

INDUSTRY AND TECHNOLOGY
Institutional (ILO), Program (PLO), and Course (SLO) Alignment

Program: Architecture	Number of Courses: 13	Date Updated: 09.18.2014	Submitted by: SueEllen Warren, ext. 4519 Renee Newell, ext. 3308
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ILOs	1. Critical Thinking <i>Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms.</i>	2. Communication <i>Students effectively communicate with and respond to varied audiences in written, spoken or signed, and artistic forms.</i>	3. Community and Personal Development <i>Students are productive and engaged members of society, demonstrating personal responsibility, and community and social awareness through their engagement in campus programs and services.</i>	4. Information Literacy <i>Students determine an information need and use various media and formats to develop a research strategy and locate, evaluate, document, and use information to accomplish a specific purpose. Students demonstrate an understanding of the legal, social, and ethical aspects related to information use.</i>
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SLO-PLO-ILO ALIGNMENT NOTES:

Mark boxes with an 'X' if: SLO/PLO is a major focus or an important part of the course/program; direct instruction or some direct instruction is provided; students are evaluated multiple times (and possibly in various ways) throughout the course or are evaluated on the concepts once or twice within the course.

DO NOT mark with an 'X' if: SLO/PLO is a minor focus of the course/program and some instruction is given in the area but students are not formally evaluated on the concepts; or if the SLO/PLO is minimally or not at all part of the course/program.

PLOs	PLO to ILO Alignment			
	<i>(Mark with an X)</i>			
	1	2	3	4
PLO #1 Construction Documents Upon completion of a course of study in Architecture, a student will be able to design a building and draw the construction documents and specifications necessary for contractors to build it.		X		
PLO #2 Design Drawings Upon completion of the Architecture Program, a student will be able to create conceptual diagrams that illustrate the main idea in the solution of the design problem given to the student.	X			
PLO #3 Computer Software Upon completion of the Architecture Program, a student will be able to use various computer software to generate various kinds of drawings to show the process of a project from Design Sketches, Massing Models, Building Perspectives to Construction Documents.	X	X		

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
ARCH 100 An Orientation to Architecture: SLO #1 Urban and Social Environment Given lecture information, worksheet eXamples and in-class discussion, students will be able to demonstrate how architecture shapes the urban and social environment on global and local scales.	X	X	X	X	X		
ARCH 100 An Orientation to Architecture: SLO #2 Becoming an Architect Given lecture information, worksheet eXamples and in-class discussion, students will be able to demonstrate knowledge of the education necessary, internship and licensing procedures to become a professional architect.	X	X	X				
ARCH 100 An Orientation to Architecture: SLO #3 Careers Connected to Architecture Given lecture Information and classroom discussions, students will have knowledge of parallel vocations that a student with an education in architecture could pursue after their education is complete, if they choose not to pursue a career as an architect.	X	X	X				
ARCH 104 History of Western Architecture: SLO #1 Important Buildings After completing class lectures, slide presentations, reading assignments, and films, students will be able to identify important buildings covered in the course including the name, location, architect (where applicable), style, and approximate dates.		X		X			
ARCH 104 History of Western Architecture: SLO #2 Architectural Styles Students will be able to identify important architectural styles from the ancient architecture of Mesopotamia to the modern architecture of the 21st century in terms of religious, political and social context and relevant dates and architects.		X					
ARCH 104 History of Western Architecture: SLO #3 Architecture & Culture This course on architectural history expects the students to understand important buildings throughout history including historical context as well as social and religious relevancy, and the important role architecture plays in the development of cultures.		X					
ARCH 119 Computer Aided Architectural Drafting: SLO #1 Commands for Producing Drawings Given lecture information, worksheet eXamples, in-class discussion, and hands-on eXperience, students will be able to know the commands necessary to produce a set of construction drawings for a small house, using AutoCAD Architectural computer software.			X	X	X		
ARCH 119 Computer Aided Architectural Drafting: SLO #2 Graphic Techniques Successful students, completing the Architecture Program, following instructions, supervised classroom practice using CADD system, will use proper graphic techniques to complete instructions.			X				
ARCH 119 Computer Aided Architectural Drafting: SLO #3 Spatial Organization Successful students tracking for graduation transfer, and or employment in the architecture field, will create design drawings and design models to show spatial organization.			X				

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
ARCH 121 Three-Dimensional Architectural Computer Aided Design: SLO #1 Construction Documents By the conclusion of the course, students should be able to: <ul style="list-style-type: none"> • Understand basic concepts of Revit Architecture 2014 • Create a 3D Revit model to generate building plans, sections, elevations and 3D views • Understand basic concepts of detail and schedule creation • Understand basic concepts of stair and curtain wall creation • Understand basic concepts of creating parametric families • Create simple renderings and shadow studies • Understand how Revit is used in a professional office setting 			X				
ARCH 121 Three-Dimensional Architectural Computer Aided Design: SLO #2 Modeled Office Building Using Revit software, students will create a detailed 3D computer model of a 3-story office building complete with floor plans, RCPs, building sections, interior and eXterior elevations, details, and schedules as well as photo realistic renderings. Students will use Building Information Modeling (BIM) in design, analysis and documentation of their buildings.			X	X	X		
ARCH 121 Three-Dimensional Architectural Computer Aided Design: SLO #3 Computer Generated Drawings Students will be able to demonstrate proficiency in the basics of 3D BIM modeling using Autodesk Revit software, and will be able to create detailed computer models of buildings that can be used to generate building plans, sections, elevations, details, schedules, etc. Once completed with this course, the student will be prepared for entry-level employment with an architecture firm using computer software to generate drawings.			X				

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
ARCH 125 Advanced Three-Dimensional Architectural Computer Aided Design: SLO #1 Advanced Concepts By the conclusion of the course, students should be able to: <ul style="list-style-type: none"> • Understand advanced concepts of Revit Architecture 2012 • Create a detailed 3D Revit model with building plans, sections, elevations, RCPs, enlarged plans and 3D views • Understand advanced concepts of detail and schedule creation • Understand advanced concepts of stair and curtain wall creation • Understand advanced concepts of creating parametric families • Understand how Revit and sustainable design/LEED work together • Understand how Revit is used in a professional office setting • Create renderings, shadow studies, and animations • Create parametric Revit families • Create your own BIM with construction documents that can be used in a portfolio 			X				
ARCH 125 Advanced Three-Dimensional Architectural Computer Aided Design: SLO #2 Three-Story Office Building Students will create, using Revit software, a detailed 3D computer model of a 3-story office building complete with floor plans, RCPs, building sections, interior and exterior elevations, and details as well as photo realistic renderings. Students will also create curtain wall systems, door, window, Revit families, and furniture schedules, 3D animations, and understand the protocol for using Revit in a professional office setting. Students will use Building Information Modeling (BIM) in design, analysis and documentation of their buildings.			X	X			
ARCH 125 Advanced Three-Dimensional Architectural Computer Aided Design: SLO #3 3D BIM Modeling The course requires its students to learn advanced concepts of 3D BIM modeling using Autodesk Revit software and to create details computer models of buildings that can be used to generate building plans, sections, elevations, details, schedules, etc. Students will also learn concepts of stair; curtain wall, and family creation and the responsibilities of a BIM Manager. Once completed with this course, student will be prepared for advanced-level employment with an architecture firm using computer software to manage a BIM.			X				
ARCH 150A Architectural Drafting I: SLO #1 Lines and Lettering Upon completion of a beginning course of study in architecture drawing, a student will develop an architectural drawing technique of Lines and Lettering to create a series of drawings.	X	X					
ARCH 150A Architectural Drafting I: SLO #2 Graphic Instructions Successful students, completing the Architecture Program, following instructions, supervised classroom practice using CADD System; will use proper graphic techniques to complete instructions.			X				
ARCH 150A Architectural Drafting I: SLO #3 Spatial Organization Successful students tracking for graduation transfer, and or employment in the architecture field, will create design drawings and design models to show spatial organization.	X	X		X	X		
ARCH 150A Architectural Drafting I: SLO #4 Graphic Technique Given lecture explanation and graphic examples of architectural drawing line values and line types, students will correctly apply that graphic technique to their project drawings.	X	X					

SLOs	SLO to PLO Alignment <i>(Mark with an X)</i>			COURSE to ILO Alignment <i>(Mark with an X)</i>			
	P1	P2	P3	1	2	3	4
ARCH 150B Architectural Drafting II: SLO #1 Two-Story House Upon completion of this advanced course, the student will be able to draw all of the construction documents for a two story house on AutoCAD software.	X	X	X	X	X		
ARCH 150B Architectural Drafting II: SLO #2 Model Upon completion of this class, a student will be able to build a massing model from the drawings they create.	X	X					
ARCH 150B Architectural Drafting II: SLO #3 Stair Design Upon completion of this course a student will be able to design, calculate and draw a stairway for a pre-described area of space given to them. They will meet all current Building Codes related to stair design.	X	X					
ARCH 158 Structures Analysis - Timber: SLO #1 Beams and Lateral Bracing Given lecture information, handouts and in-class discussion, students will be able to demonstrate the knowledge of the function of structural components in residential buildings. Students will be able to calculate the size of beams, columns and lateral bracing systems of light framed wood structures.	X			X	X		
ARCH 158 Structures Analysis - Timber: SLO #2 Graphic Techniques Successful students, completing the Architecture Program, following instructions, supervised classroom practice using CADD system; will use proper graphic techniques to complete instructions.	X						
ARCH 158 Structures Analysis - Timber: SLO #3 Spatial Organization Successful students tracking for graduation transfer, and or employment in the architecture field, will create design drawings and design models to show spatial organization.	X						
ARCH 170 Architectural Graphics Techniques: SLO #1 Graphic Tools Given lecture information, handouts and in-class discussion, students will be able to demonstrate the ability to delineate the entourage necessary to illustrate an architectural presentation drawing. The student will be knowledgeable in the use of various graphic tools that architects use in their office to delineate presentation drawings.		X		X	X		
ARCH 170 Architectural Graphics Techniques: SLO #2 Orthographic Projection Given lecture material, students will be able to orthographically project elevation and section views of buildings from plan views of said building.	X	X					
ARCH 170 Architectural Graphics Techniques: SLO #3 Illumination Given lecture material, handouts and classroom discussion, students will be able to illuminate objects in plan, elevation and perspective so as to show materials in illuminated form as well as showing shade and shadow forms.		X					

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ARCH 171 Architectural Three-Dimensional Illustration: SLO #1 Three Dimensional Drawings Given lecture information, handouts and in-class discussion, students will be able to demonstrate the ability to draw and delineate numerous three dimensional drawings such as Isometrics, AXonometrics, Obliques, One, Two and Three Point Perspectives.		X		X			
ARCH 171 Architectural Three-Dimensional Illustration: SLO #2 Graphic Techniques Successful students, completing the Architecture Program, following instructions, supervised classroom practice using CADD system; will use proper graphic techniques to complete instructions.		X					
ARCH 171 Architectural Three-Dimensional Illustration: SLO #3 Spatial Organization Successful students tracking for graduation transfer, and or employment in the architecture field, will create design drawings and design models to show spatial organization.		X					
ARCH 172 Architectural Color Rendering Techniques: SLO #1 Color Theory and Schemes Given lecture information, handouts and in-class discussion, students will be able to demonstrate the ability to draw and delineate architectural presentation drawings using various color mediums. The student will demonstrate knowledge of color theory and color schemes, (monochromatic, complimentary, etc.) that architectural illustrators use in various circumstances.		X		X			
ARCH 172 Architectural Color Rendering Techniques: SLO #2 Use of Medium Given lecture information, handouts and in-class discussion, students will be able to demonstrate and ability to illustrate architectural renderings with the following color mediums; color pencils, markers, water colors, pastels and various computer software.		X					
ARCH 172 Architectural Color Rendering Techniques: SLO #3 Illumination Given lecture information, handouts and in-class discussion, students will be able to demonstrate and ability to mix colors to create Hue Schemes, (Monochromatic, Analogous, Complimentary, etc.) that will be the right colors for the building they are trying to illustrate.		X					
ARCH 179 Design or Build Studio: SLO #1 Designing and Collaborating Upon completing the course work, students will demonstrate the ability to design a simple house and then successfully collaborate within a team to build the structure in the Lab.		X		X			
ARCH 179 Design or Build Studio: SLO #2 Design Theory Given instruction in Design Theory, based on lecture material given and handouts and required reading in the book, the student will create conceptual diagrams and analytical drawings, like eXploded aXonometrics, to eXplain the main concept of idea behind the solution.		X			X	X	
ARCH 179 Design or Build Studio: SLO #3 Construction Tool Safety Given instruction on how to handle tools properly and safely, the student will take a safety test and pass with 100% score before they are allowed to work in the construction yard using power and manual tools.	X						

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	P1	P2	P3	1	2	3	4
ARCH 199 Design or Build Studio: SLO #1 Model Series Given instruction in basic design, a student will execute a series of models that demonstrate understanding, and application of those specific design principles.		X		X	X		
ARCH 199 Design or Build Studio: SLO #2 Design Theory Research Paper The student will develop an evolving knowledge base of design theory represented by built and unbuilt architecture and its place in history and will incorporate learned content, historical accuracy, relevancy and the application and analysis of theory into a research paper.		X					
ARCH 199 Design or Build Studio: SLO #3 Drawings & Scaled Models Using his or her own developed research report information on theory and design development, and other design principles taught in class, the student will create an environmentally responsible and sustainable architecture project in the form of drawings and scaled models.	X	X	X				