

# ARCHITECTURAL DRAFTING (614)

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## 614-104. Architectural History. (3 Credits)

Review architectural history from prehistory through modern times. Identify styles of architecture. Evaluate buildings and structures within the context of time, religion, politics, culture, economics, technology, and the physical environment. Produce sketches to develop drawing skills and examine significant historical buildings.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=104>)

## 614-107. Intro to Drafting. (3 Credits)

Develop basic drawing skills. Use hand sketching and Sketchup software to effectively communicate architectural concepts and to solve architectural problems. Become familiar with architectural drafting conventions as you learn to navigate and interpret construction working drawings. Begin to explore a variety of construction types and materials. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=107>)

## 614-110. Architectural AutoCAD. (3 Credits)

This class will introduce you to AutoCAD software. Construction Documents for a small residential building are taught according to local industry standards. Emphasis is placed on applying the basic AutoCAD commands while learning simple-construction techniques.

Prerequisites: 614-107 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=110>)

## 614-126. Survey of CAD & Design. (1 Credit)

Explore AutoCAD software and its use as a drafting tool in the architecture, drafting and construction fields. Learn how to use basic drawing and editing tools, and create a small set of architectural drawings. Gain an introduction to SketchUp software and its use as a presentation tool.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=126>)

## 614-128. Architectural Design Elements. (2 Credits)

Gain a basic understanding of the design elements and processes involved in residential and commercial construction, including site planning, conceptual design, space and function relationships, cost planning, and scale modeling. Explore the processes and procedures for solving design problems.

Prerequisites: 614-107 with a minimum grade of C and (614-104 (may be taken concurrently) with a minimum grade of C or 304-101 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=128>)

## 614-131. Introductory Revit. (3 Credits)

Gain an introduction to Revit software and use specialized tools to create 3D building models in a BIM environment. Learn to produce 2D architectural documents, develop detail drawings, add notes and annotations, generate schedules, and create sheets for printing.

Prerequisites: 614-107 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=131>)

## 614-132. Advanced AutoCAD. (3 Credits)

Learn to apply advanced AutoCAD tools and techniques in architecture and construction. Learn how to recognize and use the best tools for specific tasks, and how to produce construction documents according to industry standards.

Prerequisites: (614-110 with a minimum grade of C or 304-116 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=132>)

## 614-134. Architectural Building Codes. (1 Credit)

Examine and interpret the various standards and building codes used in residential and commercial construction with a focus on those that apply to the architectural discipline in Wisconsin.

Prerequisites: (614-151 with a minimum grade of C or 455-109 with a minimum grade of C or 614-149 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=134>)

## 614-135. Construction Technology. (3 Credits)

Receive valuable hands-on construction experience with a variety of materials and at various stages of construction from rough framing to finish carpentry. Follow construction processes and sequences. Become familiar with the physical properties of building materials and construction techniques.

Prerequisites: (614-151 with a minimum grade of C or 614-149 with a minimum grade of C or 304-125 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=135>)

## 614-137. Sustainable Building. (3 Credits)

Examine the characteristics of sustainable buildings including sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Assess technologies to achieve improvements in these areas. Evaluate sustainable solutions in terms of their social, environmental, and economic impact.

Prerequisites: (614-149 with a minimum grade of C or 304-125 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=137>)

## 614-138. Structural Concepts. (2 Credits)

This course studies the fundamental structural concepts and principles for buildings and other structures. Study includes Structural CAD drafting for residential and commercial buildings. Wood tables are introduced for residential framing. Foundation plan and details are drawn for a commercial building. Student will calculate simple structural engineering problems.

Prerequisites: (455-112 (may be taken concurrently) with a minimum grade of C or 614-131 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=138>)

## 614-139. MEP Systems. (1 Credit)

Learn how mechanical, electrical and plumbing (MEP) systems work and how they are integrated into buildings. Consider how environmental systems impact human comfort. Interpret MEP symbols and produce drawings that coordinate multiple systems.

Prerequisites: 614-107 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=139>)

**614-141. Advanced Revit. (3 Credits)**

Use advanced Revit commands while drawing a small commercial building. Learn to produce a set of working drawings.

Prerequisites: (614-131 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=141>)

**614-146. Architectural Design Studio. (4 Credits)**

Draw from each prerequisite/core class to develop a building design from concept through production of construction documents.

Prerequisites: 614-128 (may be taken concurrently) with a minimum grade of C and (614-139 with a minimum grade of C or 614-149 with a minimum grade of C) and 614-134 (may be taken concurrently) with a minimum grade of C and 614-141 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=146>)

**614-149. Materials and Methods. (3 Credits)**

Architectural students will learn building terminology and mechanical systems as applied to commercial and residential facilities.

Prerequisites: (614-107 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=149>)

**614-151. Building Materials & Methods. (2 Credits)**

Gain an introduction to building components and systems following the CSI MasterFormat divisions. Explore the use of various materials through the development of building details. Learn about and evaluate structural and architectural systems in terms of appropriateness for design criteria.

Prerequisites: 614-107 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=151>)

**614-152. Sustainable Building Concepts. (3 Credits)**

Examine the characteristics of sustainable buildings, including sustainable sites, water efficiency, energy, atmosphere, materials, resources and indoor environmental quality. Assess technologies to achieve improvements in these areas. Evaluate sustainable solutions in terms of their social, environmental and economic impact.

Prerequisites: (455-109 with a minimum grade of C or 614-139 with a minimum grade of C or 614-149 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=152>)

**614-159. Advanced Digital Presentation. (2 Credits)**

Use a variety of cutting-edge architectural software to create high-quality renderings, 3D models and virtual environments.

Prerequisites: 304-133 with a minimum grade of C and 614-141 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=159>)

**614-165. Building Estimating. (2 Credits)**

This class will introduce you to basics in estimating building construction cost. Numerous illustrations are used to help clarify the written text while emphasizing construction terminology, plan reading, basic code requirements, and good construction practices.

Prerequisites: 614-149 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=165>)

**614-301. Survey of Arch Drafting. (1 Credit)**

This course will provide an introductory survey of Architectural Drafting. Topics will include manual drafting, architectural history, and construction blueprint reading.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=301>)

**614-302. Survey of Architectural Design. (1 Credit)**

Students will use skills and concepts learned in pre-requisite course to design an architectural project. Students will use computer-aided drafting software to develop and present the project.

Prerequisites: 614-301 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=302>)

**614-403. Revit for Professionals. (1 Credit)**

Explore Autodesk Revit, the world's leading Building Information Modeling (BIM) software. Become familiar with the interface, and learn basic and intermediate modeling techniques. Learn to create column grids, place walls, doors and windows, and model floors, stairs, ceilings and roofs. Set up and print a small set of construction documents. Gain the tools and techniques to produce Revit models.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=403>)

**614-408. Revit I - Basics. (1.6 Credits)**

Explore Autodesk Revit, the world's leading Building Information Modeling (BIM) software. BIM gives you the tools to more efficiently plan, design, construct and manage buildings and infrastructure. This course covers basic terminology and modeling techniques to assist you in creating more accurate and optimized designs.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=408>)

**614-409. Revit II - Advanced. (1.6 Credits)**

Build on skills from Revit I - Basics, and explore more advanced modeling tools. Learn to model stairs and curtain walls; create construction details; and annotate, assemble and print a set of drawings. Gain knowledge and skills to take a project from start to finish.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=409>)

**614-421. AutoCAD for Plumbing. (3.2 Credits)**

Plumbers and plumbing apprentices will learn basic AutoCAD to create floor plans and isometric plumbing drawings.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=421>)

**614-422. State Apprvd Plumbing Drawings. (3.2 Credits)**

The plumbing plan review for a public building or place of employment is generally based on a minimum of 16 fixtures, which include water heaters, storm inlets, hose bibs and floor drains, or relates to health care facilities, or specific installations as identified in SPS Tables 382.20-1 and -2. This may include additions or alterations. Interior and exterior building water distribution and sanitary drain and vent systems may be reviewed together or separately. Storm water and Clearwater systems may be part of the review. This class gives the learner the ability to schedule for a state approvals, submit a state approval and receive the approved plan. Learner will draw floor plans, isometric perspectives and plumbing details relative to state approvals.

Prerequisites: 614-421 with a minimum grade of S

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=422>)

**614-540. Transit/Level for Apprentices. (0.5 Credits)**

Develop an understanding of the builder's and transit level, the recording of leveling notes, the use of information on a plan to layout work on the job, and related math procedures. Fulfill the ABC indentured plumbing apprentice unpaid related instruction requirements during this evening course.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=614&num=540>)