2023
TP-153

Course Specification
(Bachelor)

Course Title:	Architectural Design Studio (6)
Course Code:	ARCH408
Program:	Architecture
Department:	Architecture
College:	Architecture and Planning
Institution:	Qassim University

Course general Description:

This course introduces comprehensive design, integrating multidisciplinary systems (Structural, Electrical, Mechanical, and life safety) within an architectural project; considering systems requirements during architectural stages, then applying technical design principles to develop tailored systems solutions, followed by design coordination. The architectural solution includes the design of building envelope system and associated assemblies considering energy performance, aesthetics, durability, and life safety. Final project assessment is about the successful integration of engineering systems into the architectural design while achieving efficiency and sustainability.

7Course Main Objective(s):

1. To Gain knowledge and skills to design large projects focusing on the integration of engineering systems with the architectural design, and implementation in the projects.
2. To Learn basic concepts of high performance and sustainable buildings and implementation in the studio projects.
3. To Apply principles of life safety plan and accessibility for people with special needs.
4. To develop Ability to prepare and presents projects in a professional manner using up-to-date computer graphics.
5. To Use up-to-date textbooks and web-based reference materials.
6. To Undertake research on required design topics and keep abreast latest developments in the field.

Total	110

Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program
1.0		
1.1	Explore key standard codes and legal requirements for building systems and services.	K3
2.0		
2.1	Apply comprehensive design techniques to solve problems within multidisciplinary projects.	S1
2.2	Integrate all design aspects such as (ordering system, environmental systems, structural system, accessibility, and life safety…) to make design decisions.	S2
2.3	Design building envelope systems and assemblies considering energy performance, aesthetics, durability, and safety.	S3
2.4	Develop structural, mechanical, electrical, and fire precaution systems layouts, integrating them within the architectural layout.	S3
3.0		
3.1	Aware legal requirements in the design of fire precaution system.	V1

Code	Course Learning Outcomes	Code of CLOs aligned with program
3.2	Respond to technical and architectural requirements in the design of building systems within a multi-disciplinary teamwork environment.	V2

Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignment 1 - Present site analysis, Site synthesis and design Concept.	Week 2	5 %
2.	Assignment 2 - Present Developed architectural design (full set of architectural drawings).	Week 3	7.5 %
3.	Assignment 3 – Present final architectural design (well-presented architectural drawings)	Week 5	12.5%
4.	Assignment 4 – Design and Present Structural System integrated within the architectural design.	Week 7	7.5%
5.	Assignment 5 – Design and present Envelope system integrated with architectural design.	Week 8	7.5 %
6.	Assignment 6 – Design and Present HVAC System integrated within the architectural design.	Week 9	5 %
7.	Assignment 7 – Design and Present Electrical/lighting System integrated within the architectural design.	Week 10	2.5 %
8.	Assignment 8 – Design and Present Life Safety System integrated within the architectural design.	Week 10	2.5 %
9.	Assignment 9 – Perform design coordination and present all systems Integration into the project design, and Pre-Final presentation.	Week 11	10 %
10.	Assignment 10 - Final Project presentation	Week 12	40 %

References and Learning Resources

Essential References	Silver, P. & McLean, W., Introduction to Architectural Technology, Laurence King Publishing, 2013 Trost, J. and Choudhuru, Ifte, Design of Mechanical and Electrical Systems in Buildings, Pearson, Prinice Hall 2004 Bovill, C., Architectural Design: Integration of Structural and Environmental Systems, VNR (1991).
Supportive References	Lioud, J.D., Architecture and the Environment, Laurence King (1998).
Electronic Materials	Websites of organizations for High Performance Buildings, such as http://www.wbdg.org (Whole Building Design Guide - USA) http://directory.designertoday.com/REVIT.aspx

	http://directory.designertoday.com/CAD/AutoCAD.aspx
Other Learning Materials	Digital design guides by engineering firms Handouts during design lectures in the studio International projects case studies presented during design lectures in the studio