

SLO Presentation

ARCH

Date: 09-15-2022

ISLO

Civic Engagement

- Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

- Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

- Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

- Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

- Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Technology
ARCH
PSLO <ul style="list-style-type: none">• Students explain the requirements to transfer to a university professional program in Architecture or related Environmental Design field.• Students identify notable architects, design concepts and significant buildings in architecture.• Students identify the historical and contemporary role of architects in the development of the built environment.• Students demonstrate the ability to produce competent construction documents for building projects utilizing manual and digital drafting techniques.• Students explain the fundamentals of sustainable environmental design practices.• Students utilize the creative design process to graphically/verbally communicate design ideas and concepts.• Students describe the role and purpose of building codes and other legal requirements that protect the public's health, safety and welfare.• Students design, develop, virtually construct and administrate multi-disciplinary projects using BIM (Building Information Modeling) technology.
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Architectural Technology--Cert

- Students demonstrate the ability to produce competent construction documents for building projects utilizing manual and digital drafting techniques.
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- Students explain the requirements to transfer to a university professional program in Architecture or related Environmental Design field.

CSLO

ARCH43 - Architecture Occupation Work Experience

- Students will complete a Work Experience/Career Internship to apply skills and knowledge learned in the classroom to related experiences on the job/training site.

ARCH44 - Architectural Drawing Occupational Work Experience

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ARCH99 - Directed Studies

- Students will create and complete a written independent study describing the purposes and outcomes of the project.

ARCH101 - Introduction to Civil Engineering and Architecture

- Students will calculate the heat loss for a building envelope with given conditions appropriate for a project.
- Students will calculate the storm water runoff from a site before and after development.
- Students will connect modern structural and architectural designs to historical architectural and civil engineering achievements.
- Students will create an oral presentation to present a proposal for the design and development of a commercial building project.
- Students will identify the primary duties, and attributes of a civil engineer and architect along with the traditional path for becoming a civil engineer or architect.
- Students will use 3-D architectural software to create appropriate documentation to communicate a commercial building design.
- Students will use 3-D architectural software to design and document a commercial site design.
- Students will use 3-D architectural software to design, model and document a small building.
- Students will use building codes and other technical resources to determine the required floor loading for a given building occupancy.

ARCH110 - Introduction to Architecture and Environmental Design

- Students will identify the primary reasons people choose or not choose architecture as a profession.
- Students will identify and describe the the five major phases of an architectural project - Schematic Design, Design Development, Construction Documents, Bidding and Negotiation, and Construction Administration.
- Students will identify and describe the different types of professional schools of Architecture.
- Students will identify and describe the three major components of architectural registration - education, experience, and exam.
- Students will identify and explain how architects obtain work, type of clients, and typical compensation methods.
- Students will identify and describe regulatory requirements that architects must comply with.
- Students will identify and explain some basic ethical principles that architects are expected to comply with.

ARCH111 - Architectural Drafting and Design I

- Students will determine the proper length of a drawn line using various scales found on an Architect's and Engineer's scale.
- Students will identify minimum code requirements for emergency escape windows, room sizes, stair components, room natural lighting and ventilation.
- Students will prepare a basic plot plan given the metes and bounds legal description.
- Students will identify proper aligned dimensioning techniques, dimensioning line placement and spacing, and proper dimension

numeral placement.

- Students will prepare a basic residential plumbing plan delineating the proper fixture locations and the routing of the cold water, hot water, sewage, and gas lines.
- Students will prepare a basic residential electrical plan delineating the proper locations and symbols for lights, outlets, switches, and circuit lines.
- Students will prepare a basic residential floor plan using proper scale accuracy, dimensioning, notations, and symbols.

ARCH112 - History Of Architecture

- Students will recognize Egyptian architecture as permanent and unchanging; know the Pyramids of Giza, and their various functions.
- Students will identify Greek Classical architecture including the Parthenon, and the measures used to make the resource appear perfect to the eye.
- Students will identify Italian Renaissance architecture, and understand how it references Greek Classical and Ancient Roman architecture.
- Students will identify the design intentions Modern architecture, and the meaning of "form follows function."
- Students will recognize Los Angeles architecture including the missions, architecture that integrates indoors and out, and architecture catered to the automobile.

ARCH113 - Building Codes

- Students will identify a building's International Building Code (IBC) occupancy classification based on its intended use.
- Given a building occupancy and type of construction, students will identify the basic allowable area, maximum building height in feet, and maximum number of building stories.
- Students will identify minimum widths for basic components of the means of egress system.
- Students will determine occupant loads for basic components of the means of egress system.
- Students will determine maximum travel distances for basic components of the means of egress system.

ARCH114 - Green Architecture and LEED

- Students explain "Integrated Design" and how this approach differs from the typical, linear design approach.
- Students will identify the potential materials or systems that can impact Indoor Environment Quality (IEQ).
- Students explain the concept of "Greenhouse Effect" and how solar energy and the atmosphere effect climate change.
- Students identify the specific goals of "Low Impact Design" (LID) and how it deals differently with storm water runoff.
- Students identify GREEN-washing and explain that materials and systems are never "LEED-Certified," only buildings are.

ARCH121 - Architectural Drafting and Design II

- Students will prepare interior elevations detailing millwork for bathroom and kitchen cabinets given sketches and specifications.
- Students will prepare wall-roof-ceiling details given a rough sketch and detailed material and construction notes.
- Students will identify the basic components of a residential wall section including footing and roof connections.
- Students will determine minimum residential stair dimensions and draw the stair cross section given a floor-to-floor height.
- Students will identify the basic components of a fireplace section.

ARCH122 - Architectural Delineation

- Students will apply the basic principles of freehand descriptive sketching to create a realistic sketch of an object.
- Students will generate the two-dimensional views of a building given a three-dimensional paraline view.
- Students will generate a three-dimensional paraline view of a building given the two-dimensional orthographic views.
- Students will construct a two-point perspective of a building given two-dimensional orthographic views.
- Students will create aerial and elevation views of a multi-component shape delineating shades and shadows.

ARCH123 - Introduction to 2D Computer Aided Drafting

- Students will create a window schedule using table styles and manual data input.
- Students will configure AutoCAD for architectural drafting and sketch a basic floor plan using available coordinate entry methods.
- Students will create and locate basic architectural floor plan symbols using available object snap modes and editing commands.
- Students will create a dimension style in compliance with industry standards and properly dimension a basic floor plan.
- Students will create flooring plans delineating finish materials and areas using the proper hatching patterns, sizing, and scales.

ARCH212 - Architectural Design Theory I

- Students will create static and motion design projects based on the interaction between the foreground and background colors.
- Students will design an abstract composition delineating axial, radial and occult balance.
- Students will delineate smooth-to-rough gradation using line work, photographs and material samples.
- Students will determine the proper shades and shadows for a complex composition.
- Students will explain the functional organization, structural system, circulation patterns and building materials of a famous building.

ARCH213 - Introduction to 3-D Computer Aided Drafting

- Students will create a complex wireframe surface model using 3-D primitives with faceted surfaces and polygon meshes.
- Students will create the 3-D modeling environment with multiple views and dynamically view-edit a 3-D model.
- Students will create a complex solid model using 3-D solid primitives, region modeling techniques and Boolean operations.
- Students will extract orthographic and sectional drawing views from a solid model.
- Students will render a solid model after attaching materials, adding light sources, various effects, and choosing a viewpoint.

ARCH221 - AutoCAD Architecture

- Students will create a 3-D building mass model using primitives, profile creation and extrusion.
- Students will create a variety of 3-D wall styles and generate a 3-D floor plan using these styles given a basic layout plan.
- Students will create a variety of 3-D door and window styles and place them in a given 3-D floor plan.
- Students will extract a building section and elevation from a 3-D building model and create one sheet for plotting both views.
- Students will create and place door tags in a floor plan, then extract a door schedule from these tags.

ARCH222 - Architectural Design Theory II

- Students will survey, then compare and contrast the most important works of modern architecture (i.e. post 1890) and select three personal favorites.
- Students will research the building construction and design philosophy of an important work of modern architecture and explain why the building was selected as important.
- Students will organize a team and determine each team member's responsibilities to further research a building's construction in order to prepare detailed design drawings and a building model.
- Students will complete collaborate design projects as evaluated by student peers.
- Students will complete building models and start a student design portfolio in preparation for university transfer.

ARCH223 - Revit Architecture

- Students will create Three-Dimensional Floor Levels using a variety of circulation, door, wall and window styles.
- Students will create Exterior and Interior Elevations from a building model and add a Curtainwall.
- Students will create and join Three-Dimensional roofs styles including flat, gable, hip and shed roofs.ate a three-dimensional massing model.
- Students will create Building and Wall Sections from a building model. Students will also create Two-Dimensional details.
- Students will create Three-Dimensional Interior Design Layouts including cabinets, office furniture and toilet fixtures.
- Students will create Exterior and Interior Renderings of the Building Model.
- Students will create a set of Construction Documents using the Views they created during the class assignments.

ARCH298 - Directed Studies

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