



DEPARTMENT OF **ARCHITECTURE**

AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

(SPONSORED BY THE DHAKA AHSANIA MISSION AND APPROVED BY
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PROSPECTUS
EDITORIAL
COMMITTEE

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DISCLAIMER

The information contained in this Prospectus are intended to provide Guidance to those who are concerned with undergraduate studies in the Department of Architecture of the Ahsanullah University of Science and Technology, Dhaka. No responsibility are be borne by the Department of Architecture and/or the Ahsanullah University of Science and Technology, Dhaka, if any inconvenience or expenditure is caused to any person because of the information in this prospectus. Also the information contained in it is subject to change at any time without any prior notification.

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INTRODUCTION

The Department of Architecture of the Ahsnaullah University of Science and Technology (AUST) has been offering a five years undergraduate degree program since the establishment of the university in the year 1995. The 5 (five) year degree program is spread over ten semesters with two semesters per year. There are now about 400 students studying in the department. There are now 30 full time teachers and 08 part time teachers for the department.

The B.Arch program of the Department of Architecture involves a wide range of disciplines in the fields of Arts, Sciences and Engineering. The diversified theoretical courses are aimed at developing an understanding of the bases of architectural design problems. The studio sessions are then available for application of these knowledge and understanding to practical design problems. Thus, design studio works constitute a very important aspect of the B.Arch program and continues from Design Studio I and II in the first year to Design Studio IX and X in the fifth or final year.

All significant studio projects of the students, particularly those of the higher levels including the final year terminal projects are evaluated by the jury system. Under this system, a jury of external examiners comprising of the faculty members as well as at least one or two well-known architects from the profession is constituted to listen to the presentation of the students, deliberate with them and pass judgment on the standard and quality of the works presented. The students are graded largely on the basis of such open jury evaluations.

The focus of education and training in the department of Architecture at the AUST is on the culture, the history, the arts and the Sciences and engineering. To be a good architect, a student of architecture must equip himself or herself with adequate knowledge and information in all the areas listed above. On top of that a student of architecture must develop his or her creative abilities and the courses in the department are tailored to that end. Also care is taken to instill in the students a sense of professionalism and social responsibilities so that they can become good citizens and can make useful contributions to the society as architects.

The Institute of Architects Bangladesh (IAB) recognizes the architectural program of the AUST. The students and graduates of the AUST department of Architecture are eligible to be members of the IAB as per its provisions.

ACADEMIC INFORMATION

There are two semesters (i.e. Spring and Fall) in a year ---- The Spring Semester between April and September and The Fall Semester between October and March. Each semester consists of 20 working weeks which are divided into classes, preparatory leave and Semester Final Examinations as follows:

| | |
|--|-------------------------|
| • Classes | 14 working weeks |
| • Preparatory leave and Semester Final Examination | 6 working weeks |
| Total: | 20 working weeks |

Apart from the 20 working weeks, the University remains open (excepting the official holidays) for Clearance /Improvement/Carry Over Examinations, examination result, admission of students in the 1st semester of 1st year and necessary administrative works.

The medium of instruction is English and proficiency in English is considered to be a pre-requisite for professional education and higher learning. Assessment of the performance of a student in a theoretical course will be evaluated on the basis of the following:

- (i) Continuous assessment (class attendance, class performance, quizzes/class tests, and/or assignments etc.).
- (ii) Semester final examination.
- (iii) Clearance examination (for clearance of course(s) not cleared in the semester or for the course(s) of the previous semester, if any).
- (iv) Improvement examination (for improvement of grade(s) obtained in the regular Examinations, if any)

The Continuous assessment and semester final examination will form the regular examination system while the clearance examination and improvement examination will provide additional opportunities to the students. The distribution of marks for assessment of performance by a student will be as follows:

| | |
|--|-------------|
| (i) Class participation (i.e. class attendance, class performance etc.)..... | 10% |
| (ii) Quizzes/class tests and/or assignments | 20% |
| (iii) Semester final/clearance/carry over/Improvement Examination..... | 70% |
| Total: | 100% |

The number of quizzes/class tests and/or assignments in a course shall ordinarily be $(n + 1)$, where 'n' is the number of credit-hours of the course. Evaluation of performance will be on the basis of the best 'n' quizzes/class tests and/or assignments.

Clearance examination in a course will carry 70% of the total marks assigned to the course, the rest 30% will be entered from the record of continuous assessment secured earlier by the student when he/she attended the classes. Whatever might be the total mark obtained by the student, the highest attainable grade in case of the clearance examination is 'C'.

A student obtaining 'F' grade in a maximum of 2 (two) theoretical courses in any semester will also be promoted to the next higher class with carryover in the failed theoretical course(s) provided that he/she has passed in all practical/sessional courses of the semester. But the maximum allowable cumulative number of such carryover courses of the present and the previous semester (s) of the student concerned, does not exceed the highest allowable limit of 4 (four). The Students can clear the backlog of the carryover courses(s) in the clearance examinations of the relevant semester of the successive batches. The examination and grading of the carryover examinations will be held in the same manner as the clearance examination.

If the number of carryover courses of a student exceeds the allowable limit, the student will not be promoted to the subsequent semester. The student can proceed to the next higher semester only after reducing the number and bringing it within the allowable limit. Meanwhile he/she can appear in the relevant clearance examination with a view to clear the backlog of the carryover course(s) of the previous semester. For appearing in the Carryover examinations, the students are required to apply in the prescribed form available in the examination section of the university within due time.

Calculation of GPA can be explained as follow:

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

| COURSE | CREDITS | GRADES | GRADE POINTS |
|----------|---------|--------|--------------|
| Course 1 | 3 | A+ | 4.00 |
| Course 2 | 3 | B | 3.00 |
| Course 3 | 3 | A | 3.75 |
| Course 4 | 2 | B+ | 3.25 |
| Course 5 | 1 | A- | 3.50 |

Then his/her Grade Point Average (GPA) for the semester will be computed as follows:

$$\text{GPA} = \frac{3(4.00) + 3(3.00) + 3(3.75) + 2(3.25) + 1(3.50)}{(3 + 3 + 3 + 2 + 1)}$$

$$= 3.52$$

Students will be considered to be making normal progress towards degree if heir cumulative or over all GPA for all works attempted is not less than 2.20. The 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 made. The minimum period of probation is one semester but the usual period is one academic year. The probation is extended for additional semester until the student achieves an overall GPA 2.20 or better.

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. If it is the first suspension, it may be withdrawn by the concerned Head of the Department on receipt of an application from the student and being satisfied that the student will make every effort from then on to improve his/her grade. But this can only be done after student has gone through at least a full semester of suspension. However, a second will be regarded as final and absolute.

In all bachelor degree programs, the student are required to attend 60% of the classes held in each subject in a semester failing which they will not be allowed to sit for the Semester Final Examination. It is expected that the Guardians will

monitor the attendance and performance of their wards in the university at least once in the middle of the semester. However the authority may condone the shortage of requisite attendance on grounds acceptable to the authority.

A student failing in any sessional/ practical/ studio work will have to repeat the semester. While repeating a semester for the said reason, a student may be exempted from registering in the courses of the semester in which he/she scored a grade 'C' or better.

He Full Free Tuition Award is made in every semester on the basis of the grade points earned in all of the courses (except project and Thesis) of the immediate previous semester. The authority may also award Half-Free Tuition Awards to the student whose result are considered to be equally brilliant.

Graduating students securing a CGPA (Cumulative Grade Point Average) of 3.75 or above will be included in the Dean's List of Honor. The under graduate students of different years of this department have to follow the course schedule given below. The first digit in the course number indicates the year for which the course is intended. The second digit indicates the session for which the course is intended. The odd numbered courses are theory courses and the even numbered courses are sessional courses.

The credit hours to be completed for obtaining the degree of Bachelor of Architecture is 191.5 of which 88 hours are for theoretical courses and 103.5 hours are for sessional courses. The semester-wise distribution of theory hours, studio hours and total credits of different years are listed below:

| Year | Semester | Theory Hour | Studio Hour | Total Credit |
|------|----------|-------------|-------------|--------------|
| 1 | 1 | 10 | 18 | 19.0 |
| | 2 | 10 | 21 | 20.5 |
| 2 | 1 | 10 | 21 | 20.5 |
| | 2 | 10 | 21 | 20.5 |
| 3 | 1 | 10 | 21 | 20.5 |
| | 2 | 10 | 21 | 20.5 |
| 4 | 1 | 8 | 21 | 18.5 |
| | 2 | 8 | 21 | 18.5 |
| 5 | 1 | 6 | 21 | 16.5 |
| | 2 | 6 | 21 | 16.5 |

Summary of
UNDERGRADUATE COURSES

| 1st YEAR 1st SEMESTER COURSES | | | |
|--------------------------------------|--------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 1103 | Theory Of Design I | 2-0 | 100 |
| ARC 1121 | Mathematics And Physics | 2-0 | 100 |
| ARC 1127 | Building Materials | 2-0 | 100 |
| ARC 1151 | English | 2-0 | 100 |
| ARC 1153 | Sociology For Architects | 2-0 | 100 |
| ARC 1102 | Architectural Graphics I | 0-6 | 200 |
| ARC 1104 | Design Studio I | 0-9 | 300 |
| ARC 1130 | Computer Applications 1 | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 10-18 | 1100 |

| 1st YEAR 2nd SEMESTER COURSES | | | |
|--------------------------------------|---------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 1203 | Theory Of Design II | 2-0 | 100 |
| ARC 1223 | Climate & Architecture 1 | 2-0 | 100 |
| ARC 1227 | Finish Materials | 2-0 | 100 |
| ARC 1231 | Ecology | 2-0 | 100 |
| ARC 1255 | Psychology for Architects | 2-0 | 100 |
| ARC 1202 | Architectural Graphics II | 0-6 | 200 |
| ARC 1204 | Design Studio II | 0-12 | 400 |
| ARC 1230 | Computer Applications II | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 10-21 | 1200 |

| 2nd YEAR 1st SEMESTER COURSES | | | |
|--------------------------------------|------------------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 2101 | History Of Architecture-I | 2-0 | 100 |
| ARC 2123 | Climate & Architecture II | 2-0 | 100 |
| ARC 2125 | Architectural Lighting & Acoustics | 2-0 | 100 |
| ARC 2129 | Structure And Architecture I | 2-0 | 100 |
| ARC 2141 | Physical Planning I | 2-0 | 100 |
| ARC 2102 | Graphic Art | 0-3 | 100 |
| ARC 2104 | Design Studio III | 0-15 | 500 |
| ARC 2130 | Computer Applications III | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 10-21 | 1200 |

| 2nd YEAR 2nd SEMESTER COURSES | | | |
|-------------------------------|-------------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 2201 | History Of Architecture-II | 2-0 | 100 |
| ARC 2223 | Climate & Architecture III | 2-0 | 100 |
| ARC 2225 | Plumbing | 2-0 | 100 |
| ARC 2229 | Structure And Architecture II | 2-0 | 100 |
| ARC 2241 | Physical Planning II | 2-0 | 100 |
| ARC 2202 | Photography | 0-3 | 100 |
| ARC 2204 | Design Studio IV | 0-15 | 500 |

| | | | |
|--------------------------------------|---------------|-------|------|
| ARC 2226 | Field Study I | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 10-21 | 1200 |

3rd YEAR 1st SEMESTER COURSES

| Course No. | Course Title | T-S Hours | Marks |
|--------------------------------------|--------------------------------|-----------|-------|
| ARC 3101 | History Of Architecture-III | 2-0 | 100 |
| ARC 3103 | Theory Of Design III | 2-0 | 100 |
| ARC 3125 | Electrical Equipments | 2-0 | 100 |
| ARC 3129 | Structure And Architecture III | 2-0 | 100 |
| ARC 3157 | Survey techniques | 2-0 | 100 |
| ARC 3104 | Design Studio V | 0-15 | 500 |
| ARC 3126 | Field Study II | 0-3 | 100 |
| ARC 3158 | Survey Practical | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 10-21 | 1200 |

3rd YEAR 2nd SEMESTER COURSES

| Course No. | Course Title | T-S Hours | Marks |
|--------------------------------------|-----------------------------------|-----------|-------|
| ARC 3201 | History Of Architecture-IV | 2-0 | 100 |
| ARC 3225 | Mechanical equipment | 2-0 | 100 |
| ARC 3229 | Structure And Architecture IV | 2-0 | 100 |
| ARC 3241 | Physical Planning III | 2-0 | 100 |
| ARC 3257 | Specification and Cost Estimating | 2-0 | 100 |
| ARC 3204 | Design Studio VI | 0-15 | 500 |
| ARC 3226 | Working Drawing I | 0-6 | 200 |
| Total Theory-Sessional Hours & Marks | | 10-21 | 1200 |

4th YEAR 1st SEMESTER COURSES

| Course No. | Course Title | T-S Hours | Marks |
|--------------------------------------|-------------------------------------|-----------|-------|
| ARC 4107 | Housing | 2-0 | 100 |
| ARC 4129 | Structure And Architecture V | 2-0 | 100 |
| ARC 4143 | Landscape Design | 2-0 | 100 |
| ARC 4145 | Health Facilities Planning & Design | 2-0 | 100 |
| ARC 4104 | Design Studio VII | 0-18 | 600 |
| ARC 4128 | Working Drawing II | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 8-21 | 1100 |

4th YEAR 2nd SEMESTER COURSES

| Course No. | Course Title | T-S Hours | Marks |
|--------------------------------------|------------------------------------|-----------|-------|
| ARC 4205 | Project Economics | 2-0 | 100 |
| ARC 4207 | Urban Infrastructure Planning | 2-0 | 100 |
| ARC 4229 | Structure And Architecture VI | 2-0 | 100 |
| ARC 4257 | Real Estate Finance and Investment | 2-0 | 100 |
| ARC 4204 | Design Studio VIII | 0-18 | 600 |
| ARC 4206 | Interior Design Studio | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 8-21 | 1100 |

| 5th YEAR 1st SEMESTER COURSES | | | |
|--------------------------------------|------------------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 5109 | Art Appreciation | 2-0 | 100 |
| ARC 5125 | Advanced Acoustics & Noise control | 2-0 | 100 |
| ARC 5157 | Book keeping and Accounting | 2-0 | 100 |
| ARC 5104 | Design Studio IX | 0-18 | 600 |
| ARC 5160 | Seminar | 0-3 | 100 |
| Total Theory-Sessional Hours & Marks | | 6-21 | 1000 |

| 5th YEAR 2nd SEMESTER COURSES | | | |
|--------------------------------------|---------------------------------------|-----------|-------|
| Course No. | Course Title | T-S Hours | Marks |
| ARC 5241 | Architectural Space & Forms | 2-0 | 100 |
| ARC 5257 | Professional Practice | 2-0 | 100 |
| ARC 5259 | Research Methodology & Report Writing | 2-0 | 100 |
| ARC 5204 | Design Studio X | 0-21 | 700 |
| ARC 5206 | Professional Training / Internship | 0-15 | 500 |
| Total Theory-Sessional Hours & Marks | | 6-21 | 1000 |

FIRST YEAR FIRST SEMESTER COURSES

(A) THEORY COURSES

ARC 1103: THEORY OF DESIGN I (2 Hrs./Week : 2 Credits)

Objectives: Introduction to Architecture and architectural design in terms of their nature, scope, approaches and the end product. The emphasis is given on the fact that the subject is entirely new to the students with respect to their experiences in the SSC and HSC levels of study.

Courses Details: Architecture and its scope; design fundamentals, elements and principles of design, design in nature as an universal source of inspiration, architectural form, space, scale and proportion.

ARC 1121: BASIC SCIENCES FOR ARCHITECTS (Mathematics and Physics)

2 Hrs. /Week: 2 Credits.

Objectives: Developing understanding of some of the important aspects of calculus, solid geometry and physics which relate to architectural problem solving.

Courses Details: Calculus -- Function, Limit, Continuity, Differentiation, Integration, Definite Integral, Length of curves, Area under a curve.

Solid Geometry -- System of co-ordinates, Distance between two points, Section formulas, Direction cosines, Equation of planes, Angle between two planes.

Physics -- Measurement of low and high temperature, Specific heats of solids and liquids, Transformation of heat, Thermal conductivity of solids and liquids.

Theories of light: Interference of light, Polarization, Optical activity, Optics of crystals.

Sound waves and oscillations, simple harmonic motion, resonance, transverse and longitudinal nature of waves, standing waves.

ARC 1127: MATERIALS AND CONSTRUCTION I (2 Hrs. /Week: 2 Credits)

Objectives: Introducing Building Materials and developing an understanding of their nature ,use and construction details.

Courses Details: Brick, stone, cement, sand, concrete, steel and wood – their nature, use and construction.

ARC 1151: ENGLISH (2 Hrs. /Week: 2 Credits)

Objectives: Developing reading and writing skills in English as a means of facilitating learning and higher education in his chosen field.

Courses Details: Sentence structure, construction of paragraph, Technical and scientific vocabulary and Terminology, Etymology syntax, Correction of errors, Phrases and Idioms, Comprehension, Precise writing.

ARC 1153: SOCIOLOGY FOR ARCHITECTS (2 Hrs. /Week: 2 Credits)

Objectives: Introducing societies and social concerns inherent to the professional obligations of architects; relating Culture, families, work and so on to architecture: understanding urbanism and its architectural implications and learning to include sociological considerations in the design process.

Courses Details: Definition, nature and the Sociological perspective in relation to architecture; culture, families, work, education and religion influencing architecture; Urbanization, social and demographic change and their impact on building and built-forms.

(B) SESSIONAL COURSES

ARC 1102: ARCHITECTURAL GRAPHICS I (6 Hrs. /Week: 3 Credits)

Objectives: Developing Lettering and drawing skills for architectural presentation of design solutions in graphic media.

Courses Details: Lettering, Multi-view drawing such as Plan, Elevation and section. Single view drawings such as Axonometric and Perspective views.

ARC 1104: DESIGN STUDIO I (9 Hrs. /Week: 4.5 Credits)

Objectives: Developing basic design skills through exercises in free hand drawings, two and three dimensional compositions, model making and other handwork.

Courses Details: Understanding of forms in nature, Exercises in two-dimensional composition in various media, Exercises in Three-dimensional compositions, Study of scale, proportion, balance, harmony, continuity and shade and shadow through composition.

ARC 1130: COMPUTER APPLICATIONS I (3 Hrs. /Week: 1.5 Credits)

Objectives: Learning computer basics and its use in practical work.

Courses Details: Word processing and spreadsheet analysis using available software packages.

FIRST YEAR SECOND SEMESTER COURSES

(A) THEORY COURSES

ARC 1203: THEORY OF DESIGN II (2 Hrs. /Week: 2 Credits)

Objectives: Comprehending architecture and architectural design through case studies of significant architectural works at home and abroad.

Courses Details: Case studies of significant buildings of master architects and contemporary good designers with a view to enhancing appreciation of architectural experience. The case studies will allow speculative interpretations of buildings and will invite associational comparisons with other buildings having similar qualities. The case studies may suggest useful and effective approaches to architectural design.

ARC 1223: CLIMATE AND ARCHITECTURE I (2 Hrs. /Week: 2 Credits)

Objectives: Learning about climate-building relationships; climate, elements and their measurements; solar geometry and its effects on buildings and thermal comfort in buildings.

Courses Details: Introduction to climate-building relationships, Global Climatic factors, Elements of Climate, Measuring the elements of climate and recording the data, Classification of Climate and Site climate. Solar geometry and the Sun-path diagram, Shadow angle protractors, solar radiation protectors and their use. Thermal comfort and the thermal comfort requirements, Assessment of a climate from the thermal comfort view point, Bio-climatic chart.

ARC 1227: MATERIALS AND CONSTRUCTION II (2 Hrs. /Week: 2 Credits)

Objectives: Learning about finish materials, their used and construction details.

Courses Details: Plastering, Terrazzo, Glass and framing, Plastics, Paints and varnishes, Insulation – Their nature, user and construction details.

ARC 1231: ECOLOGY (2 Hrs. /Week: 2 Credits)

Objectives: To study and learn the relation of plants and living creatures to each other and to their environment.

Courses Details: Habitat, Bio-geographical distribution and abundance; Evolution and Adaptation, Inter species interactions, Tropic levels and Energy flow; Man and his environment, Biological conservation, Environmental pollution.

ARC 1255: PSYCHOLOGY FOR ARCHITECTS (2 Hrs. /Week: 2 Credits)

Objectives: To observe, describe & measure a behavior; to explain different forms of behavior; to understand the needs for personal spaces and territories; to understand visual perception of architectural spaces and their design determinants.

Courses Details: Introducing Psychology and psychological concerns affect architecture; thinking and problem solving; psychological concerns of the founding fathers of contemporary architecture; the need for personal space and the need for territory and visual perception of architectural spaces and their design.

(B) SESSIONAL COURSES

ARC 1202: ARCHITECTURAL GRAPHICS II (6 Hrs. /Week: 3 Credits)

Objectives: Learning architectural presentation techniques in their advanced forms.

Courses Details: Mechanical perspectives of complex nature, Shade, shadow and reflection in perspective, Presentation and rendering in black and white and in color.

ARC 1204: DESIGN STUDIO II (12 Hrs. /Week: 6 Credits)

Objectives: Understanding forms in nature and in architectural design along with architectural spaces and space defining elements.

Courses Details: Understanding of forms in nature and architectural design, Understanding types of Architectural forms, Articulation of forms, surfaces and spaces, Understanding architectural space defining elements' shapes, surfaces, dimensions and so on.

ARC 1230: COMPUTER APPLICATION II (3 Hrs. /Week: 1.5 Credits)

Objectives: Learning computer graphics and its use in practice.

Courses Details: Basic 2-D drawing techniques and presentation.

SECOND YEAR FIRST SEMESTER COURSES

(A) THEORY COURSES

ARC 2101: HISTORY OF ARCHITECTURE I (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the development of architecture in the old historical periods.

Courses Details: Art and architecture of the Egyptian, Greek and Roman periods in relation to their socio-cultural contexts.

ARC 2123: CLIMATE AND ARCHITECTURE II (2 Hrs. /Week: 2 Credits)

Objectives: Learning about designing buildings from the thermal comfort viewpoints in different climates - particularly in the tropics.

Courses Details: Principles of thermal design and means of thermal control, shading devices- evaluation and design; air flow, ventilation and wetness.

ARC 2125: ARCHITECTURAL LIGHTING AND ACOUSTICS (2 Hrs. /Week: 2 Credits)

Objectives: Introduction to light, lighting and Vision and their relationships with architecture; sound, noise and acoustic environment in architecture.

Courses Details: Light, lighting and vision; luminous environment and lighting measurements, Relationship between light, surfaces and objects; Criteria for artificial lighting design.

Introduction to Sound, sound sensation and the effects of noise; sound measurement scale, sound reflection, dispersion, diffraction, absorption; Reverberation of sound; Design criteria for sonic environment.

ARC 2129: STRUCTURE AND ARCHITECTURE I (2 Hrs. /Week: 2 Credits)

Objectives: Learning fundamentals of structure and structural analysis.

Courses Details: Force. Equilibrium, Free-body diagram, Resultants and components, Coplanar concurrent forces, Moments and parallel coplanar forces, Centroid, Moment of inertia of areas, Maximum and minimum forces, Friction, Flexible chords.

ARC 2141: PHYSICAL PLANNING I (2 Hrs. /Week: 2 Credits)

Objectives: Introduction to the relationship between physical planning and architecture and origin and evolution of human settlements and cities from the ancient to the contemporary times.

Courses Details: Origin and evolution of settlements and cities, city planning during the ancient, classical, medieval, neo-classical and modern periods. Industrial revolution and changes in the character of cities. new thoughts and ideas in planning following the industrial revolution. The spatial structure of cities. Planning theories. Concentric zone theory, Sector theory, multiple nuclei theory, Christaller theory of size, spacing and distribution to city and Regional planning.

(B) SESSIONAL COURSES

ARC 2102: GRAPHIC ART (3 Hrs. /Week: 1.5 Credits)

Objectives: Learning graphic art and graphic design techniques.

Courses Details: Introduction to Graphic art and techniques, selection of drawing instruments, surfaces and typology, graphic reproduction techniques and system of effective presentation, sketching graphic design posters, preparing portfolios.

ARC 2104: DESIGN STUDIO III (15 Hrs. /Week: 7.5 Credits)

Objectives: Designing Simple Unicellular Buildings and developing an understanding of functional as well as aesthetic values in an architectural design solution.

Courses Details: Designing simple buildings with simple functions and with particular concern for climatic considerations achieving good scale, proportion and solid-void relationship.

ARC 2130: COMPUTER APPLICATIONS III (3 Hrs. /Week: 1.5 Credits)

Objectives: Learning advanced computer graphics.

Courses Details: Basic 3-D Drawing Techniques, Advance modeling, Rendering in Auto-Cad, Advance rendering using 3-D Studio, presentation.

SECOND YEAR SECOND SEMESTER COURSES

(A) THEORY COURSES

ARC 2201: HISTORY OF ARCHITECTURE II (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the development of architecture in the Indian sub-continent.

Courses Details: Art and Architecture in the Indian sub-continent from the Indus valley civilization upto the Mughal era.

ARC 2223: CLIMATE AND ARCHITECTURE II (2 Hrs. /Week: 2 Credits)

Objectives: Learning Comprehensive Climatic design for the tropics.

Courses Details: Study of the relationships between Architecture and the climatic characteristics of the tropics. Synthesis of the means of control of air, moisture and temperature movement. Passive control buildings, Comparison of alternative solutions, case studies.

ARC 2225: BUILDING SCIENCE AND SERVICES I (2 Hrs. /Week: 2 Credits)

Objectives: To learn about plumbing and water supply in building.

Courses Details: Introduction to Plumbing, Water requirements, Water sources, Water supply and distribution in buildings, Sewage and sewer systems, building sewer and drainage system, Septic tanks, Sewage disposal, Plumbing of multi-storied buildings.

ARC 2229: STRUCTURE AND ARCHITECTURE II (2 Hrs. /Week: 2 Credits)

Objectives: To learn about fundamental strength of materials against stresses and failures.

Courses Details: Fundamental strength of materials, Types of stress and failures, factors of safety, shear, bending moments, stresses and deflections in beams; Fundamentals of columns.

ARC 2241: PHYSICAL PLANNING II (2 Hrs. /Week: 2 Credits)

Objectives: To learn about theories and practice of planning.

Courses Details: Meaning, scope, significance of planning in built form design, Development Planning - Types, approaches and theories, Master plans and zonal plans, Planning and public policies, Planning practices in Bangladesh.

(B) SESSIONAL COURSES

ARC 2202: PHOTOGRAPHY (3 Hrs/Week : 1.5 Credits)

Objectives: To learn about architectural communication through photography.

Courses Details: Introduction to photography; camera, types of cameras, lenses and films, understanding exposure, importance of photography in architectural study and documentation, Architectural photography; Communication through photography.

ARC 2204: DESIGN STUDIO IV (15 Hrs. /Week: 7.5 Credits)

Objectives: Introduction to architecture – structure relationships; understanding of the integration of form, function and structure in an architectural solution; Learning design of building elements such as car porch, stairs, shading devices etc.; Understanding environmental implications of building design.

Courses Details: Design of simple buildings with simple functions and with concern for important building elements as well as environmental control in terms of climate, lighting, aesthetics and noise control.

ARC 2226: FIELD STUDY I (3 Hrs. /Week: 1.5 Credits)

Objectives: To learn about building layouts and designs in relation to the given sites and surroundings.

Courses Details: Study of building layouts and designs in relation to given sites and surroundings with particular reference to: Entry to the site and dropping; parking; entry to the building; circulation in and out of the buildings; work area – circulation area ratio; use of materials and detailing and so on.

THIRD YEAR FIRST SEMESTER COURSES

(A) THEORY COURSES

ARC 3101: HISTORY OF ARCHITECTURE III (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the beginning and the progress in Modern Movement in Architecture.

Courses Details: Study of the concepts defining the modern movement in architecture; Studying and understanding the works of Frank Lloyd Wright, Mies Vander Rohe, Le Corbusier, Alvar Alto, Louis I. Kahn and others.

ARC 3103: THEORY OF DESIGN III (2 Hrs. /Week: 2 Credits)

Objectives: To learn about design methods and contemporary architectural trends.

Courses Details: Study of Design methodology, design as a multi-variant problem solving process, theories of program and functions, information processing and research methods; Design matrices, system integration, contemporary architectural trends; case studies.

ARC 3125: ELECTRICAL EQUIPMENT (2 Hrs. /Week: 2 Credits)

Objectives: To learn about electrical equipment and electrical installations in buildings.

Courses Details: Introduction to electrification in buildings, Electrical equipment and electrical installations in buildings, standard practices and precautions.

ARC 3129: STRUCTURE AND ARCHITECTURE III (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the fundamentals of reinforced concrete design.

Courses Details: Introduction to R.C. design, Working stress design method, analysis of reinforced beams by W.S.D., Design of slabs, One-way and two-ways, flat slabs, Design of columns.

ARC 3157: ENGINEERING SURVEY TECHNIQUES (2 Hrs. /Week: 2 Credits)

Objectives: Introduction to engineering surveying.

Courses Details: Principles and techniques of physical surveying, chain survey, traverse survey, plain table survey, levels and leveling, contours and layout surveys.

(B) SESSIONAL COURSES

ARC 3104: DESIGN STUDIO V (15 Hrs. /Week: 7.5 Credits)

Objectives: To learn about designing simple building.

Courses Details: Designing simple buildings with simple functional and technical requirements emphasizing imaginative concepts for expressing form and functional relationship, special quality, indoor outdoor relationship and structural systems.

ARC 3126: FIELD STUDY II (3 Hrs. /Week: 1.5 Credits)

Objectives: To learn about services, safety and security in a building.

Courses Details: Study of Water supply, Sanitary, electrical and Mechanical equipment in a Building; Fire safety and security systems; presentation of the study in a report form.

ARC 3158: PRACTICAL SURVEYING (3 Hrs. /Week: 1.5 Credits)

Objectives: Practical surveying

Courses Details: Doing chain survey; Traverse survey; Plane table survey and leveling.

THIRD YEAR SECOND SEMESTER COURSES

(A) THEORY COURSES

ARC 3201: HISTORY OF ARCHITECTURE IV (2 Hrs. /Week: 2 Credits)**Objectives:** To learn about Modern movement in Architecture.

Courses Details: Modern architecture and architects of the South Asian countries and the Far East. Doshi, Charles Correa, Raj Rewal, Jeofrey Bawa, Tadao Ando and others.

ARC 3225: MECHANICAL EQUIPMENT IN BUILDINGS (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the needs and the uses of mechanical equipment in buildings.

Courses Details: Mechanical cooling; Cooling load calculation; Air-conditioning systems and equipment. Fire hazards; firefighting methods; Vertical transportation, Elevators, Escalators.

ARC 3229: STRUCTURE AND ARCHITECTURE IV (2 Hrs. /Week: 2 Credits)

Objectives: To learn about building foundations.

Courses Details: Soil mechanics and Foundation engineering; Design of foundations in R.C.C. piles and rafts; Retaining walls.

ARC 3241: PHYSICAL PLANNING III (2 Hrs. /Week: 2 Credits)

Objectives: To learn about Urban Planning and Design.

Courses Details: Contemporary problems of settlement, Current theories on Physical planning. New Towns and Cities, Environmental impact of planned and unplanned growth, Regional linkage, Historical development, Urban physical pattern, Design of the city environment, Development control.

ARC 3257: SPECIFICATION AND COST ESTIMATING (2 Hrs. /Week: 2 Credits)

Objectives: To learn about specifying materials and methods of con

Courses Details: Written details specifying materials and methods of construction and precautions, Cost analysis of the various items of construction and determination of the cost of construction, preparation of bill of quantities and tender documents.

(B) SESSIONAL COURSES

ARC 3204: DESIGN STUDIO VI (15 Hrs. /Week: 7.5 Credits)

Objectives: To learn about designing complex building.

Courses Details: Designing buildings with complex functional and technical requirements emphasizing innovative ideas incorporating formal and functional expressions, environmental qualities, circulation, linkages and organization.

ARC 3226: WORKING DRAWING I (6 Hrs. /Week: 3 Credits)

Objectives: To learn about construction drawings.

Courses Details: Doing and learning Detail drawings for layout and construction of buildings.

FOURTH YEAR FIRST SEMESTER COURSES

(A) THEORY COURSES

ARC 4107: HOUSING (2 Hrs. /Week: 2 Credits)

Objectives: To learn about 'housing' and 'housing development' in Bangladesh.

Courses Details: An introduction to Housing. Housing policy of Bangladesh and the strategies. Important issues related to Housing. Major housing development strategies. Actors in urban housing development in Bangladesh. Components of Housing. Socio-cultural design criteria for housing. The Housing process. Housing Architecture and dwellers' role. The architect and the Urban Housing Design in the 3rd world.

ARC 4129: STRUCTURE AND ARCHITECTURE V (2 Hrs. /Week: 2 Credits)

Objectives: To learn about Pre-stressed concrete and steel structures.

Courses Details: Introduction to pre-stressed concrete design. Design and pre-stressing of simple building elements; Truss, Different types of trusses. Wind and static load analysis of trusses. Design of truss sections, Design of steel beams and columns.

ARC 4143: LANDSCAPE DESIGN (2 Hrs. /Week: 2 Credits)

Objectives: To learn about landscape design and its elements.

Courses Details: Introduction to Landscape design. Elements and principles of Landscape design. Site analysis and design. Introduction to plants as landscaping materials. Case studies.

ARC 4145: HEALTH FACILITIES PLANNING AND DESIGN (2 Hrs. /Week: 2 Credits)

Objectives: To learn about health facilities planning and design.

Courses Details: Historical development, need nature, scope and principles. Identification of need and demand of health facilities and health problems in Bangladesh. Fundamental of health facilities planning, programming and design. Hospital planning and design; case studies from Bangladesh.

(B) SESSIONAL COURSES

ARC 4104: DESIGN STUDIO VII (18 Hrs. /Week: 9 Credits)

Objectives: To learn about industrial buildings and urban design.

Courses Details: Introduction to the Design of industrial buildings and complexes, design of large buildings and complexes in given urban settings, Office towers, Shopping centers, Public buildings.

ARC 4128: WORKING DRAWING II (3 Hrs. /Week: 1.5 Credits)

Objectives: To learn about complex construction drawings.

Courses Details: Doing and learning Construction detail for complex constructions using modern materials and techniques.

FOURTH YEAR SECOND SEMESTER COURSES

(A) THEORY COURSES

ARC 4205: PROJECT ECONOMICS (2 Hrs. /Week: 2 Credits)

Objectives: To learn about economic theories and practices in relation to architect

Courses Details: Introduction to theory of Demand and Supply. Utility. Theory of production, Theory of cost. Market analysis. Trends in Demand and supply in the construction industry. National economic cycles and its effects on the construction industry.

ARC 4207: URBAN INFRASTRUCTURE PLANNING (2 Hrs. /Week : 2 Credits)

Objectives: To learn about infrastructure planning and urban development.

Courses Details: Infrastructure and Development. Overview of infra-structure. Cities in conflict. Infrastructure for sustainable urban development. Physical infrastructure and environmental quality. Methods of investment in infrastructure. Management of infrastructural facilities, Project planning and financing. Impact of infrastructure underdevelopment.

ARC 4229: STRUCTURE AND ARCHITECTURE VI (2 Hrs. /Week: 2 Credits)

Objectives: To learn about structural systems.

Courses Details: Synthesis of force systems as determinant of structural systems. Shells and Vierendeel trusses, Space structures. High-rise and large span structures. Pre-stressing and post-tensioning.

ARC 4257: REAL ESTATE FINANCE AND INVESTMENT (2 Hrs. /Week: 2 Credits)

Objectives: To learn about real estate financing and financing instruments.

Courses Details: Introduction to legal considerations and Financing instruments, Sales and Lease back financing, Interest factor in Financing, Compound interest and present value calculations. Invest evaluations. Money market and the Capital market.

The history and the trend of Real Estate Development in Bangladesh. Role of the Government in Housing sector. Housing development in the Private sector in Bangladesh House Building Finance Corporation (HBFC); Delta –brac housing (DBH); comparison of HBFC and DBH facilities.

(B) SESSIONAL COURSES

ARC 4204: DESIGN STUDIO VIII (18 Hrs. /Week: 9 Credits)

Objectives: To learn about Health facilities and Housing design.

Courses Details: Design of Health facilities/hospitals. Design of housing in relation to given physical socio-economic and cultural contexts.

ARC 4206: INTERIOR DESIGN STUDIO (3 Hrs. /Week: 1.5 Credits)

Objectives: To learn about interior designing including lighting etc.

Courses Details: Interior design exercises on different types of spaces. Offices, Banks, Restaurants, Clubs. Construction details and specifications of Finish materials, natural and artificial lighting decorative elements, furniture plantation etc.

FIFTH YEAR FIRST SEMESTER COURSES

(A) THEORY COURSES

ARC 5109: ART APPRECIATION (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the history of art and its development through ages.

Courses Details: History of Art; Art through the ages. Architecture as Art, important works of art and contributions of great masters. Art consciousness, Aesthetic perception, Symbolism, Expression, Style, Fashion, Appropriateness and values. Critical appraisal of work of art.

ARC 5125: ADVANCED ACOUSTICS AND NOISE CONTROL (2 Hrs. /Week: 2 Credits)

Objectives: Special purpose acoustic designs and noise control.

Courses Details: Design of rooms for speech. Design of rooms for music. Design of studios. Design of high quality speech reinforcement systems. Sound insulation and noise control practices.

ARC 5157: BOOK KEEPING AND ACCOUNTING (2 Hrs. /Week: 2 Credits)

Objectives: To learn about book keeping and accounting practices.

Courses Details: Introduction to Bookkeeping. System of Bookkeeping. Principles of Accounting, Accounts transactions, Cost accounting, Direct and Indirect cost. Overhead costing, Cost sheet, Break even analysis, Construction Accounting, Budgeting and budgetary control, capital budgeting.

(B) SESSIONAL COURSES

ARC 5104: DESIGN STUDIO IX (18 Hrs. /Week: 9 Credits)

Objectives: To learn about the design of Religious Buildings and Recreational complexes.

Courses Details: Religious building design with emphasis on Form, Space, Structure and Symbolism. Design of buildings and complexes for games and recreation.

ARC 5160: SEMINAR (3 Hrs. /Week: 1.5 Credits)

Objectives: To learn about presenting thoughts and ideas on design verbally along with visual presentation.

Courses Details: Trends in Art and Architecture. Contemporary problems of built form design; thesis proposals.

FIFTH YEAR SECOND SEMESTER COURSES

(A) THEORY COURSES

ARC 5241: ARCHITECTURAL FORMS AND SPACES (2 Hrs. /Week: 2 Credits)

Objectives: To learn about architectural masterpieces and their qualities.

Courses Details: Reviewing selected architectural masterpieces from the past and the present and learn about the ideas and the approaches of their creators; Reviewing advanced structural systems and methods of construction in contemporary and significant Architectural Forms and Spaces.

ARC 5257: PROFESSIONAL PRACTICE (2 Hrs. /Week: 2 Credits)

Objectives: To learn about professional role of the architect.

Courses Details: Role of the Architect in 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. The architect's office, administration of construction, the architect and his consultants, Official correspondence, Professional organizations – local and international.

ARC 5259: RESEARCH METHODOLOGY AND REPORT WRITING (2 Hrs. /Week: 2 Credits)

Objectives: To learn about the need and the prospects of research in architecture.

Courses Details: Introduction to the Scope of research in Architecture. Research Methodology. Formulation of the problem, research design, data collection, analysis and synthesis. Reports and Techniques of writing reports.

(B) SESSIONAL COURSE

ARC 5204: DESIGN STUDIO X (21 Hrs. /Week: 10.5 Credits)

Objectives: To prepare a Terminal Project reflecting the skills acquired over a period of ten semester.

Courses Details: Practical Architectural projects of significant scales and complexities that are dealt with in the profession.

ARC 5206: PROFESSIONAL TRAINING / INTERNSHIP (7.5 weeks)

After successful of 3rd year level, the students of the 4th year and 5th year of the Department of Architecture are required to do 7.5 week (i.e. 300 hours) of noncredit internship program in an architectural office in addition to their normal academic requirements in order to complete their B. Arch degree requirements. The internship may be completed in a number of phases and from a number of work places. However an internee must prepare a report / log book signed by his / her supervisor in the practice and submit it to the Head of the Department of Architecture for keeping as a record. The objective of the program is to achieve firsthand knowledge about architectural professional practice focusing on producing working drawings, about design process, conducting site supervision and other related works.
