Design Minor

In today’s society, every graduate entering a new career or profession will encounter a design problem or solution. A knowledge of the processes and strategies associated with design can influence a positive approach or decision in manufacturing, engineering, marketing, communications, education and many other fields.

This 18 semester credit hour minor has been crafted for students who want to gain a competitive edge through an understanding of the basics behind contemporary design situations and solutions.

No permissions or approval are required from the Design Department to pursue the Design Minor. In order to graduate with a Design Minor, you must fulfill the guidelines listed in the curriculum requirements provided below. Upon completing the guidelines, a student need only list the Design Minor on their department graduation application. Students may request to have the design minor added to their degree audit at any time to track their progress in the minor.

Guidelines

- Transfer credit is allowed however no more than one half of the credit hours required on the minor
- Overlap with General Education Courses is permitted
- Overlap with the Design Major is not allowed and the minor must be in a different subject than the major and the same courses cannot count on the minor as counted on the major.
- Minimum C- for a course to be listed on the minor along with a 2.0 cumulative point-hour ratio required for the minor
- Course work graded Pass/Non-Pass cannot count on Minor

Requirement 1. The minor consists of 18 credit hours and at least 9 credit hours must be in courses at the 3000 level or above.

Requirement 2. The following 9 credit hours are required:

- DESIGN 3105 (Design Concepts for Non-Majors) (3hrs) *Approved ISE technical elective*
  - A studio-based introduction to the design process; creative problem-solving process emphasizes divergent thinking skills through observation, abstraction, evaluation and communication.

- DESIGN 3305 (Design Visualization for Non-Majors) (3hrs) *Approved ISE technical elective*
  - Development of drawing skills to explore, observe, understand, record, analyze and communicate visual information.
Design 3505 (Typographic Design for Non-Majors) (3hrs)
- Introduction to the knowledge and skills of typographical design and its corresponding aesthetic, functional and technological applications and utilizations.

Requirement 3. Students must pick 9 credit hours from the following electives:

DESIGN 2700 (Introduction to Design Practice) (3hrs) (concurrently* 2110, 2120, 2310 & 2320)
- Introduction to theory, rationale, practice and societal impact of design; design process, critical issues, relationship to the environment. *Students may register without prereqs or core requisites.

DESIGN 2750 (Design History) (3hrs) (prereq minor in design)
- A history of design as affected by technology, science and cultural world view.

DESIGN 4405 (Design Media for Non-Majors) (3hrs) (prereq DESIGN 3105, 3305, and 3505)
- The application of electronic media technologies to design content
- *Approved ISE technical elective*

DESIGN 4505 (3-D Visualization) (3hrs) (prereq DESIGN 3105, 3305, 3505)
- Concepts of 3D modeling, rendering and animation for visualizing design forms
- *Approved ISE technical elective*

DESIGN 5405 (Web Communication) (3hrs) (prereqs DESIGN 3105, 3305, 3505)
- Electronic communication techniques related to the web and interactivity; web design and technology principles.
- *Approved ISE technical elective*

DESIGN 5505 (Information Design) (3hrs) (prereqs DESIGN 3105, 3305, 3505)
- Design principles related to visualizing quantitative information, processes and systems.
- *Approved ISE technical elective*

ENGINEERING GRAPHICS 1121 (Graphic Presentation) (2hrs)
- Presentation of three-dimensional subjects by precise graphics: orthographic, sectional, pictorial and introduction to computer graphics

ENGINEERING GRAPHICS 4410.01 (Computer Graphics Using AutoCad) (2hrs) (prereqs Engr. 1182, 1185 or 1282)
- An advanced course in graphics with emphasis on the application on computer generated graphics to the solution of engineering problems. AutoCad and Civil 3D to be used.

ENGINEERING GRAPHICS 4410.02 (Computer Graphics Using SolidWorks) (2hrs) (prereqs Engr 1121 or 1182 or 1185 or 1282)
- An advanced course in graphics with emphasis on the application on computer generated graphics to the solution of engineering problems. SolidWorks to be used.
INDUSTRIAL AND SYSTEMS ENGINEERING 3700 (Cognitive Engineering Systems) (3hrs) (prereqs junior standing, admission to the ISE major)
- Human-centered design of cognitive tools and work systems. Human-computer interaction; decision making; human error; computer-supported distributed work; design of decision support systems.
- *Approved to double count in ISE major and Design Minor*

MECHANICAL ENGINEERING 5680 (Computer aided Design and Manufacturing) (4hrs) (prereqs grad standing or permission of instructor)
- Design of machine components, surfaces and assemblies using parametric and feature-based design principles and advanced design tools.

ISE 5682/MECHANICAL ENGINEERING 5682 (Fundamentals of Product Design Engineering) (4hrs) (prereqs senior or grad standing in engineering or permission of instructor)
- Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly.