

Information Booklet for Undergraduate Studies



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Department of Architecture
Dhaka University of Engineering & Technology, Gazipur

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The Department of Architecture and the Dhaka University of Engineering & Technology, Gazipur reserve the right to make, at any time without notice, changes in and addition to programs, courses, regulations, conditions governing the conduct of students, requirements for degrees, fees and any other information or statements contained in this booklet. No responsibility will be accepted by the University or the Department of Architecture for hardship or expenses encountered by its students or any other person or persons because of such changes.

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Foreword

This handbook is published for the guidance of undergraduate students of the Department of Architecture. It is also equally important for providing valuable information to the Faculty Members and others interested in the activities of this Department.

General information about this University, its historical background, faculties and teaching Departments, administration and list of Faculty members in the Department of Architecture are provided in this handbook. This handbook also provides the academic ordinance, ordinance relating to discipline, detailed course outline and courses offered in different semesters for the Architecture undergraduate students.

The information herein may be changed or modified from time to time by the appropriate authority of this University to meet the advancement of science and technology. Such changes or modifications will be informed to the students by the authority of the University. However, the students are strongly advised to be in touch with their advisers regarding any enquiry of this handbook and modifications or changes that may be introduced by the University at a later stage.

I would like to acknowledge the endeavours of the editorial committee of this handbook and of my colleagues, who had been involved in preparing this booklet. I am also grateful to the Vice Chancellor of DUET, Gazipur for extending financial supports in favour of this publication.

Thanks

Head
Department of Architecture

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About The University

The University

The University started its operation in 1980 as College of Engineering at its temporary campus at Tejgaon, under the University of Dhaka and used to offer a four-year Bachelors degree in Civil Engineering, Electrical and Electronic Engineering, Mechanical Engineering to meet the growing need for advanced engineering education in Bangladesh. After a short span of time, College of Engineering was renamed as Dhaka Engineering College in 1981. Dhaka Engineering College shifted to its present campus at Gazipur City in 1983. Dhaka Engineering College was promoted to Bangladesh Institute of Technology (BIT), Dhaka as a degree granting Institute under the Government ordinance in 1986 to overcome various problems it had been facing since its inception. BIT, Dhaka was changed to a full-fledged University as “Dhaka University of Engineering & Technology (DUET), Gazipur” since 1st September 2003. The University administration is largely defined and determined by the University Act (Dhaka University of Engineering & Technology, Gazipur Act, 2003). DUET has ultimately turned into an Institution that can now boast its commitment to quality engineering education and already has earned a good reputation across the globe for the quality of its graduates. So far, it has produced around 6,424 graduates in different branches. The curricula of DUET address the needs of the present and the future through its Undergraduate and Postgraduate programs.

There are four Faculties namely Faculty of Civil Engineering, Faculty of Electrical and Electronic Engineering, Faculty of Mechanical Engineering and Faculty of Science. Faculty of Civil Engineering comprises the Department of Civil Engineering (CE) and Department of Architecture (Arch). Faculty of Electrical and Electronic Engineering comprises the Department of Electrical and Electronic Engineering (EEE) and Department of Computer Science and Engineering (CSE). Faculty of Mechanical Engineering comprises the Department of Mechanical Engineering (ME), Department of Textile Engineering (TE), Department of Industrial & Production Engineering (IPE), Department of Chemical and Food Engineering (FE) and Department of Materials and Metallurgical Engineering (MME). Faculty of Science comprises the Department of Chemistry (Chem). Department of Mathematics (Math),

Department of Physics (Phy), and Department of Humanities and Social Sciences (HSS).

There are three institutes namely Institute of Water & Environmental Sciences (IWES), Institute of Information & Communication Technology (IICT), Institute of Energy Engineering (IEE) and a research center namely Center for Climate Change & Sustainability Research (3CSR).

Currently, Undergraduate Degrees (B Sc. Engg. and B Arch.) and Postgraduate Degrees (M Sc. Engg., M Engg. M Sc., M Phil. and Ph. D) are offered at the University.

Location

The University has 25-acre campus area and is located along BIDC road in Gazipur District, which is 40 km north of Dhaka. Gazipur town is well-connected by road and railway track with Dhaka and other cities of Bangladesh. The Gazipur city can be reached from the capital by bus or train in about 2 hours. Public bus service is also available from DUET main gate.

Campus

DUET, Gazipur has a compact campus with a library, auditorium, residential halls, central mosque and residential accommodation for teachers and employees. Bank and post office are also located in the campus.

Climate

Bangladesh generally enjoys a subtropical climate. The three prominent seasons are winter, summer and monsoon. The warmest days in Dhaka region are between April and June with temperature ranging from 25 °C to 37 °C. Winter temperatures usually vary between 10 °C to 20 °C.

Accommodation

The University believes that campus life is an important aspect in the development process of students. In addition to providing services in assisting students for solving their problems that are affecting their studies, the University aims at creating an environment conducive to the promotion of interaction between faculty and student.

Accommodation is available on campus for about 70% of the student. The University has six halls of residence for accommodation of the students. The total capacity of these halls is around 2500. The halls are named after the national heroes, poets and eminent personalities of the world. The names of halls are listed below.

1. Kazi Nazrul Islam Hall
2. Shahid Muktijoddha Hall
3. Dr. Qudrat-E-Khuda Hall
4. Dr. Fazlur Rahman Khan Hall
5. Madam Curie Hall
6. Shahid Tajuddin Ahmed Hall
7. New Hall

Non-residential students are also to be attached with a hall, so that administrative control on students becomes hall based. Two to four students have to share a room depending upon the size of the room with common shower and toilet. All rooms are furnished and well-ventilated. All residential halls are equipped with modern recreational facilities like cable TV, common room, prayer room, reading room and library.

Fooding and Stationeries

Each residential hall has its own cafeteria, which serves two meals per day. Each cafeteria is maintained by each hall authority. Students are also involved for their daily menu. Special menu are provided for different occasions in the hall cafeteria. One annual colorful dinner is also arranged in each hall in honor of outgoing students. Head of the Institute, all Departmental Heads, Provosts, Assistant Provosts and many other faculty members are invited to enjoy dinner. Besides, this residential hall cafeteria, a big central canteen offers breakfast meals and snacks. Moreover, in Gazipur town, there are number of nice restaurants which serve a wide variety of food including oriental and western flavor. A Departmental Store is also housed in the campus for the benefit of all.

Sports and Entertainment

The physical education centre provides different sports facilities to the students to acquire physical fitness indispensable for healthy mind and body. University has a beautiful playground for football, cricket, badminton, volleyball etc. Central indoor and outdoor sports competitions are arranged annually by physical education section. The University also organizes annual cultural programmes on some special events like celebration of different national days. Besides, a number of cultural and social groups are also active in the campus.

Library

The University devotes considerable effort and resources to the development of outstanding library collections to meet the expanding need of teaching and research and to serve as a resource reference centre. The library has over 36,000 books, significant number of journals, thesis, dissertation, magazines, newspapers and reports. Besides these, with the membership of a consortium it has on-line access to many international research journals. Library service includes reading, lending, reference, and photocopying and document delivery service. The library is computerized and most of the information available on the internet. It is open from 8 A.M. to 8 P.M. except for certain official holidays. Besides, the general library system each academic discipline maintains rental library from which students can borrow textbooks at a nominal rate for the whole semester. In order to meet the demand of the day, the library has opened up Bangabandhu corner (collection about liberation war) in it.

Computer and Information Technology Facilities

Computing gets its utmost priority at DUET. All Departments, offices and residential area are interconnected through LAN of fiber-optic backbone. The university is now enjoying the high-speed Internet connection along with Wi-Fi networks. Central e-mail server and web server are dedicated for maintaining electronic communication inside as well as outside the university. This rich computing environment facilitates learning, teaching, research, and administrative purposes. Campus wide fiber-optical cables network has already been established.

For meaningful contribution to the national development in the field of Information Technology (IT), DUET has established a director office named Office of the Director (Computer Centre). The Computer Center has the following aims and objectives:

- i. To design and maintain the development of IT infrastructure in the campus.
- ii. To provide conducive environment for computing to facilitate learning and research activities.
- iii. To develop human resources in IT sector and arrange various training programs for the students and staff.
- iv. To pursue advanced research actively in IT in order to develop knowledge-based products and services.

- v. To establish joint collaboration with the reputed organizations in IT sector and to provide their certification programs.

Medical Centre

The University has a well-equipped medical centre with a number of medical officers and supporting staffs within prescribed limits. Medical centre is situated at ground floor of the central library building. Director (Students' Welfare) and Chief Medical Officer give the valuable advice for the development and improvement of medical center as well as healthcare services in this university.

The university medical centre provides different healthcare facilities to the residential and nonresidential students and staffs to meet physical and mental fitness. Students are given free outpatient prescription with necessary medicines at the expense of the university. Teachers, Officers, Employees are given only free prescription and disease related valuable advice about various kinds of diseases in the medical centre. All kinds of minor operations are performed under local anesthesia in the medical centre. Medical centre also arranges annual blood donation and vaccination programs. Students are given general knowledge about primary health-care system, preventive and social medicine. Only complicated surgical and medical emergency patients are referred urgently to the district Sadar Hospital, Gazipur and Dhaka medical college Hospital for investigations and better treatment. The university medical centre does not however to bear the cost of treating injuries occurred outside the university.

Transportation

For the convenience of the students, faculties, officers and staffs DUET, Gazipur operates its own shuttle Bus Service between Dhaka city and the campus. In weekends special services are also provided for meeting the weekend recreational and other needs.

Students' Welfare

The Director of Students' Welfare is responsible for the various activities related to the physical, social, cultural and other aspects of welfare of the students. These include arrangement of supervision for halls of residence, programs for physical education, games and sports, cultural weeks and other activities of the students through the central student's union and the students' unions of the various halls of residence.

Central Students' Union

The purpose of the Central Students' Union is to promote the interests and welfare of the student body and to promote awareness of the healthy atmosphere on the university campus. The students' union also helps to provide an opportunity for everyone to mix with fellow students from different parts of the country and appreciate their cultures. All full-time students are members of the Central Students' Union, and are entitled to vote in the election of the unions governing body.

The Students' Unions of the various hall of residence also arrange their individual socio-cultural activities, literary competitions etc. and help the hall management to run the halls smoothly.

Administration

University Administration is mostly defined and determined by the University Act (Dhaka University of Engineering & Technology, Gazipur Act, 2003). According to the University Act Syndicate is the supreme authority in supervising and controlling all the activities of the University and major policy making, approving recommendations of all subordinate bodies. It also exercises its common controlling power through the Vice-Chancellor by formulating and implementing Act, Statutes, Rules and Regulations of the University.

The Finance committee, Planning & development committee, Selection committee and other statutory bodies and committees assist the Syndicate by recommending rules and regulations and other decisions as per need of the University.

The Academic Council is the supreme authority for matters relating to Education and Research. It exercises its common controlling power by formulating Academic Rules & Regulations and controlling all Academic activities and Research through Faculties, Departments, Academic committees, CASR (Committee for Advanced Studies and Research), committee relating to discipline etc. It also recommends necessary Rules and Regulations (Proposed) before the Syndicate for final approval.

Vice-Chancellor is the Chief Executive Officer (CEO) for both Academic and Administrative purposes. He is responsible for all of his activities to the Chancellor (Honorable President, People's Republic of Bangladesh). According to University Act, Vice-Chancellor is the Chairman of Syndicate, Academic Council, Finance Committee, Planning and Development

Committee and all Selection Boards. He exercises his common controlling power over all the Faculties, Departments, Directories, Offices, Halls and different Sections through Deans, Head of Departments, Directors, Head of Offices (Registrar, Controller of Examinations, Comptroller, Chief Medical Officer, Chief Engineer, and Librarian etc.), Hall provosts and other Heads of different Sections.

Registrar is the residential Officer of the University. He is the custodian of all records, common seal and assets or property as the Syndicate may commit to his charge. He is the Secretary of the Syndicate & Member Secretary of the Academic Council. He is also the member of the Finance committee. He is mainly responsible for implementing the decisions, made by the Syndicate, Academic Council and Vice-chancellor himself and decision taken from the recommendation of different bodies and committees. Major Human Resource Management (HRM) functions (Manpower acquisition, Training & Development, Placement, Motivation etc.) are performed by the Establishment Section. Student's Enrolment, Registration, all Academic activities, programs and Schedules are prepared and published by the Academic Section of the Registrar Office. Registrar is also responsible for the security matters of the University. Generally, Vice-Chancellor practices his common controlling power over all the Departments, Offices and Sections through Registrar Office.

Department of Architecture

The Department

Architects involve themselves in plan, design, implementation and monitoring of construction of buildings projects as well as urban projects. It means that architects are directly involved in the development process of a nation and hence, active participants in the nation building activities. Better understanding of the architectural problems, sound and updated knowledge is essential for architects to be successful in their professional life to meet the challenges in an appropriate way. Architectural program in DUET, Gazipur is designed to provide the students with the fundamental knowledge, basic understanding and to make them familiar with state of the art of knowledge and latest developments for entering into a wide variety of professional career including research and developments. By doing so Architecture Department has been producing quality architects to be accepted nationally and internationally.

The Department of Architecture, at DUET under the Faculty of Civil Engineering started its journey from 2011 and first enrolled 30 students in academic session 2011-2012. History of architecture is the history of civilization. Creative architects dealing with vision can analyze problem, innovate solution, rationalize process, and optimize resources. In Bangladesh there is an increasing awareness of the value of architectural heritage versus the needs of a modern society and the socio-economic and cultural context of the built form. Architects, the leaders of the building sector, influence the society by shaping the habitat and strive to fulfill three attributes durability, utility and beauty. Well recognized and in good demand, they also excelled in other creative medias through an education enabling them to be self-employed. This Department commits to the value of design supported by the mutually reinforcing aspects of creativity, investigation and technology. Steadfast in providing professionally relevant, socially aware, and environmentally sensitive directions to learning, it actively engages with the changing needs of modern society. The Program aims to create socio-culturally and environmentally aware building professionals for this century who will bring order, vitality and beauty to the built environment. The brilliant young academics encourage creativity, hand-on learning, integrated theory and studio, and contextual response.

To facilitate the education, the Department is enriched with a number of laboratories for carrying out research and to introduce under graduate students with different experiments in different disciplines. Expert consultancy services for the design of buildings, urban design, landscape and other projects are routinely carried out. In the recent past, highly experienced and expert consultants of the Department of architecture have been involved in the major projects.

Architectural knowledge has traditionally used imagination, judgment, reasoning and experience to apply science, technology and practical experience to materialize a concept. Architectural Department ties these foundations to a diverse program. The curriculum is designed to foster independent thinking and to develop the skills of observation, communication, listening and cooperation through the process of design, with flexibility to follow the passion of students.

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Academic Ordinance for Undergraduate Studies

(Approves by the Syndicate on the recommendation of the Academic Council)

1. Definitions

- 1.1 'University' means the Dhaka University of Engineering & Technology, Gazipur abbreviated as DUET, Gazipur.
- 1.2 'Syndicate' means the Syndicate of the University.
- 1.3 'Academic Council' means the Academic Council of the University.
- 1.4 'Chancellor' means the Chancellor of the University.
- 1.5 'Vice-Chancellor' means the Vice-Chancellor of the University.
- 1.6 'Pro-Vice Chancellor' means the Pro-Vice Chancellor of the University.
- 1.7 'Dean' means the Dean of the faculty of the University.
- 1.8 'Head of the Department' means the Head of a Department of the University.
- 1.9 'Registrar' means the Registrar of the University.
- 1.10 'Academic Committee' means the Academic Committee for Undergraduate Studies (ACUG) of the degree-awarding Department of the University.
- 1.11 'Degree' means the degree of Bachelor of Science in a particular discipline of Engineering / Bachelor of Architecture offered by the University.
- 1.12 'Departmental Monitoring Committee' means the Committee for upgrading/changing the Undergraduate Curriculum and the Course system and monitoring the teacher-student activities.
- 1.13 'Degree Equivalence Committee' means the committee for equivalencing different degrees obtained from home and/or abroad.
- 1.14 'Teacher' means Professor, Associate Professor, Assistant Professor, Lecturer, and any other person approved as a teacher by the University.

1.15 'Student' means Student who has been admitted into the regular academic curriculum of the University.

2. Faculties

The University shall have the following Faculties:

- i. Faculty of Civil Engineering is comprised of
 - a. Department of Civil Engineering
 - b. Department of Architecture
 - c. Institute of Water and Environment
 - d. Center for Climate Change & Sustainability Research

- ii. Faculty of Electrical and Electronic Engineering is comprised of
 - a. Department of Electrical and Electronic Engineering
 - b. Department of Computer Science and Engineering
 - c. Institute of Information and Communication Technology

- iii. Faculty of Mechanical Engineering is comprised of
 - a. Department of Mechanical Engineering
 - b. Department of Textile Engineering
 - c. Department of Industrial and Production Engineering
 - d. Department of Chemical and Food Engineering
 - e. Department of Materials and Metallurgical Engineering
 - f. Institute of Energy Engineering

- iv. Faculty of Science is comprised of
 - a. Department of Chemistry
 - b. Department of Mathematics
 - c. Department of Physics
 - d. Department of Humanities and Social Sciences

- v. Any other Faculty of be instituted by the Syndicate on the recommendation of the Academic Council from time to time.

3. Departments

The University shall have the following Departments:

3.1 Degree-Awarding Departments

- i. Department of Civil Engineering
- ii. Department of Electrical and Electronic Engineering
- iii. Department of Mechanical Engineering
- iv. Department of Computer Science and Engineering

- v. Department of Textile Engineering
- vi. Department of Architecture
- vii. Department of Industrial and Production Engineering
- viii. Department of Chemical and Food Engineering
- ix. Department of Materials and Metallurgical Engineering
- x. Any other Department to be instituted by the Syndicate on the recommendation of the Academic Council from time to time.

3.2 Teaching Departments

- i. Department of Civil Engineering
- ii. Department of Electrical and Electronic Engineering
- iii. Department of Mechanical Engineering
- iv. Department of Computer Science and Engineering
- v. Department of Textile Engineering
- vi. Department of Architecture
- vii. Department of Industrial and Production Engineering
- viii. Department of Chemical and Food Engineering
- ix. Department of Materials and Metallurgical Engineering
- x. Department of Chemistry
- xi. Department of Mathematics
- xii. Department of Physics
- xiii. Department of Humanities and Social Sciences
- xiv. Any other Department that may be instituted by the Syndicate on the recommendation of the Academic Council from time to time.

4. Degrees Offered

The University shall offer courses leading to the award of the following degrees:

- i. Bachelor of Science in Civil Engineering abbreviated as B. Sc. Engineering (Civil)
- ii. Bachelor of Science in Electrical and Electronic Engineering abbreviated as B. Sc. Engineering (Electrical and Electronic)
- iii. Bachelor of Science in Mechanical Engineering abbreviated as B. Sc. Engineering (Mechanical)
- iv. Bachelor of Science in Computer Science and Engineering

- abbreviated as B. Sc. Engineering (Computer Science and Engineering)
- v. Bachelor of Science in Textile Engineering abbreviated as B. Sc. Engineering (Textile)
 - vi. Bachelor of Architecture abbreviated as B. Arch
 - vii. Bachelor of Science in Industrial and Production Engineering abbreviated as B. Sc. Engineering (Industrial and Production).
 - viii. Bachelor of Science in Chemical and Food Engineering abbreviated as B. Sc. Engineering (Chemical and Food)
 - ix. Bachelor of Science in Materials and Metallurgical Engineering abbreviated as B. Sc. Engineering (Materials and Metallurgical)
 - x. Any other degree that may be awarded by a Department with the approval of the syndicate on the recommendation of the Academic Council from time to time.

5. Student Admission

- 5.1 The four academic years of study for the degree of B.Sc. Engineering and five academic years of study for the degree of Bachelor of Architecture shall be designated as first year class, second year class, third year class, fourth year class and fifth year class (B. Arch only) in succeeding higher levels of study. Each academic year comprises two semesters, i.e., 1st and 2nd semester. Students shall generally be admitted into the 1st year 2nd semester class. The 1st semester of 1st year class is exempted because of the candidates' completion of minimum 4-years Diploma in Engineering/Architecture backgrounds after 10 years of schooling.
- 5.2 An admission Committee shall be formed in each academic session by the Academic Council for admission into 1st year B. Sc. Engg./B. Arch Program.
- 5.3 A candidate for admission into the 1st year class must have passed the minimum 4-years Diploma in Engineering/Architecture examination from Bangladesh Technical Education Board (after 10 years of schooling) or any examination recognized as equivalent there to and must also fulfill all other requirements as may be

prescribed by the admission committee. In case of confusion regarding the equivalence the case may be referred to the Degree Equivalence Committee. However, a candidate must fulfill the requirements mentioned below:

Sl. No.	Name of the Department	Entry Requirements
1.	Civil Engineering	Diploma in Engineering (Civil/Surveying/ Environmental with special optional subjects/ Civil with wood specialization/ Construction Technology)
2.	Electrical and Electronic Engineering	Diploma in Engineering (Electrical/ Electronics/ Instrumentation & Process control/ Telecommunication/ Electro-medical technology)
3.	Mechanical Engineering	Diploma in Engineering (Mechanical/ Power/ Refrigeration and Air Conditioning/ Mechatronics/Ship Building/Marine/ Mining and Mine Survey technology)
4.	Computer Science and Engineering	Diploma in Engineering (Computer Science & Technology/ Computer/ Electronics/ Data Telecommunication & Networking/ Graphics Design/ Printing Technology)
5.	Textile Engineering	Diploma in Engineering (Textile/ Jute/ Garments & Pattern Making Technology)
6.	Architecture	Diploma in Engineering (Architecture/ Architecture and Interior Design Technology)
7.	Industrial Production Engineering	Diploma in Engineering (Mechanical/ Instrumentation and Process Control/ Automobile/ Mechatronics Technology)
8.	Chemical and Food Engineering	Diploma in Agriculture (Food/ Chemical/ Mechanical/ Power/ Refrigeration & Air Conditioning/ Instrumentation and Process Control Technology)
9.	Materials and Metallurgical Engineering	Diploma in Engineering (Power/ Refrigeration & Air Conditioning/ Automobile/ Ceramic/ Glass/ Ship Building/ Mining and Mine Survey Technology.

- 5.4 The rules and conditions for admission into various Departments shall be framed by the Academic Council on the recommendation of the Admission Committee in each year.
- 5.5 All candidates for admission into B. Sc. Engineering/ B. Arch programs must be citizens of Bangladesh unless the candidature is against the seats those are reserved for foreign students. Candidates for all seats except the reserved ones, if any, shall be selected on the basis of merit. The rules for admission into the reserved seats shall be framed by the Academic Council on the recommendation of the Admission Committee.
- 5.6 No student shall ordinarily be admitted into 1st year after the start of the corresponding classes. The date of commencement of classes for the newly admitted students will be announced in advance.
- Prior to admission to the University every student shall be examined by a competent medical officer as prescribed in the admission rules.
- 5.7 Admission of a newly admitted student in the 1st year class will be cancelled if he/she remains absent without prior permission from the University authority for ten working days after the start of class. If any student fails to report due to unavoidable circumstances within the stipulated period, he/she may appeal within the next twenty working days to the Academic Council through the concerned Head of the Department. The decision of the Academic Council will be final.

6. Method of Course Offering and Instruction

The undergraduate curricula of the University are based on course system. The salient features of the course system are as follows:

- i) Generally, number of regular theoretical courses taken by a student will not exceed five in each semester,
- ii) Continuous evaluation of student's performance,
- iii) Evaluation by using Letter Grades and Grade Points,
- iv) Introduction of some additional optional courses and thus enable students to select courses according to his/her interest as far as possible,
- v) Opportunity for students to choose fewer or more courses than the normal course load depending on his/her capabilities and needs,

- vi) The flexibility to allow the student to progress at his/her own pace depending on his/her ability or convenience, subject to the regulations on credit and minimum grade point average (GPA) requirements, and
- vii) Promotion of teacher-student contact.

In the curriculum for the undergraduate programs, besides the professional courses pertaining to each discipline, there is a strong emphasis on acquiring a thorough knowledge in basic sciences of mathematics, physics and chemistry and subjects in humanities and social sciences. Emphasis has been given on introducing courses dealing with professional practices, project planning and management, socio-economic and environmental aspects of development projects, communicative skills etc. This will help the students to interact more positively with the society.

7. Academic Calendar

- 7.1 The academic year shall ordinarily be divided into two regular semesters each having duration of ordinarily not less than 13 teaching weeks* (65 working days) of classes.
- 7.2 There shall be final examinations at the end of each semester and the examination will be conducted as per academic regulations.
- 7.3 The registrar office will announce the academic schedule for each semester ordinarily before the start of the class on the approval of the Academic Council.
- 7.4 Academic Calendar may be prepared according to the following guidelines:

Two alternatives are provided: (i) based on two regular semesters with a provision of a review examination in each semester and (ii) based on two regular semesters and with a provision of a short semester about 8-week duration during one academic year whenever possible.

ALTERNATIVE: I

<u>Semester-I</u>	No. of Weeks 23
Classes	13*
Mid Semester Break	1
Regular and Review examination including preparatory leave**	6.4***
Publication of results	2.3***
Inter-semester recess and preparation for next semester	1
<u>Semester-II</u>	No. of Weeks 23
Classes	13*
Mid Semester Break	1
Regular and Review examination including preparatory leave**	6.4***
Publication of results	2.3***
Inter-session break and vacations throughout the session	05
Total =	52

* 14 weeks have been implemented on session 2020-2021.

** There shall be at least one examination date in a week.

***The digit after the decimal indicates number of days.

ALTERNATIVE: II

<u>Semester-I</u>	No. of Weeks 21
Classes	13*
Regular examination including preparatory leave **	5.4***
Publication of results	2.3***
Inter-semester recess and preparation for next semester	1
<u>Semester-II</u>	No. of Weeks 21
Classes	13*
Regular examination including preparatory leave**	5.4***
Publication of results	2.3***
Inter-session break and vacations throughout the session, including one 8-week Short Semester.	09
Total =	52

* 14 weeks have been implemented from session 2020-2021.

** There shall be at least one examination date in a week.

*** The digit after the decimal indicates number of days.

8. Duration of Programme and Course Structure

- 8.1 The B. Sc. Engineering programs shall extend over a period of four academic years and the B. Arch programs shall extend over a period of five academic years, each with a normal duration of one calendar year. Each academic year is divided into two semesters (except the 1st year) for the purpose of academic program and conduct of examinations.
- 8.2 The curricula of the B. Sc. Engineering/ B. Arch degree in different Departments shall be as proposed by the respective ACUG and approved by the Academic Council on the recommendation of the Executive Committee of the concerned Faculty.
- 8.3 The ACUG may review the curricula once in every academic year and put forward suggestions to the Academic Council through the Executive Committee of the respective Faculty.
- 8.4 The courses are reckoned in credits and the credits allocated to various courses will be determined by the ACUG with the following guidelines:

	Nature of Course	Contact Hour	Credit
i)	Theory/Lecture*	1.0 hour/week	1.0
ii)	Sessional/ Lab	3.0 hours/week	1.5
iii)	Sessional/ Lab	6.0 hours/week	3.0
iv)	Sessional/Design Studio		
	1 st Year and 2 nd Year	12.0 hours/week	6.0
	3 rd Year and 4 th Year	15.0 hours/week	10.0
	5 th Year	15.0 hours/week	12.0

* 1.0 Contact hour means a class with a period of 50 minutes (60 minutes have been implemented from session 2020-2021).

- 8.5 The minimum credit hours for the award of bachelor's degree in engineering/ architecture will be decided by the respective ACUG and approved by the Academic Council on the recommendation of the Executive Committee of the Faculty. For the Bachelor degree in Architecture a student must earn a minimum of 194 credits (of which 20.5 credits are exempted).
- 8.6 The total number of credits for which a student should register shall be from 15 to 24 credits in a semester except the review course. However, a student may be allowed to register for less than 15 credits in a semester if

- i) he/she is considered academically weak,
 - ii) number of credits required for graduation is less than 15 in that semester,
 - iii) student cannot find appropriate courses for registration subject to the approval of the adviser.
- 8.7 The total contact hours for students including lecture, tutorial and lab/sessional should be around 30 periods per week, each period being of 50 minutes duration (60 minutes have been implemented from session 2020-2021).
- 8.8 In each degree-awarding Department, one of the Assistant Professors or above nominated by the Head of the Department for one Academic year will act as Course Coordinator as well as Member Secretary of ACUG.
- 8.9 A course plan showing details of lectures for each course, approved by the Head of the Department is to be announced at the start of each semester.

9. Course Designation and Numbering System

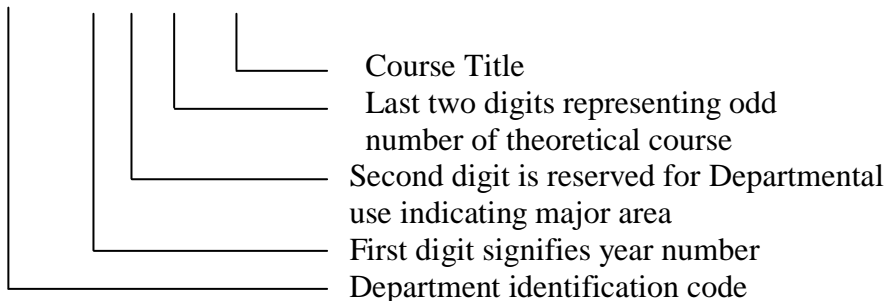
Each course is designated by a two to four letter word identifying course offering Department followed by a four-digit number with the following criteria:

- a. The first digit will correspond to the year in which the course is normally taken by the students.
- b. The second digit will be reserved for Departmental use.
- c. The last two digits will usually be odd for theoretical and even for laboratory or sessional courses.

The course designation system is illustrated by two examples as shown below:

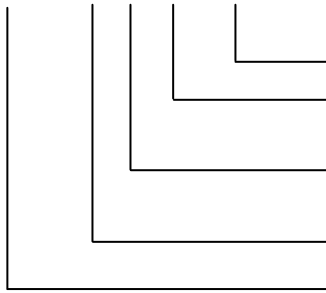
Example 1:

ARCH 2 5 21 History of Architecture -III



Example 2:

ARCH 2 1 12 Design -II



Course Title

Last two digits representing even number of sessional course

Second digit is reserved for Departmental use indicating major area

First digit signifies year number

Department identification code

10. Types of Courses

The courses included in undergraduate curricula are divided into several groups as follows:

10.1 Core Courses.

In each discipline a number of courses will be identified as core courses which form the nucleus of the respective bachelor's degree program. A student has to complete all of the designated core courses for his discipline.

10.2 Pre-requisite Courses

Some of the core courses are identified as pre-requisite courses. A pre-requisite course is one, which 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 semesters.

10.3 Optional Courses

Apart from the core courses, students will have to complete a number of courses which are optional in nature. In that case students will have some choice to choose the required number of courses from a specified group/number of courses.

10.4 Non-Credit Courses

Noncredit course(s) may be offered to a student to improve his/her knowledge in some specific fields. The credits in these courses will not be counted towards GPA and Cumulative GPA calculation but

will be reflected in the transcript as satisfactory (S)/unsatisfactory (U). Noncredit course(s) may be offered under the following circumstances:

If a student's Thesis/Project supervisor feels that the study/design is highly related to course(s) offered by any other Department for its students, he can recommend to the concerned Head of the Department for participation of the student(s) in the course(s). Such registration of course(s) will not affect the normal course registration of the student.

11. Departmental Monitoring Committee and Student Adviser

11.1 Departmental Monitoring Committee

Consistent with its resilient policy to keep pace with new development in the field of Engineering and Technology, the university will update its course curricula at frequent intervals. Such updating aims not only to include the expanding frontiers of knowledge in the various fields but also to accommodate the changing social, industrial and professional needs of the country. This can be done through deletion and modification of some of the current courses and also through the introduction of new ones.

ACUG of each Department will constitute a Departmental monitoring Committee with three senior teachers of the Department as members and Head of the Department as chairman. This committee will monitor and evaluate the effectiveness of the Course System within the Department. In addition to other teachers of the Department, the committee may also propose from time to time to the ACUG any changes and modifications needed for upgrading the Undergraduate Curricula and the Course System.

11.2 Students' Adviser

One adviser will be assigned for a batch of students by the Head of the Department who will advise each student on the courses to be taken by the student. The adviser will discuss with the student his academic program and then decide the number and nature of courses for which he/she can register. However, it is the student's responsibility to keep contact with his/her adviser who will review and eventually approve the student's specific plan of study and check on subsequent progress. The adviser should generally be of the rank of an Assistant Professor or above from the concerned Department. However, in case of shortage of teachers, lecturer may also act as adviser.

For a student of second and subsequent semesters, the number and nature of courses for which he/she can register will be decided on the basis of his/her academic performance during the previous semester. The adviser will advise the students to register for the courses during the next semester within the framework of the guidelines in respect of minimum/maximum credit hour limits. The Adviser is also authorized to permit the student to drop one or more courses based on his academic performance. Special provisions exist for academically weak students with regard to make-up courses.

11.3 Teacher Student Contact

The proposed system encourages students to come in close contact with teachers. For promotion of teacher-student contact, each student is assigned to an Advisor and the student is free to discuss with his/her advisor all academic matters, especially those related to courses taken and classes being attended by him/her. Students are also encouraged to meet other teachers any time for help on academic matters.

12. Course Registration and its Procedures

Any student who wants to study a course is required to register formally. The course registration should be done through online portal where following steps will be maintained during registration:

- i. A student (both resident/attached) has to register his/her courses through online UGR portal. Therefore, he/she needs to create a user account in the portal with a valid e-mail address.
- ii. The student can deposit his/her fees through both online and offline. In case of offline, student has to collect and fill-up a deposit slip to pay the registration fees in the bank.
- iii. The student (both resident/attached) has to clear all dues related to hall and the hall provost will approve the student in online portal.
- iv. The student has to submit a printed copy of online registration form and the deposit slip (if paid offline) to his/her adviser.
- v. The adviser and the Head of the Department will approve the registration in online portal.
- vi. Finally, the academic section of registrar office will approve the registration in online portal. All the registration documents shall be preserved in the respective Department/office for future reference.

12.1 Credit Limit in a Semester

A student must be enrolled for the requisite number of credits as mentioned in article 8.6. A student must enroll for the prescribed sessional/laboratory courses in the respective semester within the allowed credit limits.

12.2 Pre-condition for Registration

A student will be allowed to register those courses subject to the capacity constrains and satisfactory completion of pre-requisite courses. If a student fails in a pre-requisite course in any semester, the concerned Department monitoring committee may allow him/her to register for a course which builds on the pre-requisite course provided his/her attendance and grades in continuous assessment in the said pre-requisite course are found to be satisfactory.

Registration will be done within the first ten working days of each semester. Late registration is, however, permitted under special circumstances within next five working days on payment of late registration fee as decided by the authority. Students having outstanding dues to the University or a hall of residence shall not be permitted to register. All students have, therefore, to clear their dues prior to complete the course registration procedure.

12.3 Course Adjustment Procedure

A student would have some limited options to add or replace courses from his/her registration list, within the first ten working days from the beginning of the semester. Dropping of a course is allowed within twenty working days from the beginning of the semester. Adjustment of initially registered courses in any semester can be done by duly completing the Course Adjustment Form. These forms will normally be available in the academic section.

Any student willing to add, replace or drop courses will have to fill up a Course Adjustment Form in consultation with his/her adviser. The original copy of the Course Adjustment Form will be submitted to the academic section, and then the requisite number of copies will be made by the academic section for distribution among the concerned adviser, Head, student and controller of examination.

Any changes in courses must be approved by the Adviser and the concerned Head of the Department. The Course Adjustment Form will have to be submitted to the academic section after duly filled in and signed by the persons concerned.

12.4 Withdrawal from a Semester

If a student is unable to complete the semester Final Examination due to illness, accident or any other valid reason etc., he/she may apply to the Registrar through the Head of the Department for total withdrawal from the semester within five working days after the end of the semester final examination. However, he/she may choose not to withdraw any laboratory/sessional course if the grade obtained in such a course is 'D' or higher and he/she has to indicate that clearly in the withdrawal application. The withdrawal application must be supported by a medical certificate from the University Medical Officer. The Academic Council will take the final decision about such application.

13. Striking off the Names and Readmission

13.1 The names of the students shall be struck off and removed from the student list on the following grounds:

- i. Non-payment of University fees and dues within the prescribed period.
- ii. Forced to discontinue his/her studies under disciplinary rules.
- iii. Withdrawal of names from the University on grounds acceptable to the Vice-Chancellor of the University after having cleared all dues.
- iv. Failure to earn the required credits for graduation as outlined in the respective curriculum and/or fulfill the Cumulative GPA requirements within the maximum allowed time of 7 academic years for B.Sc. in Engineering and 8 academic years for Bachelor of Architecture including any period of punishment. On valid medical grounds, the period may be extended by the approval of Academic Council.

13.2 In case a student whose name has been struck off the student list under clause (i) of Article 13.1 seeks re-admission within the session in which his/her name was struck off, he/she shall be re-admitted on payment of all the arrear fees and dues. But if he/she seeks re-admission in any subsequent session, the procedure for his/her re-admission will be the same as described under Article 13.3.

13.3 Every student whose name has been struck off the student list by exercise of the clause (ii) of Article 13.1 seeking readmission after expiry of

the period for which he/she was forced to discontinue his/her studies, shall submit an application to the Head of the Department in the prescribed form before the commencement of the session to which he/she seeks re-admission. The Head of the Department shall forward the application to the Vice-Chancellor of the University with his remarks. In case the re-admission is allowed, the student will be required of payment of all dues to get him/herself admitted not later than one week from the date of permission given by the Vice-Chancellor. All re-admissions should preferably be completed before the session starts. The percentage of attendance of the readmitted students shall be counted from the date of re-admission.

13.4 The application of a student for readmission will only be considered if he/she applies within two academic sessions from the semester of discontinuity in his/her studies in the University. Other than debarment as punishment under ordinance of the University relating to discipline, a student of any kind failing for any other reason whatsoever to become a candidate for a semester final examination in which he/she ought to have had in the usual process of his/her progressive academic activities, shall be considered to have discontinued his/her studies for the relevant semester together with striking the name off from current student list and two such discontinuous periods will be considered equivalent to that for one academic session. The maximum period of discontinuity under no circumstances is to exceed two academic sessions during a student's period of studies for the degree.

13.5 No student who has withdrawn his/her name under clauses (iii) and (iv) of Article 13.1 shall be given re-admission.

13.6 In case any application for re-admission is rejected, the student may appeal to the Academic Council for re-consideration. The decision of the Academic Council shall be final.

14. Grading System, Calculation of GPA and Cumulative GPA, and Conversion of Marks

14.1 Grading System

The letter grade system shall be used to assess the performance of the student and shall be as follows:

Numerical Grade	Letter Grade	Grade Point
80% or 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

A grade 'X' shall be awarded for courses (like project and thesis, design, etc.) in the odd semester, which continue through to the even semester.

14.2 Calculation of GPA and Cumulative GPA

Grade Point Average (GPA) is the weighted average of the grade points obtained in all the courses passed/completed by a student in a semester. F grades will not be counted towards GPA calculation. GPA of a semester will be calculated as follows:

$$GPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

where n is the total number of courses passed by the student, C_i is the number of credits allotted to a particular course i, and G_i is the grade point corresponding to the grade awarded for i-th course.

The overall or Cumulative GPA gives the cumulative performance of the student from first semester up to any other semester to which it refers and is computed by dividing the total grade points ($\sum C_i G_i$) accumulated up to the date by the total credit hours ($\sum C_i$).

Both GPA and Cumulative GPA will be rounded off to the second place of decimal for reporting.

Suppose a student has completed five courses in a semester and obtained the following grades:

Course	Credits	Grade	Grade points
ARCH 3511	2	A plus	4.0
CE 3111	2	B regular	3.0
EEE 3111	2	A regular	3.75
ARCH 3112	10	B plus	3.25
ARCH 3312	1.5	A minus	3.5

Then his/her GPA for the semester will be computed as follows:

$$GPA = \frac{2(4.0) + 2(3.0) + 2(3.75) + 10(3.25) + 1.5(3.5)}{2 + 2 + 2 + 10 + 1.5} = 3.39$$

14.3 Conversion of Grade into Marks

- a) Marks = $79 + 84(X - 3.75)$; $3.75 \leq X \leq 4$
 b) Marks = $44 + 20(X - 2)$; $2.2 \leq X \leq 3.75$

Where X = Grade (Cumulative GPA) obtained by a student

15. Distribution of Marks

15.1 The distribution of marks for a given course will be as follows

(a) **Theory Courses:**

- i) Continuous Assessment
- | | |
|---|-----|
| Class participation and attendance | 10% |
| Class Tests/spot tests/Assignments | 20% |
| ii) Semester Final Examination (3 hours duration) | 70% |
| Total = 100% | |

(b) **Sessional Courses/Lab/Design Studio/Thesis**

- | | |
|--|-----|
| Class participation and attendance | 10% |
| Final Presentation/Jury/Quiz/Viva Voce | 40% |
| Internal assessment/Criticism/Reports | 50% |
| Total = 100% | |

15.2 It is desirable that weightage on continuous assessment as described in Article 15.1 such as class tests, class participation and attendance and spot test should be increased up to 50% and weightage on semester final examination should be reduced to about 50% gradually.

15.3 Basis for distribution of marks in class participation and attendance will be as follows:

<i>Attendance</i>	<i>Percentage of Marks</i>
90% or above	10%
85% to less than 90%	9%
80% to less than 85%	8%
75% to less than 80%	7%
70% to less than 75%	6%
65% to less than 70%	5%
60% to less than 65%	4%
Less than 60%	0%

15.4 The students whose average percentage of attendance will fall short of 70% in any of the theory, design studio/lab/sessional/field work courses for which he/she has registered in one academic year shall not be eligible to sit in the exam/jury and will not be eligible for the award of any type of scholarship/stipend/grant for the following academic session.

16. Class Tests, Quizzes and Spot Tests

- (i) For all theory courses 3 best out of 4 class tests may be taken for awarding marks. These may be considered as the minimum recommended number of class tests for any course. If the number of class tests administered in a course exceeds these suggested minimum numbers, then two-thirds best of all may be considered.
- (ii) Duration of a class test should not exceed 15-20 minutes and materials covered should be what were taught in 2 to 4 immediate previous classes or most recent classes.
- (iii) For convenience of conducting the class tests one class period time slot should be kept at the first period of each working day.
- (iv) The dates for the class tests shall be fixed by the Course Coordinator in consultation with the Head of the Department shall be announced accordingly.
- (v) Spot test will be considered as class test and duration of which should not exceed ten minutes. The materials covered should be

what were taught in previous immediate class. The maximum number of spot test should not exceed more than four. Maximum 50% spot test will be considered.

- (vi) All class tests shall ordinarily be of equal value. The result of each individual class test shall be posted for information of the students preferably before the next class test is held.
- (vii) Quizzes will be held on the basis of sessional/lab/field work classes. Duration of a quiz should not exceed one hour.

17. Earned Credits

The courses in which a student has obtained 'D' or a higher grade will be counted as credits earned by him/her. Any course in which a student has obtained 'F' grade will not be counted towards his/her earned credit calculation. A student who obtains 'F' grade in any core course in any semester, he/she will have to repeat the course. If a student obtains 'F' in an optional course he/she may choose to repeat the course or take a substitute course, if available. No 'F' grade will be counted for GPA calculation but will stay permanently on the grade sheet and transcript. When a student will repeat a review course in which he/she previously obtained 'F' grade, he/she will not be eligible to get a grade higher than B in such a course.

A student obtaining D grade in a course, will be allowed to repeat the course for the purpose of grade improvement if cumulative GPA of the student falls below 2.20 In such case he/she will be awarded the new grade that he/she obtains or retains his/her previous grade if he/she fails. A student obtaining 'C' or a better grade in a course will not be allowed to repeat the course for the purpose of grade improvement if cumulative GPA of the student falls below 2.20. Absence in semester final examination will result in 'F' grade unless he/she had withdrawn from the semester as per Article 12.4.

18. Measures for Helping Academically Weak Students

The minimum cumulative GPA requirements for obtaining a B. Sc. Engineering/ B. Arch degree is 2.20. The performance of a student will be evaluated in terms of two indices, viz. semester grade point average (GPA), and cumulative grade point average (cumulative GPA).

Students will be considered to be making normal progress toward a degree if their Cumulative GPA for all courses attended is 2.20 or higher. Students who regularly maintain semester GPA of 2.20 or higher are making good progress toward their degrees and are in good standing with the University. Students who fail to maintain this minimum rate of progress will not be in good standing rather considered to be academically weak. This can happen when one or more of the following conditions exist:

- i. Semester GPA falls below 2.20 or
- ii. Cumulative GPA falls below 2.20 or
- iii. Earned credits fall below 15 times the number of semesters attended/studied

All such students can make up deficiencies in GPA and credit requirements by completing 'F' graded course(s) and repeating 'D' graded course(s) in the next semester(s). When GPA and credit requirements are fulfilled, the student is considered to be returned to good standing.

19. Honours, Dean's List and University Gold Medal

19.1 Honours

Candidates for Bachelor's degree in Engineering/ Architecture will be awarded the degree with Honours if their cumulative GPA is 3.75 or above.

19.2 Dean's List

In recognition of excellent performance, the names of students who maintain a GPA of 3.75 or above in regular semester(s) of an academic year may be published in the Dean's List in each Faculty. In this regard Dean will give a certificate to the student confirming his name in the Dean's List. The student will be honoured Tk.2000 for his name in the Dean's List by the approval of academic council. Students who have earned 'F' grade in any course during any semesters will not be considered for Dean's List in that year.

19.3 University Gold Medal

University Gold Medal for outstanding graduates will be awarded to the students who secure the 1st position with cumulative GPA not below 3.75 in each Department. The student must have completed his/her undergraduate course work within four consecutive academic years for B. Sc. in Engineering and five consecutive academic years for B. Arch. Students who have earned

‘F’ grade in any course during any semesters will not be considered for University Gold Medal

20. Student Classification

For a number of reasons, it is necessary to have a definite system by which students can be classified as First, Second, Third, Fourth and Fifth Year. The students are classified according to the number of credit hours earned towards a degree. The following classification applies to the students.

<u>Year</u>	<u>Earned Credits</u>
First Year	From 0 to $< (T_1 - 8)$
Second Year	From $(T_1 - 8)$ to $< (T_2 - 12)$
Third Year	From $(T_2 - 12)$ to $< (T_3 - 16)$
Fourth Year	From $(T_3 - 16)$ to $< (T_4 - 20)$
Fifth Year	$\geq (T_4 - 20)$

Where,

T_1 = total credits prescribed in the 1st Year 2nd Semester

T_2 = total credits prescribed up to 2nd Year 2nd Semester

T_3 = total credits prescribed up to 3rd Year 2nd Semester

T_4 = total credits prescribed up to 4th Year 2nd Semester.

21. Probation and Suspension

Students who regularly maintain semester GPA of 2.20 or above satisfying the minimum credit requirements are making good progress toward their degrees and are in good standing with the University. Students who fail to maintain this minimum rate of progress may be placed on academic probation.

The status of academic probation is a reminder/warning to the student that satisfactory progress towards graduation is not being made. A student may be placed on academic probation when either of the following conditions exist:

- (i) The semester GPA falls below 2.20, or
- (ii) The cumulative GPA falls below 2.20
- (iii) Earned Credits fall below 15 times the number of Semester attended/studied.

Students on probation are subject to such restrictions with respect to courses and extracurricular activities as may be imposed by the respective Head of the Department. The minimum period of probation is one semester, but the usual period is for one academic year. This allows the academically weak student an

opportunity to improve the GPA through the completing 'F' graded course(s) and repeating 'D' graded course(s) during the period. The probation may be extended for additional semesters until the student achieves an overall GPA of 2.20 or above. Once that condition is improved, the student is considered to be returned to good standing.

Academic probation is not to be taken lightly rather to be considered very seriously. A student on academic probation who fails to maintain a GPA of at least 2.20 during two consecutive academic years may be suspended from the University. A student who has been suspended may apply for consideration to the Dean of the faculty, but this application will not be considered until the student remains suspended at least for one full semester.

Petitions for reinstatement must set forth clearly the reasons for the previous unsatisfactory academic record and it must delineate the new conditions that have been created to prevent the recurrence of such work. Each such petition is to be considered individually on its own merits.

After consideration of the petition in consultation with the student, adviser and the respective Head of the Department, Dean in some cases, may reinstate the student if this is the first suspension. However, a second suspension will be regarded as final and absolute.

22. Minimum Earned Credits and GPA Requirements for Obtaining Degree

Minimum credit requirements for the award of bachelor of Science in Engineering/ bachelor of Architecture degree will be proposed by the Academic Committee for Undergraduate Studies (ACUG) on the recommendation of the respective faculty and approved by Academic Council. The minimum cumulative GPA requirements for obtaining a bachelor of Engineering/ Architecture degree is 2.20.

A student may take additional courses with the consent of his/her adviser in order to raise cumulative GPA, but he/she may take a maximum of 15 such additional credits beyond respective credit requirements for B. Sc. Engineering/ B. Arch degree during his/her entire period of study.

23. Time Limits for Completion of B. Sc. Engineering/ B. Arch Degree

A student must complete his/her studies within a maximum period of seven academic years for engineering degree and eight academic years for B. Arch

degree. On valid medical ground, the period may be extended by the approval of Academic Council.

24. Industrial/Professional Training Requirements

Depending on each Department's own requirements a student may have to complete a prescribed number of days for industrial/professional training in addition to minimum credit and other requirements, to the satisfaction of the concerned Department.

25. Application for Graduation and Award of Degree

A student who has fulfilled all the academic requirements for Bachelor's degree will have to apply to the Controller of examination through his/her Adviser by the approval of Head of the Department for graduation. Provisional degree will be awarded on completion of Credit and GPA requirements. Such Provisional degrees will be confirmed by the Academic Council.

26. Absence during Semester

A student should not be absent from lab/sessional, assessment, jury, quizzes, class tests, class participation, attendance, etc. during the semester. Such absence will naturally lead to reduction in grade points/marks, which count towards the final grade. Absence in semester final examination will result in 'F' grade.

27. Review Courses

- i. Students obtained 'F' Grade in theory course having registered previously will get opportunity for registration of one course in each semester as review. One will be allowed to sit for the review course examination without making any change of previously obtained class test and class performance and attendance marks.
- ii. Review course examination will be conducted separately at the mid/end of the regular semester.
- ii. Any student who has failed in any sessional course(s) he may be allowed to complete the course(s) by attending the sessional classes with the students of next regular semester(s).

28. Special Examination

A special examination on 'F' graded course(s) may be conducted for the outgoing students who have a maximum of 3 (three) 'F'

graded theory courses for completion of degree may be allowed to register for the special examination. The special examination will be arranged at a convenient time by the Controller of Examination within 8 weeks after the publication of results of the 4th year 2nd semester for B. Sc in engineering and 5th year 2nd semester for B. Arch regular examination. If a student repeats 'F' graded theory course(s) in special examination he/she will not be eligible to get a grade higher than B in such course(s). A student who has failed in the special examination may register the course(s) in the regular semester.

ORDINANCE RELATING TO DISCIPLINE

(Approved by the Syndicate on the recommendation of the Academic Council)

General Discipline

1. There shall be a Board of Discipline (শৃঙ্খলা কমিটি) to supervise and control the discipline of the students of the University.
2. The Board shall consist of the following members:
 - i. Vice-Chancellor Chairman
 - ii. Pro-Vice-Chancellor Member
 - iii. Respective Dean/Deans (As per accused student/students) Member
 - iv. Respective Head/Heads (As per accused student/students) Member
 - v. Respective Provost/Provosts of Halls of Residence Member
(As per accused student/students)
 - vi. Director (Students' Welfare) Member Secretary
3. At least 50% of the total members of the board shall form a quorum. The term of office of the nominated member shall be two years.
4. All incidents which appear to be acts of indiscipline and misconduct committed by any student, including immediate action taken, if any, shall be reported to the Vice-Chancellor by the respective Provost in respect of indiscipline and misconduct in the Halls of Residence and their premises, and by the Head of Department in respect of indiscipline and misconduct in the class rooms, laboratories, work-shops, all parts of the academic premises and any other place in the campus, and by the invigilator through the chief invigilator in respect of indiscipline and misconduct in the examination Halls, and by the person concerned (through respective Head/Section Chief) from among the students and employees of the University in respect of misconduct committed outside the University campus.
5. A student, who neglects his studies, disobeys and/or denounces orders, rules and regulations, ordinances, statutes of the University, shows misbehaviour towards the employees of the University or commits any other offence which will be deemed by the Vice-Chancellor or Director of Students Welfare or teachers of the University as misconduct and breach of discipline, will be liable to disciplinary action which may range

from warning, imposition of fines, suspension to expulsion for good from the University depending on the magnitude of the offence as will be deemed fit by the authorities competent to take disciplinary action as defined in Section 6.

6. Authorities to take disciplinary action with their respective powers to the extent to which they can impose punishment on any student or group of students are:

Authorities for taking disciplinary action	*Power	Appellate Authority
(1)	(2)	(3)
Board of Discipline	i) Warning ii) Imposing fine, iii) Suspension from Halls/University for any length of time and iv) Expulsion from Halls/University for good.	Academic Council
Vice-Chancellor	i) Warning ii) Imposing fine and iii) Suspension up to 2 (two) years from Halls/University iv) Expulsion from the Hall for good.	Board of Discipline
Head of Department (On students of his Department)	i) Warning and ii) Imposing fine up to Tk. 1000/-	Director
Director of Students' Welfare	i) Warning ii) Imposing fine up to Tk. 1000/- iii) Suspension from the Halls up to 2 (two) years and iv) Expulsion from the Hall for good.	Vice-Chancellor
Provosts (on resident or attached students of his Hall of residence)	i) Warning ii) Imposing fine up to Tk. 500/- and iii) Suspension from the Hall for a period of up to 2 (two) years	Director of Students' Welfare

*Respective authority may impose one or more punishment(s) at a time. Any of the above authority will inform the Director of Students' Welfare for any type of punishment imposed on any student for record.

7. If the Vice-Chancellor feels that the action taken against a student or a group of students (by any of the above authorities other than Board of Discipline) on an offence brought to him is not appropriate or that no action has been taken on any offence observed by him, he will take appropriate disciplinary action against a student or a group of students. If however, in any case of breach of discipline the Vice-Chancellor is of the opinion that a punishment more than a suspension of two years is required he shall refer the matter to the Board of Discipline for a decision.
8. A student or a group of students against whom an action has been taken by appropriate authority mentioned in column (1) of Section 6 may prefer an appeal to the appropriate appellate authority mentioned in column (3) of Section 6.
9. The Adviser of Students' Welfare will be responsible for enforcement of the disciplinary action taken against a student or a group of students. He shall maintain a register and shall record therein all actions taken against a student for indiscipline and misconduct and also shall record in all character certificates/Testimonials issued by the Director of Students' Welfare to offenders, those actions taken against them if so indicated by the Vice-Chancellor and the Board of Discipline, unless allowed to be expunged/condoned by the Vice-Chancellor on written prayer from the offenders.
10. Character certificates/Testimonials issued by the Director of Students' Welfare shall be produced by the students when the requested for that certificate.

Discipline of Examinations

11. The Chief invigilator shall be responsible for maintenance of discipline in the examination Halls.
12. An Invigilator on duty in Examination Hall shall report to the Chief Invigilator in case of breach of discipline in the examination hall. The Chief invigilator may expel the examinee concerned from the hall debarring him from appearing in that particular examination.
13. Breach of discipline in the examination halls shall be reported by the invigilator through the Chief Invigilator to the Vice-Chancellor.
14. The candidates shall strictly follow the following instructions.

- i) Candidates are forbidden to write their names on the cover or any part of the answer script. If any candidate does so, his answer script will not be assessed.
- ii) Each candidate must write legibly his Examination Roll Number on the cover of scripts. If any candidate omits to write his Examination Student Number and Registration Number on the cover of his answer script, the paper may not be assessed.
- iii) When more than one answer script is used, each additional script should be stitched to the first script immediately after it is supplied, and the Examination Student Number and Registration Number should also be written by the candidate on the cover of the additional script or scripts immediately.
- iv) No loose paper will be provided for scribbling, and no paper is to be brought in for this purpose. Any candidate found with loose paper in his possession will be expelled from the examination hall. All works must be done in the scripts provided and pages must not be torn out. The scripts provided must be submitted; it cannot be replaced by another, but, if necessary, additional scripts will be given.

All works intended for assessment by the examiner should be written on both sides of the paper.

- v) Candidates are forbidden to write anything whatsoever on the question paper.
 - vi) In any matter not specifically mentioned in these rules, candidates are required to abide by the decision of the invigilator in the examination room.
 - vii) No candidate will be allowed to leave the examination room until one hour has elapsed from the time when the question papers are given out.
 - viii) Candidates are forbidden to carry Mobile Phone with them in the examination room.
15. Disciplinary action will be taken against candidates reported to have violated the instructions under Section 14 or resorted to unfair means and/or acts of indiscipline at the different examinations as follows:

- i. Attempts to communicate with other examinee or examinees in the examination hall: first time - warning which may be accompanied by a change of seats; second time - deduction of 5% of the total marks of paper; third time - expulsion from the examination hall for that paper.
- ii. Possession of related to the particular subject of examination or copying from any other source: expulsion from examination hall and cancellation of the examination and expulsion from the university for one to two years. Writings in the person of the examinee or in his apparels, in papers, drawing instruments and scales etc. found with him or off or near the desk, bench or chair will be considered as writings in possession of the examinee.
- iii. Possession of mobile phones, media players etc. Deduction of 5% of the total marks of the paper.
- iv. Use of violent language and holding out threats to examiners and invigilators: expulsion from the whole examination and/or expulsion from the University for good.
- v. Attempts to get possession of the question paper or examination scripts before the examination: expulsion from the whole examination and expulsion from the University for one to two years.
- vi. Writings on loose papers not related to the examination (viz. blotting paper, question paper etc.); seizure of the writings and cancellation of the answer script and expulsion from the examination hall.
- vii. Attempts to influence the examiner: cancellation of the paper.
- viii. Impersonating or causing to impersonate in the examination hall: cancellation of the whole examination and expulsion from the University for good.
- ix. Insertion in the examination script, answer to any question or questions written outside the examination hall: cancellation of the whole examination and expulsion for one to two years.
- x. Having a question answered by someone else: cancellation of the whole examination and expulsion for two years.

- xi. If a student or outsider appears at the examination for any student: cancellation of the whole examination for both students, expulsion for two years for the student who appears at the examination for any student and one year for other student.
- 16. The invigilator is empowered to warn a student and deduct his mark up to 5% as mentioned in section 15 (i) above. The Chief Invigilator is empowered to expel students from the examination room/hall if he is satisfied after an on the spot enquiry that the student is guilty of misconduct mentioned in section 15, above. In all such cases the matter has to be reported to the Vice-Chancellor with incriminating documents, if any. Decisions for cancellation of the examination and expulsion from the University for a period of not exceeding 2 (two) years will be taken by the Vice-Chancellor. For expulsion for a period more than 2 (Two) years, the Vice-Chancellor shall refer the matter to the Board of Discipline provided in Section 6.
- 17. As the Class Test/Quiz Test is the part of whole examination, therefore, disciplinary action for any misconduct in this examination will also be applicable as mentioned in section 11 through 16.



Department of
ARCHITECTURE

DHAKA UNIVERSITY OF
ENGINEERING &
TECHNOLOGY, GAZIPUR.
GAZIPUR- 1707.

| **SYLLABUS** |

SUMMARY OF COURSE PLAN

Sl. no	Year/ Semester	Theory		Sessional		Total Credit
		No. of course	Credits	No. of course	Credits	
1.	1 st year 1 st semester*	4	13	4	7.5	20.5
2.	1 st year 2 nd semester	5	12	2	9.0	21.0
3.	2 nd year 1 st semester	5	10	4	10.5	20.5
4.	2 nd year 2 nd semester	5	10	2	9.0	19.0
5.	3 rd year 1 st semester	4	8	2	11.5	19.5
6.	3 rd year 2 nd semester	5	10	2	11.5	21.5
7.	4 th year 1 st semester	4	8	2	11.5	19.5
8.	4 th year 2 nd semester	4	8	1	10.0	18.0
9.	5 th year 1 st semester	2	4	2	13.5	17.5
10.	5 th year 2 nd semester	1	2	2	15.0	17.0
Total		39	85	23	109	194

* 1st year 1st semester courses are exempted because of 4 years Diploma in Architecture after 10 years of schooling.

Credit requirement for Bachelor of Architecture (B. Arch) degree at DUET is 194

A student must take all Core Courses (181 credits) and minimum **13** credits from optional courses.

Notes on course number allocation

1st digit for Year

2nd digit for Major areas of Architecture courses:

1 : Design Studio

2 : Visual Communication

3 : Design Support Studio

4 : Environment and Design

5 : Art and Architecture

6 : Theory of Design and Planning

7 : Building Science

8 : Social Science

For Basic Science and Humanities courses 6 represent Department of Architecture

3rd and 4th digits for course serial number in a year

DHAKA UNIVERSITY OF ENGINEERING & TECHNOLOGY, GAZIPUR

DEPARTMENT OF ARCHITECTURE
Summary of Courses for **Bachelor of Architecture (B. Arch)**

SYLLABUS

1st Year 1st Semester (Exempted)						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-1212	Architectural Graphics-I		6	3
2		ARCH-1312	Computer Applications - I		3	1.5
3		ARCH-1314	Working Drawing-I		3	1.5
4		ARCH-1511	Introduction to World Civilization	3		3
5		CE-1011	Building Specifications	3		3
6		CE-1012	Cost Estimation		3	1.5
7		CE-1013	Surveying & Construction Method	4		4
8		Hum-1611	Economics & Sociology	3		3
Semester Total				13	15	20.5

Contact hours: 13 (Theory)+ 15 (Sessional)= 28

Total Credits: 20.5

No. of Theory Courses: 4

No. of Sessional Courses: 4

1st Year 2nd Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-1122	Design- I		12	6
2		ARCH-1222	Architectural Graphics-II		6	3
3		ARCH-1521	History of Architecture- I	2		2
4		ARCH-1621	Aesthetics and Design	2		2
5		ARCH-1721	Building and Finish Materials	2		2
6		Math-1621	Mathematics	3		3
7		Ph-1621	Physics	3		3
Semester Total				12	18	21

Contact hours: 12 (Theory)+ 18 (Sessional)= 30

Total Credits: 21

No. of Theory Courses: 5

No. of Sessional Courses: 2

2nd Year 1st Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-2112	Design- II		12	6
2		ARCH-2312	Computer Applications - II		3	1.5
3		ARCH-2314	Photography & Graphic Reproduction		3	1.5
4		ARCH-2411	Climate and Design	2		2
5		ARCH-2511	History of Architecture- II	2		2
6		CE-2111	Structure -I	2		2
7		Hum-2611	English Language	2		2
8		Hum-2612	English Language Lab		3	1.5
Core Total				8	21	18.5
9	Optional	ARCH-2611	Art Appreciation			
10		ARCH-2811	Ecology	2		2
Semester Total				10	21	20.5

Contact hours: 10 (Theory)+ 21 (Sessional)= 31

Total Credits: 20.5

No. of Theory Courses: 5

No. of Sessional Courses: 4

2nd Year 2nd Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-2122	Design- III		12	6
2		ARCH-2421	Architectural Acoustics & Lighting	2		2
3		ARCH-2521	History of Architecture- III	2		2
4		ARCH-2621	Basic Physical Planning	2		2
5		CE-2021	Plumbing	2		2
6		CE-2121	Structure -II	2		2
Core Total				10	12	16
7	Optional	ARCH-2222	Sculpture and Graphic Art			
8		CE-2022	Building Materials & Construction Workshop		6	3
Semester Total				10	18	19

Contact hours: 10 (Theory)+ 18 (Sessional)= 28

Total Credits: 19

No. of Theory Courses: 5

No. of Sessional Courses: 2

3rd Year 1st Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-3112	Design- IV		15	10
2		ARCH-3312	Working Drawing II		3	1.5
3		ARCH-3511	Modern Architecture	2		2
4		CE-3111	Structure -III	2		2
5		EEE-3111	Electrical Equipment	2		2
Core Total				6	18	17.5
6	Optional	Hum-3611	Logic and Philosophy	2		2
7		Hum-3613	Psychology			
Semester Total				8	18	19.5

Contact hours: 8 (Theory)+ 18 (Sessional)= 26

Total Credits: 19.5

No. of Theory Courses: 4

No. of Sessional Courses: 2

3rd Year 2nd Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-3122	Design- V		15	10
2		ARCH-3322	Interior Design Studio		3	1.5
3		ARCH-3521	Contemporary Architecture	2		2
4		ARCH-3621	Urban Design- I	2		2
5		CE-3121	Structure -IV	2		2
6		ME- 3521	Mechanical Equipment	2		2
Core Total				8	18	17.5
7	Optional	ARCH-3623	Interior Design	2		2
8		Hum-3621	Urban Economics & Urban Sociology			
Semester Total				10	18	21.5

Contact hours: 10 (Theory)+ 18 (Sessional)= 28

Total Credits: 19.5

No. of Theory Courses: 5

No. of Sessional Courses: 2

4th Year 1st Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-4112	Design- VI		15	10
2		ARCH-4312	Landscape Design Studio		3	1.5
3		ARCH-4511	Architecture of Bengal- I	2		2
4		ARCH-4811	Housing	2		2
5		CE-4111	Structure -V	2		2
Core Total				6	15	17.5
6	Optional	ARCH-4411	Landscape Design	2		2
7		ARCH-4611	Urban Design- II			
Semester Total				8	18	19.5

Contact hours: 8 (Theory)+ 18 (Sessional)= 26

No. of Theory Courses: 5

Total Credits: 19.5

No. of Sessional Courses: 2

4th Year 2nd Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-4122	Design- VII		15	10
2		ARCH-4521	Architecture of Bengal-II	2		2
3		ARCH-4523	Architectural Conservation	2		2
4		CE-4121	Structure -VI	2		2
Core Total				6	15	16
5	Optional	ARCH-4421	Sustainable Design	2		2
6		ARCH-4423	Vernacular Architecture & Settlements			
Semester Total				8	15	18

Contact hours: 8 (Theory)+ 15 (Sessional)= 23

No. of Theory Courses: 4

Total Credits: 18

No. of Sessional Courses: 1

5th Year 1st Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-5112	Design- VIII		15	12
2		ARCH-5312	Seminar		3	1.5
3		ARCH-5813	Research Methodology	2		2
4		Hum-5611	Project Management & Accounting	2		2
Semester Total				4	18	17.5

Contact hours: 4 (Theory)+ 18 (Sessional)= 22

No. of Theory Courses: 2

Total Credits: 17.5

No. of Sessional Courses: 8

5th Year 2nd Semester						
sl no.	Nature	Course Code	Course Title	Contact Hrs/week		Credit
				Theory	Sessional	
1	Core	ARCH-5122	Design- IX Thesis		15	12
2		ARCH-5322	Dissertation		6	3
3		ARCH-5821	Professional Practice	2		2
Semester Total				2	21	17

Contact hours: 2 (Theory)+ 21 (Sessional)= 23

Total Credits: 17

No. of Theory Courses: 1
No. of Sessional Courses: 2

MAJOR AREA WISE DISTRIBUTION OF COURSES					
Major Areas	Course code	Course Title	Contact Hr/wk	Credits	Percent Credit
Design Studio	ARCH-1122	Design- I	12	6	39.3 3
	ARCH-2112	Design- II	12	6	
	ARCH -2122	Design- III	12	6	
	ARCH -3112	Design- IV	12	10	
	ARCH -3122	Design- V	12	10	
	ARCH -4112	Design- VI	15	10	
	ARCH -4122	Design- VII	15	10	
	ARCH -5112	Design- VIII	15	12	
				82	
Visual Communication	ARCH -1212	Architectural Graphics-I	6	3	5.04
	CE-1012	Cost Estimation	3	1.5	
	ARCH -1222	Architectural Graphics-II	6	3	
	ARCH -2222	Sculpture and Graphic Art	6	3	
	ARCH -4222	Professional Training	6weeks	S/US	
				10.5	
Design Support Studio	ARCH -1312	Computer Applications - I	3	1.5	9.35
	ARCH -1314	Working Drawing-I	3	1.5	
	ARCH -2312	Computer Applications - II	6	3	
	ARCH -2314	Photography & Graphic Reproduction	3	1.5	
	CE-2022	Building Materials & Construction Workshop	6	3	
	ARCH -3312	Working Drawing- II	3	1.5	
	ARCH -3322	Interior Design Studio	3	1.5	
	ARCH -4312	Landscape Design Studio	3	1.5	
	ARCH -5312	Seminar	3	1.5	
ARCH -5322	Dissertation	6	3		
				19.5	
Environment and Design	Ph-1621	Physics	3	3	6.24
	ARCH -2411	Climate and Design	2	2	
	ARCH -2421	Architectural Acoustics & Lighting	2	2	
	ARCH -4423	Vernacular Architecture & Settlements	2	2	
	ARCH -4411	Landscape Design	2	2	
	ARCH -4421	Sustainable Design	2	2	
				13	

Art and Architecture	ARCH -1511	Introduction to World Civilization	3	3	9.11
	ARCH -1521	History of Architecture- I	2	2	
	ARCH -2511	History of Architecture- II	2	2	
	ARCH -2521	History of Architecture- III	2	2	
	ARCH -3511	Modern Architecture	2	2	
	ARCH -3521	Contemporary Architecture	2	2	
	ARCH -4511	Architecture of Bengal- I	2	2	
	ARCH -4521	Architecture of Bengal- II	2	2	
				19	
Theory of Design and Planning	ARCH -1621	Aesthetics and Design	2	2	5.76
	ARCH -2611	Art Appreciation	2	2	
	ARCH -2621	Basic Physical Planning	2	2	
	ARCH -3621	Urban Design- I	2	2	
	ARCH -4611	Urban Design- II	2	2	
				12	
Building Science	CE- 1011	Building Specifications	3	3	7.19
		Surveying & Construction Method	4	4	
	CE- 2021	Plumbing	2	2	
	ARCH - 1721	Building and Finish Materials	2	2	
	EEE- 3111	Electrical Equipment	2	2	
				15	
Social Science	Hum- 1611	Economics & Sociology	3	3	10.79
	Hum-2611	English Language	2	2	
	Hum-2612	English Language Lab	3	1.5	
	Hum- 3611	Logic and Philosophy	2	2	
	Arch- 2811	Ecology	2	2	
	Hum- 3613	Psychology	2	2	
	Hum- 3621	Urban Economics & Urban Sociology	2	2	
	ARCH - 4811	Housing	2	2	
	Hum- 5611	Project Management & Accounting	2	2	
ARCH- 5813	Research Methodology	2	2		
ARCH- 5821	Professional Practice	2	2		
				22.5	
Structure	Math-1621	Mathematics	3	3	7.19
	CE-2111	Structure -I	2	2	
	CE-2121	Structure -II	2	2	
	CE-3111	Structure -III	2	2	
	CE-3121	Structure -IV	2	2	
	CE-4111	Structure -V	2	2	
				15	
Total=				208.5	100

DETAILED SYLLABUS

1st Year 1st Semester Courses

ARCH-1511: Introduction to World Civilizations 3 Credits, 3 Hours/week

An overview on ancient civilizations: Chinese, Indus Valley civilization, Civilization of Tigris and Euphrates zone, Assyrian civilization, Inka and Aztec civilization etc.

Introduction to Architecture in the pre-historic ages; Egyptian Architecture; West Asiatic Architecture; Greek Architecture, Roman Architecture; Architecture of Northern-Indian Hindu style; Christian Architecture; Byzantine Architecture; Romanesque Architecture.

Hum-1011: Economics & Sociology 3 Credits, 3 Hours/week

Definition of economics. Economics and engineering. Principles of Economics: Micro economics: The theory of demand and supply and their elasticity. Price determination. Nature of an economic theory, applicability of economic theories to the problems of developing countries. Indifference curve technique, Marginal analysis. Optimization. Market, production, production function, types of productivity, Rational region of production of an engineering firm. The short run and the long run. Fixed cost and variable cost. Internal and external economics and diseconomies. Macro economics: Savings, investment. National income analysis. Inflation. Monetary policy, fiscal policy and trade policy with reference to Bangladesh. Planning in Bangladesh.

Scope, Some Basic Concepts, Social evolution and techniques of production, culture and civilization. Social structure of Bangladesh, Population and world resources. Oriental and occidental societies. Industrial revolution, Family, Urbanization and Industrialization. Cooperative and Socialist movements. Socio cultural basis of formation of Settlements. Spatial manifestations of societal norms.

CE-1011: Building Specification

3 Credits, 3 Hours/Week

Written details answering what, where, when, how in relation to drawn details for building construction. Specifying materials and methods of installation and precautions.

CE- 1013: Surveying & Construction Method

4 Credits, 4 Hours/week

Engineering Survey and or Physical Survey; Introduction to surveying-principles and techniques of physical surveys. Chain survey, traverse survey, plane table survey, levels and levelling, contours and layout surveys. Plan and Interpretations.

Types of structures and their methods and techniques of construction. Foundation, floor, wall and roof systems. Use of different types of modules. Moisture and thermal protection of floor, wall and roof. Doors and windows. Details of kitchen, bathroom and stair. Elevators and escalators.

ARCH-1212: Architectural Graphics-I

3 Credits, 6 Hours/week

Lettering and graphic presentation symbols. Introduction to measuring system. Mechanical and freehand Architectural presentation drawings. Multi-view drawings such as plan, section and elevation. Single-view drawings such as axonometric view.

ARCH-1312: Computer Applications – I

1.5 Credits, 3 Hours/week

Introduction to computers; Introduction to popular packages; Application of computers in Architectural drafting.

ARCH-1314: Working Drawing-I

1.5 Credits, 3 Hours/week

Working drawing of plan, elevation, section of a residential building. Working drawing of wooden & Aluminum doors; Windows; Roof covering; Parapet; Sunshade; Surface drain; Gate house; Wooden truss; Steel truss Expansion joint.

CE-1012: Cost Estimation

1.5 Credits, 3 Hours/week

Preparation of tender documents, rules, regulations and obligations. Determination of cost of construction. Cost analysis of the various items of construction. Preparation of schedules. Control of cost. Case studies.

1st Year 2nd Semester Courses

ARCH-1521: History of Architecture-I (Ancient Civilizations) **2 Credits, 2 Hours/week**

Overview of the perceptual process of evolution in Architecture of ancient civilizations. Critical evaluation of ancient Architecture and settlement design of Egyptian, Mesopotamian (Sumerian and Assyrian), Persian, Meso-American, Aegean, Etruscan, Chinese, Japanese and Indus Valley Civilizations.

Introduction to classical Architecture of Greece and Rome; Critical evaluation of the classical Architecture of Greece and Rome from political, social and philosophical point of view. Study of the potentiality of classical Architecture in formation of the ordering principles. Critical evaluation of Architecture of Indian civilizations political, social and philosophical point of view.

ARCH- 1621: Aesthetics and Design **2 Credits, 2 Hours/Week**

Introduction to the subject matter and purpose of aesthetics; Aesthetics in the realm of art and design, its relation to the common people. Aesthetics and the act of creation, Aesthetic knowledge as a system; Methods of aesthetics; Aesthetic activity, Essence and principal forms of aesthetics, Theoretical models of Aesthetics; Aesthetics as meta category - the Mood, Rasa and the Style; Psychology of perception and creation; Developments of ideas and their trends in the field of aesthetic activity, the concept and the Architectural concept, theory of criticism.

Introduction; Definition of design; Basic theories of design related to use of point, line, plane, form, volume and space. Overview of theories and application of design proportion, scale and composition. Principles of spatial and formal organization. The source, generation and transformation of design elements, forms and spaces. Architectural design; Design methods; Design in nature; Man and design; Principles of Design; Elements of design, Architectural form, space, scale and proportioning system in relation to human perception and experiences.

ARCH-1721: Building and Finish Materials 2 Credits, 2 Hours/Week

Building materials; Cement, Sand, Concrete, Stone, Brick, Timber, Steel etc., Their nature and use.

Finish materials: Glass, Plastic, Terrazzo, Plaster, Roofing, Paint, Insulation etc., their nature and use; Detail sketches.

Ph- 1621: Physics 3 Credits, 3 Hours/Week

Thermal Physics: *Kinetic theory of gases:* Kinetic calculation of pressure, Temperature and energy, Ratio of specific heats, Atomicity of gas molecules, Mean free path; *Equation of state:* Van der Waal's equation of state, Critical constants, Van der Waals constant; *Thermal conductivity:* Rectilinear, cylindrical and spherical flow of heat, Heat flow through compound walls. Accretion of ice on ponds; *Thermodynamics:* Zeroth law and first law of thermodynamics and their applications, Thermodynamic processes, Isothermal and adiabatic gas equation and work done, Reversible and irreversible processes; Second law of thermodynamics: The Carnot cycle; Entropy of a perfect gas. **Waves & Acoustics:** *Wave motion:* Types of wave motion, Expression for plane progressive wave, Energy calculation of stationary and progressive wave, Interference of sound wave, Beats, Doppler effect;. *Oscillation:* The simple harmonic wave equation and its solution, Composition of simple harmonic motion- Lissajou's figures, Damped harmonic motion and its solution, Forced oscillation and resonance; *Acoustics:* Definition, Reverberation, Sabine's reverberation formula and problem involving building acoustics.

Optics: *Interference:* Huygen's principle, Young's experiment, Coherent sources and its production methods, Analytical treatment of Interference, Interference due to thin films, Newton's rings; *Diffraction:* Fresnel and Fraunhofer diffraction, Fraunhofer diffraction by single and double slit, Plane diffraction grating, Resolving and dispersive power of a grating; *Polarization:* Polarization by reflection, refraction and double refraction, Brewster's law and Malus law, Elliptical and circular polarization of light.

Math-1621: Mathematics

3 Credits, 3 Hours/Week

Differential Calculus - Function, limit, continuity, differentiation, successive and partial differentiation; Rolle's theorem; Mean value theorem; Expansion of functions; Tangent and normal; Maxima and minima. Integral Calculus - Integration by various methods; Definite Integrals; Length of curves; Area bounded by plane curves; Volumes and surface areas of solids of revolution.

Co-ordinate geometry of two dimensions; Transformations of co-ordinates; Pair of straight lines; Circle; Co-axial circle; Tangent & normal at a point on a circle; General equation of second degree. Co-ordinate geometry of three dimensions; Distance between points; Angle between two straight lines; Plane through three points; Angle between two planes; Straight line through two points.

ARCH-1122: Design-I

6 Credits, 12 Hours/Week

Study of human senses and their relationship to design. Exercises in two-dimensional basic composition with points, straight and curved lines and pure geometric shapes. Study of scale, order, balance, proportion, Rhythm, axis, solid-void relationship, symmetry, movement, flexibility, harmony, hierarchy, datum etc. in various media. Introduction of colour schemes.

Understanding of forms in nature; Study of nature to understand the basic principles of design. Relationship of Form and Space in three dimensions. Basic composition with colour schemes; Lines, planes, primary forms and other geometric forms.

ARCH-1222: Architectural Graphics-II

3 Credits, 6 Hours/Week

Execution of mechanical perspective; Introduction to shades, shadows and reflections; Presentation & rendering. Execution of single view drawings such as Axonometric drawings, mechanical perspectives; Introduction to shades, shadows and reflections; Presentation & rendering. Presentation techniques in various media.

2nd Year 1st Semester Courses

ARCH-2511: History of Architecture-II (Medieval)

2 Credits, 2 Hours/week

A critical evaluation of the Architecture of Western civilization. Its roots in Etruscan and Roman Architecture which developed through the ages of Early Christian, Byzantine and Romanesque periods, resulting in the Gothic style. Revival of classical thoughts in the Renaissance period.

Climatic, geographical, religious and social influences on the Architecture of the various regions of Europe in Medieval period. Gothic & Renaissance architecture; Development in the definition of form & space in the medieval era.

ARCH-2411: Climate and Design

2 credits, 2 Hours/Week

Solar Geometry; Introduction to Design with Climate; Man, and his response to climate; Elements of climate and their influence on the built form; Built-environment design in various climatic zones; Tropical climate; Site climate. Principles of thermal design and means of thermal control; Relationships between built form and sun, wind, precipitation etc.; Design methods and procedures of passive climatic control.

Relationship to the environment and response to climate. Geo-physical forces and built form; Passive means of controlled environment; Solar land planning and development; Use of building materials, utilization of natural and other resources and local construction skills. Communication and transmission of knowledge of indigenous building systems and techniques. Innovative use of indigenous technologies in the built environment design. Passive means of climatic control in the built-environment. Design response in specific climatic regions.

CE-2111: Structure –I (Mechanics)

2 credits, 2 Hours/Week

Force; equilibrium, free body diagrams; resultants and Components; coplanar Concurrent forces; moments and parallel coplanar forces; centroid; moment of Inertia of areas; Maximum and minimum forces; friction; flexible chord; calculation of bar forces for simple trusses.

ARCH-2112: Design- II (pre-requisite ARCH- 1122) 6 Credits, 12 Hours/week

Introduction to the process of form making. Interaction of Form and Space. Exposure to the domain of Architecture with simple functions. Study of a simple Architectural space. Consideration of human being as the basis of Architectural design; Study of anthropometry and ergonomics; Study of relationship between man – space – form – function. Introduction to scale and proportion in Architecture; Understanding of environmental features interacting in shaping the Architecture.

ARCH-2312: Computer Applications - II 3 Credits, 6 Hours/week

Computer graphics and its basics. 2-D and 3-D graphics with the help of computer software (like Auto-Cad, 3D studio Max, Sketch-up). To understand and to use graphic software in Architectural presentation and design.

**ARCH-2314: Photography & Graphic Reproduction
1.5 Credits, 3 Hours/Week**

Introduction to photography- photography as a representation art and as an independent art media, basic conception of image, Importance of photography in Architectural study and documentation. Operations of camera, types of cameras, lenses, films, pixel. Understanding exposure, depth of field. Photography projects: typical exercises starting with under-over-optimum exposure, depth of field, etc. and continuing with landscape- panorama, micro, night-time, profile-portrayal, modeling, theme photography; photography of Architecture (interior-exterior) and its mock-up models. Dark room techniques in black and white, basic instructions about computer manipulated photo prints.

Hum-2611: English Language 2 Credits, 2 Hours/Week

1. Review of English grammar: a) main verbs; b) Infinitives; c) Gerunds; d) Have+ participle e) Tense f) Auxiliary verbs, g) Articles h) prepositions I) Wh. questions j) Adjectives and Adverbs, k) Conditionals l) Vocabulary- Antonym, Synonym, and Homophone, M) Affixation N) Sub-verb + Noun-pronoun Agreement. 2. a) Basic Sentence Pattern, b) Correction of errors, c) Idioms and Phrases, d) American and British Vocabulary, Pronunciation, e) Phonetics and Phonology.

a) Writing Compositions: Report writing (technical report, objective report), Essay and paragraph writing, b) Letter writing: business letter, application and cv writing, Memorandum, c) Tender noticed) Dialogue writing e) Precis writing.

Hum-1612: English Language Lab

1.5 credits, 3 Hours/Week

1. Lab sessional to improve reading, writing, Listening and speaking skill of English language.

2. Problems with: a) main verbs; b) Infinitives; c) Gerunds; d) Have+ participle e) Tense f) Auxiliary verbs, g) Articles h) prepositions I) Wh. questions j) Adjectives and Adverbs, k) Conditionals l) Vocabulary- Antonym, Synonym, and Homophone, M) Affixation N) Sub-verb + Noun-pronoun Agreement. (After every discussion there will be a Quiz test)

3. a) proverb, materials for communicative usage), b) Reading Comprehension, c) Conversational practice, d) Creative writing practice, e) syntax, f) clauses, f) Task based and situational translation.

4. a) Elementary Phonetics, b) Vocabulary and its contextual usage, c) Precis writing, d) Short stories by classic writers.

ARCH-2611: Art Appreciation

2 credits, 2 Hours/Week

Criticism and Appreciation. Definition of art; Relationship between art & science; Art as social phenomenon; Function of art; The method of art; Branches of art; Evolution of different art forms; Introduction to concept, perception and development of art in different context.

Understanding of all media of art like music, poetry, theatre, film etc. Characteristics of various forms of art, meaning of art, art as experience and expression, the language of visual art, typology of visual art, analysis of the work of art; theory of criticism. (this is a complementary course to ARCH-1621: Aesthetics and Design).

ARCH-2811: Ecology

2 Credits, 2 Hours/Week

Definition; Habitat, Bio-geographical distribution and abundance; Evolution and adaptation; relationship of eco-systems with built-environment; Inter specific interactions; Tropic levels and energy flow. Bio-diversity, Law of interdependence, Community; Man and his environment; Biological conservation; Environmental pollution, Crisis in the built-environment. Concepts in Eco-design.

2nd Year 2nd Semester Courses

ARCH-2521: History of Architecture- III (South Asian) 2 Credits, 2 Hours/Week

The course will include the basic essence of south Asian Architecture associating chronological development in the early age. Study of art and Architecture in the South Asia with special emphasis on the styles of the Vedic, Buddhist and Hindu periods up to the 17th century.

The emphasis will be laid on the medieval developments in continuation to its earlier roots. Critical evaluation of the art and Architecture under the Muslim rule in South Asia. The course will conclude with Sources of Muslim Architecture in South Asia Region; Imperial style; Sur or Pathan period; Mughal period.

ARCH- 2621: Basic Physical Planning 2 Credits, 2 Hours/Week

Basic planning theories. Theories and principles of resources use and their limitations. History of settlements. Introduction of community, city and regional planning; Physical planning as a space dimension of national economic growth; Problems of planning in Bangladesh.

Origin and evolution of settlements and cities. City planning during ancient, classical medieval, neo-classical and modern periods. Industrial revolution and changes in the character of cities. New thoughts and ideas in planning after the industrial revolution. The spatial structure of cities: concentric zone theory, sector theory, multiple nuclei theory, Christaller theory of size, spacing and distribution of central places. Rank-size rule.

ARCH 2421: Architectural Acoustics and Lighting 2 Credits, 2 Hours/Week

The physiology of sound; Perception, generation and propagation of sound; Behavior of sound in closed spaces; Auditorium acoustics; Noise measurements and control in spaces.

Introduction to Architectural lighting; Effects of luminous environment on human being; Design criteria and designing for natural and artificial lighting.

CE-2121: Structure -II (Basic Mechanics of Solids)

2 Credits, 2 Hours/Week

Fundamental concepts of stress and strain; mechanical properties of materials; stresses and strains in members subjected to tension, compression, shear and temperature changes; Joints- welded and riveted; shear force and bending moment diagrams for statically determinate beams and frames.

CE-2021: Plumbing

2 Credits, 2 Hours/Week

Water supply and sanitation system in buildings; Introduction to water supply systems in high rise buildings.

Drainage and sewage disposal, Introduction to drainage systems in high rise buildings.

ARCH-2122: Design- III (pre-requisite ARCH- 2112)

6 Credits, 12 Hours/Week

Study on built environment, simple building designs with simple functions; layout of different built forms with emphasis on circulation with an attention to the buildings approach, entrance, path-configuration, path- space relationship, from of the circulation. Design of buildings with simple functions.

CE- 2022: Building Materials & Construction Workshop

3 Credits, 6 Hours/Week

Practical recognition of different building materials; simple tests for building materials and ingredients; site visits to acquaint with construction techniques and site supervision. Submission of a model showing details of any structural system using carpentry/ metal works/ R.C.C works / composite works.

ARCH-2222: Sculpture and Graphic Art

3 Credits, 6 Hours/Week

Sculpture

Study and analysis of three- dimensional aspects of different volumetric forms. Exercises based on the use of different types of materials.

Graphic Art

Basic techniques used in graphic design. Selection of drawing instruments, surfaces, typography. Graphic reproduction techniques and the pros and cons

of the different systems to achieve the most effective presentation. Sketching as an essential technique to record design ideas during conceptualization. Graphic design of posters, products, display, portfolio. Introduction to computer generated presentation.

3rd Year 1st Semester Courses

ARCH-3511: Modern Architecture

2 Credits, 2 Hours/Week

Overview of the formative strands of Modern Architecture: Neoclassical Architecture, The Bauhaus. Cubism and the new conception of space. Critical appreciation of different forms of Art and Architecture in the 19th and 20th centuries. 19th Century Realism. Impressionism, Post Impressionism, Fauvism, Expressionism, Cubism, Purism, Orphism, Futurism and Vorticism. The New Collectivity: Art and Architecture in the Soviet Union.

The Ideal Community, Alternatives to the Industrial City. The International Style. monumentality. Modern Architecture in the USA, Europe, Latin America, Australia and Japan. Modernity, Tradition and Identity in the developing World. Pluralism in the 1970's. Modern Architecture and Memory: New perception of the post. The Vicissitude of ideology: CIAM and Team X. International theory and practice since 1962. (Reference be made on the Art & Architecture of SAARC countries)

ARCH-3112: Design- IV (pre-requisite ARCH- 2122)

10 Credits, 15 Hours/Week

The principles and process behind generating Architectural forms. Understanding the relationship of form and space to accentuate experiential qualities in Architecture. Introduction of the basic relationship between structural logic and formal expression. Influence of technology in function, form and space.

EEE-3111: Electrical Equipment

2 Credits, 2 Hours/Week

Electrical units and standards, electrical networks and circuit theorems. Alternating current RLC series and parallel circuits. Introduction to electrical

wiring for residential, commercial and industrial installations and buildings. Illumination and different types of lighting.

CE-3111: Structure -III (Mechanics of Solids) **2 Credits, 2 Hours/Week**

Flexural and shearing stresses in beams; principal stresses; direct integration and Area moment methods for finding slopes and deflections in statically determinate beams. Indeterminate beam analyses; buckling of columns.

ARCH-3312: Working Drawing- II **1.5 Credits, 3 Hours/Week**

Design and drawings specifying materials and instructions for construction. Understanding construction process and techniques. The construction drawing will include preparation of working and detail drawings of all building components. Details of drainage, damp-proofing and insulation. Bathroom and kitchen layouts. Application of building codes and bylaws. Large scale detail Architectural working drawing as construction document; Plan, Section, Elevation, Site plan, Key plan Kitchen, Toilet, Stair, Door, Window, Wall section, Critical roof section, etc.

Hum-3611: Logic and Philosophy **2 Credits, 2 Hours/Week**

Introduction to Deductive Logic: Definition and scope of deductive logic; terms and predicable; proposition and opposition of propositions; inference and syllogism. Introduction to inductive Logic: Definition and scope of inductive logic; nature, characteristics and bases of scientific induction; methods of scientific induction; nature of hypothesis; inference and analogy.

Introduction to Philosophy: Nature and scope of philosophy; relation of philosophy to other sciences, methods of philosophical inquiries, epistemology, metaphysics. Ideas of great philosophers.

Hum-3613: Psychology **2 Credits, 2 Hours/Week**

Introduction to psychology: principles of Human behavior perception & its category, Sensory perception Attention, Form perception. Visual Depth perception. Consistency Movement plasticity, Individual difference, social perception social influence and relationships; Learning, Thinking, Memory.

Motivation; Social & Biological Motivation, Attitudes, Feelings & Emotion, Expression and perception of Emotions; Intelligence, Personality.

3rd Year 2nd Semester Courses

ARCH-3521: Contemporary Architecture **2 Credits, 2 Hours/Week**

Crisis of Modernism in the society and in the field of literature, art and Architecture; High modernism; Postmodernism as a reaction to "Modernism" Modernism. Theories and Manifestos of Architecture, Deconstruction; Architecture and Disjunction, Eco-tech and hi-tech.

Recent developments in the fields of Architecture around the world, with special reference to South Asian region, by the influence of new technology and changes in contemporary social vocabulary. Impact of globalization and open market system in Architecture; Study of Architectural identity and regionalism in Architecture; Contemporary Architecture of Bangladesh.

ARCH-3621: Urban Design- I **2 Credits, 2 Hours/Week**

Definition of urban design, its aims and objective. Global view and Context; Development of urban spaces through history; Modern concepts in urban design; Elements and domains of urban design; Perception and meaning of urban spaces- Scale, form, order and time space relationships.

Urban renewal, redevelopment, conservation etc. and development control. Principles and techniques of urban design, Analysis of physical pattern, Framework for development, Responsive environment – Connectivity, permeability, variety, legibility, appropriateness, richness and personalization. Contemporary concepts, context and trends.

CE-3121: Structure -IV (Steel & Timber Structures) **2 Credits, 2 Hours/Week**

Introduction: allowable stresses; different types of trusses; wind and static load analysis of trusses; design of truss sections; design of steel beams, columns; timber structures.

ARCH-3122: Design- V (pre-requisite ARCH- 3112)
10 Credits, 15 Hours/Week

Comprehensive design exercise to understand the underlying complexity of building forms by exploring the characteristics of materials, structural systems, construction methods, building services and environmental requirements in relation to their creative formal expression. Creative/innovative response to site and surrounding landscape and built-forms

ARCH-3322: Interior Design Studio **1.5 Credits, 3 Hours/Week**

Preparation of interior design drawings for different types of spaces such as office, studio, bank, restaurant, club and shop. Detailed specifications of finish materials for floor, ceiling and wall. Natural and artificial lighting and ventilation. Fixed and movable furniture, decorative element, upholstery, drapery, art work, interior plantation, fountain, automation device.

ME-3521: Mechanical Equipment **2 Credits, 2 Hours/Week**

Review of basic concepts and definitions, Application of air-conditioning. Cooling load calculation, air-conditioning systems, air handling and distribution, design of ducts. Air-conditioning equipment. Fire hazards, firefighting methods. Vertical transportation: types of elevators, determination of size and quantity of elevators. Incoming and outgoing traffic handling. Escalators and moving ramps.

Hum-3621: Urban Economics & Urban Sociology
2 Credits, 2 Hours/Week

Urban Economics

Subject matter of Economics, relevant economic theories to urban economics. Definition of Urban Economics – the reasons for the existence of cities – Factors influencing urbanization – Market Demand and Supply – Choice of Technique in production – Laws of returns governing production. Costs Study – Urbanization and Planning – Urban land values – Land utilization pattern and planning – Housing analysis – Public housing with particular references– Urban problem – Poverty, Migration, Unemployment, Pollution.

Urban Sociology

Definition and theories and their relevance to social set-up- Social structure – Organization – Social Institutions and Social Change. Urban Society – Social and economic problems – Rural society: Social and economic problems. Developmental programmes related to urban and rural society – Impact of programmes on social development.

ARCH-3623: Interior Design

2 Credits, 2 Hours/Week

Definition of Interior Space and Interior Design, relation between interior & exterior of a built form, Principles of interior design, interior design vocabulary, interior building elements – wall, ceiling, floor, door, window and their construction, articulation, operation.

Design of various interior spaces in relation to occupancy and environmental factors. Artificial lighting and acoustics of interior, Functional separation of spaces and interior furniture, mechanized ventilation. Finish materials and furniture details.

4th Year 1st Semester Courses

ARCH-4511: Architecture of Bengal- I

2 Credits, 2 Hours/Week

Architecture of Bengal -- Introduction; Geographical, Geological, Climatic, Historical, Social, Philosophical and Religious influences.

Architecture of Bengal -- Pre-historic period; Buddhist and Hindu Art & Architectural development during Mauryan, Gupta, Pala, Verman, Sen, Sultani, Mughal & Colonial Period.

ARCH-4811: Housing

2 Credits, 2 Hours/Week

Housing policy and Planning; Housing and Community; Their influence on individuals, societies and their environment, Physical, social, economic and technical aspects of housing problems in Bangladesh. Legislations and regulations.

Low-cost and low-income group housing; Role of private and public sectors in housing; PPP; housing finance, space standards, housing infrastructure and other design requirements. Current housing technologies and market scenario.

CE-4111: Structure -V (Reinforced Concrete Design)

2 Credits, 2 Hours/Week

Fundamentals of reinforced concrete design; working stress design method; analysis of reinforced beams by WSD; design of slabs, one-way and two-ways. Preliminary analysis of flat slabs, flat plated, waffle slabs, ribbed slabs; introduction to ultimate strength design (USD).

ARCH-4112: Design- VI (pre-requisite ARCH- 3122)

10 Credits, 15 Hours/Week

Perception of urban context and the emergent forces that shape a city; Understanding urban activities, movement and environmental aspects to attain livability in cities and quality of life; Understanding urban design process – from program formulation to urban design interventions. Designing spaces between the buildings vis-à-vis urban masses in response to human needs and scale. Articulation of Architecture into the public realm through design of building complexes at urban scale.

ARCH-4312: Landscape Design Studio

1.5 Credits, 3 Hours/Week

Study of landscape natural and man-made elements, drawings and reports on outdoor elements and environment, Site analysis. Landscape graphics; Application of the principles and techniques of landscape design through design exercises of site planning and area development. Design of utility, maintenance and services.

ARCH-4611: Urban Design- II

2 Credits, 2 Hours/Week

Principles of design- unity and space, proportion and scale. balance, uniformity and contrast and their application in urban design. Urban aesthetics - grain and texture. urban frame, fabric and function. Perception and meaning of urban spaces form, order and time space relationships. Definition of urban design, its aims and objective. City planning according to artistic principles. Urban design approaches and levels of analysis.

Responsive environment - permeability, variety, legibility, appropriateness, richness and personalization. From of a city and normative theories. Theory of good city form. Growth and conservation. Urban textures and networks. City models and city design. Urban design process. Urban quality of life.

ARCH-4411: Landscape Design

2 Credits, 2 Hours/Week

Introduction to principles and elements of landscape design. Landscape Architecture and its necessity in the built environment. Historical references. Biosphere and eco- system. Organization of various outdoor spaces. Environment and design. Site development. Location and sequence of outdoor activity. Circulation and linkages.

Introduction to plant and materials and their uses to enrich the built environment. Planting and gardening. A study of site selection, plane surveying, site development, topography, soils, grading, drainage, site utilities, landscaping, and planting will be used towards the assessment of buildings and site design.

4th Year 2nd Semester Courses

ARCH-4521: Architecture of Bengal- II

2 Credits, 2 Hours/Week

Architecture of Bengal – The colonial Period: Early European colonies; Portuguese, Dutch, French, British colonial Architecture---philosophy and development.

Architecture of Bengal-- Islamic Architecture in Bengal; The sultan, Mughal Philosophy and development.

CE-4121: Structure -VI (Elements of Building Structure)

2 Credits, 2 Hours/Week

Reinforced concrete columns, stocky and long. Preliminary analysis of column sections in multistoried buildings., Grids, approximate analysis. Approximate analysis of multistoried buildings for gravity and lateral loads. Vierendeel truss. Folded plates. Introduction to shear-walls - preliminary design. Introduction and preliminary design of Arches, domes and shells. Classification of shells. Prestressed concrete: introduction, analysis and preliminary design of beam sections.

ARCH-4523: Architectural Conservation **2 Credits, 2 Hours/Week**

Architectural & Urban Conservation; Its meaning, principles and scope; History and issues of conservation; Preservation, restoration, renovation, reconstruction, adaptation, reuse, redevelopment, renewal etc. at building and urban scale. Valuation and diagnosis.

Conservation laws and practices, issues and context. Conservation policy, ethics, regulations, technology and finance. Local and International case study and good practices.

ARCH-4122: Design- VII (pre-requisite ARCH- 4112)
10 Credits, 15 Hours/Week

Projects focusing on urban renewal -regeneration, conservation, redevelopment and rehabilitation of city blocks. Investigation, analysis and design of housing/ communities with specific themes and their impact on the immediate environment. Architecture of spiritual and emotional content.

ARCH-4421: Sustainable Design **2 Credits, 2 Hours/Week**

Sustainable design strategies and approaches, Sustainable design innovation, Systems design, Trans-disciplinary collaboration in design, Design for disassembly, Design for re-use, Design for sustainable manufacturing and construction, Design for remanufacturing. Design for environment, Land use planning; smart growth and urban design; transportation policy and design; environmental site design; site assessment and selection; Brownfield redevelopment strategies and infill development, Eco-design. Socially responsible design, User-centered design, Design education and sustainability, Design ethics and sustainability.

Optimizing Energy performance & Designing with renewable and alternative energy systems including solar power, wind, geothermal, low-impact hydroelectric, photovoltaic, biomass & biogas with a view to achieving energy efficiency. Understanding water use/ demand, water conservation, water quality and biological methods of wastewater treatment, use of recycled water and storm water drainage as they relate to the planning and design of urban communities and project sites. Planning and design for natural and impacted on-site water features. Fundamental water resources policy issues and hydrologic processes, as they apply to community planning and design situations.

ARCH-4423: Vernacular Architecture & Settlements
2 Credits, 2 Hours/Week

Defining vernacularism; Vernacular Architecture and settlement and its evolution; Concepts and approaches to the study and analysis of vernacular Architecture. Types and forms of vernacular Architecture – vernacular know how and design. Symbolism and cultural expression generating vernacular building form and texture.

Change facing vernacular Architecture in the contemporary context. Organizational community development, housing and institutional building programs in vernacular settings. Learning from vernacular Architecture: Site & Context; Self-help and community-based approaches. Future directions and prospects.

5th Year 1st Semester Courses

Hum-5611: Project Management & Accounting 2 Credits, 2 Hours/Week

Basic concepts and principles of management; Development of management skills; Management of organization; Decision making; Planning and control; Basic statistics; Basic operations; Research; Plans; Bidding and Sub-contracting; Use of operations research techniques.

Basic accounting principles; Different kinds of cheque; Cost accounting; Elements of cost accounting for direct and indirect costs; Inventory control; Overhead allocation; Cost sheet. Break-even analysis; Construction accounting; Budgeting and budgetary control; Standard costs-computation of cost; Variances. Capital Budgeting- IRR, NPV, PBP.

ARCH-5813: Research Methodology 2 Credits, 2 Hours/Week

Discussion on design methodology, design evaluation, problem identification & selection, research, design & approach, data collection, processing, analyzing & forecasting, data presentation.
Selection of a research topic related to Architectural design issues/problems.

ARCH-5112: Design- VIII (pre-requisite ARCH- 4122)
12 Credits, 15 Hours/Week

Simple building design with detail drawings for construction including preliminary drawings, presentation drawings working drawings, detail drawings etc., Emphasis is given on design quality in terms of formal, functional and structural aspects, to attain professional level of achievement, within a given socioeconomic context.

ARCH-5312: Seminar **1.5 Credits, 3 Hours/Week**

Overview of current development in research related to art and Architecture. Preparation of research papers including literature search, writing skills and referencing. Verbal and written presentation skills and techniques.

5th Year 2nd Semester Courses

ARCH-5122: Design IX Thesis (pre-requisite ARCH- 5112)
12 Credits, 15 Hours/Week

Identification of viable projects of significance as thesis projects. Preparation of complete design solution based on investigation and analysis of the physical and contextual aspects of the problem, and on the understanding of design considerations of material, structure and form. Stress is given on the objective analysis of the related factors and in transforming them into a tangible Architectural solution of professionally acceptable quality. Design exercises of realistic complexities emphasizing professional level of competence. Formulation of Architectural programs for given projects. Preparation of design solution and development through the various phases

ARCH-5322: Dissertation **3 Credits, 6 Hours/Week**

Approach to report writing. Preparation of report to supplement the various aspects of the thesis project of ARCH 5122. Design Studio IX. The report should reflect the student's research in areas related of the thesis, comparative analysis and case studies. This should lead to the formation of criteria and conceptual approaches, design program and guidelines for design of the thesis in ARCH 5122: Design Studio IX (Thesis)

ARCH-5821: Professional Practice

2 Credits, 2 Hours/Week

The role of the Architect in the building industry and process; duties, responsibilities and obligations of the Architect; general conditions of contract; owner-Architect relationship; Architectural services; the Architect and the public; legal responsibilities of the Architect; Architects code of Conduct. Ethics.

The Architect's office; administration of construction; Competitions; the Architect and his consultants; official correspondence; professional organizations: local and international. The regulatory system: planning and design controls, building code and approval process. Management principles and practices for the range of Architectural practice.

ARCH-4222: Professional Training

Satisfactory/Unsatisfactory, 6 Weeks

Prerequisites: 3rd year sessional courses

Non- credit compulsory training. The student is required to work in an Architectural firm/organization for a minimum of Six weeks to gain practical experience. This training will include working drawings and site supervision.