they can find employment with biotech-related industries in various capacities or start their own entrepreneurship, or pursue higher studies leading to M Phil or PhD degree. The skill based Biotech MS Program comprises 60 credits (minimum) that include a research project of 12 credits.

Mission and Goal

Obtaining MS degree in biotechnology requires knowledge, skill and devotion to the subject on the part of students. The purpose of assigning a research project to students, one each, is to enable them to perceive the kind of industrial problems faced by industries such as dealing with pharmaceutical products, environmental issues, amelioration of natural hazards, agro-based seed multiplication companies, manufacture of diagnostic kits, vaccine production etc. On completion the graduates will take up important positions in R&D organizations and biotech industries, covering diverse fields: pharmaceutical, agricultural, environmental, industrial, bioremedial, bioprocessing etc. Such an accomplishment may also be an incentive for some of them to combine their expertise to embark upon a joint venture for manufacture of biotech-related products including mass fabrication of diagnostic kits.

Structure of the programme

The MS Biotech curriculum consists of core theory and lab courses, a wide variety of elective courses and a full semester of research study on an indigenous biotech-related problem.

Following is the course structure. It comprises 60 credits over four semesters.

Course Type	No of courses	Credits
Core	9	22
Elective	9	26
Dissertation*	-	12
Total	18 + dissertation	60

*Dissertation based on the results of a research project over a period of 3 months. Note: Elective courses not required during the project period.

a. Core Courses (22 credits)

The students will be required to complete 22 credits distributed over 9 core courses. One of the core courses will be devoted to lab work only. Another core course is on statistics, considered essential for all students carrying out lab experiments. The third most important core course is

designed to impart a thorough knowledge to a student in the tools she/he would use for her/his research project.

Course No.	Name of the Courses	Credits
BTC 501	Plant Biotechnology	3
BTC 502	Plant Biotechnology (Lab)	2
BTC 503	Animal Tissue Culture Techniques and Applications	3
BTC 504	Fermentation and Industrial Biotechnology	2
BTC 505	Environmental Biotechnology	2
BTC 506	Research Project Preparation	2
BTC 507	Biostatistics & Experimental Design (Theory and Lab)	3
BTC 508	Seminar	2
BTC 509	Genomics (Bioinformatics)	3

b. Elective Courses (26 credits)

Students will be required to take 9 elective courses for a minimum total of 26 credits from the following courses.

BTC 510	Fundamental and Applied Aspects of Plant Genetic Manipulation	2
BTC 511	Commercial Production of Horticultural and Ornamental Plants	2
BTC 512	Sex, Flowers and Biotechnology	3
BTC 513	Gene Function and Its Regulation	3
BTC 514	Gene Organization and Regulation	3
BTC 515	Structural and Functional Genomic Studies	3
BTC 516	Special Study	3
BTC 517	Enzymology	3
BTC 518	Recombinant DNA Technology	3
BTC 519	Medical Biotechnology	3
BTC 520	Cell Dynamics, Cell Cycle and Cell Death	3
BTC 521	Genetically Modified (GM) Crops, Biosafety and IPR	3

NOTE: The courses and curriculum are subject to change to keep pace with changing requirements of local, regional and global educational and business environment.

BTC 550 Research Project **12 credits**

James P. Grant School of Public Health
JPGSPH

The BRAC School of Public Health was established by BRAC University in July 2004 in response to the paradox of high morbidity and mortality prevailing in Asia and Africa and a severe dearth of public health training institutions. It is also a fitting and logical follow-up to BRAC's long-standing and growing involvement in the provision of basic health care to disadvantaged population groups (the poor, women and children).

Several consultations preceded the opening of the School in which public health leaders and experts from home and abroad met to design a training program that meets the needs of people of the developing world through a unique and international partnership amongst the following: BRAC, the largest development NGO in the world, with vast infrastructure; ICDDR,B a premiere health research institution based in Bangladesh with a track record of excellence in research; and leading schools of public health in Europe and America, including London School of Hygiene and Tropical Medicine (UK); University of Amsterdam (The Netherlands); Karolinska Institute (Sweden); Columbia University Mailman School of Public Health, Harvard University School of Public Health, Johns Hopkins Bloomberg School of Public Health and George Washington University (USA). Since 2005, 77 students have graduated from the School with diverse background and coming from 15 different countries like USA, Canada, The Netherlands, Japan, Singapore, Myanmar, Afghanistan Nepal, Pakistan, India, Ethiopia, Uganda, Tanzania, Kenya and Bangladesh.

The school offers a degree on

MASTER IN PUBLIC HEALTH (MPH)

apart from the MPH programme the school also initiated short courses on

Health Care Financing

Health Equity

Executive Certificate Course for capacity building

Research is also an integral part of the school and so the school has started a Research Monograph series is regularly published from the school.

Introduction

'A world where everyone enjoys the maximum potential of Health'

The Mission and the Goal of the School of Public Health is to improve health outcomes of populations in disadvantaged areas of the world, with particular focus on the poor and women, through the application of the art and science of public health and to provide public health education of international excellence relevant to the particular needs of the developing world, fostered through the partnership amongst BRAC, ICDDR,B and internationally recognized schools of public health in Europe and America.

The School of Public Health aims to produce graduates who will be:

Life-long, problem-based learners and critical thinkers;

Contributors to the generation, dissemination and utilization of knowledge through research and advocacy;

Leading public health practitioners, managers, academicians and policy makers;

Advocates/stewards of public health and policy at the community, district, national and international levels; and

Committed to the health needs of the South and elsewhere in the world.

Comparative Advantages of the BRAC School
Location in a developing country providing a social laboratory for public health teaching and learning is the biggest advantage that the school offers. In addition placement within a development organization with a track record of accomplishment in promoting social goals of poverty alleviation bridges the artificial divide between health and development.

Partnership with numerous internationally recognized schools of public health enables access to the rich academic resources of the collaborating institutions, hence promoting a more balanced and equitable global health agenda. The school emphasizes on community-based experiential learning with the first six months conducted in a rural setting.

Eligibility

Candidates fulfilling the following criteria are eligible to apply
Graduates of medical schools, or a Bachelor and/or Master's degree from any discipline who had completed 16 years of education in nursing, nutrition, social and behavioral sciences, or in other health-related disciplines; has good academic record and with experience in health related activity may apply for the Master in Public Health programme.

Proficiency in spoken and written English is expected from all applicants for students whose mother tongue is not English TOEFL score of 250 or more on computer-based test, or IELTS of at least 6.5 is required. Relevant work or academic experience, and skill in using any statistical software will be an advantage.

Admission
The MPH is designed for individuals who wish to build or further their career in public health or allied areas. The BRAC School of Public health was established to respond to the pressing problems facing the health sector of the developing world. Hence in addition to Bangladeshi students the great majority of students will be recruited from Asia and Africa. Priority will be given to candidates from countries where BRAC has ongoing (e.g. Afghanistan, East Africa) development program. However, the School is keen to have a diverse composition of its students representing different nationalities (including a few from the industrialized world), academic background and a favourable gender balance to expand the scope and range of experiences, and in recognition of the realities of global inter-relatedness.

Accommodations
Students will spend the first part of their training (Block I) at the BRAC Training and Resource Centre (TARC) in Savar, located in a rural setting about one hour away from Dhaka. It has pleasant surroundings with a large secure campus, dormitory facilities, common lounge with TV, kitchen and dining rooms, classrooms and access to a library and computers with internet connections. An orientation and tour of the TARC facilities Is organized at the beginning of each course.

During the remainder of the year (Block II) students will reside in Dhaka. The international student will stay in a student dormitory at Niketan, which is about 15 minutes walk to ICDDR, B and the School of Public health, BRAC University main office. Bangladeshi students are expected to arrange for their own accommodation in Dhaka. The school will make decision on their accommodation depending on the availability of the rooms in the dorm and the situation of the individual student.

Structure of the programme
The MPH programme is for 1 year consisting of 51 credits.

Courses offered in BSPH

	Course Title	Course Number	Credit
	REQUIRED COURSES: Block I		
1.	Introduction to Public Health	MPH 501	2
2.	Culture and Human Values in Public Health Qualitative Research Methods Anthropological approaches to Public Health	 MPH 511 MPH 512	 2 3
3.	Community Diagnosis in Public Health Quantitative Research Methods Biostatistics Epidemiology	 MPH 520 MPH 521 MPH 522	 3 3 3
4.	Managing Public Health Health System Management Health Economics & Health Care Financing	 MPH 530 MPH 531	 5 2
5.	Environment & Health	MPH 541	3
	"INTENSIVE COURSES: Block II		
6.	Epidemiology of Infectious Diseases	MPH 620	3
7.	Health and Development (Seminars)	MPH 651	1
8.	Reproductive & Sexual Health and Rights	MPH 660	2
9.	Public Health Nutrition	MPH 670	2
10.	Aging and Health	MPH 681	2
11a.	Principles of Health Communication	MPH 690	1
11b.	Monitoring & Evaluation of Public Health Programme	MPH 691	
	DISSERTATION: Block III		
12.	Independent Study / Thesis	MPH 700	14
	Total Credits		**51**

11a and 11b Course are electives and students select either of the courses

Block I lasts for about six months and consists of core courses necessary to develop fundamental competencies in public health, embracing the disciplines of medical anthropology, epidemiology and bio-statistics, qualitative and quantitative research methods, health system management, health economics and health care financing, and environment and health. The entire Block I take place in the residential setting of BRAC training center in Savar, approximately one-hour drive from the capital city Dhaka.

Block II lasts for three and half months and deals with public health practice during which several short courses are offered, covering specific areas of public health practice: epidemiology and control of infectious diseases, public health nutrition, aging and health, reproductive health, health communication and monitoring and evaluation of public health programmes.

Block III lasts for two and a half months and consists of an independent field study in a chosen public health programme or problem that students carry out. The primary objective of this portion of the program is to enable students demonstrate ability to synthesize and integrate knowledge gained in course work and other learning experiences through a culminating field work studying a public health problem or activity. Students are expected to identify a topic they wish to study early on during the year and certainly by the end of the first semester. The outcome will be a dissertation to be submitted in partial fulfillment for the MPH degree. Detail guidelines for the independent study will be provided later on.

Health and Development Seminars take place throughout the academic year and exploit the rich resources of experts with experience from home & abroad to speak on different issues related to public health. All students have to be present to share and enrich their knowledge.

An Integration Workshop takes place at the end of the modules and dissertation which attempts to link the topics and issues covered in different Blocks over the year.

Special Features
Multi-disciplinary in design, the programme emphasizes on the core courses necessary to develop fundamental competencies in public health embracing the disciplines of medical anthropology, epidemiology, biostatistics, qualitative & quantitative research methods, health system management, health economics and health care financing, environmental health along with specific areas of public health practice: epidemiology and control of infectious diseases, public health, nutrition, aging and health, reproductive health, health communications and monitoring and evaluation of the public health programme.

Field Visits
As a part of the experiential learning, students will regularly go for field visits as an integral part of their course to villages near their campus at Savar (in groups), to urban slums, health facilities and different institutions to learn from their programme and interventions relevant to the ongoing course. Attendance to these activities is mandatory.

Seminar, presentation & written Assignments
Student will regularly prepare themselves for seminar and presentation especially after field visits or project assignments, individually or in groups as decided by the course instructor. Students are advised to prepare their presentation in Power point and submit a copy to the Academic Leader during the respective course.

Teaching/Learning Methods
The structure of the teaching programme will be problem-oriented employing a problem case study approach whenever possible, with a minimum of didactic teaching. Basic knowledge of a subject will require guided reading and extensive exposure to relevant literature will be provided. The course work will build on significant health problems faced in Bangladesh and similar countries. The problems will draw students into problem solving thinking and dialogue with peers. Numerous opportunities for presentation of problem analysis will assure that students are familiar and comfortable with various communication techniques.

Central to each and every course is exposure to field situations and to people engaged in addressing the problem under study. Students will be introduced to key concepts, scientific basis, social and cultural experience and relevant measuring techniques that underlie each issue to be considered before proceeding with the problem-oriented experiential process in the field. It is this constant interchange between the classroom and field realities that makes the BRAC SPH uniquely rich and formative. While guided by qualified faculty and structured programmes, extensive learning will occur from a bottom-up approach to education as students and faculty learn from peripheral development workers and from the community that both defines the problems and implements the responses.

Course work will be modular, allowing for integrated team teaching and reinforcement with relevant field visits and projects. This approach will enable visiting expert teaching staff to provide intensive exposure of students to their expertise over a relatively brief period thereby enabling the school to call on experienced partner institutions to participate in teaching. Teams for each module will comprise an experienced academician, often from overseas, one or more counterpart teachers from BRAC SPH, relevant adjunct faculty drawn from BRAC, ICDDR, B and other local institutions, and local practitioners of public health and development. Field trips during course work will be frequent

to local areas while longer experience will involve posting away from campus for a week or more at a time. In these cases, students will work in small groups assuring fluency in language, orientation to culture and regular guidance visits by faculty.

The relationship between BRAC SPH, BRAC and ICDDR,B is seen as a seamless entity under the umbrella of BRAC University, enabling students to be exposed to the field programmers, research, libraries and staff of these institutions. From the initial Core Modules (Block I and II) through the research and writing of the dissertation, students will be encouraged to draw on the wide resources of these renowned institutions, as well as partner faculties from abroad, both in direct teaching and by the internet. Thus, the James P. Grant School of Public Health is both a real and virtual educational entity with global reach.

Attendance Policy

Courses are offered as modules and the entire content of the course is given during a stipulated time. Hence, students are expected to attend all classes and related activities on a timely basis. Coming late to classes is disrespectful of staff and students and hence is strongly discouraged. Three late shows (more than 10 minutes each time) will be counted as a one-day absence. Students who are absent for more than 30% of the classes will not be allowed to sit for the final examination and may fail the course. To enforce this policy, the Teaching Assistant will monitor attendance (both in the morning and afternoon classes) and an attendance sheet will be submitted by the TA to the Coordinator at the end of each course.

Academic Standing

Students are expected to maintain standards in their academic work i.e. take the requisite number of courses and maintain satisfactory grades (minimum GPA of 2.7). Students have to pass in all courses in MPH programme. A student who receives an F grade (Below 2.7) in any of these courses will be required to take a retake (or make up) examination. Any retake of exams will automatically be a B-, and this is the grade that will be recorded in the final transcript. If a student fails the retake examination, then the School will review the student's record and recommend further action that may include several options (e.g. another make up exam, repeating the course, withdrawal from the programme, etc.)

POSTGRADUATE PROGRAMS IN DISASTER MANAGEMENT (PPDM)

Introduction

It is well known that Bangladesh is a highly disaster-prone country and particularly in this context of widespread poverty, disasters often assume great proportions; both risk and vulnerability to various disasters is extensive. Some disasters, such as floods and drought, are annual and cause national loss at a regular frequency. Others, such as cyclones and earthquakes, are waiting in the offing, and it is not hard to imagine the destruction that could occur in a severe earthquake in the rapidly growing and densely populated urban areas. There is thus an important need for disaster management in this context where disasters are a part of life.

Therefore, the postgraduate programs on Disaster Management comprising of certificate, diploma and master's degree programs are being conducted at BRAC University. It runs as a semi-autonomous program within BRAC University with a link under the Department of Architecture. The certificate is a 1-semester course; on completion of another semester a diploma is obtained. There is also the option of obtaining a master's degree by completing a dissertation in an additional 1-2 semesters.

Objectives

This postgraduate program targeted at active professionals allows contributing to this nationally significant practice-oriented field. Such a course to supplement profession-based education of graduates of various disciplines also serves to further post-professional qualification and allows career development. Because this course is largely targeted for development organizations, it is relevant within the BRAC organizational framework.

Student Composition

The programs satisfy the need for training staff members of national and international NGOs involved in disaster management. Other sources of students are government departments relating to disaster management.

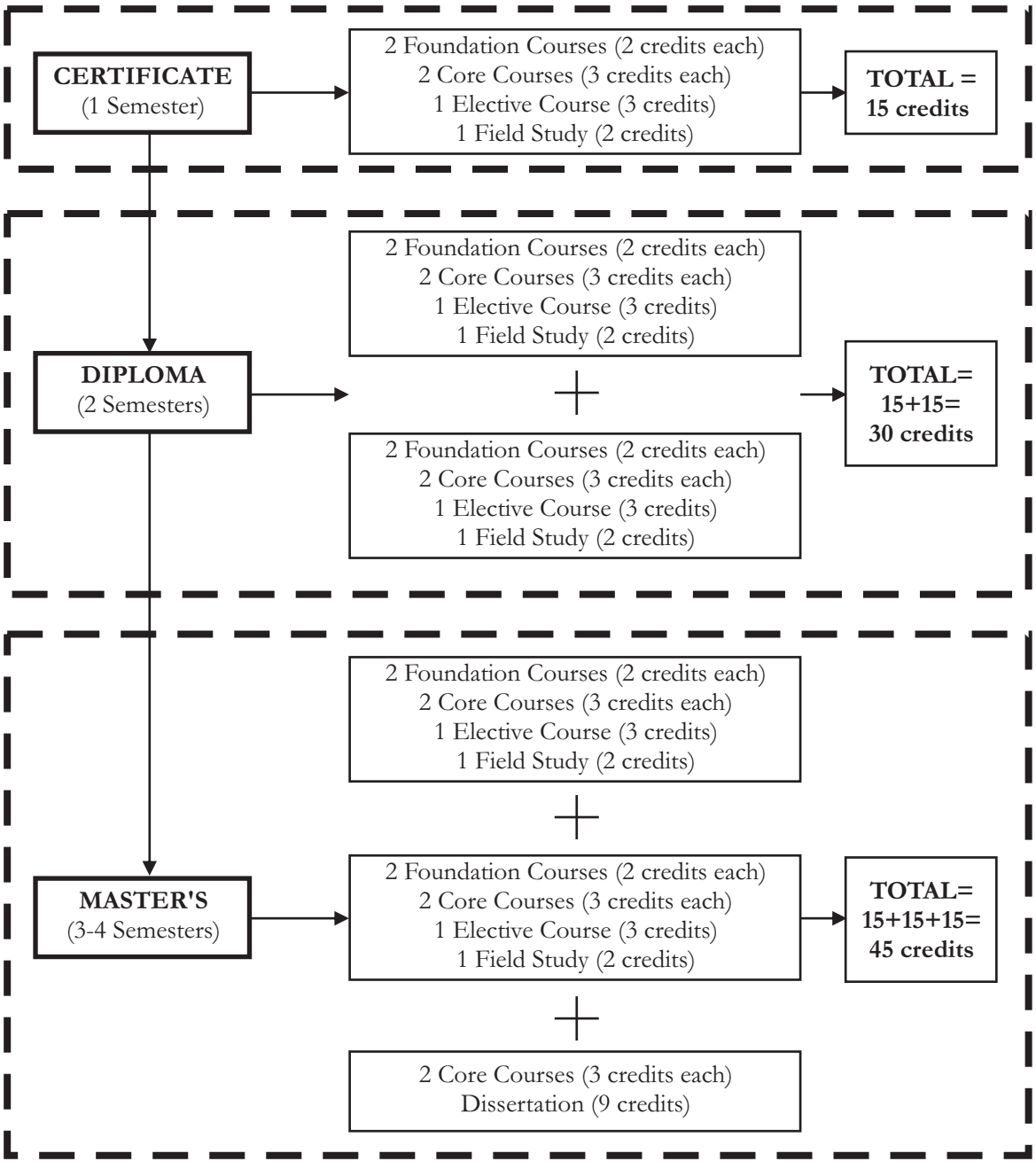
Because the programs are multi-disciplinary in nature, students are drawn from a broad range of disciplines that produce graduates working in the field of disaster management in various capacities and roles, including the social sciences, public administration, armed forces, law, engineering, architecture, planning, geology, geography and meteorology. Additionally, as the course is practice-oriented, in lieu of academic qualifications, professional and practical experience of prospective students is taken into consideration for admission.

Structure of the Program

Semester 01 consists of 15 credits comprising of 2 foundation courses (4 credits), 2 core courses (6 credits), 1 elective course (3 credits) and 1 field study (2 credits). At this level, field-oriented and applied aspects of disaster management are emphasized. For those leaving after Semester 01, a Certificate is awarded. For those students continuing for a Diploma, in Semester 02, they are required to complete another 15 credits comprised of 2 foundation courses (4 credits), 2 core courses (6 credits), 1 elective course (3 credits) and 1 field study (2 credits). At this level, a wider choice of electives is offered to take into account advancement of knowledge of the students. A greater emphasis on theoretical aspects is given in comparison to the previous semester. If the program is extended to a master's degree, a student is required to complete another 15 credits comprised of 2

core courses (6 credits) and a dissertation (9 credits) under the supervision of a suitable advisor. At the master's level, the student obtains a solid grasp of both theoretical and field-oriented aspects of the subject, as well as developing capacity for independent thinking. For students who are assessed to require them, non-credit preparatory courses are provided.

Level	Duration	No. of courses	Credits
Certificate: Semester 01	14 weeks	6	15
Diploma: Semester 02	14 weeks	6	15
Master's	14-28 weeks	2	6
	Dissertation		9
	TOTAL		45



Schedule

At the certificate and diploma levels, for each 15-week semester, there are 13 contact hours per week. Classes are held in the evening for the convenience of active professionals at whom this course is primarily targeted. For the 2-credit field study modules, contact hours are based on field visits. For students undertaking dissertation at the master's level, the schedule consists of personal tutorials with supervisor, attending core courses and working outside class.

Courses Offered

The following list shows courses that are offered. Course numbers and descriptions are provided in a later section.

Preparatory Courses (Credits Equivalent)

Foundation Course in English Language	3
Basic Course in Computing	1.5

Foundation Courses (Each course carries 2 credits and is compulsory)

Introduction to Hazards and Disasters
Fundamentals of Disaster Risk Management
Organizational and Policy Context of Disaster Risk Management
Research and Analytical Methods

Core Courses (Each course carries 3 credits and is compulsory)

Disaster Response and Recovery Strategies
Disaster Preparedness and Vulnerability Reduction
Assessment of Risk, Vulnerability and Capacity
Independent Study in Disaster Management I
Independent Study in Disaster Management II
Dissertation Seminars

Elective Courses (Each course carries 3 credits and at least 2 elective courses must be completed. A student may focus on a specific field of interest by selecting the relevant elective courses)

Riverine Disaster Risk Management
Cyclone and Tornado Preparedness and Rehabilitation
Earthquake Vulnerability Reduction
Community Based Approaches to Disaster Management
GIS and Remote Sensing Techniques in Disaster Management.
Building Design and Construction in Disaster-Prone Areas
Urbanization and Disasters
Risk Communication, Training and Public Awareness
Gender Issues in Disaster Management
Disaster Risk Reduction and Development Planning

Dissertation

All students continuing to the master's level are required to complete a dissertation (maximum 20,000 words, minimum 15,000 words) on a topic related to disaster management and agreed with their supervisor(s). The core course 'Dissertation Seminars' is taken during this stage to supplement

dissertation writing skills and techniques. The dissertation is presented and defended at a committee composed of at least two faculty members and one external examiner.

Course Composition

Diploma: Semester 01

A) Foundation Courses (2 credits each):
Introduction to Hazards and Disasters
Fundamentals of Disaster Management

B) Core Courses (3 credits each):
Disaster Response and Recovery Strategies
Independent Study in Disaster Management I

C) Elective Courses (3 credits) (any one of the following)
Riverine Disaster Management
Cyclone and Tornado Preparedness and Rehabilitation
Earthquake Vulnerability Reduction
Community-Based Approaches to Disaster Management

D) Field Study I (2 credits)

Diploma: Semester 02

A) Foundation Courses (2 credits each):
Organizational and Policy Context of Disaster Management
Research and Analytical Methods

B) Core Courses (3 credits each):
Disaster Preparedness and Vulnerability Reduction
Independent Study in Disaster Management II

C) Elective Courses (3 credits) (any one of the following)
GIS and Remote Sensing Techniques in Disaster Management
Building Design and Construction in Disaster-Prone Areas
Urbanization and Disasters
Risk Communication, Training and Public Awareness
Gender Issues in Disaster Management
Disaster Risk Reduction and Development Planning

D) Field Study II (2 credits)

E) Preparatory Course (if required)

Master's Program

A) Core Courses (3 credits each):
Assessment of Risk, Vulnerability and Capacity
Dissertation Seminars

B) Dissertation (9 credits)

BRAC University Writing Lab

The BU Writing Lab is the newest member of the BU family and the first of its kind in Bangladesh. The BUWL is modeled on North American university writing centers and is in keeping with BU's spirit of providing the best possible facilities to its students. Coordinated by experienced faculty and run almost exclusively by senior students, the BUWL was launched in December 2007.

The BUWL is a forum where students get to try out ideas and writing strategies that allow them to become stronger and more confident writers. The students are aided by qualified tutors, who provide helpful feedbacks, using approaches tailored for the **individual need** of each student.

The lab slogan ***"we prepare better writers, not just better writing "***speaks for itself. The goal is not just to help students finish deadline-oriented tasks but also to become more self-reliant in their writing. Because students cannot always undertake a full three credit writing course due to time constraints, the BUWL is the perfect place for them to go to in order to improve their writing skills **at their own pace.**

The BUWL has strong ties to the Career Placement Center and is also an excellent resource center for graduating students, who can get assistance in writing resumes, cover letters and interview facing techniques.

The lab has a very close relationship with all departments at BU and arranges workshops either in collaboration with or tailored to the needs of the different departments. These workshops, which are offered all year long, focus on areas such as:

- Time Management
- Note Taking
- Writing Research Papers
- Speaking in Public
- Effective Reading
- Critical Thinking
- Reading to Write

BUWL Services are offered through:

- Individual Instruction
- Study Skills Workshops
- Tutoring Services
- Materials and Web Resources

The BUWL is also a place where students can gather invaluable experience by becoming a writing tutor. Tutors are selected from senior students who have demonstrated an advanced level of proficiency in the English language. Time spent at the BUWL not only gives students an opportunity to help their peers with their writing, but also helps them to grow as writers themselves, at the same time gaining valuable insight into the day to day running of an academic office.

At the BUWL tutors offer advice on such issues as

- Interpreting a writing assignment
- Generating ideas
- Identifying and sharpening a thesis statement
- Organizing ideas and research
- Developing logical arguments
- Developing and focusing paragraphs
- Identifying and suggesting strategies for correcting recurrent errors

The goal of the Writing Center is to help students help themselves. The Writing Center should **not** be confused with a proofreading service. Students would, however, be helped to identify typical errors in their writing and taught how to correct them.

Not only students but all members of the BRAC University community can take advantage of the Labs **free services** either through walk-in appointments or by scheduling appointments on-line through the BUWL's webpage at www.bracuniversity.ac.bd/buwl.

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Undergraduate Course Descriptions

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DESCRIPTION OF COURSES

General Education Courses (Compulsory for all programs, except Architecture Program)
Students will have to complete 21 credits of course work in general education area. It requires:

At least one year of English

ENG 101: Fundamentals of English
Drills in basic writing skills; mechanics, spelling, syntax, usage, grammar review, sentence and paragraph writing. Offered by CfL

Or one of the courses from the following

ENG 102: English Composition I
Training in correct and effective expression in writing brief expository essays, instruction in common expository writing. Offered by CfL

ENG 103: Advanced English
The goal of the Advanced Writing and Presentation course is to prepare students for the exemplary writing that will be expected of them in the employment world or graduate school environment.

An important element of the class will be the students' responsibility for their learning process, so as part of this autonomy objective, the students will establish the criteria for the topic selection, and each student will select a topic that she/he will concentrate on for the entire semester. The course of action in making this decision will be an important learning process for the student.

The work of the course will focus on a sequenced writing activity, which will consist of five writing assignments: an introductory essay, a summary and response paper using and integrating three outside sources on the student's topic, an interview with a topic expert, a survey, and a final research/argument paper, using the MLA method for citing and listing sources. The students will do a formal presentation on their findings from their interview with an expert.

ENG 202: Business English
This course is aimed at developing students' verbal and written communication skills with regard to business and commercial purposes. International correspondence, brochures, press releases and reports are important components of this course. The course will also enable students to participate in business discussions and negotiations with proficiency.

At least one course in Mathematics

MAT 101: Fundamentals of Mathematics
The real number system, exponents, polynomial, factoring, rational expression, radicals, complex number, linear equation, quadratic equation, variation, inequalities, coordinate system, functions, equations of line, equation of circle, exponential and logarithmic function, system of equations, system of inequalities, properties of matrix, matrix solution of linear system, determinant, Cramer's rule, limit, rate of change, derivative. Offered by MNS

MAT 102: Introduction to Mathematics
Factorisation, Synthetic Division, Zeros (Roots) of Polynomials, Relation between Roots and Coefficients, Nature of Roots (Descarte's Rule of signs); Complex Number System, Graphical

representation of Complex Numbers (Argand Diagram), Polar form of Complex Numbers; Conic Sections, Parabola, Circle, Ellipse, Hyperbola, Transformation of Coordinates and Applications; Exponential Growth & Decay. Applications; Mathematical Induction; Determinants, Fundamental Properties of Determinants, Minors and Cofactors, Application of Determinants to solve System of Linear Equations (Cramers, Rule); Introduction to Matrix Algebra, Matrix Multiplication, Augmented Matrix, Adjoint Matrix, Inverse Matrix, Application of Matrices-solution of System of Linear Equations (homogeneous & non-homogeneous), Consistency of System of Equations.

MAT 103: Basic Concepts in Mathematics
The real numbers, Absolute value of real numbers, Exponents, Polynomials, Basic operation and Factoring of polynomials, Rational expressions, Radicals. Linear Equations, Solution, graphs and applications. Variation, Linear inequalities. Exponential and Logarithmic Functions, Exponential growth and decay, Ratios, proportions, percent, application of simple and compound interest. Trigonometric Functions, The Sine and Cosine Functions, Cartesian coordinate systems, Graphing, Relations. Equations of a straight line its slope, Equation of a circle, Systems of Linear Equations, Matrix. Population, Sample, Variable, Raw data, Frequency distribution table, Graphical presentation, Measures of central tendency and measures of dispersion.

MAT 110: MATH I: Differential Calculus and Co-ordinate Geometry
Differential Calculus: Limits, Continuity and differentiability. Differentiation. Taylor's Maclaurine's & Euler's theorem. Indeterminate forms. Partial differentiation. Tangent and normal. Subtangent and subnormal. Maximum and minimum, radius of curvature & their applications. Co-ordinate Geometry: Transformation of coordinates & rotation of axis. Pair of straight lines. General equation of second degree. System of circles. Conics section. Tangent and normal, asymptotes & their applications.

At least one course in Computer Science

CSE 101: Introduction to Computer Science
Introduction to the use of computer hardware and software as tools for solving problems. Automated input devices and output methods (including pre-printed stationary and turnaround documents) as part of the solution. Using personal computers as effective problem solving tools for the present and the future. Theory behind solving problems using common application software including word processing, spreadsheets, database management, and electronic communications. Problem solving using the Internet, intranet and the World Wide Web. Programming principles and use of macros to support the understanding of application software. Offered by CSE.

CSE 110: Programming Language I:
This course would be an introduction to the foundations of computation and purpose of mechanized computation. Emphasis will be placed on techniques of problem analysis and the development of algorithms and programs. Topics will include:
Introduction to digital computers and programming algorithms and flow chart construction.
Information representation in digital computers. Writing, debugging and running programs (including file handling) on various digital computers using an appropriate language.
Data structures, abstraction, recursion, iteration, as well as the design and analysis of basic algorithms.
The course includes a compulsory 3 hour laboratory work each week. Students will be expected to do homework assignments in problem solving and program design as well as weekly laboratory assignments to reinforce the lecture material.
Prerequisites: None

At least one course from the Department of Natural Sciences

PHY 101: Introduction to Physics
Vectors and scalars, Newton's Laws of motion, inertia, force, momentum, conservation of linear momentum, work, energy, conservation of energy, power, gravitation, escape velocity, projectile motion, simple harmonic motion, uniform circular motion. Structural properties of matter, elasticity, Hooke's Law, viscosity, surface tension. Heat and temperature, different scales of temperature, thermal expansion, specific heat, gas laws, heat transfer. Waves and oscillations, longitudinal and transverse waves, sound waves, velocity of sound, ultrasonic waves & their applications. Reflection and refraction of light, mirrors and lenses, total internal reflection, interference, diffraction. Coulomb's Law, ohm's law; resistance, potential difference, capacitance. Magnetic force on a moving charge, electromagnetic spectrum, velocity of light. Atoms and nuclei, mass number and atomic number, isotopes, isobars & isotones, atomic theory, Planck's Law, Photo-electric effect, wave-particle duality, special theory of relativity, radioactive decay, nuclear fission & nuclear fusion, nuclear energy, fossil fuels & other sources of energy. Structure & vastness of the universe, big bang theory, light year, solar system, Kepler's Laws of planetary motion, cosmological principle, Hubble's Law, red shift, stellar energy, neutron stars, quasars, supernovae, pulsars, black holes. Offered by MNS

PHY 110: Mechanics and Properties of Matter
Mechanics: Vectors & scalars, vector addition and subtraction, unit vectors, scalar and vector products, scalar & triple vector product, scalar and vector fields, gradient, divergence and curl, curvilinear co-ordinates, motion in one dimension, motion in a plane, work and energy, conservation laws, conservative force, projectile motion, uniform circular motion, simple harmonic motion, rotational motion, moment of inertia, radius of gyration, angular momentum, Kater's pendulum, Newton's Law of gravitation, gravitational field, potential, escape velocity.

Properties of Matter: Hooke's Law, elastic modulii, adhesive and cohesive forces, molecular theory of surface tension, capillarity, variation of surface tension with temperature. Streamline flow, Poiseulle's formula, streamline flow and turbulent flow, Reynold's Number, Equation of Continuity, Bernoulli's Theorem, Stokes' Law.

PHY 111: Principles of Physics I
Vectors and scalars, unit vector, scalar and vector products, static equilibrium, Newton's Laws of motion, principles of conservation of linear momentum and energy, friction, elastic and inelastic collisions, projectile motion, uniform circular motion, centripetal force, simple harmonic motion, rotation of rigid bodies, angular momentum, torque, moment of inertia and examples, Newton's Law of gravitation, gravitational field, potential and potential energy. Structure of matter, stresses and strains, Modulii of elasticity Poisson's ratio, relations between elastic constants, work done in deforming a body, bending of beams, fluid motion and viscosity, Bernoulli's Theorem, Stokes' Law, surface tension and surface energy, pressure across a liquid surface, capillarity. Temperature and Zeroth Law of thermodynamics, temperature scales, isotherms, heat capacity and specific heat, Newton's Law of cooling, thermal expansion, First Law of thermodynamics, change of state, Second Law of thermodynamics, Carnot cycle, efficiency, kinetic theory of gases, heat transfer. Waves & their propagation, differential equation of wave motion, stationary waves, vibration in strings & columns, sound wave & its velocity, Doppler effect, beats, intensity & loudness, ultrasonics and its practical applications. Huygens' principle, electromagnetic waves, velocity of light, reflection, refraction, lenses, interference, diffraction, polarization.

CHE 101: Introduction to Chemistry
The course is designed to give an understanding of basics in chemistry. Topics include Nature of Atoms and Molecules; Valence and Periodic Tables; Aliphatic and aromatic hydrocarbons; Optical isomerism; Chemical reactions. Offered by MNS.

BIO 101: Introduction to Biology
An introduction to the cellular aspects of modern biology including the chemical basis of life, cell theory, energetics, genetics, development, physiology, behaviour, homeostasis and diversity, and evolution and ecology. This course will explain the development of cell structure and function as a consequence of evolutionary process, and stress the dynamic property of living systems. Offered by MNS.

One course from the Department of Social Sciences

DEV 101: Bangladesh Studies
Socio-economic profile of Bangladesh: agriculture, industry, service sector; Demographic Patterns; Social and physical Infrastructures; Social stratification and power; Power structures; Government and NGO Activities in socio-economic development; National issues and policies and changing society of Bangladesh. Offered by ESS

One course on Ethics and Culture

HUM 103: Ethics and Culture
This course introduces the students to principles and concepts of ethics and their application to our personal life. It established a basic understanding of Social Responsibility, relationship with social and cultural aspects, and eventually requires each student to develop a framework for making ethical decision in their work. Students learn a systematic approach to moral reasoning. It focuses on problem associated with moral conflicts, justice, the relationship between rightness and goodness, objective vs. subjective, moral judgment, moral truth and relativism. It also examines personal ethical perspectives as well as social cultural norms and values in relation to their use of our society. Topics include: truth telling and fairness, objectivity vs. subjectivity, privacy, confidentiality, bias, economic pressures and social responsibility, controversial and morally offensive content, exploitation, manipulation, special considerations (i.e. juveniles, courts) and professional and ethical work issues and decisions. On completion of the course, the students will be able to identify and discuss professional and ethical concerns, use moral reasoning skills to examine, analyse and resolve ethical dilemmas and distinguish differences and similarities among legal, ethical and moral. Offered by ENH

Note: Each course is of 3 credits

BACHELOR OF ARCHITECTURE (B. ARCH.)

The following are brief descriptions of the individual courses arranged under general headings and preferred sequence.

(There is no description provided of the elective course ARC 435-Computers in Architecture, since the subject matter of this course is still under development.)

DESIGN STUDIO COURSES

ARC 101: Design I **9 hrs/week. 4.5 credits**
Exercises in 2-dimensional basic composition using points, lines and basic shapes. Understanding order, balance, harmony, proportion, movement, rhythm. Relationships between solid and void. Concepts of space and enclosure. Use and understanding of various media and presentation formats.

ARC 102: Design II **9 hrs/week. 4.5 credits**
Exercises in 3 dimensional composition with planes, basic shapes and forms. Understanding of colour schemes and use of colour in composition. Concepts of 3-D space. Space and enclosure. Spaces for basic functions.
Prerequisite: ARC 101

ARC 201: Deign III **9 hrs/week. 6 credits**
Human and space relationships: anthropometrics and ergonomics. Activity and space relationships: basic human functions and determination of space requirements. Space and form relationships: nature of enclosure. Development of awareness of scale and proportion.
Prerequisite: ARC 102

ARC 202: Design IV **9 hrs/week. 6 credits**
Exploring the relationship between building function, form and structure. Analysis of the site. Setting the building. Vehicular and pedestrian circulation. Analysis of building programme and report writing. Exploring formal expression of buildings with simple functions.
Prerequisite: ARC 201

ARC 301: Design V **12 hrs/week. 8 credits**
Design exercises on buildings with simple functional and technical requirements on sites having distinctive features requiring consideration. The emphasis is on imaginative use of form and spatial quality.
Prerequisite: ARC 202

ARC 302: Design VI **12 hrs/weeks. 8 credits**
Design exercises involving multifunctional buildings with complexity of functional and circulation patterns and site parameters. Environmental analysis of the requirements. Formal and functional expression. Technical integration.
Prerequisite: ARC 301

ARC 401: Design VII **15 hrs/week. 10 credits**
Design in the urban and regional context. Urban design and master planning of complexes of buildings. Reference to socio-cultural aspects. Environmental impact of buildings. Means of optimising environment-building interactions.
Prerequisite: ARC 302

ARC 411: Interior Design **3 hrs/week. 1.5 credits**

Exploring ideas in interior design. Expression of purpose in interiors. Interior design of various types of spaces. Study of materials and finishes. Preparation of drawings and specifications. Colour, lighting, furniture, upholstery, art work, plantation.

Prerequisite: ARC 301

ARC 402: Design VIII **15 hrs/week. 10credits**

Focus on multi dimensional problem issues in either of two streams: Urban or rural bias.

Design of urban renewal, regeneration, conservation rehabilitation projects or mass housing to include investigation of socio economic aspects.

Rural based projects focusing on development issues, architectural solutions aiming to improve the quality of life in rural areas. Rural housing and settlement/resettlement schemes. Housing for disaster prone areas. Post disaster reconstruction. Focus on innovation in construction and materials and environment friendly technology.

Prerequisite: ARC 401

ARC 412: Landscape Design **3 hrs/week. 2 credits**

Combination of lecture sessions and design work. Lectures on principles of landscape design, elements of landscape design, landscaping with tropical plants. Studio work on site analysis and application of principles and techniques of landscape design. Written report to support design exercise.

Prerequisite: ARC 301

ARC 501: Design X **15 hrs/week. 12 Credits**

Identifying design tasks to specific realistic problems in an assigned setting. The project will include all design phases from formulation of the programme to preparation of preliminary working drawings. Primary emphasis will be given to the realization of a concept and also to design quality in terms of formal, functional, environmental and structural aspects to attain professional level of achievement.

Prerequisite: ARC 402

ARC 502: Design X **15hrs/week. 12 credits**

Thesis Stream: Identification of viable projects of significance as thesis project. Preparation of architectural programme based on investigation and research on the functions. Investigation of site and context. Environmental analysis. Preparation of a design solution based on analysis of form function and structure and with justification for the same. Emphasis on materialization of concept. The final solution should be of professionally acceptable quality.

Prerequisite: ARC 501

Note: Students achieving a certain GPA level (determined according to batch) can take the thesis stream

ARC 503: Design Studio X (alternative to ARC502) **15hrs/week. 12 credits**

Project Stream: Design exercise of realistic complexity. Analysis of the architectural program to evolve spatial requirements and relationships. Site, contextual and environmental analysis. Final solution achieved through a series of stages of development. Final solution of professional quality supported by construction drawings.

Prerequisite: ARC 501

COMMUNICATIONS STUDIOS

Graphic Studios

ARC 111: Graphic Communication I **6 hrs/week. 3 credits**
Mechanical and free hand architectural drawing techniques. Lettering techniques and styles, architectural symbols. Plans, elevations and sections. Single point perspectives, axonometric views.

ARC 112: Graphic Communication II **3 hrs/week. 1.5 credits**
Mechanical and freehand architectural drawing. Free hand sketching of 3D objects, buildings. Two and multi point perspectives. Shade and shadow, reflections. Rendering in black and white, and colour. Collage making. Experimenting with various media.
Prerequisite: ARC 111

ARC 311: Working Drawings I **3 hrs/week. 1.5 credits**
Architectural design and working drawings specifying all information needed for construction. Plans, elevations and sections; and working and detail drawings of all building components. Details of drainage, damp proofing and insulation. Toilet and kitchen layouts, details of staircases, railings.
Prerequisite: ARC 202

ARC 312: Working Drawings II: Production Drawings **3 hrs/week. 1.5 credits**
Design drawing and specifications for components of building that need to be produced for the purpose. Doors, windows, grilles, hardware, mouldings etc. Creativity in designing details emphasized through understanding of manufacturing process.
Prerequisite: ARC 311

Digital Studios

ARC 113: CAD: Computer Aided Design **3 hrs/week. 1.5 credits**
2 dimensional computer aided drawing. Navigation through the program. Settings. 2D plan, elevation, section drawing. Rendering. Sign and symbols. Printing. Software: AutoCAD2000.
Prerequisite: ARC 112

ARC 214: Computer Graphics **3 hrs/week. 1.5 credits**
Introduction to software. Images and colour, resolution, vector and raster. Illustration and formatting, using CorelDraw and Adobe Illustrator. Printing. Scanning. Image editing: using Adobe Photoshop. File Import export. Image manipulation and effects. Software: CorelDraw, Adobe Illustrator, Adobe Photoshop, PageMaker.
Prerequisite: ARC 112

ARC 315: Digital Visualisation **3 hrs/week. 1.5 credits**
Solid modeling in CAD. Introduction to 3D studio Max software. Animations and walkthroughs. Multimedia applications. Software: AutoCAD, 3D Studio Max, Form Z.
Prerequisite: ARC 214

Writing Studios

ARC 511: Seminar I **3 hrs/week. 1.5 credits**
Research and presentation on topics and issues related to art and architecture. Research papers including literature search review and referencing, writing and presentation skills. Course offered in two parts, part I related to the student's current design studio project.
Prerequisite: ENG 203

ARC 512: Seminar II: (complementing ARC 502 or 503) **3hrs/week. 1.5 credits**
Written report to support Thesis or Project work, contents to vary accordingly.

Thesis stream: students to present research on particular project with emphasis on development of programme and conceptual basis supported by a number of case studies to develop formal and structural concepts.

Project stream: students to emphasize functional analysis and detailed analysis of case studies with regard to functional, formal and structural aspects. Justification of chosen solution.
Prerequisite: ARC 511

Other

ARC 413: Estimation **2 hrs/week. 1.5 credits**
Class exercises on: Determination of cost of construction. Analysis of rates and cost analysis of various items of construction. Preparation of schedules. Cost control. Preparation of tender documents, rules, regulations and obligations. Bidding.

LECTURE COURSES

Architecture

ARC 121: Introduction to Architecture **2 hrs/week. 2 credits**
Definitions and meaning of architecture. The objective of architectural education. Architecture and the environment. Design and/in nature. Elements in architecture, point, line, plane, volume and space. Creation and order in space. Principles of spatial organisation scale and proportion. Space and space generation.

History of Art and Architecture

ARC 122: History of Art and Architecture I **2 hrs/week. 2 credits**
Prehistory. Shelter and art in prehistoric times. Art and Architecture of the Indus valley, Mesopotamian, Egyptian and Persian civilizations. Greek architecture and the classical orders. Etruscan architecture. Roman architecture. Chinese and Japanese architecture.

ARC 123: History of Art and Architecture II **2 hrs/week. 2 credits**
European art and architecture. Early Christian, Byzantine, Romanesque, Medieval, Gothic, Renaissance, Baroque and Rococo periods. Early South American Architecture.
Prerequisites: none

ARC 224: History of Art and Architecture III **2 hrs/week. 2 credits**
Art and Architecture of the Indian sub-continent. The Vedic, Buddhist and Hindu periods up to the 17th century.

ARC 225: History of Art and Architecture IV **2 hrs/week. 2 credits**
Art and Architecture of the Indian sub-continent-the Muslim period. The advent of the Muslims in the 13th century AD till the end of the colonial era.

ARC 326: History of Art and Architecture V **2 hrs/week. 2credits**
Modern art and architecture in the 19th and 20th century. Impressionism to Cubism. Modern architecture: romantic classicism, iron and glass, reinforced concrete. Art Noveau. The Bauhaus. Modern masters. Development in North American architecture.

ARC 327: History of Bengal Art and Architecture **2 hrs/week 2 credits**
Art and architecture of Bengal. Influences. Prehistoric period. Buddhist and Hindu periods. Mauryan, Pala, Sena, Sultanate, Mughal and Colonial periods. Post colonial influences and the emergence of modern architecture in Bangladesh. Louis I Kahn. Influence of the new school of architecture and trends in architectural practice in contemporary times.

Planning/Urban Design

ARC 231: Concepts in Planning **2 hrs/week. 2 credits**
Basic planning theories. History of settlements. City community and regional planning. Physical planning and national development. Planning policies. Planning regulations (building codes).

ARC 232: Urbanism **2 hrs/week. 2 credits**
Early cities and their evolution. The rise of the city. Cities in the Developed world. Cities in developing world and their growth. Urban population dynamics. Implications on economic development, built and natural environment. Tools and techniques of urban planning. Principles of city planning. The global city. Urbanism in Bangladesh.

ARC 331: Urban Design **2 hrs/week. 2credits**
Definition of Urban design, its aims and objectives. Principles of design and applicability in the urban context. Urban aesthetics, grain and texture, urban frame, fabric and function. Perception and meaning of urban spaces. City planning principles and regulations. Art in the city. Urban design analytic methods and approaches.
Prerequisite: ARC223

ARC 431: Rural Architecture **2 hrs/week. 2 credits**
Rural settlements in Bangladesh history. Factors influencing settlement patterns. Types of settlements. Traditional house form, variations. Vernacular/rural architecture, social, cultural, economic and technical influences. Artistic expressions in rural architecture. Typological variations. Materials and methods. Construction details. Environmental impact. Use of alternative technologies.
Prerequisite: none

ARC 432: Housing and Development **2 hrs/week. 2 credits**
The role and importance of housing in development. Housing as process. Overview of housing problems in developing countries. The housing situation in Bangladesh, policies, reforms and legislation's. Traditional and contemporary housing. Mass housing for low and middle income groups. Housing in the private sector. Rural housing, affordability and sustainability.

Building Sciences/Services

ARC 241: Construction I **2 hrs/week. 2 credits**
Introduction to construction. Materials and methods. General principles of construction and relationship to design intentions. Basic construction systems. Foundation, floors, wall and roof systems. Modular coordination. Elements in building construction. Doors, Windows, Stairs. Services and construction, kitchens and bathrooms.

ARC 242: Construction II **2 hrs/week. 2 credits**

Classification of different types of building and finish materials. Preparation, manufacture, properties, uses and application of Industrialized and Vernacular materials. Appropriateness of application and expression.

ARC 343: Technology and Construction **2 hrs/week. 2credits**

Part 1: Advances in technology and application in construction. New materials and methods of construction.

Part 2: Vernacular construction. Traditional methods of construction. Rural construction. Appropriate technology and construction methods. Disaster resistant construction.
Prerequisite: none

ARC 441: Specifications **2 hrs/week. 2 credits**

Specifications writing for building construction. Written details to support drawings, outlining the various phases and describing the components for construction. Specifications for materials and installation.

ARC 541: Professional Practice **2hrs/week. 2 Credits**

The role of the architect in the building industry. Duties, responsibilities and obligations of the architect. General conditions of contract, client architect relationship, architectural services. The architect and the public. Building codes and practices. The architect's office. Administration of construction. Conflicts and arbitration. Official correspondence. Professional organisations: local and international.

Environmental Sciences

ARC 251: Design with Climate **2 hrs/week. 2 credits**

Climate and weather. Global climatic factors. The building as a modifier of outdoor climate. Thermal comfort and variables. Thermal balance of buildings. Principles of passive design. Solar design. Ventilation and air flow. Shading. Moisture and rain protection Design strategies. Site planning.

ARC 252: Lighting and Acoustical Design **2 hrs/week. 2 credits**

Part 1: Lighting design. The visual environment. Nature of light and light in designed environments. Human responses to light, Daylight in buildings and requirements, prediction tools and techniques. Light as an architectural element. Supplementary and artificial lighting.

Part 2: Concepts in architectural acoustics. Problems of architectural acoustics. Fundamentals of sound perception, generation and propagation. Behaviour of sound in enclosed spaces. Principles of acoustic design in spaces for speech, music and multipurpose use. Noise and noise control. Noise control design. Acoustical measurements and calculations.
Prerequisite: PHY 101

ARC 452: Design with the Environment **2 hrs/week. 2 credits**

Built form and environment interactions and impacts. Materials and resource use in building construction. Energy consumption in building construction and use, means of optimisation. Alternative energy use. Passive design options. Recycling of building materials and components. Sustainable design. Bioclimatic buildings.
Prerequisite: ARC 251

Others

ARC 522: Research Methods **2hrs/week. 2 credits**
Research and its types. Purpose and goals of research. Designing research. Variables and universal. Selection of methods. Data collection; objectives. Data interpretation. Design of questionnaire, pre-test, pilot survey. Data processing. Principles of physical survey. Interpreting survey information.
Prerequisite: none

ARC 300: Practical Training **3 credits**
This course will have to be taken after the third year of studies or after the completion of 110 credit hours and with a minimum GPA of 2.0. The training will take place in an architectural consulting office approved by the teachers and will consist both training at the office and on site.

A student will be required to spend a semester in an architectural consulting office where he or she will be under the supervision of an architect and will gain experience in assisting the office in the preparation of the design of real projects. He or she will be expected to work on concept drawings, observe and help in the preparation of design documents and spend time on construction sites.

The student will have to provide a report on his or her activities in both parts supported by drawings and photographs and a dairy of activities, which will be the basis for evaluation. The supervisor will be required to provide a report on the student's progress (in a prescribed format).
Prerequisite: ARC 302

Civil Engineering

CEE 211: Structure I **2 hrs/week. 2 credits**
Introduction to structures. History. Structure and architecture. Principles of structural design. Force, equilibrium, free body diagrams, resultants and components, Coplanar and concurrent forces, moments and parallel coplanar forces, centroids, moment of inertia of areas, maximum and minimum forces, friction, flexible chords.
Prerequisite: MAT 104

CEE 212: Structure II **2 hrs/week. 2 credits**
Basic mechanics of solids. Fundamental concepts of stress and strain. Mechanical properties of materials. Stresses and strains in members subject to tension, compression, shear and temperature changes. Joints-welded and riveted. Shear force and bending moment diagrams and implications in design of statically determinate beams and frames.
Prerequisite: CEE211

CEE 213: Plumbing Services **2 hrs/week. 2 credits**
Introduction to plumbing. Water requirements. Water sources. Water supply and distribution in buildings. Sewage and sewer systems, building sewer and drainage systems, sewage disposal. Plumbing services and architectural implications. Plumbing services for high rise and specialized building types. Rural sanitation.
Prerequisite: none

CEE 311: Structure III **2 hrs/week. 2credits**
Flexural and shearing stresses in beams. Principal stresses. Direct integration and area moment method for finding slopes and deflections in statically determinate beams. Indeterminate beam analysis. Buckling of columns.
Prerequisite: CEE 212

CEE 312: Structure IV **2 hrs/week. 2 credits**
Introduction. Allowable stresses. Different types of trusses and space frames. Wind and static load analysis of trusses. Design of truss sections. Design of steel beams and columns. Timber and bamboo structures.
Prerequisite: CEE 311

CEE 411: Structure V **2 hrs/week. 2 credits**
Reinforced Concrete. Fundamentals of reinforced concrete design. Working stress design (WSD) method and ultimate strength design(UDS). WSD design of slabs-one way and two way. Preliminary analysis of flat slabs, flat plates, waffle slabs, ribbed slabs.
Prerequisite: CEE 312

CEE 412: Structure VI **2 hrs/week. 2 credits**
Reinforced concrete columns-stocky and long. Preliminary analysis of column sections in multi-storeyed buildings. Approximate analysis of grids. Approximate analysis of multi-storeyed buildings for gravity and lateral loads. Vierendeel truss. Folded plates. Introduction to shear walls: preliminary design. Introduction and preliminary design of arches, domes and shells. Classification of shells. Prestressed concrete; introduction analysis and preliminary design of beam sections. Earth quake resistant RCC structures.
Prerequisite: CEE 411

Mechanical Engineering

MEE 344: Mechanical Services **2 hrs/week. 2credits**
Basic concepts and definitions. Psychometric chart. Cooling load calculations. Types of air conditioning systems. Air handling and distribution. Design of ducts. Air conditioning equipment. Fire hazards, fire fighting methods. Vertical transportation. Types of elevators and escalators. Determination of sizes and types of elevators. Calculations to determine traffic requirements. Escalators and moving ramps. Architectural implications of mechanical systems.
Prerequisite: PHY 121

Electrical Engineering

EEE 345: Electrical Services **2 hrs/week. 2 credits**
Power generation. Electrical units and standards. Electrical networks and circuit theorems. Alternating current PLC series and parallel circuits. Introduction to electrical wiring for residential, commercial and industrial use. Load calculations. Illumination and types of lighting. Alternative power generation.
Prerequisite: PHY 121

ELECTIVE COURSES

Studio Courses
To be taken from the second semester onward.

ARC 291: Sculpture **2 hrs/week. 2 credits**
Sculpture as a form of artistic and architectural expression. Visualizing 3D form. Various techniques in sculpting. Sculpting basic shapes in earth. Free expression through use of plastic material Mixed media: metal, wood, fabric etc.

ARC 292: Painting **2 hrs/week. 2 credits**
Painting as a form of artistic and architectural expression. Introduction to various media in painting. Still life sketches and painting. Study of forms in painting. Landscapes and cityscapes. Colour pencils, crayons, pastels and watercolour. Mixed media. Computers in painting.

ARC 293: Music Appreciation **2 hrs/week. 2 credits**
Musical form. Ingredients of music-sound and time. Indian and western music-melody and harmony. Foundations of sub-continental music: raga system. Presentation of vocal and instrumental music. Modern Bengali music and works of major composers and demonstrations. Western classical music and works of major composers. Music and Architecture, rhythm, composition etc. Music as an inspiration for architecture.

ARC 294: Photography **2 hrs/week. 2 credits**
Introduction to photography as a means for artistic and architectural expression. Photography as an analytic tool for architects. The camera parts of operation and types. Lenses and film. Exposure and settings. Exercises in bracketing and depth of field studies. Photography of buildings. Photo essays.

Lecture Courses
To be taken from the second semester onward.

ARC 391: Rural Housing **2 hrs/week. 2 credits**
The housing problem in rural areas. Factors influencing the housing situation; migration landlessness, land tenure, affordability, sanitation, technology, social and cultural factors. Classification of house types. Materials and methods of construction. Innovation in construction and design. Rural housing programmes, governmental and non governmental. Micro credit and rural housing.

ARC 392: Tropical Architecture **2 hrs/week. 2 credits**
The climatic characteristics of tropical areas. Thermal comfort in the tropics. Elements of the natural environment that require consideration in building design: air movement, moisture control, shading, rain penetration. Methods of passive cooling in the tropics. Basic guidelines for design in the tropics. Detailed consideration and overall environmental impact. Extreme conditions: climatic hazards.
Prerequisite: ARC 221

ARC 393: Building for Disasters **2 hrs/week. 2 credits**
Disasters-Classification. History of disasters and damage. Buildings and disasters, types of damage. Building design principles to withstand-earthquakes, floods cyclones, storm surge etc. Post disaster rebuilding.

ARC 394: Contemporary South Asian Architecture **2 hrs/week. 2 credits**
The modern movement in architecture-internationalism and the search for identity. The tradition of south east Asia and the influence of modernism. Attempts to identity-the works of major architects of the region: Kenjo Tange, Kisho Kurokawa, Geoffrey Bawa, Balakrishna Doshi, Charles Correa, Muzharul Islam etc. Regional roots in architecture and the works of contemporary architects: Raj Rewal, Uttam Jain, Tadao Ando, Ken Yeang etc.

To be taken from the fifth semester onward.

ARC 491: Architectural Conservation **2 hrs/week. 2 credits**
Conservation, its meaning, nature, scope and principles. Preservation, restoration, reconstruction, adaptation, reuse, area conservation. History of conservation. Conservation laws and practices.

Issues in conservation. Regulating bodies and the role of the government and public. Relevance of conservation in the context of Bangladesh.

ARC 492: The City in Development **2 hrs/week. 2 credits**

The contemporary city and it development through the ages. Urban anthropology. The influence of the city on human life. Global development and the city. The problems of the contemporary city and attempts to solve them. The city in Bangladesh; the current scenario. The culture of the city. Society and the city. Future of the city.

ARC 493: Contemporary Architectural Thought **2 hrs/week. 2 credits**

Exploration of theories and concepts in architecture and urban design since the modern movement. The theoretical and methodological issues structuring the production, interpretation and criticism of architecture. Discussion on architecture and information age and global culture.

ARC 494: Ecology and Sustainable Development **2 hrs/week. 2 credits**

Definition of sustainable development. Balance between ecology and development. Ecological considerations for the development of the built environment. Resource optimization. Ecological accounting.

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

ACCOUNTING

ACT 201: Financial Accounting **3 credits**
Accounting and its environments; Concepts and conventions of Accounting; Generally Accepted Accounting Principles; Accounting Equations; Recording business transactions; Accounting cycle; Accounting for a merchandising concern; Preparation of financial statements and Accounting for cash, receivables, inventories, fixed assets: acquisition, disposal and depreciation. Analyzing financial statements; implementing Accounting system: computerized Accounting.
Prerequisites: None

ACT 202: Management Accounting **3 credits**
Cost concepts; Classification; Job Order Costing; Process Costing; Cost behavior analysis; Cost-volume-profit analysis; Variable Costing; Activity Based Costing; Budgeting; Cost control and performance appraisal; Flexible Budgets and Overhead Analysis; Segment reporting, Profitability analysis and decentralization; Responsibility Accounting and variance analysis.
Prerequisites: Financial Accounting, ACT 201

ACT 301: Intermediate Accounting **3 credits**
The course deals with measurement and reporting of financial condition of business firms and with Accounting principles and process of different types of assets, liabilities and equities. Topics include environment of Accounting, generally Accepted Accounting principles, Accounting cycle, income measurement and reporting, financial reports, inventory valuation and Accounting, plant assets acquisition, depreciation and depletion, current liabilities, Accounting for shares, stock and debentures, Accounting for special issues like lease, income tax, pension, price changes and inflation and cash flows; Analysis of financial statements and Accounting changes, errors, and incomplete records.
Prerequisites: ACT 201, ACT 202, FIN 301

ACT 422: Cost Accounting **3 credits**
The course will cover Cost concept, classification and statements; Costing and control of materials; Costing and control of labors; Costing and control of manufacturing overhead; Service department cost allocation; Activity based costing; Job order cost system; Process costing-Weighted average and FIFO method, Accounting for spoilage; Joint product and by-product costing; Standard costing; Target costing, Theory of Constraints; Life cycle costing and strategic cost management; Quantity costing: Measurement and control; Marking cost analysis etc.
Prerequisites: ACT 201, ACT 202

ACT 425: Principles of Auditing **3 credits**
An introduction to auditing practice. Includes the social role of auditing and the services offered by auditors in internal, governmental, and public Accounting practice. Emphasis is on the financial auditing process, including professional ethics, audit risk assessment, study and evaluation of internal control, gathering and evaluating audit evidence, and audit reporting decisions.
Prerequisites: ACT 301

ACT 423: Fundamentals of Taxation **3 credits**
Topics include Income Tax: Definition of income and income tax, Characteristics of income, Total income and total world income, Income year and assessment year, Role of income tax law in

industrial development of Bangladesh; Classification of income; Heads of income; Tax assessment and recovery assessment procedure; Income tax authorities; Assessment of individuals, partnership and public limited companies; Value Added Tax: Assessment and payment of tax, Valuation, Accounting, Refunds, Drawback, Calculation of VAT, Controlling evasion of VAT.
Prerequisites: ACT 301

ACT 421: Accounting Information Systems (AIS) **3 credits**
The course covers Overview of Accounting information system; Organization and the Accounting system; Accounting information processing; Accounts system development; System analysis and acquisition; Computers and AIS; Software; Data communication; Database and file oriented systems; Control of AIS; Revenue cycle; Personnel cycle; Cash receipt and disbursement; Capital asset and financial statements.
Prerequisites: ACT 301, CSE 371

ACT 431: Advanced Accounting **3 credits**
The course deals with the conceptual framework of Accounting; Lease Accounting; Installment and hire-purchase, Single entry system; Consignment; Joint venture; Mergers, acquisitions and amalgamations; Insolvency Accounting; Accounting for VAT, tariffs, duties.
Prerequisites: ACT 301

ACT 432: International Accounting: **3 credits**
The globalization of markets, both financial and physical, has increased the importance of understanding the international dimensions of corporate Activities. The course will give students the opportunity to learn about diverse financial reporting practices and the reasons for such diversities as well as applying this knowledge in the context of the review and analysis of firm's performance by analysts, investors, and managers. At a corporate level, the course will also offer an appreciation of the significance of foreign exchange and of the tools and techniques for the management of its risks.
Prerequisites: ACT 301

ACT 434: Accounting for Specialized Institutions **3 credits**
The course will cover Accounting practice of specialized organizations such as banks, NGOs, Development Organizations, Government Agencies etc.
Prerequisites: ACT 301

BUSINESS

BUS 101: Introduction to Business **3 credits**
Basic principles and practices of contemporary business and its history; Forms of business organization and ownership; Environment of an enterprise; Organizing and managing the enterprise; Management of: HR, market productions and operations, finance; discuss a broad range of business situations where analysis and decision-making are required. Management tools and information systems; International and globalization; External environments of business; Future outlooks of business and business ethics.
Prerequisites: None

BUS 201: Business and Human Communication **3 credits**
This course aims to teach the theory and process of communication; including barriers to effective communication; communication skills; letters, memos and reports writing; oral communication; listening; use of visual aids in communication; and use of non-verbal communication, and effective business meeting behaviour.
Prerequisites: ENG 101, ENG 102

BUS 202: Business Law **3 credits**

A study of legal environment of business in Bangladesh, Includes both commercial and industrial laws. Law of Contract; Sale of Goods ACT; Law of Agencies; Bailment; Law of Carriage of Goods; Negotiable Instruments ACT, Law of Insurance; Company Law. Industrial ordinance.
Prerequisites: BUS 101

BUS 203: Business Environment **3 credits**

A study of economic, social, cultural, political, legal and technological factors affecting business in local, national and global context. Relationship between business and Government and between business and society are also examined. The focus of the course is on issues management and identification of strategic options .The course involves learning tools and techniques for monitoring, identification and analysis of major environmental factors affecting business and assessing their impact on business decisions.
Prerequisites: BUS 101

BUS 301: International Business **3 credits**

International business and environment; International trade theories; Introduction to international finance, economics and marketing; International communication and promotion; Mergers and acquisitions; International organizations and regulatory bodies. National and sub regional trade; bilateral and multilateral trade arrangements; Global business strategy and International law.
Prerequisites: ECO 101, ECO 102, FIN 301, MKT301

BUS 302: Research Methods in Business and Management **3 credits**

Research and management; Scientific thinking; Research process and design; Measurement and scaling; Sampling design; Data collection methods; Survey instrument design; Field administration, Analysis and research communications.
Prerequisites: ECO 202, MAT 101, BUS 101

BUS 321: Principles of Entrepreneurship **3 credits**

Entrepreneurship and theory; Impact of environmental variables on entrepreneurial success; Informal sector; Opportunity identification and assessment; Formulating business, financial and marketing plans; entrepreneurial start-up strategies; Operating the business; Legal issues and Ethics and social responsibility of the entrepreneur.
Prerequisites: FIN 301, MKT 301

BUS 421 Venture Development **3 credits**

The course aims at providing a theoretical framework for venture development and relates research works to the process and outcome of venture development so that the students can understand requirements for successful venture development.
Prerequisite: BUS 321

BUS 422: Small Business Management **3 credits**

The course aims at providing knowledge of the requisites for successful management of small business. The course aims to develop the students' understanding of the economic, social and political environment within which the small business functions and to provide him with knowledge on how to avoid business failures & build up a highly profitable and growing enterprise. The course contains topics on role and characteristics of small business, planning and organizing procedure, business strategy, organizational, cultural, legal aspects. Production, marketing and financial management, Management of transition, growth and crisis. Information system and. control system. The course is designed to orient the student on the basic theoretical issues and practical aspects of small business and its development process.
Prerequisites: BUS 321

BUS 423: Business Plan Development **3 credits**

The course is a project work based on field studies. The students are required to search and select a potential business idea, collect all pertinent data, conduct feasibility studies, formulate business and functional strategies and develop a full-fledged business plan. The business idea should be such that an entrepreneur can pursue it as a successful business venture immediately, The project work is conducted under the guidance of a supervisor and the students are required to present and defend the report.

Prerequisites: BUS 321

FINANCE

FIN 301: Financial Management **3 credits**

This is the introductory course in finance and covers the basic tools and techniques of making financial decisions. Major topics include financial market and securities, financial statements and their analysis using financial ratios, time value of money, long-term investment analysis---capital budgeting, cash flow estimation, project evaluation techniques under implicit and explicit risk conditions, basics of valuation and cost of capital; capital structure decisions, and optimal capital budget.

Prerequisites: ACT 201

FIN 421: Corporate Finance-I: **3 credits**

The course incorporates in-depth discussion of special topics in corporate finance. Topics include (1) risk and return with special emphasis on portfolio management, mean-variance analysis, and capital asset pricing model; (2) capital structure theory with particular emphasis on Modigliani-Miller theory with and without taxes and impact of financial distress, agency costs and asymmetric information, (3) Dividend policy and practice based on investors preference and dividend stability, (4) Bankruptcy, reorganisation, and liquidation. (5) Mergers and acquisition, and (6) Basics of international financial management.

Prerequisite: FIN 301, ECO 202

FIN 422: Project Appraisals and Management **3 credits**

The course deals with project identification, preparation, appraisal, management of implementation and post project evaluation. Basic techniques like network analysis, organization and control aspects of project implementation in relation to resources, time scale and information processing are emphasized.

Prerequisites: FIN 301.

FIN 423: Securities Analysis and Portfolio Management: **3 credits**

The course deals with the principles of investment in the securities and other asset markets. Major topics include securities markets, price performance of securities, industry analysis, basic stock valuation models, investment in special situations offering abnormal returns, bonds and fixed investment fundamentals, mutual funds, convertibles and warrants, real estate investment, precious metals, stones and collectibles, and management of investment portfolio.

Prerequisites: FIN 421

FIN 424: Management of Financial Institutions **3 credits**

Goals and strategies of financial institutions; roles and interrelationship of monetary authorities of Bangladesh and commercial banks; management of the central banking system; supervision of commercial banks; enforcement of minimum reserve requirement, control of money supply, credit policy and public debt management, problems of commercial banking with respect to lending,

investment, deposit taking, cheque clearance, minimum reserve requirement and branch banking; issues relating to bank audit, operation of money, discount and government securities. Overview of structure and operations of major financial institutions in Bangladesh---BSB, BSRS, ICB, HBFC, Sonali Bank.
Prerequisite: FIN 301

FIN 425: International Financial Management: **3 credits**
The course is intended to introduce students to the overall environment of multinational corporations and challenges faced by MNCs in the changing scenario of globalisation. Major topics include exchange rate determination and international monetary system, balance of payment and international monetary linkage, the foreign exchange market, parity conditions and currency forecasting, managing exchange rate risk, multinational working capital management and short-term financing, foreign investment analysis foreign direct investment, and corporate strategy, investment analysis of multinational companies, international financing and international financial markets, international markets for stocks and bonds, the Euro dollar and euro bond markets.
Prerequisites: FIN 421, BUS 301

FIN 427: Corporate Finance-II: **3 credits**
This course will cover materials in financial planning and control, working capital management, sources of short-term and long-term financing including lease and hybrid financing.
Prerequisite: FIN 301

FIN 431: Financial Derivatives **3 credits**
This specialisation course introduces students to basics of the operations of the derivatives markets. Topics include, (1) an overview of financial derivatives and, their uses and application, (2) Organisation of the forward and futures markets, forward and futures contract, pricing of futures using no-arbitrage bounds, convenience yield, expectation model of pricing futures, speculation and risk management with futures, term structure of futures prices and basis risk, volatility of futures prices. (3) The options contract, put vs. call options, European vs. American options, money nests, organisation of the options market; organisation of the options market, pricing of options, intrinsic value, premiums and discounts on options, determinants of options prices; options strategies; binomial options pricing model, Black-Scholes options pricing model. (4) The swap contract, the swap market, types of swaps; plain vanilla swaps, motivation for swaps, beyond plain vanilla swaps.
Prerequisites: FIN 421

FIN 441: Bank Management and Electronic Banking: **3 credits**
The course deals with operational and statutory areas of commercial and specialised banking. Major topics include Evolution of banking institutions, functions of commercial banks and services rendered by them; general structure and methods of commercial banking, earning assets of banks. Functions of commercial banks---general banking, loan and equity banking, banking for facilitating international trade, banking costs and interest rates, mechanism of credit creation, analysing treasuries, banking systems in Bangladesh, statutory requirements of banks in banks in Bangladesh as par the policies and procedures of Bangladesh Bank---the banking companies ACT and the Bangladesh banks nationalisation order. Electronic banking, its mechanism, its growing importance in banking operations.
Prerequisites: FIN 301

FIN 450: Real Estate Finance: **3 credits**
The course focuses on various financial aspects of managing real estate organisation. Major topics include, (1) terminology legislation, principles, and analytical techniques pertaining to financing of real estate, (2) principles of real estate valuation, appraisal process and appraisal reports, (3) principles

and practices of investment in real estate, investment strategy, ownership forms, tax implications, cash flow analysis, measures of return, risk management, and property selection.
Prerequisites: FIN 301

FIN 461: Insurance and Risk Management **3 credits**
The course examines the management of non-speculative risks in the business enterprise with emphasis on insurance as a tool. Topics include concept of risk and insurance, risk analysis, treatment of risk control and financing, analysis of risk contracts in the areas of life, health, property and liability insurance. Overview of structure and operations of major insurance companies in Bangladesh---SBC, JBC, etc.
Prerequisites: FIN 301

HUMAN RESOURCE MANAGEMENT

MGT 201: Organizational Behavior **3 credits**
Nature of Organizational Behavior; Individual behavior: personality, learning, and perceptions; Values and attitudes; Organizational stress: frustration, anxiety, and conflict; Motivation; Group behavior: basic concepts, roles, norms and status; Group dynamics; Communication; Power, politics and influence; Leadership; The organizational culture; Change and resistance to change and Group problem solving and decision making.
Prerequisites: MGT 211

MGT 211: Principles of Management **3 credits**
Meaning and importance of Management; Evolution of Management thoughts; Managerial decision making; Environmental impact Accounting treatment of price level changes; on management; Corporate social responsibility, Planning; Setting objectives; Implementing plans; Organizing; Organization design, Managing change; Directing; Motivation; Leadership; Managing work groups; Controlling: principles, process and problems and Managers in changing environment.
Prerequisites: BUS 101

MGT 301: Human Resource Management **3 credits**
Scope, role and function of Human Resource Management; Staffing the organization: human resource planning and forecasting, recruitment selection; Job design and analysis; Job evaluation; Performance management; Training and development; Disciplinary measures; Human resource audit and research; Forms of employee participation; Labor Relations; and Work Environment and Human resource management systems.
Prerequisites: MGT 211

MGT 401 Business Strategy **3 credits**
Strategic thinking and strategic planning; Analyzing an industry; Developing strategic business plan; Assessment of organizational strength and weaknesses; Analysis of opportunities and threats; Scanning internal and external environment; Formulating functional, corporate and international level strategies; Evaluation of alternatives; Strategic decision making; Managing strategic changes and Strategic control.
Prerequisites: MGT 301, MKT 301, MSC 301, FIN 301, BUS 321

MGT 421: Leadership: Theory and Practice **3 credits**
A study of the theory, principles and practices of leadership. Topics include basic human behavior pattern, leadership theories and styles, types of leadership, team building and team management.
Prerequisites: MGT 301

MGT 422: Compensation Management **3 credits**

Process of developing a pay level and pay structure; Designing an effective pay systems; Types of pay systems; Administering a pay systems; Issues in administering a pay systems; Employee benefits, Perquisites, Benefit administration; Deferred compensation and Controlling benefit costs.
Prerequisites: MGT 301

MGT 423: Training and Development **3 credits**

Learning and behavior; Teaching and training methods; Audio-visual aids; Programmed learning; Training and development function; Training strategy; Organizations of the training department; Training needs assessment; Designing training programs; Evaluation of training programs; Organizing conferences, workshops and study groups; Technical training; Training follow-up; Theory and practice of career development.
Prerequisites: MGT 301

MGT 424: Industrial Relations **3 credits**

An overview of Industrial Relations; A profile of Bangladeshi Workers; Characteristics and Problems of Trade Unions in Bangladesh; A profile of Bangladeshi Employers; Functions of various bodies such as Bangladesh Employers' Association; Industrial Conflict; Collective Bargaining; Employee Discipline and Grievance Procedure; Participative Management and Industrial Democracy; ILO; Different Labour Laws of Bangladesh.
Prerequisites: MGT 301

MGT 425: Manpower Planning and Forecasting **3 credits**

Forecasting Human Resource Requirements, Forecasting Human Resource Availability, Planning & Implementing Human Resources Programs to Balance Supply & Demand, Downsizing, Planning Model, The Nature of Human Resources Planning, Human Resources Planning Evaluation, Human Resource Information System, and System approach to annual manpower planning exercise.
Prerequisites: MGT 301

MGT 426: Change Management **3 credits**

Fundamentals of change; Why Change Happens; Obstacles to Change; Planning for Change; Facilitating through change; Handling Resistance; Change Communications; Managing the New Beginnings Phase.
Prerequisites: MGT 301.

MGT 427: Strategic Human Resource Management **3 credits**

Managing HRM; HRM functions in organizations; What is Strategic HRM? HR planning, recruitment and selection; Managing of Training and Development; Performance Management and Appraisal; Motivation; Compensation and Benefits; Employee Relations-Rights of Management and Workman; Worker issues such as grievance, absenteeism, probation, etc.; Legal Aspects of Employment in Bangladesh.
Prerequisites: MGT 301

MGT 431: Industrial Psychology **3 credits**

Concept, importance and scope of Industrial Psychology, Individual and situational differences in behavior-causation of behavior, perception, learning, feelings and emotion, personality, perception, Employee selection, Personality and Interest factors, Employee evaluation, Employee training, Compensation and promotion of employees, Employee turnover, Absenteeism, Morale, Industrial Accidents, Safety and Fatigue, Industrial counseling.
Prerequisites: MGT 201, MGT 301

MARKETING

MKT 201: Principles of Marketing **3 credits**
A survey course of the basic principles of marketing and key decision areas; product, promotion, distribution and pricing.
Prerequisites: BUS 101

MKT 301: Marketing Management **3 credits**
Marketing philosophy and concept; Marketing environment; Consumer behavior process; Elements of marketing mix; Market segmentation and positioning; Pricing considerations; Promotion; Channel of distributions; Marketing ethics; Extended marketing and Relationship Marketing.
Prerequisites: MKT 201, MGT 201

MKT 421: Introduction to Consumer Behavior **3 credits**
Consumer and Institutional buying behavior model; Classification of consumers; Learning and perception; Consumer adoption and diffusion process; Purchase behavior; Purchase decision process; influences of environmental factors; Classification of situation; Consumer movement and consumerism; Consumer and price; Alternative decision making; and Marketing and consumer behavior.
Prerequisites: MKT 301

MKT 422: Selling and Salesmanship **3 credits**
Creative selling process; Sales planning and Managing field sales; Training and development of sales representatives; changing environment of sales management and Selling and promotion.
Prerequisites: MKT 301

MKT 424: Advertising **3 credits**
Definition and functions of advertising; Classification of advertising; Economic impact; Advertising and the marketing mix; Message development, layout and copy writing; Advertising media and media planning; Outdoor advertising; Non-traditional advertisement; Advertisement agencies; Non-media advertising and Social, legal and ethical aspects of advertising.
Prerequisites: MKT 301

MKT 425: International Marketing **3 credits**
Theories of international trade; International marketing environment; Modes of international trade; International market place; Entry strategy; International marketing research; Formulation of international marketing strategy: product, promotion, price, logistics and distribution; International marketing of services; International marketing organizations; Global linkages and domestic policy repercussions.
Prerequisites: BUS 301, MKT 301

MKT 426: Basic Marketing Research **3 credits**
Definition; Scope and use of research; Types of research; Scientific methods; Type and source of information; Research methods; Methods of collecting data; Measurement and Designing data collection instruments; Field operation; Data summarization; A (univariate, bivariate and multivariate) and interpretation of findings; Presentation of and Use of research findings.
Prerequisites: MKT 301, ECO 202

MKT 427: Retailing **3 credits**
Retailing environment and its socio-economic importance; Retail organizations; Location analysis, planning and control; Store layout and design; Merchandising; Personal and non-personal selling;

Pricing; Promotion management. Retail market audit; Trends in retailing; Standardization of retailing services.
Prerequisites: MKT 301

MKT 428: Strategic Marketing **3 credits**
The course deals with formulation, implementation and control of marketing strategies and involves scanning of business environment with a focus on key marketing issues and an appraisal of the management of marketing functions. The course discusses marketing strategy, defining and analyzing markets, market segmentation, analyzing competition, market targeting and positioning strategies, marketing strategies for selected situations, planning for new products, product portfolio strategy, designing effective marketing organizations, marketing strategy implementation and control and other relevant topics.
Prerequisites: MKT 301.

MKT 429: Business Logistics **3 credits**
Business Logistics: meaning and scope; Elements of logistics functions; Marketing forecasting; Order processing; Inventory planning and control, Traffic functions; Warehousing; Cost analysis; Impact of packaging; Service constraints and Customer services planning and control.
Prerequisites: MKT 301, MSC 301

MKT 431: Services Marketing **3 credits**
Prepares students to be effective executives in a services economy; specific strategies for marketing intangible products and improving quality of service; nature and characteristics of services and the success factors in services marketing.
Prerequisites: MKT 301.

MKT 432: Channel Marketing **3 credits**
Understanding of channels management, with a specific emphasis on one direct marketing technique, electronic commerce. Distribution fits into the total marketing picture, Use of distribution channels as a strategic tool, electronic commerce as a channel option.
Prerequisites: MKT 301.

OPERATION MANAGEMENT

MSC 141: C Programming for Business: **3 credits**
C Programming for Business is geared for students with no programming experience. Sensibly organized, it explains concepts in a clear, understandable language supported by many fully worked out examples, highlights important definitions, concepts and rules. This course teaches the students how to install and configure a compiler, edit, compile and execute a program, handle user input and output, use arrays and structure, apply control flow structures etc. This course includes a compulsory laboratory work each week.
Prerequisites: CSE 101

MSC 142: Visual Programming for Business: **3 credits**
Introduction to and use of Program Development, top down structured programming, step-wise refinement and program correctness are included in this course. The application of these programming techniques to form logical solutions to business data processing problems using a high level symbolic programming language is covered. Topics for this course are VB objects, VB events, data type, string operators, VB IDE, control frame, error handling, OOP with VB, windows common controls, GUI design, DLL, VBA, windows API, multimedia and multithreading.
Prerequisites: CSE 101

MSC 301: Production-Operations Management **3 credits**

Introduction; Operations strategies; Forecasting; Manufacturing policy decisions; Production system; Plant location factory layout; Production planning and control; Product design & development; Job design; Work Study; Time and motion study; Materials management; Production and service scheduling; Quality control and inspection; Purchasing and inventory control and Maintenance management.

Prerequisites: MAT 101, ECO 202, MGT 211

MSC 421: Productivity Management **3 credit**

Concept of productivity; Productivity in Manufacturing and Service Sector; Measurement of Productivity; Long vs. Short Term Productivity; Reasons for Low Productivity; Measure to Improve Productivity; Developing a Productivity Orientation in the Organization; Sectoral and National level Productivity and Productivity Movement.

Prerequisites: MSC 301, BUS 321

MSC 422: Total Quality Management **3 credits**

Develops an understanding of quality concepts at all levels of business. Topics include: Meaning and Measurements of Quality; Concept of Total Quality Management; Management Approaches and Techniques For The Monitoring and Improvement of Product and Process Quality; Developing Standards for Quality of Product, Process and Service; Developing A Corporate Orientation For TQM.

Prerequisites: MSC 301

MSC 423: Brand Management **3 credits**

Concept of branding; Advantages and implications of branding; Scope of brand management; Responsibility of a brand manager; Product portfolio analysis; Branding policy and strategy; New brand development; Price and Non-price competition; Distribution of brands and economics of branding.

Prerequisites: MKT 301

MSC 424: Operations Research (Quantitative Methods for Decision Making) **3 credits**

Basic operations research concepts and techniques for managerial decisions including linear programming, network problems, decision analysis, and computer implementation of these models to solve practical problems.

Prerequisites: MSC 301, BUS 302

MSC 425: Materials Management **3 credits**

Concepts of Modern Material Management; The Store Functions; Storage Methods; Warehousing; Purchasing Management; Control of Quality and Supply Sourcing; Terms and Conditions of Purchase; Receiving, Inspection and Distribution; Budget Control; Production Control; Principal of Stock Controls; Interfaces of Physical Distribution Management.

Prerequisites: MSC 301

MSC 427: Operations Planning and Control **3 credits**

An analysis of the planning and control of materials as they flow within an organization; topics include production planning, materials requirement planning (MRP), capacity management, master production scheduling and just-in-time techniques.

Prerequisites: MSC 301

MSC 428: Managing Process Improvement **3 credits**

Examines process reengineering and quality management for manufacturing and service organizations. Topics covered include process flow and waiting line analysis, quality by design,

service/quality guarantees, team problem solving tools, Malcolm Baldridge National Quality Award criteria and statistical process control.
Prerequisites: MSC 301

MSC 429: Service Quality Management **3 credits**
Study of strategic and tactical issues concerning services in both service and manufacturing industries. Topics include: service process reengineering, performance measurements, service/quality standards and employee empowerment.
Prerequisites: MSC 301

MSC 431: Operations Design and Logistics System **3 credits**
Managing systems of people and technology to create capabilities in operations. Emphasis is placed on new approaches to managing operations and logistics that promise strategic advantaged.
Prerequisites: MSC 301

MSC 441: Introduction to Electronic Commerce **3 credits**
This is an introductory course that examines all facets of Internet commerce. Topics covered include creating and marketing products on the Internet, electronic money and third party use of the Internet for creating management information systems.
Prerequisite: CSE 371

MSC442: Information Technology **3 credits**
History of computers and communication; IT in the modern world: its impact on individuals, organization, society; Hardware and Software for IT; Use of IT in business decisions; the future of IT: Social considerations, privacy, information overload, etc.
Prerequisites: CSE 371

MSC 443: Applied Database Management **3 credits**
Objectives of database management; Sources of data; Data models; Database design; Data storage and access methods; Data base administration function; Data base system's life cycle; fourth generation programming languages, data integrity, security, and privacy.
Prerequisites: CSE 371

MSC 444: Systems Analysis **3 credits**
Modern information systems; Systems concept; System Development life cycle; Structured methodologies; Systems analysis tools and techniques; Data flow diagram; Entity relationship diagram; Prototyping; Simulation techniques; Data dictionary; data collection techniques; Application of systems and models in practical problem solution.
Prerequisites: CSE 371

MSC 445: Management of Information Systems **3 credits**
Use of computers in organization; Organizing and staffing the information system functions; Contingency Management & the MIS function; Planning and administration; control and evaluation; Technology trends and implications; Computer capacity planning; Managing systems Development; Hardware and Software acquisition.
Prerequisites: CSE 371

MSC 446: Marketing on the Internet 3 credits
This course examines the integration of the Internet in an organization's marketing strategy. Topics include, goals for online marketing, customer communications, interactive Internet pages, and customer service issues.
Prerequisite: CSE 371

MSC 447: Technology Fundamentals of Electronic Commerce **3 credits**
This course examines the technological basis of electronic commerce. The computer-based network enabling electronic commerce is the focus. Data and voice networks, Internet and telephony, bandwidth, architecture, software strategies, the Internet and World Wide Web supplier industries will be discussed with relevance to e-commerce implementation planning.
Prerequisite: CSE 371

MSC 448: Management of Online Business **3 credits**
A project course in which students prepare a proposal for launching a new product or service on the Internet that will include a complete strategy for an online business.
Prerequisite: CSE 371

MSC 449: Business Data Communication **3 credits**
This course provides students with an understanding of business data communications from technical, managerial and applications perspectives to improve business performance. Topics include: The technical concepts of data communications and network designs and how they relate to contemporary computer end-user environments. The incorporation of the systems approach for understanding, designing, managing, securing, and implementing data communication networks. Analyzing and designing data communication networks for various business situations. Communication Media. Network analysis tools and techniques. Data communication strategies.
Prerequisite: CSE 371

MSC 451: Local Area Network Administration: **3 credits**
In this course, students will receive a thorough overview of the installation, management, maintenance and utilities of local area networks. Topics include: An understanding of the responsibilities, tools, and technologies assigned to the Local Area Network administrator. Review of different network operating systems that meet the needs of small business, professional offices, workgroups and departments. Emphasis will be placed on operating systems that support simultaneous access from workstations while providing access to shared disk storage, memory, and interconnected LANs.
Prerequisite: CSE 371

MSC 452: Distributed Information Systems for Business: **3 credits**
The purpose of the course is to provide a basic understanding of distributed information systems. This course will enable students to understand how to select and manage data communication technologies that may be needed for creation of distributed information systems as well as for creating competitive advantage for the organization. Technologies covered are: Technological building blocks of today's telecommunication technologies; Local area networks; Long haul networks; Internet architecture; Client/server systems; Distributed databases.
Prerequisite: CSE 371

MSC 452: E-Commerce Programming **3 credits**
The course deals with technical aspects of e-commerce. Students will learn to design, build and maintain a complete e-commerce Web site. Topics include: E-Commerce modelling. Designing and implementing a Web site that meets user requirements. Maintaining and setting Web servers. Multi-tier Web architecture. Database servers. Accessing remote databases. Shopping cart fundamentals; Commerce server; Advertising on the Web. E-cash and electronic payments. Internet security and encryption.
Prerequisite: CSE 371

MSC 454: Managing e-Commerce Projects **3 credits**

This is an exciting, unique course that will focus on the principles of strategic management as applied to e-business. The course is designed to provide the students with a series of real-world tools that will assist in the analysis of various kinds of business problems and opportunities.

This course will teach the concepts of strategic management through readings and cases that simulate the decision-making problems that management professionals face. The basic objective is to introduce students to planning and strategy formulation concepts, and to the complex problems involved in managing a company in today's technological society. The course emphasizes the interrelationships of a firm's internal and external environment, and the careful crafting of strategy to solve current or future situations. Define what strategic management is. Understand strategy as applied by technology-based companies today. Apply analytical and critical thinking skills used in internal and external analysis. Effectively implement analytical tools such as SWOT, GAP, Porter's Five Forces model, or others, in the strategic planning process. Effectively prepare executive briefings related to analysis of a company's situation.

Prerequisite: CSE 371

MSC 455: Java Programming for the Internet **3 credits**

Intended for students in Arts, Business and Science interested in pursuing further courses in computer sciences. The course will cover algorithm design and programming techniques using Java with applications and applets related to real-world examples. An introduction to the World Wide Web and HTML included.

Prerequisite: CSE 371

MSC 456: E-Commerce Infrastructure **3 credits**

Information Technology (IT) in a global business environment explores information systems and technology issues from a global perspective. This course focuses on the basic infrastructure required to conduct electronic commerce. The following topics will be discussed: Internet Technologies: Protocols, network structure, Actress methods and routing. Data Network Support: ISDN, ADSL, fibre to home, broadband Actress, ATM and frame relay. Software Methods: Mark-up languages, SGML, HTML, XML, objects, middleware and UML. Security: Encryption, digital signatures and public key infrastructure. Examples include SSL, SET and VeriSign. Payments: Invoicing, settlement, credit cards, clearance, industry players (Visa/Mastercard, banks, device providers), server-side encryption, automated cash gateway, SET standards and cash standards. Business Models: Business-to-business, business-to-consumer, business-to-administration, brokerage, seller-driven and buyer-driven markets and agents. m-Business: Why m-Business, wireless Actress and short range wireless connectivity technologies.

Prerequisite: CSE 371

MSC 457: E-Commerce Risk and Security Management **3 credits**

This course investigates the inherent insecurities of e-Commerce and approaches the risk and security management aspects. The following topics will be covered:

Identifying the inherent insecurities of e-commerce. Risk management techniques to evaluate e-commerce risks and threats. Responding to threats through designing controls and security measures. Determining the boundaries of risk analysis. Securing digital products, services and information being transmitted across electronic networks. Ensuring confidentiality and integrity and establishing the authenticity of entities with which business is done. Reliability of third parties, such as Internet Service Providers (ISPs). Computer crime characteristics and techniques. Assuring continuation of Internet/e-Commerce facilities through disaster recovery procedures.

Prerequisite: CSE 371

MSC 458: Cyber law **3 credits**

This course will cover the legal issues surrounding electronic commerce, multimedia and the Internet. Practical information as to how the business world is handling or should be handling key electronic issues such as intellectual property, including Web sites, domain names, privacy and consumer protection will also be discussed. Topics include: Introduction to Cyberspace and modes of regulating it. Jurisdiction over commercial Web sites. Jurisdiction as to tortuous or criminal Acts on the Internet. Legal regulation of harmful speech in Cyberspace. Legal ramifications of filtering technologies. Spam. Legal protection of personal data on the Internet. Pros and cons of stronger privacy rules for Cyberspace. Legal regulations of encryption technologies. Cyber crimes.
Prerequisite: CSE 371

MSC 459: Designing Web Usability **3 credits**

This course aims to provide an introduction to designing Web usability. The concepts introduced in this course will concentrate on dynamic content and on what the user sees, rather than how the content is generated. Topics include:

Common Problems in Web Design Planning a site; Cover site design; Page layout; Content design; Principles of Usability; Simple Usability Techniques; Designing Effective Navigation; Accessibility; Browser and Platform Issues; Using Browser Detection Scripts; Providing an introduction to general design principles and cognitive principles that are relevant to Web design. Issues of electronic document management will be discussed in the context of electronic business processes.
Prerequisite: CSE 371

BACHELOR OF SCIENCE (BS) IN COMPUTER SCIENCE
BACHELOR OF SCIENCE (BS) IN COMPUTER SCIENCE AND ENGINEERING
BACHELOR OF SCIENCE (BS) IN ELECTRONICS & COMMUNICATION ENGINEERING

CSE 101: Introduction to Computer Science **3 credits**

Introduction to the use of computer hardware and software as tools for solving problems. Automated input devices and output methods (including pre-printed stationary and turnaround documents) as part of the solution. Using personal computers as effective problem solving tools for the present and the future. Theory behind solving problems using common application software including word processing, spreadsheets, database management, and electronic communications. Problem solving using the Internet and the World Wide Web. Programming principles and use of macros to support the understanding of application software. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: None

CSE 103: Introduction to Computing **1.5 credits**

Introduction to computers. Introduction to basic word processing and spreadsheet programs. Internet and information access. HTML Basic graphics. Software: Microsoft Word, Microsoft Excel, Notepad, Netscape Navigator, Paint.
Prerequisites: None

CSE 110: Programming Language I **3 credits**

This course would be an introduction to the foundations of computation and purpose of mechanized computation. Emphasis will be placed on techniques of problem analysis and the development of algorithms and programs. Topics will include:

Introduction to digital computers and programming algorithms and flow chart construction.
Information representation in digital computers. Writing, debugging and running programs (including file handling) on various digital computers using an appropriate language.
Data structures, abstraction, recursion, iteration, as well as the design and analysis of basic algorithms.

The course includes a compulsory 3 hour laboratory work each week. Students will be expected to do homework assignments in problem solving and program design as well as weekly laboratory assignments to reinforce the lecture material.
Prerequisites: None

CSE 111: Programming Language II **3 credits**

This course would be an introduction to data structures, formal specification of syntax, elements of language theory and mathematical preliminaries. Other topics that would be covered are formal languages, structured programming concepts, survey of features of existing high level languages. Students would design and write application using an appropriate language. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 110

CSE 220: Data Structures **3 credits**

Introduction to widely used and effective methods of data organization, focusing on data structures, their algorithms and the performance of these algorithms. Concepts and examples, elementary data objects, elementary data structures, arrays, lists, stacks, queues, graphs, trees, compound structures, data abstraction and primitive operations on these structures. memory management; sorting and searching; hash techniques; Introduction to the fundamental algorithms and data structures: recursion, backtrack search, lists, stacks, queues, trees, operation on sets, priority queues, graph dictionary. Introduction to the analysis of algorithms to process the basic structures. A brief introduction to database systems and the analysis of data structure performance and use in these systems. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 111

CSE 221: Algorithms **3 credits**

The study of efficient algorithms and effective algorithm design techniques. Techniques for analysis of algorithms, Methods for the design of efficient algorithms :Divide and Conquer paradigm, Greedy method, Dynamic programming, Backtracking, Basic search and traversal techniques, Graph algorithms, Elementary parallel algorithms, Algebraic simplification and transformations, Lower bound theory, NP-hard and NP-complete problems. Techniques for the design and analysis of efficient algorithms, Emphasizing methods useful in practice. sorting; Data structures for sets: Heaps, Hashing; Graph algorithms: Shortest paths, Depth-first search, Network flow, Computational geometry; Integer arithmetic: gcd, primality; polynomial and matrix calculations; amortized analysis; Performance bounds, asymptotic and analysis, worst case and average case behaviour, correctness and complexity. Particular classes of algorithms such as sorting and searching are studied in detail. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 220

CSE 230: Discrete Mathematics **3 credits**

Set theory, Elementary number theory, Graph theory, Paths and trees, Boolean Algebra, Binary Relations, Functions, Algebraic system, Generating functions, Induction, Reduction, Semigroup, Permutation groups, Discrete Probability, Mathematical logic, Prepositional calculus and Predicate calculus.
Prerequisites: None

CSE 250: Circuits and Electronics **3 credits**

Fundamental electrical concepts and measuring units. Direct current: voltage, current, resistance and power. Laws of electrical circuits and methods of network analysis; Introduction to magnetic circuits. Alternating current: instantaneous and r.m.s. current, voltage and power, average power for various combinations of R, L and C circuits, phasor representation of sinusoidal quantities. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: PHY112 or appropriate experience in electronic circuits.

CSE 251: Electronic Devices and Circuits **3 credits**

Introduction to semiconductors, p-type and n-type semiconductors; p-n junction diode characteristics; Diode applications: half and full wave rectifiers, clipping and clamping circuits, regulated power supply using zener diode.Bipolar Junction Transistor (BJT): principle of operation, I-V characteristics; Transistor circuit configurations (CE, CB, CC), BJT biasing, load lines; BJTs at low frequencies; Hybrid model, h parameters, simplified hybrid model; Small-signal analysis of single and multi-stage amplifiers, frequency response of BJT amplifier. Field Effect Transistors (FET): principle of operation of JFET and MOSFET; Depletion and enhancement type NMOS and PMOS; biasing of FETs; Low and high frequency models of FETs, Switching circuits using FETs; Introduction to CMOS. Operational Amplifiers (OPAMP): linear applications of OPAMPs, gain,

input and output impedances, active filters, frequency response and noise .Introduction to feedback, Oscillators, Silicon Controlled Rectifiers (SCR), TRIAC, DIAC and UJT: characteristics and applications; Introduction to IC fabrication processes. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: CSE 250

CSE 260: Digital Logic Design **3 credits**
An introduction to digital systems such as computer, communication and information systems. Topics covered include Boolean algebra, digital logic gates, combinational logic circuits, decoders, encoders, multiplexers. Asynchronous and synchronous counters. Registers, flip-flops, adders, Sequential circuit analysis and design. Simple computer architecture. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: None

CSE 310: Object Oriented Programming **3 credits**
An introduction to object oriented programming using. Java is the language typically used to illustrate the concepts, but another suitable language may be substituted by the instructor. Topics covered include object instances, classes, inheritance, polymorphism and abstraction mechanism. Problem domain analysis and system design using object oriented approach. Object oriented database and object persistency. Software principles for object oriented approach. Advantages and problems with using object oriented approach to developing systems. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 111

CSE 320: Data Communications **3 credits**
Introduction to purpose and methods of communication. Necessity for modulation and techniques. Technical aspects of data communications. Effects of noise and control. Basic concepts such as fundamental limits, encoding, modulation, multiplexing, error detection and control. Topics include: Data Transmission Protocols, different layers in data communication systems, LANs, WANs linked with telephony. This course will include a compulsory 3-hour laboratory work each week for those interested in obtaining the CCNA certification.
Prerequisites: 60 credits

CSE 321: Operating Systems **3 credits**
Principles of operating systems: design objects; sequential process; concurrent processes, functional mutual exclusion, processor co-operation and deadlocks, management. Control and scheduling of large information processing systems. Dispatching processor access methods, job control languages memory addressing, paging and store multiplexing, and time sharing, batch processing. Scheduling algorithms, file systems, and security; semaphores and critical sections, device drivers, multiprocessing, sharing, design and implementation methodology, performance evaluation and case studies. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 221

CSE 330: Numerical Methods **3 credits**
Computer Arithmetic: floating point representation of numbers, arithmetic operations with normalized floating point numbers; Iterative methods: different iterative methods for finding the roots of an equation and their computer implementation; Solution of simultaneous Algebraic Equations, Gauss elimination; Interpolation, Least square approximation of functions, Taylor series representation, Chebyshev series; Numerical differentiation and integration and Numerical Solution of Differential Equations.
Prerequisites: MAT120, MAT215

CSE 331: Automata and Computability **3 credits**

An introduction to finite representation of infinite objects and basic mathematical models of computation. Finite automata and regular languages, pushdown automata and context free languages. Turing machines. Church's Thesis. Partial recursive functions. Undecidability. Reducibility and completeness. Halting problem. Time complexity and NP-completeness. Probabilistic computation. Interactive proof systems.
Prerequisites: CSE 221

CSE 340: Computer Architecture **3 credits**

A systematic study of the various elements in computer design, including circuit design, storage mechanisms, addressing schemes, and various approaches to parallelism and distributed logic. Information representation and transfer; instruction and data access methods; the control unit; hardware and microprogrammed; memory organisation. RISC and CSE C machines.
Prerequisites: CSE 260

CSE 341: Microprocessors **3 credits**

Introduction to different types of microprocessors. Microprocessor architecture, instruction set, interfacing/O operation, interrupt structure, DMA. Microprocessor interface ICs. Advanced microprocessor concept of microprocessor based system design. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 260

CSE 342: Computer System Engineering (3 credits) **3 credits**

Topics on the engineering of computer software and hardware systems: techniques for controlling complexity; networks and distributed systems; atomicity and coordination of parallel activities; recovery and reliability; privacy of information; impact of computer systems on society. Case studies of working systems and outside reading in the current literature provide comparisons and contrasts.
Prerequisites: None

CSE 350: Digital Electronics and Pulse Techniques **3 credits**

Diode logic gates, transistor switches, transistor gates, MOS gates, Logic families: TTL, ECL, IIL and CMOS logic with operation details. Propagation delay, product and noise immunity. Open collector and High impedance gates. Electronic circuits for flip flops, counters and register, memory systems. PLA's (A/D, D/A converters with applications, S/H circuits) LED, LCD and optically coupled oscillators. Non-linear applications of OPAMPs. Analog switches. Linear wave shaping: diode wave shaping techniques, clipping and clamping circuits, comparator circuits, switching circuits. Pulse transformers, pulse transmission. Pulse generation:monostable, bistable and stable multivibrations, Timing circuits. Simple voltage sweeps, linear circuit sweeps. Schmitrigger, blocking oscillators and time base circuit. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 260, CSE 251/ECE203

CSE 360: Computer Interfacing **3 credits**

Interface components and their characteristics, micro processor I/O. Disk, Drums and Printers. Optical displays and sensors. High power interface devices, transducers, stepper motors and peripheral devices. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: CSE 341

CSE 370: Database Systems **3 credits**

Introduction to concepts and methods for storing and manipulating data in stored form. File retrieval and organisation. Database models and designing of database systems. The principles of database management systems. Relational database management systems. Query formulation and

language. Database administration. Methods used for the storage, selection and presentation of Data. Database integrity and security. Students will work with database languages and popular application packages. Common database management systems. Structure of SQL and principals behind the design of SQL. Students must complete four SQL assignments in the lab. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 221

CSE 371: Management Information Systems **3 credits**
Computer & information processing; Strategic information systems; Software, hardware and telecommunications; System building methods; Transaction processing system; Office automation; DeCSE ion support systems; Executive support systems; Artificial intelligence; Computer security & disaster planning; Ethical & social issues in information systems.
Prerequisites: None

CSE 390: Technical Communication **3 credits**
The fundamentals of technical communication using oral, written and visual means are presented as practised in industry and academia. Clarity of thought, organisational skills and systematic approaches are emphasised. Students engage in exercises that focus on technical writing, public speaking, graphic design and giving presentations. They apply their skills across a broad range of activities, including critique of presentations and writing of proposals, reports, memoranda, user manuals, instructional modules, and technical specifications. Techniques presented are intended to create an appreciation for format and content and to better prepare students for project documentation and formal presentations.
Prerequisites: Permission of instructor

CSE 391: Programming for the Internet **3 credits**
A survey of current Internet technologies and state-of-the-art web programming methods. Using client/server structures, topics studied will be drawn from JavaScript, JSP, ASP, Cold Fusion, Flash, Document Object Model, HTML, Cascading Style Sheets, XML, CGI, TCP/IP and the .NET platform. Programming tools may include PERL, various UNIX shell scripts, Windows batch files, Java and other languages as needed.
Prerequisites: CSE 220

CSE 392: Signals and Systems **3 credits**
The course deals with the topics of Fourier series, Fourier transforms, Laplace transform, time and frequency response, ideal low-pass filters, band-pass channels, analogue communications, amplitude modulation, angle modulation, frequency-division multiplexing, digital communications, pulse-code modulation, time-division multiplexing, random processes, stationarity, autocorrelation functions, spectral density, Gaussian processes, noise in analogue and digital modulation schemes.
Prerequisites: MAT215

CSE 400: Thesis/Project **4 credits**
A student must undertake a research work on a Computer Science and Engineering topic under the guidance of a supervisor. The student is required to prepare and submit the report within the time specified. The report will be graded and a student must get at least a C grade, which is the passing grade for this course.
Prerequisites: 100 credits

CSE 410: Advanced Programming In UNIX **3 credits**
Exploration of the Unix operating system, including its tools and utilities for program development, such as makefile, piping and redirection, shell scripts, regular expressions, and symbolic debuggers. In

addition, this course explores advanced features of the C programming language, including various file processing, command-line and variable arguments, exception handling, and generic interfacing. Multiprocessing and Multithreading programming in Unix/Linux C. Thread synchronization. Network programming and TCP/IP socket programming. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 321

CSE 419: Programming Languages **3 credits**
An introduction to the principles of functional, imperative, and logic programming languages. Topics covered include meta-circular interpreters, semantics (operational and denotational), type systems (polymorphism, inference, and abstract types), object-oriented programming, modules, and multiprocessing; case studies of contemporary programming languages. Programming experience and background in language implementation required.
Prerequisites: CSE 111, CSE 331/Permission of instructor

CSE 420: Compiler Design **3 credits**
Theory and Practice; An introduction to compiler and interpreter design, with emphasis on practical solutions using compiler writing tools such as Yacc in UNIX, and the C programming language, Topics covered include: lexical scanners, context free languages and pushdown automata, recursive descent parsing, bottom up parsing, attributed grammars, symbol table design, run time memory allocation, machine language, code generation and optimisation. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: CSE 221, CSE 331/Permission of instructor

CSE 421: Computer Networks **3 credits**
An introduction to the basics of transport connections and sessions. The protocol hierarchy, design issues in transport and session layer protocol, end-to-end protocols, message handling protocols, terminal and file transfer protocols, Internet TCP/IP protocols. End to end data networks, congestion control networks, wireless networks, mobile computing, high speed networks. Concurrent programming, data link layer, framing and error control, media access control. Models of distributed computation, management and resource control of networks and distributed operating systems, distributed file systems, caching scheduling, process migration. Fault tolerance, network security and privacy, algorithm for deadlock detection. Synchronization and concurrency control in distributed systems. The course includes a compulsory 3-hour laboratory work each week if the student wishes to obtain CCNA certification. Otherwise the course includes a compulsory 3-hour laboratory work alternate week.
Prerequisites: CSE 320

CSE 422: Artificial Intelligence **3 credits**
Survey of concepts in artificial intelligence. Knowledge representation, search and Control techniques. AI machines and features of LISP and PROLOG languages. Problem Representation; search, constraint propagation, rule chaining, frame inheritance, inference and learning in intelligent systems; systems for general problems solving, game playing, expert consultation, concept formation and natural languages processing; recognition, understanding and translation. Use of heuristic vs. algorithmic programming; cognitive simulations-vs. machine intelligence; study of some expert systems such as robotics and understanding. Solving problems in Al languages. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 221

CSE 423: Computer Graphics **3 credits**
Introduction to Graphical data processing. Fundamentals of interactive graphics Architecture of display devices and connectivity to a computer. Implementation of graphics concepts of two

dimensional and three dimensional viewing, clipping and transformations. Hidden line algorithms. Raster graphics concepts: Architecture, algorithms and other image synthesis methods. Design of interactive graphic conversations. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: MAT 215

CSE 424: Pattern Recognition **3 credits**
Introduction to pattern recognition: features, classifications, learning. Statistical methods, structural methods and hybrid method. Applications to speech recognition, remote sensing and biomedical area. Learning algorithms, Syntactic approach: Introduction to pattern grammars and languages. Parsing techniques. Pattern recognition in computer aided design. The course includes a compulsory 3 hour laboratory work alternate week.
Prerequisites: MAT 215

CSE 425: Neural Networks **3 credits**
An extensive course on neural network architectures and learning algorithms with theory and applications. Temporal and optimal linear associative memories, fuzzy control. Cohen-Grossberg theorem. Unsupervised learning. Higher-order competitive, differential Hebbian learning networks. Supervised learning. Adaptive estimation and stochastic approximation. Adaptive vector quantization, mean-square approach. Kohonen self-organizing maps. Grossberg theory. Simulated annealing. Boltzman and Cauchy learning. Adaptive resonance. Gabor functions and networks.
Prerequisites:

CSE 426: Basic Graphs Theory **3 credits**
Graphs and simple graphs, diagraphs, subgraphs, vertex-degrees, walks,, paths and cycles; trees, spanning trees in graphs, distance in graphs; Complementary graphs, cut-vertices, bridges and blocks, k-connected graphs; Euler tours, Hamiltonian cycles, Chinese Postman Problem, Traveling Salesman Problem; Chromatic number, Chromatic polynomials, chromatic index, Vizing's theorem, planar graphs, perfect graphs.
Prerequisites:

CSE 427: Machine Learning **3 credits**
Introduction to machine learning; Supervised and reinforcement learning; Unsupervised learning algorithms; Attribute based and relational supervised learning algorithms; Neural network based learning algorithms; Genetic algorithm and genetic programming; Reinforcement learning algorithms; Computational learning theory.
Prerequisites:

CSE 428: Image Processing **3 credits**
Digital image fundamentals, perception, representation; image transforms; First Fourier Transform (FFT), Discrete Cosine Transform (DCT), Karhumen and Loeve Transform (KLT), Wavelet transform and sub-band decomposition; image enhancement and restoration techniques, image compression techniques, image compression standards: JPEG, MPEG, H.261, and H.263.
Prerequisites:

CSE 429: Basic Multimedia Theory **3 credits**
Multimedia System-Introduction; Coding of compression standards; Architecture issues in multimedia; Operating System issues in multimedia-real-time OS issues, synchronization, interrupt handling; Database issues in multimedia-indexing and storing multimedia data, disk placement, disk scheduling, searching for a multimedia document; Networking issues in multimedia-Quality-of service guarantees, resource reservation, traffic specification, happing and monitoring, admission

control; Security issues in multimedia-digital water-marking, partial encryption schemes for video streams; Multimedia application-audio and video conferencing, video on demand, voice over IP. Concepts covered in lecture applied in computer laboratory assignments.
Prerequisites:

CSE 430: Digital Signal Processing **3 credits**
Introduction to Digital Signal Processing, Filtering, Frequency response, Sampling theory, Z-transform, Discrete Fourier Transform (DFT), Fast Fourier Transform (FFT), Windowing, Correlation & Convolution, Application of Digital Signal Processing. Introduction to Digital Filters, Finite Impulse Response (FIR), Infinite Impulse Response (IIR), Different techniques of FIR and IIR filter design. MATLAB application to DSP; the course includes a compulsory 3-hour laboratory work each week.
Prerequisites: CSE 111, MAT120

CSE 431: Natural Language Processing **3 credits**
Introduction to the field of natural language processing (NLP)-the creation of computer programs that can understand, generate, and learn natural language. The topics include the three major subfields of NLP: syntax (the structure of an utterance), semantics (the truth-functional meaning of an untterance), and pragmatics/discourse (the context-dependent meaning of an utterance). The course will introduce both knowledge-based and statistical methods for NLP, and will illustrate the use of such methods in a variety of of text-and speech-based application areas.
Prerequisites: CSE 111, CSE 422/Permission of instructor

CSE 432: Speech Recognition and Synthesis **3 credits**
Introduction to automatic speech recognition, speech understanding and speech synthesis/text-to-speech from the computer science and linguistics perspective. Focus on understanding of key algorithms including noisy channel model, Hidden Markov Models (HMMs), A* and Viterbi decoding, N-gram language modeling, unit selection synthesis, and roles of linguistic knowledge (especially phonetics, intonation, pronunciation variation, disfluencies).
Prerequisites: CSE 111

CSE 460: VLSI Design **3 credits**
VLSI technology: Top down design approach, technology trends and design styles. Review of MOS transistor theory: Threshold voltage, body effect, I-V equations and characteristics, latch-up problems, NMOS and CMOS inverter, pass-transistor and transmission gates. CMOS circuit characteristics and performance estimation: Resistance, capacitance, rise and fall times, delay, gate transistor sizing and power consumption. CMOS circuit and logic design: Layout design rules and physical design of simple logic gates. CMOS subsystem design: Adders, multiplier and memory system, arithmetic logic unit. Basic design methodologies: full custom and semi-custom design. Programmable logic arrays (PLAs), Field programmable gate arrays (FPGA), I/O systems. VLSI testing: objectives and strategies. Introduction to VHDL Hardware description Language. This course includes a compulsory 3-hour laboratory work each week.
Prerequisites: CSE 251/ECE202

CSE 461: Digital System Design **3 credits**
Design using MSI and LSI components. Design of memory subsystem using SRAM and DRAM. Design of various components of a computer: ALU, memory and control unit: hardwired and micro programmed. Microprocessor based designs. Computer bus standards. Design using special purpose controllers, floppy disk controller. Digital control system. Computes in telecommunication and control. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: CSE 260

CSE 462: Fault Tolerance System **3 credits**

Introduction to Fault Tolerant Systems and Architectures. Fault detection and location in combinational and sequential circuits; Fault test generation for combinational and sequential circuits; Digital simulation as a diagnostic tool. Automatic test pattern generator, memory test pattern and reliability. Performance monitoring self checking circuits, Burst error correction and Triple modular redundancy; Maintenance processors.

Prerequisites:

CSE 470: Software Engineering **3 credits**

Concepts of software engineering: requirements definition, modular, structure design, data specifications, functional specifications, verification, documentation, software maintenance, Software support tools. Software project organization, quality assurance, management and communication skills.

Prerequisites:

CSE 471: System analysis and design **3 credits**

Introduces students to tools and techniques in systems analysis and design such as data flow diagram and E-R diagrams. Projects by students where they analyse and design a system using these tools. The course includes a compulsory 3 hour laboratory work each week.

Prerequisites:

CSE 472: Human Computer Interface **3 credits**

An introduction to the concepts for human and computer interface. The importance of computer interface, interface quality and methods of evaluation. The relationship of interface quality to interactions with the computer. Interface design, dimensions of interface variability, dialogue tools and techniques, user centered design and task analysis. User interface implementation, I/O devices and user interface for groupware, multimedia systems and visualization. Student will have to submit four assignments on multimedia work in the lab.

Prerequisites: CSE 221

CSE 473: Decision Support Systems **3 credits**

This course aims in teaching the integration of business and technical consideration in the design, implementation and management of information systems. Topics include: Is planning and development, business, management, executive, and strategic information systems, including case studies of selected large disaster planning and recovery. The course also includes practical examples of information systems industry.

Prerequisites:

CSE 474: Simulation and Modeling **3 credits**

Simulation methods, model building, random number generator, statistical analysis of results, validation and verification techniques. Digital simulation of continuous system. Simulation and analytical methods for analysis of computer system and practical problems in business and practice. Introduction to the simulation packages. The course includes a compulsory 3 hour laboratory work alternate week.

Prerequisites: MAT215

CSE 490: WAN Routing and Technologies (Special Topics) **3 credits**

The course focuses on advanced IP addressing techniques (Variable Length Subnet Masking [VLSM]), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). The course will also focus on advanced IP

addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking. The course includes a compulsory 3-hour laboratory work each week if the student wishes to obtain CCNA certification
Prerequisites: CSE 320 and CSE 421

CSE 490: Special Topics **3 credits**
This course will explore an area of current interest in Computer Science & Engineering. The emphasis will be on thorough study of a contemporary field within CSE , and the course will be made accessible to students with an intermediate, undergraduate CSE background. The syllabus should be approved by the department chair prior to commencement of the term, and a detailed description will be provided before the registration period.
Prerequisites: Permission of instructor

CSE 491: Independent Study **3 credits**
For students interested in any of the following ways of studying Computer Science & Engineering: independently exploring an advanced topic under a faculty instructor; conducting significant research under a faculty supervisor; or doing an internship in industry under the supervision of industry and faculty advisors. In each case, the student must first identify a faculty member within the CSE department to oversee his/her work, and then write a proposal to the department chair outlining the means and objectives of the project. The proposal must be approved by the intended faculty supervisor and department chair prior to commencement of the term. At the end of the term, the student must submit a detailed report and/or give a presentation of the results, before the final course grade may be awarded.
Prerequisites: Permission of instructor.

ELECTRONICS AND COMMUNICATION ENGINEERING

ECE 200: Electrical Circuits I **3 credits**
Circuit variables and elements: Voltage, current, power, energy, independent and dependent sources, resistance. Basic laws: Ohm's law, Kirchhoff's current and voltage laws. Simple resistive circuits: Series and parallel circuits, voltage and current division, Wye-Delta transformation. Techniques of circuit analysis: Nodal and mesh analysis including supernode and super mesh. Network theorems: Source transformation, Thevenin's, Norton's and Superposition theorems with applications in circuits having independent and dependent sources, maximum power transfer condition and reciprocity theorem. Energy storage elements: Inductors and capacitors, series parallel combination of inductors and capacitors. Responses of RL and RC circuits: Natural and step responses. Magnetic quantities and variables: Flux, permeability and reluctance, magnetic field strength, magnetic potential, flux density, magnetization curve. Laws in magnetic circuits: Ohm's law and Ampere's circuital law. Magnetic circuits: series, parallel and series-parallel circuits. The course includes a compulsory 3 hour laboratory work per week.
Prerequisites: PHY 111 or appropriate experience in electronic circuits

ECE 201: Electrical Circuits II **3 credits**
Sinusoidal functions: Instantaneous current, voltage, power, effective current and voltage, average power, phasors and complex quantities, impedance, real and reactive power, power factor. Analysis of single phase ac circuits: Series and parallel RL, RC and RLC circuits, nodal and mesh analysis, application of network theorems in ac circuits, circuits simultaneously excited by sinusoidal sources of several frequencies, transient response of RL and RC circuits with sinusoidal excitation. Resonance in ac circuits: Series and parallel resonance. Magnetically coupled circuits. Analysis of three phase circuits: Three phase supply, balanced and unbalanced circuits, power calculation. The

course includes a compulsory 3 hour laboratory work per week.
Prerequisites: ECE200

ECE 202: Electronics Devices and Circuits I **3 credits**

P-N junction as a circuit element: Intrinsic and extrinsic semiconductors, operational principle of p-n junction diode, contact potential, current-voltage characteristics of a diode, simplified dc and ac diode models, dynamic resistance and capacitance. Diode circuits: Half wave and full wave rectifiers, rectifiers with filter capacitor, characteristics of a zener diode, zener shunt regulator, clamping and clipping circuits. Bipolar junction transistor (BJT) as a circuit element: Basic structure. BJT characteristics and regions of operation, BJT as an amplifier, biasing the BJT for discrete circuits, small signal equivalent circuit models, BJT as a switch. Single stage BJT amplifier circuits and their configuarations: Voltage and current gain, input and output impedances. Metal-Oxide-Semiconductor Field-Effect-Transistor (MOSFET) as circuit element: structure and physical operation of MOSFETs, body effect, current-voltage characteristics of MOSFETs, biasing discrete and integrated MOS amplifier. The course includes a compulsory 3 hour laboratory work per week.
Prerequisites: ECE200

ECE 203: Electronic Devices and Circuits II **3 credits**

Frequency response of amplifiers: Poles, zeros and Bode plots, amplifier transfer function, techniques of determining 3 dB frequencies of amplifier circuits, frequency response of single-stage and cascade amplifiers, frequency response of differential amplifiers. Operational amplifiers (Op-Amp): Properties of ideal Op-Amps, non-inverting and inverting amplifiers, inverting integrators, differentiator, weighted summer and other applications of Op-Amp circuits, effects of finite open loop gain and bandwidth on circuit performance, logic signal operation of Op-Amp, dc imperfections. General purpose Op-Amp: DC analysis, small-signal analysis of different stages, gain and frequency response of 741 Op-Amp. Negative feedback: properties, basic topologies, feedback amplifiers with different topologies, stability, frequency compensation. Active filters: Different types of filters and specifications, transfer functions, realization of first and second order low, high and bandpass filters using Op-Amps. Signal generators: Basic principle of sinusoidal oscillation, Op-Amp RC oscillators, LC and crystal oscillators. Power Amplifiers: Classification of output stages, class A, B and AB output stages. The course includes a compulsory 3 hour laboratory work per week.
Prerequisites: ECE202

ECE 210: Electromagnetic Waves and Fields **3 credits**

Electromagentic waves: solution for free-space conditions, uniform plane wave propagation, wave Solutions for a conducting medium, polarization, surface impedance, numerical problems. Guided waves in two conductor lines: waves between parallel planes, transverse electric and transverse magnetic waves, characteristics of TE and TM waves, transverse electromagnetic waves, velocities of propagation, attenuation in parallel plane guides, wave impedance, electric field and current flow within the conductor, waves in coaxial lines and modes, waves in strip and micro-strip lines, impedances. Rectangular and circular waveguides. Solution of the field equations.
Prerequisites: ECE 201

ECE 220: Signals and Systems **3 credits**

Classification of signals and systems: signals-classification, basic operation on signals, elementary signals, representation of signals using impulse function; systems-classification. Properties of Linear Time Invariant (LTI) systems: linearity, causality, time invariance, memory, stability, invertibility. Time domain analysis of LTI systems: Differential equations-system representation, order of the system, solution techniques, zero state and zero input response, system properties; impulse response-convolution integral, determination of system properties; state variable-basic concept, state equation and time domain solution. Frequency domain analysis of LTI systems: Fourier series-properties,

harmonic representation, system response, frequency response of LTI systems; Fourier transformation-properties, system transfer function, system response and distortion-less systems. Applications of time and frequency domain analyses: solution of analog electrical and mechanical systems, amplitude modulation and demodulation, time-division and frequency-division multiplexing. Laplace transformation: properties, inverse transform, solution of system equations, system transfer function, system stability and frequency response and application.
Prerequisites: MAT216, ECE200

ECE 230: Semiconductor Devices and Materials **3 credits**
Semiconductor fundamentals, crystal structure, Fermi level, energy-band diagram, intrinsic and extrinsic semiconductor, carrier concentration, scattering and drift of electrons and holes, drift current, diffusion mechanism, Hall effect, generation, recombination and injection of carriers, transient response, basic governing equations in semiconductor, physical description of p-n junction, deletion approximation, biasing, transition capacitance, varactor diodes, junction breakdown, space charge effect and diffusion approximation, current-voltage characteristics and temperature dependence, tunneling current, optical absorption in a semiconductor, photovoltaic effect, semiconductor lasers.
Prerequisites: PHY210, ECE202

ECE 310: Introduction to Communication Engineering **3 credits**
Basic introduction to Fourier analysis and its application to communication systems. Overview of current communication systems (cellular, radio, and TV broadcasting, satellites, Internet), Fourier series and Fourier transforms, filtering and signal distortion, time domain and frequency domain analysis, analog modulation (AM and FM), digital modulation, noise in communication systems. Overview of current systems: the public-switched telephone network, radio and TV broadcasting, cellular and cordless telephones, satellite communications and paging. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: ECE210, ECE220

ECE 320: Microwave Engineering **3 credits**
Advanced analysis of waveguides, stripline, and microstrip; microwave circuit and device theory including ferrites, junctions and resonators; high frequency generation and amplification, microwave systems. Basic antenna concepts, Radiation Patterns, Beam solid angle, radiation intensity, directivity, effective aperture, antenna field zones, Polarization, impedance, cross field, Poynting vector. Antenna and transmission lines, Radiation from a dipole antenna, antenna temperature.
Prerequisites: ECE310

ECE 322: Multimedia Communication **3 credits**
Types of media: text, graphic, images, audio, animation and video. Multimedia signal characteristic: sampling, digital representation, signal formats. Signal coding and compression: entropy coding, transform coding, vector quantization. Coding standards: H.26x, LPEG, MPEG. Multimedia communication networks: network topologies and layers, LAN, MAN, WAN, PSTN, ISDN, ATM, internetworking devices, the internet and access technologies, enterprise networks, wireless LANs and wireless multimedia. Entertainment networks: cable, satellite and terrestrial TV networks, ADSL and VDSL, high speed modems. Transport protocols: TCP, UDP, IP, Ipv4, Ipv6, FTP, RTP and RTCP, use of MPLS and WDMA. Multimedia synchronization, security, QoS and resource management. Multimedia applications: The WWW, Internet telephony, teleconferencing, HDTV, email and e-commerce.
Prerequisites: CSE 320

ECE 328: Digital Signal Processing **3 credits**

Introduction to Digital Signal Processing: Discrete-time signals and systems, analog to digital conversion, aliasing, impulse response, difference equation, correlation and convolution, transient and steady state response. Discrete transformations: discrete-time Fourier series (DTFS), discrete-time Fourier transform (DTFT), discrete Fourier transform (DFT) and their properties, fast Fourier transform (FFT). Z transformation-properties, transfer function, and inverse Z transform. Application of Digital Signal Processing. Digital Filters: FIR filters-linear phase filters, filter specifications, designing FIR filter using window, optimal and frequency sampling methods; IIR filters-specifications, designing IIR filters using impulse invariant, bi-linear Z transformation, least-square methods and finite precision effects. MATLAB application to DSP. This course includes a compulsory 3-hour laboratory work each week.

Prerequisites: MAT 216, ECE 201, ECE220

ECE 330: Telecommunication Switching Systems **3 credits**

Evolution of telecommunication switching and circuits: Evolution of Public Switched Telecommunication Networks Strowger exchange, Crossbar exchange, Stored programme exchange. Digital exchange-Basic Telecommunication equipment-Telephone handset, Hybrid circuit, Echo suppressors and cancellors, PCM coders, Modems and Relays. Electronic switching: Circuit Switching, Message switching, Centralized stored programme switching, Time switching, Spare switching, Combination switching-Digital switching system hardware configuration, Switching system software, Organization, Switching system call processing software, Hardware software integration. Telecommunication signaling and traffic: Channel associated signaling, Common channel signaling, SS7 signaling protocol, SS7 protocol architecture, Concept of Telecommunication traffic, Grade of service, Modeling switching systems, Blocking models and Delay systems. Integrated digital networks: Subscriber loop characteristics, Local access wire line and wire less PCM / TDM carrier standards transmission line codes, Digital multiplexing techniques, Synchronous, Asynchronous, Plesiocronous multiplexing techniques, SONET / SDH, Integrated Digital Network (IDN) environment-Principles of Integrated Services Digital Network (ISDN)-Cellular Mobile Communication Principles.

Prerequisites: ECE 201, ECE 310

ECE 340: Optoelectronic Devices **3 credits**

Elements of Light and Solid State Physics: Wave nature of light, Polarization, Interference, Diffraction, Light Source, review of Quantum Mechanical concept, Review of Solid State Physics, Review of Semiconductor Physics, Semiconductor Junction Device, Review. Display Devices and Lasers: Introduction, Photo Luminescence, Cathode Luminescence, Electro Luminescence, Injection Luminescence, LED, Plasma Displaycs, Liquid Crystal Displays, Numeric Display, Laser Emission, Absorption, Radiation, Population Inversion, Optical feedback, Threshold condition, Laser Modes, Classes of Lasers, Mode Locking, Laser applications. Optical detection devices: Photo detector, Thermal detector, Photon Devices, Photo Conductors, Photo diodes, Detector Performance. Optoelectronic modulator and switching devices: Introduction, Analog and Digital Modulation, Electro-optic modulators, Magneto Optic Devices, Optical, Switching and Logic Devices. Optoelectronic integrated circuits: Introduction, hybrid and Monolithic Integration, Applications of Opto-Electronic Integrated Circuits, Integrated transmitters and Receivers, Guided wave devices.

Prerequisites: ECE230

ECE 350: Control Systems **3 credits**

Modeling of continuous systems; computer-aided solutions to systems problems; feedback control systems; stability, frequency response and transient response using root locus, frequency domain and state variable methods. This course includes a compulsory 3-hour laboratory work each week.

Prerequisites: MAT216, ECE220

ECE 360: Measurement and Instrumentation **3 credits**

Introduction: Applications, functional elements of a measurement system and classification of instruments. Measurement of electrical quantities: Current and voltage, power and energy measurement. Current and potential transformer. Transducers: mechanical, electrical and optical. Measurement of non-electrical quantities: Temperature, pressure, flow, level, strain, force and torque. Basic elements of dc and ac signal conditioning: Instrumentation amplifier, noise and source of noise, noise elimination compensation, function generation and linearization, A/D and D/A converters, sample and hold circuits. Data Transmission and Telemetry: Methods of data transmission, DC/AC telemetry system and digital data transmission. Recording and display devices. Data acquisition system and microprocessor applications in instrumentation. This course includes a compulsory 3-hour laboratory work each week.

Prerequisites: ECE 201

ECE 400: Thesis/Project **4 credits**

A student must undertake a research work on an Electronics and Communication Engineering topic under the guidance of a supervisor. The student is required to prepare and submit the report within the time specified. The report will be graded and a student must get at least a C grade, which is the passing grade for this course.

Prerequisites: 100 credits

ECE 401: Internship **on-credits**

This is an optional non-credit course. The internship aims at providing on-the-job exposure to the students and an opportunity for translating theoretical concepts to real life situations. Students are placed in business enterprises, NGOs and research institutions for internship. The duration of internship will be a maximum of 8 weeks. The student is required to prepare and submit the report within the time specified. The report will be graded.

Prerequisites: 100 credits

ECE 410: Optical Communication **3 credits**

Introduction: evolution of fiber optic system, Light propagation through optical fiber: Ray optics theory and mode theory. Optical fiber: Types and characteristics, transmission characteristics, fiber joints and fiber couplers. Signal degradation in optical fibers: Attenuation-Absorption losses, Scattering losses, Bending Losses, Core and Cladding losses Light sources: Light emitting diodes and laser diodes. Detectors: PIN photo-detector and avalanche photo-detectors. Receiver analysis: Direct detection and coherent detection, noise and limitations. Transmission limitations: Chromatic dispersion, nonlinear refraction, four wave mixing and laser phase noises. Optical amplifier: Laser and fiber amplifiers, applications and limitations. Multi-channel optical system: Frequency division multiplexing, wavelength division multiplexing and co-channel interference. The course includes a compulsory 3 hour laboratory work each week.

Prerequisites: ECE310, ECE340

ECE 421: Wireless and Mobile Communications **3 credits**

Introduction to wireless Mobile Communication, history and evolution of mobile radio systems, types of mobile wireless services/systems-cellular, WLL, paging, satellite systems, standards, future trends in personal wireless systems. Cellular concepts and system design fundamentals/frequency management and channel Assignment: Cellular concept and frequency reuse, Multiple Access Schemes, fixed Channel assignment, non-fixed channel assignment and handoff. Interference and system capacity, Trunking and Erlang capacity calculations. Mobile radio propagation :Radio wave propagation issues in personal wireless systems, Propagation models, Multipath fading and base band impulse response models, Parameters of mobile multipath channels, Antenna systems in mobile radio. Modulations and signal processing: Analog and digital modulation techniques, Performance of

various modulation techniques-Spectral efficiency, Error-rate, Power Amplification, Equalization Rake receiver concepts, Diversity and space-time processing, Speech coding and channel coding. System examples and design issues: Multiple Access Techniques-FDMA, TDMA and CDMA systems, Operational systems, Wireless networking, security in wireless networks, Design issues in personal wireless systems. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: ECE310, ECE320

ECE 422: Digital Communications **3 credits**
An introduction to fundamentals of digital communications. Complex random signals. Digital modulations and optimal receiver principles. Baseband and passband transmissions and processing. Interference channels and equalization techniques. Performance analysis including bit error rate calculation and bounds, cutoff rate and channel capacity. Applications in wireless and digital subscriber loops (DSL). Information-definition, unit, entropy. Error control coding-principle, different codes. Spread spectrum analysis. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: ECE310

ECE 423: Analog Integrated Circuit Design **3 credits**
Analysis and design of MOS analog integrated circuits, emphasizing quantitative measures of performance and circuit limitations. Evaluation of circuit performance by means of hand calculations and computer-aided circuit simulations. Design of operational amplifiers and transconductance stages, broadband amplifiers, biasing circuits, and voltage references. Feedback amplifier design.
Prerequisites: ECE203

ECE 424: Power Electronics **3 credits**
Power semiconductor devices: Power transistors, Fast recovery diodes, Thyristors, Power TRIAC, MOSFET, IGBT, GTO, UJT and DIAC-characteristics, rating, Protection circuits, Driver Circuits. Power supplies: Single Phase and Three Phase Controlled rectifiers, Design of Trigger circuits, Switching mode regulators-Boost, Buck, Buck-Boost and Cuk regulators, AC voltage regulator. Inverters: Voltage and current source inverters, Resonant, Series inverter, PWM inverter. Choppers: Type A, B, C and D choppers, Pulse width modulation-Gating requirements. Motor control: DC motor drives, Induction and Synchronous motor drives, Stepper motor control, Switched reluctance and brushless motor drives. The course includes a compulsory 3 hour laboratory work each week.
Prerequisites: ECE203

ECE 425: Theory and Fabrication of Integrated Circuit Devices **3 credits**
Laboratory and lecture course on the physical theory, design, and fabrication of devices suitable for integrated circuitry; includes the electronic properties of semiconductors and techniques (epitaxial growth, oxidation, photolithography diffusion, ion implantation, metallization, characterization) for fabricating integrated circuit devices such as p-n junction diodes, bipolar transistors and field effect transistors. The course includes a 3-hour laboratory each week.
Prerequisites:

ECE 430: Satellite Communications **3 credits**
Orbital parameters: Orbital parameters, Orbital perturbations, Geo stationary orbits. Low Earth and medium Earth orbits. Frequency selection, Frequency co-ordination and regulatory services, Sun transit outages, Limits of visibility, Attitude and Orientation control, Spin stabilization techniques, Gimbal platform. Link calculations: Space craft configuration, Payload and supporting subsystems, Satellite up link-down link, Link power budget, C/No, G/T, Noise temperature, System noise, Propagation factors, Rain and Ice effects, Polarization calculations. Access techniques: Modulation

and Multiplexing: Voice, Data, Video, Analog and Digital transmission systems, Multiple access techniques: FDMA, TDMA, T1-T2 carrier systems, SPADE, SS-TDMA, CDMA, Assignment Methods, Spread spectrum communication, Compression techniques. Earth station parameters: Earth station location, Propagation effects of ground, High power transmitters. Receivers: Low noise front-end amplifiers, MIC devices, Antennas: Reflector antennas, Cassegranian feeds, Measurements on G/T and E_b/N_o. Satellite applications, Mobile Satellite services.
Prerequisites: CSE 320, ECE 310, ECE 422

ECE 440: High Performance Communication Networks **3 credits**
Basics of networks: Telephone, computer, cable television and wireless networks, networking principles, and digitization: service integration, network services and layered architecture, traffic characterization and QOS, network services: network elements and network mechanisms. Packet switched networks: OSI and IP models: Ethernet (IEEE 802.3); token ring (IEEE 802.5), FDDI, DQDB, frame relay: SMDS: Internet working with SMDS. Internet and TCP/IP networks: Overview; Internet protocol; TCP and VDP, performance of TCP / IP networks circuit-switched networks: SONET; DWDM, Fiber to home, DSL. Intelligent networks, CATV.ATM and wireless networks: Main features-addressing, signaling and routing; ATM header structure-adaptation layer, management and control; BISDN; Interworking with ATM, Wireless channel, link level design, channel access; Network design and wireless networks. Optical networks and switching: Optical links-WDM systems, cross-connects, optical LANs, optical paths and networks; TDS and SDS: modular switch designs-packet switching, distributed, shared, input and output buffers.
Prerequisites: CSE 421

ECE 470: Biomedical Instrumentation **3 credits**
Human body: Cells and physiological systems. Bioelectricity: genesis and characteristics. Measurement of bio-signals: Ethical issues, transducers, amplifiers and filters. Electrocardiogram: electrocardiography, phono cardiograph, vector cardiograph, analysis and interpretation of cardiac signals, cardiac pacemakers and defibrillator. Blood pressure: systolic, diastolic mean pressure, electronic manometer, detector circuits and practical problems in pressure monitoring. Blood flow measurement: Plethymography and electromagnetic flow meter. Measurement and interpretation: electroenccphalogram, cerebral angiograph and cronical X-ray. Brain scans. Electromayogram (EMG). Tomograph: Positron emission tomography and computer tomography. Magnetic resonance imaging. Ultrasonogram. Patient monitoring system and medical telemetry. Effect of electromagnetic fields on human body.
Prerequisites: ECE 203, CSE 350

ECE 471: Protocol Engineering **3 credits**
Protocols and languages. Protocol structure. Structured protocol design. Fundamentals of protocol engineering. Specification and modeling. State machines and reach-ability analysis. Formulation of desirable properties of protocols. Formal logic and deduction. Verification techniques. Formal description language (e.g., using PROMELA). Validation and conformance testing. Computer aided design tools for protocol engineering (simulation and verification tools); for example, Spin. A major project involving comprehensive design and verification of a non-trivial protocol (like Signaling system 7 for telecommunication, HTTP, SNMP, TCP, etc).
Prerequisites: CSE 320

ECE 481: Telecommunication Policy and Management **3 credits**
Radio frequency management, allocation of spectrum, regulations for spectrum use, common carriers, Satellite and cables, competition and compliance, ITU, long term policy planning. Management and organization of electronics and telecommunications industry.

ECE 490: Special Topics **3 credits**

This course will explore an area of current interest in Electronics and Communication Engineering. The emphasis will be on thorough study of a contemporary field within ECE, and the course will be made accessible to students with an intermediate, undergraduate ECE background. The syllabus should be approved by the department chair prior to commencement of the term, and a detailed description will be provided before the registration period. None Permission of instructor

ECE 491: Independent Study **3 credits**

For students interested in any of the following ways of studying Electronics and Communication Engineering: independently exploring an advanced topic under a faculty instructor; conducting significant research under a faculty supervisor; or doing an internship in industry under the supervision of industry and faculty advisors. In each case, the student must first identify a faculty member within the CSE department to oversee his/her work, and then write a proposal to the department chair outlining the means and objectives of the project. The proposal must be approved by the intended faculty supervisor and department chair prior to commencement of the term. At the end of the term, the student must submit a detailed report and/or give a presentation of the results, before the final course grade may be awarded. None Permission of instructor.

BACHELOR OF SOCIAL SCIENCE (BSS) IN ECONOMICS

ECONOMICS COURSES

Core Courses

ECO 101: Introduction to Microeconomics **3 Credits**

Objectives: This is the first course in Microeconomics for the students of Economics major. This course is also required for BBA major students as an introduction to Microeconomics. The aim of the course is to provide a non-technical introduction to the basic microeconomic theory.

Topics: Basic concepts in Economics; Absolute and Comparative advantage, Gains from Specialization and Trade; Supply and Demand Analysis; Consumer Choice; Production and Cost Analysis; Theories of the Firm: perfect competition, monopoly, monopolistic competition, oligopoly; Theory of Distribution and Welfare Economics; Government Intervention and Policies.
Prerequisite: MAT 101

ECO 102: Introduction to Macroeconomics **3 Credits**

Objectives: This is the first course in Macroeconomics for the students of Economics major. This course is also required for BBA major students as an introduction to Macroeconomics. The aim of the course is to provide a non-technical introduction to the basic macroeconomic theory.

Topics: National Income Accounting; Growth, Unemployment and Inflation; Determination of Income and Output; Money Market and Interest Rate; Role of Government, Monetary and Fiscal Policies; International Macroeconomic Issues.
Prerequisite: ECO 101

ECO 104: Principles of Economics **2 credits**

Concepts of micro and macro economics. Supply and demand. National Income accounting. Development indicators, comparison and validity. Role of government and private sector in development. Economic policies and impact on development. The private sector in development. International economic issues.
Prerequisites: none

ECO 201: Mathematics for Business and Economics **3 Credits**

Objectives: The objective of this course is to provide an introduction to mathematical tools and techniques that are frequently used in microeconomics, macroeconomics, finance, and operations.

Topics: Introduction to Business and Economic models; Sets and Functions; Linear models, Matrix operations and Systems of linear equations; Mathematics of Finance; Differentiation and Applications; Introduction to Unconstrained and Constrained Optimization; Introduction to Linear Programming: Graphical Approach.
Prerequisites: MAT 101, ECO 101

ECO 202: Statistical Methods for Business and Economics **3 Credits**

Objectives: The objective of this course is to provide an introduction to statistical methods and their applications in economics and business. The course also introduces statistical software packages for practical applications.

Topics: Probability and Mathematical Expectation; Probability Distributions: Binomial, Poisson and Normal Distributions; Sampling Theory; Statistical Inference and Hypothesis Testing; Regression and Correlation Analysis; Non-parametric Tests; Introduction to Decision Theory.
Prerequisites: MAT 101, STA 101

ECO 203: Intermediate Microeconomics **3 Credits**
Objectives: This is the second course in microeconomic theory for students of the economics major. The course aims to provide a thorough understanding of the basic microeconomic theory developed in ECO 101 at a more rigorous level.

Topics: Theory of Consumer Choice; Theory of Production and Cost; Market Structures and Pricing: Monopoly, Oligopoly and Perfect Competition; Factor Markets; General Equilibrium and Welfare; Introduction to Game Theory; Economics of Information.
Prerequisites: ECO 101, ECO 201

ECO 204: Intermediate Macroeconomics **3 Credits**
Objectives: This is the second course in macroeconomic theory for the students of the economics major. The course aims to provide a thorough understanding of the basic macroeconomic theory developed in ECO 102 at a more rigorous level. The course also introduces basic models of macroeconomics.

Topics: Output and Interest Rate Determination in IS-LM Model; Labour Market, Supply-Side Economics and AD-AS Model; Long-run Economic Growth; Introduction to Rational Expectations; Introduction to Open Economy Models; Monetary and Fiscal Policies under Different Frameworks.
Prerequisites: ECO 102, ECO 201

ECO 303: Introduction to Econometrics **3 Credits**
Objectives: The objective of this course is to equip the students with basic econometric tools for economic data analysis. Students are required to do a small empirical research project using econometric software packages.

Topics: Review of Expectations, Probability Distributions, Sampling and Hypothesis Testing; OLS regression analysis: Two-Variable and Multiple Regression; Inference, Hypothesis Testing and Forecasting; General Linear Models and Dummy Variables; Multicolleaniarity, Heteroscedasticity and Serial Correlation; Specification Errors and Instrumental Variables; Introduction to Limited Dependent Variable Models.
Prerequisites: ECO 201, ECO 202

ECO 308: International Trade **3 Credits**

Objective: This course provides an introduction to international trade theories and policies.

Topics: Theories of absolute and comparative advantages; Heckscher-Ohlin and Factor Price Equalization Theorems; Offer Curves and Gains from Trade; Economies of Scale and New International Trade Theories; Industrial-Organization based trade models; The theory of protection; Export promotion & import substitution policies; Custom Unions, Regional co-operation, WTO.
Prerequisite: ECO 203, ECO 204

ECO 309: Public Finance **3 Credits**
Objectives: This course provides a survey of the analysis of government expenditure and taxation policies in an economy.

Topics: Review of Welfare theorems, Efficiency and Equity; Analysis of Public Goods; Theory of Externalities and Corrective Taxes; Social Insurance Programs such as Social Security; Theory of Taxation, Tax Incidence and Optimal Taxation; Tax policy and expenditure policy analysis of fiscal system in Bangladesh; Expenditure and revenue policies and incidence of expenditure.
Prerequisites: ECO 203, ECO 204

ECO 310: History of Economic Thought **3 Credits**
Objectives: This course provides an introduction to the history economics thought.

Topics: Birth of political economy; Mercantilism and Classical economics: Smith, Malthus, Ricardo, Mill; Socialist thought and Marx; Marshall and the Marginal Revolution; Keynes and the Keynesian revolution; Neoclassical synthesis and economic growth; Theory of general equilibrium and welfare economics; Value, distribution and role of the state.
Prerequisite: ECO 101, ECO 102

ECO 311: Economic Growth and Development **3 Credits**
Objectives: This course provides an introduction to Micro and Macroeconomic theories of economic growth and their development aspects.

Topics: Nature of underdevelopment; Alternative growth theories; Dualism; Population, Human Capital and Development; Agriculture and development; Development and the environment; MNCs, FDI, Foreign assistance and debt.
Prerequisites: ECO 203, ECO 204

ECO 312: Cost Benefit Analysis **3 Credits**
Objectives: The main objective of this course is to analyze project choice, institutional framework, and cost & benefit analysis for project evaluation. It also covers measuring the profitability of a project under different goals-framework of project proposal, logical framework analysis, project monitoring.

Topics: Measuring consumer and producer surplus; Economic concepts of cost and benefits; Investment criteria and discount rate; Financial internal rate of return, economic internal rate of internal; Shadow prices and Social discount rate; Introducing risk and uncertainty; Valuation of non-market costs and benefits.
Prerequisites: ECO 203, ECO 204

ECO 313: Environmental and Resource Economics **3 Credits**
Objectives: This course introduces the key problems in natural resource and environmental economics.

Topics: Economic, cultural, social, and political aspects of human population dynamics; Food resources, food security and hunger; Mineral and energy resources; Wilderness and wildlife resources; Air, land and water pollution; Toxic waste management from environmental and conservation viewpoints.
Prerequisites: ECO 203, ECO 204

ECO 324: Bangladesh Economy **3 Credits**
Objectives: This course analyzes the economic features and macroeconomic performance of the economy of Bangladesh.

Topics: Sectoral development and analysis of sectors in a general equilibrium framework; Agriculture, industry, service sectors in Bangladesh; Foreign trade and foreign aid; Financial institutions and

monetary management and fiscal policy; Technology and human resource development; Role of NGOs; Long term performance of Bangladesh.
Prerequisites: ECO 101, ECO 102

ECO 431: International Finance and Economic Policy **3 Credits**
Objectives: The course provides an introduction to international monetary and financial system.

Topics: Balance of payments, economics and accounting; Partial and General equilibrium models of exchange rate determination; Interest rate parity and purchasing power parity theory; Role of monetary and fiscal stabilization policies in open economies; International debt problems; Role of international financial institutions in developed and developing economies.
Prerequisites: ECO 203, ECO 204

ECO 432: Money and Banking **3 Credits**
Objectives: This course provides an introduction to the monetary and financial structure of the economy and the operation of the banking sector.

Topics: Role of money in the economy and its impact on output, employment, and prices; Types of financial assets and their uses, stock and bond markets; Money and credit multipliers; Banking system of Bangladesh; Various monetary policies and their effectiveness; Central banking, credibility, rules, discretion.
Prerequisites: ECO 203, ECO 204

Elective Courses

Along with the core courses in Economics, the students also need to take Economics elective courses in various other fields of economics like international economics, development economics, public economics, monetary and financial economics, environmental economics etc, for further understanding of the subject. These elective courses are broadly divided into the following areas in economics: Microeconomics, Macroeconomics, Quantitative Methods, International Economics, Monetary and Financial Economics, Public Economics, Agriculture, Resource and Environmental Economics, Development Economics and Economic Growth and other special topics.

ECO 205: Mathematics for Economics II **3 Credits**
Objectives: Development of higher-level mathematical applications in economics.

Topics: Introductory Linear Algebra-Matrices, Eigenvalues, Vector Spaces; Comparative Static analysis and applications; Non-Linear Programming: Optimization with inequality constraints; Integration, Differential equations and their application to economics; Introduction to Dynamic programming.
Prerequisites: ECO 201, ECO 203

ECO 301: Microeconomic Analysis **3 Credits**
Objectives: The objective of this course is to provide an advanced treatment of standard microeconomic theories. The course is aimed at students who are planning to pursue graduate studies in economics.

Topics: Review of Linear Algebra and Optimization Theory; Technology and Production, Profit and Cost Function, Duality in Production; Consumer Choice, Duality in Consumption, Measurement of Welfare; Competitive Markets and Introduction to General Equilibrium; Information Economics and Applications.
Prerequisites: ECO 203, ECO 205

ECO 302: Macroeconomic Analysis **3 Credits**

Objectives: The objective of this course is to provide an advanced treatment of standard macroeconomic theories. The course is aimed for students who are planning to pursue graduate studies in economics.

Topics: Review of dynamic programming models; Growth Theories without technological progress; Technological progress and new growth theories; Introduction to business cycle models; Expectation and information models; New Keynesian models of imperfect competition.
Prerequisites: ECO 204, ECO 205

ECO 304: Agricultural Economics **3 Credits**

Objectives: The course provides a survey of key problems in agricultural economics.

Topics: Introduction of agriculture as an industry; Economics of agricultural production, farm management; Land economics, rural organization; Agricultural credit and finance; Agricultural marketing; Agricultural law, agrarian reform and agricultural policies; Agricultural prices and government policy.
Prerequisites: ECO 203, ECO 204

ECO 305: Labour Economics **3 Credits**

Objectives: The main objective of the course is to provide a survey of key issues in contemporary labour economics.

Topics: Theory of labour demand and supply; Neoclassical theories of wage and employment; Labour market structure; Government intervention and minimum wage laws; Effect of social insurance and welfare programs; Labour unions and collective bargaining; Turnover and Search theories; Discrimination and unemployment.
Prerequisites: ECO 203, ECO 204

ECO 306: Urban Economics **3 Credits**

Objectives: This course provides an introductory economic analysis of selected urban management problems in the context of the regional economy.

Topics: Location and growth of cities; System of cities & urban hierarchy; Economics of urban management; Management of urban environment and waste management; Structure of the urban government and Policy issues; Local taxes, urban enterprise zones, urban land and housing policies; Anti-poverty policies and social cost & benefit of externalities.
Prerequisites: ECO 203, ECO 204

ECO 322: Gender and Development **3 Credits**

Objectives: The course is designed to examine gender discrimination & gender equality as it relates to economic development.

Topics: Gender and development; Theoretical models of women's participation in economic activities; Valuation of household work by women; Education, Wage differentials, occupational segregation, labour force participation and difference in men's and women's professions; Economics of child care; Strategies for improving women's economic options; NGO activities involving women's participation in development.
Prerequisites: ECO 203, ECO 204

ECO 323: Health Economics **3 Credits**

Objectives: This course provides an introduction to the economics of the health care sector and examines contemporary policies issues.

Topics: Welfare economics of health as a commodity; Management of health care system; Design and financing of health insurance; Medical manpower and human capital; Role of competition in health care market; Effects of government regulations; Health services and the non-profit sector; Empirical studies of demand and supply of health care services.
Prerequisites: ECO 203, ECO 204

ECO 325: Political Economic Analysis **3 Credits**

Objectives: The objective of this course is to provide an economic analysis of the formation and operation of government and state.

Topics: Definition and Scope of Political Economy; Domestic and International Dimensions of Political Economy; History of Political Economy; Decentralization and Privatization; Governance issues in Political Economy; Political Economy and Economic Development; Globalization, Regionalism and National Autonomy; MNCs, Labour and Capital Movement.
Prerequisites: ECO 101, ECO 102

ECO 331: Corporate Economics and Finance **3 Credits**

Objectives: This course provides an advanced analysis of monetary and financial economics.

Topics: Various models of demand for money-transactions cost model, portfolio models; Detailed modeling of the money supply process and financial theories; Portfolio models of asset demand-CAPM and other models; General equilibrium analysis of a monetary economy; Analytical study of financial institutions, financial markets and instruments.
Prerequisites: ECO 203, ECO 205

ECO 401: Research Methods in Economics and Social Sciences **3 Credits**

Objectives: Introduction and application of various tools and techniques of research in Economics and Social Sciences. This course also involves preparation and presentation of independent seminar paper.

Topics: Purpose of scientific research; Features & scope and limitations of research; Classification of scientific research; Formulating research ideas and proposal development; Sampling design and methods; Data collection techniques and various biases in data collection; Writing guidelines.
Prerequisite: ECO 303 (or ECO 202 and Permission of Instructor for Sociology Minor students)

NB: This course will also be offered as SOC 401: Issues and Methods of Research, with specific modules and individual research projects specifically tailored for students of Sociology Minor.

ECO 421: Welfare Economics and Development **3 Credits**

Objectives: This course aims to provide a basic introduction to welfare theories and their various applications in economics.

Topics: Review of Efficiency and Optimality conditions; Fundamental theorems of welfare economics; Measuring welfare change-Consumer Surplus, Compensating and Equivalent Variations; Externality and Market failure; Property rights and the Coase theorem; Theory of second best and its implications for policy reforms.
Prerequisites: ECO 203, ECO 205

ECO 422: Human Capital and Development **3 Credits**

Objectives: The main objective of this course is to provide an understanding of the role of human capital formation and development.

Topics: Determinants of human capital accumulation; Education and economic growth & development; Intergenerational models of household utility; Market for education; Government intervention; NGOs and education services; Child labour and education.
Prerequisite: ECO 311

ECO 430: Econometric Analysis **3 Credits**

Objectives: The objective of this course is to equip the students with advanced econometric techniques of economic data analysis.

Topics: OLS regression using matrix approach; GLS and FGLS estimation and Non-linear models; Model selection and Specification problems; Panel Data models; System of Equations and Simultaneous equation models; Models of Discrete choice; Dynamic equation and distributed lag models; Time series models.
Prerequisites: ECO 205, ECO 303

ECO 491: Introduction to Game Theory **3 Credits**

Objectives: This course aims to provide a basic introduction to game theory and its various applications in economics.

Topics: Static games of complete information and applications; Dynamic Games of complete information and applications; Static and dynamic Bayesian games and applications; Asymmetric information and Signaling games; Repeated games.
Prerequisites: ECO 203, ECO 205

ECO 492: Advanced Mathematical Economics **3 Credits**

Objectives: This course provides an introduction to the advanced mathematical tools used in advanced economic theory. The course is aimed for students who are planning to pursue graduate studies in economics.

Topics: Introduction to Real Analysis and Set Theory; Introduction to Topological spaces; Functions, Sequences and Continuity; Linear Spaces; Compactness and Connectedness; Fixed Point Theorems; Applications in Economic Theory.
Prerequisites: ECO 205, MAT 216

ECO 493: Industrial Organization **3 Credits**

Objectives: This course aims to provide an introduction to theory of organization of markets and firms.

Topics: Organization of the firm; Monopoly and price discrimination; Oligopoly, monopolistic competition; Product selection and advertising; Patent and R & D policies; Public and Social enterprises; Focus on public policy issues in industrial organizations.
Prerequisites: ECO 203, ECO 205

ECO 494: Open Economy Macroeconomics **3 Credits**

Objectives: The main objective of this course is to discuss advanced theory and policy regarding international economic issues.

Topics: International mobility of saving and investment flows; International Capital market; Monetary and fiscal policy within the Mundel-Flemming model framework; Overshooting model of exchange rate; International transmission of economic disturbances; Domestic impact of international economic policies; Causes and consequences of balance of payment deficits.
Prerequisites: ECO 203, ECO 204

ECO 498: Independent Study **3 Credits**
Objectives: This course offers a supervised study or research on special topics in economics.
Description: Students complete individualized plans of study involving significant one-on-one student-teacher interaction. The faculty member and student negotiate a study plan contract. The frequency and number of meetings depend upon the requirements of the topic. Evaluation is done on the basis of conferences and a written report.

Topics: Mutually agreed upon by instructor and student.
Prerequisite: Permission of Departmental Chair and Supervisor

ECO 499: Thesis Research **6 Credits**
Objectives: The main objective of this course is to develop an in-depth program of research, under the direction of a faculty member of the department (thesis supervisor). This is a two semester long supervised thesis for the students undertaken during the last two semesters of their study.

Description: For successful completion of the course, in the first semester the student needs to prepare a comprehensive research proposal. The proposal includes a topic statement, a review of the literature, the research methodology, sources of data and potential results. During the second semester the student needs to complete the research project proposed in the first semester. The completed thesis paper is graded by the supervisor and another faculty member of the department (selected by the thesis committee) individually. The final grade is derived by taking average of the two grades provided by the supervisor and the other faculty member.

Topics: Mutually agreed upon by instructor and student and approved by the thesis committee.
Prerequisite: Permission of Departmental Chair and Thesis Committee

SOCIAL SCIENCE COURSES

SOCIOLOGY

SOC 101: Introduction to Sociology **3 Credits**
Objective: This course provides students with an introduction to the discipline that studies human social life, groups and societies.

Topics: Culture, Values and Norms; Social Institutions: Marriage, Family, Economy, Education, Politics, Gender, Religion etc.; Class; Ethnicity; Deviance; Poverty; Rural Sociology and Development.
Prerequisites: None

SOC 102: Bangladesh History, Culture and Society **2 credits**
Bangladesh, location and geomorphic characteristics. Early settlements and society. Economic and political base. Ethnic and cultural background. Historical periods and achievements. Colonization and social changes. Partition and the search of national and political identity. Bengali culture and nationalism. Influence of social, historical and cultural forces on settlement patterns. The background to the independence movement. The liberation war and subsequent events. Political,

social and economic forces and the current state of the nation.
Prerequisites: none

SOC 201: Stratification, Inequality & Power **3 Credits**
Objective: A sociological examination of the various factors underlying differences in wealth, power, and prestige in contemporary rural and urban societies in primarily developing, but also developed societies.

Topics: Class; Status; Ethnicity; Race; Gender; Family; Wealth and Poverty; Institutional Stratification; Political Inequality; Theories of Power.
Prerequisite: SOC 101

SOC 301: Sociological Theory **3 Credits**
Objectives: A critical investigation of both the classical foundations of social thought, as well as an introduction to contemporary sociological debates.

Topics: Major theoretical paradigms regarding: Social order and integration; Social structure and action; Social change; Social norms and roles; Class and stratification; Deviance; Link between micro- and macro-sociology; Scientific status of sociological theory; Original works: Marx, Weber, & Durkheim; Contemporary theorists.
Prerequisite: SOC 101

SOC 310: Population and Society **3 Credits**
Objectives: To study how population structure and processes such as fertility, mortality and migration affect society and are, in turn, affected by changes in social structure and processes.

Topics: Global population trends; Demographic concepts; Population theories; Population policies and debates; Population and development; Population and culture; Global, developed, developing world perspectives with special reference to Bangladesh.
Prerequisite: SOC 101

SOC 320: Political Sociology **3 Credits**
Objectives: Analysis of the nature, distribution, and effects of power in political institutions and processes in both historical and contemporary society.

Topics: Relationship between political, economic, and cultural institutions and power; Political ideology; Historical and contemporary theories of the state; Governance; Political parties; Elites and masses; Voting; Collective behaviour and socio-political movements.
Prerequisites: SOC 101, SOC 301

SOC 325: Theories and Problems of Nationalism **3 Credits**
Objectives: To investigate sociological, historical and political theories of nationalism and ethnicity, as well as various problems of nationalism and nation states in their historical context.

Topics: Concepts of ethnic and religious identity; Historical roots of nationalism; National security; Role of the state; Internationalism, diplomacy and foreign policy debates; Problems of dependency; Special focus on South Asia.
Prerequisite: SOC 101

SOC 330: Sociology of Development **3 Credits**
Objectives: To introduce and examine the historical transformation of poverty and development discourse both in Bangladesh and abroad.

Topics: Past and current poverty theory, measurement and discourse; Current government and non-government poverty alleviation/welfare assistance policy and programmes; Economic development and trade; Gender issues; Rural development; Urbanization and population.
Prerequisite: SOC 101

SOC 335: Urban Sociology **3 Credits**
Objectives: To understand the historical origins and different physical forms of the city and also look at the wide range of institutions and problems that exist within them.

Topics: Historical evolution of cities around the world; Issues of race, class and ethnicity; Classical statements in urban sociology; The Chicago School: Urban Ecology; Theories of urbanism and comparative urbanism; Post Modern Urban Theories; Deviance and Crime; Urban planning.
Prerequisite: SOC 101

SOC 350: Women and Society **3 Credits**
Objectives: To examine the nature and causes of women's historical and current position in society.

Topics: Classical gender theory; Recent developments in gender theory and current debates; Perceptions of femininity vs. masculinity; Patriarchy; Feminism and Postmodernism; Reproductive Rights; Marriage and Divorce; Women and the State.
Prerequisites: SOC 101

SOC 351: Gender and Development **3 Credits**
Objectives: To critically understand and examine the theoretical and policy approaches to women's integration into society and development.

Topics: Classic development theory; Historical approaches to women and development: WID, WAD and GAD; Household models of development; Women's employment: formal and informal labour; Education and health; Violence against women; Women's participation in politics and the State; Women and religion.
Prerequisites: SOC 101, SOC 350 or SOC 370

SOC 370: Sociology of Marriage and the Family **3 Credits**
Objectives: To introduce the subjects of marriage and the family from a sociological perspective and provide a historical and cross cultural theoretical examination and comparison of patterns of behaviour surrounding these institutions

Topics: Mate selection; Romantic love; Gender roles and effect of changing gender roles; Sex and sexuality; Divorce; Marital communication; Transition to parenthood and parenting; Extended kin and family networks; Domestic violence; Relationship between work and family; Changing composition of the family.
Prerequisites: SOC 101, SOC 350

SOC 390: Sociology of Deviance **3 Credits**
Objectives: To understand and examine the sociological study of the origins, causes, and control of deviance and deviant behavior.

Topics: Development of the sociology of deviance from 19th century functionalism to contemporary perspectives of class and politics; Varied theoretical approaches to deviance; Individual and group deviance; Drug use; Sexual deviance; Criminal behaviour; Marginal deviance; Career deviance.
Prerequisites: SOC 101, SOC 301

SOC 410: The Individual, Society and Social Control **3 Credits**

Objective: The detailed analysis of the interaction between the individual and society; and examination of the ways in which society impinges upon the individual's behavior.

Topics: Stages of socialization; Self-concept, identity, attitudes and social roles; Interactionist approach to development of the self; Social relationships; Deviance and social control; Historical account of development of formal and informal methods of social control; Formal social control and imprisonment; Contemporary issues: surveillance, use of media and technology to exercise control.
Prerequisites: SOC 101, SOC 301, SOC 390

SOC 420: Sociology of Religion **3 Credits**

Objective: Religion exists in a social context, and always is shaped by and shapes its social context. Furthermore, religion itself is a socially constituted reality--that is, its content and structure are always formed from the socio-cultural world (language, symbols, groups, norms, interactions, resources, organizations, etc.). The sociology of religion is interested in understanding both the "social-ness'" of religion itself and the mutually influencing interactions between religion and its social environment. In this class, we will analyze religious beliefs, practices, and organizations from a sociological perspective.

Topics: Classic sociological definitions and understandings of religion-Durkheim, Weber and Mead; Belief and Ritual; Religious Organizations, Institutions and Authority; Religious Experience; World Religions in a Historical and Sociological Perspective; Media and Religion; Religious Fundamentalism in a Modern Context; Secularization, Religious Persistence, & the Status of Religious Belief.
Prerequisite: SOC 101, SOC 301, SOC 390

ANTHROPOLOGY, PSYCHOLOGY AND POLITICAL SCIENCE

ANT 101: Introduction to Anthropology **3 credits**

Objectives: The course looks at the social world from anthropological perspectives and orients the students with primary concepts, theories and methodologies of anthropology.

Topics: Scope of Anthropology; Culture and cultural diversity; Ethnicity; Gender and sexuality; Language and symbolic communication; Power: conflict and order; Religion and rituals; Colonialism and Nationalism; Health; Marriage, Family and Kinship; Anthropology and Globalization.
Prerequisite: None

ANT 103: Society and Development **2 credits**

Study of society through the social science approach. Evolution of society. Rise of early civilizations, organisation of society. Pre-industrial forms of social state. Environmental resources and their distribution. Gender, kinship, and descent, religion, economics, politics, survival of ethnic groups. Social relationships and value systems. Culture: evolution of culture, culture and adaptation, contemporary forms of culture and society. Relationships between sociology and economics. Modern and traditional societies, comparisons and impacts. Culture and society.
Prerequisites: none

POL 101: Introduction to Political Science **3 credits**

A study of political systems and process with special reference to Bangladesh. Topics include nature and origin of state, sovereignty of state, forms of political units, liberty, law, process of politics, political structure, political ideas-democracy, socialism, nationalism., peoples' behavior in politics. Political system, process and problems of Bangladesh.
Prerequisite: None

PSY 101: Introduction to Psychology **3 credits**

The objective of this course is to provide knowledge about the basic concepts and principles of psychology pertaining to real-life problems. The course will familiarize students with the fundamental process that occur within organism-biological basis of behavior, perception, motivation, emotion, learning, memory and forgetting and also to the social perspective-social perception and social forces that act upon the individual.

Prerequisite: None

PSY 401: Industrial Psychology **3 credits**

Jobs and their requirements; Principles of personnel testing; Measurement of human abilities; Personality and interest factors; Performance evaluation; learning and training; Measurement of attitudes and opinions; Motivation and job satisfaction; Financial incentives and job evaluation and human error.

Prerequisites: MGT 201, MGT 211, MGT 301.

PSY 421: Psychology for Architects **2 credits**

Introduction to psychology. Understanding the human behaviour. Learning: factors of learning, classical conditioning, instrumental conditioning. Perception . Motivation and emotion. Fulfilment of and frustration of motives. Nature of emotional development, emotion and personality. Sensory processes, vision, auditory and olfactory process. Colour perception and effects. Perception of space. Psychological variations due to differences in colour, space and location. Effects of the spatial environment on motivation and emotion. Social influences on behaviour. Child psychology and spaces for children.

Prerequisites: none

BACHELOR OF ARTS (BA) IN ENGLISH

ENG 091: Foundation Course in English
The English Foundation Course is designed to enable students to develop their competence in reading, writing, speaking, listening and grammar for academic purposes. The students will be encouraged to acquire skills and strategies for using language appropriately and effectively in various situations. The approach at all times will be communicative and interactive involving individual, pair and group work.

ENG 101: Fundamentals of English **3 credits**
Drills in basic writing skills: mechanics, spelling, syntax, usage, grammar review, sentence and essay writing. Required of all First Year students.

ENG 102: Composition I **3 credits**
The main focus of this course is writing. This course attempts to enhance students' writing abilities through diverse writing skills and techniques. Students will be introduced to two aspects of expository writing: personalized/subjective and analytical/persuasive. In the first category, students will write essays expressing their subjective viewpoints. In the second category, students will analyse issues objectively, sticking firmly to factual details. This course seeks to develop students' analytical abilities so that they are able to produce works that are critical and thought provoking

ENG 106: Fundamentals of English **2 credits**
The course is meant for 1st semester students of Architecture. The main objectives of this course include: Developing effective and efficient reading, writing, listening and speaking strategies and techniques, increasing students' repertoire of vocabulary, reading with speed and understanding, writing standard, well: informed academic essays, enhancing spoken fluency.

ENG 111: Principles of Linguistics **3 credits**
The course aims to familiarize students with basic concepts in linguistics including phonetics; phonology; morphology, syntax and semantics. Other aspects of this course will include definition and characteristics of language; role of linguistics in language teaching, relationship between linguistics and literature; second language acquisition and second language learning

ENG 113: Introduction to English Poetry **3 credits**
Study of selected English poems from Shakespeare to contemporary times; Analysis of Poems; Prosody; Poetic Genres.

ENG 114: Introduction to English Drama **3 credits**
Study of selected plays from Shakespeare to Pinter; Analysis of Drama; Poetics and Fundamentals of Drama; Dramatic Forms.

ENG 115: Introduction to English Prose **3 credits**
Study of selected English Fictional and Non-Fictional Prose from Swift to contemporary times; Analysing Prose, Prose Forms.

ENG 122: English Phonetics and Phonology **3 credits**
This course is designed to promote a comprehensive study of English articulatory phonetics that deals with the production of English speech sounds. It intends to develop students' skills in perceiving, articulating and transcribing speech sounds. It also focuses on segments, syllables, stress,

intonation and functions of intonation that are segmental and supra-segmental features. On the one hand, the practical aim of this course is to help students pronounce English accurately and on the other hand, its theoretical aim is to give students a deeper understanding of the sound system of English. Besides, this course covers a comparative study of Bangla and English phonetics.
Prerequisite: ENG 111.

ENG 123: History of English Language **3 credits**
This course will familiarize students with the evolution and development of English Language; its current practices, and forces responsible for giving it the shape it is in.

ENG 201: Composition II **3 credits**
A workshop on practical writing focusing on principles and style; practice in correct and effective expression and in organization and writing.
Prerequisite: ENG 102

ENG 202: Business English **3 credits**
This course is aimed at developing students' verbal and written communication skills with regard to business and commercial purposes. International correspondence, brochures, press releases and reports are important components of this course. The course will also enable students to participate in business discussions and negotiations with proficiency.
Prerequisite: ENG 102

ENG 203: Communication skills for Architecture **3 credits**
This course is designed to strengthen Architecture students' communication skills that they need to perform successfully in academic and non-academic fields. It will be a laboratory-based course. Audio visual aids in the laboratory will facilitate speaking as well as listening accuracy. In this course, students will participate in discussions, give oral presentations, learn pronunciation skills and practice language functions. A good number of listening activities will be included to help students enhance their note-taking and comprehension skills

ENG 204: Technical Writing **3 credits**
This course concentrates on the principles and practices of writing to communicate scientific and technical information to a variety of readers, including scientific and technical readers. This course may also be offered to people working at managerial levels and the general public. This course also deals with grammatical structures and stylistic strategies within specific professional contexts. Achieving clarity and conciseness through word choice and placement, using a variety of sentence structures for appropriate emphasis, handling details and establishing effective tone are some of the goals this course will seek to attain.
Prerequisite: ENG 102.

ENG 211: Sociolinguistics **3 credits**
This course is the study of language as a social factor. The study takes into account regional and social dialects along with standard language, the process of standardization and pidgin and Creole languages. It also focuses on how language functions in society and deals with bilingualism, multilingualism, diglossia, code switching, register, and style. Besides, the course intends to give students an overview of the relationship between language and social class, and language and gender.
Prerequisite: ENG 111

ENG 212: Psycholinguistics **3 credits**
This course examines stage by stage acquisition of phonology, morphology, syntax and semantics of the child's first language. In other words, it aims to provide students with the knowledge of the

earliest stages of a child language acquisition; development of the child's sound system i.e. how children perceive and produce the sounds of their language; the acquisition of language structure emphasizing the principles children apply in this regard and the acquisition of meaning along with their awareness of the form and function of speech acts. The course also covers major L1 theories that include behaviourist, innatist, maturation and cognitive theories. Students are required to undertake a project based on naturalistic observation to study children's early language acquisition processes.
Prerequisite: ENG 111

ENG 213: Survey of English Literature I **3 credits**
Chaucer to Donne: Intensive Study of Chaucer, Spencer, Marlowe, Shakespeare, Webster, Jonson, Bacon, John Donne.

ENG 214: Survey of English Literature II **3 credits**
Milton to Johnson: Intensive Study of Milton, Dryden, Swift, Defoe, Pope, Fielding and Dr. Johnson.

ENG 215: Survey of English Literature III **3 credits**
Blake to Hardy: Intensive Study of Blake, Wordsworth, Jane Austen, Coleridge, Shelley, Keats, Byron, Dickens, Charlotte Bronte, Tennyson, Browning, Arnold and Hardy.

ENG 217: Shakespeare **3 credits**
An introduction to the plays of Shakespeare (history, comedy, tragedy, and romance). The plays will be studied in the context of Renaissance thought and will explore issues such as politics, religion, family, gender, historical settings and theatrical performances.

ENG 218: Post-Colonial Writing in English **3 credits**
This course will look at the vast body of contemporary writing in English from ex-colonial countries. Possible authors are Salman Rushdie, Ngugi 'wa Thiong'o, Amitav Ghosh, Chinua Achebe, Derek Walcott. The international status of English in today's world will be examined through these readings, and the changed but continuing significance of English studies highlighted.

ENG 221: Discourse Analysis **3 credits**
This course explores the structure and social context of texts both written and spoken language. Attention is focused on the structure and function of language beyond the sentence i.e. the way in which spoken (discourse) and written language (text) is used in coherent and meaningful ways (pragmatics). The course will therefore include issues like: functions of language; analysis of spoken and written language; rules and procedures in discourse analysis; role of context in interpretation of discourse; cohesion and coherence; speech acts, the cooperative principles and conversation analysis. Students will be engaged in classroom discourse analysis by developing and implementing discourse research projects.
Prerequisite: ENG 111

ENG 232: History of English Language Teaching **3 credits**
This course is designed to review the history of English language teaching. It covers the spread of English language teaching in Europe, and gives an overview of English language teaching since 1900 and the teaching of English as a foreign or second language since 1900, including foundations, development, changes and variations that took place in ELT

ENG 240: Restoration and Early Eighteenth-Century Literature **3 credits**
The course will focus on the rise of new literary genres and the contemporary efforts to find new definitions of heroism and wit, good taste and good manners, sin and salvation, individual identity

and social responsibility, and the pressures exerted by changing social, intellectual, and political contexts of literature. Readings from Dryden, the Restoration dramatists, a few early feminist writers, Defoe, Swift, and Pope.

ENG 241: Later Eighteenth-Century Literature **3 credits**
A selection from works by Johnson, Boswell and Sterne, together with shorter samplings from Gray, Burke, Goldsmith, Burney, Reynolds, Wollstonecraft, and others

ENG 242: The Study of English **3 credits**
Orientation to the study of English language and literature and to the sources and methods of research in English.

ENG 247: Eighteenth-Century English Novel **3 credits**
A study of selected 18th century English novels read in the context of both contemporary and current novel criticism. Novels by Edgeworth, Burney, Defoe, Smollett, Fielding, Sterne, Richardson, and Austen.

ENG 257: Victorian Poetry **3 credits**
Victorian poetry is marked not only by experimentation in style, but also by the portrayal of the doubts and conflicts of the day. This is represented by a group of poets, who while having very little in common with each other, nevertheless hold up for the reader of the period, the main intellectual and spiritual tensions that marked nineteenth-century England. This course will take the students through the poetry of Tennyson, Robert and Elizabeth Barrett Browning, Arnold, Swinburne, Dante Gabriel and Christina Rossetti and Hopkins. Both poetic experimentation and style and themes and conflicts will be the focus of this course.

ENG 260: Nineteenth-Century Women Novelists of England **3 credits**
The nineteenth century is not only the great age of the English novel, it is also the era in which women appeared as major writers of the novel. This course will take the students through the works of the major women novelists of the nineteenth century: Mary Shelley, Jane Austen, Charlotte and Emily Bronte, George Eliot and Elizabeth Gaskell. The course will highlight the wide variety of themes and styles that these writers represent ranging from the Gothic to social realism.

ENG 262: The Urban Novel **3 credits**
The representation of the city in novels from several literatures will be the focus of this course. The course explores such topics as the semiotics of the city, the "painting of modern life," the commodity culture of cities, politics and anarchy, plots and urban detection, the city and the construction of identity, transgression in gender and class, the poetics of the city and the tensions between modernism and postmodernism. Readings will begin with Dickens' *Bleak House* and conclude with Calvino's *Invisible Cities*.

ENG 266: The English Text in the Indian / Colonial Classroom **3 credits**
This course will trace the history of English studies in the Indian subcontinent. Starting with Macaulay's 1835 'Minutes on Education', it will look at the purpose of the colonial English curriculum. Macaulay's 'Minutes' will be read in conjunction with 'native' (Indian or Bengali responses) to the English educational scheme, reflected in thinkers such as Vidyasagar ('Notes on the Sanskrit College' [in English]) and the contemporary educational reformers and literature.

ENG 301: Research Methodology **3 credits**
This course provides practical training in a range of research skills and methodologies. It includes classes on the choice and organization of thesis / research topics, the use of library resources, the

Internet, the use of manuscripts and archives, media audiences and institutions, concepts of textuality, and the writing, documentation, and presentation of research articles / theses. This course also introduces qualitative and quantitative methods in research. In this regard, strategies for planning and carrying out various types of research will also be discussed and applied.
Prerequisite: ENG 201

ENG 319: Modernism **3 credits**
Modern literature in its relationship to earlier literary and intellectual traditions, principal themes, and technical achievements, seen through the study of such writers as James, Conrad, Lawrence, Joyce, Yeats, Williams, Woolf, Stevens, Pound, Eliot.

ENG 327: Second Language Acquisition (SLA) **3 credits**
This course has been designed to provide students with knowledge of SLA. There are two segments in this course: issues and theoretical perspectives, and research. The first segment includes the key issues in SLA: the roles of L1, input, interaction and formal instruction in SLA, and learners' strategies. Besides, this course focuses on individual differences in SLA i.e. age, intelligence, attitude, motivation, memory etc. In the second segment of the course students are required to undertake a project on any issues related to SLA. This course also gives an overview of the major theories of SLA that include acculturation, accommodation, monitor-model, interlanguage and universal theories.
Prerequisite: ENG 111.

ENG 328: Advanced Grammar **3 credits**
This course provides an overview of English grammar from a descriptive point of view. It is designed to show students how descriptive grammar differs from prescriptive grammar. With a view to clarifying incompatibility between traditional grammar and modern grammar, the course facilitates an intensive study of word, word classes, morphology, modality, functions of clauses and meaning of grammatical categories that include tense, aspect, gender, number and person. It also focuses on systems of syntactic analysis that contain IC analysis, phrase-structure grammar and transformational generative grammar.
Prerequisite: ENG 111

ENG 331: Cultural Studies: Theory And Practice **3 credits**
This course will consist of an examination of cultural and literary theories, looking at the relations between society and literary and cultural production. Besides introducing students to the core concepts in cultural theory, the course will also equip them with the skills to analyse and understand the processes of cultural production in our own society. Issues such as popular culture and cultural politics, including feminist and post-colonial perspectives will be highlighted in the course.

ENG 332: Teaching Techniques **3 credits**
This course seeks to familiarize students with teaching techniques i.e. drill, role-play, group work and their purposes. It helps students apply those techniques in teaching language skills that include writing, reading, speaking, listening, grammar, vocabulary, pronunciation and other micro skills which contain guessing word meaning, interpreting graphs and summarizing, note-taking. This course also covers error analysis, usage of L1 and L2, usage of authentic materials and incorporates observation of classroom teaching techniques.

ENG 333: Globalisation and The Media **3 credits**
This course will include an introduction to post-modern and globalisation theories, as well as theories of consumer culture. Its main focus will be to study audio-visual media, as well as other forms of cultural production that lend to the creation of global public opinion and the creation of a global

culture. The growth of a global culture and its interactions with local and regional cultures will form a key focus of the course.

ENG 334: ELT Methodology **3 credits**
This course is an analytical study of approaches and methods in language teaching that include grammar translation method, audio lingual method, natural approach, communicative language teaching. It enhances students' understanding of the principles on which these methods are based. Its aim is to familiarize students with the currently available alternatives, which are based on earlier and more recent theories and practices. Students are required to be engaged in observation and evaluation of teaching methods used in ELT classes.

ENG 335: Linguistic Theories **3 credits**
In this course various linguistic theories (such as Saussure, the Descriptivists, the Sapir-Whorf hypothesis, Noam Chomsky, and Generative Grammar) will be discussed. The idea is to chart the conceptual ground on which language as a medium of communication today stands.

ENG 343: Classical Literary Theory **3 credits**
Intensive Study of Classical Texts of Literary Theory by Aristotle, Sydney, Dryden, Johnson, Wordsworth, Coleridge, Arnold, Eliot.

ENG 354: Survey of American Literature I **3 credits**
Bradstreet to Whitman: Intensive Study of Texts by Bradstreet, Taylor, Franklin, Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman.

ENG 355: Survey of American Literature II **3 credits**
Dickinson to Toni Morrison: Intensive Study of Texts by Dickinson, Twain, Chopin, O'Neill, Frost, Hemingway, Fitzgerald, Miller, Lowell, Bellow.

ENG 357: Survey of World Literature in Translation I **3 credits**
Intensive Study of Texts by Homer, Aristophanes, Sophocles, Euripides, Virgil, Ovid and Kalidas.

ENG 358: Survey of World Literature in Translation II **3 credits**
Intensive Study of Texts by Machiavelli, Moliere, Rousseau, Goethe, Balzac, Dostoevsky, Tolstoy, Ibsen, Baudelaire, Brecht, Kafka and Tagore.

ENG 359: Advanced Study of Shakespeare **3 credits**
Topics vary from year to year; the course supposes significant prior experience of Shakespearean drama and/or non-Shakespeare Renaissance drama.
Prerequisite: ENG217

ENG 360: Romanticism: Crisis and Critique **3 credits**
An exploration of the dialogue between literature and philosophy and an examination of the role of language in engendering the ideas of genius, originality, self-authoring and poetic identity. Topics include Romantic irony, allegory, the sublime, the uncanny, Romantic fragments in opposition to philosophical systems, dreams, and mythmaking. Texts from the Romantic period as well as interpretations by modern writers are read. Authors include Wordsworth, Coleridge, Keats, Shelley, Mary Shelley, Herder, Schiller, Kant, Schlegel, Kleist, Holderlin, Derrida, Rousseau, de Man and Benjamin.
Prerequisite: ENG215

ENG 362: The English Text in the Bengali / Colonial Classroom **3 credits**
This course will look at English writings in Bengal in the nineteenth century and writers such as Derozio, Madhusudan, Bankim, Toru Dutt and so on. This reading will be offset with readings from the English romantic poets and the early Victorian novels, not only to trace influences, but also to look at the cultural and literary impact of the colonial venture on our own writings and imagination.
Prerequisite: ENG266

ENG 364: Theories of Fiction **3 credits**
A study of narrative structure and rhetoric, focusing on the models presented in structuralism and post-structuralism, psychoanalysis, and cultural critique. Authors include: the Russian formalists, Hillis Miller, Foucault, Todorov, Barthes, Derrida, Freud, Lacan, Lukacs, Bakhtin, Benjamin, Jameson.

ENG 366: Major Texts of the Feminist Tradition in the West **3 credits**
From Wollstonecraft to Woolf: A study of works from the mid-seventeenth century to the late 1930's, which examine the causes of nature of women's places in society and the creation of alternative visions and strategies. Includes authors such as Mary Wollstonecraft, Mary Shelley, Margaret Fuller, Elizabeth Cady Stanton, Sojourner Truth, Harriett Beecher Stowe, Charlotte Perkins Gilman, Radclyffe Hall, Zora Neale Hurston, and Virginia Woolf.

ENG 367: English Writing and British Colonialism **3 credits**
This course will concentrate on the early twentieth century and the ways in which the colonial experience is reflected in literary and creative writing. The writings of the emerging anti:colonial movements of the period will be read in conjunction with "imperial" texts. A possible reading list will include writings by E. M. Forster, Joseph Conrad, Edward Thompson, Jawaharlal Nehru, Rabindranath Tagore, C. L. R. James and so on.

ENG 368: Milton **3 credits**
A survey of a broad array of Milton's writings in poetry and prose, with particular emphasis not only upon his individual accomplishments, but also upon contemporary discussions of who "the poet" is and by what standards the accomplishments of poetry should be measured.

ENG 401: Editing **3 credits**
The editor's role; reading proofs; the production process; marking the typescript; structure and headings; spelling and vocabulary; grammar; meaning and clarity; punctuation; capitals and hyphen; dialogue and extracts; perspective and level; the author's voice; consistency and house style; numbers and math; use of italics; styling in bibliographies; notes and short title references; author-date references; making cuts; tables; lists; design and layouts; illustrations; preparing the index; permission and libels; preparing the preliminary pages and jacket blurbs.

ENG 404: Copywriting **3 credits**
Principles of Copywriting: preparing copy for print media; copywriting for radio, television and films; copywriting for social marketing; preparing texts for brochures; designing campaigns; working with graphics and layouts.

ENG 414: Twentieth-Century English Literature **3 credits**
This will be a survey course, divided into different periods, such as: early, middle and late twentieth century, to enable the students to make their way through the very rich and complex terrain marked out by the authors of these periods. From the early twentieth century period we will look at the plays of George Bernard Shaw, the novels of Joseph Conrad, E.M.Forster, Virginia Woolf, James Joyce, D.H. Lawrence, Katherine Mansfield and George Orwell. T.S.Eliot, W.B.Yeats, Ezra Pound,

W.H.Auden and Wilfred Owen will represent the poets of this era. Middle and late twentieth century literature will include authors like Samuel Beckett and Harold Pinter for their plays, and Doris Lessing, Nadine Gordimer, V.S. Naipaul, and Edna O'Brien for their prose writings. The poetry of Philip Larkin, Dylan Thomas, Ted Hughes, Derek Walcott and Seamus Heaney will represent this period.

ENG 434: Materials Design **3 credits**

The objective of this course is to familiarize students with theories and principles of materials design. It includes planning, developing, piloting, assessing and redesigning materials. Besides, the course focuses on the problems faced by materials designers. In this course students are required to design materials for different levels of language teaching.

ENG 437: Testing and Evaluation **3 credits**

This course is a review of issues in language testing and evaluation. It is designed to introduce students to underlying principles of testing and evaluation. It focuses on different types of testing, their goals and techniques of evaluating basic language skills i.e. reading, writing, speaking and listening. In addition, through this course students acquire skills in developing and critiquing classroom test materials.

ENG 438: Syllabus Design **3 credits**

This course is designed to study the background of language syllabus design; various types of syllabi; needs analysis and the problems faced by syllabus designers. It also investigates the decision-making process that involves planning, developing, implementing, evaluating and modifying syllabi. Besides, students are required to write a report on the evaluation of syllabi used in ELT classes or to design a syllabus for SSC/HSC level of ELT.

ENG 439: Teaching Practicum **3 credits**

This course seeks to develop students as effective ESL/EFL teachers by providing them with knowledge and awareness of the learning environment. It emphasizes observational skills, insights into effective lesson planning and helpful techniques to manage the language classroom. In this course students are engaged in observation and micro teaching practice in ESL/EFL classes.

ENG 440: English for the Print Media **3 credits**

This course will provide students with the English Language skills necessary to work or write for newspapers, journals and other print media. The course will give them an understanding of how a newspaper or journal is organized and introduce them to the different aspects of journalistic writing. The course content will include news reporting, feature writing, literary-critical analysis, news commentary, op-eds and post-editorials, planning a story, including cross-checking and editing.

ENG 456: Marginality and Transgression in Victorian Literature **3 credits**

A re-reading of Victorian texts with the aim of foregrounding concerns that High Victorianism tried to suppress or marginalize: poverty, sexuality, revolution, criminality, and aestheticism. The course will look at the ways in which the anarchic and scandalous jostling against the "respectable" affect both the forms and themes of Victorian literature. The semiotics of transgression, the discourses of sexuality, the fascination of the other, the connections of the upper classes with the underworld: these are some of the issues to be explored.

ENG 458: Women of Talents **3 credits**

Identification and definition of "female aesthetics" and associated ethics. Issues include: why/where/how women write; how women writers represent acts of imagination, its processes, practices, and psychology; how women novelists assume or question the existence of a "female

tradition"; how the resistance of female aesthetic to closure, to "forms" and "framing", both conforms to and challenges post:modernist thought; how women writers' "special relationship to language" problematizes the function and status of figurative language; how the body and the "literal" inform 'female' discourse; and how a theory of a special kind of "embodiment" or "incarnation" of the word comes to factor importantly in articulations of such an aesthetic. Readings from novels by Cisneros, Drabble, Kingston, Kincaid, Lessing, Morrison, Woolf, short-stories by multi-cultural writers in English, essays about writing by women and appropriate theory will form part of this course.

ENG 460: Moderns and Contemporaries **3 credits**
A study of the moment of divergence in high culture which occurred around 1900, and which is marked in literature by the disagreement between "contemporaries", who appealed to the main body of cultured taste by continuing the novelistic tradition of realism, and the "moderns", who rejected realism in the name of art. Moderns include such writers as James, Woolf, Lawrence and Conrad; contemporaries include John Galsworthy, H. G. Wells, Arnold Bennett, and Rudyard Kipling.

ENG 461: Modern British Drama **3 credits**
Readings from Wilde, Shaw, Beckett, Pinter, Stoppard, Orton and Churchill.

ENG 462: Post-Colonial Literary Theory **3 credits**
Based on a reading of Edward Said's *Orientalism* (1978) students will have to read relevant works by Michel Foucault, Antonio Gramsci and Jacques Derrida. Contemporary developments in post-colonial theory, including the works of Gayatri Spivak, Homi Bhabha and Aijaz Ahmad will form an intrinsic part of this course.

ENG 464: Post-Colonial Literature **3 credits**
Intensive Study of Texts by Nirad Chaudhuri, Narayan, Achebe, Garcia Marquez, Soyinka, Walcott, Rushdie, Gordimer, Desai.

ENG 465: Translation Studies **3 credits**
Theory and practice of translation. Problems of translation from Bangla to English and vice versa.

ENG 466: Dissertation **6 credits**
Students will write a dissertation in consultation with a supervisor on any area in their specialized stream. At the end of the semester students will be required to make a satisfactory presentation to a board of examiners. For students taking options B or C, this can be a semester-long internship, followed by a report, which must be acceptable to a board of examiners.

ENG 490: Seminar Course **3 credits**
This course is offered to students in the senior year. Special courses will be offered either by a senior full-time member of the faculty or by visiting faculty on a special topic. The course will consist of 3-hour long extensive seminars on various sub-topics each week. This course requires intensive study and a close working relationship between student and teacher.

BACHELOR OF LAWS [LL.B. (Hons.)]

LAW 101: The Jurisprudence of Legal Concepts **3 credits**

The course will discuss the conceptual framework of contemporary systems of private and public law, including general theories of rights, duties and powers. In this context certain main institutions of law will be considered such as property, ownership and possession; contract and promising; legal personality, delict, negligence and risk; responsibility and punishment, evidence and procedure; rights and right creation. In each case there will be consideration of the extent to which particular legal or social values are presupposed by or flow from particular institutions. To understand legal system of Bangladesh and hierarchy of courts, their constitution and function with power and jurisdiction, Code of Conduct and Ethics as prescribed by the Bangladesh Bar Council.

LAW 102: Obligations: Contract Law **3 credits**

This involves the law of voluntary obligations, contract and unilateral promise. The essential elements for the formation of a contract; vitiating elements of Contract-Coercion, Fraud, Misrepresentation, Undue influence and Mistake; Contractual Capacity; Forms of Consideration; Types of contracts in terms of validity and operation; agreements expressly declared void under the law; nature of Quasi Contracts/law of unjust enrichment; dissolution of contracts; remedies for breach of contract are all topics that will be covered under this subject.

LAW 103: Delict: Law of Tort **3 credits**

The topic covers the nature and scope of the Law of Tort, general conditions of liability, general defenses, general remedies, parties to an action in tort, remoteness of damage. Specific torts: Trespass to the person, goods and land; malicious prosecution, defamation, negligence, nuisance, vicarious liability, strict liability, liabilities for dangerous land and structures. Remedies in torts; specific restitution-Injunction and damages.

LAW 104: Constitutional Law **3 credits**

Introduction-Conception and elements of State-Definition, scope and nature of Constitutional Law-contents and classification of Constitutions. General theories of Constitution-classification of Constitutions, Supremacy of the Constitutions. Conventions of the Constitution-Ministerial responsibility-Sovereignty of Parliament-Theory of separation of powers-Rule of Law compared with Administrative judiciary. Fundamental Rights and Principles-Fundamental Principles of State Policy and their purpose. The Executive. The Legislature. Unconstitutional legislation-Ministerial responsibility-Parliamentary sovereignty. The Organization of judiciary, Jurisdiction and powers of the Supreme Court and its Divisions Superintendence and control over lower courts, separation of power, independence of Judiciary. Administrative Tribunals. The Services of Bangladesh-establishment of Service Commission-function of the Commission.

LAW 201: Equitable Principles and Specific Relief **3 credits**

The course covers the origin and development of equity, equity and its relation to law, equity under Roman legal system, incorporation of Equitable principles in Bangladesh legal system, the general nature of equitable principles and remedies. The maxims of equity, election, satisfaction, redemption, equitable relief in contracts. Recovery of possession of immovable property, suit by person dispossessed, specific performance of Contract as a Specific Relief, contracts that can be specifically enforced and which cannot be specifically enforced. Persons for and against who contract may be specifically enforced. Discretion and powers of court. Rectification of instruments, recession of contracts. Cancellation of instrument. Declaratory decrees as Specific Relief, preventive relief, perpetual injunction, and mandatory injunction, injunction to perform negative agreement.
Prerequisite: LAW 102

LAW 202: Muslim Family Law and Reforms **3 credits**

Legitimacy-Guardianship-Maintenance-Gift-Will-Wakf-Preemption-inheritance (Hanafi & Shia)-Statutory Laws-The Shariat Application Act, 1937. Dissolution of Muslim Marriages Act, 1939. The Child Marriage Restraint Act, 1929-Muslim Family Law Ordinance, 1961. The Muslim Marriages and Divorces (Registration) Act, 1974; Dowry Prohibition Act, 1980; Family Courts Ordinance, 1985.
Prerequisites: LAW 102

LAW 203: Property Law and Transfer **3 credits**

The Legal rules regulating the acquisition, transfer both voluntary and involuntary and restrictions on the exercise of rights in property: heritable and moveable, corporeal and incorporeal:with particular emphasis on the effectiveness of the present rules in meeting the needs of modern society. General rules governing the transfer of movable and immovable properties by act of parties. Vested and contingent interests, transfers with conditions. Doctrine of election, doctrine of lis:pendens, fraudulent transfer, doctrine of Part Performance, sale of immovable properties, mortgages, different kinds of mortgages, foreclosure, redemption. Doctrine of marshalling, contribution, subrogation and priority. Charges, leases, exchange, gifts and transfer of actionable claims.
Prerequisites: LAW 101, LAW 201

LAW 204: Law of Registration and Limitation **3 credits**

Preliminary, registration establishment, registerable documents, time of presentation, place of registration, presentation documents for registration, presenting wills and authorities to adopt, deposit of wills, effects of registration and non:registration, duties and power of registration officers, refusal to Registrar, fees for registration, searches and copies, penalties and miscellaneous. Limitation and prescription, object interpretation and application of statutes of Limitation, wavier of limitation, limitations of suits, appeals and applications, computation of period of limitation, grounds of exemption from extension of period of limitation, suspension of limitation, acquisition of ownership by possession, acquisition of easement rights, limitation in suits for recovery of land.
Prerequisites: LAW 102

LAW 205: Business Law **3 credits**

A study of legal environment of business in Bangladesh excluding Law of Contract and Labour and Industrial Laws. The study comprises details relating to Law of Partnership, Bailment and Agency, Sales of Goods and Law of Bankruptcy.
Prerequisites: LAW 102

LAW 301: Agricultural Law and Reforms **3 credits**

The law affecting the use of land for agriculture in Bangladesh; the law of landlord and tenant as it affects agricultural and small:holdings, with particular reference to the main features, and interpretation, of the relevant legislation. Evolution of tenancy-from ancient period to the passing of The State Acquisition and Tenancy Act, 1950. Who is or who is not a rent:receiver; Special provisions for the acquisition of interests of certain rent:receivers: Special provisions regarding lands held in lieu of service; Preparation of record of rights:assessment of compensation; Provisions relating to arrears of revenue, rent and leases; Incidents holdings of raiyats, and transfer, purchase and acquisition of lands; provisions as to enhancement and reduction of rent; amalgamation, sub:division and consolidation of holding; Maintenance of the record of rights; Jurisdiction:Appeal, Revision and Review. Classes of non:agricultural tenants, tenants, under tenants, provisions as transfer of a non:agricultural land, improvements, other incidents of non:agricultural tenancies, judicial procedure.
Prerequisites: LAW 203, LAW 204

LAW 302: Criminal Law **3 credits**

General principles of responsibility for crime, essential elements of crime, guilty mind, actus reus and mens rea; defenses and mitigating factors. Grounds of exemption from criminal responsibility,

joint liability, abetment and attempt of offences. Specific offences under Penal Code: Offences against the State and other public interests. Offences affecting the human body. Offences against the property and other interests of the individual. Punishment: Its objects and limits. Special criminal laws will also be discussed.
Prerequisites: LAW 101, LAW 104

LAW 303: Company Law **3 credits**
The theory and principles of company law, including the meaning and consequences of incorporation, it is advantages and disadvantages, the ultra vires doctrine, the concept of capital, the company's organs and agents and its liability for their actions, the rights and obligations of directors and shareholders inter se and the protection of minorities, the formation and flotation of companies, the nature and classification of company securities, publicity, accounts and audit, meeting and resolutions, reconstructions and amalgamations, liquidation.
Prerequisites: LAW 102, LAW 205

LAW 304: International Law [Public] **3 credits**
Sources of International law, relation to municipal law; law of territory, the sea, air and outer space; jurisdiction; privileges and immunities of states; international organization and their representatives; individuals in international law; nationality, aliens, human rights, extradition; law of treaties; international responsibility of states and international organisations; settlement of disputes; role of international institutions; use of force by states and international institutions; law of war and neutrality.
Prerequisites: LAW 101

LAW 305: Principles of Civil Procedure **3 credits**
Procedural and Substantive law-organisation of Civil Courts in Bangladesh, scope and application of the Civil Procedure Code, structure of the code. Inherent power of the courts, Code not exhaustive, Suits and other Civil proceedings. Jurisdiction of Courts, Institution of suits and proceeding, place of suits, Parties to suits, Service of summons of defendant, recognized agents and advocates, examination of parties, discovery, Admission, Framing of issues and interrogatories, Hearing of suits. Default of appearance and failure to prosecute. Stay of suits, Stay of Suits, Resjudicata. Bar to further suits, execution of decrees and orders, Incidental and supplemental proceeding, special procedure in particular classes of suits Pauper suits, Inter-pleader suits, Appeals from decrees and orders, Review, Revision and Reference Temporary injunction, withdrawal and adjustment of suits, commission, arrest and attachment before judgment, Appointment of receivers. Appeals to the Supreme Court of Bangladesh.
Prerequisites: LAW 101, LAW 104, LAW 201

LAW 306: Evidence **3 credits**
Development, scope and function of the law; necessity of proof, relevancy of facts, mode of proof, production and effect of evidence, improper admission or rejection of evidence.
Prerequisites: LAW 302, LAW 305

LAW 307: Laws on Insurance **3 credits**
Evolution-historical sketch, nature of the concept of insurance, governing laws, formation of the contract. Basic features / characteristics of contract of insurance. Provisions of fire insurance-Assignment of fire policies, when valid-(refer to the provisions of Secs. 49 and 135 of the Transfer of Property Act 1882), 'Average Clause' in fire policies and its effect, 'average formula' and its application. Types of fire policy-Specific policy, Comprehensive policy, Valued policy, Floating policy, Replacement or Re-instatement policy. Provisions of marine insurance. Basic characteristics of marine insurance, Classification of marine policies, various “clauses” in marine policies: Liability of

Underwriter. Marin loss-Partial and Total loss, Actual total loss and Constructive total loss. Notice of abandonment, when required. Provision of life insurance. Miscellaneous/liability insurance. Provisions applicable to Insurers/underwriters/insurance Company. Bankruptcy and its effect on insurance claims. Concept of Re-insurance and Double insurance.
Prerequisites: LAW 102, LAW 205

LAW 308: Criminal Procedure **3 credits**
Constitution, jurisdiction and powers of criminal courts, arrest, bail, provisions as to bonds. Prevention of offences, unlawful assembles; investigation and inquiry, charge, trial of summons case, warrant cases and session cases. Summary trials, judgment, acquittal and conviction. Appeal, reference and revision.
Prerequisites: LAW 302

LAW 401: Conveyancing and Legal Writings **3 credits**
Conveyancing-as an art of effecting transfers. Short history of conveyancing-Deedpoll, Indenture and Grant. Ownership of land and soil (Indian concept)-Absolute ownership. Conveyancing in British India, capacity of conveyancing, transfers by limited owners, disqualified transferee, unborn persons, fiduciary relations between the parties, operation and restraint on transfer. Essence of drafting, requisite of Deed of Transfer-in general, registering office, time limit of presentation of documents, enforcing one to register.
Prerequisite: LAW 203, LAW 204

LAW 402: Legal Research and Methodology **3 credits**
To associate and induct students into the culture of research work and to provide a framework in which they can develop their individual skills and talents in a stimulating research environment. Students would be exposed to variety of literature which explores the setting up of research projects, the definition of research questions, techniques for research, analysis, the development of conclusions and findings, and writing-up styles in general. To provide students with practical experience in the planning and execution of a small research project as well as the research literature towards a supervised Dissertation Paper. In the beginning of the 4th year, Semester VII, students would have to choose and decide the topic for their Dissertation Paper and find a Supervisor in consultation with faculty administration. The Supervisor would provide necessary scholastic support and guide to the student to accomplish and achieve the goals of presenting a decent paper. It is required that in preparing the Dissertation Paper students must adequately demonstrate research skill and legal acumen that is expected of him as a senior student of law.

LAW 403: Moot Court Sessions **3 credits**
Mock trials would be arranged based on hypothetical facts and cases, both in criminal a civil matters, with a view that students may acquire practical knowledge on customary behaviours of lawyers in court-room and other associated professional ethics that is expected of a lawyer of good standing. In mock trials real life situations would be created-Viz. the counsel / lawyer / Advocate of both sides would properly be dressed in accordance with the norms and practice, retired Judges of the High Court Division of the Supreme Court of Bangladesh would be invited to act as a Judge to preside over the mock trial sessions, replica witnesses be created in terms of the facts of the cases to depose and be examined and cross-examined by the counsel / lawyers of both the sides, so that art of examining and cross-examining of witness and rules prescribed thereto be demonstrated and practiced. The moot-court sessions would immensely help the young budding lawyers of Bangladesh, who normally feel shy in the beginning of their practicing life, and often get disinterested in practicing law in the court.

LAW 404: Law of Trusts and Codicils **3 credits**

Origin and development of trust, trust distinguished from other legal relationship. Classification and kinds of trust; creation of trust, the office of trustee, rights, powers and discretion of trustees, duties and disabilities of trust. Liability for breach of trustee and remedies of the beneficiary. Wills and its characteristic, kinds of will, wills in Mohammadan Law. Capacity to make a will, Capacity to take under a will, what may be bequeathed, probate and letters of administration, bequest to unborn persons, will in favour of a female, estates unknown to Hindu Law, power of appointment, direction of accommodation and construction of wills.

ELECTIVE LAW COURSES

LAW 322: Intellectual Property Law **3 credits**

The law of intellectual property, copyright, patents, designs, trade marks, passing off, confidential information and other forms of intellectual property in the law of intellectual property.
Prerequisites: LAW 203, LAW 304

LAW 423: Maritime Law and Carriers **3 credits**

Common carriers, carriage by Railways. Carriage by air, law relating to air carriage, Warsaw convention and the Hague protocol, the documents of carriage, rights and duties, international carriage by air, internal carriage by air, the procedure of realizing damages. Carriage by sea, the contract of affreightment, charter party, the bill of lading, is the bill of lading a negotiable instrument? Differences between a Charter Party and a Bill of Lading, implied warranties, duties of a carrier by sea, liabilities of a carrier by sea, certain terms, average.
Prerequisites: LAW 102, LAW 304, LAW 307

LAW 424: Inland Shipping Law **3 credits**

Registration and survey, inland ships to be surveyed and registered, powers of surveyors and registrars, grant of certificate of survey, duration of certificate of survey, power of government to direct survey by more than one surveyor, ownership acquired outside Bangladesh to be reported to registrar, ships when altered are to be registered, manning examination and certification-categories of inland ship, manning of inland ship, suspension and cancellation of certificate. Shipping casualties-Shipping causalities and report thereof, inquiry trial of offences. Constitution of a Marine Court, procedure of trial, arrest of witnesses, special powers of courts. Protection of vessels and passengers, effect further plying without route permit, timetable and printed ticket, voyage during storm, signal, measures for protection against explosion, fire. Carriage of dangerous goods, maximum and minimum fares and freights. Penalty and procedure, trial of offences, trial of offences by the Magistrate of the Maritime Court, Recovery of fine by distraint. Rules to regulate the carriage of passengers inland steam-vessels, Rules to regulate the towing and speed of inland steam-vessels, Rules for the protection of inland steam and motor-vessels from danger by collision.
Prerequisites: LAW 102, LAW 307

LAW 425: Cyber Law **3 credits**

The course would be divided into several modules covering Introductory Concepts, Computer Concepts, Electronic Signatures, Intellectual Property Issues, Cyber Crimes, Jurisdictional issues, Data Protection and privacy. The syllabus of the course would be divided into sessions, which would be clubbed together to facilitate the student's ease of studying and understanding.

LAW 426: Legal Informatics **3 credits**

The course would enable students to become familiar with 'Information Technology in the arena of Law' and would denote the entire interaction between Law and IT. The course would consider the possibilities for the use of IT by lawyers and the impact of IT on legal practice. Attempted would be

made to briefly introduce the students to the issues behind the concept of legal informatics--a field that addresses the application of information technologies in the practice of law. To find out how the traditional roles of attorneys, law librarians, and systems personnel in law offices are being re-defined in an increasingly networked, electronic environment. Students would be exposed to the most current electronic technologies that are used to enhance the functions of litigation and issues arising from their use, and would encompass topics, such as Litigation support / imaging, Electronic filing, Brief banks, form files, and in-house research banks (how to use technology to help avoid re-inventing the wheel) and Telecommuting or bringing your network with you on the road.

LAW 331: Banking and Securities Law **3 credits**
Laws of Banking in Bangladesh, Relation between banker and customer. Customer's Accounts, Special Types of Banker's Customers, Negotiable Instruments, Cheques, Payment of Cheques, collection of Cheques, loans and advances. Secured advances. Modes of creating Charge. Secured advances, Types of Securities. Letters of Credit and Guarantees. Business of Banking Companies, Illegal banking transactions-the powers of Bangladesh Bank, prohibition of certain activities by the Banking Companies, suspension and winding-up of banking Companies and others. Historical Background of Securities Law-British India prospective, Power of Securities Exchange Commission (SEC), regulation on issuance, prohibitions and restrictions. Constitution and functions of Securities and Exchange Commission. Stock Exchange Rules. Concept of insider trading-Chinese walls, positions in USA, UK and Bangladesh. Different relevant Rules and Regulations.
Prerequisites: LAW 102, LAW 205, LAW 303, LAW 307

LAW 332: Laws on Foreign Exchange, Investment and Anti-money Laundering **3 credits**
Specific laws regulating payments and dealings in foreign exchange, securities and import and export of currency / bullion. Laws providing promotion and protection to foreign (private) investment in Bangladesh, duties of the Bangladesh Bank to restrain/control and protect money-laundering offences-right of investigation. Constitution and powers of Money Laundering Court-right of passing confiscation an freezing orders, appeals against such orders, punishment for money laundering offences.
Prerequisites: LAW 102, LAW 205

LAW 433: Public Demand Recovery and Money Loan Court Act **3 credits**
Preliminary, filing, service and effect of certificates and hearing of objections thereto. Executions of certificate attachment, sale, setting-aside sale disposal of sale proceeds. Arrest, detention and release. Reference to civil court, supplementary provisions. Constitution, power and jurisdiction of money loan court. Filing of suits, rules and method of trial, Settlement conference-mediation. Appeal and revision, miscellaneous.
Prerequisites: LAW 201, LAW 203, LAW 204, LAW 301, LAW 305

LAW 434: Taxation Law including Customs and VAT **3 credits**
An introduction to the law of direct and indirect taxation as applied to Bangladesh, objectives of fiscal policy in developed and undeveloped economy, compensatory fiscal policy, contra cyclical fiscal policy, crowding out effect, automatic stabilization, Limitations of fiscal policy in Bangladesh. Public and private finance, importance of public finance, causes of growth of public expenditure in modern firms-its related theory, effect and limits of Government expenditure, objectives and principle of taxation, good tax system, canons of taxation, characteristics, classifications of income and their effects, exemptions. Income year, assessment year, assessment, reassessment, advance payment proceedings, set off and carry forward for losses, tax evasion and tax avoidances. Income tax authority, methods of computing income and allowable deductions under each head. Law of gift tax. Law of wealth tax. Particular emphasis would be placed on the law of Fiscal measures, income-tax, gift tax and value added tax on goods and service.
Prerequisites: LAW 203

LAW 435: Labour and Industrial Law **3 credits**

Definition of Worker, formation of the contract of service, conditions of employment and classification of workers, leave and holidays, stoppage of work, lay off, retrenchment, fine, discharge, dismissal, punishment Procedure, termination of employment, grievance procedure, penalties and procedure. The Law of Trade Unions: Role, function and utility of trade unions, rights and privileges of registered trade unions and collective Bargaining Agents, unfair labour practices. Settlement of disputes: Origin of labour legislation, right to strike and lockout, industrial disputes and their settlement through negotiation, conciliation, arbitration and by Labour Courts, constitution, function and power of Labour Courts and the Labour Appellate Tribunal. Fixing of right to wages, payment of wages, deductions and claims. Factories Law: Early factory legislation, health, hygiene, welfare, working hours, overtime employment of young person and female, leave and holidays Penalties. Shops and Establishment Law: Working hours, leave and holidays, provision for health and hygiene, penalties. Workmen's Compensation: Accidents and diseases, fatal accidents, employers' liability for compensation and the procedure for its determination, the functions of the commissioners.
Prerequisites: LAW 102, LAW 205

LAW 341: Comparative Law **3 credits**

Nature, classification, origin and development of comparative law, importance and utility of comparative law, weakness of comparative law, comparative law and conflict of laws, major legal systems, comparison between organizations and systems of courts in common law and civil law countries, comparative approach to the sources of law.
Prerequisites: LAW 101, LAW 305, LAW 308

LAW 342: Legal Systems and Institutions **3 credits**

A critical introduction to the legal system of the than British India and Bangladesh, and to the study of law more generally in its historical, philosophical and social context. Its coverage includes legal theory, legal reasoning, the judicial process, law and justice, the sources of law, legal history, the administration of justice, jurisdiction and procedure. The Charter Act of 1833: Law commission; codification: Influence of English law in India. Introduction of the doctrine of equity, justice and good conscience, the Gentoo code. Customary law and codification. Personal laws of Muslims and Hindus. The Indian High Courts Act 1861. Constitutional Acts 1861-1947. Growth of legal profession in India before 1947. History of the Privy Council and its necessity. The Federal Court.
Prerequisites: LAW 101, LAW 104, LAW 304

LAW 343: Criminology and Penology **3 credits**

The course will develop students' knowledge of law and legal systems with respect to criminal law enforcement. The legal context will be studied in relation to its broader social and cultural embeddedness. The Science of Criminology: Criminology and criminal law, perspective and methods in criminology, physiological and racial factors and crime, Psychological theories of criminal behavior, social factors and crime-influence of home and family, social and religious instruments of crime, causes of crime-viewing the problem as a whole. The control of crime: The nature of punishment and the penal system, the treatment of criminals in borstal, the approved schools, probation, detention before trial, parole, the Juvenile Court, prison training, prevention of crime and delinquency.
Prerequisites: LAW 302, LAW 308, LAW 101, LAW 306

LAW 344: Alternative Dispute Resolution (ADR) and Arbitration **3 credits**

Concept of Alternative Dispute Resolution (ADR). Origin and development, ADR concept in British India. Different advantages of ADR in contrast to litigations. Factors necessary for its success. Alternative Dispute Resolution (ADR) and court system. ADR techniques-negotiation, mediation / conciliation, mediation-arbitration (MED-ARB), mini-trial, arbitration, first track

arbitration etc. Arbitration-advantages, implied provisions in an Arbitration, powers and duties of an Arbitrator, Award and Enforcement of award, settings-aside an award. Arbitration superseded by the court. Appeal. Dispute resolution within and outside court-US experiences. International mediation-UK experiences.
Prerequisites: LAW 305, LAW 101

LAW 345: Women, Law and Legal Protection **3 credits**
In our society women have become a marginalised section of the human population. In many instances their functions have been relegated to mere procreation and attending to household chores. Her life is so structured that she has become sub-servient to the needs of man and has become a victim of social and personal aggression, even in the era of equality of sexes, equality before law and equal protection of laws through constitutional guarantees. It is ironical that cruelty to the women and problem of battered wives have become almost a worldwide phenomenon. Domestic violence occurs all over the world on a significant and disturbing scale. In the context of the above scenario the course will deal with the social and legal status of women, enactments and laws that ameliorate their lot and prevent exploration and discrimination.
Prerequisites: LAW 101, LAW 104, LAW 202, LAW 302, LAW 306, LAW 308

LAW 346: Environmental Law **3 credits**
An introduction to the law (in international and national perspective) related to the protection of the environment. Emphasis is placed not only on selected subject areas (e.g. nature conservation, integrated pollution control) but also on the study of different strategies of environmental protection and their enforcement. International Developments-International environmental legal issues-regional environmental developments-international environmental institutions.
Prerequisites: LAW 103

LAW 447: Human Rights **3 credits**
Concepts, development of international human right law, international human rights instruments, regional human rights instruments. Role of Non-Governmental Organization (NGOs), in the promotion of human rights with special reference to Bangladesh.
Prerequisites: LAW 101, LAW 304

LAW 448: Administrative Law **3 credits**
Administrative Law-Definition, nature, scope, causes of growth with special reference to Bangladesh. Droit Administratif. Important concepts in Administrative Law-Concepts of Rule of law, Concept of Natural Justice, doctrine of Ultra Vires, concept of public interest litigation. Administrative action-Classification-Quasi-legislative Action, Quasi-judicial Action, Purely Administrative Action, Control mechanism, Judicial Review-principles and modes. Administrative Discretion, Administrative Arbitrariness. Liability of Administration-Liability of Administration in Tort and Contract, Privileges and immunities of Administration in suits, Immunity from state operation and estoppels, other privileges. Statuary Public Corporations-Chief characteristics, liability in Tort and contract, rights and privileges, control mechanism. Administrative fault-Special Remedies. Tribunals, ombudsman, discretion to disobey.
Prerequisites: LAW 101, LAW 305, LAW 103, LAW 102

LAW 351: Hindu Law and Succession **3 credits**
Origin, sources and operation of Hindu law, schools of Hindu law, persons governed by Hindu law, the Doctrine of Factum Valet. Joint family, Dayabhaga joint family, Debts-grounds of liability, debts under the Dayabhaga law, Partition-how partition is affected. Women's estate. Marriage, divorce, succession, adoption and maintenance.

LAW 352: Succession, Social Policy and Law Reforms **3 credits**

Law of inheritance in personal laws, amendments and reforms thereto and its effects on social policy.
Prerequisites: LAW 202, LAW 203

LAW 353: Law of Town Planning and Environment **3 credits**

Rules in relation to town planning and land development, establishment of RAJUK, its power and functions, introducing improvement scheme and re-housing scheme along with power of acquisition, disposal of land and compulsory acquisition, its effect on environment.

LAW 453: Construction Laws **3 credits**

Law relating to construction of building in Bangladesh, restrictions and requirement thereon, under the Building Construction Act 1952 and amendment thereafter in 1990 along with Building Construction Rules 1996.
Prerequisites: LAW 203

BACHELOR OF LAWS (LL.B.) [Evening Programme]

The following are brief descriptions of the individual courses arranged in the recommended sequence of years and semesters. The descriptions of each of the courses, except Workshops on Advocacy Skill and Rules of Professional Etiquette' and Research Methodology and Dissertation are followed by titles of books (both text and reference) that will be used in teaching the course. This is, however, subject to change, as new books on these subjects may become available and course-teachers, in certain cases, may recommend other books and reading materials.

Core Courses

The following core courses are compulsory for all students.

LWP 101: Legal System of Bangladesh
This course offers an introduction to the Legal System of Bangladesh. This first course of the Law Programme will introduce students to the main component of the legal system institutions, classification of laws and persons involved in the legal system.

The different roles and responsibilities of the primary institutions of the legal system such as the judiciary, police and other executive organs of the state and the Parliament will form important components of the course. Other institutions such as the Ministry of Law, Justice and Parliamentary Affairs and its Legislative Drafting Wing, the Office of the Attorney General and Public Prosecutors, Bangladesh Law Commission, Bangladesh Bar Council, law and human rights related non-government organisations, and jail will be discussed to situate their functions in the legal system.

Students will learn to distinguish between statutory, customary and precedent laws; substantive and procedural law; primary and delegated law; other such classifications. Who enacts laws and how, i.e., the legislative process will also be introduced. Understanding about the import of various laws will help students study these laws as separate courses, later in the Law Programme.

LWP 102: Law of Contract and Tort
Contract and Tort are central to all our transactions. While contract law has remained stable for than a century, law of tort is notable for its in-application than application. Many a wrong which in other legal system are addressed through tort are dealt with the criminal justice system in our legal practice and, hence, tort has remained a neglected area of law.

The course on contract includes obligations; contract and unilateral promise; formation of contract and its essential elements; vitiating elements of contract such as coercion, fraud, misrepresentation, undue influence and mistake; contractual capacity; form of consideration including rules to test the validity of consideration; types of contract in terms of validity and operation; agreements expressly declared void by the law; nature of *quasi* contracts/law of unjust enrichment; dissolution of contracts; remedies for breach of contract. The second part of the course will deal with tort: nature and scope of the law of tort; general conditions of liability; general defences; remedies; parties to an action in tort; remoteness of damage.

LWP 103: Jurisprudence
Definition, Nature, Scope and Utility of the Study of Jurisprudence, Schools of Jurisprudence; Naturalist, Positivist, Analytical, Realist, Historical, Sociological and Feminist, Definition of law, kinds of law, sources of law, administration of justice, civil and criminal justice, Theories of punishment, Substantive and Adjective Law, Analysis of Legal Concepts, Rights, Duties, Property, Possession, Ownership, Liability, Obligation, Persons and Title.

LWP 104: Muslim Family Law and Reforms
Marriage, divorce, maintenance, custody, gift, wakf, pre-emption, acknowledgement and inheritance are the primary areas which, for Muslims, are regulated by customary Muslim Law. In recent decades a number of enactments have introduced new provisions, mostly of procedural nature, in the Muslim law. The course, therefore, will focus on these both customary and statutory Muslim law.

Litigation concerning most provisions of Muslim law are regulated by the Family Court Ordinance, 1985 and the course will begin with a study of this Ordinance. During the course of study of this Ordinance the substantive areas of Muslim law under the Family Court, i.e., marriage, divorce, maintenance, custody and restitution of conjugal rights, will be discussed.

The changes brought about by the Muslim Family Law Ordinance, 1961, the Child Marriage Restraint Act, 1929, the Shariat Application Act, 1937 and the Dissolution of Muslim Marriages Act, 1939 will then be discussed in detail.

Gift, pre-emption inheritance and wakf will be third part of the course and during the last part the theoretical aspects of Muslim law, including schools of law, sources of law (Quran, Hadith, ijma, qyias, ittehad, etc), and legislative reform in other Muslim countries will be studied.

LWP 105: Labour and Industrial Law
With increased industrial and mechanised production, the importance of labour and industrial law is on the rise. Most of the laws concerning labour and industrial matters have been enacted in the first half of the last century and recent legislative intervention on this score is minimal.

This course, following from the vast number of legislation, will include the definition of worker, formation of the contract of service, conditions of employment and classification of workers, leave and holidays, stoppage of work, lay off, retrenchment, fine, discharge, dismissal, punishment, termination of employment, grievance procedure, penalties and remedial procedures.

Trade Unions are important organisations of labour and a number of laws deal with trade unions and the course will discuss the role, function and utility of trade unions; rights and privileges of registered trade unions and collective Bargaining Agents; unfair labour practices.

Settlement of disputes: origin of labour legislation, right to strike and lockout, industrial disputes and their settlement through negotiation, conciliation, arbitration and by Labour Courts: constitution, function and power of Labour Courts and the Labour Appellate Tribunal.

Fixation of wages, payment of wages, deductions and claims.

Factories Law: early factory legislation, health, hygiene, welfare, working hours, overtime employment of young person and female, leave and holidays.

Shops and Establishment Law: working hours, leave and holidays, provision for health and hygiene, penalties.

Workmen's Compensation: accidents and diseases, fatal accidents; employer's liability for compensation and the procedure for its determination; the functions of the commissioners.

LWP 106: Laws of Taxation, Registration and Limitation
The understanding of taxation laws will be preceded by a number of lectures on the fiscal policy: its objectives and its relationship with economy. Various aspects of fiscal policy including compensatory

and contra cyclical fiscal policy, the concepts of crowding out effect, automatic stabilization, limitations of fiscal policy will also be analysed.

Public and private finance, importance of public finance, causes of growth of public expenditure in modern firms and the related theories, effect and limits of Government expenditure, objectives and principle of taxation, good tax system, canons of taxation, characteristics, classifications of income and their effects, exemptions. Income year, assessment year, assessment, reassessment, advance payment proceedings, set off and carry forward for losses, tax evasion and tax avoidances. Income tax authority, methods of computing income and allowable deductions under each head. Law of gift tax. Law of wealth tax.

Particular emphasis would be placed on the law of Fiscal measures, income-tax, gift tax and value added tax on goods and service, as well as custom duties. Remedies against excess or illegal assessment of income tax, custom, VAT, etc.

The second module deals with Registration and includes analysis and understanding of provisions regarding registration establishment, registerable documents, time of presentation, place of registration, presentation of documents for registration; deposit of wills, effects of registration and non-registration, duties and power of registration officers, refusal to Registrar, fees for registration, searches and copies, penalties and miscellaneous.

The third module takes up limitation and prescription: interpretation and application of statutes of limitation, condonation of limitation; limitations of suits, appeals and applications; computation of period of limitation; grounds of exemption from extension of period of limitation; suspension of limitation, acquisition of ownership by possession, acquisition of easement rights, limitation in suits for recovery of land will be dealt with in necessary details.

LWP 201: Constitutional Law

This course on constitutional law is divided into three main components: theory of state, constitutional provisions and case law, comparative constitutions.

The theoretical part deals with issues and concepts of elements of state and its organs, the notions of separation of power; rule of law; and the supremacy of the constitution. Classification of constitutions, constitutional conventions and the concept of basic structures of the constitution are other components of this part.

The second part will deal with the scheme of the constitution, the origins of our constitution including the declaration of independence and the history of constitution making.

The powers and limits of various constitutional institutions and organs such as the Executive, Parliament and Judiciary as well as others including Attor5ney General, Election Commission, Public Service Commission, Comptroller and Auditor General, Care Taker Government will be discussed.

Fundamental Principles of State Policy and Fundamental Rights, in light of judicial pronouncements will be thoroughly studied. Students will study around 30 leading judgements, analyse and write critical comments on some of these judgements. Public Interest Litigation will also be discussed.

The third part of the course will include a brief comparative understanding of the constitutions of India, UK and USA and scrutinise how constitutional development in these countries have influenced our legal development.

LWP 202: Property Laws and Transfer
The legal rules regulating the acquisition, transfer both voluntary and involuntary and restrictions on the exercise of rights in property heritable, immoveable and moveable, corporeal and incorporeal with particular emphasis on the effectiveness of the present rules in meeting the needs of modern society.

General rules governing the transfer of movable and immovable properties by act, of parties. Vested and contingent interests, transfers with conditions. Doctrine of election, doctrine of *lis-pendens,* fraudulent transfer, doctrine of Part Performance, sale of immovable properties, mortgages, different kinds of mortgages, foreclosure, redemption. Doctrine of marshalling, contribution, subrogation and priority. Charges, leases, exchange, gifts and transfer of actionable claims.

The law affecting the use of land for agriculture is another important component of this course, including the law of landlord and tenant as it affects agricultural and small holdings, with particular reference to the main features, and interpretation, of the relevant legislation.

LWP 203: Business and Commercial Laws
A study of legal environment of business in Bangladesh excluding Law of Contract, Labour and Industrial Law. The study comprises details relating to Law of Bailment and Agency, Sales of Goods, Law of Insurance and Law of Bankruptcy.

Recent Arbitration Act will also be studied in detail.

LWP 204: Laws and Principles of Equity, Trust and Specific Relief
This and the next course (LWP 106) will be divided into three distinct modules each.
For this course, three separate modules, one each for Equity, Trust and Specific Relief, will deal with these three areas of law separately. There will be two mid-term examinations instead of one for other courses (except LWS 106 for which there will also be two mid-term examinations).
The concepts of equity, trust and specific performance are central to many arenas of law and this course familiarises students with these core concepts.

Origin and development of equity, equity and its relation to law, equity under Roman legal system; incorporation of equitable principles in Bangladesh legal system, the general nature of equitable principles and remedies. The maxims of equity, election, satisfaction, redemption, equitable relief in contracts constitute the subject matter of this part of the course.

Trusts are created under the Trusts Act, 1882 and the second module of the course will focus on the formation of trusts, trustees and their role and duties and dissolution of trusts and other related provisions.

The third module will focus on the Law of Specific Relief which deals with the recovery of possession of immovable property; suit by persons dispossessed, specific performance of contract as a specific relief; contracts that can be specifically enforced and which cannot be specifically enforced; and persons for and against whom contract may be specifically enforced. Declaratory decrees as specific relief, preventive relief, perpetual injunction, and mandatory injunction, injunction to perform negative agreement will also be discussed.

LWP 301: Law of Crime and Punishment
The course will develop students' knowledge of law and legal systems with respect to crime and punishment. The first part of the course deals with theories of crime and punishment as an introduction to criminology. The second part deals with the major criminal laws.

What is crime and what are the goals and aims of punishment? What constitutes a crime in one society may not be a punishable criminal act in another society. Similarly, both the quantum and goal of punishment vary over times and societies. The first part of the course, therefore, deal with the varying theoretical positions on crime and punishment, including the nature of punishment and the penal system, the treatment of criminals in borstal, the approved schools, probation, detention before trial, parole, the Juvenile Court, prison training, prevention of crime and delinquency. This part will also cover the general principles of responsibility for crime, essential elements of crime, guilty mind, defenses and mitigating factors. Grounds of exemption from criminal responsibility, joint liability, abetment and attempt of offences.

The course will then move on to criminal laws, in particular the Penal Code, 1860; The Special Powers Act, 1974 (which includes the Arms Act, 1978) the Nari O Shishu Nirjaton Domon Ain, 2000; and the Acid Domon Ain, 2002.

While traditional crimes such as murder, bodily hurt, dacoity, theft, crimes against state and religion are provided for in the Penal Code, 1860, the current criminal proceedings for crimes under the special laws are becoming increasingly voluminous. Hence, in addition to the Penal Code, crimes under these special laws, including procedural aspects of the special laws will discussed in detail.

LWP 302: Law of Civil Procedure and Evidence
Procedures of Civil Courts; scope and application of the Civil Procedure Code, structure of the code. Inherent power of the courts, Code not exhaustive, Suits and other Civil proceedings. Pecuniary and territorial Jurisdictions of Courts, Institution of suits and proceeding, place of suits, Parties to suits, Service of summons of defendant, recognized agents and advocates, examination of parties, discovery, Admission, Framing of issues and interrogatories, Hearing of suits. Default of appearance and failure to prosecute. Stay of suits, Stay of Suits, res judicata. Bar to further suits, restoration and setting aside of ex parte decree; incidental and supplemental proceeding, special procedure in particular classes of suits Pauper suits, Inter-pleader suits, Appeals from decrees and orders, Review, Revision and Reference Temporary injunction, withdrawal and adjustment of suits, commission, arrest and attachment before judgment, Appointment of receivers. Appeals to the Supreme Court of Bangladesh.

Development, scope and function of the law of evidence; necessity of proof, relevancy of facts, mode of proof, production and effect of evidence, improper admission or rejection of evidence.

LWP 303: Public International Law
Classical Public International Law regulated relationship between states and states were the only subject of international law. However, in the last few decades persons and individuals as well as many international organisations have also become subjects of international law which was largely brought about by the development of international human rights laws and convention.

The course, therefore, will focus on the traditional subjects of international law, i.e., sovereign states and multinational organisation and then move on to familiarise students with the more recent development of public international laws and changing role of UN to indicate the changing nature of this law. Litigation between the states in the International Court of Justice and the Law of the Sea will form the other important components of this course. International Criminal Court is another emerging area of international law which will also be included in the course.

The above topics will be preceded by topics related to the origin and emergence of international law from the writings of Hugo Grotius, the role of colonialism, earlier distinction between civilised and uncivilised states, to the present induction of citizens into the ambit of public international laws.

Law of Treatise and Diplomacy are other important components of the course.

LWP 304: Law of Criminal Procedure
Constitution, jurisdiction and powers of criminal courts, arrest, bail, provisions as to bonds. Prevention of offences, unlawful assembles; investigation and inquiry, charge, trial by Magistrates and Sessions Judges. Summary trials, judgment, acquittal and conviction. Appeal, reference and revision.

Recent pronouncement of the highest court have directed a number of changes in arrest, bail and remand proceedings and these judgements will indicate the gradual evolution and the introduction of rights-jurisprudence in the criminal procedure.

LWP 305: Laws of Company and Partnership
The theory and principles of company law, including the meaning and consequences of incorporation, it is advantages and disadvantages, the ultra vires doctrine, the concept of capital, the company's organs and agents and its liability for their actions, the rights and obligations of directors and shareholders inter se and the protection of minority shareholders, the formation and flotation of companies, the nature and classification of company securities, publicity, accounts and audit, meeting and resolutions, reconstructions and amalgamations, Liquidation.

LWP 401: Workshops on Advocacy: Rules of Professional Conduct and Trial and Advocacy Skills
Legal Practitioners/ Advocates are expected to contribute significantly towards the creation and maintenance of condition in which a government established under law can function properly in order to ensure the realization of political, economic and social justice for citizens at large. In this endeavour, to discharge effectively their duties Legal Practitioner's/Advocates must conform to certain norms of conducts in their relations with members of the profession, their clients, the courts and also the members of the public.

Thus, the Bangladesh Bar Council has formulated certain norms of correct conduct and set of cannons of Professional Conduct and Etiquette (in excise of the power conferred on them by section 48(q) of the Legal Practitioners & Bar Council Act, 1965 and adopted by a resolution of the Bar Council on the 5th January, 1969) which would be the basic document/text of the workshops. Cases against advocates filed in the Bar Council Tribunals will be studied to identify areas of professional misconduct by Advocates.

The second part of the course will teach advocacy skills of a court room how to present a case, examination and cross examination of witnesses and presentation of arguments. Students will be required to present their case to a panel of judges during the class.

LWP 402: Research Methodology and Dissertation: Research Methodology
This course will, first, familiarise students with various research methodologies and during the second part of the course the students will write a dissertation of 10,000 to 12,000 words under the supervision of a member of the Faculty of the School of Law. The course will include instruction on planning and execution of a small research project.

The research methodology part will instruct students on various methodologies including empirical; behavioural and sociological; participatory and anthropological methods and analysis & interpretation of data. Research based on primary and secondary sources, research for facts and/or policy and such other dimensions will be dealt with tin the first part.

For the second part, students will be responsible for producing a dissertation of the stated length under the supervision of a teacher. The student's supervisor would provide necessary scholastic support and guide to the student to accomplish and achieve the goals of writing and presenting a research-paper. It is required that in preparing the *Dissertation* students must adequately demonstrate research skill and legal acumen that is expected of him as a senior student of law.

7.II Elective courses *(Students Choice)*

LWP 403: Law, Gender and Protection of Women
Women in Bangladesh face various forms of suppression in both the public and domestic spheres. This suppression may be in the form of mental or physical violence, which may be perpetrated by both state and non-state actors and may even be present due to legislation.

This course has been designed to look into the social and legal status of women, their place in both public and private lives, their legal rights and how wrongs committed against them may be redressed. It seeks to determine ways and means by which the role and effectiveness of law enforcement agencies, the judiciary and the legislature may be strengthened to uphold women's rights and curtail various acts of violence.

The course will also examine aspects of violence faced by women in India and Pakistan, in order to determine parallels and comparisons. Forms of violence in this exercise will include trafficking, rape and sexual harassment and domestic violence.

Women's movements in the Subcontinent that have contributed to changes in policy and legislature will also be addressed. This is both a historical exercise spanning from the late 19th century to present day Bangladesh and a current exercise to understand the role of women in political life.

Case studies and data will be used to highlight every aspect of the course.

LWP 404: Banking and Non-Banking Financial Institutions and Corporate Governance
Banks are still the most predominant player in the capital market and its institutions. The first formal bank in the world was Bank of Venice, established in 1711. In the Indian sub-continent though formal banking started sometimes in early nineteenth century. However, the non-institutional banking practice dates back to 2000 BC. Jagat Seth (Fatey Chand), an individual banker, was richer than the Bank of England in 1757 and his own treasury was said to be richer than the Nawab Sirajuddowlah, the Nawab of Bangla. So, banking in Bengal has rich tradition which however, lost its vigour and strength during the British rule. The present banking in Bengal, i.e. Bangladesh, and with Bangladeshi ownerships began in late 1960s.

Banks' structure, debt resolution and transaction mechanism needs to be looked at from the point of view of a lawyer. Non-banking financial institutions are creeping forward with their stake in the capital market as key players. Apart from the Companies Act, 1994, some other statutes require thorough and in-depth study, if one needs to have a working knowledge to cater for a capital market legal practise.

The accounting and auditing standards are no more retained within a municipal domain, thus ISAs and IASs are very important to look at. The biggest capital market economy of the world, i.e. USA, has made some mandatory corporate governance compliances from 2006. However, those are strictly on accounting perspectives.

LWP 405: Mining and Petroleum Law
After the emergence of Bangladesh as an independent state, in the last three decades or so, we have seen some government initiatives to unearth, find and determine the worth of mineral resources of our country. By now, it is well established that although we still have an agro based economy but it seems that there are enough mineral resources that can be utilised in a proper manner for economic development and emancipation of the people at large. In this context, an in-depth study of the laws associated with mining, excavation and exploration of mineral resources would be a worthwhile endeavour in the LL.B. course.

The course will cover topics such as exploratory titles and mining titles; exclusivity, initial requirements, moratorium, grant of prospecting and miscellaneous rights. Profit Sharing Agreements (PSA) and other forms of mining contracts will also be explored.

At the policy level, the course will explore issues of national sovereignty over mineral resources; international transaction and finance of exploration and mining.

This course would focus on laws related to control and development on mines and mineral resources of Bangladesh.

LWP 406: Environmental Law
Environment has emerged as a major concern of national and international communities in recent decades. These concerns are now reflected in numerous laws, both national and international and mounting litigations stemming from these laws.

This course will, first, familiarise students with the major perils to environment posed by various human actions and productive activities; and, secondly, remedial actions taken by our state and the international community.

The course will cover both national and international dimensions of environmental laws. Though certain aspects of environment was protected by various provisions of different criminal and sector specific laws, such as the Forest Act, 1925, our first comprehensive law to protect the environment was enacted only in 1995. This and other laws which protect the environment will be studied in detail, including the role and functions of the Directorate of Environment which is empowered to implement the environmental laws and the Environment (Protection) Court which was set up by another legislation in 2000.

A number of international conventions and treatise now mandates (*The Convention on Biological Diversity* (CBD) & *The Cartagena Protocol on Biosafety*; *United Nations Framework Convention on Climate Change* (UNFCCC) and its *Kyoto Protocol*; *Vienna Convention for the Protection of the Ozone Layer*, including the *Montreal Protocol on Substances that Deplete the Ozone Layer*) that states undertake a number of steps to protect environment and these binding international obligations would be the other major focus of the course.

LWP 407: Human Rights and Humanitarian Laws
Human Rights and Humanitarian Laws have now become more important in state and world affairs than anytime in the past. For the first time in legal history, international human rights law is taking precedence over national law, as in the case of European Union. National laws and actions of states are being judged, more and more, by the international human rights standard, rather than national constitutional standards. Similarly, with increasing worldwide armed conflicts, humanitarian law is becoming central for regulations of these conflicts. Violations prisoners of wars' rights, as has recently been the case for Afghan and Iraqi prisoners of wars, are instant world news and

perpetrators have been widely condemned, with international pressures on the concerned governments.

This course will begin with the history of human rights movements with its initial culmination in the adoption of the Universal Declaration of Human Rights (UDHR). Universality and non-derogation from these rights will be explored in detail.

The examination of the UDHR will be followed by specific international human rights instruments, including Covenants on Civil and Political Rights and Social and Economic Rights. Conventions relating to non-discrimination, prohibition on slavery, and rights of minorities will be followed by Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and Child Rights Convention (CRC). Discussion on these conventions will highlight Bangladesh's position vis-à-vis these conventions and reports submitted by Bangladesh to various relevant committees will also be scrutinised.

On a conceptual plane, the relationship between rights and obligations; pluralism of human rights standards; socio-political and cultural constraints, if any, will also be explored.

Bachelor of Science (BS) in Physics and Other Courses

The contents of the undergraduate courses offered by the MNS Department for its BS programme in Physics and also for other departments of BRACU are given in the following.

BI0 101: Introduction to Biology **3 credits**

An introduction to the cellular aspects of modern biology including the chemical basis of life, cell theory, energetics, genetics, development, physiology, behaviour, homeostasis and diversity, and evolution and ecology. This course will explain the development of cell structure and function as a consequence of evolutionary process, and stress the dynamic property of living systems.

CHE 101: Introduction to Chemistry **3 credits**

The course is designed to give an understanding of basics in chemistry. Topics include nature of atoms and molecules; valence and periodic tables, chemical bonds, aliphatic and aromatic hydrocarbons, optical isomerism, chemical reactions.

ENV 101: Introduction to Environmental Sciences **3 credits**

Fundamental concepts and scope of environmental science, Earth's atmosphere, hydrosphere, lithosphere and biosphere, men and nature, technology and population, ecological concepts and ecosystems, environmental quality and management, agriculture, water resources, fisheries, forestry and wildlife, energy and mineral energy sources; renewable and non renewable resources, environmental degradation; pollution and waste management, environmental impact analysis, remote sensing & environmental monitoring.

ENV 101: Introduction to Environmental Sciences **2 credits**

Introduction to the environment. Natural resources description, management and conservation. Ecosystem characteristics function and dynamics. Energy issues and conservation. Impact of development and technology on quality of natural resources. The environmental impact of human settlements.

GEO 101: Introduction to Economic Geography **3 credits**

Introduction: The field and environment of economic Geography; Bases of Economic Geography: Relief, Climate, Vegetation, Soils and Population; Extractive resources and human-environment relations; Primary Activities: types and brief descriptions; Secondary Activities: types and factors of localization, Stages in growth; Tertiary Activities: Trade, Transportation, Utilities, Technical and Professional services; Regional Economy: classification, Growth and Development; Economic Geography of Bangladesh: A brief account.

MAT 091: Basic Course in Mathematics

Topics including sets, relations and functions, real and complex numbers system, exponents and radicals, algebraic expressions; quadratic and cubic equations, systems of linear equations, matrices and determinants with simple applications; binomial theorem, sequences, summation of series (arithmetic and geometric), permutations and combinations, elementary trigonometry; trigonometric, exponential and logarithmic functions; co-ordinate geometry; statics-composition and resolution of forces, equilibrium of concurrent forces; dynamics-speed and velocity, acceleration, equations of motion. No credit.

MAT 101: Fundamentals of Mathematics **3 credits**

The real number system, exponents, polynomial, factoring, rational expression, radicals, complex

number, linear equation, quadratic equation, variation, inequalities, coordinate system, functions, equations of line, equation of circle, exponential and logarithmic function, system of equations, system of inequalities, properties of matrix, matrix solution of linear system, determinant, Cramer's rule, limit, rate of change, derivative.

MAT 102: Introduction to Mathematics **3 credits**

Factorisation, Synthetic Division, Zeros (Roots) of Polynomials, Relation between Roots and Coefficients, Nature of Roots (Descarte's Rule of signs); Complex Number System, Graphical representation of Complex Numbers (Argand Diagram), Polar form of Complex Numbers; Conic Sections, Parabola, Circle, Ellipse, Hyperbola, Transformation of Coordinates and Applications; Exponential Growth & Decay. Applications; Mathematical Induction; Determinants, Fundamental Properties of Determinants, Minors and Cofactors, Application of Determinants to solve System of Linear Equations (Cramers, Rule); Introduction to Matrix Algebra, Matrix Multiplication, Augmented Matrix, Adjoint Matrix, Inverse Matrix, Application of Matrices-solution of System of Linear Equations (homogeneous & non-homogeneous), Consistency of System of Equations.

MAT 103: Basic Concepts in Mathematics **3 credits**

The real numbers, Absolute value of real numbers, Exponents, Polynomials, Basic operation and Factoring of polynomials, Rational expressions, Radicals. Linear Equations, Solution, graphs and applications. Variation, Linear inequalities. Exponential and Logarithmic Functions, Exponential growth and decay, Ratios, proportions, percent, application of simple and compound interest. Trigonometric Functions, The Sine and Cosine Functions, Cartesian coordinate systems, Graphing, Relations. Equations of a straight line its slope, Equation of a circle, Systems of Linear Equations, Matrix. Population, Sample, Variable, Raw data, Frequency distribution table, Graphical presentation, Measures of central tendency and measures of dispersion.

MAT 104: Mathematics **2 credits**

Calculus, definition of limit, continuity and differentiability, successive and partial differentiation, maxima and minima. Integration by parts, standard integrals, definite integrals. Solid geometry, system of coordinates. Distance between two points. Coordinate Transformation, Straight lines sphere and ellipsoid.

MAT 105: Calculus **3 credits**

Differential Calculus: Limits, continuity and differentiability, differentiation, Taylor's, Maclaurine's & Euler's theorems, indeterminate forms, tangent and normal, sub tangent and subnormal, maxima and minima, radius of curvature & their applications, introduction to calculus of function of several variables, Taylor's theorem, maxima and minima for function of several variables. Transformation of coordinates & rotation of axes, conic sections.

Integral Calculus: Definition of integration, techniques of integration for definite & indefinite integrals, improper integrals, area, volume and surface integration, arc length and their applications, multiple integrals, Jacobian, line integrals, divergence theorem and Stokes' theorem, beta function and gamma function.

MAT 110: MATH I Differential Calculus and Co-ordinate Geometry **3 credits**

Differential Calculus: Limits, Continuity and differentiability. Differentiation. Taylor's Maclaurine's & Euler's theorem. Indeterminate forms. Partial differentiation. Tangent and normal. Subtangent and subnormal. Maximum and minimum, radius of curvature & their applications. Co-ordinate Geometry: Transformation of coordinates & rotation of axis. Pair of straight lines. General equation of second degree. System of circles. Conics section. Tangent and normal, asymptotes & their applications.

MAT 120: MATH II Integral Calculus and Differential Equations **3 credits**

Integral Calculus: Definitions of integration. Integration by the method of substitution. Integration by parts. Standard integrals. Integration by method of successive reduction. Definite integrals, its properties and use in summing series. Walli's formula. Improper integrals. Beta function and Gamma function. Area under a plane curve in Cartesian and polar coordinates. Area of the region enclosed by two curves in Cartesian and polar coordinates. Trapezoidal rule. Simpson's rule. Arc lengths of curves in Cartesian and polar coordinates, parametric and pedal equations. Intrinsic equations. Volumes of solids of revolution. Volume of hollow solids of revolutions by shell method. Area of surface of revolution. Ordinary Differential Equations: Degree of order of ordinary differential equations. Formation of differential equations. Solution of first order differential equations by various methods. Solutions of general linear equations of second and higher order with constant coefficients. Solution of homogeneous linear equations. Applications. Solution of differential equations of the higher order when the dependent and independent variables are absent. Solution of differential equations by the method based on the factorisation of the operators. [Students will be expected to attend a 3 hour tutorial class, once each week and submit tutorial worksheets.]
Prerequisite: MAT 110

MAT 203: Matrices, Linear Algebra and Differential Equations **3 credits**

Matrices: Types of matrices, algebraic operation on matrices, determinants, adjoint & inverse matrix, orthogonality & diagonalization of matrix.

Linear Algebra: System of linear equations, vector space; 2D-space, 3D-space, Euclidean nD-space, sub space, linear dependence, basis and dimension, row space, column space, rank and nullity, linear transformation, eigen value and eigen vector, matrix diagonalization and similarity, application of linear algebra.

Ordinary Differential Equations: Introduction to differential equations, first-order differential equations and applications, higher order differential equations and applications, series solutions of linear equations, systems of linear first-order differential equations. Prerequisite MAT 105

MAT 204: Complex Variables and Fourier Analysis **3 credits**

Complex Variables: Complex number systems, general functions of a complex variable, limits and continuity of a function of complex variables and related theorems, complex differentiation and Cauchy-Riemann equations, mapping by elementary functions, line integral of a complex function. Cauchy's integral theorem, Cauchy's integral formula, Liouville's theorem, Taylor's and Laurent's theorem, singular points, residue, Cauchy's residue theorem, evaluation of residues, contour integration and conformal mapping.

Fourier analysis: Real and complex form, finite Fourier transform, Fourier integrals, Fourier transforms and their use in solving boundary value problems. Prerequisite MAT 105

MAT 205: Introduction to Numerical Methods **3 credits**

Computer arithmetic: floating point representation of numbers, arithmetic operations with normalized floating point numbers; iterative methods, different iterative methods for finding the roots of an equation f (x) = 0 and their computer implementation; solution of simultaneous algebraic equations by various methods, solution of tri-diagonal system of equations, interpolation for equispaced and non-equispaced nodes, least square approximation of functions, curve fitting, Taylor series representation, Chebyshev series, numerical differentiation and integration and numerical solution of ordinary differential equations & partial differential equations. Prerequisite MAT 203

MAT 215: MATH III Complex Variables and Laplace Transformations **3 credits**

Complex Variables: Complex number systems. General functions of a complex variable. Limits and continuity of a function of complex variables and related theorems. Complex differentiation and Couchy-Riemann equations. Mapping by elementary functions. Line integral of a complex function. Cauchy's integral theorem. Cauchy's integral formula. Liouville's theorem. Taylor's and Laurent's theorem. Singular points. Residue. Cauchy's residue theorem. Evaluation of residues. Contour integration. And conformal mapping Laplace Transforms: Definition. Laplace transforms of some elementary functions. Sufficient conditions for existence of Laplace transforms. Inverse Laplace transforms. Laplace transforms of derivatives. The unit step function. Periodic function. Some special theorems on Laplace transforms. Solutions of differential equations by Laplace transformations. Evaluation of improper integrals.
Prerequisite: MAT120

MAT 216: MATH IV Linear Algebra and Fourier Analysis **3 Credits**

Linear Algebra: Basic subject on matrix theory and linear algebra, emphasizing topics useful in other discipline, including systems of equations, vector spaces, determinants, Eigenvalues, similarity, and positive definite matrices, Applications to Gauss elimination with pivoting. Fourier Analysis: Real and complex form. Finite transform. Fourier integral. Fourier transforms and their uses in solving boundary value problems. Multiple integrals; surface and volume integrals, divergence and Stoke's theorem.
Prerequisite: MAT 120

MAT 301: Group Theory **3 Credits**

Definition and various examples of groups, subgroups, cosets, normal subgroups, quotient (factor) groups, permutation groups, cyclic groups, generator of a cyclic group, centre of a group, Abelian group, normalizer and centralizer of an element/subset of a group and its application to physics, group homomorphism, isomorphism and automorphism and related theorems, symmetry groups, SU (3), SU (6), application of group theory in solid state physics & elementary particles.

MAT 303: Tensor Analysis **3 Credits**

Definition of tensor, tensor density, affine tensor and geometrical object, properties of tensor symmetry, criteria of tensor properties, metric tensor, Kronecker symbol and Levi-Civita's symbol, determinant of metric tensor, connection between metric tensor and Dirac's matrices in the Sommerfeld representation, evolution of square root from four dimensional interval in matrix sense, transformation properties of vector partial derivatives by coordinates, connection coefficients and covariant derivatives, Christoffel's symbols, geodetic lines (geodetics) as a generalization of notion of straight line, variation principle for geodetics, parallel transport, connection between geodetics and covariant differentiation, transport along closed line curvature tensor of the 4^{th} rank, curvature tensor of the 2 D rank, scalar curvature, equations of geodetic deviation, curvature expression in terms of Dirac's matrices, Bianchi's identity, Einstein's conservative tensor, integral operations and corresponding theorems.

PHY 101: Introduction to Physics **3 Credits**

Vectors and scalars, Newton's Laws of motion, inertia, force, momentum, conservation of linear momentum, work, energy, conservation of energy, power, gravitation, escape velocity, projectile motion, simple harmonic motion, uniform circular motion. Structural properties of matter, elasticity, Hooke's Law, viscosity, surface tension. Heat and temperature, different scales of temperature, thermal expansion, specific heat, gas laws, heat transfer. Waves and oscillations, longitudinal and transverse waves, sound waves, velocity of sound, ultrasonic waves & their applications. Reflection and refraction of light, mirrors and lenses, total internal reflection, interference, diffraction.

Coulomb's Law, ohm's law; resistance, potential difference, capacitance. Magnetic force on a moving charge, electromagnetic spectrum, velocity of light. Atoms and nuclei, mass number and atomic number, isotopes, isobars & isotones, atomic theory, Planck's Law, Photo-electric effect, wave-particle duality, special theory of relativity, radioactive decay, nuclear fission & nuclear fusion, nuclear energy, fossil fuels & other sources of energy. Structure & vastness of the universe, big bang theory, light year, solar system, Kepler's Laws of planetary motion, cosmological principle, Hubble's Law, red shift, stellar energy, neutron stars, quasars, supernovae, pulsars, black holes.

PHY 102: Fundamentals of Physics **2 Credits**

Vectors and scalars, Newton's Laws of motion, principles of conservation of linear momentum and energy, gravitation, projectile motion, simple harmonic motion, rotation of rigid bodies. Elasticity, Hooke's Law, viscosity, Stokes' Law, surface tension. Heat & temperature, specific heat, gas laws, Newton's Law of cooling, First and Second Laws of thermodynamics, kinetic theory of gases, heat transfer. Wave motion, stationary waves, sound waves, Doppler Effect, beats, acoustics, ultrasonic & applications. Huygens' principle, electromagnetic waves, reflection, refraction, interference, diffraction.

PHY 110: Mechanics and Properties of Matter **3 credits**

Mechanics: Vectors & scalars, vector addition and subtraction, unit vectors, scalar and vector products, scalar & triple vector product, scalar and vector fields, gradient, divergence and curl, curvilinear co-ordinates, motion in one dimension, motion in a plane, work and energy, conservation laws, conservative force, projectile motion, uniform circular motion, simple harmonic motion, rotational motion, moment of inertia, radius of gyration, angular momentum, Kater's pendulum, Newton's Law of gravitation, gravitational field, potential, escape velocity.

Properties of Matter: Hooke's Law, elastic modulii, adhesive and cohesive forces, molecular theory of surface tension, capillarity, variation of surface tension with temperature. Streamline flow, Poiseulle's formula, streamline flow and turbulent flow, Reynold's Number, Equation of Continuity, Bernoulli's Theorem, Stokes' Law.

PHY 111: Principles of Physics I **3 Credits**

Vectors and scalars, unit vector, scalar and vector products, static equilibrium, Newton's Laws of motion, principles of conservation of linear momentum and energy, friction, elastic and inelastic collisions, projectile motion, uniform circular motion, centripetal force, simple harmonic motion, rotation of rigid bodies, angular momentum, torque, moment of inertia and examples, Newton's Law of gravitation, gravitational field, potential and potential energy. Structure of matter, stresses and strains, Modulii of elasticity Poisson's ratio, relations between elastic constants, work done in deforming a body, bending of beams, fluid motion and viscosity, Bernoulli's Theorem, Stokes' Law, surface tension and surface energy, pressure across a liquid surface, capillarity. Temperature and Zeroth Law of thermodynamics, temperature scales, isotherms, heat capacity and specific heat, Newton's Law of cooling, thermal expansion, First Law of thermodynamics, change of state, Second Law of thermodynamics, Carnot cycle, efficiency, kinetic theory of gases, heat transfer. Waves & their propagation, differential equation of wave motion, stationary waves, vibration in strings & columns, sound wave & its velocity, Doppler effect, beats, intensity & loudness, ultrasonics and its practical applications. Huygens' principle, electromagnetic waves, velocity of light, reflection, refraction, lenses, interference, diffraction, polarization.

PHY 112: Principles of Physics II **3 Credits**

Electric charge, Coulomb's Law, electric field & flux density, Gauss's Law, electric potential, capacitors, steady current, Ohm's law, Kirchhoff's Laws. Magnetic field, Biot-Savart Law, Ampere's Law, electromagnetic induction, Faraday's Law, Lenz's Law, self inductance and mutual inductance,

alternating current, magnetic properties of matter, diamagnetism, paramagnetism and ferromagnetism. Maxwell's equations of electromagnetic waves, transmission along wave-guides. Special theory of relativity, length contraction and time dilation, mass-energy relation. Quantum theory, Photoelectric effect, x-rays, Compton effect, dual nature of matter and radiation, Heisenberg uncertainty principle. Atomic model, Bohr's postulates, electron orbits and electron energy, Rutherford nuclear model, isotopes, isobars and isotones, radioactive decay, half-life, alpha, beta and gamma rays, nuclear binding energy, fission and fusion.Fundamentals of solid state physics, lasers, holography.

PHY 113: Waves, Oscillation and Acoustics **3 Credits**

Principle of superposition, interference of waves, phase velocity and group velocity, simple harmonic motion, combination of SHM, Lissajous figures, damped SHM, forced oscillation, resonance, power and intensity of wave motion, waves in elastic media, vibration of strings, beats, Doppler Effect, acoustics, stroboscopy, velocity of sound, ultrasonics, and their applications.

PHY 114: Thermal Physics and Radiation **3 Credits**

Heat and temperature, thermal equilibrium, Zeroth Law of thermodynamics, specific heat & calorimetry, Newton's Law of cooling, Kinetic Theory of Gases, idea of pressure due to collisions of molecules, mean free path, Boltzmann Distribution Law, Brownian motion, Law of equipartition of energy; Vander Waals' equation of state, heat transfer, conduction, convection and radiation, conduction of heat in solids, co-efficient of thermal conductivity and its measurement, First Law of thermodynamics, isothermal & adiabatic changes, reversible and irreversible processes, Carnot's cycle, efficiency of heat engines, Second Law of thermodynamics, entropy and disorder, absolute scale of temperature, thermodynamic functions, Maxwell's relations, Clausius-Clapeyron Equation, Gibb's phase rule, Third Law of thermodynamics, Nernst heat theorem, radiation theory, black body radiation, Wien's Law, Stefan-Boltzman Law, Rayleigh Jeans Law, Planck's Law, variation of specific heat with temperature, Einstein's theory, Debye's theory, conduction of heat in solids, measurement of conductivity, Joule-Thomson expansion, refrigeration, heat engines, Rankine cycles, cryogenics, measurement of high temperature.

PHY 115: Electricity and Magnetism **3 Credits**

Charge, quantization of charge, Coulomb's Law, electric field and potential. Gauss's Law, electric dipole, dielectrics, capacitance, energy of charged systems, electrical images, magnetic dipole, energy in a magnetic field. Direct current and electromotive force, Ohm's Law, Kirchhoff's Laws, Wheatstone Bridge, Lorentz force, magnetic field of a current and Ampere's Law, Biot-Savart Law, electromagnetic induction, Faraday's Law, self-induction, mutual induction, alternating current, RMS value, power factor, CR, LR and LCR circuits, resonance.

PHY 201: Solid State Physics **3 Credits**

Crystalline state, Bravais lattices, crystal symmetry, point group & space group, unit cells, Miller indices, x-ray diffraction, Bragg's Law, reciprocal lattice, structure factor, interatomic force and classification of solids, ionic, covalent, molecular, hydrogen bonded crystals, lattice energy of ionic crystals, Madelung constant, lattice vibration, phonons, normal modes in monatomic and diatomic linear chains, theory of specific heat, Einstein and Debye models, thermal expansion, defects in crystals, dislocations, consequences of defects on mechanical properties.

PHY 202: Optics **3 Credits**

Laws of reflection and refraction, total internal reflection, Huygens' Principle, velocity of light, Young's experiment, Fresnel's bi-prism, Newton's rings, Michelson's interferometer, multiple reflections, Fabry-Perot interferometer, diffraction of light, Fresnel and Fraunhoffer diffraction, single, double and multiple-slit diffraction, diffraction grating, spectrometer, resolving power of a

grating, polarization of light, production of polarized light, plane, circular and elliptically polarized light, optical activity, double refraction, optic axis, half-wave and quarter-wave plate, nicol prism, dispersion of light, scattering of light, Thomson scattering.

PHY 204: Classical Mechanics and Special Theory of Relativity **3 Credits**

Classical Mechanics**:** Newtonian equations of motion, conservation laws of a system of particles, variable mass, generalized co-ordinates, generalized force, D' Alembert's Principle, variational method, Euler-Lagrange equations of motion, Hamilton's principles, two-body central force problem, elliptic orbit, scattering in a central field, Rutherford formula, kinematics of rigid body motion, Euler angles, rotating co-ordinates, Coriolis force, wind motion, principal axis transformation, top motion, principle of least action, Hamiltonian equations of motion, small oscillations, normal co-ordinates, normal modes.

Special Theory of Relativity: Galilean relativity, Michelson-Morley experiment, postulates of special theory of relativity, Lorentz transformation, length contraction, time dilation, twin paradox, variation of mass, relativistic kinematics, mass energy relation.

PHY 205: Statistical Mechanics **3 Credits**

Statistical Mechanics: Phase space, concept of state and ensemble, microcanonical, canonical and grand canonical ensembles, Boltzmann probability distribution, Maxwell velocity distribution, derivation of Bose-Einstein and Fermi-Dirac statistics, ideal Fermi gas, degenerate Fermi system, equation of state of ideal gases, ideal Bose gas, application of Statistical mechanics in various fields in physical, biological, social sciences, economics, finance and in engineering & ICT.

PHY 210: Quantum Physics of Atoms, Solids and Nuclei **3 Credits**

Special Theory of Relativity: Michelson-Morley Experiment, Special Theory of Relativity, Lorentz Transformations, Time Dilation, Length Contraction, Mass-Energy Relation. Quantum Phenomena: Blackbody Radiation, Planck's Law, Photoelectric Effect, Bohr Atomic Model, Energy Levels & Atomic Spectra, Correspondence Principle, Dual Nature of Matter & Waves. Introductory Quantum Mechanics: Wave Function, Operators, Expectation Values, Schrödinger's Wave Equation, Particle in Box, Schrödinger Equation for Hydrogen Atom, Energy Levels, Magnetic & Orbital Angular Momentum, Concept of Quantum Numbers. Solid State Physics: Crystal Structure, Crystal Diffraction, Bragg Law, Lattice Vibrations & Phonons, Free Electron Model, Energy Levels & Density of States, Fermi-Dirac distribution function, Free Electron gas in Three dimension, Electrical conductivity & Thermal Conductivity, Hall Effect, Band Theory of Solids, Band Diagrams of Insulator, Semiconductor & Metals, Superconductivity, Lasers & Holography. Nuclear Physics: Rutherford Nuclear Model, Radioactivity, Half life & Mean life, Nuclear Binding Energy, Fission & Fusion, Particle Accelerator, Elementary Particles & Nuclear Interactions, Quarks, Lepton & Hadrons, Big Bang & Origin of the Universe.

PHY 301: Classical Electrodynamics **3 Credits**

Solution of Laplace's equation and Poisson's equation and applications to electrostatic problems, dielectrics, electrostatic energy, Maxwell's equations, electromagnetic waves, propagation of electromagnetic waves in conducting and non-conducting media, reflection and refraction, polarization, dispersion, scattering, waves in the presence of metallic boundaries, waveguides and resonators, solution of the inhomogeneous wave equations, simple radiating system, antennas, accelerated charge, Cerenkov radiation, elements of plasma physics. Prerequisite PHY 115.

PHY 302: Fluid Mechanics **3 Credits**

Fluid properties, fluid statics, manometry, force on submerged planes and curved surface, buoyancy and floatation, one dimensional flow of fluid, equation of continuity, Euler's equation, flow of fluid in pipes, Bernoulli's equation, flow through orifice, mouthpiece, venturimeter, fundamental relations

of compressible flow, frictional losses in pipes and fittings, types of fluid machinery, impulse and reaction turbines, centrifugal and axial flow pumps, deep well turbine pumps, specific speed, unit power, unit speed, unit discharge, performance and characteristics of turbines and pumps, design of pumps, reciprocating pumps. Prerequisite PHY 110

PHY 303: Quantum Mechanics **3 Credits**

Breakdown of classical physics, quantum nature of radiation, Planck's Law, photoelectric effect, Einstein's photon concept and explanation of photoelectric effect, de Broglie wave, wave particle duality, electron diffraction, Davisson-Germer experiment, emergence of quantum mechanics, Schrodinger equation, basic postulates of quantum mechanics, physical interpretation of wave function, wave packets, Heisenberg's uncertainty principle, linear operators, Hermitian operators, eigenvalue equation, one-dimensional potential problem, harmonic oscillator, orbital angular momentum, rotation operator, spherical harmonics, spin angular momentum, addition of angular momenta, solution of the Schrodinger equation for hydrogen atom, matrix formulation of quantum mechanics.

PHY 304: Atomic and Molecular Physics **3 Credits**

Rutherford scattering experiment, Discovery of the nucleus, Bohr quantization rules, hydrogen atom spectra, Franck-Hertz experiment, Sommerfeld-Wilson quantization rules, electron spin, Stern-Gerlach experiment, Pauli exclusion principle, electronic configuration of atoms, vector atom model, coupling schemes, Hund's rule, multiplet structure, fine structure in hydrogen spectral lines, Zeeman effect, Paschen-Beck effect, production of X-rays, measurement of X-ray wavelength, X-ray scattering, Compton Effect, Mosely's Law, molecular spectra, rotational and vibrational levels, Raman Effect and its applications, lasers.

PHY 305: Nuclear Physics I **3 Credits**

Basic properties of nuclei, constituents of nuclei, nuclear mass, charge, size and density, nuclear force, spin, angular momentum, electric and magnetic moments, binding energy, separation energy, semi-empirical mass formula, radioactive decay law, transformation laws of successive changes, measurement of decay constant, artificial radioactivity, radioisotopes, theory of alpha decay, gamma radiation, energy measurement, pair spectrometer, classical treatment of gamma emission, internal conversion, Mossbauer Effect, beta decay, energy measurement, conservation of energy and momentum in beta decay, neutrino hypothesis, orbital electron capture, positron emission, interaction of radiation in matter, ionisation, multiple scattering, range determination, bremsstrahlung, pair production, annihilation. Discovery of neutrons, production and properties of neutrons, nuclear reactions, elastic and inelastic scattering, Q-value of a reaction and its measurements, nuclear cross-section, compound nucleus theory, direct reaction and kinematics. Prerequisite PHY 304

PHY 306: Basic Electronics **3 Credits**

Network theorems, filters, transmission line, basic semiconductor concepts, energy bands, electrons and holes, semiconductor diode, rectification, regulators, Zener diode, diode circuits, unijunction transistor, FET and its characteristics, transistor amplifier, FET amplifier; amplifier circuits, voltage amplifiers, RC coupled amplifiers and tuned amplifiers, frequency response, bandwidth, power amplifier, push-pull amplifier, feedback and amplifier stability, operational amplifier and its characteristics, oscillators, modulation and demodulation, digital electronics, digital logic, logic gates, Boolean algebra, logic circuits, information registers, flip-flop circuit.

PHY 308: Methods of Experimental Physics and Instrumentation **3 Credits**

Optical and spectroscopic instruments, defects of images and their remedies, optical blooming, phase contrast and polarizing microscope, spectrophotometers, optical transmittance, reflectance and absorption, application of interferometry, production and measurement of high and ultrahigh

vacuum. Rotary pump, diffusion pump, ion pump and turbo pump, pirani, penning and ionisation gauges, measurement of current and voltages, potentiometer, VTVM, oscilloscope, D.C. amplifier, lock-in amplifier, frequency meter and counter, four point probe, flux meter and Hall probed transducers, piezoelectric, thermistor, photo-transducers, voltage regulator, SCR type temperature controllers. Prerequisites PHY 202 and PHY 306

PHY 309: Introduction to Materials Science **3 Credits**

Crystalline solids, amorphous, composite, fibrous materials, polymers, plastics, binding forces, elastic properties, dislocations, defects etc, specific heat, thermal expansion, thermal conductivity and electrical conductivity of metals, dielectric properties of solids, modes of dielectric polarisation, ferro electricity, piezo electricity, optical properties of solids ,classical and semi classical theory, free carrier effects, lattice absorption, electronic absorption, magnetic properties of solid, atomic magnetic moments, dia and paramagnatism, ferro & ferrimagnetism, antiferromagnetism, ferrites, magnetic resonance, superconductivity, type-1, type-2 superconductors, liquid crystals. Prerequisite PHY 201

PHY 310: Advanced Solid State Physics **3 Credits**

Free electron theory, transport properties, Sommerfeld theory, Hall Effect, box quantization, density of states, Fermi surface, Fermi energy, electrical conductivity, WiedmannFranz law, band theory of solids, electron in a periodic potential, Schrödinger equation, Bloch function, LCAO and OPW methods, dielectric properties of insulators, Clausius-Mosotti relations, dielectric loss, relaxation time, polarization mechanism, direct & indirect band gap semiconductors, extrinsic semiconductors, charge carrier concentration, recombination process of p-n junction, superconductivity, Meissner Effect, London equation, BCS theory, introduction to high temperature superconductivity, magnetic materials, quantum theory of diamagnetism and paramagentism, theory of ferromagnetic, ferrimagnetic and anti-ferromagnetic orders, magnetic resonance. Prerequisite PHY 201

PHY 311: X-Rays **3 Credits**

Continuous and Characteristic X-rays, Bremsstrahlung, Properties of X-rays, X-ray technique, Weissenberg and precession methods, identification of crystal structure from powder photograph and diffraction traces, Laue photograph for single crystal, geometrical and physical factors affecting X-ray intensities, analysis of amorphous solids and fibre textured crystal. Prerequisite PHY 201

PHY 312: Nuclear Physics II **3 Credits**

Determination of nuclear size by scattering methods and electromagnetic methods, mirror nuclei, electron scattering, nuclear shapes, electric and magnetic multiple moments, isotopic spin formalism, two-nucleon problem, nuclear forces, exchange force, meson theory of nuclear forces. Shell model, refinement of extreme single particle model, collective model, nuclear reactions, compound nucleus model, concept of optical potential, energy averaged cross section and the optical model at low energies, phenomenological optical model, direct reactions, parity violation in beta decay, nuclear fission and nuclear reactor, nuclear fusion, nuclear liquid drop model & shell model, magic numbers (qualitative) accelerators, Van de Graaff generator, linear accelerator, cyclotron, synchrotron, detection of charged particles, photons and neutrons, nuclear pulse counting systems, elementary particles. Prerequisite PHY 305

PHY 313: Physics for Development **3 Credits**

Twenty first century development issues, physics and break through technologies, ICT, fibre optics, quantum information theory, physics in genetics engineering and molecular biology, physics and health issues, bio and medical physics, materials science and physics, high temperature superconducting materials, space physics, microgravity experiments, econo-physics, physics principles applied in sociology.

PHY 400: Thesis/Project **4.5 Credits**

A student is required to carry out thesis/project work in her/his last two semesters in a chosen field. There will be a supervisor who will either be a BRAC University faculty or any other suitable expert from universities and R/D organizations of the country to guide the thesis/project work. On completion of study and research s/he will have to submit the dissertation paper and to face a viva board for the defence.

PHY 401: Reactor Physics **3 Credits**

Interactions of neutrons with matter, cross-sections for neutron reactions, thermal neutron cross-sections, nuclear fission, energy release in fission, neutron multiplication, nuclear chain reaction, steady state reactor theory, criticality condition, homogeneous and heterogeneous reactor systems, neutron moderation, neutron diffusion, control of nuclear reactions, coolant, types of nuclear reactors: power reactor, research reactor, fast reactor, breeder reactor, reactor shielding, waste disposal. Prerequisite PHY 305

PHY 402: Atmospheric Physics **3 Credits**

Structure of the atmosphere, elementary ideas about the sun and the laws of radiation, definitions and units of solar radiation, depletion of solar radiation in the atmosphere, terrestrial radiation, radiation transfer, heat balance in the atmosphere, heat budget, vertical temperature profile, radiation charts and their uses, composition of the atmosphere, mean molecular weight, humidity, mixing ratio, density and saturation vapour pressure. Fundamental equations of atmospheric motion, approximations of the equation, circulation and vorticity and their equations. Introduction to atmospheric thermodynamics.

PHY 403: Plasma and Astrophysics **3 Credits**

General introduction to plasma physics, plasma as a fourth state of matter, definition, screening, and Debye shielding, plasma frequency, ideal plasma, temperature and pressure of plasma, magnetic pressure and plasma drifts, plasma waves, Landau damping, collisions in plasmas, hydrodynamic description of plasma, one fluid model, two fluid model,Chew-Goldberg theory, low waves in magneto-hydrodynamics, description of plasma, dielectric tensor, longitudinal and transverse waves, plasma instabilities, transport in plasmas, plasma kinetic theory, Vlasov equation, linear waves, waves in magnetized plasma, electromagnetic waves, waves in hot plasmas, nonlinear waves, Landau damping, quasi linear theory, plasmas in fusion research, astrophysical plasmas.

Introduction to astrophysics, formation of stars and galaxies, evolution of stars, the notion of cosmology, Cosmological Principle, various cosmological models of the universe, expansion of universe, Hubble's Law, problem of singularity in time, solutions of Friedmann, de Sitter and others, density of matter in the universe, cosmological term, self screening effect for matter. Prerequisites PHY 301 and PHY 304.

PHY 404: Electronic Devices and Circuits **3 Credits**

Modelling and application of Semiconductor devices and integrated circuits, advanced transistor amplifier analysis, including feedback effects. Design for power amplifiers, operational amplifiers (OPAMP), analog filters, oscillators, A/D and D/A converters and power converters. Introduction to transistor level design of CMOS digital circuits. Prerequisite PHY 306

PHY 405: Mathematical Physics **3 Credits**

Series solution of 2^{nd} order ordinary differential equations about ordinary and singular points, orthogonal set functions, Sturm-Liouville boundary value problem (SLP), eigen values and eigen functions of different SLP, series of orthogonal set of function. Laplace transforms: definition, Laplace transformations of some elementary functions, inverse Laplace transformations, Laplace

transformations of derivatives, Dirac delta function, some special theorem on Laplace transformations, solution of differential equations by Laplace transformations, evaluation of improper integrals; finite Fourier series, Fourier transforms, Fourier integrals, Fourier transform and application to solution BVP, beta and gamma functions, Legendre functions, Bessel functions, solution of boundary value problem by method of separation of variables, solution PDE of mathematical physics: Helmholtz equation, wave equation: vibrating string, vibrating membrane, diffusion equation, Laplace equation, Hermite polynomials, Laguerre polynomials, hyper-geometric functions.
Prerequisite MAT 203

PHY 406: Medical Physics and Instrumentation **3 Credits**
Ultrasound imaging, A-scan, B-scan, M-scan, clinical applications, rectilinear scanner, gamma camera, CAT scanner, MRI, clinical applications, audiology, hearing aids, vascular measurements, blood pressure, blood flow, blood velocity, cardiac measurements; ECG, ECG planes, elementary ideas on heart disorders, defibrillators, pacemakers, neuromuscular measurements; EEG, EMG, stimulation of neural tissue, nerve conduction measurements, bio-electric amplifiers, patient safety, radiopharmaceuticals, radiotherapy, radiation protection, radiation dosimetry.

PHY 407: Mathematical Modelling in Physics **3 Credits**
Basic concept of mathematical modelling, formulation and solution, overview of computational methods of classical and quantum physics, numerical procedure for special functions, Random numbers generator, Brownian motion simulation, linear system of equations, sparse linear system, eigen value problems, BVP involving ODE, Sturm-Liouville problems, BVP involving PDE: elliptic, parabolic and hyperbolic problems using finite difference and other methods, Monte Carlo integration and simulation, mathematical modelling of problems of physics using above techniques.
Prerequisite MAT 205

PHY 408: Advanced Quantum Mechanics **3 Credits**
Heisenberg and Dirac or interaction pictures, time-independent perturbation theory, degenerate perturbation theory, variation method, hydrogen atom and helium atom, WB approximation method, Sommerfeld-Wilson quantisation condition, time-dependent perturbation theory, Fermi's golden rule, applications, identical particles, parity, Pauli principle, applications, non-relativistic scattering theory, partial wave expansion, optical theorem, Smatrix, solution of the wave equation by the method of Green's function, LippmannSchwinger equation, Neumann series, Born approximation, applications, Klein-Gordon and Dirac equations, existence of electron spin, magnetic moment, plane wave solution of the Dirac equation, hole theory; prediction of the positron. Prerequisite PHY 303

PHY 409: Physics of Radiology **3 Credits**
The production and properties of X-rays, diagnostic and therapeutic X-ray tubes, X-ray circuit with rectification, electron interaction, characteristic radiation, bremsstrahlung, angular distribution of X-rays, quality of X-rays, beam restricting devices, the grid, radiographic film, radiographic quality, factors affecting the image, image modification, image intensification, contrast media, modulation transfer function, exposure in diagnostic radiology, fluoroscopy, computed tomography, ultrasound, magnetic resonance imaging (MRI).

PHY 410: Laser Physics **3 Credits**
Spontaneous and stimulated emission, absorption, pumping schemes, characteristic properties of laser beam, laser speckle, grain size calculation for free-space propagation, semi classical treatment of absorption and stimulated emission, spontaneous emission, results of QED treatment, electric dipole, allowed and forbidden transitions, Einstein's A and B coefficient, radiation trapping, superfluorescence, superradiane and amplified spontaneous emission, nonradiative decay,

homogeneous and inhomogeneous broadening, linewidth calculations for naturally, collisionally and Doppler broadened line, two level and four, level saturation, saturation of absorption & inhomogeneously broadened line, passive optical resonators, continuous wave and transient laser behaviour, laser beam transformation, types of lasers, their construction and use, applications of lasers, optical communications, laser in fusion research, holography.
Prerequisite PHY 304

PHY 411: Geophysics **3 Credits**
Solar system, the planets, meteorites, cosmic ray exposures of meteorites, Poynting-Robertson effect, compositions of the terrestrial planet, pre-radioactivity age problem, radioactive elements and the principle of radiometric dating, growth of constituents and of atmospheric argon, age of the earth and of meteorites, dating the nuclear synthesis, figure of the earth, precession of the equinoxes, the Chandler-wobble, tidal friction and the history of the earth moon system, fluctuation in rotation and excitation of the wobble, seismology of the earth, elastic wave and seismic rays, travel time and velocity depth curves for body waves, shockwave, internal pressure of earth core, internal density and composition, free oscillation, earthquake prediction problem, terrestrial magnetism, earth magnetic field, geophysical prospecting; seismic, gravitational, magnetic, electrical and nuclear methods.

PHY 412: Dynamical and Tropical Meteorology **3 Credits**
Geophysical fluid dynamics, Navier-Stokes' equation, rotating and stratified flow, scale analysis, hydrostatic approximation, Coriolis force, geopotential etc., gradient and thermal wind, vorticity and circulation theorems, Proudmen-Taylor theorem, atmospheric wave, atmospheric turbulence, barotroic and baroclinic instabilities, numerical weather forecasting, quasi-geotropic approximation, barotropic vorticity equation, primitive equation, multilayered models, tropical cyclones, norwesters and tornadoes, the monsoons, dynamical climatology, physics of upper atmosphere: geomagnetism, neutral atmosphere, ionosphere and magnetosphere. Prerequisite PHY 402

PHY 413: General Theory of Relativity **3 Credits**
Gravitation, Lagrangian Einstein equations, approximation of weak field and Hilbert's auxiliary conditions, comparison of corresponding relations with those of Newton's theory of gravitation, source of gravitation field, Schwarzschild's solution in isotropic and other coordinate systems, analogy between gravitation and electromagnetism, motion of test mass and geodetic lines, motion in Schwarszchild's field, equations of motion in general relativistic mechanics as a consequence of Einstein's equation of gravitational field, gravitational waves in weak field approximation, problem of energy transfer, exact wave solutions in the case of gravitational field, waves of matrices or wave of curvature, locally plane gravitational waves, Weber's and Braginski's experiments, prospects of future gravitational experiments.

PHY 414: Field Theory **3 Credits**
Equation of motion, quantization, conservation laws, construction of Hilbert space, Lagrangian, equation of motion, quantization of neutral and charged Klein-Gordon fields, Dirac equation, spinors, quantization of Dirac field, Maxwell fields, Gupta-Bleuler formalism, theory of gauge fields, invariant functions propagators for Klein-Gordon field, Dirac fields and electromagnetic fields, symmetries of interactions, interaction picture; U and S matrices, Feynman diagrams, Wick's theorem, Feynman rules, lowest order, amplitude and cross section for Compton scattering, GSW model of electroweak interactions, elements of QCD, path integral in field theory, introduction to string theory.

PHY 415: Neutron Scattering **3 Credits**
Neutron sources, continuous and pulsed sources, monochromatization, collimation and moderation of neutrons, neutron detectors, scattering of neutrons and its advantages, elastic scattering of

neutrons, magnetic scattering and determination of magnetic structure, inelastic scattering, thermal vibration of crystal lattices, lattice dynamics and phonons, neutron polarization, polarized neutron applications, scattering by liquids and molecules, Van Hove correlation formalism, some experimental results of scattering by liquids and molecules, small angle neutron scattering and its applications in the study of biological molecules and defects, experimental techniques of scattering measurements, time-of-flight method, crystal diffraction techniques, neutron diffractometer and triple-axis spectrometer, constant Q-method. Prerequisite: PHY 305

PHY 416: Radiation Biophysics **3 Credits**

Nucleus, ionizing radiations, radiation doses, interaction of radiation with matter, cell structure, radiation effects on independent cell systems, oxygen effect, hyperthermia, LET and RBE, lethal, potentially lethal and sub-lethal radiation damage, dose-rate effect, acute effects of radiation, somatic effects, late effects, non-specific life shortening and carcinogenesis, genetic changes, nominal standard dose (NSD), time dose fractionation (TDF), Standquist curve. Prerequisite: PHY 305

STA 101: Introduction To Statistics **3 credits**

Frequency distribution. Mean, median, mode and other measures of central tendency. Standard deviation and other measures of dispersion. Moments, Skews and kurtosis. Elementary probability theory and discontinuous probability distribution, e.g. binomial, Poisson and negative binomial. Continuous probability distribution, e.g. normal and exponential. Characteristics of distributions. Hypothesis testing and regression analysis. Basic concepts and applications of probability theory and statistics. Chi-square test.

STA 201: Elements of Statistics and Probability **3 credits**

Frequency distribution, mean, median, mode and other measures of central tendency, standard deviation and other measures of dispersion, moments, skewness and kurtosis, elementary probability theory and discontinuous probability distribution, binomial, Poisson and negative binomial distribution, continuous probability distributions, normal and exponential, characteristics of distributions, hypothesis testing and regression analysis, basic concepts and applications of probability theory and statistics, chi-squared test.

LAB COURSES

PHY 116: Physics Lab I **1.5 Credits**

List of Experiments:

EXP 1: Determination of the Young's Modulus of a Short Wire by Searle's Dynamic Method

EXP 2: Determination of the Modulus of Rigidity of a Wire by the Method of Oscillations

EXP 3: Determination of g by means of a Compound Pendulum

EXP 4: Determination of the Moment of Inertia of a Flywheel about its Axis of Rotation

EXP 5: Determination of the Spring Constant and Effective Mass of a given Spiral Spring

EXP 6: Determination of Surface Tension of Water by Capillary Tube Method

EXP 7: Determination of Surface Tension of Mercury and the Angle of Contact by Quincke's Method

EXP 8: Determination of the Viscosity of Glycerine by Applying Stokes' Law.

EXP 9: Determination of the Specific Heat of a Liquid by the Method of Mixture

EXP 10: Determination of the Specific Heat of a Liquid by the Method of Cooling

EXP 11: Determination of the Thermal Conductivity of a Bad Conductor by Lee's Method

EXP 12: Determination of the Pressure Co-efficient of a Gas at Constant Volume by Constant Volume Air Thermometer

EXP 13: Determination of the Stefan's Constant

EXP 14: Study of Variation of the Frequency of a Tuning Fork with the Length of a Sonometer (n-l curve) under given Tension and Hence to Determine the Unknown Frequency

EXP 15: Determination of the Frequency of a Tuning Fork by Melde's Experiment

EXP 16: Determination of Velocity of Sound by Kundt's Tube.

PHY 203: Physics Lab II **1.5 Credits**

List of Experiments:

EXP 1: Determination of the Focal Length and Hence the Power of a Convex Lens by Displacement Method with the Help of an Optical Bench

EXP 2: Determination of the Refractive Index of a Liquid by Plane Mirror and Pin Method using a Convex Lens

EXP 3: Determination of the Radius of Curvature of a Lens by Newton's Rings Method

EXP 4: Determination of the Refractive Index of the Material of a Prism by using a Spectrometer

EXP 5: Determination of the Wavelengths of Various Spectral Lines by Spectrometer by using Plane Diffraction Grating

EXP 6: Determination of the Value of an Unknown Resistance and Verification of the Laws of Series and Parallel Resistances by Means of a Post Office Box

EXP 7: Determination of the Internal Resistance of a Cell by a Potentiometer

EXP 8: Determination of the Specific Resistance of a Wire using a Meter Bridge

EXP 9: Determination of the Resistance of a Galvanometer by the Half-Deflection Method

EXP 10: Determination of the High Resistance of a Suspended Coil Galvanometer by the Method of Deflection

EXP 11: Comparison of the EMF of Two Cells with a Potentiometer

EXP 12: Determination of the Resistance per Unit Length of a Meter Bridge

EXP 13: Determination of the Temperature Co-efficient of Resistance of the Material of a Wire

EXP 14: Determination of the Value of J by Electrical Method

EXP 15: Determination of the Line Frequency by Lissajous Figure using an Oscilloscope and a Function Generator and Verification of the Calibration of Time/Div Knob at a Particular Position for Different Frequencies

EXP 16: Determination of the Self-Inductance of a Coil by Anderson's Method.

EXP 17: Charging and Discharging of Capacitors and Study of Their Various Characteristics.

PHY 307: Physics Lab III **1.5 Credits**

List of Experiments:

EXP 1: Determination of the Excitation and Ionization Potentials (of mercury) by Frank-Hertz Experiment.

EXP 2: Determination of the e/m of Electron Using Helmholtz Coil.

EXP 3: Determination of the Threshold Frequency for Photoelectric Effect of a Photo-Cathode and the Value of Planck's Constant by Using a Photoelectric Cell.

EXP 4: Determination of the Plateau of a Geiger-Muller Counter and Hence to Find its Operating voltage.

EXP 5: Study of the Variation of Electrical Conductivity of a Semiconductor and Determine of its Energy Gap.

EXP 6: Study of the Characteristics of a PN Junction and Zener Diode.

EXP 7: Study of the Characteristics of PNP and NPN Transistors.

EXP 8: Study of the Frequency Response Characteristics of an RC Low pass, RC High pass, a Band pass and a Parallel T Filter.

EXP 9: Study of the Frequency Response in LRC Series Circuit and the Variation of Q-factor with Resistance.

EXP 10: Determination of the Frequency Response in LRC Parallel Circuit and Determination of Q-factor.

EXP 11: Study of Variation of Reactance due to L and C with Frequency.

EXP 12: Designing and Construction a Summing Amplifier Using 741 Operation Amplifier (OPAMP).

EXP 13: Construction of Full Wave Bridge Rectifier Using Semiconducting Diodes and Study of the Effect of Filters.

EXP 14: Determination of Transistor Characteristics in Common Emitter Configuration and Determination of Hybrid Parameter.

EXP 15: Determination of the Coefficient of Mutual Inductance Between Two Coils and Hence to Show its Variation with the Separation Between the Coils.

EXP 16: Determination of the Absorption Coefficients of Different Materials for the Radiation Emitted by a Radioactive Source by Using a Geiger-Mueller Counter.

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Graduate Course Descriptions

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MASTER OF SCIENCE IN APPLIED ECONOMICS (MSAE)

ECO 511 Principles of Quantitative Analysis **3 Credits**

Objectives: To provide a thorough grounding in the methods and strategy of quantitative analysis and to ensure a broad perspective on the diversity of analytical methods.

Topics: Review of linear algebra, calculus, statistics and the philosophical bases of induction, deduction and hypothesis testing. Survey of techniques of optimization: linear, non-linear, quadratic and integer programming. Survey of econometric methods: time series, VAR, and limited dependent variable, structural, and panel models. Survey of stochastic processes and applications: queues, inventories, and Markov processes. Survey of problems in inference and interpretation: Duhem-Quine problem, causality, identification, and model selection.
Prerequisite: Permission of Instructor

ECO 512 Microeconomic Theory and Applications I **3 Credits**

Objectives: To study advanced microeconomic theory concerning individual decision making, game theory and the analysis of markets together with applications thereof.

Topics: Preference and Choice; Consumer Choice; Classical Demand Theory; Aggregate Demand; Production; Choice under Uncertainty; Non-cooperative Games; Simultaneous-Move Games; Dynamic Games; Competitive Markets; Externalities and Public Goods; Market Power; Adverse Selection, Signalling and Screening; Principal-Agent Problems.
Prerequisite: Permission of Instructor

ECO 513 Macroeconomic Theory and Applications **3 Credits**

Objectives: This course covers various topics in macroeconomics at the graduate level. The course is divided into four broad areas covering macroeconomic growth models, business cycles, consumption-investment-asset pricing, and new Keynesian models of imperfection.

Topics: Growth theory: Neoclassical and optimal growth models; Technological progress and human capital. Models of Fluctuation: Basic model business cycle-Consumption and saving choice; RBC models-Labour and leisure choice. Theory of Consumption, Investments and Asset Prices: Alternative theories of consumption; Risk, uncertainty and risk sharing; Asset pricing, arbitrage, state prices CAPM; Investment with adjustment costs and q-theory of investment. Market imperfections and Rigidities: Labour market-Efficiency wage, Implicit contract, Search models; Credit market-Amplifications, persistence, bank-crunch, bubbles; Goods market-Markups, complementarities, adjustment costs.
Prerequisite: Permission of the Instructor

ECO 514 Microeconomic Theory and Applications II **3 Credits**

Objectives: To study the microeconomic theory concerning general equilibrium, uncertainty, intertemporal utility, social choice and mechanism design, and to utilise the theoretical knowledge to gain a deeper understanding of practical economic issues.

Topics: Examples of General Equilibrium Theory; Equilibrium and Basic Welfare Properties; Walrasian Equilibrium and Existence; Core and Equilibria; General Equilibria under Uncertainty: Arrow-Debreu; Intertemporal Utility; Social Choice Theory; Axiomatic Bargaining; Incentives and Mechanism Design.
Prerequisite: ECO 512

ECO 515: Advanced Econometrics **3 Credits**

Objectives: This course aims to equip the students with the advanced tools and techniques in econometric data analysis. The course covers a wide range of topics in econometrics at the graduate level. Proficiency in at least one or more statistical software package such as SAS, RATS, STATA, E-Views and Microfit is expected or required to be acquired. The student must also prepare a term paper or project report using a data set and appropriate software which would demonstrate his/her analytical ability and the extent to which learning goals have been met.

Topics: Review of least squares methods using matrix approach; Small and large sample properties of OLS estimates; Inference and prediction; Alternative functional forms; Model selection criteria; Violation of OLS assumptions and GLS estimation; System of regression equation and simultaneous equation models; Alternative estimation frameworks-Parametric and Non-parametric estimation, ML estimation, GMM estimation. Elements of Structural Modelling and Time series Analysis; VAR; Unit Roots; Weiner Processes; Deterministic Trends; Variance Ratio Tests; Stochastic Processes, Integrated Variables and Cointegration; Bayesian Analysis of Stochastic Trends; Tests for Structural Change, Regime Switching, Markov Switching, Kalman Filtering, Structural Time Series Models. Limited dependant variables.
Prerequisite: Permission of Instructor

ECO 611: Time Series Analysis and Forecasting **3 Credits**

Objectives: To provide a thorough review of modern time series econometrics with an emphasis on empirical applications of time series and forecasting techniques in economics and finance. The contents of the course builds upon the time series related topics covered in ECO 505. A term paper / empirical project report is required.

Topics: Univariate Time Series Models and their Applications: ARMA, ARIMA, ARCH, GARCH and ACD processes; Spectral Analysis and Filtering; Multivariate Linear Time Series Models and Stationary Vector Autoregressions: VAR models, Forecasting from VAR models, Structural VAR, Bayesian VAR, Bootstrapping; Unit-Roots and Co-integrated Processes; Introduction to Linear and Non-Linear State Space Models.
Prerequisite: ECO 515

ECO 612: Models of Qualitative Choice **3 Credits**

Objectives: A broad and in-depth study of the econometric analysis of single-equation and simultaneous-equation models in which the jointly dependent variables can be continuous, categorical or truncated as opposed to continuous. A term paper / empirical project report is required.

Topics: Discrete Regression Models; Probabilistic Choice Models: Logit, Probit, Tobit; Discriminant Analysis; Multivariate Qualitative Variables; Censored and Truncated Regression Models; Self-Selection Models; Maximum Likelihood Models.
Prerequisite: ECO 515

ECO 613: Econometric Analysis of Panel Data **3 Credits**

Objectives: An in-depth study of up to up to date Panel Data techniques for use in quantitative and qualitative analyses of economic and socio-economic situations. A term paper / empirical project report is required.

Topics: One-Way and Two-Way Error Component Regression Models; Tests of Hypotheses with Panel Data; Heteroskedasticity and Serial Correlation in Error Component Models; SUR Models with Error Components; Simultaneous Equations with Error Components; Dynamic and Unbalanced Panel Data Models; Limited Dependent Variables and Panel Data; Non-Stationary Panels.
Prerequisite: ECO 515

ECO 614: Topics in Econometric Analysis **3 Credits**
Objectives: To cover recent developments and applications in econometric analysis.

Topics: Will depend on the expertise of the instructor and interest of the students.
Suggested Texts and References: To be decided as per topics covered.
Prerequisite: ECO 515

ECO 621: Corporate Finance and Economic Analysis **3 Credits**
Objectives: To provide an introduction to the theory and practical applications of modern Corporate Finance within the broader purview of the macro-economy.

Topics: Overview of Financial Markets, Financial Markets and the Economy at large, Risk and Hurdle Rates, Measuring Returns, Optimal Financing Mix, Appropriate Debt, Return to Ownership, Cash Returns, Valuation and Financial Decision Making.
Prerequisites: ECO 511

ECO 622: Capital Markets and Investment Strategy **3 Credits**
Objectives: To provide a theoretical and practical background in the field of investments and its relationship to capital markets.

Topics: The Investment Environment; Optimal Risky Portfolios; Equilibrium in Capital Markets; Arbitrage Pricing Theory; Empirical Evidence on Security Returns; Mutual Funds and Other Investment Companies; Portfolio Performance Evaluation; Bond Prices and Yields; Term Structure of Interest Rates; Managing Bond Portfolios; Fixed-Income Derivatives; Options Markets; Option Valuation; Futures Markets.
Prerequisite: ECO 621

ECO 623: Asset Pricing and Financial Derivatives **3 credits**
Objectives: An introduction to the pricing of Assets. Coverage of the mathematical methods used to derive pricing formulae including those of options and other derivatives.

Topics: Introduction to Various Derivatives; Present Value; Risk Aversion; Arbitrage; Forward and Futures Prices; Hedging using Futures; Interest Rates, Basics of Options and Trading Strategies; Binomial Trees; Elements of Asset Pricing (Stochastic Differentiation, Weiner and Poisson processes, Ito's Lemma); Black-Scholes; Implied Volatility; Hedging; Capital Asset Pricing Model and Portfolio Management; Value-at-Risk; Estimating Volatilities and Correlations; Credit Risk, Real Options and Insurance; Weather and Energy Derivatives.
Prerequisites: ECO 622.

ECO 624: Risks, Uncertainty and Insurance **3 Credits**
Objectives: An introduction to the analysis of uncertainty, insurance markets and the management of risk including decision making under uncertainty, Pareto-optimal risk allocation, equilibrium analysis of risk exchange and informational asymmetries.

Topics: Choice under Uncertainty; Expected Utility Theory; Risk Aversion; Change in Risk; Insurance Demand; Single Risk; Multiple Risks; Calculus of Variations and Optimal Control Theory; Optimal Risk Sharing; Pareto Optimal Allocations; Equilibrium Analysis; Asymmetric Information; Moral Hazard; Adverse Selection; The Theory of Risk Classification; Economic Analysis of Insurance Fraud; Organizational Forms within the Insurance Industry; Insurance Capacity and Cycles; Corporate Risk Management.
Prerequisites: ECO 511, ECO 512, ECO 514

ECO 625: Managerial Economics **3 Credits**

Objectives: This course is designed to provide students with a sound understanding of how various economic concepts and economic tools are used in managerial decision-making. The intent is to integrate theory and application. Topics to be covered in the course include demand analysis and estimation, production theory and cost analysis, market structure, pricing techniques, and risk analysis.

Topics: Market Forces, Demand and Consumer Behaviour, Production Analysis and Costs, Market Structure and Competition, Pricing Strategies, Risk Analysis, Moral Hazard, Incentives and Mechanism Design, Interface of Government and Business.
Prerequisites: ECO 511, ECO 512

ECO 626: Topics in Financial Economics **3 credits**

Objectives: The course is designed to cover various recent developments and advanced topics in applied financial economics.
Prerequisite: ECO 621

ECO 631: Public Economics **3 Credits**

Objectives: To examine contemporary theories, techniques, and issues in public economics.

Topics: The state in economic theory. Public, private and club goods; externalities; market failure and government failure. Public expenditure analysis. Redistribution and social insurance programs; State-owned enterprises: privatization, regulation and Ramsey pricing. Fiscal theory and practice; optimal taxation; tax evasion and household production. General equilibrium simulation.
Prerequisites: ECO 511, ECO 512, ECO 514

ECO 632: Project Appraisal and Management **3 Credits**

Objectives: To gain experience in the application of project and investment analysis methods. To examine the economic theory underlying project analysis.

Topics: Review of welfare economics. Multiple objectives and value metrics; valuation of intangibles, external and indirect effects. Discounting in theory and practice. The theory of distortions and shadow pricing. Scale problems: fixed and endogenous prices. Risk analysis. Sensitivity analysis. Finance and capital budgeting problems. Public sector projects: transportation and road projects; accounting and transparency. Environmental and regional impacts; problems with multiplier analysis.
Prerequisite: ECO 631

ECO 633: Resource and Environmental Economics **3 Credits**

Objectives: The course introduces the analytical and policy challenges posed by natural resources and environmental externalities and surveys classic and contemporary approaches to measurement and analysis.

Topics: Resource economics concerns the market structure, pricing, and intertemporal use of natural resources (renewable and nonrenewable). Regulatory and institutional means for managing resources; evaluation of incentive-based and command-based approaches; mechanism design for common property governance. Option value and existence value problems. Environmental economics concerns amenities and disamenities not traded in markets or that are jointly produced or consumed with other goods. The course examines mechanisms for improving the allocation of environmental amenitiesPigovian taxes, regulation, tradable permitsand methods of valuing themcontingent valuation, hedonics, and other indirect market-based measures. Finally, international treaties and cross-border resource and environmental issues are surveyed.
Prerequisites: ECO 632

ECO 634: Trade Policies and Development **3 credits**

Objectives: The analysis of trade policies, trade agreements, bi-lateral and multi-lateral trade negotiations and the resolution of trade disputes. The course links recent advances in trade theory to contemporary issues in trade and development policies. Issues in international finance, especially the transmission of international financial crises and the role and capacity of international financial institutions such as the IMF or BIS to manage or limit such crises will also be examined.

Topics: Survey of recent advances in the trade theory: new approaches to comparative advantage, market structure, factor measurement, factor productivity and total factor productivity; the problem of factor and product price equalization; geography and agglomeration economics; knowledge, human capital and endogenous growth. Case studies of selected WTO issues negotiations and disputes and, if relevant, SAFTA/SAARC issues. International movements of financial capital; origin, transmission, impact and resolution of recent financial crises and the role of international financial institutions.

Prerequisites: ECO 512, ECO 514

ECO 635: Economic Development Policies in Bangladesh **3 credits**

Objectives: An in-depth examination of the Bangladeshi development experience.

Topics: Sectoral Development and Sectoral Analysis in a General Equilibrium Framework; Agriculture, Industry and Service Sectors of Bangladesh; Foreign Trade, Foreign Aid and FDI; Financial Institutions, Monetary Management and Fiscal Policy; Technology and Human Resource Development; Role of NGOs; Long Term Economic Prospects.

Prerequisite: ECO 631

ECO 636: Topics in Economic Policy Analysis **3 credits**

Objectives: to examine, in depth and empirically, specific policy issues with an emphasis on the application of analytical methods.

Topics: The specific content of the course will depend on the expertise of the instructor and the interests of students.

Prerequisites: ECO 631, ECO 632

MASTER OF BUSINESS ADMINISTRATION (MBA)

FOUNDATION COURSES

ENG 092: Basic Course in English Language
This course provides an introduction to business vocabulary, language, writing and verbal skills. Topics include anatomy and construction of sentences, spelling, summarizing, comprehension, common business vocabulary, elements of good writing, and speaking.
Non-credit (equivalent to 3 credits).
Prerequisite: None

MAT 091: Basic Course in Mathematics
This course is for MBA candidates whose mathematical skills are insufficient for the core curriculum courses. This course covers basic arithmetic and algebraic skills (manipulation of exponents and other symbols, expressing and plotting of functions, solving simultaneous equations etc.), basic trigonometry, and the basic notions and techniques of differential and integral calculus.
Non-credit (equivalent to 3 credits).
Prerequisite: None

STA 091: Basic Course in Statistics
This course introduces statistical ideas as they apply to managers. Topics covered in the course include Collection, Organization and Presentation of data, Measures of central tendency, measures of dispersion, Skewness and Kurtosis, Correlation and Regression, Interpolation and Extrapolation, Time series analysis. Introduction to probabilities. Non-credit (equivalent to 3 credits).
Prerequisite: None

ITS 093: Basic Course in Business Computing
Introduces the students to the nature, operation, uses and potential of computer in business organizations. Topics include introduction to hardware and software technology, word processing, database management, spreadsheets, and electronic communication. Learning by practice is emphasized.
Prerequisite:
Non-credit (equivalent to 3 credits).
Prerequisite: None

Core Courses

ACT 501: Financial Accounting & Analysis **3 credits**
This course is designed to develop students' ability to read, understand, and use corporate financial statements. The course is oriented towards the use of financial accounting data and emphasizes the reconstruction and interpretation of economic events from published accounting reports. The course introduces participants to the fundamental concepts, terminology and techniques of financial accounting needed to analyze a corporate annual report. Topics include the balance sheet; the income statement; the statement of cash flows; financial statement analysis; liquid assets; inventories; fixed assets; liabilities; and owner's equity. The course will provide a brief overview of framework, concepts, and tools for analyzing financial decisions based on fundamental principles of modern financial theory.
Prerequisite: Introduction to Business or equivalent.

ACT 502: Managerial Accounting & Control **3 credits**

In this course, students work to develop the knowledge and skills to be an intelligent user of accounting information for managerial position in the organization. This skill becomes one of the foundations of a sound decision making process. Topics include: concept of cost element, cost classification, methods of costing and break-even analysis, budgeting and budgetary control, product costs, joint costs and other uses of accounting information.
Prerequisite: ACT 501 or equivalents.

BUS 501: Business Law **3 credits**

The course provides the students an orientation in the role of business related laws in decision-making and in dispensing managerial responsibilities. It includes both commercial laws (contract, agency, sale of goods, negotiable instruments, insolvency, company law etc.) and the industrial laws (labor laws, payment wages, factories act, workmen compensation, industrial disputes, trade union act etc.). The course also extends its emphasis on laws governing businesses, shareholders, officers, companies, financial institutions, bill of exchange, bankruptcy, environmental protection, information and consumer protection.
Prerequisite: None

BUS 502: Managerial Communication **3 credits**

This course will help the students to think strategically about communication in the managerial world. The course provides students with practice and feedback on the writing and presentation skills required implementing their strategies. Audience analysis and situation specific types of communication are emphasized in the course. By focusing extensively on both message and audience, students will learn to express themselves coherently and succinctly. The course explores the use of media types and deals with job search and interview skills. Also includes discussion and practice of body language including manners and etiquette.
Prerequisite: ENG 092 or equivalents.

BUS 503: Environment and Business **3 credits**

This course addresses managerial issues in the social, political, legal, and ethical environment of business. It examines the interactions between the environment and the firm as well as the consequent changes that have resulted in consumer attitudes, laws, regulations and taxes. The course illustrates how managers are called upon to interact with the public and governments in local, national, and international settings. Topics include integrated strategy, activists and the media, legislation affecting business, intellectual property, Internet privacy, and international trade policy.
Prerequisite: None

BUS 510: International Businesses **3 credits**

The course requires students to Identify, analyze, and resolve managerial issues in the context of international business environment; Students are introduced to international finance, economics, and marketing, International organizations and regulatory bodies. Emphasis is placed on global business strategy and International law. Emphasis will also be given on problems of adaptation to different sociological, cultural, legal, political, and economic environment.
Prerequisite: ECO 502 & BUS 503 or equivalents

ECO 501: Managerial Economics **3 credits**

This course covers microeconomic concepts relevant to managerial decision-making. Topics include demand and supply analysis; pricing; cost and production; utility theory; supply and demand; competition; market behavior; production theory; perfect competition; public goods; oligopoly; reputation and credibility; risk aversion and risk sharing; hidden information and market signaling; moral hazard and incentives; and transaction cost economics. Focus of the course is on applications

of the economic concepts to managerial strategy and public policy, with emphasis on competition, market power, and externalities.
Prerequisite: MAT091& STA091 or equivalents.

ECO 502: Macroeconomics & Business Forecasting **3 credits**
The purpose of this course is to train the students to think systematically about the current state of the economy and macroeconomic policy and to be able to evaluate the economic environment within which business and financial decisions are made. The course emphasizes the use of economic theory to understand and forecast the workings of financial markets and the operation and impact of government policies. Specifically, the course studies the determinants of the level of national income, employment, investment, interest rates, the supply of money, inflation, exchange rates, and the formulation and operation of stabilization policies.
Prerequisite: ECO 501 or equivalents.

HRM 501: Organizational Behavior & Leadership **3 credits**
This course relates existing theory and research to organizational problems by reviewing basic concepts in the following areas: individual motivation and behavior, interpersonal communication and influence, small group behavior, inter-group conflict and cooperation, organizational structure, and relations between organizations and environments. The course also focuses on relative effectiveness of various leadership styles and power tactics from managerial point of view.
Prerequisite: None

ITS 501: Computer Programming **3 credits**
This course introduces the students to the structured programming concepts and program development process. A procedural language is used to solve problems from business situations. Emphasis is given on database management with reference to various packages. Topics include problem analysis, development of algorithm, flow charts, program development, report writing, testing, and finalization. Project work is emphasized.
Prerequisite: ITS 093 or equivalent

ITS 510: Information Management **3 credits**
This course introduces students to the nature of information as a resource in the work place. It provides an overview of planning and managing information and helps students to understand information flow in an organization. The course also investigates how technology is changing the way we communicate and make decisions.
Prerequisite: ITS 501 or equivalents.

MAT 501: Mathematics for Decision-making **3 credits**
This course introduces students to key techniques for using data to make informed management decisions. Topics include elements of algebra, number fields, linear and non-linear inequalities, functions, set, analytical model, logarithm limit, differential and integral calculus, matrix and linear programming. The course emphasizes managerial applications of mathematical tools in such areas as operations management, marketing, and finance.
Prerequisite: MAT 091 or equivalent

MGT 501: Management of Organizations & Systems **3 credits**
The course is designed to develop analytical skills and demonstrates how important it is for the successful manager to view his or her functional task from a generalist standpoint. The course provides a general analysis of management, basics of planning, organizing, and controlling, leadership techniques, and interpersonal relations in business and non-business organizations.
Prerequisite: HRM 501 or equivalents.

STA 501: Business Statistics **3 credits**

This course introduces the statistical methods used in the analysis of data from experiments. These methods, collectively known as the analysis of variance, provide an important addition to the standard suite of regression techniques. Specific important topics covered include least squares estimation, probability, probability distributions, residuals and outliers, tests and confidence intervals, correlation and autocorrelation, collinearity, and randomization. Emphasis is given on construction of models, interpretation of results, and critical evaluation of assumptions.
Prerequisite: STA 091 or equivalent

STA 510: Research Methodologies **3 credits**

This course introduces students with the basic elements and process of research. Topics include preparing a research proposal, problem formulation, research design, data collection methods and analysis, hypothesis testing, correlation and regression analysis, and analysis of variance. Special attention is given to business research.
Prerequisite: STA 501 or equivalents.

FUNCTIONAL COURSES

MKT 501: Marketing Management **3 credits**

The objectives of this course are to introduce students to the substantive and procedural aspects of marketing management, and to sharpen skills for critical analytical thinking and effective communication. Specifically, the course introduces students to marketing strategy and to the elements of marketing analysis such as customer analysis, competitor analysis, and company analysis. The course covers the basic nature of the marketing philosophy, market opportunities and threats, identification of marketing strengths and weaknesses, and the major marketing tools available for building the overall marketing program.
Prerequisite: ECO 502 or equivalents.

OPN 501: Operations Management **3 credits**

This course focuses on basic managerial issues arising in the operations of both manufacturing and service industries. The objectives of the course are to familiarize students with the problems and issues confronting operations managers, and to introduce language, conceptual models, and analytical techniques that are broadly applicable in confronting such problems. Topics include project planning, risk evaluation, forecasting, scheduling, product-process matrix; inventories; small batch production and new manufacturing technologies. Pre-requisite: MAT 501, STA 501 or equivalents.

HRM 502: Human Resource Management **3 credits**

This course provides a framework for understanding and thinking strategically about employment relations and the management of human resources in organizations. The course draws on insights from the social sciences to explore how economic, social, psychological, legal, and cultural forces influence employment relations. Specific topics include: recruitment and selection; performance evaluation; compensation and benefits; promotion; job design; training; layoffs, retention, turnover; and the human resource implications of various strategies.
Prerequisite: HRM 501 or equivalents.

FIN 501: Financial Management **3 credits**

This course covers the foundations of finance and uses these foundations to analyze many of the important financial decisions made within firms. The course provides participants with the basic analytical tools to address the valuation problems. Topics include financial markets and net present value; capital budgeting; bond valuation; valuation of equity; valuation of companies; estimating continuing values and alternatives to discounted cash flow; portfolio theory; capital structure and the

value of a firm; the cost of capital; and market efficiency.
Prerequisite: ACT 501 or equivalents.

CAPSTONE COURSE

MGT 601: Strategic Management **3 credits**

This capstone course deals with the overall management of an organization. It is concerned with the determination of the strategic direction of the firm, as well as the management of strategy processes within the firm. The primary objective of the course is for the student to develop a perspective of the general manager's role and responsibilities. It deals with developing the capability to understand a firm's strategic situation in depth and to develop viable alternatives for dealing with the key issues facing it. The relationship between organization structure and strategy are examined, and tools are developed for examining the firm's industry and competitive environment. Strategy at the business unit, divisional, and corporate level are studied. This course builds on other core courses.
Prerequisite: All core and functional courses

CONCENTRATION AREA COURSES

Each course in the concentration area carries 3 credit including the Field Studies Courses. The concentration courses can be taken only after meeting the pre requisites and credit hour requirements.

BANK MANAGEMENT

BNK 601: Banking Law and Practice **3 credits**

This course provides an overview of the Bangladesh banking system. Topics will include Central and state regulation of traditional banking activities, regulation of bank ownership, geographic expansion, non-banking activities, securities activities, antitrust issues, bank supervision, consumer protection, and banking operation issues.
Prerequisite: None

BNK 602: Commercial Bank Management **3 credits**

The course has three basic objectives. First, to familiarize the student with the management of commercial banks. The policies that will lead towards the maximization of stockholder wealth will provide the framework for the course. Second, it would help the student understand the need of bank financing for business firms. The course includes Banking Fundamentals, Review of Finance, Asset and Liability Management, Capital Requirements, Cost of Bank Funds, Managing Liquidity Needs. Investment Management, Hedging Interest Rate Risk. Credit Policies, Commercial & Consumer Loans. Loan Profitability Analysis.
Prerequisite: BNK 601 or equivalents.

BNK 603: Management of Specialized Banks **3 credits**

Topics include services of specialized banks, types of coverage organization and operation of specialized banks, environment of specialized banks, risk and return potential. The course focuses more on management issues of specialized banks than on technical details. This course will deal primarily with the operations and services of five specialized banks in Bangladesh: Bangladesh Shilpa Bank, Bangladesh Shilpa Rin Sangstha, Bank of Small Industries and Commerce Bangladesh LTD, Bangladesh Krishi Bank and Rajshahi Krishi Unnayan. The main focus of the course will be on the role of these banks on the rural, agricultural and the industrial sector. Emphasis will also be placed upon the environment of specialized banks, risk and return potential of these banks and the extent of the coverage of their operations.
Prerequisite: FIN 501 or equivalents.

BNK 604: Financial Analysis **3 credits**

The primary focus of this course is on equity (share) valuation, with some attention given to credit analysis and the valuation of debt. The methods of fundamental analysis will be examined in detail and applied in cases and projects involving listed companies. Topics include models of shareholder value and a comparison of accounting and discounted cash flow approaches to valuation, methods of financial statement analysis, testing the quality of financial reports, designing value-added metrics, forecasting earnings and cash flows, pro-forma analysis for strategy and planning, and the determination of price/earnings and market-to-book ratios. The analysis will be carried out from the perspective of both the outside security analyst and the corporate financial analyst.
Prerequisite: ACT 501 or equivalents.

BNK 605: Project Preparation and Appraisal **3 credits**

This course deals with identification, preparation and appraisal of projects. Basic techniques of financial planning, analysis, appraisal and organizational aspects of projects are covered.
Prerequisite: FIN 501 or equivalents.

BNK 606: International Banking **3 credits**

This course investigates international financial institutions and instruments. The course introduces the operations of the international banking industry and shows their practical application. The course will include the following topics. International Banking: Introduction, Trends and Strategies, Recent patterns of international banking activities, Value creation in international banking, Country risk analysis in international banking.
Prerequisite: BNK 601 or equivalents.

BNK 607: Marketing of Bank Services **3 credits**

The course is a study of concept, strategy and marketing of bank services. It focuses on application of the marketing management principles, tools and techniques in the marketing of bank services. Topics covered are difference between product and bank service marketing, service as a process and performance, bank service market segmentation, positioning strategy, tools for service for marketers, role of technology in services, marketing mix, marketing communication, role of service personnel, service quality and productivity, integration of service marketing, operation and human resource.
Prerequisite: MKT501 or equivalents.

BNK 608: Corporate Finance **3 credits**

This course offers an overview of finance from the perspective of the corporate financial manager. The investment side will include portfolio selection and management decisions, capital budgeting under risk, and M&A. The financing side comprises decisions about capital structure-how much debt, relative to equity, is optimal for a particular firm-as well as decisions about what kind of debt, and what kind of equity, is right for the firm.
Prerequisite: FIN 501 or equivalents.

BNK 609: Field Studies in Banking
(Please See NOTE # 2 at the end of descriptions of courses)

ENTREPRENEURSHIP

ENT 601: Entrepreneurial Process and Principles **3 credits**

This course covers the entrepreneurial process from conception to birth to adolescence of a new venture. It concentrates on attributes of entrepreneurs/entrepreneurs searching for opportunities, and gathering resources to convert opportunities into businesses. Students learn to evaluate new ventures and develop a business plan to pursue those ventures. It is stressed throughout that new

venture development can happen both within and outside an existing organization.
Prerequisite: All functional area courses.

ENT 602: Venture Capital Management **3 credits**
The course integrates the material introduced in MBA core courses and applies it to the design and evaluation of new ventures. The purpose of this course is to explore the many dimensions of new venture creation and growth and to foster innovation and new business formations in independent and corporate settings. The course addresses both a theoretical perspective on venture initiation and the application of writing an actual business plan. The course is the required entry point for all students interested in a concentration in Entrepreneurial Management and, in turn, is a prerequisite to all advanced entrepreneurial courses.
Prerequisite: FIN 501, ENT 601 or equivalents.

ENT 603: New Venture and Business Development **3 credits**
Provides students with clinical experience in conducting field research and consulting projects for companies. Projects may include new business startup, corporate business development, and high tech consulting assignments. The course stresses the understanding of the new venture and business development market and developing skills in assessing company needs, writing proposals, and conducting focused business research projects. Fulfills experiential requirement for new venture and business development major or minor.
Prerequisite: ENT 601 or equivalents.

ENT 604: Small Business Management **3 credits**
This course provides an exploration into the fundamentals of effective small business management. Topics such as growth, advertising, financial analysis, budgeting, purchasing, inventory management, and financial control are also covered. This course also looks at some of the special issues facing small business owners and managers: technology, crime, risk management, family business, ethics, and the global market place.
Prerequisite: MGT 501 or equivalents.

ENT 605: Entrepreneurial Marketing **3 credits**
This course focuses on the key marketing concepts and methods relevant for entrepreneurs. In particular, it covers the marketing elements of new venture initiation (including a business plan), as well as marketing decisions for small and growing organizations. Topics include product/service design, assessment of market potential, creation of successful distribution relationships, and new product pricing. In contrast to the product development course, the emphasis here is on a new startup business rather than a new offering from an existing business. Topics covered in this course also include low-budget or no-budget market research, successful strategic alternatives for small business, alternatives to high-cost advertising (e.g., direct marketing, alternative media, and personal selling), segmentation, and targeted marketing. Students will prepare a marketing plan for an entrepreneurial organization of their choice, possibly for a new venture they are considering.
Prerequisite: MKT 501 or equivalents.

ENT 606: Corporate Entrepreneurship **3 credits**
This course is an in depth study of the entrepreneurship process. This focus will include the corporate necessity of entrepreneurship in corporate growth, creativity and innovation, the development of venture plans, the techniques for implementation entrepreneurial projects.
Prerequisite: MKT 501 or equivalents.

ENT 607: Field Study in Entrepreneurship **3 credits**
Field Study in Entrepreneurship immerses graduate students in the planning and execution of complex entrepreneurial activities in a small existing or start-up business. Activities involve new

business formation, direction setting, growth, or turnaround. While students will be under the supervision of the faculty, they are expected to display responsible independent action and to interact frequently with a business founder, owner, or chief executive. Students must apply concepts learned in other business courses to their field study experience and to report orally and in written for the lessons learned.
Prerequisite: ANY 3 ENT courses.

FINANCIAL MANAGEMENT

FIN 601: Capital Budgeting **3 credits**
This course extends the discussion, considering practical problems of implementation, evaluation of uncertainty in the cash flows, and various interdependencies that influence the decision. The course will integrate theory and practice, facilitated through the use of spreadsheets and simulation analysis, in order to provide the student with cutting-edge capital budgeting analysis tools. The theme of creating value for shareholders will permeate the entire course. Case analysis and presentation are a central focus of the course.
Prerequisite: FIN 501 or equivalents.

FIN 602: Corporate Financial Strategy **3 credits**
This course examines how corporate and financial strategies can lead to the creation and maintenance of shareholder value. Value transfer and destruction are also explored. Numerous examples are used to illustrate the practical application of strategies and to examine the role of key value drivers. The issues of effectively communicating strategies to the financial markets and providing incentives to create value are also explored.
Prerequisite: FIN 501 or equivalents.

FIN 603: Financial Institutions and Markets **3 credits**
This course examines financial market instruments, intermediaries, and financial risk management. Its main focuses are on the nature of the intermediation process, the unique features of intermediaries and instruments, and the trends in the development of new instruments in financial risk management. It also emphasizes the risk management by financial institutions.
Prerequisite: FIN 501 or equivalents.

FIN 604: Investment Management **3 credits**
This course surveys major investment problems. Factors affecting the term structure and risk structure of yields on financial claims are identified and analyzed. The course focuses on: the development of principles of personal and institutional portfolio management; modern capital asset pricing theory; valuation discussions on models for common stock prices. The institutional structure of the investment markets in is viewed, with special emphasis on the role of security exchanges and the impact of institutional investors. Emphasis is placed on the efficiency of financial asset markets in adjusting to information entering the marketplace.
Prerequisite: FIN 501 or equivalents.

FIN 605: Applied Portfolio Selection **3 credits**
This course puts emphasis on management of existing portfolio investments, the Reese Investment Fund. Each student is responsible for analyzing an industry group and the associated firms. The major focus of the course is conducting a detailed security analysis and presenting the findings to the Fund's Board of Advisors, which is composed of investment professionals. In essence, the students function as an independent investment management group for the portfolio.
Prerequisite: FIN 501 or equivalents.

FIN 606: Financial Intermediation **3 credits**

This course provides a systematic analysis of the structure and operations of financial markets and institutions and the interrelationships among financial, real and monetary sectors in a market oriented economy. The course also combines economic analysis with a description of the operations of financial intermediations, so that student is provided not only with a picture of what financial institutions are but of why and how they operate in the manner they do.
Prerequisite: FIN 501 or equivalents.

FIN 607: Real Estate Finance **3 credits**

Numerous innovative and complex financial instruments have been created with real estate as the underlying asset of value. This course will analyze the risk and return characteristics of several of these real estate financial instruments such as mortgage-backed securities, participating mortgages, collateralized mortgage obligations (CMOs), real estate mortgage investment conduits (REMICs), limited partnerships, and real estate investment trusts (REITs). The role of the secondary mortgage markets, the stock markets, and various institutional sources of real estate financing will be examined.
Prerequisite: FIN 501 or equivalents.

FIN 608: International Finance **3 credits**

The most pervasive problems faced by international managers are those resulting from currency differences and currency risks. This course applies financial and economic theory to the international financing and investment decisions of corporations, financial institutions and individual investors. Reduction of risk through use of forward exchange markets and hedging will be examined. The various methods of moving liquid assets and their constraints will be considered. Capital budgeting decisions and issues regarding capital structure, where the assets and sources of financing are in different economies, are also studied. An extension of the Capital Asset Pricing Model to an integrated world model is considered. A term paper is usually required.
Prerequisite: FIN 501 or equivalents.

FIN 609: Marketing of Financial Services **3 credits**

This course examines the need for marketing in products and services of financial institutions like commercial banks, investment banks, leasing companies, house building finance companies, develops an understanding of the ways in which financial service marketing differs from product marketing, and improves students' understanding of how financial service characteristics affect the marketing function. Students learn to develop and implement marketing plans for financial service organizations.
Prerequisite: FIN 501, MKT 501 or equivalents.

FIN 610: Micro Finance **3 credits**

This course is a blend of micro finance theory and practice. It is intended to familiarize students with the basic issues and debates around micro finance. It is also designed to cover some essential tools of micro finance operation, such as financial management, business planning, program evaluation, and human resource management. Pre requisite: FIN 501 or equivalents.

FIN 611: Field Studies in Finance

(Please See NOTE # 2 at the end of descriptions of courses) 3 credits.

HUMAN RESOURCE MANAGEMENT

HRM 601: Manpower Planning and Personnel Policy **3 credits**

The aim of this course is to develop a critical understanding of the role of the manpower planning and its personnel policy in modern organizations. The course is designed to equip the students with

the techniques of developing personnel policy and implementation. It includes a detailed study of environmental trend analysis, manpower planning models, manpower needs and personal information system to forecast manpower needs and consideration of some indicators of manpower effectiveness. Students must consider historical, economic, cultural, legal, political and other factors before coming to a policy decision. A greater emphasis will be placed on management of labor policy and differences between management and their workforces.
Prerequisite: HRM 502 or equivalents.

HRM 602: Career Management **3 credits**
The nature of careers and career development at individual, organizational and societal levels of analysis, considered from personal and managerial perspectives. Explores the linkage between organizational strategy, structure and career system as well as the central role of career management in the effective use of human resources.
Prerequisite: HRM 502, MGT 501 or equivalents.

HRM 603: Leadership and Teamwork **3 credits**
This course concentrates on the following topics: Managers vs Leaders, Challenging the process, Inspiring a shared vision, Enabling others to act, Modeling the way, Encouraging the heart, Managing People, Understanding Oneself and Others, Leadership and Team building, Effective Communication, Leadership Behaviors, Stress Management, Managing Organizational Culture., Leading organizational change and managing conflicts.
Prerequisite: HRM 501, HRM 502 or equivalents.

HRM 604: Negotiations and Dispute Resolution **3 credits**
The purpose of this course is to introduce students to the theory and techniques of negotiation and mediation processes. The course will begin with a review of negotiation theory. This will be followed by a review of techniques for the design and operation of stakeholder decision-making processes. Case studies and negotiation simulation sessions will be used to illustrate key concepts. After completion of the course, students will have the skills required to design, manage and participate in a stakeholder negotiation and decision-making process.
Prerequisite: HRM 501 or equivalents.

HRM 605: Industrial Relations **3 credits**
This course examines how the interactions between and among workers, management, and the state shape and define the structure and experience of work. The course discusses the following topic: Intro to IR Theory, Employment Relations: The Economic Paradigm, IR Dynamics, Theory of Unionism, Nonunion Worker Voice & IR Theory, Alternate Paradigms of Industrial Relations, Comparative IR Theory, Public Policy and IR Theory, Integration and Synthesis.
Prerequisite: HRM 502 or equivalents.

HRM 606: Strategic Human Resource Management **3 credits**
Human resource management: meanings and models. The links with strategy. Strategic human resource management and competitiveness. International dimensions of human resource management including examples from the USA, Europe and Developing Countries. The international firm: staffing and policies. Expatriates and intercultural competence. Substantive issues with a focus on employee involvement, human resource flows (including selection, training and development), work systems (designed for motivation and commitment) and modern reward systems. Future issues in human resource management: globalization and the management of diversity.
Prerequisite: HRM 502 or equivalents.

HRM 607: Employee Discipline, Discharge and Grievance Settlement **3 credits**
The course deals with policies, principles, procedures and rules to effect and maintain discipline in workforce and to settle grievance. Case studies are extensively used.
Prerequisite: HRM 501, HRM 502 or equivalents.

HRM 608: Labor Market and Public Policy **3 credits**
The course will cover main topics in labor economics. The topics that will be discussed in this course are: the Nature of Labor Market Analyses; Labor Market Flows; Labor Market Developments in Selected Industrial Nations, The Basic Static Labor Supply Model. Home Production and Time Allocation Models. Non-Linear Budget Constraints. Family Models. Empirical Analyses, Human Capital and Long-Run Labor Supply. Occupational and Educational Choice, Wages and Earnings. Returns to Experience, Labor Demand: the Basic Theory; Some Extensions; Empirical Evidence, Discrimination and Segmentation, Labor Markets in Transitional Economies.
Prerequisite: ECO 502, HRM 502 or equivalents.

HRM 609: Technology and Tools for Managing HR System **3 credits**
This course introduces the best technology and tools for attracting, developing, motivating and retaining a workforce, It considers human resource issues such as recruitment and selection, diversity performance evaluation, compensation and reward systems, teams, worker participation programs.
Prerequisite: ITS 501 or equivalents.

HRM 610: Management of Organizational Change **3 credits**
The course aims at providing the students an in depth understanding of nature, purpose, establishment, structure and functioning of organizations and the management process and skills required to manage the organizations effectively. Topics are organizational types, missions and objectives, structure and dynamics, organizational culture, concept, process and environment of management, managerial skill and competence, problem solving and decision-making, management functions-planning, organizing, leading, and controlling.
Prerequisite: HRM 501 or equivalents.

HRM 611: Compensation Policy **3 credits**
The course begins by examining functional areas of human resource management including compensation, Compensation and Motivation, Different Rules. It examines in depth the historical development of organized labor, the current structure and characteristics of the labor market and industrial relations, government regulation of the labor market, and recent developments in the area of human resource management.
Prerequisite: HRM 501, HRM 502 or equivalents.

HRM 612: Field Study in Human Resource Management
(Please See NOTE # 2 at the end of descriptions of courses) 3 credits

INFORMATION TECHNOLOGY AND SYSTEMS

ITS 601: Advanced Programming **3 credits**
This course enables students to design and implement efficient object-oriented solutions using C++. Emphasis is placed on the improvement of C++ code quality and reusability with design patterns and proven idioms. Students are also taught how to build robust, efficient libraries using namespaces, templates. Students are required to use the standard C++ library, including the Standard Template Library (STL).
Prerequisite: ITS 501 or equivalents.

ITS 602: Database Management **3 credits**

This course focuses on the relational database design and SQL. Database management system used in this course, MS-Access, is introduced only as a tool to practice designing database and understand the theory. It is expected that a student with a good understanding of the relational database theory can quickly learn how to use any relational DBMS in the future. This course also teaches the fundamentals of application design with various examples. New development in this field, such as Internet and intranet databases, data warehousing, Object Oriented DBMS, distributed processing, ODBC, and SQL3, will also be introduced.

Prerequisite: ITS 501, ITS 510 or equivalents.

ITS 603: Management Information Systems **3 credits**

This course introduces the student to the use of personal computers for solving business problems, including the use of spreadsheets, databases, accounting, communications and expert systems software packages. The course surveys the different types and roles of information systems found in organizations today, including the strategic role of Information Technology (IT) in gaining competitive advantage. An introduction to artificial intelligence and expert systems is also included.

Prerequisite: ITS 501. ITS 510 or equivalents.

ITS 604: Electronic Commerce **3 credits**

This course is intended to provide MBA students with an overview of the electronic commerce phenomenon currently sweeping through the global economy. The course introduces contemporary management philosophies as they have come to be used for the marketing, selling, and distribution of goods and services through the Internet, World-Wide-Web, and other electronic media. Much has happened in this arena and new developments continue at a high rate.

Prerequisite: ITS 501 or equivalents.

ITS 605: Systems Analysis, Design and Implementation **3 credits**

This course emphasizes on the structured analysis and logical design of business information systems. Techniques for stating and analyzing requirements are introduced. Emphasis is also put on logical design and specifications of system outputs, inputs, files, and processing, procedures for system cost and benefit analysis, life-cycle concept of information system development and alternative system structures and alternative system evaluation. The course covers design of program structures, subsystems, and user interfaces. Implementation, conversion problems, and evaluation of system performance are also examined.

Prerequisite: ITS 501, ITS 510 or equivalents.

ITS 606: Decision Support Systems **3 credits**

This course provides experience in the construction of DSS that support individual and organizational decision processes. The focus is on three types of DSS. The first is DSS that are based on databases and decision models, such as spreadsheet model simulations. The second is intelligent DSS, and especially rule-based systems. The third focus is on group DSS for conducting collaborative work and on executive information systems.

Prerequisite: ITS 501, ITS 510 or equivalents.

ITS 607: Applied Management Science **3 credits**

This course deals with the management science approach in organizations, including modeling and rational approaches to decision-making process. Emphasizes analysis and communication, using real world application and cases. Topics include: linear programming and its extensions; integer programming; network problems; decision analysis as applied to tactical and strategic business decisions. Implementation using existing software packages for management science to understand concepts and solve various managerial problems is an integrated part of this course.

Prerequisite: MAT 501, STA 501, OPN 501 or equivalents.

ITS 608: Management of Information Technology **3 credits**
This course examines several of the major IT issues facing today's managers: Keeping pace with the rapidly emerging new information technologies, including artificial intelligence; managing the acquisition of new information systems in the age of outsourcing; finding an appropriate role for electronic commerce; managing the impact of IT on human resources; and maintaining security in a networked environment. Issues examined vary, based on relevance and student interest.
Prerequisite: ITS 501, ITS 510 or equivalents.

ITS 609: Field Studies in Information Technology & Systems
(Please See NOTE # 2 at the end of descriptions of courses) 3 credits.

MARKETING MANAGEMENT

MKT601: Brand Management **3 credits**
This course focuses on the role of products in the marketing mix. In particular, topics explored will include the creation of new products, the deletion of obsolete products and the management of mature products in the firm's product line. Systematic models of new product planning are studied to facilitate the integration of new offerings with the existing product line. Instruction includes lectures, case analysis and textbook discussion.
Prerequisite: MKT 501 or equivalents.

MKT 602: Services Marketing **3 credits**
This course examines the need for marketing in service industries, develops an understanding of the ways in which service marketing differs from product marketing, and improves students' understanding of how service characteristics affect the marketing function. Students learn to develop and implement marketing plans for service organizations.
Prerequisite: MKT 501 or equivalents.

MKT 603: Marketing Research **3 credits**
This course develops a managerial appreciation toward marketing research. The steps of the research process are delineated, starting from recognizing and specifying the informational needs of the decision-maker and definition of the problem, through research design, sample selection, preparation of the instrument, data collection, data reduction, analysis, presentation and follow-up. Integration of the concepts discussed is achieved through considering the broader requirements of a marketing information system. The method of instruction includes cases, discussion of readings and use of computer analysis packages. A major term project is required.
Prerequisite: MKT 501, STA 510 or equivalents.

MKT 604: Marketing in the Global Economy **3 credits**
This course satisfies two interrelated objectives: to improve the students' marketing decision-making ability through the solution of complex multinational marketing problems; and to increase the student's sensitivity to different cultural, socio-economic and legal environments encountered in the international marketplace. The course uses readings, cases and a group project.
Prerequisite: MKT 501, BUS 510 or equivalents.

MKT 605: Consumer Behavior **3 credits**
To compete effectively in the marketplace, every firm needs a business strategy. Ultimately, strategy is deemed successful if the firm can convince customers to buy more of its products and less of the competitor′s. This happens only if the firm markets a product that satisfies the needs of consumers

through an understanding of the psychological and environmental forces influencing consumer behavior.
Prerequisite: HRM 501, MKT 501 or equivalents.

MKT 606: Marketing Policy and Strategies **3 credits**
This course familiarizes the student with the range of decisions involved in planning marketing strategies and policies for the future, and develops skills in using a variety of analytical frameworks for making such decisions. It is targeted at final-semester marketing or strategic management majors.
Prerequisite: MKT 501 or equivalents.

MKT 607: New product Development **3 credits**
This course introduces the theory and practice of market led innovation and new product level through all aspects of the new product development process, from idea generation through to product launch and post-launch evaluation.
Prerequisite: MKT 501 or equivalents.

MKT 608: Marketing Promotions **3 credits**
This course will provide the student with an overview of the integrated marketing communications process. Students will learn to manage the formal communications process. Attention will be paid to developing communication plans and understanding strategic applications of advertising, sales promotion and public relations tools. Students should expect to gain knowledge of communications theory as well as practical application through study of texts and real world cases.
Prerequisite: MKT 501 or equivalents.

MKT 609: Physical Distribution Management **3 credits**
The course deals with certain aspects of traffic management and physical distribution management involved in getting goods and services from production to user including packaging, materials handling, inventory control and fixed facility location, traffic organization, carrier selection, determination of rates, classification and control.
Prerequisite: MKT 501. OPN 501 or equivalents.

MKT 610: Sales Force Management **3 credits**
A critical examination of the activities, functions, challenges and opportunities of the sales force manager. The sales management function will be related to other sectors of the promotion mix as well as the remainder of the marketing mix. An examination of the long-term selling process will provide a foundation for this course.
Prerequisite: MKT 501 or equivalents.

MKT 611: Electronic Marketing **3 credits**
The purpose of this course is to provide *the students* with a foundation in channels management, with a specific emphasis on one direct marketing technique-electronic commerce. When the students complete this course *they* should have an understanding of: the fundamental concepts in channel management, how distribution fits into the total marketing picture, how to use distribution channels as a strategic tool, why electronic commerce is getting increasing attention as a channel option, and how to design an effective electronic commerce distribution strategy.
Prerequisite: MKT 501, ITS 510 or equivalents.

MKT 612: Field Studies in Marketing **3 credits**
(Please See NOTE # 2 at the end of descriptions of courses)

OPERATIONS MANAGEMENT

OPN 601: Business Process Design **3 credits**

This course presents a top down, leveled technique for building Business Process Models. The highest process level defines the scope of a project and is captured in a Context Level Dataflow Diagram. The next level breaks down the high level processes in Decomposition Diagrams and Leveled Dataflow Diagrams to describe "What" the business processes are that are essential to the business. Once the essential business model has been completed, analysts learn to scope the design area and use workflow diagrams to depict AS IS and TO BE scenarios. These diagrams take each essential process and describe "How" the process is or should be performed.
Prerequisite: OPN 501 or equivalents.

OPN 602: Supply Chain Management **3 credits**

This course deals with logistic systems and supply chains, with particular attention to electronic commerce, new approaches to logistics management and the use of technology to integrate elements of the supply chain. The course will look into the terms, concepts, and principles of logistics and supply chain management. Introduce Methods of analyzing logistics and supply chain problems and opportunities. Analyze the impact of information technology on logistics management. Emphasis is put on the Study of transport and other physical processes in logistics operations and the role of partnerships with vendors and customers.
Prerequisite: OPN 501 or equivalents.

OPN 603: Project Management **3 credits**

This course covers the strategic, organizational and operational aspects of managing projects. Students learn to manage the technical, behavioral, political and cultural aspects of temporary groups performing unique tasks. Topics covered include: defining deliverables, formulating projects strategy, effective group organization and management, dynamically allocating resources, managing without authority, and resolving conflict. Traditional cost and time management techniques are covered using contemporary software packages.
Prerequisite: FIN 501, MGT 501 or equivalents.

OPN 604: Strategic Operations Management **3 credits**

This course studies how companies may use the operations function to create a strategic competitive weapon. Current issues and methods used in the management of the production of goods and services in the modern enterprise will be considered, with emphasis on the need to apply appropriate strategies and methods in different manufacturing and service situations and in frequently changing competitive environments in a global setting. Topics considered include operations strategy, managing quality, facility location and layout, integrating technology, forecasting, operations planning and control, capacity management, inventory management, project management, and a review of modern production systems, including MRP, just-in-time production, and synchronous manufacturing. Other topics may be considered if time permits.
Prerequisite: OPN 501, MGT 601 or equivalents.

OPN 605: Quality and Productivity Management **3 credits**

The concepts, principles, and tools known as Total Quality Management used in organizations of all types to improve customer and consumer satisfaction are covered. Content includes a discussion of quality systems in production and service environments, quality management philosophies, and how managers can plan, organize, and maintain quality in all functions of their organization.
Prerequisite: OPN 501 or equivalents.

OPN 606: Production Planning and Control **3 credits**

Production planning and control involve with the integration of numerous activities and processes to produce products and services in a highly competitive global environment. Many companies have experienced a decline in market share as a result of their inability to compete on the basis of productivity, cost or quality. Most now agree that high performance in planning, control of manufacturing, and distribution is essential for competitive success and long-term survival. This course considers the production planning and control functions from a managerial perspective. Emphasis is given to quantitative analysis of problems arising in the management of production systems.

Prerequisite: OPN 501 or equivalents.

OPN 607: Inventory and logistics Management **3 credits**

This course is designed to investigate the concepts in design and control of supply chains. Inventory management is at the core of this course together with logistics network design, distribution strategies, information sharing, coordination, and decision support tools. The course is augmented with case studies to facilitate discussion and to gain understanding of basic principles.

Prerequisite: OPN 501 or equivalents.

OPN 608: Operations Research **3 credits**

This course emphasizes analytical, experimental and quantitative approaches to solution of business problems. Emphasis is also put on the study of scientific techniques for decision-making in business, industry and government. Most operations research projects involve elements of data collection and analysis, development of skills in formulating and solving mathematical models dealing with inventory, waiting lines, game theory, linear programming, transportation and other decision tools.

Prerequisite: OPN 501, STA 510 or equivalents.

OPN 609: Field Studies in Operations Management **3 credits**

(Please See NOTE # 2 at the end of descriptions of courses).

NOTE # 1: The courses and curriculum are subject to change to keep pace with changing requirements of local, regional and global educational and business environment.

NOTE # 2: Field study creates an opportunity for the students to learn out of class room and in the work place which expose them to real life business situation. A student choosing this course is required to select a problem or a topic in the area of concentration, equip himself with theoretical framework, conduct an investigation and write a report under the supervision of a faculty. The report is presented and defended. The field based learning conducted in an academic setting help students personalize their education as they get familiar with business environment, network with people in business organizations and gain experience in his chosen field. Supplemented with internship, this course gives an on-job-experience, which is valuable for a student without previous job experience and enables him to become more competitive in the job market.

MASTER IN BANK MANAGEMENT (MBM)

PREPARATORY COURSES

ENG 092: English Fundamentals
Drills in basic writing skills: mechanics, spelling, syntax, usages, grammar review, sentence and paragraph writing. Banking correspondences. Non-credit,
Prerequisite: None.

MAT 091: Basic Course in Mathematics
This course is for MBA candidates whose mathematical skills are, insufficient for the core curriculum courses. This course covers basic arithmetic and algebraic skills (manipulation of exponents and other symbols, expressing and plotting of functions, solving simultaneous equations etc.), basic trigonometry, and the basic notions and techniques of differential and integral calculus. No-credit.
Prerequisite: None

STA 091: Basic Course in Statistics
This course introduces statistical ideas as they apply to managers. Topics covered in the course include Collection, Organization and Presentation of data, Measures of central tendency, Skews and Kurtosis, Correlation and Regression, Interpolation and Extrapolation, Time series analysis. Non-credit.
Prerequisite: None

ITS 093: Basic Course in Business Computing
Introduces the students to the nature, operation, uses, and potential of computer in business organizations. Topics include introduction to hardware and software technology, word processing, database management, spreadsheets, and electronic communication. Learning by practice is emphasized. Non-credit,
Prerequisite: None

BNK 091: Banking Fundamentals
This course is designed to provide an exposure to the theories of banking and familiarize the students with the techniques deployed in various banking operations. It will cover the various theories as applied in banking such as unit, branch and chain banking, liquidity,-profitability combinations etc., general banking, operational procedures viz, accepting deposits under different types of deposit accounts, providing credit in the form of cash credit (pledge and hypothecation), overdraft and loans, remittance facilities, various types of ancillary services, banker-customer relationship, relationship and transactional banking, retail and wholesale banking, central banking, comparative banking system and Islamic Banking system. Non-credit,
Prerequisite: None.

FOUNDATION COURSES

ECO 501: Manaegerial Economics
This course covers microeconomics concepts relevant to managerial decision-making. Topics include demand and supply analysis; cost and production; utility theory; competition; market behavior; production theory; perfect competition; public goods; oligopoly; reputation and creditability; risk aversion and risk sharing; hidden information and market signaling; moral hazard and incentives; and transaction cost economics. Focus of the course is on application of the economic concepts to

managerial strategy and public policy, with emphasis on competition, market power, and externalities. 3 credits,
Prerequisite: MAT 091

ECO 502: Macro Economics and Business Forcasting
The purpose of this course is to train students to think systematically about the current state of the economy and macroeconomic policy and to be able to evaluate the economic environment within which business and financial decision are made. The course emphasizes the use of economic theory to understand and forecast the studies the determinants of the level of national income, employment, investment, interest rates, the supply of money, inflation, exchange rates, and the formulation and operation of stabilization policies. 3 credits,
Prerequisite: EC0501

BUS 509: Quantative Methods in Business
The course emphasizes applications of mathematical and statistical tools in managerial decision-making particularly in management of banks, functions, set, analytical model, logarithm limit, differential and integral calculus, matrix and linear programming. Topics in statistics include least squares estimation, probability, probability distributions, residuals and outliers, tests and confidence intervals, correlation and autocorrelation, collinearity, and randomization. 3 credits,
Prerequisite: MAT 091

ACT 501: Financial Accounting
The importance of Financial accounting, Double-entry book-keeping, Evaluating a customer's account, Appraising the trading account, Appraising the profit and loss account, Investment accounts, Budget accounts, Reconciliation statements, Appraising the balance sheet of a business, The balance sheet of a failed business. Analysis of Financial Statements. 3 credits,
Prerequisite: None

BUS 502: Managerial Communications
The course provides students' knowledge and practice on the writing and presentation skills required in dispensing their jobs as bank officers. By focusing extensively on both message and audience, students will learn to express themselves coherently and succinctly. The course explores the use of media types and deals with job search and interview giving skills. Also includes discussion and practice of body language including manners and etiquette. Demonstrates and requires practice more frequently used written communication in banks. 3 credits,
Prerequisite: ENG 092.

FIN 501: Financial Management **3 credits**
This course introduces the Discounted Cash Flow (DCF) approach and its applications to corporate financial management for long-term profitability. Students will learn how to value assets and investment projects based on forward-looking cash flow perspectives, and how to raise long-term capitals to finance the profitable projects. Specific topics include present value and future value, valuation of bonds and common stocks, capital budgeting techniques under the existing tax environment, risk-return relationship, and the weighted average cost of capital. Students are expected to develop sufficient skills to solve typical financial management problems.
Prerequisite: ACT 501, ECO 501.

FIN 502: Financial Institutes and Markets **3 credits**
This course will provide students with an introduction to financial markets and an evaluation of the institutions, instruments and participants involved in the industry. The mainstream markets to be evaluated include the equity, money, bond, futures, options and exchange rate markets. The course

begins with an evaluation of the payments system and the provision of finance in the economy. The subject then systematically reviews each of the mainstream financial markets and describes the various institutional participants and the different types of financial instruments offered.
Prerequisite: FIN 501.

MGT 503: Management of People and Organisations **3 credits**
The subject covers those topics, which are related to human resources and the system These topics are Bank As an Organization-Human resources; Functional Division; Banking Products, Internal Audit and Quality Assurance; Human Resources-Job Description, Salary Administration, Accuracy of Performance Appraisals; Objective-Setting Process, Mission Statement, Strategic Objectives and Monitoring Performance; Managers Tools-Tumbling-Negotiation-Supervision-Leadership-Motivating People-Customer Relationships; Performance Management; MIS in Banking-Management System in Banking, Social and ethical aspects in management and banking.
Prerequisite: None

CORE COURSES

BNK 601: Banking Law and Practice **3 credits**
The course provides an overview of the Bangladesh banking system Topics will include regulation of banking activities, regulation of bank ownership, geographic expansion, non-banking activities, antitrust issues, bank supervision, consumer protection, and banking operation issues.
Prerequisite: BNK 091.

BNK 604: Commercial Bank Management **3 credits**
This course introduces students to the theory and practice of financial management of commercial banks. Topics covered include bank performance analysis, asset-liability management, credit analysis, structuring and pricing, bank capital management, and short-run reserve management. It also examines the practice and operations of banking in Pakistan, include foreign exchange management, as well as asset restructuring and bank valuation.
Prerequisite: FIN 502.

BNK 605: Foreign Trade and Foreign Exchange **3 credits**
This course has been designed to acquaint the students with theory and practice of international trade and its financing specially by the banks. Keeping this aim in mind, topics related to international trade reasoning and theories, institutions, and policies, their impact on balance of payments, foreign exchange market, trade financing techniques and procedures by banks have been covered in this course.
Prerequisite: FIN 502.

BNK 606: Central Banking and Commercial Bank Supervision **3 credits**
This course will explore the whole range of central banking functions and monetary policy formulation. It emphasizes financial discipline, depositors' protection, and regulatory and supervisory functions like on-site and off-site CAMEL ratings.

The course is designed to provide an objective approach to understanding and successfully managing the regulatory examination of a financial institution. It presents guidelines and strategies for an orderly, efficient and successful examination process and addresses exam methodology, pre-exam preparation, personnel cooperation and interaction, examination response, regulatory enforcement measures and corrective actions. An improved comprehension of the examination process should serve to enhance bank performance and advance regulator relations.
Prerequisite: BNK 601, BNK 604.

BNK 607: Electronic Banking **3 credits**

Overview of E-commerce and banking. Issue of risk and security; EDI, E-commerce and Internet; Risk in Insecure System; Risk Management; E-Banking and E-Payment Systems: Checks, Collections, debit and Credit Cards, Lock Box, Clearing House; Transaction Processing, Cryptography and Authentication; Future of E-Banking.
Prerequisite: FIN 502, BNK 604.

BNK 608: Marketing of Bank Services **3 credits**

This course covers the following topics. Attitudes to marketing, a definition of marketing, the marketing of services, Marketing methods, the marketing function. The banker-customer relationship, Deposits and debtor-creditor relationship, Types of Customers-The range of banking customers, Relation between bankers and customers, Personal customers, Sole traders, Partnerships, The accounts of limited companies, Club and societies (non-profit-making), Specialized account holders Conclusions of customers accounts. Developing banking and financial instruments for Retail *and* Personalize Banking, Corporate Banking, Small & Medium Size Entrepreneur lending and Investment Banking-developing instruments, Customers Services-. Money transfer and finance, The changing pattern of banking services, Money transfer, Credit and services, Overdrafts and loans, Sophisticated financial services, Investment and pension services, Foreign exchange and overseas trade services, Risk management services. Credit Marketing-The aim of bank lending, the eligibility of borrowers, Credit appraisal Process, Procedures with security for loans, Type of facilities. Correspondent Banking Accounts-Nostro A/C-Vostro A/C Loro A/C.
Prerequisite: BNK 601, BNK 604.

BNK 609: Risk Analysis and Management of Financial Institutions **3 credits**

This course provides the concepts, skills, and techniques necessary for estimating and managing different types of risk in financial institutions. It is aimed at participants who wish to have a deeper understanding of different types of risk faced by funs, both financial and non-financial; learn techniques to identify and measure risks, and understand *how* derivatives and risk management techniques can be used to manage risks and advance the strategic goals of the financial institutions. This course includes topics on Interest Rate Risk, Market Risk, Credit Risk, Off-Balance Sheet Activities, Technology and Other Operational Risks, Foreign Exchange Risk, Sovereign Risk, Liquidity Risk, and Risk Management.
Prerequisite: FIN 502, BNK 604.

BNK 610: Treasury Management **3 credits**

This course deals with the role of treasury, coordination and management of the treasury operation; quantitative *and* qualitative risk analysis, risk management process and hedging techniques, role and mechanics of derivative products, performance measurement and evaluation.,
Prerequisite: BNK 601, BNK 604, BNK 606.

CAPSTONE COURSE

BNK 619: Strategic Management of Banks **3 credits**

The aim of the course is to make students understand the complex interactions in the organization of banks, their strategy formulation and the implementation of strategic plans.
Prerequisite: All foundation and core courses.

CONCENTRATION AREA COURSES

AREA: BANKING

BNK 621: Corporate Planning in Banks **3 credits**
This course has been designed to equip the students to formulate short and long-range planning for the banks. It covers micro and macro business environment analysis, setting sustainable goals and targets for different aspects of banking at different performance levels, formulating appropriate techniques for monitoring planned performance.
Prerequisite: FIN 502, BNK 604.

BNK 622: Ehics in Banking and Legal Environment **3 credits**
The course is designed to familiarize the students with the various facts of business environment. The relationship between social, cultural, technological, economical and banking development has been explored. The various commercial and banking laws concerned with the legal decision making process in banks has also been targeted in this course.
Prerequisite: BNK 601.

BNK 623: Investment Banking **3 credits**
This course will cover the operational procedures of investment banking, factoring, leasing, etc. and explore the possibility of integrating these operations with the traditional banking practices.
Prerequisite: FIN 502, BNK 604.

BNK 624: Banking and Financial Innovation **3 credits**
This course examines the development of various banking and clearing systems, both locally and overseas. It highlights the various risks and economic benefits. It focuses on pricing policies, systems efficiency gains, the impact of globalization and the convergence of technology. Legal issues will also be examined.
Prerequisite: FIN 502, BNK 608.

BNK 625: International Banking **3 credits**
This course provides students with an understanding of international banking and finance in the contemporary environment. Topics include: theories and functions of international banking, International trade financing, Eurocurrency markets, international debt and international bank regulation, international financial services.
Prerequisite: FIN 502, BNK 605.

BNK 626: Bank Financial Analysis **3 credits**
This course is designed to provide the student with an understanding of bank financial statements and enhance their ability to analyze bank financial performance. Relationships between the various parts of financial statements are explored and primary sources of bank revenues and expenses are considered, with particular focus on their effects on a bank's ROE. In the assignments students analyze performance of financial institutions and identify any strengths and weaknesses of those financial institutions.
Prerequisite: FIN 502, BNK 604.

BNK 627: Islamic Banking **3 credits**
This course introduces students to the theory and practices of Islamic Banking. Topics covered include Islamic Laws-related to interest rate, deposit mobilisation, credit disbursement, and foreign exchange trading. It also explores different modes of investment, asset-liability management, credit analysis, structuring and pricing, bank capital management, and short-run reserve management. It

also examines the practices and operations of banking in different Islamic countries.
Prerequisite: FIN 502, BNK 604.

BNK 628: Special Banking Issues **3 credits**
As commercial banking and other financial services undergo rapid changes, transmission of new opportunities, pitfall, and directions for the industry becomes an important element in the educational process. This course, Special Banking Issues, is designed to cover topics of current interest, which often do not fit into a unified course. Subjects may relate to technology, regulation, competition, public demands, and other areas of both direct and indirect concern.
Prerequisite: FIN 502, BNK 604.

BNK 629: Management of Specialised Banks **3 credits**
Topics include services of specialized banks, types coverage organization and operation of specialized banks, environment of specialized banks, risk and return potential. This course focuses more and management issues of specialized banks than on technical details. This course will deal primarily with the operations and services of five specialized banks in Bangladesh: Bangladesh Shilpa Bank, Bangladesh Shilpa Rin Sangstha, Bank of Small Industries and Commerce Bangladesh Ltd., Bangladesh Krishi Bank and Rajshah Krishi Unnayan Bank. The main focus of the course will be on the role of these banks on the rural, agricultural and the industrial sector. Emphasis will also be placed upon the environment of specialized banks, risk and return potential of these banks and the extent of the coverage of their operations.
Prerequisite: FIN 502, BNK 604.

AREA: FINANCIAL MANAGEMENT

FIN 620: Financial Analysis **3 credits**
A case-based course dealing with solving common financial problems. The primary focus is on equity (share) valuation, with some attention given to credit analysis and the valuation of debt. The methods of fundamental analysis will be examined in detail and applied in cases and projects involving listed companies. Topics include models of shareholder value and a comparison of accounting and discounted cash flow approaches to valuation, methods of financial statement analysis, testing the quality of financial reports, designing value added metrics, forecasting earnings and cash flows, pro-forma analysis for strategy and planning, and the determination of prices/earnings and market-to-book ratios. The analysis will be carried out from the perspective pf both the outside security analyst and the corporate financial analyst.
Prerequisite: FIN 501.

FIN 621: Corporate Finance **3 credits**
This course offers an overview of finance from the perspective of the corporate financial manager. The investment side will include portfolio selection and management decisions, capital budgeting under risk, and M & A. The financing side comprises decisions about capital structure-how much debt, relative to equity, is optional for a particular firm-as well as decisions about what kind of debt, and what kind of equity, is right for the firm.
Prerequisite: FIN 501

FIN 624: Investment Management **3 credits**
This course surveys major investment problems. Factors affecting the term structure and risk structure of yields on financial claims are identified and analyzed. The course focuses on: the development of principles of personal and institutional portfolio management; modern capital asset pricing theory; valuation discussions on models for common stock prices. The institutional structure of the investment markets is viewed, with special emphasis on the role of security exchanges and the

impact of institutional investors. Emphasis *is* placed on the efficiency of financial asset markets in adjusting to information entering the marketplace.
Prerequisite: FIN 501.

FIN 625: Portfolio Management of Financial Assets **3 credits**
This course builds on the modern portfolio theory and focuses on the topics that are important for the practice of portfolio management. The course covers portfolio analysis, implementation, and computing technology that enhances portfolio management. The emphasis is on providing students with analytical skills that have an application value. Upon successful completion of this course, students are expected to (1) achieve a general understanding of the portfolio management process, (2) be familiar with goals, practices and problems of investing institutions and individuals, (3) be able to apply modern techniques to asset allocation and portfolio management, and (4) evaluate the portfolio performance.
Prerequisite: FIN 501.

FIN 630: Project Preparation and Appraisal **3 credits**
This course deals with identification, preparation and appraisal of projects. Basic techniques of financial planning, analysis, appraisal and organizational aspects of projects are covered.
Prerequisite: FIN 501.

FIN 641: Fixed Income Securities and Interest Rate Derivatives **3 credits**
This subject looks at interest rate risk and techniques for managing risk. Topics covered include term structure dynamics (including bond price lattices, spot and forward rate models), analytical and numerical techniques, duration measures, interest rate derivative securities (including options, futures and swaps), and the interaction between interest rate risk and credit risk. This course is both theoretical and practical; the emphasis will be on problem-solving.
Prerequisite: FIN 501.

FIN 642: Financial Engineering **3 credits**
This course includes recent history and trends in derivative finance; Standardized Markets: Instruments and Organization; OTC Markets; Swaps; Options; Financial Engineering and Innovative Process and Global Risk Management.
Prerequisite: FIN 501.

AREA: MICRO FINANCE

BNK 631: Microfinance **3 credits**
This course is a blend of micro fmance theory and practice. This course covers the basics for micro finance and sustainable micro finance. It helps students to learn how best to reach the defined target market and effectively meet the needs of customers while covering the costs. It provides students with the necessary tools to run a fully sustainable micro finance-lending program in the future. It focuses on managing a growing micro finance-lending program and/or moving the organization toward full sustainability.
Prerequisite: FIN 502, BNK 604.

BNK 632: Accounting for Microfinance and NGOS **3 credits**
This course will provide an overview of the basic skills necessary for setting up and understanding accounting systems for Micro finance and NGOs. It covers the entire accounting cycle from initial transactions to the creation of financial statements and focuses on specific issues relevant to MFIs and NGOs, including accounting for loan loss, interest revenue, donor funds, subsidized loans and analyzing financial statements.
Prerequisite: ACT 501, FIN 501.

BNK 633: Advanced Topics in Microfinance **3 credits**

This advanced topics course builds on the base provided by the introductory micro finance course and tackles the more in-depth financial, organizational, strategic and policy implications associated with the development of this industry. By the end of the semester, students will have a deeper understanding of the issues facing practitioners on the frontier of the field, and a more sophisticated grasp of what differentiates the leading MFIs from the hundreds of others that are now active. In order to achieve this goal, this course is dedicated to building skills of students to analyze various industry players-including microentreprenuers, MFIs, and the entities that support and govern them.
Prerequisite: BNK 631.

BNK 634: Strategic Mangement of Not-For-Profit Organisations **3 credits**

This course discusses functions and responsibilities of the senior management of not-for-profit organizations, the critical problems that affect success in the total organization, and, the decisions that determine the direction of the organization and shape its future. The approach of the course is practical and problem based.
Prerequisite: BNK 609, BNK 635.

BNK 635: Management of NGOs **3 credits**

Studies the environment, philosophy, objectives, strategies, factions, structure and management of NGOs. Planning, implementation and control of NGO activities in field and office, budgeting and financing NGOs operations and capital expenditures, personnel management etc. are covered.
Prerequisite: MGT 503.

AREA: INFORMATION TECHNOLOGY

ITS 501: Computer Programming **3 credits**

This course introduces the students to the structured programming concepts and program development process. A procedural language is used to solve problems from business situations. Emphasis is given on database management with reference to various packages. Topics include problem analysis, development of algorithm, flow charts, program development, report writing, testing, and finalization.

ITS 510: Information Management **3 credits**

This course introduces students to the nature of information as a resource in the work place. It provides an overview of planning and managing information and helps students to understand information flow in an organization. The course also investigates how technology is changing the way we communicate and snake decisions.

MSC 641: Database Management **3 credits**

This course focuses on the relational database design and SQL. Database management system used in this course, MS-Access, is introduced only as a tool to practice designing database and understand the theory. It is expected that a student with a good understanding of the relational database theory can quickly learn how to use any relational DBMS in the future. This course also teaches the fundamentals of application design with various examples. New development in the field, such as Internet and intranet database, data warehousing, object oriented DBMS, distributed processing, ODBC, and SQL3, will also be introduced.
Prerequisite: ITS 501.

MGT 647: Management of Information Technology **3 credits**

This course examines several of the major IT issues facing today's managers: Keeping pace with the rapidly emerging new information technologies, including artificial intelligence; managing the

acquisition of new information systems in the age of outsourcing; finding an appropriate role for electronic commerce; managing the impact of IT on human resources; and maintaining security in a networked environment. Issues examined very, based on relevance and student interest.
Prerequisite: ITS 501.

OTHER COURSES

STA 510: Research Methodology **3 credits**
This course introduces students to the basic elements and process of research. Topics include preparing a research proposal, problem formulation, research design, sampling, data collection methods and analysis, hypothesis testing, correlation and multiple regression analysis, and analysis of variance.
Prerequisite: STA 501.

BUS 521: Entrepreneurship Process and Principles **3 credits**
This course covers the entrepreneurial process from conception to birth to adolescence of a new venture. It concentrates on attributes of entrepreneurs searching for opportunities, and gathering resources to convert opportunities into businesses. Students learn to evaluate new ventures and develop a business plan to pursue those ventures. It is stressed throughout that new venture development can happen both within and outside an existing organization.
Prerequisite: MGT 503.

BUS 623: Small and Medium Enterprise Management **3 credits**
This course provides an exploration into fundamentals of effective small business management. Topics such as growth, advertisement, financial analysis, budgeting, purchasing, inventory management, and financial control are also covered. This course also looks at some of the special issues facing small business owners and managers: technology, crime, risk, management, family business, ethics, and the global market place.
Prerequisite: MGT 503.

MASTER OF SCIENCE IN BIOTECHNOLOGY
GRADUATE COURSE DESCRIPTION

BTC 501: Plant Biotechnology **3 Credits**

The Plant biotechnology course covers principles and different aspects of plant biotechnology such as (a) plant tissue culture and its application for mass multiplication of virus free horticultural, ornamental, forest and medicinal plants; (b) plant transformation and how the application of this technique helps in transferring useful genes such as genes for disease-, insect resistance, those that add nutritional value to the crops of interest across wide genetic barriers.

Plant cell cultures; growing tissue-, axillary bud, root-and meristem cultures, their application on mass propagation (micropropagation) of virus-free vegetatively propagated crops such as potatoes, ornamentals, forest trees and medicinal plants.The major types of plant growth regulators: auxin, cytokinin, gibberellin, zeatin, 2iP and their role and putative mode of action. Regeneration pathways: organogenesis vs somatic embryogensis; concepts and applications.

Production of genetically modified (GM) (transgenic) plants: indirect and direct methods, selectable markers, transient and stable expression, merits and demerits of the respective method. A critical assessment of genetically GM crops containing genes for herbicide-, virus-, bacterial-, fungal-, nematode-and insect pests resistance. Evaluation of GM crops for their adoption in developing countries.

BTC 502: Plant Biotechnology (Lab) **2 Credits**

The Plant Biotechnology Lab course offers practical training to all students in setting up tissue culture experiments for callusing, differentiation as well as different aspects of molecular biology beginning from DNA and RNA isolation, running them in gel for their characterization based on their kb length, use of restriction enzymes for DNA and RNA fragmentation at predetermined sites, ligate different pieces of DNA in a suitable plasmid vector such as *p*Bluescripts Plant cell cultures; media: sterilization techniques. Initiation of primary cultures; morphogenesis and phytohormones; DNA extraction from *E. coli* plasmids, Total RNA isolation from model plants; construction of cDNA library and isolating cDNA clones; minipreparation of plasmid DNA; computer analysis of DNA and protein sequence; plant genomic DNA isolation; restriction digestion of DNA and Southern transfer; RNA gel electrophoresis and Northern transfer; non-radioactive hybridisation of Southern and Northern Blots. *Agrobacterium*-mediated gene transfer (vector construction, co-cultivation); RAPD and microsatellite analyses for confirmation of hybridity/DNA fingerprinting, biolistics, analyses of transgenic plants (PCR and RT-PCR), Southern analyses, chromosome preparations and physiological analyses of transgenic plants.

BTC 503: Animal Tissue Culture Techniques and Application **3 Credits**

The course has been design to impart basic knowledge in animal biotechnology so that some of BRACU students may take up a topic on animal biotechnology leading to cloning of useful genes from important animals such as cattle in Bangladesh. Course contents include: definition, principle and significance of animal tissue culture, basic differences between plant and animal cell cultures. Maintenance of sterility and use of antibiotics, mycoplasm and viral contaminants. Various systems of tissue culture: their distinguishing features, advantages and limitations. Culture medium: Logic of formulation (natural media, synthetic media and sera) Methodology: i) Primary culture: behavior of cells, properties, utility ii) Explant culture iii) suspension culture. Nutrient media: obligatory and optional constituents. Incubation systems: static agitated culture systems; Hormone signaling and mechanisms of signal transduction, fertilization, early embryogenesis, applications of gamete and embryo manipulations for biomedical purposes, tissue-specific gene expression and tumorigenesis. Commercial applications of animal tissue culture: Tissue culture as a screening system; Cytotoxicity

and diagnostic tests, Development and preparation of vaccines against infecting organisms, In vitro fertilization and Dolly; Mutant cell lines: Significance in biomedical Research, Identification and isolation mutants; Application of genetic manipulation, Medicinally important compounds; Screening of cell lines for novel

Variations: disease resistance, stress tolerance.

BTC 504: Fermentation and Industrial Biotechnology **2 Credits**

The process of fermentation and industrial biotechnology is also known as bioprocessing. Fermentation on a small scale has been known since biblical times about three thousand years back. It is only during the past 100 years that this technology has been scaled up first to a semi-pilot scale and thereafter to a full factory level production. Bioreactors and large fermentors have been developed to turn out pharmaceutical products on a commercial scale. This courses familiarizes students with bioreactors so that those graduating from BRACU may find employment in pharmaceutical or related companies and covers development of fermentation technology/bioprocess technology; types and configuration of fermentor or bioreactor, mode of fermentations, instrumentation and principle of bioprocess control. Indsutrially important microorganisms and major classes of microbial products and processes. Application of genetic engineering techniques for microbial strain improvement. Principles and methods of immobilization of biocatalysts and their industrial applications.Biotechnological production of representative metabolites: organic acid, aminoacids, useful industrial enzymes, antibiotics, recombinant proteins (biopharmaceuticals), monoclonal antibodies and vaccines.

BTC 505: Environmental Biotechnology **2 Credits**

This course is details the dangers of pollution; how the environment is rapidly undergoing pollution due to setting up of industries all over the world in and in Bangladesh as well; how the effluents from factories along the shores of rivers and water bodies are killing the aquatic life in and around the cities. The arsenic problem is a great health concern in Bangladesh and needs to be handled on a priority basis. This topic is therefore considered an integral part of the core courses. The graduates having passed this course may be employed in any Government and/or project aimed at ameliorating the environmental pollution. Topics covered include: environmentally transmitted pathogens; Risk assessment; Microorganisms and metal pollutants; Biosensors; Nonculturable microorganisms in the environment; Pollution control biotechnology: Concept of viable but nonculturable cells (VBNC); present status of VBNC molecular genetic methods for detection and identification of VBNC; implication and significance of VBNC in environment and health. Use of commercial blends of microorganisms and enzymes in wastewater treatment; immobilized cells in the waste treatment; potential application of recombinant DNA technology in waste treatment. Xenobiotic degrading bacteria and their catabolic genes in bioremediation: In situ analysis of microbial community and activity in bioremediation, DNA-and RNA-based methods; genetic finger printing techniques; recent powerful sensitive techniques for detection of specific compounds.

BTC 506: Research Project Preparation **2 Credits**

This course gives research orientation to students so that they can carry out research projects with efficiency and confidence. They will be taught how to design their experiments supported by their knowledge in biostatistics, record observations, interpret results and eventually writing a scientific paper following the format of a particular journal including bibliography, will learn how to use search engines such as: Google", Altavista to dig out information relevant to their research topic. Topics covered include project planning, literature review through search engines, such as Google. Altavista, PubMed, Cold Spring Harbor Laboratory, The Arabidopsis Information Resources, list the relevant papers; prepare a summary of the papers related to the chosen project topic. Selection of a suitable research topic by students for working on it in a university or a research institution, where facility of

molecular biology research and a suitable guide of considerable research experience is available. Students will be required to make the PowerPoint presentation, explaining the logic and scope of the work and the results they would they expect from such an undertaking.

BTC 507: Biostatistics & Experimental Design (Theory and Lab) 3 Credits

Knowledge in biostatistics is essential for all biological sciences in order to design the experiments, record the data and interpret the results meaningfully without any bias. This course has been tailored to the need of molecular biologists who are often confronted with the problem of making a valid conclusion for want of properly organized experimental layout. . Topics covered include: definition and scope of biostatistics. Measures of central value; mean, midian, mode, measures of dispersion, range, quartile deviation, mean deviation, variance, standard deviation, standard error, coefficient of variation. Sampling distribution, confidence limit; Correlation and regression: calculation of correlation coefficient and test for its significance, regression coefficient, regression line, multiple regression; Concept of probability, probability rules, conditional probability and independence. Probability distributions: Binomial, Poisson and Normal distributions and their applications; Hypothesis testing, null hypothesis; level of significance. Comparison of two means, t-test, t-test for small and large samples, paired t-test, chi-square test, goodness of fit test, test of independence, contingency tables; Analysis of variance; one way and two way classifications, comparison of three or more samples, F-test; Concepts of experimental design, principles of experimental design, Completely randomized design (CRD), Randomized Block Design (RBD), Latin square design, Factorial experiments, Split-plot design; Multiple comparisons, Least significant difference test (LSD test), Duncun's multiple range test.

BTC 508: Seminar 2 Credits

Presentation of research findings has often been a formidable problem even for students whose research findings are commendable. Furthermore members of audience, in this case students, often feel shy to put questions to the speaker. this course will enable develop skills for presentation.in their profession life. A topic reflecting the current trends of research in any areas of biotechnology will be chosen. A list containing the topics of the seminar talks will be presented by the Chairperson in a joint meeting of the students and staff members. The students will be asked to choose a topic from among the list with the provision that no two students will choose the same topic.

BTC 509: Genomics (Bioinformatics) 3 Credits

Bioinformatics consists of a number of software tools used for characterizing an unknown gene or a part of it on the basis of stored data of DNA base sequences of a similar gene. After a gene is cloned, its base sequence is determined. Thereafter use of a suitable software guides the investigator to find out which particular gene or part of it, matches the base sequence of the gene under investigation. Topics covered in this course include: web based methods in molecular genetics, computer aided analysis of of genetic sequences; Genome analysis, identification and charaterization of important functional genes with the help of NCBI data base and suitable software; Modern applications of genetic mapping nd importance of genome syntenybetween species revealing their relationship on phylogenic trees; Current research in molecular genetics and genome analysis, with particular emphasis on modern applications of genetic mapping and the importance of genomic synteny between species; Gene tagging, plant transposons, gene banks and genome databases (bioinformatics), gene cloning based on genome maps, sequencing programmes and protein sequence motifs. Principles of algorithmand software for sequence analysis; motif discovery, estimation of phylogenic trees; structural prediction and functional inference; Structure and evolution of macromolecules.

BTC 510: Fundamental & Applied Aspects of Plant Genetic Manipulation 2 Credits

The list of transgenic crops is ever increasing. However, there is no standard method to transform a crop plant with an alien gene. A host of problems are encountered by molecular breeders such as

failure to obtain stable transformation as in the case of jute i.e. reversion of transformants into parental types, or failure to obtain roots in stable transformants such as in lentil. In other words, a host of problems arise when transgenics of a new crop are obtained. It is therefore necessary for biotech students to acquire in depth-knowledge in fundamental and applied aspects of plant genetic manipulation. Topics covered in the course include Innovative techniques for genetic manipulation of plants against a background of a continuing need for plant improvement in agriculture, horticulture and forestry. Cell fusion technology for novel somatic hybrid production with a special reference to a cabbage variety commercially released by Dr M. M. Hossain of B. K. U. through protoplast fusion between cabbage cv. Yoshin (*Brassica oleracea* L.var. *capitata*) and Chinese cabbage cv. Kenshin (*B. campestris* L. var. *pekinesinsis*). The development of plant transformation systems comprising *Agrobacterium*-mediated gene delivery, direct DNA uptake and biolistics; vector design; molecular methods in crop improvement alongside the value of gene mapping and genetic fingerprinting for germplasm evaluation.

BTC 511: Commercial Production of Horticultural and Ornamental Plants 2 Credits
This course has been designed to train students interested in joining firms dedicated to commercial production of horticultural, ornamental, timber and medicinal plants through tissue culture techniques. The training will take place under the guidance of a tissue culture expert in in a suitable tissue culture laboratory including BRAC Commercial Tissue Culture Centre at Gazipur near Dhaka. Topics include cost saving devices in: used glass jars from hotels, locally made unscrewed plastic caps to replace cotton plugs, preparation of distilled, deionized water, making of various kinds of culture media under sterile conditions. Adoption of extra precautionary measures to eliminate bacterial and fungal contamination. Different techniques used for preparing explants for callusing and differentiation. Procedure for hardening plantlets after they are taken out of culture bottles. Maintenance of plants inside the greenhouse in accordance with their requirements for light, temperature and moisture. There will also be lessons on how to plan construction of greenhouses creating microclimate for the growth of different types of horticultural plants, installation of misting and ventillation system including the cost involved. Packing of tissue culture derived material for marketing, without damage during the transport of the material.

BTC 512: Sex, Flowers and Biotechnology 3 Credits
The application of biotechnology, involving gene manipulation requires a priori knowledge in reproductive structures including floral development. Equipped with this knowledge, it may be possible to control floral development, senescence and incompatibility status. Topics covered include: Methods and achievements in the genetic engineering of crops by modifying floral development and other aspects of reproduction in higher plants and the implications for horticulture and crop production; Genetic control of floral development; applied aspects of flowering and reproduction; the molecular basis of self incompatibility, floral senescence, seed storage proteins and the physiology; biochemistry and molecular biology of fruit ripening.

BTC 513: Gene Function and Its Regulation 3 Credits
This course will give the students an in depth knowledge about how a gene controls different steps in a biochemical pathway leading to the formation of an end product. It would also introduce the modern concept of homologous recombination. Topics include: A quick recapitulation about Operon model; Signal transduction, cyclic nucleotides and hormones in gene regulation.; Genetic recombination in vivo; Homologous recombination by hybrid DNA formation.; Site-specific recombination.; Transposons and non-homologous recombination, retrotransposons. Mutation: Site-directed mutagenesis and 'protein engineering'; Mutations in human genetic diseases and clinical medicine; DNA Amplification in vitro: Polymerase Chain Reaction (PCR); Application of PCR in research, clinical medicine and forensic science.DNA Diagnostics: Ribotyping; Pulsed Field Gel Electrophoresis; DNA fingerprinting ; Non-radioactive DNA probe technology. Molecular Biology

in Animal Biotechnology: Tissue-specific gene expression; Gene transfer in animal cells: viral vectors, embryonic stem cells, gene knock-out organisms.

BTC 514: Gene Organization and Regulation **3 Credits**

In recent years there have been new discoveries about (a) post-transcriptional RNA silencing; in this process the concerned RNAs lose their ability to serve as codons for amino acids (b) the existence of small RNAs that are involved in inactivating the function of a gene called gene silencing. Some of these discoveries include RNA editing. There are also a number of new findings about protein folding and chaperoning playing a significant role in controlling gene actions and cascade of events that lead to the expression of a trait. Topics covered in this course include: Structures of genes and chromosomes in relation to regulation of gene expression; Regulation by transcription factors and enhancers/repressors; Co-transcription regulation and the effects of chromatin structure; Details of mRNA processing including the splicesomes, auto-catalysis, polyA addition, differential splicing and RNA editing. Adenosine deaminases acting on RNAs (ADARS) Transcriptional RNA Silencing: Small RNAs and insights into a new level of gene regulation. Non-coding RNAs, processes affected by non-coding RNAs; Posttranscriptional RNA silencing (PTGS)-components of PTGS e.g. Dicer, RISC (RNA induced silencing complex), RdRP (RNA dependent RNA polymerase); Molecular steps in RNA silencing, RNA silencing as a tool for knocking out genes, RNA viruses and RNA silencing.The use of various expression systems for the production of recombinant proteins including strategies for protein isolation and refolding including the use of molecular chaperons.; An introduction to web-based methods in molecular genetics, computer-aided analysis of genetic sequences. Principles, algorithms and software for sequence alignment, similarity search of biological databases and DNA sequence analysis, motif discovery, estimation of molecular phylogenetic trees, structural prediction and functional inference. In addition analyses aimed at predicting the structure and evolution of macromolecules.

BTC 515: Structural and Functional Genomics Studies **3 Credits**

A number of epoch-making events in the field of molecular genetics with advent of 21st century include: the DNA base sequence of the entire human genome representing 30,000 genes has been reported; the base sequence *Arabidopsis* genome comprising 26,000 genes have been worked out. A large number of genes governing important traits have been cloned and characterized. Since it is a two-month crop, genetic study in this plant is easy. Moreover, whatever genes are isolated, cloned and characterized can be inserted into a plant material of interest with an added value. The USA, Chinese and Japanese scientists have jointly published the DNA base sequence of the two subspecies of rice, namely, indica and japonica subspecies of *Oryza sativa*. With the advancements of molecular tools and software, characterization of many important genes such as those controlling yield, hybrid vigor, multigenic salt-and drought tolerance, single and multigenic disease and insect resistance, photoperiodic response etc is becoming possible. Such in-depth knowledge is expected to give birth to new varieties of nutritionally rich rice varieties capable of growing under conditions of abiotic stresses and prove to be more resistant to pests and disease.

The course is intended to give a clear cut picture of what a genome is, the location and function of the major genes in each of the 23 pairs of human chromosomes in particular reference to congenital diseases and human intelligence; Important morphological traits, different ecotypes sensitive and insensitive to day length. Identification and characterization of genes controlling (a) flowering, (b) vernalization (c) photoperiod (d) circadian clock. Use of different web sites in the identification of important genes and their function; Identification and characterization of genes responsible for both qualitative and quantitative traits such as salt-, insect and disease resistance. DNA finger printing and its utilization as molecule markers in selection of important agronomic characters; the first genetically engineered bacterial blight to resistant transgenic rice (BB) produced at IRRI. Critical evaluation of "Golden" rice and its Bangladesh version BRRI Dhan-29 evolved at IRRI by

Bangladeshi scientists under the direction of IRRI experts. theoretical and practical study of the basic and advanced molecular techniques to characterize plant species and varieties. The course will focus on comparative study of RAPD, RFLP, AFLP, ISSR and microsatellite markers and their application in gene mapping and finger printing, and on the use of specific software for data analysis.

BTC 516: Special Study **3 Credits**

There are a number of important websites containing valuable information about genomics and proteomics of important plants and organisms. One needs to study these websites critically and thoroughly. Familiarity with these websites will enable the students to use similar sites to retrieve relevant information in their respective area of research. Students choosing this course will study all the sections of the following websites and prepare their summaries bringing out salient points of these sections. During the examination, students will be allowed to use these websites to find answers to the questions such as location of a gene in a particular chromosome, its length, sequence and promoter and other particulars.

BTC 517: Enzymology **3 Credits**

The study of enzymes is considered an integral part of molecular biology because of involvement of multitude of enzymes in different life processes. A critical study of various biochemical pathways unravels how do cascade of events aided by appropriate enzymes lead to the generation of an end product. The recent finding of cross talk between different pathways makes the study of enzymes more rewarding in so far as the mechanism of cell communication is concerned in the regulation of all metabolic activities. The study of enzymatic properties will enable a biotechnologist to plan his experiments on biodegradation and bioremediation to be applicable on bioconversion; softening of basal jute stem cuttings or softening of hides of sacrificed animals, bioremediation etc. Topics covered in the course include: Three-dimensioal structure of enzyme. Active site. Cofactors, Activators, Prosthetic groups, Coenzymes, enzyme-substrate complex, Energy of activation; Factors affecting rate of enzyme reaction, regulations of enzyme reaction; Basic aspects of chemical kinetics; Molecular interpretation of rate constants; Activation free energies; Enthalpies and Entropies; Kinetics of enzyme-catalyzed reaction; Significance of K_m and V_m values; Allosteric sites, homotropic effects, cooperativity, heterotropic effects, allosteric effect, feed-back inhibition, partially competitive inhibitors.

Enzyme technology in industries: Biological detergent, baby food, brewery industry, baking industry, fruit juice, dairy industry, starch industry, rubber industry, paper industry, photographic industry. Enzymes as Biosensors. Enzyme technology in biodegradation of industrial toxic pollution: Role of lignocellulosic enzymes in removing industrial toxic pollution.

Purification and characterization of an enzyme: (1) Gel-filtration-Determination of molecular weight (Size exclusion chromatography). (2) Affinity chromatography (Ion-exchange chromatography). (3) Gel Electrophoresis. Assaying different enzymes: laccase, cellulase, pectinase, xylanase, -amylase. Test for presence of enzymes in different plant material. Purification of an enzyme: Gel Filtration and Gel electrophorosis. Application of enzymes in industries (visit to different industries to observe the application). Application of enzymes in bio-degradation.

BTC 518: Recombinant DNA Technology **3 Credits**

One of the most outstanding discoveries of the last century is recombinant DNA technology. One of the earliest outstanding feats in this technology is the production of a chimeric molecule in which the insulin-producing human gene was inserted into the genome of *E. coli*. The next was the incorporation of the Interferon gene from the humans to *E. coli*. Based on this principle, recently vaccine for prevention of hepatitis B has been produced. This is highly effective.

The course covers a critical appreciation of the principles, techniques and applications of recombinant DNA technology, particularly those relevant to medical research, and the investigation and therapy of infectious and inherited diseases; Site-directed mutagenesis, Protein engineering; DNA sequencing; Production of protein from cloned genes: production of recombinant protein in *E. coli*, production of recombinant protein by eukaryotic cells (yeast); Special vectors for expression of foreign genes in *E. coli*, Using animal cells for recombinant protein production, recombinant proteins from plants.; Molecular enzymology and protein engineering: The alteration of a protein structure by site directed mutagenesis of the DNA coding for that protein. Molecular basis of binding specificity, catalysis, subunit interactions etc., examined by physico-chemical methods on proteins and enzymes mutated at key amino acid residues.

BTC 519: Medical Biotechnology **3 Credits**

Lab is an integral part of medical biology. This lab will enable the students to gain in-depth knowledge about the software applied for understanding the principles underlying DNA recombinant technology altering the protein structure. Data manipulating, Various Kinetics, Chemical drawing data processing and analyzing softwares, Various Sequence (Nucleic acid and Protein) manipulating softwares and programs e.g., GCG, BLAST, CLUSTALW, Bio-EDIT, SWISS-PDB viewer etc.

BTC 520: Cell Dynamics, Cell Cycle and Cell Death **3 Credits**

In recent years, there has been a phenomenal progress in the field of cell dynamics, cell-cell interaction including extracellular matrix. The course is designed to impart in-depth knowledge about the cell-cell interaction and how different cells within and between tissues communicate with one another using different signaling systems and the factors that contribute to the death of cells known as apoptosis, about physiological changes that occur in a transformed cell. This course also deals with the role of chromatin in gene expression and DNA damage detection at molecular level. Topics include Cell dynamics, cytoskeleton and cell surface, Extracellular matrix, Cell-cell interaction and cell matrix interaction, Cell differentiation, Hormones and Growth factors, Apoptosis, The transformed cell; Gene mapping in phages, bacteria: Conditional lethals and suppressor mutations; Control of gene expression in bacteria; Genetics of biosynthetic pathways; Transposons in prokaryotes and eukaryotes; Detection of DNA damage at molecular level; Structure and function of Chromatin and Gene Expression: The concept of template surfaces.

BTC 521: Genetically Modified (GM) Crops, Biosafety and IPR **3 Credits**

Genetically modified (GM) crops are currently under strict public scrutiny. Presently it is a subject of intense public and political debate, more so in Europe and some developing countries. Those, who oppose GM food, hold the view that it will create more harm than good and in extreme cases it might create superweeds and resistant bacterial and viral strains that might prove extremely hazardous to the existence of mankind. The GM food proponents that include the Nobel Laureate, Dr. Norman Borlaug argue that each GM food crop/organism should be critically assessed before its release to the public. If it passes the scientific test, it could be marketed without any fear of its harmful effects. In the USA, the GM soybean constitutes some of the major varieties in that country for over 10 years without any report of health problems arising out of its use. The course gives emphasis on global differences in acceptance or lack of it of GM food crops in the backdrop of national culture and history, economic conditions, and government initiatives or responses related to the issue. Through case studies, the course will examine in-depth the interplay of these factors, particularly in the context of the developing world. Topics to be covered are: (a) Risk perception related to the precautionary approach, (b) Benefits of GMOs, (c) Public institutions and risk acceptance, (d) case study: the Monarch Butterfly (e) Star link.

Critical assessment of biosafety rules operating in developing countries and the importance of its strict enforcement to protect the population of the Third World countries from harmful effects of

indiscriminate introduction of GM products. Definition of "Intellectual Property Rights" and its importance for protecting both biotech products, invented by local scientists and the indigenous material from being exported to developed countries.

The course has been designed to emphasize global differences in acceptance or lack of it of GM food crops depending on national culture and history, economic conditions, and government initiatives or responses related to the issue. Through case studies, the course will examine in-depth the interplay of these factors particularly in the context of the developing world. Topics to be covered are as follows: (a) Risk perception related to the precautionary approach, (b) Benefits of GMOs, (c) Public institutions and risk acceptance, (d) case study: the Monarch Butterfly (e) Star link.

BTC 550: Research Project **12 credits**

All students will be required to do a research project of 12 credits for one full semester. The research project can be carried out either at BRACU or any other university or research institutes under the joint supervision of a BRACU biotech faculty and a recognized biotechnologist of the concerned institution. A student will have the option of choosing her/his potential guide and the problem she/he will undertake but the final decision about her/his choice of guide and the topic will rest on the Chairperson of the Department.

MASTER OF DEVELOPMENT STUDIES (MDS)

EACH COURSE IS OF 3 CREDITS

DEV 300: Economics and Development: This course aims to build a solid understanding of basic economic principles and the methodology of how economists analyze problems. The course sets out to explain how a modern economy functions and to introduce the students the major economic problems.

DEV 301: Fundamentals of Social Science I- Sociology and Anthropology of Development: The objective of the course is to prepare the students to critically comprehend the structure and function of the society, and to sensitize them to existence of diversity in social organization and culture. It also aims to introduce the students with the civilization, sociology, culture economics and politics tracing them through the evolutionary stages and with their impact on society.

DEV 302: Fundamentals of Social Science II- Politics, Political Economy and Government in Bangladesh: The course aims at acquainting the students with the political systems and processes with special reference to Bangladesh. The objective of this course is to help students know the basics of political philosophy as well as political economy and government in Bangladesh from a developmental perspective. This course also aims at encouraging critical thinking, analytical skills, knowledge enrichment, and problem-solving capabilities of the students. The successful completion of the course will help the students become successful leaders, administrators and managers in the field of development.

DEV 501: Development Perspectives: This course provides an overview of development theories and concepts. It highlights the diverse meanings of the word 'development' and explains alternative theories of why how and how development takes place in a given society or fails to do so.

DEV 502: Poverty-Concept, Measurement and Policy: The objective of this course is two-fold: (a) to apprise the students of the conceptual framework underlying the current discussions on poverty, and to (b) introduce some of the issues related to its measurement.

DEV 503: Global Dimensions of Development: This course aims is to examine the channels through which global forces shape national efforts at development. In particular, the course aims to acquaint students with the major debates surrounding the role of global forces in creating opportunities as well as constraints for national development.

DEV 504: Rural Development: A systematic introduction to the history and contemporary issues facing the rural economy and society, the changing interrelationships between rural and non-rural spheres.

DEV 505: Gender and Development: This course situates the study of gender and development in both an academic social science context and in the context of policy-making and implementation.

DEV 506: Monitoring and Evaluation of Development Programs: This 3 credit course aims to provide the key concepts and skills needed to develop, manage and carry out monitoring and evaluation of development projects. The idea is to provide generic concepts and tools though project specific examples will be used as case studies. The focus will be on developing a mindset of critical enquiry and openness to the diversity of methodologies ranging from survey based to participatory.

DEV 690: Research Methods and Concepts: This course will introduce students with scientific approaches and explanation to knowledge as well as objectives and role of research in attaining knowledge. The important approaches of research that will be discussed are positivism; interpretive social science; critical social science; phenomenology etc. Different types of research i.e. applied research, qualitative research and quantitative research will also be discussed.

DEV 691: Statistics and Computer skill development: The course aims at developing the students' basic skills in quantitative methods in research by laying a foundation in the fundamentals of mathematics and statistics and familiarizing students with basic computer software used in quantitative social research.

DEV 692: Research Design and Proposal Writing: The students will learn the techniques of research and how to design a viable research. They will concentrate on selection and formulation of a research problem and write a successful research proposal based on an identified research problem.

DEV 693: Thesis (optional): Students may choose to write a thesis based on the proposal defended in DEV 692. The thesis will be an original research work completed under the supervision of a supervisor assigned by the university. The thesis will be approximately 30 pages long. A student will have to present and defend his/her thesis in front of committee. After a successful defense and necessary revisions, the student will be eligible to get an MDS with a thesis.

DEV 601: Comparative Development Experience: Introduces the variety of development experience in different time periods and in different regions of the world, with an appreciation to the existence of multiple paths to as well as multiple constraints to development.

DEV 602: Development Informatics: The course will examine the existing use and future potential of computers and Internet use in various development activities, including computers in Rural Development; E-Governance; Local Governance and Information Systems etc.

DEV 603: Education and Development: This course seeks to acquaint the students with the role of education in human development, poverty alleviation and empowerment, and with the alternative approaches for promoting education for development.

DEV 604: Environment and Development: Development takes place in, and depends on resources drawn from the natural environment. At the same time, the processes of economic and social change, which define development, have impacts upon the natural environment. This course introduces these complex and changing relationships.

DEV 605: Governance and Development: To provide students with a theoretically informed understanding of governance issues and the ways in which it impinges on various development questions. In addition, the students will acquire analytical skills to develop, analyze and implement governance policies in specific institutional settings.

DEV 606: Health and Development: The objective of this course is to introduce developmental issues that affect health of the population and vice versa. Basic concepts for the analysis of development and its impact on health, nutrition and human wellbeing will be introduced. The emphasis will be on poverty, population growth, food supply and consumption, health and development linkages, equity in health, gender dimension of health and institutional aspects of development

DEV 607: Indigenous Knowledge in Development: The objective of this course is to examine

the view that understanding indigenous knowledge systems and their evolution can hold extremely valuable lessons for designing effective development interventions and approaches.

DEV 608: Microfinance and Development: Students taking this elective course will have a good understanding of the evolution of thinking and practice and the debates underpinning microfinance, with special focus on the role of microfinance in alleviating poverty.

DEV 609: Nationalism, Identity Politics and Development: This course aims to provide an understanding of how the multifarious forces like religiosity, ethnicity, communalism, etc., compete with each other and contribute to the development of national identity of various population groups. The empirical focus will be on the experience of Bangalis and on explaining how the sense of nationalism can be engineered in the achievement of effective development in Bangladesh.

DEV 610: NGOs and Social Entrepreneurship: Identifying and solving large-scale social problems requires social entrepreneurship. This course introduces the ideas of social entrepreneurship, and how individuals and institutions have used such perspectives to develop innovative solutions to address different types of social problems.

DEV 611: Population and Development: The objective of this course is to explicate determinants and consequences of population growth, with a special focus on the interactions between population growth on the one hand and socio-economic development on the other.

DEV 612: Project Appraisal and Management: Examines the issues and principles involved in the identification, preparation, appraisal and management of developments projects.

DEV 613: The Rights based Approach to Development: Familiarizes the students with the basic ideas of the human rights discourse and introduces the emerging literature on the implications of adopting a rights-based approach to economic and social development.

DEV 614: Technology and Development: Familiarizes the students with the history, experiences, future possibilities, and constraints of using technology in development process.

DEV 615: Urban Development: Investigates issues related to urbanization and its relationship to development from both spatial and cultural perspectives.

DEV 616: Financial Management: Covers the foundations of accounting and finance, and its applications for financial decisions for development projects.

DEV 617: Law and Development: At the conclusion of the course, students should be able to demonstrate a comprehensive knowledge of the types of law and development problems facing less development nations; to display an understanding of some of the many ways in which law is involved in the development process; to evaluate the operation of the law in the development process and vice versa and; to use both legal and non-legal research resources in order to complete a piece of independent research, which relates to the course.

DEV 618: Social Communication: New generation development programs recognize that there is a need to mobilize the society to achieve program objectives and targets and measure investment in this sector through accepted methods and systems. To achieve this objective, students will learn theories of social communication and attain professional expertise in social and development communication in this course.

DEVELOPMENT PROFESSIONAL PROGRAM (DevPro)

DESCRIPTION OF LEARNING BLOCKS

Block 1: Development Thoughts, Theories and Debates
Block 1 aims to understanding the global & national development issues and challenges for developing countries. The module also acquaints participants with the major debates surrounding the role of global forces in creating opportunities as well as constraints for national development. Contents of this block are a primer on the concept of development; evolution of development thinking (overview of key school of thought); development theories; environment and sustainable development; Understanding the poverty dimensions and linkages; sustainable Rural Livelihood as a development framework and challenge; indigenous knowledge; financial Sustainability of development organizations: selected issues and challenges; development debates .

Block 2: Human Rights and Development
This block aims to study the implications of adopting a rights-based approach to economic and social development and the basic of the human rights discourse. Contents of this block are; the rights-based approach to development; Bangladesh constitutionals rights, human rights declaration (education, health, environment, HR etc. link with all development programs of development organizations, UN charters; gender equality and diversity in development

Block 3: Poverty, MDG and PRSP
This block apprises the participants of the conceptual framework underlying the current poverty reduction strategies. It will review the MDGs and analyzes the role of key international actors in reducing global poverty. Contents of this block are; poverty: multidimensional concept, Poverty line, Indicators and measurement; human Development Index (HDI), Indicators and Trends; poverty alleviation strategies in Bangladesh and other countries: Implications for Policies and Programs ; MDGs and the renewed focus of aid; Poverty Reduction Strategy Papers (PRSPs); partnership (Global partnership, strategic partnership, program partnership)

Block 4: Agriculture, Food Security and Development
Block 4 aims to develop a solid understanding of agricultural linkages and sectoral performance in rural Bangladesh. It will enable the participants to critically comprehend agribusiness entrepreneurship development and prospects of agricultural diversification. Contents of this block are; role of agriculture in development; green Revolution, concept and critique; food Security in Bangladesh: achievements and Issues; agribusiness entrepreneurship development; agro-based industry and off-farm employment; WTO and Agriculture in Bangladesh

Block 5: Development Programs in Bangladesh
This block provides a broader understanding of the contributions of development programs and their performances for country's overall development. Contents of this block are as follows.

Economic Program i) Understanding growth: Bangladesh development policy review, ii) Micro-finance approaches and strategies, iii) contribution of Micro finance for economic growth of Bangladesh, iv) Unemployment and the prospects of other sector/programs (like TUP & IGVGD) v) Position of micro-finance in attaining the MDGs in Bangladesh, vi) The economics and governance of NGOs in Bangladesh

Health: i) Overview of health sector performance in Bangladesh, ii) Position of health in MDGs, PRSPs challenges and role of NGOs

Education: i) Education strategies in Bangladesh, ii) Strategic position of education in MDGs and PRSPs challenges and iii) Non-formal Education Model & Inclusive Education

Human Rights and Social Development: i) Social communication, ii) Social Mobilization and its role in Economic Development, iii) Role of Community in Development as Countervailing Power.

Block 6: Evolution of Development Organizations
Block 6 critically links the development strategies with the historical and programmatic evolution of Development Organizations (NGOs) and to provide understandings about social entrepreneurship. Contents of this block are; history, evolution and future challenges of Development Organizations; social Entrepreneurship.

DESCRIPTION OF COURSES

MASTER OF ARTS (MA) IN ENGLISH

CONCENTRATION IN LITERATURE

Foundation Semester

ENG 604: Research Methodology **3 Credits**
This course will introduce students to the basic ways of writing a research paper or thesis. Beginning with conceptual clarity, the course will introduce students to methods of library research, including on the Internet and the use of primary and secondary materials. Students will be taught how to pose research questions, the use of annotations, bibliography and the basic tenets of literary and cultural research.

ENG 605: Contemporary Literature in English **3 Credits**
Literature of the late 20th century and the first decade of the 21st century will be looked at in this course. This will cover a wide span including writing from the UK and the USA, but other Anglophone literatures as well, showing how English is a global language and the many varieties of English writing prevalent in the world today. Postcolonial and postmodern approaches to literature will be emphasized in this course.

Semester I

ENG 611: Basic Readings in Feminist Literary Criticism **3 Credits**
This course will take students through the main writings of western literary tradition from the 'first' to the 'second' wave. As part of the reading of the 'third' wave of feminist literary criticism, which critiques the 'eurocentricism' of the previous writers, the course will concentrate on writing from South Asia. Virginia Woolf, Simone de Beauvoir, Kate Millett will form the first part of this course. The second part will look at the writings of Elaine Showalter, Ellen Moers and Tillie Olsen. The third part of the course will look at Cora Kaplan, Gayatri Spivak and selected writings by Terry Lovell, Toril Moi and Mary Jacobus. The course will end by concentrating on the Indian subcontinent looking at the critical writings of Susie Tharu, Kumkum Sangari, Niaz Zaman and Firdous Azim.

ENG 612: Basic Readings in Postcolonial Literary Criticism **3 Credits**
Beginning from the writings of Edward Said, the course will look at the later developments of postcolonial theory as represented by Homi Bhabha and Gayatri Spivak.
Once the field is laid out, we will look at writers from Africa and the Caribbean, such as Franz Fanon, Leopold Senghor or Ngugi wa Thiongo to widen the scope of postcolonial responses to literature. Contemporary postcolonial critics such as Ania Loomba, Robert Young and Alta Aima will be included as part of the reading list.

ENG 613: Basic Readings in Postmodern Literary Criticism **3 Credits**
With the deconstructionist moment inaugurated by Jacques Derrida, the approaches to western intellectual thought underwent a complete transformation. We will look at the development of postmodernist thought through the writings of Derrida, Lyotard, Jameson and Baumann to see how this transformation has worked. Postmodernism also introduces students to the new forms of culture and the relationship between technological transformations and critical thought.

ENG 614: World Literature in Translation **3 Credits**
Modern prose texts from different non-Western cultures in English translation will be studied in this

course. Students will be encouraged to apply the different critical methodologies they have learnt at undergraduate level as well as the ones they are being introduced to at MA level, to elucidate the texts.

ENG 615: Nationalism and Literature **3 Credits**
Fredric Jameson has called 'third-world' literatures a process of nation-making. Aijaz Ahmed has critiqued this concept, seeing it as yet another example of Eurocentric ways of looking at 'other' cultures. This course will look at 'founding' texts from 'third-world' nations, to see to what extent they are a narration of nation making. Examples of readings include the novels of Bankim and Tagore, or the new African writings by Ngugi wa Thiongo or Chinua Achebe.

ENG 616: Classical Literary Theories of the Eastern and Western Traditions **3 Credits**
This course will look at the classical literary theory of ancient Greece, concentrating on Aristotle, Plato and Longinus. From the Indian tradition we will look at the place of the *rasas* and the *Natyasastra* to understand how literature was thought of in our own culture. From the Arabo/Persian tradition, we will look at writings on the *qasida* and on poetic forms to see how Persian poetry was written and discussed.

ENG 617: Literature and Popular Media **3 Credits**
Literature is normally placed in what has come to be known as 'high' culture. But literature can also be popular culture as is seen by the best selling status of many a literary work, as well as the cult status enjoyed by some writers. This course will look at the interconnection between literature and popular culture, as well as the place of literature in media such as film and TV.

ENG 671: Cultural and Media Studies **3 Credits**
This course will look at contemporary popular culture as well as the audio-visual media. It will look at cultural theory to understand the workings of ideology, and how they get reflected in literature. As literary writing is giving way to the audio-visual media in contemporary times, this course will also look at film texts, TV and the Internet to see how cultural attitudes are formed and disseminated in postmodern times.

Semester II

ENG 618: Tracing a Feminist Tradition: 18th and 19th century women's writing **3 Credits**
Is there a feminist or woman's tradition? This tradition can be traced from the 18th century writings of Mary Wollstonecraft, to the rise of the Gothic in the 18th century, the great realist novels of the 19th century including writers like Charlotte Bronte and George Eliot. This course will look at this body of writing critically to question the notion of a 'tradition' of writing, and to see how the 19th century 'woman question' is reflected in its literature.

ENG 619: 20th Century Feminist Readings of Literature **3 Credits**
Women continued their expansion into the realms of literature in the twentieth century. Beginning with Woolf's *A Room of One's Own*, this course will follow this expansion by examining feminist developments in English criticism. We will use the literary criticism of Kate Millet and 1960s criticism, to analyse texts from a radical feminist perspective. Stemming from this review we will use Elaine Showalter's tracing of a woman's tradition, and we will see how this is linked to other readings of literature such as those done by Cora Kaplan and the socialist feminist stream. Finally we will delve into the realm of 'other' women's voices through black feminist literary criticism as well as critical readings of Native American female writers.

ENG 620: Transnational Feminism: Reading Literature Inter-culturally 3 Credits
The main objective of this course is to acquaint students with the universal nature of feminism. This course focuses on issues relating to women's diversity through different genres of literature by women writers. It includes texts written from and addressing a variety of viewpoints, identity and experiences, which are shaped not only by societal definitions of gender, but also by constructions of race, sexuality and class.

Beginning with the Introduction of Inderpal Grewal and Caren Kaplan's *Scattered Hegemonies: Postmodernity and Transnational Feminist Practices,* this course critically examines the tradition in women's writing, deconstructs the pervasive images of women in literature, and analyses the way in which women use language to define their experiences. A variety of works by Bangladeshi, Indian, Pakistani, Egyptian, Latin American, African, British, and American women will be studied, including novels like *Sultana's Dream, Map of Love, Ice-Candy-Man, Joys of Motherhood, The House of Spirits, Sexing the Cherry, Their Eyes Were Watching God* and *The Raven* a play by Caryl Churchill; poetry by Kamala Das, Sappho, Adrienne Rich, Sylvia Plath; and essays by Arundhati Roy.

ENG 621: Gender Theories and Feminist Readings of Literature 3 Credits
Is there any distinction between sex and gender? How are gender stereotypes created? Do male authors write differently from female authors? Do men and women read differently? What does it mean to define a particular piece of writing as 'feminist'? Women and literature is the subject that draws a direct connection between life and literature. This course examines the cultural and social construction of gender and debates on gender in literature through the lens of gender and feminist theories. It aims to concern itself with sexual difference, images of men and women in literature, the biological, social, and cultural construction of femininity and masculinity, as well as how gender intersects with age, race, class, ethnicity, and sexual orientation. This course will look at the writings of Virginia Woolf and Simone de Beauvoir to see how the realist novel in English can be read. It will proceed to look at feminist analyses by Kaplan, Spivak and Judith Butler to look at contemporary writings and critically analyse the literary representation of women.

ENG 622: Reading English Literature Post Colonially: From Shakespeare to Defoe 3 Credits
Post-colonial re-readings of literature have proceeded through a re-examination of the English literary canon. This course will look at early English literature, from the plays of Shakespeare to the novels of Defoe to see how the colonial theme and depictions of the other occur in the English writing of the period of exploration and the beginnings of empire.

ENG 623: Postcolonialism and Literature: The Nineteenth Century 3 Credits
This course will involve a re-reading of the nineteenth-century novel post-colonially. Students are expected to read novelists from Charlotte Bronte of the early nineteenth century to Rudyard Kipling of the late nineteenth century. This course will also look at the response from the colonized world, and will read the English writings of the Bengal Renaissance, with authors such as Michael Madhusudan Dutt or Bankim Chandra Chatterjee to see how nineteenth-century colonialism influenced the growth and development of literature.

ENG 624: Postcolonialism and the Contemporary World: Reading "Other" Englishes 3 Credits
English as a world language has implications for its literature. English writing from other sites, such as the Caribbean, the African continent and South Asia are witness to this international status of English. From its initial nomenclature as Commonwealth writing to its present day status as postcolonial writing in English, this body of texts represents a rich tapestry of writing.

ENG 625: Translation and the Study of Literature 3 Credits
Cultural and literary transactions globally require a process of translation, not only from one language to another, but often from one medium to another. This course will look at translation not

between languages alone, especially between English and Bangla, but will also see how literature translates into other cultural media, notably film and television.

ENG 626: Postmodernist American Literature: from the 1960's to the present **3 Credits**
This course will cover the writers of the Beat Generation of the 1950's including Burroughs and Ginsberg to the writings of Vonnegut and Pynchon to see how postmodernism has a direct influence on the representation of American culture and society.

ENG 627: Post Modernist British Literature: from the 1980's to the present **3 Credits**
Salman Rushdie is perhaps the iconic writer of contemporary Britain, mixing as he does the post-colonial with the post-modern. Other contemporary writers such as Ian Mcewan will be looked at to see how the realist tradition continues in England, especially with the invention of such forms as the docu-novel. 'Other' Englishes also form a part of this course looking at the writings of Hanif Kureishi or Zadie Smith.

ENG 628: Postmodernism in translation: Spanish and French traditions **3 Credits**
This course will look at the relationship between modernism and post-modernism. The French tradition will be represented by the writings of Robbe-Grillet, Marguerite Duras as well as Monique Wittig. The Spanish tradition will start with Cervantes, go on to the new world, looking at the writings of Gabriel Garcia Marques and Mario Vargas Llosa.

ENG 629: Postmodernism and the visual media **3 Credits**
Post-modernist theories are concerned with the creation of meaning as well as the instability of meaning. Post-modernism has blended with cultural studies to analyse the contemporary visual media including television and film, the Internet, billboards and advertisements. This course will look at the visual media as the meeting-point between commerce and cultural production, and analyse the creation of images and their impact on our cultural lives.

Semester III

ENG 699: Thesis **12 Credits**
Students in the Literature concentration are required to complete a thesis of 15,000 to 20,000 words on a topic of their choice and approved by their thesis advisor. ENG 699 (Thesis) will have to be taken during Semester III, and the student will be guided by a thesis advisor. The thesis will have to be presented and defended in front of a committee composed of at least two faculty members and one external examiner.

CONCENTRATION IN ELT & APPLIED LINGUISTICS

Foundation semester

ENG 601: Advanced Writing Skills **3 Credits**
The course will provide students with practice in skills and techniques needed at each stage of the writing process: brainstorming, mind mapping, drafting, revising and editing. Students will also study the language of academic writing (grammar and sentence structure, academic style and vocabulary), and the different genres (essays, articles, reports, response and research papers) of writing. The program integrates academic writing with creative writing (fiction and nonfiction) and journalism.

ENG 604: Research Methodology **3 Credits**
This course will introduce students to the basic ways of writing a research paper or thesis. Beginning with conceptual clarity, the course will introduce students to methods of library research, including

on the Internet and the use of primary and secondary materials. Students will be taught how to pose research questions, the use of annotations, bibliography and the basic tenets of literary and cultural research.

ENG 603: Teaching Reading and Writing Skills **3 Credits**

This course will equip students with knowledge and understanding of the principles, design and procedure underlying the teaching of reading and writing skills. The writing component will involve a critical examination of both process writing and genre-based approaches and relate these theories to the teaching of writing. In teaching reading skills, critical issues like role of the reader's prior knowledge, cultural background and interest, and text features (text structure, signalling) will be examined. A variety of reading genres, textbooks, journal articles, online sources, newspapers, magazines and literary texts will be used for the purpose. Following contemporary approaches (content-based, task-based, etc.), students will be trained to select appropriate content and design meaningful tasks to teach and test the two skills.

ENG 609: Aspects of Language **3 Credits**

In this course students will explore the nature of language, its complexity and its diversity. It will equip students with the knowledge of linguistic concepts and principles of linguistic analysis with English as the primary source of data. The first part of the course will focus on the core areas of language study: phonetics, phonology, morphology, syntax, and semantics. The second part of the course will focus on the sociological and psychological aspects of language.

Semester I

ENG 641: Methods and Techniques in ELT **3 Credits**

This course will take students through the history of English language teaching from grammar translation to communicative language teaching and other current communicative approaches. Students will have the chance to discuss and practice a range of different teaching methods and techniques. The emphasis of the course will be on the principles and techniques of teaching the four skills, as well as grammar and vocabulary.

ENG 642: English as a Second Language: Theory and Practice **3 Credits**

The course examines the process of acquiring a second or additional language. The aim of this module is to introduce students to the psycholinguistic approaches related to second language acquisition including comprehension and production of language, learner characteristics (attitude, aptitude, motivation etc.), cognitive and metacognitive learning strategies, interlanguage and other theories of second language acquisition (Monitor model Acculturation, Accommodation etc). The course will also include a study of the pedagogical implication of SLA research.

ENG 643: Sociolinguistics and Psycholinguistics **3 Credits**

This course introduces the students to the sociological and psychological aspects of language. The sociological aspects will comprise language variation and change, language and gender, language and culture, language policy and planning and world Englishes including Pidgin and Creole. The psychological aspects will include perception, production and comprehension of speech in first language acquisition. Examples will be drawn both from Bangla and English languages. The course will also include a study of the various theories of first language acquisition: Behaviourism, Cognitivism, Innatism etc.

ENG 644: Approaches to Teaching Grammar **3 Credits**

The essential aim of this course is to increase students' explicit knowledge of selected aspects of English grammar and their pedagogical applications with respect to the needs of learners of English as a foreign/second language.

ENG 645: Discourse Analysis **3 Credits**

The course will explore the relationship between the use of language and its social context. It will include the study of the functions of language, rules and procedures of discourse analysis, analysis of spoken and written discourse through an understanding of the role of context, cohesion, coherence, speech acts, cooperative principles etc. The focus will be on the methods of discourse analysis and how to work with various kinds of research data, including official documents, conversations, interviews and literary discourse.

ENG 646: Computer Assisted Language Learning **3 Credits**

The course will equip students with the tools to integrate computer technology appropriately into language teaching and learning. It will provide an overview of different types of programs and approaches to using CALL software in the language classroom. Basic training in computer technology, and software related to language teaching and learning will be an integral part of the course.

ENG 647: World Englishes **3 Credits**

The course surveys the social and linguistic characteristics and roles of English in societies around the world. It will attempt to examine the differences in the status of English in different countries of the world and their sociopolitical and educational implications. Topics will include: spread of English in the world; functions and statuses of Englishes world-wide; the three varieties of English; British and American English; English in South Asia (with special emphasis on Bangladesh) and the characteristics of New Englishes. There will be opportunity to compare the different functions of English language in postcolonial nations and the extent and nature of nativized varieties, which have developed.

Semester II

ENG 648: Teacher Education **3 Credits**

This module is designed for students to get acquainted with various issues involved in their professional development. It will include understanding of the theories and principles of teacher education, lesson plan and evaluation, classroom observation, modes of teaching and learning, micro-teaching, counselling and feedback. A major concern of the module will be to familiarize students with current research and methodologies pertaining to teaching and learning.

ENG 649: Material Design and Evaluation **3 Credits**

The course will aim at developing students' understanding of the theories and principles of effective material design. It will include evaluation, selection and adaptation of existing materials. It will provide students with the tools for designing materials for the ELT curriculum.

ENG 650: Teaching English for Specific Purposes **3 Credits**

This course will expose students to the theory and practice of teaching English for specific purposes. It will train students to identify the language needs of specific disciplines, examine and assess suitable teaching materials, and design appropriate and meaningful activities for various occupational and educational purposes. The course will also include a study of the current issues, trends and research methods in ESP.

ENG 651: Testing and Evaluation **3 Credits**

This course goes through the basic concepts in testing, such as, purposes, kinds and basic requirements of tests. The course also looks at test formats, testing and assessment of different skills, test construction and development, approaches to scoring and marking and test administration.

ENG 652: Curriculum and Syllabus Design **3 Credits**

This course studies the background of the language syllabus design; various types of syllabi; needs analysis and the problems faced by syllabus designers. It also investigates the decision-making process that involves planning, developing, implementing, evaluating and modifying syllabi.

ENG 653: Teaching Practicum **3 Credits**

The overall aim of the course is to make the students develop effective teaching skills. Students will be required to teach English language to various levels of students ranging from primary to tertiary at different educational institutions. The teaching will also comprise the teacher's observation of students' performance to be followed by a process of feedback on students' teaching performance.

ENG 654: Phonetics and Phonology **3 Credits**

This course is designed to provide a basic understanding of general phonetics and a basic knowledge of the phonology of English. It will include aspects like articulation and description of speech sound, speech mechanism, consonants, vowels, syllable structure and prosodic features such as stress, rhythm and intonation. The secondary aim of the course is to introduce students to pronunciation pedagogy, focusing on how to develop pronunciation activities for Bangladeshi students acquiring English pronunciation.

Semester III

ENG 699: Thesis/Internship **12 Credits**

Students in the Applied Linguistics and ELT concentration also have to take ENG 699 (Thesis) in their final semester. They may write a thesis (of 15,000 to 20,000 words) on a topic of their choice and approved by their thesis advisor; or they may complete a semester-long internship in lieu of the thesis. If they take the second option, they must write a report based on their internship, which then has to be presented and defended in front of a committee composed of at least two faculty members and one external examiner.

COURSE CONTENTS[1]

MASTER OF ARTS IN GOVERNANCE AND DEVELOPMENT (MAGD)

PREPARATORY COURSES

GOV 101: Basic Course in Computing
Objectives: Introduces the students to the nature of operation, uses and potential of computer in organisations. Learning by practice is emphasised.

Contents:

Introduction to hardware and software technology
Word Processing
Presentation
Database management
Spreadsheets
Electronic communication

GOV 102: Principles of Economics
Objectives: This course aims to build a solid understanding of basic economic principles and the methodology of how economists analyse problems. The course sets out to explain how a modern economy functions and introduces students with the major economic problems.

Contents:

The nature and method of economics
Individual markets, demand and supply
Elasticity of demand and supply
Production and cost
Market structures, with special focus on perfect competition and monopoly
Economic efficiency and market failure
Governing the market
Measurement of national income
Determination of national income: the aggregate demand and aggregate supply model
Unemployment
Inflation
The unemployment- inflation trade-off
Government budget and fiscal policy
Money creation and monetary policy
Business cycles
Economic growth
The theory of comparative advantage
Free trade versus protection
Balance of payments and exchange rate policy

[1]Course contents given here are tentative as contents for all Courses could change depending on the Course Outlines of individual course teachers.

CORE COURSES

GOV 501: Introduction to Governance
Objectives: To acquaint the participants with the introductory concepts of social science and how they relate to the concept of governance. It also aims to present governance concepts, issues and innovations by presenting them in historical, global and local dimensions.

Contents:

Introduction to basic concepts of Social Science

History of Governance (Historical overview of emergence of governance, concepts and their critiques)

Concepts of Governance (Key concepts and frameworks of Governance, Indicators of governance; Definitions and manifestations of Equity, Accountability, Integrity, Transparency, Voice, Access, Participation, etc.)

Issues in Governance (Broad sweep of the global and local problems.)

Innovations in Governance

GOV 502: Economics for Public Leadership
Objectives: To train participants in basic economic tools for economic policy analysis and economic management.

Contents:

Basic understanding of Public Finance and Public Expenditure

Macro policies and the role of financial institutions

Policies with respect to externality, public goods and natural monopoly

Economics of regulation and rent-seeking

Pricing in public utilities

Economic policies for growth

GOV 503: Strategic Management
Objectives: Identify and evaluate options for strengthening the performance of public organisations and managing changes in the public sector.

Contents:

Concepts and thesis of strategic management in public sector

Vision, Mission and Objectives; Development of Strategy Process; Strategic Planning; Implementation; Monitoring; Evaluation and taking Corrective Steps

Management of Change in organisations

GOV 504: Lessons in Development
Objectives: Acquainting participants with the concepts of development and development policies, actors in development, changing paradigms of development and global best practices.

Contents:

Evolution of the concept of development

Development as growth of national income

The theory of take-off

Development, dualism and modernisation theory

Marxist critique and Dependency School

Post-modernist critique of development theory
Development and distribution: the Kuznet's hypothesis
Inequality, basic needs and poverty alleviation
Capability, human development and development as freedom
The right to development as a human right
Sustainable Development
Development, the state and the market
Development in the age of globalisation
Alternative Development: NGOs, civil society and social movements
Paradigm Shift in Development

GOV 505: Leading Issues in Governance in Bangladesh
Objectives: To equip participants to analyse governance issues in the context of globalisation, how they relate to Bangladesh and to suggest appropriate remedial measures

Contents:

Definition (major actors and their roles in relation to the constitution); Major Debates and Issues; National Integrity System: Diagnostic of Major Institutions in Bangladesh
Governance issues arising from globalisation and global issues in Bangladesh, e.g. garments, agriculture, health etc.; Impact of Aid (political economy of aid)
Factors affecting governance in Bangladesh
Public Administration Reforms

ELECTIVE COURSES

Cluster A: Global Policy Framework

GOV 601: Environmental Management and Sustainable Development
Objectives: This course aims at acquainting participants with the environmental challenges at global as well as local level and how environment and development interact with each other. It also introduces them to various instruments designed to reconcile potentially conflicting concerns for environmental protection and economic development.

Contents:

Renewable versus non-renewable resources
Tragedy of the Commons
Dimensions of environmental problems: deforestation, soil erosion, water scarcity, loss of bio-diversity, loss of common property resources, outdoor pollution, indoor pollution, climate change
Relationship between economic growth and pollution
Policy instruments for pollution control: tax/subsidy, command/control and tradable permits
Poverty-population- environment nexus
Sustainable Development
Gender and Environment
Indigenous knowledge and environment
Earth Summit and international protocols on environment

GOV 602: Laws of International Governance and Cooperation
Objective: To acquaint the students with international laws, protocols and institutions relevant to governance in a nation state

Contents:

The Evolution of the doctrine of national sovereignty
The significance of International Law
International Court of Justice, international criminal court and High Commissioner of Human Rights
UNO and international security
Human Rights and international agreements on human rights, racial discrimination, women, children and torture
Bretton Woods institutions and economic surveillance
WTO and trade surveillance
International protocols on environment
Disputes relating to contracts and international arbitration
International maritime agreement and laws relating to sea

GOV 603: Current Issues in Globalisation
Objectives: To acquaint participants with the concept, benefits, limitations and challenges of globalisation from the national perspective.

Contents:

The concepts of globalisation and Index of globalisation
The benefits and limitations of globalisation
De-industrialisation
Protecting human security and economic crises
International financial crisis and protecting people from economic change and adjustment
Controlling global crime
Protecting cultural diversity
Protecting global environment
Narrowing global gaps
Specific actions to strengthen the bargaining position of poor countries
MDGs and their implementation

Cluster B: Enhancing Performance

GOV 610: Budgeting and Management of Public Resources
Objectives: The aim of the course is to provide an understanding of the government budgetary process, in particular, mobilisation of local and external resources, structure of taxation, implications of deficit financing, budgetary control and participatory budgetary process.

Contents:

Mobilisation of local resources- Taxes and non-tax revenue
Mobilisation of external resources and costs and benefits or aid
Public expenditure reviews
Government deficit and its implication
Politics of budgetary process

Budgetary control approaches
Participatory budgeting
Gender budgeting
Decentralisation and budgeting
Management of public debt
Public procurement
Financial Accountability

GOV 611: Project Appraisal and Management
Objectives: The course deals with the issues and principles involved in the identification, preparation, monitoring, evaluation and management of developments projects

Contents:

Basic techniques of project planning
Basic techniques of project analysis and appraisal
Shadow prices and social cost-benefit analysis
Management of projects
Stakeholders analysis
Impact assessment, including gender and environmental impact assessment
Participatory rural appraisal and the use of techniques such as logical framework

GOV 612: Public Policy Analysis
Objectives: The aim of the course is to expose participants to the fundamentals of public policy making, institutions and actors involved in the public policy making, the political economy of public policy making and role of private sector and non-state actors in public policy making.

Contents:

Aims and scope of public policy
Concepts and approaches of policy making
Institutions and processes in public policy making
Politics of public policy making
Role of public leaders and bureaucracy in public policies
Development partners and state autonomy in public policy making
Role of private sector and non-state actors in public policy making
Implementation, monitoring and evaluation of public policies

GOV 613: E-governance & IT
Objectives: The course will examine the existing use and future potential of computers and Internet use in various governance activities

Contents:

E-Governance: concepts and application
Local Governance and Information Systems
Information systems to support decentralization initiatives in planning and local governance network
ICT in Education
E-commerce
Cyber law, legal issues

MIS and Computers in Project management
Use of information resources available through Internet
Case studies of ICT application in development from around the world

Cluster C: Building Partnerships

GOV 620: Public-private Partnership
Objectives: To sensitise participants about the importance and scope of the emerging trends in public-private partnership, different models of public-private partnership and train them in the negotiations and regulatory aspects of public-private partnership.

Contents:

Emergence of private sector to provide public services
Identifying sectors where public-private partnerships can be developed
Types and models of Partnerships -BOT, BOO, Privatisation and Outsourcing
Financing of Partnership
Partnership with local versus foreign companies
Regulatory Perspectives: Regulating and controlling, Types of Regulation
Costs, welfare and governance implications

GOV 621: Negotiation and Conflict Management
Objectives: The aim of the course is to expose public officials to state of the art, concepts and techniques of negotiations and conflict management so that they are able to apply those techniques to real life situations.

Contents:

Concepts of conflict, negotiation and conflict management
Issues and principles of negotiation and conflict management
Introduction to Game Theory
Zero-sum and win-win conflict management
Strategic thinking and planning in negotiation and conflict management
Negotiation at different levels
Tools: Arts and Science of Negotiation
Norms and values in conflict management

Cluster D: Accountability

GOV 630: Ethics
Objectives: The objective of the course is three-fold: (a) to train students in both universal and local standards, norms and values; (b) reduce ethical standards from high and abstract moral grounds to very essential component of day-to-day professional life, and in the process, (c) posit ethics and the vital missing link of good governance.

Contents:

Ethical values, code of conduct
Ethics and organization culture and values
Ethics in economics and operation of market forces
Identification of major administrative omissions/commissions

Equity and social justice in situation of deprivation
Political interference in the bureaucracy-impact on organization culture and social justice
Underlying factors behind erosion of social norms, values and justice
Good practices-moral courage and social resistance
Implementations issues: recruitment, training, discipline, awards, incentives

GOV 631: Corruption
Objectives: By way of taking a dispassionate and diagnostic approach to corruption, the aim of the course is to help students develop a critical outlook toward corruption.

Contents:
Definition
Levels and dimensions of corruption
Diagnosis and indicators
Cures and counter-measures
Political administrative corruption in Bangladesh
Administrative corruption in Bangladesh
Corruption in business, civil society, international organizations and donor communities
Incentives, penalty and compensation structure
Autonomous Anti-Corruption Commission-myth and reality
Best practices and tool kits

Cluster E: Inclusive Citizenship & Innovations

GOV 640: Learning from People: Methods and Innovations:
Objectives: Introduce students to key concepts, methods and process of political, institutional and social participation for sustainable livelihoods

Contents:
Concepts of Listening: Listening to People
Concepts of participation for sustainable livelihoods
Participatory learning: the experience of BRAC and other institutions in Bangladesh
Participatory appraisals
Institutional form of participation: the role of Development organizations
Impact of Micro credit in Bangladesh
Innovations and social entrepreneurship

GOV 641: Gender, Diversity & Governance
Objectives: The objective of this course is to: (a) introduce the facts and theories about gender discrimination, with special reference to the process of economic development, (b) to explain the consequences of gender discrimination for economic development, and (c) to discuss strategies for ending gender discrimination in the development process.

Contents:
Gender and sex: some basic concepts
Theories of gender discrimination, feminist perspectives
Patriarchy and the sub-ordination of women: facts and theories
Women in Development: alternative perspectives

Theories of the household: roots of gender discrimination within the household
Aspects of gender discrimination in developed and developing societies
Gender discrimination in South Asia, with special reference to Bangladesh
Social consequences of gender discrimination: on production, education, health, and population
The role of women in the Bangladesh economy
Engendering the development process in Bangladesh: achievements and failures
Women's agency and women's empowerment alternative routes-employment, education, social mobilization
Women's empowerment through the rights-based approach: the human rights perspective
Gender budgeting and gender analysis of development projects
Rights of ethnic and religious minorities.

GOV 642: Human Rights & Social Justice
Objectives: To familiarise the students with the basic ideas of the human rights discourse and to introduce to them the emerging literature on the implications of adopting a rights-based approach to economic and social development.

Contents:

The philosophical foundations of the concept of rights
Different concepts of right: The distinctiveness of human rights
A brief history of the evolution of human rights
Human rights instruments and institutions
The right to development-history and concept
Rights and capabilities
Human rights and human development
Rights and resources: the concept of progressive realization of human rights
Rights and obligations: accountability of the State and non-State actors
Claiming rights: participation and empowerment
The distinctive features of the rights-based approach to development
Universal human rights versus cultural relativism
Legal framework: International / National
Access to justice
National / International actors in Bangladesh
Critiques of western ideas of human rights issues from the south

Dissertation

GOV 690, 691 and 699: Dissertation
Objective: The aim of the course is to train the students in preparation of academic papers in English and in defending their thesis in an effective manner. The basic courses in English and Statistics carry no credits and the Dissertation carries 9 credits. The dissertation must meet rigorous academic standards befitting a Master's degree.

GOV 690: Basic Course in English
GOV 691: Basic Course in Statistics
GOV 699: Research Methodology & Dissertation

Research

An important facet of the Institute's core mission is conducting research on governance and disseminating its findings for public consumption. Since 2006, the Institute has been publishing *the State of Governance in Bangladesh* reports annually, policy papers, and studies of public institutions. The focus of the Institute is applied research and policy analysis. The public policy research is designed to enhance the knowledge on governance and to constructively engage the government and the public stakeholders in the institutional reform process.

The State of Governance in Bangladesh report is the flagship publication of the Institute. After fifteen years of democratic rule in Bangladesh, the system remains unconsolidated, politicized, confrontational and marred by bad governance. The State of Governance project aims to enter the debate about governance by examining the evidence and analysis of the issues, in particular to enable assessment of change over time.

The main objectives of the project are to:

Widen knowledge and provide information by developing research resources, working papers and studies on governance in Bangladesh.

Conduct research and comparative analysis using qualitative and quantitative methods for primary research and literature review, to identify constraints to governance and to inform policy change to remove the constraints.

Track changes in environment for governance by generating high quality data enabling periodic (possibly annual) review.

The Institute is also conducting research on policy issues relating to the institutions of accountability. The findings and recommendations are disseminated through policy notes and background papers. Relevant stakeholders from outside and inside of government are engaged in dialogues facilitated by the Institute which provide inputs for the policy notes

Training

Short-term Executive Training

The short-term courses are designed to achieve specific needs through intensive training programme that combine theory and global best practices. The Institute has the network with a number of institutions at home and abroad, professionals and individual experts. We are able to develop short-term courses related, but not confined to, governance, public and personal management, and, development. The tailor-made short-term executive training programmes are designed in consultation with the client agency and sector experts so that their needs are addressed adequately.

Special Projects

National Integrity Strategy Bangladesh

The current Government of Bangladesh's efforts against corruption are significant steps towards improving overall governance situation in the country. However, ineffective formal controls and lack of social and citizen oriented anti-corruption accountability mechanisms have added to what could be termed as a 'crisis of integrity'. This calls for a longer term change process with a strong reform

regime that would sit at the core of the good governance agenda of the Government of Bangladesh. Driven by top leadership and developed by the Government of Bangladesh the NIS will offer a vision to the development and implementation of reforms to promote better governance and combat corruption in Bangladesh. It is envisaged that such a strategy will highlight the need for public and private sector reforms, involve public awareness campaign, and seek international cooperation. With technical assistance from IGS and supported by the Asian Development Bank the five-month project for the development of the NIS will comprise of three phases starting with an inception workshop in mid-January 2008, for the visioning of such a strategy that will then be rolled out for a broad based citizen's consultation and consensus building and then streamlined for finalization at the meeting of a Core Apex Body of citizen's advocates and civil society leadership.

Bangladesh Compliance and Gap Analysis on UNCAC

The accession to the United Nations Conventions Against Corruption (UNCAC), in February 2007 by the Government of Bangladesh (GoB) has been a significant and symbolic step toward great reforms for good governance and consistent with its commitment and declared strategy to fighting corruption and complying to international standards. Bangladesh now needs to take systematic steps toward the identification of necessary legislative reforms, strengthening internal capacity needs for effective law enforcement and the formulation of anti-corruption strategies that are mainstreamed across institutions at risk of corruption.

The Bangladesh Compliance Analysis will be carried out by GoB in partnership with the United Nations Development Programme (UNDP) and German Technical Cooperation (GTZ) in Bangladesh along with technical support primarily from the Institute.

MASTER IN PUBLIC HEALTH (MPH)

Basic Concepts of Public Health

MPH 501: Introduction to Public Health
Basic and essential concepts, tools and approaches of Public Health; Information on public health problem from the internet, published sources and by interviewing experts; Collaborative and oral presentation skills; Context affecting health and public health practice; Ethical challenges related to public health and with diverse and/or disadvantaged communities; Public Health problem and its magnitude, Key determinants, compare and prioritize interventions and/or policies in health and other sectors (agriculture, micro-credit, education) to address the problem.

MPH 512: Anthropological Approach to Public Health
General introduction to Social and Cultural perspective on health and health care and specific problem areas; Insights in the perspective of recipients and providers of health programs and health care; Mechanisms and strategies leading to a reorientation of health care programs and policies towards the actual needs of the target group; Difficulties related to the socio-cultural context in a health worker work.

MPH 511: Qualititative Research Methods
Basic skills of qualitative health research; Logic of inquiry in qualitative research and differences with quantitative research: Various study designs and how they are operational zed; Various qualitative data collection techniques applied in health research with their uses and limitations; Communicate qualitative research findings to different stakeholders in health and health care. Methodological tools for qualitative health research using Ethnographic interviews, Participant Observation, Focus Group Discussion, PRA etc; Design proposal for field research, analysis and writing up of the data of research.

MPH 520: Quantitative Research Methods
Various study designs, specific research questions and field settings from a public health issue; Independent and dependent variables; Concepts of reliability and validity, Limitations posing research findings and conclusions; Operationalize study variables into a quantitative (pre-coded, close-ended) survey instrument; Design survey-based quantitative study and conduct research; Data file utilizing a statistical software program; Use raw dataset to conduct data cleaning, recoding and creation of variables for preliminary data analysis; Research question applicable to an extant dataset and implement preliminary (descriptive) analysis designed to address the research question, (that is secondary data analysis)

MPH 521: Biostatistics
Research methodologies, statistical methods, and applications, especially as applied within public health/population health environment; Analyzing, interpreting, and presenting health-related research data. Descriptive statistics, basic concepts of probability, statistical inference, analysis of variance (ANOVA), correlation, regression, and distribution-free methods (non-parametric statistics). Introduction to Excel and SPSS, Introduction to Moodle course management system.

MPH 522: Epidemiology
Principles of disease prevention within populations to real-life situations; Key terms used in the epidemiology and prevention of infectious diseases; Calculate and interpret basic population measures of health and disease occurrence including incidence, prevalence, and survival; Make

appropriate comparisons of disease rates within and between populations; Select and apply fundamental epidemiologic study designs including outbreak disease investigation, randomized clinical trial, cohort, case-control, and ecologic for the purpose of investigating public health problems; Critically review published epidemiological studies, identify their strengths and weaknesses.

MPH 530: Health System Management
Health from various perspectives and discuss how health and development are inter-related and the role of health systems in improving and protecting health; Various levels and types of health systems and their inter-relationships with country examples including public, private and traditional systems; Functions of health systems at different levels and details of various management systems needed to make the services function effectively; Tools to use in assessing management systems and adapt them for writing a consultant report for a facility providing constructive guidance on improved management strategies; Advantages and challenges of decentralization in health system management.

MPH 531: Health Economics and Health Care Financing
Economics and its application in pursuit of better health and health care; Economic evaluation with their relative strengths and weaknesses; Costs related to health care, and their use in decision-making; Types of outcomes related to health care, and how they are measured and valued; Quality and usefulness of economic evaluations, utilization and expenditure surveys; Design, administer and analyze a facility cost survey. Different modes of provider payment, and their relative strengths and weaknesses; Concept of agency and forces which drive decision making among health care providers; Basic health insurance theory, factors threatening viability of insurance schemes; Evaluate Health Systems based on efficiency and equity; Impact of user-fees on utilization and equity with current trends.

MPH 541: Environment and Health
Analyze and discussion on core values of environmental health and its range of areas of specialization; Appraise the interrelatedness of structure, programs, and services of water supply, sanitation and solid waste management systems in rural and urban conditions; Effects of heavy metals; Arsenic mitigation options on health in Bangladesh and developing country contexts. Pollution and Global Concerns in Environment and health context (Climate Change).Interpretation of the relevant public health policies and strategies for prevention of environmental health hazards.

Public Health Practice

MPH 620: Epidemiology of Infectious Disease
Introduction to a number of important viral and bacterial diseases that are prevalent in developing countries; Disease distribution in time, place, and person; Effects of age, route of transmission, nutritional status, immunity, degree of exposure on disease epidemiology; Effects of environmental factors on disease epidemiology; Surveillance and Control strategies; Case study presentation of an ongoing epidemic.

MPH 670: Public Health Nutrition
Global situation of nutrition with emphasis on factors which contribute and its consequences; Nutritional requirements throughout the life cycle indicating the clinical consequences when these are not adequately met; Nutritional deficiencies and their treatment in the context of Bangladesh; Various interacting factors contributing to malnutrition in communities identifying practical activities to address them; Indicate how nutritional considerations can be woven into the design of public health and other development programs; Assess the nutritional state of a community, including techniques, samples, etc and monitor programs to improve community nutrition; Pitfalls and problems in the management of large public health nutrition programs.

MPH 660: Reproductive and Sexual Health & Rights
Components of reproductive health (RH), History of International RH policies along with Global and local barriers to reproductive health and rights Basic epidemiological and anthropological facts concerning major areas of reproductive health; Intersections between gender, socio-cultural, political and economic factors as they affect women's lives and their reproductive health experiences and expectation; Understand global policies, local realities, the barriers and facilitators to the use of reproductive heath programmes: Implementation challenges and achievements; Reproductive rights; Gender based violence and their intervention.

MPH 681: Aging and Health
Population ageing, its underlying factors as well as regional and gender dimensions of ageing. Implications of rapid population ageing in low-income countries in the context of public health. Identification of the multiple facets of ageing; Double burden of communicable and non-communicable diseases in old age in low-income countries as well as high prevalence of co-morbidity; Mortality among older people due to preventable conditions common to low-income regions of the world. Projection of enormous burden of non-communicable diseases in the near future among the older population. Health promotion aspects for preparation for healthy ageing from young adulthood.

MPH 690: Principles of Health Communication
Health and Population Communication - its key concepts, theories, research and applications. Knowledge and skills in public health as a professional: Component for a primary care health project, Health Communication objectives, audience approaches, media and message formats.

Communication as convergence, Effects of exposure and Health Communication; Effective communication strategies, programs and activities to change key behaviors related to elements of primary health care, including Family Planning/Reproductive Health; Maternal and Child health; HIV/AIDS; Infectious Diseases; Nutritional, Occupational, and Mental health.

MPH 691: Monitoring and Evaluation Of Public Health Programme
Evaluation, monitoring and research, Major evaluation theorists and Major evaluation purposes, Evaluation standards: utility, feasibility, propriety, accuracy; Major steps in conducting evaluation (CDC's evaluation framework), evaluation designs: experimental; quasi-experimental; naturalistic, and mixed-method; Major and minor evaluation methods: document review, surveys and questionnaires, individual and group interviews, observation, participatory methods, and creative expressions.

POSTGRADUATE PROGRAMS IN DISASTER MANAGEMENT

PREPARATORY COURSES

ENG 091: Foundation Course in English Language **3 credits**
Provides an introduction to English vocabulary, language, writing and verbal skills. Contents: Anatomy and construction of sentences, Spelling, Summarizing, Comprehension, Common vocabulary, Elements of good writing, Speaking.

CSC 093: Basic Course in Computing **1.5 credits**
Introduces students to the nature, operation, uses and potential of computer in organizations. Learning by practice is emphasized. Contents: Introduction to hardware and software technology, Word processing, Database management, Spreadsheets, Electronic communication.

FOUNDATION COURSES

DMG 501: Introduction to Hazards and Disasters **2 credits**
Provides a basic overview of the various types of natural, human-induced and industrial hazards and their potential for causing disasters. The purpose is to familiarize students with the basic concepts of hazards, disasters and vulnerability. Contents: Natural hazards, Human-induced hazards, Industrial hazards, Distinction between hazard and disaster, Hazard vulnerability.

DMG 502: Fundamentals of Disaster Management **2 credits**
Provides understanding of the general principles of management and their specific applications in the field of disaster management. The objective is to identify and examine the essential and fundamental elements of disaster preparedness, response and recovery within an inclusive management policy framework. Contents: General principles of management, Conceptual framework of disaster management, Basic concepts of preparedness, rescue, relief, rehabilitation and reconstruction, Inclusive approach to disaster management.

DMG 503: Organizational and Policy Context of Disaster Management **2 credits**
Reviews the roles of different actors such as the government, non-governmental organizations (NGOs) and international funding agencies involved in disaster management. The purpose is to provide understanding of the organizational framework for defining policy and practice in this field. Contents: Role of the government, Role of NGOs, Role of international funding agencies, Cross-sectoral linkages, Policy formulation, Program and project implementation.

DMG 504: Research and Analytical Methods **2 credits**
Introduces the basic elements, processes and techniques of research utilized for description and analysis with special reference to disaster management. The aim is to develop research skills that can be applied in subsequent practice, independent study projects and dissertation writing. Contents: Research typologies, Basic statistical and sampling techniques, Survey techniques, Qualitative and quantitative research, Data analysis, PRA methods.

CORE COURSES

DMG 601: Disaster Response and Recovery Strategies **3 credits**
Provides knowledge on immediate and long-term aspects of management of the post-impact phase of a disaster. The aim is to generate understanding of specific actions that should be taken during the

post-impact stage of a disaster to facilitate its effective management. Contents: Post-impact phase, Immediate rescue and relief needs, Long-term recovery, rehabilitation and reconstruction, Post-disaster trauma management.

DMG 602: Disaster Preparedness and Vulnerability Reduction **3 credits**
Gives an overview of the range of strategies for preparedness in the pre-impact stage in disaster-prone areas and correspondingly reducing vulnerability of communities. The purpose is to instill awareness of the importance of disaster preparedness for damage prevention and vulnerability reduction, and associated risk reduction strategies such as insurance. Contents: Disaster preparedness planning, Specifications of preparedness requirements, Risk management strategies, Preventive and/or mitigating actions, Risk insurance.

DMG 603: Assessment of Risk, Vulnerability and Capacity **3 credits**
Provides knowledge on methods of risk identification and hazard analysis and the development of disaster management capacity of a community or region. The objective is to develop skills to assess the risk associated with a variety of scenarios and resultant vulnerability. Contents: Risk identification, Risk perception, Hazard analysis and mapping, Vulnerability assessment.

DMG 604: Independent Study in Disaster Management I **3 credits**
This course is compulsory in Semester 01 of the diploma program. After mid-term examinations, each student will present a proposal for an independent study project in a subject area of disaster management and approved by relevant faculty. Students will utilize their knowledge gained from the various course deliberations at this program, supplemented by previous experience (if any) and future career and academic interests of the student. The study will be carried out independently outside class and supported by personal tutorials with faculty. Assessment will be based on an end of semester seminar presentation and written paper.

DMG 605: Independent Study in Disaster Management II **3 credits**
This course is compulsory in Semester 02 of the diploma program. After mid-term examinations, each student will present a proposal for an independent study project in a subject area of disaster management and approved by relevant faculty. Students will utilize their knowledge gained from the various course deliberations at this program, supplemented by previous experience (if any) and future career and academic interests of the student. The study will be carried out independently outside class and supported by personal tutorials with faculty. Assessment will be based on an end of semester seminar presentation and written paper. This study should build upon the previous independent study undertaken (DMG 604) at the certificate level and should therefore be more in-depth and reflect increased complexity of knowledge.

DMG 606: Dissertation Seminars **3 Credits**
Offered only at the master's level, consisting of a series of seminars on dissertation writing where students will discuss ideas, problems and research directions relating to their dissertation, supported by faculty lectures. The purpose is to supplement dissertation writing skills and techniques. Contents: Research methods, Literature review, Academic writing, Understanding and presenting arguments.

ELECTIVE COURSES

DMG 607: Riverine Disaster Management **3 credits**
Provides detailed knowledge on the effects of riverine disasters such as floods and riverbank erosion, and organizational and local efforts to manage them, with emphasis on the Bangladeshi context. The purpose is to develop knowledge and understanding of these widespread and serious hazards in Bangladesh, with a view towards developing expertise in their management. Contents: Causes and

effects of riverine disasters, Distinction between floods, flooding and riverbank erosion, Indigenous coping mechanisms, Organizational initiatives, Structural and non-structural vulnerability reduction methods.

DMG 608: Cyclone and Tornado Preparedness and Rehabilitation **3 credits**
Provides detailed knowledge on the effects and management aspects of cyclones and tornadoes including preparedness measures such as forecasting, warning and shelter provision and post-cyclone/tornado organizational relief and rehabilitation. The purpose is to develop knowledge and understanding of this frequent and serious hazard in Bangladesh, with a view towards developing expertise in its management. Causes and effects of cyclones and tornadoes, Preparedness, forecasting and warning mechanisms, Post-cyclone/tornado rehabilitation, Structural and non-structural vulnerability reduction methods.

DMG 609: Earthquake Vulnerability Reduction **3 credits**
Provides knowledge on the causes and effects of earthquakes and understanding of strategies for reducing potential damage and loss of life due to this destructive hazard. The objective is to extend skills and know-how to be able to contribute to the development of organized approaches for earthquake vulnerability reduction. Contents: Vulnerability and risk assessment, Preparedness and awareness building, Rehabilitation issues, Structural and non-structural vulnerability reduction methods.

DMG 610: Community Based Approaches to Disaster Management **3 credits**
Provides an overview of approaches for facilitating communities to develop disaster preparedness and recovery plans. The objective is to develop appreciation of the importance of the role of the community in managing disasters that it faces and the function of organizations in facilitating this management. Contents: Participatory methods, Community mobilization, facilitating self-help initiatives, sustaining long-term community based disaster management.

DMG 611: GIS and Remote Sensing Techniques in Disaster Management **3 credits**
Imparts knowledge on the basic concepts of Geographical Information Systems (GIS) and Remote Sensing Techniques and their potential for application in disaster management. Objective is to instill understanding of the basic GIS models and operations, and the potential and usefulness of GIS and remote sensing to support decision-making about the spatial dimension of disaster management. Contents: Constituents of vector and raster models, Data analysis, spatial information assembling for disaster management, Utilization for decision-making, Remote Sensing Techniques.

DMG 612: Building Design and Construction in Disaster-Prone Areas **3 credits**
Provides knowledge on methods of building safer buildings in disaster-prone areas, construction of disaster shelters and provision of post-disaster emergency housing. The purpose is to develop awareness of the key aspects of building design and construction that can contribute to creation of hazard-resistant habitats before, during and after disasters. Contents: Building-for-safety, Retrofitting, Disaster shelters, Emergency housing, Building codes.

DMG 613: Urbanization and Disasters **3 credits**
Provides knowledge on rapid urbanization in developing countries and the management of urban disasters. The aim is to create understanding of the link between uncontrolled urban growth and its potential for resulting in disasters and strategies to manage such disasters. Contents: Rapid urbanization, urban bias in development, Planning regulations, Urban services and infrastructure, Urban disaster management.

DMG 614: Risk Communication, Training and Public Awareness **3 credits**

Provides an overview of the different methods for communicating disaster risk and preparedness measures and building public awareness, of which training programs is an essential part. The objective is to enable students to gain the necessary knowledge and skills to develop their own disaster risk and vulnerability reduction training and public awareness programs and/or to contribute to such programs. Contents: Communication and dissemination techniques, Public awareness campaigns, Training programs, Role of media, Internet and telecommunications.

DMG 615: Gender Issues in Disaster Management **3 credits**

Provides knowledge and understanding about the importance of addressing gender issues and incorporating appropriate gender-sensitive measures in disaster management programs. The objective is to sensitize students about the need to approach disaster risk reduction from a gender-disaggregated perspective, and to provide them with tools to address the issue in disaster response and preparedness activities. Contents: Women's status, Gender-based vulnerability and capacity, Gender-oriented special needs in disaster situations, Development of gender-sensitive disaster management programs.

DMG 616: Disaster Risk Reduction and Development Planning **3 credits**

Provides knowledge to appreciate the need for integrating disaster risk reduction aspects in development policy, planning and implementation. The purpose is to equip students with the skills to identify the linkages between disasters and development, and understand the formulation and application of appropriate development planning policies integrating disaster risk reduction. Methods for advocacy of this integrated approach form an important constituent. Contents: Linkages between disasters and development, Impact of disasters on development, Disaster-Development continuum, Cause-Effect relationship between development planning and disasters.

COMPULSORY FIELD STUDIES

DMG 617: Field Study I **2 credits**

This course is compulsory in Semester 01 of the diploma program. Field visits made to disaster management projects and case studies of various organizations to provide understanding of the actual challenges and constraints to disaster management in real conditions on the ground. Visits to sites supplemented by presentations by field-based personnel and experts. The students will evaluate the projects visited and their findings and comments will be presented in reports and class seminars.

DMG 618: Field Study II **2 credits**

This course is compulsory in Semester 02 of the diploma program. Field visits will be made to disaster-risk areas and students will document relevant local data. This data will be utilized to simulate disaster scenarios with respect to actual local conditions and correspondingly students will prepare appropriate disaster management plans. Training in relevant computer software packages will be provided. The field study will be presented as a report and in a class seminar.

BRAC University-Institute of Educational Development (BU-IED)

POSTGRADUATE CERTIFICATE IN EARLY CHILDHOOD DEVELOPMENT (ECD)

The BRAC University Institute of Educational Development is offering a Postgraduate Certificate Program in ECD. It is a collaborative effort of BRAC University and the Open Society Institute (OSI), UK. The program is designed primarily for individuals who are engaged in early childhood development or education of young children, are interested to develop their professional skills and competence in the field, and would like to commit themselves professionally to work in early childhood development. People who currently have responsibilities or intend to take on responsibilities as planners, managers, developers of curricular and learning materials, trainers of trainers, educators and researchers in early childhood development will benefit from the program. The certificate program consists of 5 course units of 3 credits each. On successful completion of 5 course units totaling 15 credits, students will receive a Postgraduate Certificate. Each 3-credit course unit includes two weeks of intensive classroom instruction followed by six weeks of independent study/individual assignments.

15 credits earned in the certificate course will apply to Postgraduate Diploma in ECD and Masters of Science in ECD, under preparation and subject to approval by UGC.

ECD 521: Foundation of Early Childhood Development **3 credits**
The course is designed to give students the foundation for understanding the field of child development. It establishes the knowledge base for its complementary course, Contemporary Thinking and Issues in Child Development, as well as for the other courses that focus on specific aspects of child development, such as play, assessment, literacy/numeracy development, and the broader context of family and community. The main objectives of this course are to provide students with an understanding of the major theories and the strengths and shortcomings of each, the sequence of child development and the processes that underlie it, an appreciation of the impact of context and culture on child development, the joint contribution of biology and environment to development, a sense of the interdependence of all aspects of development physical, cognitive, emotional, and social and an appreciation of the interrelatedness of theory, research and applications.

ECD 522: A Framework for Designing Early Childhood Programs **3 credits**
The goal of Early Childhood programs is to meet the young child's multiple rights and needs by taking into account the health, nutrition and psychosocial stimulation aspects of children's development, while at the same time making the environment in which the child lives more friendly to the child. The objective of the course is to provide students with an understanding of programme development, beginning with an assessment of the situation for young children and their families, to establishing a monitoring and evaluation system to provide ongoing feedback on the program's effectiveness. The course will introduce students to the full range of approaches and activities that can be undertaken to support the well-being of young children and their families. Students will have an understanding of and ability to apply three sets of programming principles: contextual principles that suggest interventions must be created with an understanding of the context and appropriate to local strengths and challenges; social principles that include seeking equity while attending first and foremost to those at greatest risk, and technical principles that address the implementation of cost-effective interventions that are part of a comprehensive, multi faceted strategy. Throughout the presentations and discussions, examples of early childhood programs will be provided, drawn from health, education and the social sector. The course concludes with a discussion of evaluation processes used to assess the outcomes of early childhood programs.

ECD523: Play & Creativity **3 credits**

This course gives students a theoretical knowledge base and practical skills at facilitating children's play and creativity. Students will develop an understanding of the various debates that surround this topic so they can be well-informed advocates for play and creative expression in early childhood settings. The objectives of the course are: to understand the significance of creative expression and play in early childhood, to know the major theories of play and the points of controversy, to have a strong theoretical basis for effective play practices, to understand the influence of play and creativity on all domains of child development, to know the developmental changes in the nature of play during early childhood, to understand how differences (gender, race, class, ability, etc.) impact play and creative expression and how to respond effectively to those differences, to know the developmental nature of play in early childhood and how adults can be responsive, to promote high quality play and creativity for infants, toddlers, preschool, and early primary school children, to assess indoor and outdoor environments (including materials) for how well they are likely to promote high quality play and creativity, and to know various delivery mechanisms for play based, creative curricula and programs.

ECD 524: School Readiness **3 credits**

Learning to read and write is critical to a child's success in school and later in life. One of the best predictors of whether a child will function competently in school and go on to contribute actively in an increasingly literate society is the level on which the child progresses in reading and writing. Similarly, when it comes to maths, young children are natural learners and they construct their own understanding about quantity, relationships and symbols. The objectives of this course are to: Understand both the developmental continuum of reading and writing as well as the impact of individual differences and social and cultural variations on outcomes; the important role of developmental stages in the first three years as well as the social and cultural context in which children live, the basic components of literacy, to help assess the quality of literacy environments as well as those to assess children's progress along the developmental continuum and how instruments can be used to plan experiences and strategies that match children's age and experience. To be familiar with a set of principles that underlie the teaching, learning and assessment of early numeracy; to understand the strategies for teaching operations and counting; patterns, functions, and algebra; geometry and spatial sense; measurement and data analysis; to understand five processes through which children develop their numeracy skills; to review the developmental continuum in the progression of numeracy skills in early childhood; to assess children's progress and to learn strategies for making numeracy activities more responsive to children's individual learning styles and needs.

ECD 525: Implementing Early Child Development Programs **3 credits**

This course will focus on the issues and strategies related to two main types of program options including center-based programs and those aimed at reaching parents and other caregivers. Regarding the design and implementation of programs for groups of children, the course will focus on best practices in curriculum development - a framework of curriculum development as well as the design and organization of high quality learning environments will be explored through an examination of existing program materials and case studies. In addition, students will explore other elements of high quality ECD program including training, supervision, parent involvement, management and organization and monitoring. The need to help parents and families to support children's development is increasingly recognized. In the second part of the course students will understand the audience for whom parenting programs are created. Research will be presented on the interaction between the culture and the individual resulting in parenting attitudes, beliefs and practices. This frames the context in which programs are developed and delivered. Students will then explore the purpose of parenting program and how they are created. The process for determining content will be described, and information will be provided that can be used to facilitate interactions around parenting. The various modalities of working with families will be explored including home visiting and parent groups. Students will also read and analyze evaluation of parenting programs from a variety of countries to have a better understanding of the efficacy of different approaches.