

SUMMARY OF COURSE DESCRIPTIONS

DISCRETE BACHELOR'S DEGREE OF ARCHITECTURAL ENGINEERING

Abbreviations: P=Pre-Requisite B=Basic, G=General, M=Major, S=Specialized, E=Elective
SS=Summer Session, OG=Optional General

	Course Title	Credit	Hour				Description	Type* of Course
			Total	Theory	Practical	Design Workshop		
· ١	English Language	٣	٤٨	٤٨	-	-	Describing English Grammar and Vocabulary with reading and writing homework and periodical English exams.	G
· ٢	Mathematics & Statistics	٣	٤٨	٤٨	-	-	This course gives the principles and operational instruments of Mathematics, Principle of Mathematical Induction, Complex numbers; Functions: Odd, Even and Periodic functions Hyperbola functions and their graphs,integral, Differential, Matrix...	B

	Course Title	Credit	Hour				Description	Type* of Course
			Total	Theory	Practical	Design Workshop		
٠٣	Applied Geometry	٣	١١٩	١٧	-	١٠٢	Recognizing and drawing lines and levels and volumes, Draw shapes at different scales,introduction to principles of plans,complete drawing of plans,elevations and sections of buildings.	B
٠٤	Materials & Construction Workshop	٢	١٠٢	-	-	١٠٢	Understanding the application of materials in the formation of architectural works, Build a variety of architecture maquette in different scales and details	B
٠٥	Environmental Perception	٣	١١٩	١٧	-	١٠٢	Enhance hand design skills such as:designe with lines,design of the combination of volumes,perspectives,drawin g objects...	B

	Course Title	Credit	Hour				Description	Type* of Course
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٠٦	Persian Language	٣	٤٨	٤٨	-	-		G
٠٧	Architectural Perception I	٢	٦٨	١٧	-	٥١	Understanding the theoretical foundations of color, Work with colors and color combinations, Design of architectural collections, Photography of the buildings and artworks.	B

	Course Title	Credit	Hour				Description	Type* of Course
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٠٨	Perspective Geometry	٢	٥١	١٧	٣٤	-	An introduction to survey and imagine spaces in a perspective.	B
٠٩	Preliminaries to Architectural Design I	٥	٢٢١	١٧	-	٢٠٤	Introduction to elements that make up the building structure,like floor,ceiling,wall>window,semi-open spaces,stairs...and also Strengthen the student's visualization power	B
١٠	Islamic Thought I	٢	٣٢	٣٢	-	-		G
١١	Islamic Education & Ethics	٢	٣٢	٣٢	-	-		G

	Course Title	Credit	Hour				Description	Type* of Course
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۱۲	Architectural Perception II	۲	۶۸	۱۷	-	۵۱	Select a specific building and explain it with architectural tools; drawing perspectives, plans and sections and elevations Rando, collage...	B
۱۳	Human, Nature & Architecture	۲	۵۱	۱۷	۳۴	-	Introduction to the theoretical aspects of Architecture.	B
۱۴	Preliminaries to Architectural Design II	۵	۲۲۱	۱۷	-	۲۰۴	Introduction to Conceptual Areas of Architecture and understanding the Form and function relationship, The effect of light on architectural expression, Artistic values of materials, Texture, Penumbra, scale, dimensions, sizes, ... in Architecture.	B

	Course Title	Credit	Hour				Description	Type* of Course
			Total	Theory	Practical	Design Workshop		
١٥	Static	٢	٣٤	٣٤	-	-	Understanding and applying forces and different types of structures, Calculation of axial forces, Structural properties of surfaces...	M
١٦	Constructional Materials	٢	٥١	١٧	٣٤	-	General characteristics of materials such as: Physical, chemical and mechanical properties. Architectural use and aesthetics of materials.	M
١٧	Islamic Thought II	٢	٣٢	٣٢	-	-		G
١٨	Analytical History of Early Islam	٢	٣٢	٣٢	-	-		G
١٩	Introduction to World's Architecture	٢	٣٢	٣٢	-	-	Intoduction to Archituctural features in different era such as:Egypt,Greece,Gothic,ancient Rome,... and the purpose of getting acquainted with these works.	M
٢٠	Interpretation of Monuments	٣	١٥٣	-	-	١٥٣	Students learn the Principles of building renovation by proposing pattern for restoration of a Historical building, analyzing its harms, and giving proposed pattern for its shape, and plan by considering It is historical criteria.	M

	Course Title	Credit	Hour				Description	Type* of Course
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۲۱	Strength of Materials & Steel Structures	۲	۳۲	۳۲	-	-	Static and force analysis; the study of external forces and force systems and their analytical solutions as applied to bodies at rest (equilibrium). Topic areas include beams, trusses, determinate frames, and load tracing.	M
۲۲	Architectural Design I	۵	۲۲۱	۱۷	-	۲۰۴	The first comprehensive project that is the combination of Preliminaries to Architectural Design I&II knowledge. Usually students are supposed to design a house or simple exhibitions project that has no complicated functions	M
۲۳	Surveying	۲	۶۸	۱۷	-	۵۱	Surveying definition, different types of maps and their use cases, scales in surveying, Measuring distances, Identification of surveying devices and its usage, Preparation of topographic maps...	M
۲۴	Islamic Revolution of Iran	۲	۳۲	۳۲	-	-		G
۲۵	Introduction to Islamic Architecture	۴	۸۵	۵۱	۳۴	-	An Introduction to concepts of Islamic Architecture and understanding of spatial profile of this architecture. The principles governing the design of buildings in Islamic architecture	M

	Course Title	Credit	Hour				Description	Type* of Course
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۲۶	Concrete Structure	۲	۳۲	۳۲	-	-	Design of reinforced concrete structures.	M
۲۷	Construction I	۲	۳۲	۳۲	-	-	Building Definition and Understanding the static and dynamic forces affecting the building and also the role of materials in the building.	M
۲۸	Rural Architecture I	۳	۱۱۹	۱۷	-	۱۰۲	Introduction to the particular life and culture of a village. Investigating rural structures and the various factors that affect their formation.	M
۲۹	Architectural Design II	۵	۲۲۱	۱۷	-	۲۰۴	Continuation of Architectural Design I. Problems involves larger scale, broader scope, and increased complexity. Advanced and digital presentation techniques will be used for presentations. Usually students are supposed to design a school or educational project, because they are familiar with the function of the project, so they can focus on their design projects.	M
۳۰	Physical Education I	۱	۳۲	-	۳۲	-		G
۳۱	Introduction to Contemporary Architecture	۲	۳۲	۳۲	-	-	This course is an overview of the innovations which occurred at the end of the 18 th century. This course also interprets contemporary architectural works and highlighting the multiplicity of views.	M
۳۲	Electrical Installations (Optic & Acoustic)	۲	۳۲	۳۲	-	-	Description of principles and practices for manipulating and enhancing sound and light in	M

							buildings. Information about sound behavior and the organization of architectural elements (deployment of design features, including various geometries and materials) for the control of sound in enclosed spaces and between adjacent spaces.	
۳۳	Mechanical Installations	۲	۳۲	۳۲	-	-	Water supply, heating and cooling methods, Building installations, Sewage control methods	M
۳۴	Construction II (Site Report)	۳	۶۸	۳۴	۳۴	-	Explaining materials and their details in Wooden structures, Steel structures and Concrete structures. Along with student workshop reports.	M
۳۵	Rural Architecture II	۳	۱۱۹	۱۷	-	۱۰۲	Designing a rural home with attention to culture, tradition, and the Villagers life style.	M
۳۶	Theoretical Fundamentals of Architecture	۳	۵۱	۵۱	-	-	Introduction to theoretical aspects of architecture such as Discussing the nature of the architecture, The relationship between architecture and culture, Discussion about architectural works, Scientific and artistic knowledge about architecture.	M
۳۷	Environmental System Control	۲	۳۲	۳۲	-	-	Describes principles and applications of climate, energy use, and comfort as determinates of architectural form; architectural methods for climate adaptation using non-mechanical means of ventilating, cooling, heating, and lighting; and design and performance predictions for passive approaches to solar heating, heat transfer mechanism, and strategies for climate responsive design.	M
۳۸	Architectural Design III	۵	۲۰۸	۱۶	-	۱۹۲	An attempt to fulfill the Li and expressional dimensions in architecture. An experience to focus on the external dimension of architecture. Introduction to Principles of Anatomical Planning	M

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۳۹	Introduction to Building Restoration	۳	۸۵	۳۴	-	۵۱	This course is an attempt to raise the knowledge of restorations. The study of materials such as woods, concrete, stone and etc is part of this course. After a general introduction to the materials students will work in groups on an exercise and lectures.	S
۴۰	Analysis of Urban Lands	۳	۶۸	۱۷	۳۴	-	This course intends to focus on land planning and designing in the large scales by theory and different practices on land planning.	S
۴۱	Architectural Design IV	۵	۲۲۱	۱۷	-	۲۰۴	This course is focusing on the functional, structural and facility system in the Hybrid Architecture. It is suggested to go through some complicated functions in architecture as Airport.	S
۴۲	Technical Design	۳	۱۱۹	۱۷	-	۱۰۲	Introduction to different buildings and structural systems, Drawing details of building elements.	S
۴۳	Cost Estimation	۲	۵۱	۱۷	۳۴	-	Understanding economic issues and their relationship with different forms of design and implementation	M
۴۴	Introduction to Anatomical Programming Fundamentals	۲	۶۸	۱۷	-	۵۱	Understanding the Concept of Urban Planning, Introduction to the Architectural Complex program, Architectural Planning Training	S
۴۵	Architectural Design V	۵	۲۲۱	۱۷	-	۲۰۴	Designing a residential complex is the attempt of this course, with considering the environment, culture and economy.	S
۴۶	Physical Education II	۱	۳۴	-	۳۴	-		G
۴۷	Site Management & Organization	۲	۶۸	۱۷	-	۵۱	Construction management as a project delivery system emphasizing the roles and	M

							responsibilities of construction managers, contractors, sub-contractors, owners and design professionals, and how they relate to each other. Fundamentals of project administration from pre-construction planning to project close-out through the study and review of case studies. Includes an overview of cost estimating, meetings, project safety and scheduling	
٤٨	Computer Applications in Architecture	٢	٥٤	١٧	٣٤	-	Intensive introduction to computer-aided design systems for developing construction documentation (working drawings). Lectures and exercises focus on learning the methodology for using CAD to efficiently prepare working drawings, as well as discussions regarding industry recognized standards and current technology used in the preparation of documentation.	E
٤٩	Family and population knowledge	٢	٣٢	٣٢	-	-		G
٥٠	Introduction to values of the sacred defense	٢	٣٢	٣٢	-	-		G
٥١	Nahj al-Balaghah's Thematic Interpretation	٢	٣٢	٣٢	-	-		G
٥٢	Final Design (Thesis)	٦	١٩٢	-	-	١٩٢	Final Architectural Plan with elective subject.	S

Remarks:

In University Educational System during each academic semester for each Theoretical Credit 16 hours, Practical 32 hours and Workshop Operations 48 hours of educational is offered.