

**Course name:** ARCHITECTURAL DESIGN STUDIO (6)

**Course code:** ARCH 408

**Course hours:** Credit hours 5, Contact hours 10

**Course Pre-requisites:** ARCH 307

### Course Description

Introduction to a Comprehensive design of a large span building, considering the integration of the various engineering systems (Structural, Electrical, Mechanical, life safety) by defining the appropriate systems selected and their application in the project design. Apply the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, durability, and energy conservation. Evaluation of final design will be on basis of the successful the integration of engineering systems into the architectural design while achieving sustainability.

### Course Main Objective

In this course, the students will be:

- Gain knowledge and skills to design large projects focusing on the integration of engineering systems with the architectural design, and implementation in the studio projects.
- Learn basic concepts of sustainable buildings and implementation in the studio projects.
- Apply principles of life safety plan and accessibility for people with special needs.
- Ability to prepare and presents projects in a professional manner using up-to-date computer graphics
- Use up-to-date textbooks and web-based reference materials.
- Undertake research on required design topics and keep abreast latest developments in the field.
- The assigned projects are supported by technical audio-visual presentations by Tutors on the use of digital methods for learning and communication.

### Course Learning Outcomes

After the completion of this course, the students will be able to;

- Learn and understanding principles of design projects, structural and other engineering systems.
- Learn and understanding principles of development of architectural program in stages.
- Gain knowledge pertinent to systems integration and sustainability of high-performance buildings.
- Design a comprehensive architectural project that takes into account all previous studios.
- Apply the basic principles involved in building structural envelope systems and associated assemblies relative to fundamental performance, aesthetics, durability, and energy conservation.
- Application of modern construction systems to the large spans in the current project.

### Course evaluation

- Attendance and instructor's evaluation
- Weekly/biweekly reviews
- Class participation
- Mid-term Review
- Pre-final
- Final Jury

### Course recommended books

- Allen, E., the Architect's Studio Companion, John Wiley & Son, Sixth edition. (2017).

### Course References

- Silver, P. & McLean, W., Introduction to Architectural Technology, Laurence Publishing, 2013
- Trost, J. and Choudhuru, Ifte, Design of Mechanical and Electrical Systems in Buildings, Pearson, Prinice Hall 2004