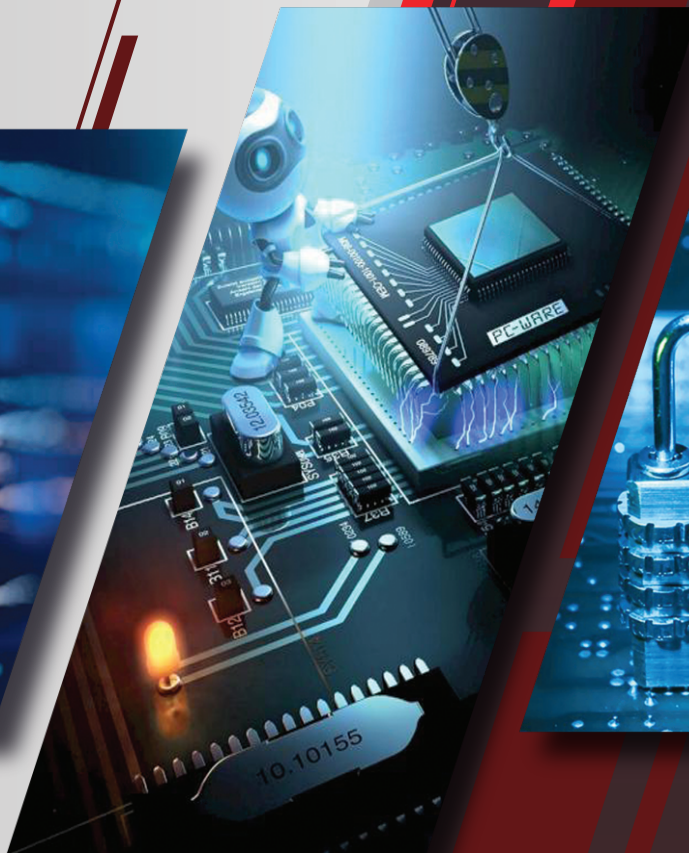


Computer Science and Engineering Hand Book



Premier
University

Computer Science and Engineering Hand Book



Premier
University

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Message

Chattogram is one of the oldest port-cities of the world. There is a tradition that says, Bijoy Singha went to Ceylon from Chattogram a millenium before the birth of Christ. The name 'Ceylon' is derived from the word 'Singhala' bearing Bijoy Singh's name. Chattogram Port had been visited by Marco Polo and Ibn Batuta. In the 17th century, it was the most famous port of the Indian sub-continent. Portugeese traders and adventurers used to call it 'Porto Grande' or the great port, while Hoogli Port was termed 'Porto Picono' or small port. Today, Chattogram is the largest port of Bangladesh. In fact, it is the heart of the body economy of the country.



The scenic beauty of Chattogram is overwhelming and unique. Wordsworth said :

Two Voices are there
One is of the sea
One of the mountain
Each a mighty one.

Chattogram has both. The impact of these two natural phenomena on the people of Chattogram have made them generous and hospitable. Chattogram has been the abode of various cultures. Here we find the mingling of the Hindus, the Buddhists, the Muslims, the Christians and even Animists. Muslim sufi-saints came to Chattogram and preached their message of love long before the Muslims established their rule over the sub-continent. The Buddhists had a famous University in Chattogram which acquired fame as 'Pundit Bihar'. Sitakunda is one of the holiest places of the Hindus. Till today Chattogram bears the heritage of Portugeese Culture in its many churches and buildings.

Chattogram will always be a place where people will come to seek material wealth and spiritual solace. The region is also renowned for its unique educational, artistic and folk traditions. Its poets, writers and scholars have greatly and immensely contributed to Bangla literature. Also, in our war of liberation and anti-colonial movement Chattogram occupies a special place.

Premier University, though established at the beginning of the 21st century, upholds these rich traditions of Chattogram.

Premier University values most the quality of education it provides. Needless to say, your studies at this university will enrich and equip you for an enlightened and bright future.

Professor Dr. Anupam Sen
Vice - Chancellor
Premier University

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Building-1



Building-2



Building-3



Building-4



Building-5



Ladies Hostel



Central Library



Shaheed Minar



PREMIER UNIVERSITY

1.1 Background

Since ancient times, education has been recognized as an important factor for the amelioration of human conditions in a social setting. Greek thinkers like Socrates, Plato, and Aristotle were all aware of the role of education in society. Plato, in fact, had a very comprehensive scheme of education for his contemplated ideal state. He clearly understood that the philosopher king should have sufficient education to conduct the affairs of the state. In other civilizations also education was accorded an important place in their scheme of things, especially in their objective of attaining a good society.

Although education has been recognized as something important, it is in recent times that there have been theorizations about the causal link between education and development. Economists like Theodore Schultz, Gary Becker, and Amartya Sen have written extensively on the contribution of human capital to economic growth. They theorize that education, through providing skills, can make people more productive, and this gives them chances to earn higher wages in the labour market. Human capital has been defined as “the stock of useful, valuable and relevant knowledge built up in the process of education and training.” Investment in human capital, through schooling, increases the productivity of labour. Education not only increases productivity, but also has many spillover effects. Several World Bank studies show strong support in favor of this school. The World Bank concludes from their analysis of the experiences of 192 countries that human and social capital comprises two-thirds of the wealth of nations. Social capital has been understood to mean, sound institutions and good governance. Theorists cite the case of Japan as a glaring example in support of the human capital thesis. It is said in the case of Japan that human and social capital contributed 85% to the total national wealth while physical capital (machinery, building, and physical infrastructure) 14% and natural capital only 1%. It can be inferred from this phenomenon that the dearth of natural capital may be compensated easily through the development of human capital, but the reverse may not be true. “Empirical evidence further shows that there is no industrial society today with an adult literacy rate less than 80%. No illiterate society has ever become an industrial tiger of any stripe or color.”

From the foregoing discussion, it is evident that education is crucial for economic

development in the modern world. In fact, higher education can transform human beings into human capital, which ultimately becomes one of the vital ingredients of nation-building itself. We see that only those societies that have acquired the basic tools of essential knowledge and skill can successfully compete in today's global markets. This fact has been borne out by the experiences of Japan and other East Asian industrializing countries such as South Korea, Hong Kong, Singapore, Malaysia and China. These countries have abundant human labour. But, this factor alone could not raise them to their present height of market leadership. They could scale up to this pinnacle of prosperity and massive labour productivity only when they combined knowledge and skill with abundance of low-wage labour through education. Thus, in terms of human development objectives, education is an end in itself and not just a means to an end.

1.2 Genesis

Education has always been considered as an important issue for the development of human beings. Studies confirm that it transforms human beings into human capital, and economists like Theodore Schultz, Gary Becker, and Amartya Sen have recognized the significance of human capital for economic growth of a country. Ancient Greek thinkers like Socrates, Plato and Aristotle were also well aware of the role of education in the society. Education instills knowledge, skills, and abilities into human beings to make people more productive. It improves their capacity to generate more economic value for them as well as for their nation. That is why education is believed to be a treasure around the world.

Chattal Bir Alhaj ABM Mohiuddin Chowdhury, inspired by these ideas, conceived the idea of establishing a university in Chattogram, which he dreamed would impart quality education. He thought of establishing this university as a private university which would offer its education at a low cost. To transform his idea into reality, he initiated a 'Needs Assessment Study' in 1998 and submitted a project proposal for Premier University to the Ministry of Education of the People's Republic of Bangladesh in May 2001. In the same year, the government of the People's Republic of Bangladesh approved the proposal under the Private University Act, 1992 (Amended in 1998). The University Grants Commission (UGC) approved its curricula as well. Premier University then came into being and started its academic programs on January 21, 2002, with two departments: Department of Business Administration and Department of Computer Science & Engineering.

Since the origination of the idea to establish this academic institution, late Alhaj ABM Mohiuddin Chowdhury had led the university as its Founder Chairman and continued to do so until his sad demise on December 15, 2017. His dedication and persistent efforts made Premier University not only a center of excellence for higher education and learning but also one of the leading universities in this region.

1.3 Accreditation

Premier University has been accredited by the Government of the People's Republic of Bangladesh, and its curricula, as well as its programs have been approved by the University Grants Commission (UGC). The President of the People's Republic of Bangladesh is the Chancellor of Premier University.

1.4 Vision

The vision of Premier University is to become a leading academia in the country and beyond for quality education, research and innovations in higher education.

1.5 Mission

The overall mission of Premier University is to develop human resources through teaching, training, and guidance as well as creating knowledge conducive to the socio-economic realities of developing societies in general and of Bangladesh in particular.

1.6 Scope

The university holds the power and authority to provide education, training and degrees related to all areas of knowledge. However, currently the university restricts itself to offering four-year and five-year bachelor degrees and one-year and two-year master degrees in a limited number of subjects: these are Business Administration (from the year 2002), Computer Science and Engineering (from the year 2002), English Language and Literature (from the year 2004), Law (from the year 2004), Economics (from the year 2006), Electrical and Electronic Engineering (from the year 2007), Architecture (from the year 2011), Mathematics (from the year 2013), Chemistry (from the year 2013), and Sociology and Sustainable Development (from the year 2015). As the university grows and institutional capacity builds up, learning will be provided in other disciplines too. The university will eventually offer M. Phil. and Ph. D. programs in all subjects. It may also offer special courses tailored for people in the work force, diploma courses, etc.

1.7 Faculties and Departments

There are six faculties under which departmental programs are carried out. The faculties and the departments are the followings:

1. Faculty of Business Studies
 - Department of Business Administration
(Major in Accounting, Finance, Human Resource Management, Management and Marketing)
2. Faculty of Engineering
 - Department of Computer Science and Engineering
 - Department of Electrical and Electronic Engineering
 - Department of Architecture
3. Faculty of Arts
 - Department of English Language and Literature
4. Faculty of Law
 - Department of Law
5. Faculty of Social Science
 - Department of Economics
 - Department of Sociology and Sustainable Development
6. Faculty of Science
 - Department of Mathematics
 - Department of Chemistry

1.8 Programs

The following undergraduate and postgraduate programs are offered under different faculties:

1.8.1 Undergraduate

- Bachelor of Business Administration (BBA);
- Bachelor of Science (Engineering) in Computer Science and Engineering (CSE);
- Bachelor of Arts (Honors) in English;
- Bachelor of Law (LL.B.);

- Bachelor of Social Science (Honors) in Economics;
- Bachelor of Science (Engineering) in Electrical and Electronic Engineering (EEE);
- Bachelor of Architecture;
- Bachelor of Science (Honors) in Mathematics;
- Bachelor of Science (Honors) in Chemistry;
- B.S.S. (Honors) in Sociology and Sustainable Development;
- B.A. (Honors) in Bangla Language and Literature.

1.8.2 Graduate

- Master of Business Administration (1-year);
- Master of Business Administration (1.5-year)
- Master of Business Administration (2-year);
- Master of Arts in English;
- Master of Law (LL.M.);
- Master of Social Science in Economics;
- Master of Science in Mathematics;
- Master of Science in Chemistry;
- M.S.S. in Sociology and Sustainable Development.

1.8.3 Certificate

- CISCO Certified Network Associates (CCNA).

In future, Premier University will expand its activities and offer degrees in other branches of knowledge.

1.9 The Campus

Chattagram is a picturesque city of vivid beauty with lush green hills and colorful landscapes. The Bay of Bengal, only about 15 kilometers to the east of the city, has made it a delightful place to live in. The university has several academic buildings to run different faculties and departments. All of these are very close to Chattagram zero point, the railway station, the central bus depot, and can be reached within 5 to 10 minutes from any one of these points. The university provides the students with quality infrastructure – air conditioned and multimedia classrooms, computer facilities, well-structured labs and libraries.

1.10 The Faculty

The teaching staff of the university consist of highly qualified full-time teachers with

solid academic background in their respective disciplines. The university also invites adjunct teachers from other universities, business houses, government organizations and research bodies. Senior executives from multinational corporations and foreign banks offer, on invitation, lectures on real life ambience of their organizations. Occasionally, Premier University also invites visiting professors from foreign universities.

1.11 Quality Education

Premier University has been imparting quality education since its inception. The quality education of Premier University is based on its committed and highly qualified teachers, supportive administration and a large pool of learning resources. Premier university prepares a student to face the challenges of the world; its open credit system provides a student a better choice to go abroad for higher studies. Many alumni of Premier University are now occupying important positions in many renowned universities, including universities in the USA, European Union and the UK. Premier University puts great emphasis on creative learning.

1.12 Classrooms

Classrooms of the university are equipped with AC, fixed multimedia projectors, and other modern and necessary implements and appliances. The Classrooms are compatible with online class.

1.13 Computer Lab

The university has several state-of-art computer labs with more than 500 computers. These labs are staffed by professional systems managers and lab assistants. The students can access to all kinds of computer facilities as part of supervised classes by instructors and/or on their own to complete assignments in related courses.

1.14 Library

The Premier University has one central library supported by four departmental libraries located in two separate academic buildings feeding the needs of the students. These libraries have rich collections of books, periodicals, and research journals and e-resources on related areas of knowledge. The services of the libraries include lending of text books, providing assistance to students and rendering reference and bibliographical services. The libraries are fully automated through KOHA (Integrated Library Management System), while they subscribe to world renowned e-resources, e.g. Academic Search Premier, EBSCO host, the ACM Digital Library, Annual Reviews, Brills, Cambridge University Press, Duke University Press, EBSCO CMMC, EBSCO Host Research Databases, Edinburgh University Press,

Emerald, IEEE Explore Digital Library, IMF e-Library, Indian Journals, JSTOR, Palgrave Macmillan Journals, Project MUSE, Society for Industrial and Applied Mathematics, Springer e-Journals, Taylor and Francis e-Bestseller Packages, University of Chicago Journal, Willey Online Library, etc., through LiCoB and UGC Digital Library Consortium. The library also maintains DSpace repository software. To sum up, more than 41,000 online journals' articles, 1,00,000 e-books, 1700 world renowned e-magazines can be accessed and downloaded from Premier University LAN and Wi-Fi zones. In addition, the central library subscribes to all major local and national dailies on a regular basis. The Central Library has also archived around 25,000 volumes of printed books which are available to readers.

1.15 Academic Activity Automation

PU offers online-based course registration and advising systems where students can complete their course registration for each semester, print class schedules and course registration details, and check their examination grades. Faculty members also benefit from a centrally-governed online integrated faculty resource-system, which allows for tasks like grade submission to be performed securely, remotely and easily. The IT office that provides these services also maintains hardware, software and network infrastructure at PU, with an easy repairing facility cell.

1.16 Campus and Club Activities

Premier University ensures the opportunities for broadening the experience of students and staff through participation in sports, music, drama, visual arts, and other cultural activities. As a result, the students of Premier University are actively involved in several kinds of extra-curricular activities. Students enthusiastically participate in the activities of the Debating Clubs, Language Clubs, Photography Clubs, Programming Clubs, Robotics Clubs, and Cultural Clubs. Till date, our students have won numerous National Awards by participating in different national events through the aforementioned clubs.

1.16 Sports

In order to ensure an all-round growth of the students, Premier University has formed a Central Sports Body, called PU Sports Development Committee, which has been organizing different sports, i.e., cricket, football, indoor games, etc., for the students round the year on campus. Students have so far successfully participated and won national and international awards in cricket and football events held in Dhaka and Chattogram at home, and in India.

2. GENERAL ACADEMIC GUIDELINES

2.1. Student Admission Guideline

The admission committee of each department of the university will conduct their own admission process. The students will be admitted in the first semester of an academic year in the individual program. Schedule for admission tests and other essential requirements regarding admission will be available to the students through university website and newspaper circulation in advance.

A. Undergraduate Program

The candidate for admission into Level-1 class must have the following requirements:

- i. Minimum GPA of 2.5 (or second division) in S.S.C. and H.S.C. examinations (or their equivalent), or at least one GPA 2.00 but aggregate GPA of 6.00 in S.S.C. and H.S.C. or G.C.E. "O" Level in 5 subjects and "A" Level in 2 subjects with at least Four (4) B Grade or GPA 4.00 and Three (3) C Grade or GPA 3.50 (using scale of A=5, B=4, C=3.5, D=2, E=1)
- ii. However:
 - Sons/daughters of freedom fighters will be eligible for admission if they have an aggregate GPA of 5.0 in S.S.C. and H.S.C.
 - Equivalent performance under other educational systems (e.g. American High School Diploma, IB, etc.) will also be accepted.
 - A combined SAT score of 1100 also accepted in lieu of Admission Test for High School Graduates in any system.
 - Transfer of credits from comparable educational institutions may be considered after admission.
 - Students will have to pass an admission test to get admission at PU.
- iii. Any problem or confusion relating to the degree or diploma obtained from home or abroad of any applicant for admission in the undergraduate and graduate or for other purposes will be referred to and resolved by the Degree Equivalence Committee of PU.
- iv. A foreign degree holder seeking admission to any of the programs in this university must submit equivalence certificate (issued by Ministry of Education) at the time of admission.

B. Graduate Program

- a. All requirements needed for undergraduate program, and
- b. Minimum GPA 2.00 in undergraduate program.
- c. Any problem or confusion relating to the degree or diploma obtained from home or abroad of any applicant for admission in the undergraduate and graduate or for other purposes will be referred to and resolved by the Degree Equivalence Committee of PU.

Application Procedure

A candidate should apply for written admission test within the time limit in the prescribed application form available from Premier University Information desk, on payment. Information regarding admission can be obtained from the Information Office, Premier University Building, 1/A O.R. Nizam Road, Panchalish, Chittagong.

The Admission Committee of Premier University uses the following as basis for evaluating each applicant:

- a. A complete application form for admission,
- b. Official transcript of records,
- c. Non-refundable application fee,
- d. Test scores of the admission test administered by the Premier University
- e. Performance in the interview.

2.2. Duration of Program

All programs at the PU follow a two terms per academic year (bi-semester) system. The two terms per year system will be as follows:

- Term I (Spring semester) - between March and August,
- Term II (Fall Semester) - between September and February

The duration of each term in two terms per year system will be a minimum of 23 weeks, which will be used as follows:

A. Term-I

Classes	13 weeks
Mid Term (Generally after 50% of the Term Duration)	1 week
**Preparatory Leave for Examination	1 week

Term Final Examination Period Duration (2 days interval/course)	*3 weeks 1 day
Total	18 weeks 1 day
Publication of result	2 weeks
Inter Term Break	1 week
Course enrollment and result correction	2 weeks
Total	23 weeks 1 day

B. Term-II

Classes	13 weeks
Mid Term (Generally after 50% of the Term Duration)	1 week
**Preparatory Leave for Examination	1 week
Term Final Examination Period Duration (2 days interval/course)	*3 weeks 1 day
Total	18 weeks
Publication of result	2 weeks
Inter Term Break	1 week
Course enrollment and result correction	2 weeks
Total	23 weeks 1 day
C. Ramadan, Puja and other Vacations throughout the Level	5 weeks 1 day
Total	51 weeks 3 days

* Designed for 05 theory courses

** There will be strictly no class/exam during this period

** The remaining 3 days are for any special vacation/holidays decided by the university authority.

The particular dates of the terms may vary from year to year due to official holiday variables or special circumstances, but the minimum duration of each term will always be maintained.

Students admitted to PU must complete their graduation within eight years (10 years for B.Arch.) from the date of first enrollment.

However, students admitted to Master degree programs should finish their programs within (program duration $\times$ 2 + 1) years time.

2.3. Course Pattern and Credit Structure

The entire bachelor and master degree programs are covered by a set of theoretical, practical/ laboratory/sessional/studio and seminar courses. A short description of every course will be published by the curriculum committee of each program.

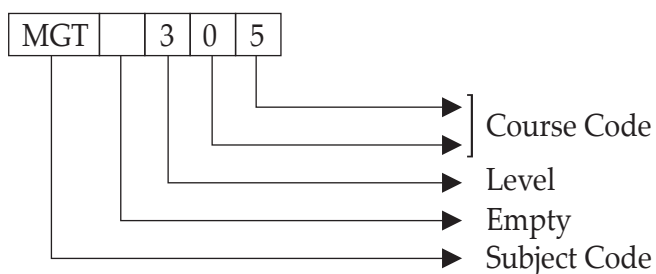
2.4. Course Numbering

The university uses three-digit numbering system preceded by three capital letters, which indicate the subject area or name of the department.

The three-digit numbers have the following interpretation:

- The first digit of the three-digit number corresponds to the year/level intended for the students.
- The second digit is reserved for departmental use to identify a specific area of study within the department.
- The last digit is used to identify a course within a particular department. This digit can be used sequentially to indicate a follow up course. For engineering generally an odd number is used for theoretical courses and an even number for Sessional/ Laboratory/Design-Subject course.

For clarity, an explanation of course numbering system is given below graphically:



2.5. Course Level

The four academic years of study for the degree of B.Sc., B. Sc.(Engg.), BBA, and BA shall be designated as Level-1 class, Level- 2 class, Level-3 class and Level-4 class in succeeding higher Levels of study.

The five academic years of study for the degree of B. Arch shall be designated as Level-1 class, Level-2 class, Level-3 class, Level-4, and Level-5 class in succeeding higher Levels of study. Students shall be admitted into the Level-1 class.

The graduate courses shall be designated as Level-5 class and, Level-6 class.

2.6. Assignment of Credits

The length of a semester consists of 13 calendar weeks of instructional time. Students take courses each semester and these courses have credits assigned to them and the credits are counted towards the degree. The “credit hour” (one credit hour) is defined as the amount of work represented in intended learning outcomes and verified by evidence of student achievements, that is, an institutionally established equivalency that reasonably approximates not less than

1. One hour of class room or direct faculty instructions (so-called contact hour) and a minimum of two hours of out-of-the class student work (homework, assignment etc) each week.
2. At least an equivalent amount of work as required in previous paragraph of this definition for other academic activities as established by the institution, including laboratory work, internships, practical work, studio work, and other academic work leading to the award of credit hour.

The contact hour(s) of the teaching load(s) shall have to counted according to the following guideline:

A. Term-I

SL. No.	Nature of the course	Contact Period (in a term)	No. of Credit
1	Theory courses	1 hour per week	1.00
2	i) Laboratory	1.5 hours per week	0.75
	ii) Sessional	2 hours per week	1.00
	iii) Design Studio (for B. Arch.)	2 hours per week for level 1	1.00
		1.5 hours per week for level -2,3, and 4	1.00
		1.25 hours per week for level-5	1.00
3	Project and Thesis	2 hours per week	1.00
4	Field work	2 weeks of field work	1.0
5	Internship	8 weeks of organizational attachment	3.00
6	Industrial Training (EEE)	2 weeks	Non Credit

Credits are also assigned to Seminar, projects, fieldwork and thesis work taken by the students. The amount of credits assigned to such work varies from one discipline to another.

2.7. Classification of courses:

The types of courses included in the undergraduate curricula are divided into the following groups:

A) Core Courses

In each program, a number of courses are identified as core courses. Every student registered has to complete all the designated core courses of his/her program.

B) Prerequisite Courses

Some of the core courses are identified as prerequisite courses for a specific subject. A prerequisite course is the one that is required to be completed before some other course(s) can be taken. Any such course, on which one or more subsequent courses build up, may be offered in each of the two Regular Terms.

C) Optional /Elective Courses

Apart from the core courses, the students can choose from a set of optional courses. A required number of optional courses from a specified group have to be chosen. The number of optional course vary from program to program.

2.8. Medium of Instruction and Examinations

English shall be the medium of instruction and examinations of all academic programs at PU. Each course focuses on the intellectual development of the students, and incorporates a variety of teaching methods in order to make the students proficient in the course.

2.9. Credit Transfer

A student may apply for transfer of credits earned from a similar course/degree at another university/institution. Credit transfer from another university to Premier University will be decided upon by the Equivalence Committee of the concerned department/program or the Admission Committee of the university and this committee will decide how many credit hours will be accepted by the university. Credit transfer decisions are made on a case-by-case basis where the quality and standard of the institution and/or academic program will be taken into account.

Students selected for credit transfer shall have to pay Credit Transfer Fee in addition to all applicable fees as per the rule of the university at that time in force.

Documentations Needed for Credit Transfer:

1. Submission of an application in a prescribed form available at the respective program office.
2. A complete official Transcript from the university/institution record to date.
3. Complete syllabus of the subjects that are applied for transfer.
4. Prospectus of the university/program showing academic system, grading system and course descriptions (course outlines, if available), etc. should be submitted with the credit transfer form.
5. Any other paper/document made necessary by the PU authorities at any point in time.

Courses that are similar in content with PU or that have equivalence with PU may be considered for transfer. However, courses that are not directly equivalent or similar to PU courses may be transferred as elective courses based on approval of the credit transfer committee.

The total credits transferred by a student from other universities should not exceed 50% of the total credits applicable for a particular degree at PU. For Bangladeshi institutions, transfer of credits will be considered if the institution has been approved by the UGC.

However, Premier University would neither incorporate in its transcripts the name of the courses accepted as transferred courses nor bring the grade point of those transferred courses in its CGPA calculation. Only the total number of transferred credit hours will be shown as earned "transfer credit hours". CGPA calculation would be made only on the courses completed in Premier University. To prove the completion of their degrees they have to carry the transcript of the previous institution from where their credit hours have been accepted by Premier University.

Note: Student who is already admitted in one department may change his department /transfer his credits by paying only the tuition fees. Accepted credits will be transferred to the desired department. The course that cannot be transferred will be shown in the transcript as non-credit course.

2.10. Academic Calendar

Before the end of a calendar year (preferably within November), the Head of the Department (HoD) will propose an academic schedule for all academic Levels to the Vice Chancellor for approval through Dean of the respective Faculty. The academic schedule of all of the departments (for both Undergraduate and Master program) will be compiled together, published along with the yearly holiday lists, and will announce the same before the starting of the classes.

2.11. Course Offering

The courses to be offered in a particular term are announced and published in the Course Catalog along with the tentative Term Schedule before the end of the previous term. Respective departments may arrange to offer one or more prerequisite or core courses in any term depending upon the number of students who dropped or failed the course in the previous term. Each course is conducted by a course teacher who is responsible for maintaining the expected standard of the course and for the assessment of student performance.

For a course strength necessitating two or more parallel classes or sections, one of the course teachers or any other member of the teaching staff of the department be designated as course coordinator. He/she has the full responsibility for coordinating the work of the other members of the department involving in that course.

Courses will not be offered if there are less than 25 Students on any Regular and Recourse. In such case, students will be offered substituted courses for each non-offered course. The respective department can also designate course instructors who will instruct the students for non-offered courses.

2.12. Student Adviser

Academic Advising is an integral part of PU's academic policy for students' overall development. To promote a high level of teacher-student interaction, each student is assigned to an Academic Advisor (a Faculty Member designated to advise) at the beginning of their academic lives at PU. The student is free to discuss with his adviser all academic matters. An academic advisor will be their main contact for academic or other issues arising during their time at PU.

Advisers will meet respective students at least twice in a term to discuss their progress at PU. The Adviser assesses performance and potential of a student and

suggests which courses he/she should take in a given semester and what are the associated pre-requisite courses, if any, to take.

2.13. Academic advising

A new student is automatically advised in the first semester courses at the time of admission. However, if a new student has credit transfer or course exemption/waiver, he/she must collect the name of his academic advisor from the concerned HoD Office/Department Office of the program, contact him/her and complete advising. Before enrolling or advising, a student must carefully study the Academic Rules, Semester Calendar, Advising Rules, Program Course sequence and class schedule of the semester. However, the Academic Advisor of the student shall confirm his/her course enrollment and if a student has not followed enrollment rules properly, he/she will be notified to meet the advisor. If a student faces any problem in registration, enrolment or advising, he/she should contact his/her Advisor. Students are encouraged to contact their Advisers for any problem- academic or otherwise.

2.14. General Rules Regarding Enrollment

Every regular student, if he/she wants to study, shall have to register the course(s) before the beginning of the class of each term of each level. From July 2014, all of the students of Premier University should select and enroll in courses using PUAIS (Premier University Academic Information System) with the following rules:

- a. Students have to select and enroll themselves to the courses within 10 working days of last semester result publication.
- b. Course enrollment for a semester is conducted in accordance with the previously published academic calendar.
- c. Students cannot enroll after the scheduled date of enrollment mentioned in the academic calendar except by special permission of the HoD.
- d. To avoid paying late fee, students must pay their tuition fees within the scheduled period, i.e., 45 days from the beginning of their first class.
- e. Course enrollment for a semester is conducted in accordance with an academic calendar. It starts immediately preceding the commencement of classes and continues up to the second week of classes.
- f. Credit Transfer students are provided with the opportunity to register in advance on specific registration days meant for new students.
- g. Mere attendance does not constitute registration in a class.

- h. Changes of courses can only be made through the processing of an official registration form.
- i. Total fees for each semester can also be paid in one installment in advance. A student will not be registered online until fees are paid according to the schedule given above and will not also get admit card for examination.
- j. Newly admitted students (including Credit Transfer Students) can pay applicable fees with 2 installments only in their first semester. Admission notice will declare such dates (First one is immediate and the next one is usually within 11 weeks from the commencement of classes).
- k. Students may not drop a course merely by stopping attending classes. Dropping of courses will not be possible after mid-term examination without written permission of the HoD. A student in no case can drop a course if he/she has valid marks in a particular course.

2.15. Registration Procedure for new students

- 1. A new student must pay the necessary fees and get an ID number from the Accounts;
- 2. The department will then assign an academic advisor for the new student;
- 3. The student is given the first term courses advised by assigned faculty member(s) as per the course flowcharts/four-year distribution in their respective departments;
- 4. The students have to register themselves into PUAIS and enroll to the advised courses;
- 5. The enrollment form will then be printed and signed by both student and the advisor;
- 6. In following term they will follow the procedures stated below to complete enrollment.

2.16. Course registration for Existing Students (for second and subsequent term)

- a) The date, time and venue of registration are announced in advance by the concerned department office signed by the respective HoD. It is absolutely essential that all of the students seeking enrollments must remain present according to the schedule;
- b) A student will sit with his/her academic advisor to select courses as per his/her term status and the four-year course distribution chart provided in the syllabus of the respective department;

- c) Students will then enroll themselves to the selected course entry will be given online and a enrollment form will be printed soon after the course entry;
- d) Both the faculty advisor and the student will sign the enrollment form;
- e) The signed enrollment form will be sent to the Accounts Office and/or office of the Controller of Examinations (CoE) for verification.
- f) After the verification, the signed forms will then return to the department. They are then ready for distribution to facilitate the payment of tuition fees.
- g) Any changes in Registration like withdrawing or changing the courses should again be made online through faculty advisers within 7 days from the last date of course registration.
- h) A student shall be allowed to register course(s) up to one week after starting of classes of the Term if (s)he have a convincing reason. This time may be extended further up to mid term if the HoD gives written permission.
- i) A student shall not be allowed for registration of any course after midterm period elapsed. But, this may be relaxed for students completing Level 5 Term-II for B. Arch and Level 4 Term-II for the others with recommendation from the Adviser and Head of the Department;
- j) No students will be allowed to register advanced courses if does not complete its pre-requisite course.
- k) Student should register his failed course on immediate next semester.
- l) Students registering for next term's courses for the first time will be given priority over students who are registering for a course a second or further time.
- m) Departments will ensure that students taking courses into the higher levels must complete the courses of lower levels.

2.17. Course Types, Load and Sequence

For the purpose of enrollment, courses are divided into 4 types, i.e., Regular, Recourse, Retake and Drop.

- A Regular course is that course in which no payment had been done previously or the fresh course.
- Recourse indicates courses when students take a course again or repeat as a whole.
- Retake only includes appearing at the final examination leaving the other assessment marks (generally first-50% marks) intact.
- Drop means cancelled courses after enrollment.

The course sequence and load vary from program to program and the students are advised to consult their respective program curriculum. A student must follow the course sequence stipulated in the program curriculum. A student must pass all prerequisite courses in order to be eligible to enroll for a higher-level course required for a given program. Course load is allocated according to the course sequence of the program.

For undergraduate courses, the normal course load (regular and recourses) per term is maximum 21 credits for Arts, Business and Law faculties. The maximum course load for the students of Engineering and Science faculties is 25 credits including regular and repeated courses. Apart from this load, all of the students also can register themselves for 6 more credits for retake.

The total load including regular, recourse and retake should not exceed more than 31 credits for Engineering and Science faculties and 27 credits for the others. For Special case, the final semester students can register 6 more credits in all programs.

A student may take a reduced load under extenuating circumstances only with his or her advisor's approval. Taking a reduced load in the first year is strongly discouraged except for a Credit Transfer Students. A student may take additional courses beyond the normal load only if his/her CGPA is 3.0 or above and the departmental head approves it on the recommendation of the faculty advisor.

2.18. Registration Deadline

The Registration program with dates and venue will be announced in advance. Student must register for the courses to be taken before the commencement of each term and no late registration will be accepted after one week of classes. Late registration after this date will not be accepted unless the student submits a written appeal to the concerned Head through advisor and can document extenuating circumstances, such as medical problems (physically incapacitated and not able to be presented) from the doctor or some other academic commitments which precluded enrolling prior to the last date of registration.

2.19. Add, Drop and Section Change (Course /semester)

An undergraduate/graduate student may withdraw from one or more courses, add one or more courses or change section with the permission of the Academic Advisor within 7 days of course registration. Please consult the Semester Calendar for exact date for add, drop and section change. A student must have a convincing reason to add/ drop a course or change section.

A student will be allowed to withdraw from course (s) by the week 5 (before mid- term examination) of any given term.

In exceptional cases (e.g., serious illness of students, death of parents) students may be allowed to withdraw a course after week 5 on recommendation of their advisor and HoD. Such request should be supported by medical certificate by a registered medical practitioner.

2.20. Conditions for Taking Recourse

A student who receives an F grade in a course will be required to repeat the course if he scored below 17 in his first 50% marks. The grade received on Recourse will replace his original grade (F). The transcript will show the best grade earned on Recourse and will be counted in GPA or CGPA computation.

A student may Recourse one or more courses for improvement of grade and the best of the grades earned in a course from recourses will be counted for CGPA calculation.

2.21. Retaking Courses

A student who receives an F grade in a course may retake the course if he scored 17 or above in his first 50% marks.

A student may retake one or more courses for improvement of grade and the best of the grades earned in a course will be counted for CGPA calculation. Courses having less than 'B' grade or below 60 marks at present (i.e. 'B-' downwards) will be allowed to register as 'Retake'. A course cannot be retaken more than twice.

2.22. Appearing in Examination

No student will be allowed to appear at the mid-term final and semester final examinations without clearing their dues with the university. Students must produce their ID cards in the Mid Term examination and ID cards and admit cards in the Final examination. They are required to collect their admit cards at least two days before the final examination starts. Admit cards will be issued to those only who will have their accounts clearance.

For any other examination, it is mandatory, that the students should wear their University ID cards.

2.23. The Grading System

The performance of a student is evaluated on the basis of

The performance of a student in a given course is based on a scheme of continuous assessment. For theory courses this continuous assessment is made through class attendance, class performance, quizzes, home work/assignment, case study/report, class test, mid-term and semester final examinations.

The assessment in laboratory/ sessional courses is made through observation of the student at work during the class, viva-voce during laboratory hours and quizzes. For Architecture students, assessments in design sessional would be done through evaluation of a number of projects assigned throughout the term.

Each course has a certain number of credits, which describes its corresponding weights. A letter grade with a specified number of grade points is awarded to each course for which a student is registered. Letter grades and corresponding grade points will be awarded in accordance to the provisions shown below:

Marks Range	Letter Grade	GP	Grade Point
80% and above	A+	(A Plus)	4.00
75% to less than 80%	A	(A Regular)	3.75
70% to less than 75%	A-	(A Minus)	3.50
65% to less than 70%	B+	(B Plus)	3.25
60% to less than 65%	B	(B Regular)	3.00
55% to less than 60%	B-	(B Minus)	2.75
50% to less than 55%	C+	(C Plus)	2.50
45% to less than 50%	C	(C Regular)	2.25
40% to less than 45%	D		2.00
Less than 40%	F		0.00

The courses in which a student has earned a 'D' or a higher grade will be counted as credits earned by him/her. Any course in which a student has obtained an 'F' grade will not be counted towards his/her earned credits or GPA calculation. A student who obtains an 'F' grade in a core course will have to Recourse or Retake that

particular course. However, if a student gets an 'F' in an optional course, he/she may choose to Recourse or Retake that course or take a substitute course if available.

If a student obtains a grade lower than 'B' in a particular course he/she will be allowed to Retake the course only twice for the purpose of grade improvement by forgoing his/her earlier grade. If a student obtains a 'B' or a better grade in any course he/she will not be allowed to Retake the course for the purpose of grade improvement. In that case, he can take Recourse.

Note: Student failed to attend final examination will be considered as 'F' grade.

2.24. Distribution of Marks

Fifty percent (50%) of marks of a theoretical course shall be allotted for continuous assessment, i.e., attendance, quizzes, home assignments, class evaluation and class performance. The rest of the marks will be allotted to the Term Final Examination that is conducted centrally by the department. Distribution of marks for a given course is as follows.

1. Theory Courses:

Class Participation	10%
Homework, assignment quizzes	10%
Class Test	10%
Midterm	20%
Final Examination (3 hours)	50%
Total	100%

Department of LAW (Theory Courses)

Class Participation	10%
Homework, assignment, quizzes	5%
Class Test	10%
Midterm	20%
Final Examination (3 hours)	50%
Viva-voce	5%
Total	100%

M. Sc. in Mathematics	
Class Participation	5%
Class Performance	5%
Class Test	10%
Midterm	20%
Final Examination (3 hours)	60%
Total	100%

2. Laboratory/Sessional

Class Participation	10%
Class Performance	10%
Report	20%
Viva-voce	10%
Final	50%
Total	100%

Laboratory/Sessional: M. Sc. in Mathematics

Class Participation	5%
Class Performance	5%
Report	20%
Viva-voce	10%
Final exam	60%
Total	100%

3. Design Studio (B. Arch.):

Class Participation	10%
Critic (report, preliminary jury)	45%
Final Jury	45%
Total	100%

4. Project/Thesis/Research Monograph/Internship:

B.Sc. Engineering/B.Sc. (Honors)/M.Sc. (Part-1)

Presentation	30%
Report	30%
Performance	40%
Total	100%

B. Arch. :

Class Participation	10%
Critic (report, preliminary jury)	45%
Final Jury	45%
Total	100%

Research Monograph:

Monograph	50%
Viva, defense	50%
Total	100%

Internship

Monograph	70%
Viva, defense	30%
Total	100%

Project Work

Monograph	70%
Viva, defense	30%
Total	100%

2.25. Calculation of CGPA

Grade Point Average (GPA) is the weighted average of the grade points obtained in all the courses passed/completed by a student. CGPA (Cumulative Grade Point Average) will be computed after each semester to determine the academic standing of the student in the program. The four-step procedure that will be followed to calculate the CGPA of a student is given below:

1. Grade points earned in each course will be computed based on credit hours in that course and the individual grade earned in that course by multiplying both.
2. All subject grade points (determined at step 1) will be added to determine the total grade points earned.
3. Credits of all courses will be added together to determine the total number of credits.
4. CGPA will be determined by dividing the results of step 2 by the result of step 3. For example, If a student passes/ completes five courses in a semester having credits C1, C2, C3, C4, C5 and his/her grade points in these courses are G1, G2, G3, G4, G5 respectively, then

$$\text{CGPA} = \frac{\sum(\text{Credit of the courses passed} \times \text{grade points earned})}{\sum(\text{Credit of all courses attempted})} = \frac{\sum C_i G_i}{\sum C_i}$$

A Numerical Example

Suppose a student has completed eight courses in a term and obtained the following grades:

Course	Credits, C_i	Grade	Grade Points, G_i	$C_i \times G_i$
CSE 100	2.00	A+	4.00	8.000
EEE 163	3.00	A+	4.00	12.000
EEE 164	1.50	A	3.75	5.625
MATH 141	3.00	B	3.00	9.000
ME 160	1.50	A-	3.50	5.250
ME 165	3.00	A+	4.00	12.000
PHY 109	4.00	A	3.75	15.000
PHY 102	1.50	A-	3.50	5.250
Total	19.50			72.125

$$\text{CGPA} = \frac{72.125}{19.50} = 3.70$$

Note: Please note that, if the 3rd digit after decimal points is above '0', grade will be rounded into the second digit after decimal. For example, 2.990 will be counted as 2.99 while 2.991 will be counted as 3.00 in CGPA calculation.

2.26. Grades Review Procedure

Grading of all courses will be done in an objective and impartial manner. If a student has reason to suspect discrimination, s/he will be able to have the issue redressed through a suitable grievance procedure. The student must notify the Department Head in writing, who will evaluate the matter along with the examination committee members to facilitate a reasonable solution at the departmental level. The chairman may also make a written recommendation to both the student and faculty member following the review.

2.27. Measures for Helping Academically Weak Students

The following provisions will be made as far as possible to help such academically weak students to enable them to complete their studies within the maximum allowable period of seven years in Engineering and eight years in Architecture.

1. All such students whose Cumulative GPA is less than 2.00 at the end of a term may be given a load of not more than four courses in the next term.

2. For other academic deficiencies, some basic and core courses may be offered during the Short-Term in order to enable the academically weak students to partially make-up for the reduced work load during Regular-Terms.

Academically weak students will be identified according to the following criteria:

1. The Term GPA falling below 2.20 points below that of previous term.
2. The Cumulative CGPA falls below 2.20.
3. The earned number of credits falls below 15 times the number of terms attended.

2.28. Exam Policies and Procedures

1. Every student has to report to the assigned exam hall/room at least 15 minutes before the exam starts. If a student arrives more than 30 minutes late, he/she will not be allowed to appear at the exam/test at the scheduled time. Scheduled exam/test time will not be extended to make up for late arrival.
2. Check in with the invigilator by presenting your ID-Card. Admit Card will be checked in Final examinations respectively.
3. All personal belongings are to be left in areas designated by the invigilator. Under no circumstances are these items to be taken into the exam/test room/custody of the examinee.
4. Confirm your start and finish time with the invigilator and whether you want to be advised of the remaining exam/test time.
5. No one will be allowed to leave the hall/room within the first one-hour and the last one-hour of the exam except in case of emergency.
6. Electronic and telecommunications devices are not allowed in the exam/test room. This includes cellular phones, pagers, MP3 players, programmable or graphing calculators, personal assistant devices, personal computers, etc.
7. Students are allowed to bring non-programmable calculators, pens, pencils, erasers, non-programmable clock/watch etc. The invigilator may ask to check items brought into the exam/test room.
8. Unless specified by your course instructor, prepared notes such as crib/cue sheets, word lists/memory aids will not be allowed in the exam/test room. Prior to the date of a test/exam, the use of any aid must be approved by your course instructor; otherwise it will not be permitted.
9. Unless specified by your course instructor that the exam/test is an open book format, books will not be allowed in the exam/test room.

10. Students are not allowed to take breaks during the exams. Under no circumstances will you be allowed to leave the premises except to use the washroom facilities with invigilator/staff escort. Extra time is not allotted for breaks. No one will have this facility in the final hour of the examination.
11. Only one student will be allowed at a time to go out for use of toilet or for other emergency reasons.
12. Invigilators are not permitted to discuss exam/test questions with you. Any questions or concerns should be brought to the attention of the invigilator who will record them for your course instructor.
13. Students can request ahead of time that the course instructor or assistant come to the exam/test room during scheduled exam/test time to clarify or answer your questions within your scheduled exam/test timeframe.
14. Every piece of exam script including the extra script should bear the invigilator's signature.

2.29. Minimum Credit Hour Requirement for a Degree

Minimum credit hour required to be completed to be awarded bachelor degree is decided by the Academic Committee subject to the approval of the Academic Council. However, at least 160 credit hours for B. Sc. Engineering and B. Sc. (Honors), 191 credit hours for B. Arch, 126 credit hours for BBA, and 120 credit hours for other bachelor programs must be completed to be eligible for graduation.

2.30 CGPA Requirement for Obtaining Degree

To graduate from PU, students must fulfill the following three requirements:

1. Candidates for an undergraduate degree must meet all the requirements of the university and the prescribed major sequence.
2. Complete all the courses with a CGPA of 2.0 or higher.
3. Complete graduation within 8 years from the date of first enrollment. Students failed to complete graduation within 8 years have to revive his registration status.

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. And the University will retain the right to cancel awarded degree on the abovementioned grounds.

2.31. Student Feedback

At the end of each semester, the HoD will seek the views of the student body. The

information may be sought in the form of live feedback sessions through PUAIS. It is important that students feel that this is an opportunity to express their honest opinions, offer constructive criticism and contribute to course development.

2.32. Application for Graduation and Award of Degree

A student who has fulfilled all the academic requirements for Bachelor/Master degree will have to apply to the Controller of Examinations through his/her Adviser for graduation. Provisional degree will be awarded on completion of credit and GPA requirements. Such provisional degrees will be confirmed by the Academic Council.

2.33. Transcripts

Official transcript of a student's academic records is issued upon written request of the student or a former student who has paid all fees, including any installment due to the university at the time the request is made. A fee is charged for each transcript.

2.34. Attendance

The university has strict rules regarding the issues of attendance in class and regarding the disciplinary issues.

All students are expected to attend classes regularly. The university believes that attendance is necessary for effective learning. The first responsibility of a student is to attend classes regularly, and one is required to attend at least 60% of all classes held in every course.

$$\text{Attendance Percentage} = \frac{(\text{Total Number of Appearance in Classes} \times 100)}{(\text{Total Number of Classes Held in that Particular Semester})}$$

2.35. Absence during a Term

A student should not be absent from quizzes, tests, etc. during the term. Such absence will naturally lead to the reduction in points/marks which count towards the final grade. Absence in Term Final Examination, final performance evaluation (Laboratory/sessional), final Jury (design studio), Final presentation (Thesis/project) will result in 'F' grades. They have to re-register the course either for retake or recourse based on their earned marks on first 50%.

A student who has been absent for short periods, up to a maximum of three weeks due to illness should approach the course teacher(s) or the course coordinator(s) for make-up quizzes or assignments immediately on returning to the classes. Such

request should be supported by medical certificate by a registered medical practitioner and relevant supportive documents. The medical certificate will also be acceptable only in those cases where the student has valid reasons for his absence from the university. Any dispute regarding the authenticity of the deposited documents shall be determined by the HoD and parents of the student can clarify his/her position regarding such documents.

2.36. Leave of Absence and Re-registration

A student applying for a leave of absence should mention a definite term for re- registration and must register immediately after the leave period. An application for a leave of absence needs to be submitted through head of concerned department. A leave of absence may be granted for one to three terms, provided the student is on good academic standing (i.e., not on academic probation or subject to dismissal) and his/her fees are fully paid. Students who have not registered for three consecutive terms with approved leave of absence will be allowed to re-register without paying any additional fees.

2.37. Striking off the Names

The names of the students shall be struck off and removed from the rolls of the university on the following grounds:

1. Withdrawal of names from the rolls of the University after having cleared all University fees and other dues to the University.
2. Failure to earn required credits for graduations as outlined in the respective curriculum and/or to earn CGPA requirement within the maximum allowed time.

2.38. Fees

The authority reserves the right to determine and change the fee structure as and when it deems necessary.

3. Student Code of Conduct and Disciplinary Procedures

3.1. General Guidelines of Students' Code of Conduct

A student shall conform to a high standard of discipline, and shall conduct himself, within and outside the university in a manner befitting the students of a university of national importance. He shall show due courtesy and consideration to the employees, duty guards of the university and Halls of Residence, good neighborliness to his fellow students and the teachers of the university and pay due attention and courtesy to visitors. Upon admission to Premier University Chittagong (PUC), a student accepts the mission of the university and is subject to the following principles:

- All human beings are endowed by their Creator with certain rights and no student, faculty member or staff or authority of the university may infringe upon the rights of fellow members of PUC.
- The goal of PUC is advancement of knowledge which cannot occur without a safe and comfortable learning environment. All persons working at and attending PUC are responsible for creation and maintenance of such an environment.

3.2. Related Bodies to ensure Disciplinary Rules

Premier University has constituted a Proctorial Body taking into account that discipline is the most essential and important element for the development of the institution. The constituted Proctorial Body shall assist the Disciplinary Committee in exercising the power related to disciplinary action as provided in this document.

3.3. Prohibited Misconducts and activities

Premier University does not accept the following types of misconduct and criminal activities within its premises:

3.3.1. Academic Dishonesty/Plagiarism which includes the following

- a) Unfair means at the examination by any method or means.
- b) Helping other students to adopt unfair means during the examination.
- c) Plagiarism: Reproducing the work of others as one's own work.
- d) Preparing the work for others that is to be used by the other as his/her own work.
- e) Cheating.

- f) Using scientific or educational data without proper acknowledgement & declaring the work to be the result of one's own research & experiment.
- g) Fabrication or the falsification of any event or information.

3.3.2. Classroom Discipline

- a) Students are expected to maintain respectful and decorous behavior towards students, staff, and faculty while in the classroom and on the university premises. Classroom discipline shall not include:
 - b) interrupting learning through talking out of place,
 - c) use of mobile phones,
 - d) lateness to class,
 - e) or rude words or behavior, etc.
- f) It also includes loud talking or disruptive behavior in the hallways during classes and exams.

3.3.3. Violence/Physical Abuse

Premier University is committed to the safety and well-being of all its members. Premier university also strives to maintain an environment that is free from violence.

The act of Physical abuse/violence includes, but is not limited to:

- a) Physical abuse or physical violence, such as beating, punching, kicking, or any kind of exasperating physical contact with anyone in the university.
- b) Direct threat of violence, either verbal or written or by electronic message
- c) Intimidation, either verbal or written or by electronic message.
- d) Deliberate obstruction or interference to any person's right to attend or participate in university function.
- e) Reckless behavior that causes danger or threat any person(s).
- f) Intentional obstruction or interference with any person's right to attend or participate in any University function.
- g) Causing fear and apprehension using misrepresentation, misinformation, force or coercion to solicit support, signatures or participation in activities of a subversive nature or detrimental to the normal functioning of the University.

- h) Any conduct, expression or Language considered improper in interacting with faculty members, University official and staff.

3.3.4. Dangers to Health and Safety:

- a) Smoking inside the campus and classroom.
- b) Use, production, distribution, sale, possession or stashing of drugs which includes, but is not limited to, alcohol, marijuana, stimulants, narcotics, yaba, etc.
- c) Entering the Campus after consuming any kind of intoxicants mentioned above.
- d) Possession of weapons, firearms, knives, clubs, etc.
- e) Possession or use of Explosive(s) or explosive material(s), such as bombs, cocktails, chemicals or anything in similar nature.
- f) Fireworks except as and when authorized by a designated University official.
- g) Knives, clubs or any instruments used with the intention to inflict harm/injury.

3.3.5. Damage to Property

- a) Willful or malicious damage to or destruction of the University property.
- b) Willfully and maliciously setting fire on the University property.
- c) Reckless behavior causing damage or destruction of University property or the property of others.
- d) Tampering, or damaging or unauthorized use of elevators, security devices, such as doors and locks, university equipment, such as computers and electronics, vehicles, and/or other university equipment.
- e) Walking on lawns, crossing the boundary walls, fencing, damaging the gardens, flowers, and spoiling the landscape of the campus.

3.3.6. Disobedience to Lawful Authority:

- a) Disobedience, interference, resistance or failure to comply with the direction given by various Departments or University authority.
- b) Trespassing and other forms of unauthorized presence.
- c) Refusing to show the Identity Card to the University's Officers or security personnel on demand.
- d) Not complying with parking rule of the University.

3.3.7. Deception

- a) Furnishing false information to the university with an intent to deceive or to derive benefit .
- b) Misuse or alternation or forgery of the University documents and records that include but not limited to ID cards, University stationary, Letter Pads or Officer's name, seal or stamp, etc.
- c) Making false or forged signature of University's officer, teachers.
- d) Giving false statements or producing false or tempered certificate documents, etc.
- e) Forgery or issuing a forged cheque with intent to fraud.
- f) Making a complaint to the University authority in an attempt to mislead, misuse or impede university which is a false or frivolous complaint.

3.3.8. Theft

- a) Misappropriation or conversion of university funds, supplies, equipment, labor, material, space or facilities.
- b) Possessing, storing or transporting of stolen university property.
- c) Aiding or abetting theft of university property.
- d) Misappropriation of funds, any form of embezzlement of money and lack of transparency in declaring supporting financial documents by student bodies of PU, including student clubs and other ventures managed by students.
- e) Damaging (i.e., tearing off the pages) and stealing library books, laboratory equipment or any other property.

3.3.9. Tarnishing University Image/Unlawful Association

- a) Behavior, inside or outside campus that damages university image or disrupt functioning of its normal activities.
- b) Any kind of association with groups and/or individuals that is prohibited by the government, against the law of the country and detrimental to local, national and/or global peace and security. University authority reserves the right to expel those students permanently and to some extent hand them over to law enforcement agencies.
- c) Propagating any form of hate message on campus, over social media or any other means that deliberately demean different religion, culture or ethnic group which are punishable offense by the law of our country.

- d) Any form of message, image, drawing, social media post or any other type of communication that directly or indirectly instigate or supports extremism/terrorism, acts of terrorism or activities that lead to extremism and are against the security and sovereignty of the country, will result in disciplinary action by the university authority.

3.3.10. Rules on Promotional Activities in University Premises and Campus

- a) Promoting business ventures, commercial activities or social causes in the form of banners, posters, sample demonstrations, stalls, and product placement by parties outside the University should be subjected to scrutiny by the Proctor's Office. Written approval will also be needed from the Vice-Chancellor.
- b) Products, services or ventures that go against PU code of ethics, academic environment and restrictions set by government legislative bodies will not be allowed in any form of public demonstration on-campus. Size, dimension and area of display must follow the instruction of the Proctor's Office.
- c) Promoting on campus activities by clubs, academic schools and other departments of PU will have to go through similar scrutiny. Student clubs, while negotiating with sponsors outside PU, must declare PU code of ethics to the sponsor(s). Any kind of misappropriation and influence to diverge from the standard set by PU authority will be deemed as violation of code of conduct.
- d) Writing or posting posters on any wall of the Campus without prior permission of proper authority.

3.3.11. Social Misconduct/ Harassment

- a) Abusive or disorderly conduct.
- b) Passing any indecent or abusive or vulgar or lascivious language against any other student, teachers, non-teaching staff, officers, guests, etc.
- c) Any behavior or gestures or clothing or acts or expression intended to tease or annoy any other student, teachers, non-teaching staff, officers, guests, etc.
- d) Sexual harassment and obscenity in any form.
- e) Sexual advances, requests for sexual favors and other verbal or physical harassments of sexual nature.

- f) Promising favors in exchange of sexual conduct and any form of pleasure seeking from others.
- g) Verbal, non-verbal, mental, and/or physical harassment.
- h) Uploading of indecent pictures or making indecent and untruthful comments via any website like Facebook, twitter, messenger, email, etc.

3.3.12. Cyber-Crime

Misbehavior and crimes committed through email, blogs, social networking sites, Premier University network or Premier University Web Portal, or mobile phones, such as: fraud, cheating, identity theft, harassment, pornography, subversive activities, indecent behaviour, software and media piracy, web-site vandalism, release of viruses or worms, spam, advertising, spying, hacking, and cyber-bullying.

3.3.13. Disorder and Disorderly Behaviour

- a) Riot or incitement to riot, application of force or coercion or organizing meetings/procession/demonstrations intended to solicit support or obtain signatures to show support or compel any member of the University to participate in activities subversive of discipline or of functioning of University is an act of disorder or agitation.
- b) Involvement in illegal strikes and agitation.
- c) Any breach of University rules, regulations or policies is an act of disorderly behavior.

3.3.14. Free Expression and Disruption

Being an academic institution, the university is committed to the freedom of expression and constructive debate of alternative views, theory and data. It recognizes and respects all peaceful and non-obstructive forms of dissent, whether individual or collective, that are within the university regulations and which do not interfere with the regular and essential operation of the university.

Disruption is an act or a combination of actions by an individual or a group of individuals, who unreasonably interferes with, hinders, obstructs or prevents the smooth and regular functioning and operations of the University including the holding of classes and all administrative functions. Authorized officers of the University have the right to restrain or prohibit such disruptive behavior and take such other action as may be deemed fit and proper.

3.3.15. Intolerance

All members of the University are expected to be tolerant and respectful towards others irrespective of gender, race, religion, class, political affiliation, caste, status or position in the university or the community at large. Any attitude or conduct of an individual or group of individuals failing to be so respectful and tolerant and disrespect to others is an act of intolerance.

3.3.16. Misuse of ID

Forging or lending ID card. Willfully lending one's ID to another will result in disciplinary action for both the original student and the recipient.

3.3.17. Subversive Activities

Any act or behavior or speech which is regarded as a threat to the public, national security, or sovereignty of Bangladesh or any other country is considered a subversive activity.

3.3.18. Unauthorized Recording

Recording, storage, sharing, distribution of images, videos or sound by any means without consent of owner is unauthorized recording and is strictly prohibited in the University.

3.3.19. Agitation

Group representation whether in verbal or writing or any other form of expression, is strictly forbidden and is considered an act of agitation. Offenders on account of agitation are liable to one or a combination of severe sanctions.

3.3.20. Ragging and Bullying

Ragging and bullying can include: intimidation, humiliation, ridicule and physical threats; exercise of power over another through negative behaviour; insulting, abusing, disparaging or intimidating behavior or words.

Cyber Bullying is "the use of electronic communication to bully a person." It falls under this policy if the bullying is between students, and occurs on the university premises or adversely affects the safety of students while in university.

3.3.21. Political and Non-Political Involvements and Activities

Premier University has a strict policy of non-association and

non-involvement in political and activities inside the campus and the classrooms. Whatever political views that an individual (s) may have, he/she shall not bring them in the campus or class or within 20 yards of the boundary of the campus premises of the University. No student can use the name of this university with any political party. The Authority shall have the right to expel students not complying with this rule. For every non-political activity, written permission must be taken from the Disciplinary Committee.

3.3.22. Other Misconducts

- a) Walking, gathering or roaming in the University premises without justified causes at night after the office hours.
- b) Any other such acts which disturb the normalcy or peace of the campus.
- c) Any act of indiscipline or disturbances in various activities of the University or any function, ceremony, etc., being held in the campus.
- d) Making false allegations, character assassinations of teachers, officers and employees.
- e) Any other act or omission to be deemed as improper by the authority concerned.

3.4. Further Regulations

3.4.1. Following Campus Security

Security of PU students, faculty, staff, and physical property is of utmost importance. Students are required to follow instructions of security or administrative staff in all matters concerning security of the above. Failure to do so will be considered Disruption (above). Students may be asked to submit to a search of their person or possessions while on campus. Failure to submit to such search order will be considered Disruption or Disobedience.

3.4.2. Proper Use of Student IDs

Students are required to wear their own IDs at all times when on campus. Students may not enter campus or use any facilities for any reason without possessing and wearing their IDs. It is solely the student's responsibility to maintain possession and care of the ID at all times.

- a. Loss or Theft: Loss or theft of an ID must be reported to Administration immediately. A fee must be paid to replace it. The ID will be replaced within a suitable time upon receipt of payment.

- b. Forgotten IDs: If a student forgets an ID, he/she may be issued a temporary ID only upon payment of a fine.
- c. Do not Share: Students may not lend or share IDs with other persons for any reason. Lending one's ID to another will result in disciplinary action for both the original student and the recipient.
- d. Do not use: If you are not a registered student of the university for a particular term or if you are barred from entering the campus for disciplinary reasons then do not use your ID card even if it works in machines at the entrances of both campuses. You have to take special permission from the authorities to enter into the university.

3.5. Students' Grievances

The University authorities shall hear any grievance of a student for possible redress. A student may represent a grievance either in writing through his/her batch advisor. In case of violation of code of conduct and disciplinary rules, written allegation must be placed in writing to the Proctorial body. Batch advisors can also send such allegation of violation to the Proctorial Body through the head of concerned department.

3.6. Authorities and Punishment(s)

The Proctorial Body, Eve Teasing and Sexual Harassment Prevention Committee, Anti-Drug Awareness Committee and Anti-Drug Committee shall monitor their respective matters under The Disciplinary Committee. Proctorial body shall work closely with other authority in every matter. In case of breaking or defying any rule or committing any crime listed above or any prohibitory work, the following punishments may be sanctioned by the Disciplinary Committee. All such sanctions shall be reported to the Syndicate. In addition to that, the Disciplinary Committee can temporarily suspend a student for a period of six (06) months. For every punishment, written show cause notice will be sent to the student concerned to facilitate his/her defense. In case of failure to accept served notice, decision shall be taken after reasonable time with the attachment of it in department's notice board. All punishments shall be effective after written approval of the Disciplinary committee.

- a) Fine upto 2 lacs taka
- b) Black listing (for further admission, appointments, or any privilege in the University)

- c) Suspension from classes or Campus.
- d) Expulsion.
- e) Rustication.
- f) Withdrawal of Medals, degrees, certificates or their cancellation.
- g) Debar from admission in our or any other University/Institutions.
- h) Any legal or police action.
- i) Expulsion from the Hostels.
- j) Declaring out of bound from University premises, Library, Hostel, Sports fields, departments, etc.
- k) Withdrawal of fellowships, scholarships or any other facility provided by the University or any other Organization through the University.
- l) Any other punishment which is deemed as fit by the Disciplinary committee.

3.6.1. The Disciplinary committee

There shall be a Disciplinary committee comprising of one person as Chairman from the BoT. the Vice-Chancellor, Deans from all faculties, one of the Chairmen of Departments as nominated by the Syndicate and the Registrar shall be the members of such committee while the Proctor shall remain as the member secretary of this committee.

3.6.2. Proctor's Office

The role of the Proctors is to ensure the enforcement of the rules and regulations of the university. The Proctor's Office is the first contact point to start disciplinary proceedings. It will assess and investigate complaints, and takes necessary steps, from counseling or issuing an official warning to referral to the Disciplinary Committee, depending on the gravity of the offences and as per the advice of the Vice-Chancellor. The proctorial body shall consist of the Proctor and Assistant proctors as deemed necessary by the University authority. The Proctor and the Assistant Proctors shall be directly responsible to the Vice Chancellor.

3.6.2.1. The responsibility of the Proctorial body may include:

- a) Maintain a peaceful environment inside and the adjacent area of the university premise;
- b) Ensuring the personal safety of students, teachers or employees of the university;

- c) Safeguard the assets of the university;
- d) Assisting in solving non-academic disputes among the students with other students, faculty or admin;
- e) Controlling unauthorized access to the university premises;
- f) Ensuring that the Code of Conduct of the Premier University students, is properly followed within the university campus and take such steps as appropriate to do that;
- g) Take cognizance of any breach of student's Code of Conduct and suggest immediate disciplinary action in such cases;
- h) Decide the quantum of punishment to be imposed on the accused students;
- i) Monitor discipline among the students' community in classroom, exam halls, library, canteen, common rooms, study rooms, and inside and outside the campus;
- j) Conduct enquiries of incidents relating to violation of disciplinary rules;
- k) Supervise the investigation of any alleged breach of the student's Code of Conduct. That may involve interviewing the erring student/s and such other students as necessary, conveying the information to the reporting authority, the Chairperson of the respective department, guardians of the involved students, the law enforcement agency (if required). Written record of the whole proceeding shall be kept in the Proctorial office.

3.6.2.2. Scope and Jurisdiction of the office of Proctor and Assistant Proctors

- a) The jurisdiction of the Proctor and the Assistant Proctors shall extend to the whole of the university;
- b) Ordinarily, during the university hours the Proctor or One Assistant Proctor shall be available to maintain and oversee the order and discipline in the students.
- c) During the University hours the Assistant Proctors from the various faculties and departments shall be entrusted with the duty of ensuring the discipline in their respective faculties and departments.
- d) The Proctor and the Assistant Proctors shall investigate and submit report in writing to the Disciplinary committee in cases of violation of disciplinary rules.
- e) The Proctorial Body shall maintain a liaison with all the other committees related to disciplinary matters of the university.

- f) The Proctorial body shall protect confidentiality at all stages regarding its investigation.
- g) Cases shall only be referred to the Law enforcement agencies upon taking approval from the Vice Chancellor when it constitutes a criminal offence and in such and other fitting cases the University will not prevent from disclosing confidential information where necessary for discharge of duties or as required by law.

3.7. Disciplinary Hearing

- a) Unless an alleged breach of regulations involves harassment, serious injury to a person, serious damage to property, or a significant element of dishonesty, the Proctorial body can arrange disciplinary hearing and submit report to the Disciplinary committee without its prior permission. In other cases, the Disciplinary committee shall decide the authority for hearing.
- b) After the issuance of notice and hearing, the Proctorial body shall submit a report in writing to the Disciplinary committee about the incident. This report shall contain the connection (if any) and degree of connection of the alleged to the investigated incident.

3.8. Investigation Procedure

- a) When, in the opinion of the proctor/assistant proctor, misconduct has occurred and action against a student is justified, the proctor shall oversee and investigate the matter. During the investigation, the proctor and the assistant proctor will usually convene a series of meetings to formally discuss the allegations with the subject of the complaint, the person making the complaint and any other person involved. In cases where the alleged offence/s involve/s more than one student, all or any of the cases may be dealt with at the same time.
- b) The alleged Students shall be required to attend any meeting conducted by the Proctorial body if deemed necessary by the same.
- c) The Proctor shall set out the allegation/s of misconduct.
- d) The student shall respond to the allegation/s and be present with their representatives/guardians where required, whenever oral evidence is being heard by the committee.
- e) The students shall be entitled to submit witness or other evidence to substantiate their claim and such witness or evidence may not be accepted without cross examination.

- f) The student in question shall be formally notified in writing the outcome, of the Proctorial body's decision and advised of the procedure for submitting an appeal.
- g) Written reports of all decided matters shall be communicated to the Disciplinary committee.

3.9. Review of Decision

A student may prefer review to the Disciplinary Committee where he/she has been punished. Such review must be filed through a written application within 7 days of the decision of the Disciplinary committee.

3.10. Amendment

The Code of Conduct and the disciplinary rules can be amended from time to time by the Syndicate if necessary, after being requested by the Disciplinary committee.

3.11. Other Related Bodies

3.11.1. Eve Teasing and Sexual Harassment Prevention Committee

This committee has been formed in light of the judgement of the High Court Division (Writ petition no. 5916 of 2008). The role of the Eve Teasing and Sexual Harassment Prevention Committee includes receiving complaints, performing investigation and recommending possible actions to the Disciplinary Committee regarding any eve teasing issue or sexual harassment. The Committee shall be constituted with minimum 05 (five) members where majority shall be women and the head of the committee should be a woman, if available. This committee shall have least two members from outside the organization concerned, preferably from organizations working on gender issues and sexual abuse. This committee will submit annual reports to the Government on the compliance of the HCD guidelines and its activities.

3.11.1.1. Matters under Jurisdiction of the Eve Teasing and Sexual Harassment Prevention Committee

This committee shall arrange programs and training for all the employees and students of the University for the awareness against eve teasing and sexual harassment. This committee shall investigate the following matters directly or by the referral of the proctorial body or the Vice Chancellor:

- a) Unwanted physical contact or conduct;
- b) Verbal abuse of a sexual nature;
- c) Demeaning, insulting, intimidating or sexually aggressive comments;
- d) Threats or implication that refusal of sexual advances will have an adverse effect on academic or employment conditions;
- e) Demeaning comments or psychological pressure for refusing sexual advances; any demand or request to establish a sexual relationship;
- f) Sending sexually explicit or implicit letters, emails, SMS, images, video, social media, etc.; displaying pornographic materials or indecent pictures or drawing;
- g) Taking any form of photographs or video recording for blackmailing or defaming someone;
- h) Spreading rumors about sexual issues to humiliate or disgrace someone socially;
- i) Discriminating anyone on grounds of gender or sexual-orientation.

3.11.1.2. Investigation Procedure (as directed by the HCD)

Normally the complaint has to be lodged with the Committee within 30 working days of the occurrence. To verify the complaint the Committee will:

- a) In case of minor harassment, if it is possible, the Committee shall dispose of the complaint with the consent of the parties involved and shall report to the Disciplinary Committee. In all other cases the Committee shall investigate the matter.
- b) The Committee will have the power to send registered notice by mail to the parties and the witnesses, conduct hearing, gather evidence, and examine all relevant papers. In this type of complaint, apart from oral evidence emphasis should be placed on circumstantial evidence.
- c) The Committee will keep the identities of the complainant/s confidential. While recording the testimony of the complainant/s any question or behaviour which is intentionally base, insulting or harassing should be avoided. The testimony must be recorded in camera. If the complainant wants to withdraw the complaint or stop the investigation then the reason behind this has to be investigated and mentioned in the report.
- d) The Committee shall submit the investigation report with recommendation within 30 working days to the Disciplinary Committee.

The period of 30 days may be extended up to 60 days by the Disciplinary Committee where it is found necessary.

- e) If it is proved that a false complaint has been filed intentionally then a report will be submitted to the Concerned Authority recommending appropriate action for the complainant/s. The Complaint Committee will take decisions on the basis of the view expressed by the majority of its members.

3.11.1.3. Punishment

The Disciplinary Committee may suspend temporarily the accused person (other than students) and in case of students, may prevent them from attending their classes on the receipt of the recommendation of the Committee. If the accused is found guilty of sexual harassment, the Disciplinary Committee shall treat it as misconduct and take proper action according to the disciplinary rules of the university within 30 (thirty) days and/or shall refer the matter to the appropriate Court or tribunal if the act complained of constitutes an offence under any penal law.

3.11.2. Anti-Drug Awareness Committee

An Anti-drug awareness committee shall be in operation to raise awareness against drug abuse among the students. Apart from individual and collective counseling of students, this committee shall arrange different programs and campaigns regarding awareness against drug abuse within the university. This body shall consist of the Proctorial Body and all chairmen of the departments.

3.11.3. Anti-Drug Committee

An Anti-Drug Committee shall also be in operation as directed by the Ministry of Education of Bangladesh. Comprising of five members, this committee shall include the Vice Chancellor as the Chairman. One representative each from the teachers, guardians and students shall be the members while the sports/physical education officer shall be the member secretary of that committee. This committee shall work closely to prevent any drug abuse in the campus, classrooms or premises of the university. In case of any alleged drug abuse, it shall refer the matter to the Proctorial body to deal with it. This committee shall assist the Anti-Drug Awareness Committee in every matter for raising awareness against drug abuse.

Department of Computer Science and Engineering

Introduction

Perceiving the power and vitality of computer, the Department of Computer Science & Engineering at Premier University was established in January 2002. The Department has created a broad-based program dedicated to excellence in teaching, quality research on the leading edge of technology, and the professional development of students. Computer Science and Engineering is a relatively young and demanding discipline. The use of computers today ranges from activities that include video game as well as extremely complicated dispensation of scientific data, weather forecasting and statistics etc.. Thirty years ago the personal computer software industry barely existed. Today numerous computer scientists are increasingly involved in the development of new software and hardware. A few decades ago physical experimentation and mathematical analysis were the two fundamental paradigms in science and engineering. Today, computer-based simulation and visualization is firmly established as a third. The field of computer science & engineering can drive our nation's economy – both directly (the IT sector itself) and indirectly (all other sectors that are “powered” by advances in IT).

Chronology of Events

January 2002 : CSE Program was launched.

March 2006 : First Batch of CSE Program students graduated.

Program List

Program	Duration	Semester	Total	Total	Total Course	Theory Project /Thesis Course	Lab/Credit
Computer Science & Engineering (CSE)	Option I (Thesis)	4 Year	8	41	27	160	160
		Option II (Project)	4 Year	8	41	28	

Design of the Program

The CSE curriculum consists of foundation, core, pre-engineering and elective courses. The foundation and core courses are designed to equip the students with the basic knowledge and skills in the major computer science and engineering areas. The pre-engineering courses provide the basic knowledge of science and humanities. The Elective courses allow each student to select advanced courses according to his/her particular interest in a given area of concentration.

Assignment of Credits

1. Theoretical Courses: One lecture hour per week, per course, per semester is equivalent to one credit.

2. Lab Courses: Credits of the laboratory courses is half of the lab class hours per week per semester.

Project/Thesis

The students who will choose the Project/ thesis topic have to conduct with the respected teacher assigned by the department.

Research

The computer lab brings together faculty, researchers, and students from computer science & engineering in a broad program of research, development, and experimentation. Our members pursue innovations for computer technology used in everyday human activities to highly sophisticated computers. The two main driving forces in our research are excellence and relevance to society. Our members and alumni/ae have been instrumental in developing innovations for short and long term information technology improvements. We believe that academic research should also have a strong industrial impact and that the technology is transferred from academia to the industry. Numerous ideas developed by research members and alumni/ae have been published in many well-known journals and conference proceedings.

Degree Requirements

The CSE degree requirements are:

- a. Completion of minimum 160 credit hours,
- b. Passing of all courses individually,
- c. Completion of project/thesis/internship with a minimum grade of 'C'.

Other Activities

CISCO Certified Network Associate (CCNA)

This curriculum presents a comprehensive overview of networking; from fundamentals to advanced applications and services. It is based on the top-down approach to networking that is popular in many colleges and universities. The course emphasizes concepts and skills required to design networks, while providing opportunities for practical application and hands-on experience by teaching students how to install, operate, and maintain networks.

Pre-requisite: Any student successfully completed HSC or any equivalent program and skilled in basic computing can apply for the admission in CCNA program. Graduates with computer skill and IT professionals will be given preference.

Course List and Codes

Course Code	Course Title	Credit
CSE 110	Introduction to Computer Systems	2
EEE 101	Electrical Circuits I	3
EEE 102	Electrical Circuits I Laboratory	1.5
MAT 105	Engineering Mathematics I	3
PHY 101	Engineering Physics 1	3
ME 101	Mechanical Engineering Drawing & CAD	1
ACC 101	Basic Accounting	3
ENG 101	General English	3
CSE 111	Structured Programming Language	2
CSE 112	Structured Programming Language Laboratory	2
EEE 211	Electronics I	3
EEE 212	Electronics I Laboratory	1.5
CSE 103	Discrete Mathematics	3
PHY 103	Engineering Physics II	3
MAT 106	Engineering Mathematics II	3
ENG 104	Developing English Skills	2
CSE 221	Data Structure	3
CSE 222	Data Structure Laboratory	1.5
CSE 211	Object Oriented Programming	3
CSE 212	Object Oriented Programming Laboratory	1.5
EEE 311	Digital Electronics	3

EEE	312	Digital Electronics Laboratory	1.5
MAT	201	Engineering Mathematics III	3
ECO	202	Basic Economics	3
CSE	225	Algorithm Design and Analysis	3
CSE	226	Algorithm Design and Analysis Laboratory	1
MAT	203	Engineering Mathematics IV	3
EEE	201	Signals & Systems	3
EEE	202	Signals & Systems Laboratory	1
CSE	237	Database Management System	3
CSE	238	Database Management System Laboratory	1.5
MGT	203	Industrial and Business Management	3
CSE	301	Computational Methods for Engineering Problems	3
CSE	302	Computational Methods for Engineering Problems Laboratory	1
EEE	303	Microprocessor & Microcontroller	3
EEE	304	Microprocessor & Microcontroller Laboratory	1.5
CSE	305	Software Engineering & Information System Design	4
CSE	306	Software Engineering & Information System Design Laboratory	1.5
EEE	309	Communications Theory	3
EEE	310	Communications Laboratory	1.5
MGT	251	Organizational Behavior	3
CSE	333	Operating Systems	3
CSE	334	Operating Systems Laboratory	1.5
CSE	337	Computer Organization & Architecture	3
CSE	317	Artificial Intelligence	3
CSE	318	Artificial Intelligence Laboratory	1.5
CSE	367	Computer Network	3
CSE	368	Computer Network Laboratory	1.5
CSE	338	Software Development	2
CSE	364	Data Communication	3
EEE	313	Control Systems	3
EEE	314	Control Systems Laboratory	1.5
ENG	401	Technical Writing & Presentation	2
CSE	309	Theory of Computation	2

CSE	453	Compiler Construction	3
CSE	454	Compiler Construction Laboratory	1.5

Any one option has to be selected from the list given below:

Option I:

CSE	400	Thesis (Two semesters long course, i.e., for 7th & 8th semesters)	4
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Option II:

CSE	401	Project I (For 7th semester only)	2
CSE	402	Project II/Internship (For 8th semester only)	2

Any one major track has to be selected from the list given below:

Informatics Major:

CSE	411	Project Management for Information Systems	3
CSE	412	Project Management for Information Systems Laboratory	1
CSE	413	Advanced Database design	3
CSE	451	Neural Network & Fuzzy Logic	3
CSE	452	Neural Network & Fuzzy Logic Laboratory	1
CSE	417	Advanced Software Engineering	3
CSE	418	Advanced Software Engineering Laboratory	1

Telecommunication Major:

EEE	403	Microwave & Antenna Engineering	3
EEE	404	Microwave & Antenna Engineering Laboratory	1
EEE	435	Cellular Mobile Communication	3
EEE	319	Telecommunication & Switching	3
EEE	320	Telecommunication & Switching Laboratory	1
EEE	469	Optical Fiber Communication	3
EEE	470	Optical Fiber Communication Laboratory	1

Internetworking Major:

CSE	431	Wireless technologies	3
CSE	432	Wireless technologies Laboratory	1
CSE	433	Advanced Switching & Routing Concepts	3
CSE	434	Advanced Switching & Routing Concepts Laboratory	1

CSE	435	WAN Technologies	3
CSE	436	WAN Technologies Laboratory	1
CSE	437	Network and Computer Security	3

Two Optional courses have to be selected from the list given below:

CSE	419	Basic Multimedia Systems	3
CSE	420	Basic Multimedia Systems Laboratory	1
CSE	455	Computer Graphics & Image Processing	3
CSE	456	Computer Graphics & Image Processing Laboratory	1
CSE	457	Machine Learning	3
CSE	458	Machine Learning Laboratory	1
CSE	459	Pattern Recognition	3
CSE	460	Pattern Recognition Laboratory	1
CSE	461	Management Information System	3
CSE	462	Management Information System Laboratory	1
CSE	463	Graph Theory	3
CSE	464	Graph Theory Laboratory	1
CSE	465	Distributed AI and Intelligent Agent	3
CSE	466	Distributed AI and Intelligent Agent Laboratory	1
CSE	467	Parallel & Distributed Computing	3
CSE	468	Parallel & Distributed Computing Laboratory	1
EEE	455	Satellite Communication	3
EEE	456	Satellite Communication Laboratory	1
CSE	471	VoIP	3
CSE	472	VoIP Laboratory	1
EEE	443	VLSI Design	3
EEE	444	VLSI Design Laboratory	1
CSE	477	Computer Interfacing	3
CSE	478	Computer Interfacing Laboratory	1
CSE	481	Contemporary course of Computer Science	3
CSE	482	Contemporary course of Computer Science Laboratory	1
CSE	483	Contemporary course of Computer Science	3
CSE	484	Contemporary course of Computer Science Laboratory	1
CSE	415	Human Computer Interaction	3
CSE	416	Human Computer Interaction Laboratory	1
EEE	477	Digital Signal Processing	3
EEE	478	Digital Signal Processing Laboratory	1

Course Descriptions

CSE 110: Introduction to Computer Systems

Computers have permeated every aspect of our modern society. If the past is a predictor of the future, we can be assured that the trend toward increased computer usage will continue. This makes it important to learn all we can about computers-their components, operations, communications and usage as well as related security and other societal issues. This course provides a basic introduction to computers along with basic programming concepts that address how they work and how to use them as effective productivity tools. The class uses a combination of assigned readings, lectures, labs, and online discussions to deliver course content.

EEE 101: Electrical Circuits I

This course will provide the primary knowledge on basic electric circuit analysis of Electrical Engineering. The course includes circuit variable and elements, Basic laws, simple resistive circuits, technique of circuit analysis, network theorem, and energy storage element, responses of RL, RC and RLC circuits, transient and time domain analysis, introduction of AC theory and frequency domain analysis. Magnetic quantities and variables, laws of magnetic fields and method of solving simple magnetic circuits are included in this course.

MAT 105: Engineering Mathematics I

This course is designed to introduce the students with Differential Calculus: Limits, continuity and differentiability of functions, differential coefficients of various types of functions, successive differentiation, Rolle's theorem, Mean value theorem, expansion of functions, L'Hospital's rule, partial differentiation, tangent and normal, extreme curve plotting and optimization, Curvature, asymptotes, curve tracing and Co-ordinate Geometry: Transformation of co-ordinate axes, pair of straight lines, equations of conics and reduction to standard forms, circles, system of circles.

PHY 101: Engineering Physics I

This course is designed to introduce the students about properties of matter, classification of solids, different types of bonds in solid, waves & oscillations: oscillations, sound waves, heat & thermodynamics: temperature and Zeroth law of thermodynamics, thermometers, and the first law and second law of thermodynamics, entropy, Doppler's effect etc.

ME 101: Mechanical Engineering Drawing & CAD

This course contributes towards the engineering topics component of the mechanical

engineering curriculum by familiarizing students with the state of the art CAD and FEA software for modeling, analyzing and designing mechanical components. The students also understand the requirements for good engineering drawings, and are able to apply these to their work/projects.

ACC 101: Basic Accounting

Students will explore the nature of accounting, introduction of basic accounting concepts and procedures, and interpretation of financial statements. The various uses of accounting information in decision-making, accounting issues concerning income and cash flows, economic resources and capital will be discussed. The course format will include lectures, discussions and problem solving sessions in introductory accounting.

ENG 101: General English

The Basic English course enables students to progress from a broad awareness into a critically informed knowledge of English literature in its historical range and depth. Competence in textual analysis, ease in critical argument, the ability to recognize and fashion rhetorical and linguistic discourse and the manipulation of sound reasoning are among the skills, both in spoken and written form, conferred by the proper study of literature.

CSE 111: Structured Programming Language

This course serves as a foundation for understanding the logical function and process of computer programming in a given language environment. Basic computer programming knowledge and skills in logic and syntax will be covered. Coding convention and procedures will be discussed relevant to the given programming language environment. Programming topics include control structures, functions, arrays, pointers, and file I/O, Structures & Unions.

EEE 211: Electronics I

This course is designed to provide the student with the basic idea of semiconductor materials, their characteristics, formation of PN junction and its characteristics. Operation and small signal model, Electronic devices are the governor of the present world; they all are manufactured from the basic electronic devices such as Diode, Bipolar Junction Transistor (BJT), Metal-oxide-semiconductor field-effect-transistor (MOSFET), Junction field-effect-transistor (JFET), Amplifiers (differential and Op Amps) etc.

CSE 103: Discrete Mathematics

The purpose of this course is to provide an up-to-date and didactically coherent introduction to discrete structures. This course is designed to introduce the mathematical techniques, which are of the greatest importance to theoretical computer science. Topics to be discussed include correctness proofs, partially ordered structures, Boolean algebra, propositional logic and calculus, predicate logic, Discrete mathematical structures and non-numerical algorithms; combinatorics, graphs, trees. This course also introduces finite geometry, cryptography and finite fields.

PHY 103: Engineering Physics II

This course is designed to introduce the students with electromagnetism, inductance, magnetic properties of matter, optics, theories of light, interference of light, diffraction of light, modern physics, wave mechanics and radioactivity.

MAT 106: Engineering Mathematics II

This course is designed to introduce the students with Integral Calculus: Integration of various types of functions, integration techniques, definite integrals and its properties, applications of integration, length of a curve, areas of surfaces, volume of solids/hollow solids of revolution, pedal equations, improper integrals; Differential Equation: Formation of differential equations, Solution of first order and first degree, first order but higher degree differential equations, solution of linear differential equations with constant coefficients, homogeneous linear differential equations, series solution of differential equations, Bessel functions, Legendre polynomials and their properties and also rules for solving PDE.

ENG 104: Developing English Skills

In this class student will learn basic English vocabulary and spelling. They will practice writing sentences and paragraphs as well as doing short readings on topics from everyday life. Student will also learn to understand and to speak basic English words, phrases and sentences. They will practice short conversations and make short oral reports on topics from everyday life.

CSE 221: Data structure

Study of the theory and applications of data structures. There will be a discussion of abstract data and file structures and their suitability for various applications involving analyzing; indexing, representing, sorting, searching, retrieving and presenting desired information.

CSE 211: Object-Oriented Programming

This course provides an introduction to software construction using an object-oriented approach. The students learn and reflect on problem analysis, object-oriented design, implementation, and testing. To support the concepts and principles of software construction, the student will design, code, test, debug, and document programs using the Java programming language. Basic data types, control structures, methods, and classes are used as the building blocks for reusable software components.

EEE 311: Digital Electronics

This course teaches classical switching theory including Boolean algebra, logic minimization, algorithmic state machine abstractions, and synchronous system design. This theory is then applied to digital electronic design. Techniques of logic implementation, from Small Scale Integration (SSI) through Application- Specific Integrated Circuits (ASICs), are encountered.

MAT 201: Engineering Mathematics III

This course is designed to introduce the students with Complex Analysis: Complex number system, analytic function, limit and continuity of a function of complex variable and related theorems, complex differentiation, Cauchy's integral theorem, Cauchy's integral formula, Liouville's theorem, Taylor's theorem and Laurent's theorem, singular points, Cauchy's residue theorem, contour integration, conformal mapping; Vector Calculus: Differentiation and integration of vectors together with elementary applications, definition of line, surface and volume integrals, gradient, divergence and curl of point functions, Gauss's theorem, Stoke's theorem, Green's theorem and Statistics: The basic ideas of descriptive statistical methods are considered including frequency distribution, measures of location and variation. It also includes permutation, combination and rules of probability, together with well-known probability distributions such as binomial, poisson and normal. Estimation, hypothesis testing, design of experiments, chi-square test, analysis of variance, regression analysis.

ECO 202: Basic Economics

This course provides the basic concept of economics, which gives the overall idea in economics. Topics cover the introduction of economics, circular flow of income, demand and supply theory, elasticity, consumer behavior and market demand, production and cost theory, characteristics of perfectly competitive markets and imperfectly competitive markets, basic principles of factor pricing, resource

allocation, international trade, non-renewable resources, macroeconomics phenomena, national output, income determination, aggregate demand and aggregate supply, trade off between inflation and unemployment, balance of payments and the exchange rates are included in this course.

CSE 225: Algorithm Design and Analysis

Algorithms are recipes for solving computational problems. In this course student will study fundamental algorithms for solving a variety of problems, including sorting, searching and graph algorithms. More importantly, the focus will be on general design and analysis techniques that underlie these algorithms. For example, divide-and-conquer, dynamic programming, greediness, and probabilistic approaches will be examined.

MAT 203: Engineering Mathematics IV

This course is designed to introduce the students with Matrix: Algebra of matrices, adjoint and inverse of a matrix; elementary transformations of matrices, Cayley-Hamilton theorem, normal and canonical forms, solution of linear equations, eigenvalues and eigenvectors; Linear Algebra: Field, linear space, & linear transformation, functional & dual space, Fourier Analysis: Real and complex form of Fourier series, finite transform, Fourier integral, Fourier transforms and their uses in solving boundary value problems of wave equations and Laplace transformation.

EEE 201: Signals & Systems

This course will strengthen the basic knowledge of the student in the field of communication and control system engineering. It covers classification of signals and systems, time invariant (LTI) systems, time domain analysis of LTI systems, frequency domain analysis of LTI systems, Laplace transformation and Introduction to Random signals.

CSE 237: Database Management System

This course covers fundamental concepts necessary for the design, use, implementation and administration of database systems. The course will stress the fundamentals of database modeling and design, the languages and facilities provided by database management systems, and some techniques for implementing and administering database systems.

MGT 203: Industrial and Business Management

The course is designed for improving managerial skills by improving awareness of

new technology and related concepts. It includes functions of management, responsibilities of a manager, Personnel and Financial Management and Marketing. The students will learn how to manage finances by studying economic theories as well as looking at real examples from the business world.

CSE 301: Computational Methods for Engineering Problems

Numerical Methods: This course deals with use of numerical methods in solving scientific problems, concepts of algorithm and flowchart, errors in numerical methods, interpolation, numerical methods for the solution of simultaneous linear/nonlinear algebraic and transcendental equations, numerical integration, solution of ordinary and partial differential equations and **Queuing Theory:** This course also deals with queuing theory, queuing models and their applications in computer science.

EEE 303: Microprocessor & Microcontroller

Introduction to microprocessor software and hardware architecture. Fundamentals of the microprocessor system integration, instruction set design, programming, memory interfacing, input/output, DMA and interrupt interfacing. Microprocessor architecture evolution. Study of the Intel's family of microprocessors. Review of the other microprocessor families and trends in microprocessor design. Fundamentals of software and hardware aspects of microprocessors including assembly language programming for microprocessors, hardware design and interfacing peripherals and programmable I/O devices. Overview on embedded world. Detail structure & application of microcontroller device.

CSE 305: Software Engineering & Information System Design

This course studies the process of designing software systems both from the view of process and from the view of requirements, analysis and the synthesis of a viable software design. It builds on the concepts from the programming sequence to examine the aspects of good design practice.

EEE 309: Communications Theory

The objective of this course is to develop basics of communication systems. The course includes analog and digital modulation and demodulation, multiplexing, radar and satellite concept. It gives students a primary knowledge about improving the efficiency of the communication systems.

MGT 251: Organizational Behavior

This course helps students to study concepts, theories and case studies concerning

the behavior of people in modern business organizations. Analyzes the internal organization structure, managerial roles and functions in the business and other goal-oriented institutions. Studies theory and design of organizational structure, impact of work flow, leadership styles, and control systems on human behavior.

CSE 333: Operating Systems

This course is a continuation of the computing infrastructures sequence. The function and structure of operating systems are studied. Description of the functions and parts of an operating system; relationship of the operating system and underlying hardware; virtual memory; and concurrency and synchronization.

CSE 337: Computer Organization & Architecture

This course is the first of four courses that holistically explore the structure of computational systems. This course deals with the nature of computer hardware. The course will cover the structure of current computer systems at the level of functional organization, representation of data and programs, the design of the memory hierarchy, and the design of the I/O system.

CSE 317: Artificial Intelligence

This course will introduce the basic principles in artificial intelligence research. It will cover simple representation schemes, problem solving paradigms, constraint propagation, and search strategies. Areas of application such as knowledge representation, natural language processing, expert systems, vision and robotics will be explored.

CSE 367: Computer Network

One of the most important recent developments in computing is the explosive growth in the use of computer networks, which allow computers to communicate and work together. This course is an introduction to the theory and practice of computer networks, the software protocols that allow them to operate, and the applications that make use of them. Topics covered include direct-link networks, packet switching, internetworking, end-to-end protocols, network applications, and network security.

CSE 338: Software Development

This is the first practicum course in the Computer Science & Engineering program. It provides experience in an on-going software development project. A student at this level will be given an assignment in a team similar to that of a new hire in industry. The software development project will require the student to apply industry best practices in completing an assignment for the project.

CSE 364: Data Communication

This course introduces the concept and technologies of telecommunications to students. Analog and digital methods of transmission, components used in networks, line protocols, network topology, the design of networks and security protocols used in networks will be discussed.

EEE 313: Control Systems

This course starts with the review of classical control analysis methods such as: Nyquist stability criterion, classical design using frequency domain methods, phase lead and lag controllers, PID controllers. Relay auto tuning, introduction to state space methods. State space models, state transformations, solution of the state equations, controllability and observability, design using state feedback, LQR design, pole placement, use of observers, introduction to robotics, Transducers, actuators and robot control.

ENG 401: Technical Writing & Presentation

This course is designed to help students to develop writing and oral skills needed by Computer Science & Engineering professionals. The scope of this course includes not only general guidelines for technical writing, including word choice, sentence structure, and paragraph development, but also discipline-specific technical writing that conforms to IEEE standards. The course includes oral presentation skills, and the effective use of graphic and design elements.

CSE 309: Theory of Computation

This course is an introduction to automata theory, formal languages, Turing machines, computability theory and reducibility, computational complexity, determinism, non-determinism, time hierarchy, space hierarchy, NP completeness, selected advanced topics.

CSE 453: Compiler Construction

This course introduces students to compilers and language translation. It covers all the aspects of lexical, syntactic and semantic analysis including language theory and implementation. Use of finite state machines, regular expressions, top-down, bottom-up parsing techniques. Code generation and optimization, subroutine calls, symbol table management, LL and LR parser generators all are discussed.

CSE 411: Project Management for Information Systems

IT projects management with a focus on facilitating project management areas; risk

management, procurement management, HR management, and communication management. This course is designed to teach students the basic principles of good project management. Students will learn how to identify and schedule project resources, create project flow charts, and produce critical path planning and evaluation reports.

CSE 413: Advanced Database Design

This course deals with the System Catalog; Query processing and Query optimization techniques; Concurrency Control techniques; Back-up and Recovery techniques; Security, Development of Database Management Systems, Advanced Database Models.

CSE 451: Neural Network & Fuzzy Logic

This course deals with the theory and applications of neural networks and fuzzy logic. Topics discussed are multi-layer perception, self-organization map, radial basis network, Hopfield network, recurrent network, fuzzy set theory, fuzzy logic control, adaptive fuzzy neural network, genetic algorithm, and evolution computing. Applications to control, pattern recognition, nonlinear system modeling, speech and image processing are also introduced.

CSE 417: Advanced Software Engineering

This course provides a sound basis in current and innovative software engineering practice and research issues to give advanced knowledge and skills to the students. This course includes topics like web services; component-based software development; mobile applications and security issues. Internet programming; software architecture; software quality; software systems security; parallel programming; distributed processing systems; internet database systems; networking architectures; database principles; relational data manipulation; research project.

EEE 403: Microwave and Antenna Engineering

The goal of the course is to introduce students to the fundamentals of microwave engineering analysis, characterization and design, and to expose them to examples of several microwave circuits and antenna as well as Microwave measurement techniques and instrumentation for passive microwave components; cavity resonators, waveguides, directional couplers, slotted lines; Design, fabrication and characterization of microwave circuits in micro strip configuration including filters and patch antennas.

EEE 435: Cellular Mobile Communication

This course introduces the principles of cellular communications systems. Second generation (2G) digital, mobile cellular, and personal communications systems (PCS) concepts are discussed. Limitations of 2G cellular systems are described, and improvements proposed by 2.5G and 3G cellular standards to support high-rate data services are presented. The Wireless Local Area Networking IEEE 802.11 WLAN, the Wireless Metropolitan Area Networking IEEE 802.16 (Fixed and Mobile) WiMAX, and Wireless Personal Area Networking IEEE 802.15 Bluetooth are discussed for their roles in 3G.

EEE 319: Telecommunication & Switching

This course covers basic concepts of switching with application to digital telecommunication networks. Topics include circuit switched networks, space-division and time-division switching, digital switching system architecture, stored-program control, traffic theory, numbering concepts, signaling networks, intelligent networks, and fast packet switching.

EEE 469: Optical Fiber Communication

This course provides a study of the components and integration of fiber-optic transmission systems. Topics include optical fibers, signal degradation, optical sources, power launching and coupling, photodetectors, receiver circuits, line analysis, and optical measurements.

CSE 431: Wireless Technologies

This course covers fundamental techniques in design and operation of first, second, and third generation wireless networks: cellular systems, medium access techniques, radio propagation models, error control techniques, handoff, power control, common air protocols (AMPS, IS-95, IS-136, GSM, GPRS, EDGE, WCDMA, cdma2000, etc), radio resource and network management. As an example for the third generation air interfaces, WCDMA is discussed in detail since it is expected to have a large impact on future wireless networks. This course is intended for graduate students who have some background on computer networks.

CSE 433: Advanced Switching & Routing Concepts

The Advanced Routing and Switching course helps learners to configure and monitor advanced routing and switching protocols & services. The course starts with an overview of advanced technologies such as security, bandwidth and application optimization and quality of service (QoS). The course then focuses on some

advanced aspects of network management, including secure management access (Secure Shell [SSH]) and network monitoring with Syslog, Network Time Protocol (NTP), and Netflow services.

CSE 435: WAN Technologies

This course introduces the learners to WAN technologies and services. It covers the WAN topologies, switching technologies, and technologies for WAN access. It also discusses different transmission methods and remote connectivity methods used with WANs.

CSE 437: Network and Computer Security

The course covers theory and practice of computer security, focusing in particular on the security aspects of the web and Internet. It surveys cryptographic tools used to provide security, such as shared key encryption (DES, 3DES, RC-4/5/6, etc.), public key encryption, key exchange, and digital signature (Diffie-Hellmann, RSA, DSS, etc.). It then reviews how these tools are utilized in the internet protocols and applications such as SSL/TLS, IPSEC, Kerberos, PGP, S/MIME, SET, and others (including wireless). System security issues, such as viruses, intrusion, and firewalls, will also be covered.

CSE 419: Basic Multimedia Systems

This course covers fundamental issues in design and implementation of multimedia applications, as well as technologies in multimedia systems such as multimedia data representation, compression, coding, networking, data management, and I/O strategies.

CSE 455: Computer Graphics & Image Processing

This course involves discussion of some basic types of computer graphic devices, graphics and text modes, point plotting and line drawing, area filling, image array plotting, mathematics and generation of two and three dimensional transformations. This is the first course in digital image processing in which the concepts of scanning systems, focal plane array detectors, data acquisition methods, display hardware, image preprocessing algorithms, feature extraction, and basic image processing methods are introduced.

CSE 457: Machine Learning

This course is an introductory course on machine learning which gives an overview of many concepts, techniques, and algorithms in machine learning, beginning with

topics such as classification and linear regression and ending up with more recent topics such as boosting, support vector machines, hidden Markov models, and Bayesian networks.

CSE 459: Pattern Recognition

This course emphasizes a dynamical systems approach to neural networks. Simple tools for neural network analysis - Liapunov stability, gradient descent minimization techniques, simulated annealing. The perception, learning in feedforward and recurrent networks - backpropagation, Boltzmann machines, recurrent backpropagation, adaptive resonance theory, self-organizing feature maps, associative memory, neural networks for optimization, implementation issues.

CSE 461: Management Information System

This course provides understanding of information needed for management, information technology uses by various business subsystems, and how information technology can be used as a competitive resource. Emphasis is on the internal management of information resources and on the management of information technology.

CSE 463: Graph theory

This module uses an algorithmic approach to introduce basic concepts and results on graphs and networks. It also shows how fundamental optimization problems on graphs and networks, such as finding shortest paths or maximum flows, can be solved efficiently.

CSE 465: Distributed AI and Intelligent Agent

This course will include a study of knowledge engineering, featuring the unified treatment of computation and software design. The essentials of computing concepts, artificial intelligence, logic programming, share engineering in the development of expert knowledge systems.

CSE 467: Parallel & Distributed Computing

This course is an introduction to parallel systems; Processes and processors; Parallel architectures (multi-computer, multi-processor); Interconnection networks; Communication in parallel systems; Parallel programming paradigms; Performance of Parallel systems (speedup, efficiency, etc.); Introduction to distributed systems; Distributed algorithms; Distributed systems models; Synchronization and Termination detection in distributed systems.

EEE 455: Satellite Communication

This course provides an introduction to the theory and applications of modern satellite communications. Topics include satellite channel characterization, channel impairments and transmission degradation, link calculations, modulation, coding, multiple access, broadcasting, random access schemes, demand assignment, synchronization, satellite switching and onboard processing, integrated service digital satellite networks, and satellite transponder, ground stations, packet switching, optical satellite communications.

CSE 471: VoIP

The objective of this course is to provide a technical and practical overview of Voice over IP (VoIP). The course identifies the main elements of the technology and presents them in an accessible format. At the end of the course delegates will be conversant with VoIP technology and understand the role of VoIP in their or their customer's company and marketplace. An understanding of the delegate's company network would be an advantage or that of a client company.

EEE 443: VLSI Design

This course is an overview to modern logic design. The classes will move from viewing MOS transistors as switches of discussing how to validate complex hardware software systems that are in design today. The class will also look at a number of critical VLSI design issues in more detail, including fabrication and layout, timing, power minimization, test and debug.

CSE 477: Computer Interfacing

This course will concentrate on the design and use of digital interfaces, including memory, serial, parallel, synchronous and asynchronous interfaces, hardware implementations of interrupts, buses, input/output devices.

CSE 415: Human Computer Interaction

This course covers a broad range of important topics within Human Computer Interaction (HCI) and the implications for the design of interactive systems. It will cover the current literature and the “known and unknowns” about HCI and design. The design process is centered on the user, is based on a multi-disciplinary approach through a synthesis of computer science, cognitive science and psychology and utilizes analytical and empirical techniques to assess, predict and evaluate whether a design meets the user’s requirements.

EEE 477: Digital Signal Processing

This course is an introduction to One- and N-dimensional signals and systems, Sampling theorem, Discrete-time Fourier transform, discrete Fourier transform, fast Fourier transform, z-transforms: stability and minimum phase signals/systems, Linear filtering of signal: Time domain: Difference equations and convolution, Impulse invariance, bilinear transform, FIR filter design, 2D filter design, Statistical signal processing: Stochastic signals: correlation functions and power density spectra, Optimal filtering: Wiener filters, Adaptive filters: LMS and array processing.

CSE 481: Contemporary courses of Computer Science & Engineering

These courses are designed to provide advanced and modern concepts of Computer Science & Engineering to the students that will help and enable them to prepare for immediate employment in industry or for graduate study in computing. These courses also help student so that they can build on this foundation and continue to function effectively in future environments of computer technology taking full advantage of its capabilities.

Lab courses

Each of the lab courses are designed to enable the students to acquire the practical knowledge so that they can implement their understanding in professional environment and also for the research purpose. The stuffs of the courses are based on the corresponding theory courses so that students can have a clean understanding of the full course.

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Champion, NASA Space App 2018 - Chittagong Division



Runner Up, NASA Space App 2018 - Chittagong Division



2nd Runner Up in National Women Hackathon 2017



1st Runner Up, NASA Space App 2019 - Chittagong Division



1st Runner Up in Bangladesh Gaming Expo 2018



Champion at SUST TECHFEST-2019



1st Runner Up at IIUC-EEE FEST, 2019



3rd at presentation competition on Digital Bangladesh- 2019

Achievements



IIT Tech Fest Bombay Bangladesh Zonal



1st Runner Up at CHATTOGRAM CORPORATE FEST
IDEA COMPETITION 2019



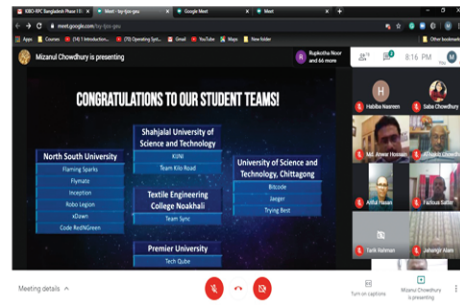
Champion, 14th iuuc inter university programming
contest 2020



1st position in Udbhaboni Projukti Mela 2018 at 'Amar Dekha
Digital Bangladesh'



Champion at Business Idea Competition, EDU INTER
UNIVERSITY ENGINEERING DAY 2020



Finalist at JAXA KIBO Robot Programming Challenge (online)

EDU Programming Contest 2020

Scoreboard will be shut down with one hour remaining in contest.

Rank	Name	Initial Time	A	B	C	D	E	F	G	H	I	J	Total
1	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
2	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
3	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
4	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
5	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
6	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
7	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
8	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
9	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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13	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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16	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
17	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
18	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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25	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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27	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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31	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
32	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
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34	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
35	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00
36	CU, Bangladesh	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00	1:00:00

5th at EDU Programming contest 2020



1st Runner Up at MIST TECH-FEST 2019



Workshop on Computer Programming Using Python,
Sponsored by - Dreamcatcher IT, Venue - Premier University
Chittagong 2018



"Workshop on Genomics Big Data" 2019



Seminar on Ethical Hacking & Block Chain Technology-
Speaker Mr. Khaleq Mohammad Aashique Kamal,
(Assistant Professor Dept. of CSE), 2019



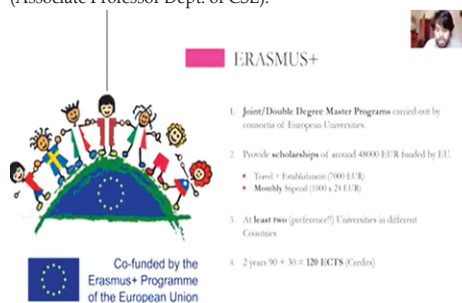
National Hackathon on Frontier Technologies Organized by
ICT Ministry, Venue - Premier University Chittagong, 2020



Workshop on IoT, Inauguration of ASC and IoT &
Data Analytics - Speaker-Mr. S.M. Asif Iqbal
(Associate Professor Dept. of CSE).



Seminar on "Smart Taxi Control System" 2015



Online Seminar on "Higher Studies" speaker- MD. ATAUR
RAHMAN, (Assistant Professor Dept. of CSE), 2020



Workshop on AWS (24th December, 2019)

Workshop Seminar

Organizing and Participating in Contest and Competition



1st intra university programming contest 2017



Sharing Ideas of extra-curricular and co-curricular activities conducted by Dr. M. Kaykobad, Professor, Dept. of CSE, BUET



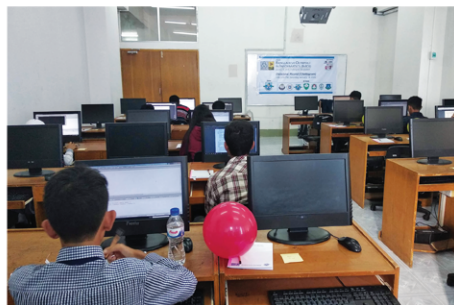
2nd intra department programming contest 2018



3rd intra department programming contest 2019



IT FEST Programming Contest 2019



Organizing Bangladesh Olympiad In Informatics (BdOI) 2020



Finalist Team-1, National Hackathon on Forientier Technology 2020



Finalist Team-2, National Hackathon on Forientier Technology 2020



Project Exhibition 2019



IT Quiz in CSE FEST 2019



Finalist, Virtual NASA Space App Challenge 2020, Chattogram Division



Project Exhibition 2020



Achieving 6th Position in GP ACCELERATOR 2.0, Chittagong Division



Participating at NSU ACM Technovist Megabot Clash



Selection Round, International Business Idea Case Competition

Standings		A	B	C	D	E	F
1	Alkhanhuda University of Chittagong	6	975	6478	371	57	62719
2	Prabhu University of Chittagong	4	452	2511	1853	1853	2511
3	Alkhanhuda University of Chittagong	3	307	3010	3110	1853	2511
4	Alkhanhuda University of Chittagong	4	307	12510	3415	12510	14646
5	Alkhanhuda University of Chittagong	4	1912	4510	10548	10548	10548
6	Alkhanhuda University of Chittagong	3	255	3415	415	22256	
7	Alkhanhuda University of Chittagong	3	255	1912	8125	4812	
8	Alkhanhuda University of Chittagong	3	148	1912	11212	11212	11212
9	Alkhanhuda University of Chittagong	3	150	2210	2210	3412	

9th BracU Inter-University Programming contest 2020



Programming Adda by Jhanker Mahbub



Dimik Programming Adda



Women Entrepreneur



Carrer Talk 10th November 2018



Competitive Programming & Its Benefits in Your Professional Career- Speakers- (Ashraf Koushik, Masum Billah, Minhajul Islam Alumni of Dept. of CSE)

প্রথম আলো

যে বসেই রাজার ডলার আয় তাফসিয়ার

আশরাফ উল্লাহ, ঢাকা

০৭ জুন ২০২০, ২০-২৩
আবসর: ০৭ জুন ২০২০, ২০-২৩



আশরাফ উল্লাহ

ডিজিটাল মার্কেটিংয়ে কাজ করে ডিগ্রিগেবে থেকে ফ্রিল্যান্সিং জরিবেসে আয় এখন মাসে হাজার ডলার, অর্থাৎ প্রায় ১-২ হাজার টাকা। ফ্রিল্যান্সিং বসেই তিনি মাসব্যবসায় নির্ভরী হিসেবে কাজ করেন। ফ্রিল্যান্সিং ডিজিটাল মার্কেটিং প্রতিষ্ঠান জাহাঙ্গীর খান। ২০১৮ সাল থেকে তিনি এই প্রতিষ্ঠানের সঙ্গে যুক্ত। এমআইএল (মার্কেটিং ইন্সটিটিউট অফ বাংলাদেশ) কাজ করেছেন তিনি। এ ছাড়া ফ্রিল্যান্সিং ডিজিটাল মার্কেটিং প্রতিষ্ঠান বসে সেটা মার্কেটিং লাইসেন্সের সঙ্গে যুক্ত করেন। এই প্রতিষ্ঠানে তিনি ফ্রিল্যান্সিং সফটওয়্যার।

ফ্রিল্যান্সিং জরিবেসে কাজ করে এই সময়ের আশিষ্টকার

Freelancing Career



Carrer Talk IT Fest 2019



Professor. Dr. Mohammad Kaykobad Career Advice



Award For contributing to the cultural team



Award For contributing to the cultural team



Award for photography contest



Award for gaming contest



Award for gaming contest



Award for gaming contest



Award for gaming contest



Award for programming contest

Academic and other Award

Academic and other Award



Award for programming contest



Award for programming contest



Academic Award



Academic Award



Academic Award



Academic Award



Academic Award



Academic Award



Logo of 15th year's celebration 2017



Flash mob of 15th year's celebration 2017



CSE-15



Honorable Chief Guest, Special Guest and President at the 15th year's celebration 2017



Cycle Rally



Joyful Rally



Honorable Chief Guest, Special Guests & President taking their seats



Tribute during the performance of the national anthem

Celebration of 15th Years



Show homage in Shahid Day (2018)



Victory Day, 2019



Iftar Mahfil, 2019



Iftar Mahfil, 2019



Participate in financial assistance in providing PPE to the hospital



Donated bicycle to a covid victim to maintain his family.



Picnic 2017, (Bandarban)



Picnic, 2018 (Cox's Bazar)



Farewell (Farewell & Freshers Reception 2016)



Farewell of 23rd Batch (Farewell & Freshers Reception 2019)



Farewell of 26th Batch (Farewell & Freshers Reception 2019)



Farewell of 27th Batch (Farewell & Freshers Reception 2019)



Freshers of 33rd Batch (Farewell & Freshers Reception 2019)



Freshers of 34th Batch (Farewell & Freshers Reception 2019)



Freshers of 35th Batch (Farewell & Freshers Reception 2019)



PUC CSE teachers, organizer, volunteer's & Students (Farewell & Freshers Reception 2019)

Farewell Reception

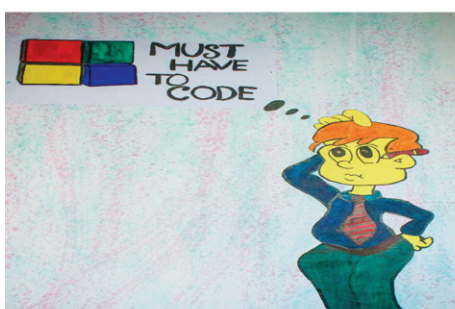
Art Culture



Art- (IT Fest 2019)



Art-(IT Fest 2019)



Art-(IT Fest 2019)



Cultural program- (Farewell & Freshers Reception 2019)



Cultural program- (Farewell & Freshers Reception 2019)



Cultural program- (Farewell & Freshers Reception 2019)



Cultural program- (Farewell & Freshers Reception 2019)



Cultural Program- (Farewell & Freshers Reception 2019)



Joyeeta Banerjee, 28th batch student of the CSE Department, has published her first book "হাবলুদের ফিল্যান্সিং"



Book Stall (2019)



Book Stall (2019)



Wall Magazine, Independence Day 2018 "মুক্তি"



Wall Magazine, Independence Day 2018 "মুক্তি"



Wall Magazine, Independence Day 2018 "মুক্তি"



Wall Magazine, Independence Day 2018 "মুক্তির কথা"



Wall Magazine, Independence Day 2018 "মুক্তির কথা"

Literature Book stall

Photography and Short film Competition



Mr. Shoeb Faruquee(Renowned photographer) honorable judge & workshop speaker IT Fest-2019



Mr. Wahid Tarek (Film Maker) honorable judge & workshop speaker IT Fest-2019



Mr. Shoeb Faruquee(Renowned photographer) & Prof. Dr. Taufique Sayeed (Honorable Dean, Faculty of Engineering, Professor and Chairman, Dept. of CSE)



Opekkhar Megh Short Film by Mainul Islam || Premier University IT Fest 2019 Short Film Festival

Short Film "Opekkhar Megh" IT Fest-2019



SCHOOL BOY || Premier University IT Fest 2019 Short Film Festival

Short Film "School Boy" IT Fest-2019 the hospital



Photography Competition IT Fest-2019



CBB Rainbow Budgerigar Contest 2019 CVASU February-2019



Confidence Salt Mobile Photography Competition-2018



IT Fest Gaming Context - Rubik's Cube 2019



IT Fest Gaming Context - FIFA (19) 2019



IT Fest Gaming Context - PUBG 2019



IT Fest Gaming Context - LUDU STAR 2019



Football Tournament (2019), Team-1



Football Tournament (2019), Team-2



Football Tournament (2019), Team-3



Football Tournament (2019), Team-4

Colour Fest, Rag Day



Color Fest 25th Batch (বর্ণাল-২৫)



RAG 25th Batch (বর্ণাল-২৫)



Color Fest 27th Batch (বাইনারি-২৭)



RAG 27th Batch (বাইনারি-২৭)



Color Fest 28th Batch (PHONEIX-28)



RAG 28th Batch (PHONEIX-28)



Color Fest 29th Batch (ABACUS-29)



Color Fest 29th Batch (ABACUS-29)