Architecture (ARC)

ARC 1000  Basic Architectural Drawing and Drafting  4 Credit Hours
Equivalent:  ARC 1010
English/ESL Placement:  Placement into ENG 1510.
Corequisite:  ARC 1040
This is a freehand drawing and drafting studio course.  This intro level course is designed for students who have no background in drawing and intend to pursue architecture, interior design and/or landscape architecture related fields.  It is also open to students who wish to improve their visual literacy.  The first part of the course is focused on understanding graphics and their relationship in context of architectural drawings.  The second part focuses on actual placement of elements as part of a completed set of architectural drawings.  BILLABLE CONTACT HOURS:  4

ARC 1040  Introduction to Architecture  .................  4 Credit Hours
Equivalent:  ARC 1020
English/ESL Placement:  Placement into ENG 1510.
Corequisite:  ARC 1000
This lecture course introduces students to the history of architecture from antiquity to the present.  The course is designed to encourage creative and analytical thinking while introducing students to important developments and innovations as well as the history of architectural practices, stylistic expression, construction methods and materials.  The course content focuses heavily on developing the ability to question, write, draw and present materials as part of the decision making process.  As part of semester-long research, students will explore and present the abstract, spatial, social/cultural, and environmental concepts that affect our built environment.  BILLABLE CONTACT HOURS:  4

ARC 1130  Basic Architecture Design I  .................  3 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1000 and ARC 1040; or consent of instructor.
This course is designed to develop basic visualization skills, observations, analysis and the application of principles and elements of design in the creation of two and three dimensional compositions.  The students will learn the art of basic delineation through the development of perspectives, isometrics, shade and shadows and at times development of models.  Since this is an introductory visual communication course, emphasis is placed on the creative process and expression with form, color, light and compositions.  BILLABLE CONTACT HOURS:  3

ARC 1135  Presentations and Model Building  ............  3 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1130 or consent of instructor.
Students should be familiar with Photoshop or similar programs before enrolling in this course.  This studio course explores traditional and contemporary methods of graphic presentations as a means of communication in architectural design.  The course emphasizes a variety of presentation techniques; including color renderings, delineation of elevation, section, plan views and articulation of image and transfer methodologies.  Media include computer-generated images, vellum based renderings, and architectural model building.  Emphasis is also placed on preparation of student portfolio and presentation skills, in preparation for student interviews upon entering the profession.  BILLABLE CONTACT HOURS:  3

ARC 1140  Architectural Design II  ......................  3 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1130 and ARC 2110; or consent of instructor.
Pre- or Corequisite:  ARC 1135
This course is the next in sequence of architectural design studio courses intended to develop students’ abilities to solve small to medium scale architectural design problems.  In this course, students start with emphasis on simple programmatic design solutions.  The course concentrates on the ways in which basic human factors affect architectural design on a daily basis.  Lectures include topics such as behavioral aspects of design, human aspiration, language of architecture, environmental and site issues.  A variety of studio assignments are used to apply the knowledge and skills acquired throughout the term.  BILLABLE CONTACT HOURS:  3

ARC 1500  Building Systems I  ..........................  5 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1000 or consent of instructor.
Pre- or Corequisite:  ARC 1040 and CAD 1101.
This course provides the foundational information for producing quality construction documents for light wood frame residential construction.  The student will be introduced to the development, composition, and application of various building materials.  Specific materials that will be addressed include wood, masonry, and concrete.  Topics include residential construction principles, wood frame detailing, footings, foundations, and electrical plan concepts and their relationship to wood frame construction, circulation methods, as well as geographical, climatic and safety issues.  BILLABLE CONTACT HOURS:  5

ARC 1505  Sustainable Architecture  ....................  3 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1500 or consent of instructor.
This course explores sustainability concepts and principles in the design of environmentally sound buildings, i.e. Green Buildings.  Modern buildings consume significant amounts of our natural resources, requiring integration of all building systems to provide the utmost efficiency.  Topics will include: environmental architecture, ecologically sound building designs, efficient use of energy sources, utilization of renewable energy systems, sustainable management of resources and the concept of intelligent buildings.  Along with the aforementioned topics, the challenges of adaptive reuse of buildings and the voluntary certification program LEED Green Building Rating systems will be addressed.  BILLABLE CONTACT HOURS:  3

ARC 1801  Special Topics - Architecture: Schematic Development through SketchUp  .........................  2 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1500 or consent of instructor.
Schematic Development through SketchUp.  BILLABLE CONTACT HOURS:  2

ARC 1802  Special Topics - Architecture  ............  1-4 Credit Hours
English/ESL Placement:  Placement into ENG 1510.
Prerequisite:  ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development.  Research topics can also be undertaken by individuals or small groups, and are to be development or project specific.  The area of study will not duplicate the content covered in the existing OCC architecture course offerings.  BILLABLE CONTACT HOURS:  1 - 4
ARC 1803  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1804  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1805  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1806  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1807  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1808  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 1809  Special Topics - Architecture .............. 1-4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
In the continual development of architectural technology, selected topics are to be pursued as a series of lectures for a given term or project development. Research topics can also be undertaken by individuals or small groups, and are to be development or project specific. The area of study will not duplicate the content covered in the existing OCC architecture course offerings. BILLABLE CONTACT HOURS: 1 - 4

ARC 2050  Building Systems II .......................... 5 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 and CAD 1151; or consent of instructor.
This course provides the foundational information for producing quality construction documents for small to medium scale commercial construction. The student will be introduced to the development, composition, and application of various building materials. Specific materials that will be addressed include steel, concrete, glass and aluminum as well as modern synthetic materials. Topics include steel construction principles, detailing, footings, electrical and mechanical plan layouts. The course content also includes discussion on related building code and construction specifications. The course content is structured for lecture and studio drawing time. BILLABLE CONTACT HOURS: 5

ARC 2110  Architectural Site Development ............ 4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
This course introduces the student to design issues for good site planning process principles and methods. The course addresses the issues related to site engineering such as grading, drainage, circulation, road alignment, and overall organizational concepts relative to a given site. The course content also includes an understanding of zoning, variances, easements and ordinances. The students will be required to understand and develop grading plans for a small to medium-sized property. BILLABLE CONTACT HOURS: 4

ARC 2111  Global Site Development ..................... 1 Credit Hour
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1140 and ARC 1500; or consent of instructor.
This course is an introduction to natural systems as they relate to sustainability with focus on the physical elements of a site, their influence on the site development and their effects on the architectural design. The focal point of the course is site grading and its related techniques, e.g. defining the land, reading topography, development of grading plans and its applications. Also included throughout the course are applications of accessibility standards, e.g. American Disability Act. The course, along with Architectural Design II and Architectural Site Development, if completed as part of the OCC Associated Degree will meet LTU's Integrated Design Studio I requirements. BILLABLE CONTACT HOURS: 1

ARC 2120  Structural Systems ......................... 4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 2050 and PHY 1610; or consent of instructor.
This course is an introduction to the structural design process. The students will learn structural theory through analytical and graphical solutions, determination of loads, resolution of force systems, equilibrium analysis, structural properties of shape and materials, shear and bending moments and deflection. Overall students will perform analysis on elementary indeterminate structures and introductory awareness of structural system behavior. It is suggested that you take this course within a semester of taking physics in order to be current on your formulas. BILLABLE CONTACT HOURS: 4
ARC 2130  Building Code Analysis .............................. 2 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
This course is an overview of building codes utilizing International Building Codes as a reference. Specific topics include: local, state and city applications of the international building codes. Students review building plans in order to understand compliances, terminologies, definitions and review processes and submit a compiled report and presentation. BILLABLE CONTACT HOURS: 2

ARC 2140  Architectural Environmental Systems ...... 4 Credit Hours
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1500 or consent of instructor.
The course will introduce students to environmental systems as they relate to building design and construction. Topics include design and understanding of mechanical, electrical, plumbing, and acoustical systems. The course presents students with a basic technical vocabulary and visual familiarity with environmental systems. Students will prepare typical electrical, mechanical, and plumbing drawings as well as perform load calculations. Additionally the course will expose students to environmentally friendly green building concepts including active and passive solar system designs. BILLABLE CONTACT HOURS: 4

ARC 2165  Interior Design and Color Theory ............. 3 Credit Hours
Equivalent: ARC 1160
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 2050 and ARC 2180; or consent of instructor.
This course introduces the student to interior planning by understanding behavioral, directional, personal, and conceptual spaces. The students explore solutions to two and three-dimensional interior design projects using color theory, perception, material and finish selections with emphasis on space planning, lighting, anthropometrics, ergonomics and codes. Several graphic presentation strategies and verbal communication skills will be introduced and explored. This course is taken in conjunction with ARC 2180 for the purpose of project continuity. BILLABLE CONTACT HOURS: 3

ARC 2180  Architectural Design and Development .... 4 Credit Hours
Equivalent: ARC 2160
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 1140 ARC 2050 ARC 2110 and ARC 2140; or consent of instructor.
This course is the last of the architectural drawing classes which specifically deals with concept to full scale design development drawings. The student will utilize their past skills and experience in the development of sequential design development drawings. The topics that are being reinforced include zoning regulations, easements, development of site plan, building codes and building systems. The course is an intensive studio which focuses towards an end design presentation which includes interior design package as well as three-dimensional graphics and modeling. BILLABLE CONTACT HOURS: 4

ARC 2181  Design Theory ........................................... 1 Credit Hour
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 2165 and ARC 2180; or consent of instructor.
This course is required for the student pursuing the articulation path with Lawrence Technological University (LTU). This design studio/lecture course examines the historical and contemporary theories of architecture such as modern, post modern and de-constructive movements that shape modern day architecture. As part of the learning process the student will test and demonstrate these theories against their individual design projects within the confines of architectural techniques. This course is intended to augment and compliment similar independent design studio courses offered at LTU. BILLABLE CONTACT HOURS: 1

ARC 2182  Portfolio Review ....................................... 1 Credit Hour
English/ESL Placement: Placement into ENG 1510.
Prerequisite: ARC 2111 ARC 2165 ARC 2180 and ARC 2181; or consent of instructor.
Students finishing OCC-LTU track will prepare a portfolio containing selected work samples for the transfer selection process. Emphasis will be placed on presentation, creativity and content assembled to be reviewed by a panel of jury members. BILLABLE CONTACT HOURS: 1