

# Architectural Drafting/Construction Technology

64-credit Associate of Applied Science Degree

## About the Program

Gain an edge in the architectural drafting field by developing skills in traditional and computer-aided drafting as well as a background in construction techniques. AutoCAD, Microstation, Revit and third-party software are a few of the programs that students will learn in the program. Graduates may find employment in civil, commercial or residential construction.

## Potential Job Titles

- Architectural Drafter/Designer
- Construction Review Tech/CAD tech
- Designer
- Cabinet Designer

## Credit Transfer

Credits earned in the Architectural Drafting/Construction Technology program may be transferable to institutions offering baccalaureate degrees. Visit [www.wctc.edu/transfer](http://www.wctc.edu/transfer) for specific information. Since the details of credit transfers change from time to time, be sure to contact the intended college or university to verify credit transferability.

## Admission Process

- Fill out a WCTC application
- Send \$30 non-refundable application fee
- Send high school transcript or GED/HSED
- Send any previous college transcripts
- Complete Skills Assessment test (COMPASS)
- Begin pursuing Financial Aid options

For more information, call 262.691.5200.

| Required Courses  | Credits   |
|---|-----------|
| <b>First Semester</b>   |           |
| 614-107 Sketching and Working Drawings  | 2         |
| 614-108 Architectural CAD I   | 2         |
| 614-109 Architectural History   | 3         |
| 801-196 Oral/Interpersonal Communication  | 3+        |
| 804-115 College Technical Math 1  | 5+        |
| <b>Total semester credits</b>   | <b>15</b> |
| <b>Second Semester</b>  |           |
| 614-127 Codes   | 1         |
| 614-128 Architectural Design Elements   | 2         |
| 614-129 Architectural CAD II  | 3         |
| 614-149 Building Systems  | 3         |
| 801-195 Written Communication   | 3+        |
| 804-116 College Technical Math 2  | 4         |
| <b>Total semester credits</b>   | <b>16</b> |
| <b>Third Semester</b>   |           |
| 606-153 Co-op Education I-Ind Occupations   | 1         |
| 614-133 Architectural CAD III   | 3         |
| 614-138 Structural Concepts   | 2         |
| 806-143 College Physics 1   | 3+        |
| 809-195 Economics   | 3+        |
| 809-196 Introduction to Sociology   | 3+        |
| Elective  | 3         |
| <b>Total semester credits</b>   | <b>18</b> |
| <b>Fourth Semester</b>  |           |
| 614-143 Civil CAD   | 3         |
| 614-145 Architectural CAD IV  | 3         |
| 614-146 Architectural Design Studio   | 3         |
| 809-199 Psychology of Human Relations   | 3         |
| Elective  | 3         |
| <b>Total semester credits</b>   | <b>15</b> |
| + Proficiency exam available  |           |
| <i>Curriculum is current as of catalog printing. The most current curriculum requirements for graduation will be provided upon admission to program, or review at <a href="http://www.wctc.edu">www.wctc.edu</a>.</i> |           |

**Architectural Drafting/Construction Technology Required Courses**

**606-153 Co-op Educ I-Ind** 1  
Gain a meaningful occupational experience. Hone technical competencies and interpersonal relationships that are stressed in seminars. Prerequisites: Approval of Co-op Ed Office

**614-107 Sketching and Working Drawings** 2  
Develop basic drawing skills, perception, and personal expression. Address problems of value, structure, and composition using a variety of themes. Explore basic techniques of architectural drafting, including line work, lettering, geometric constructions, and orthographic projection. Analyze symbols used in architectural, mechanical, electrical, and structural blueprints.

**614-108 Architectural CAD I** 2  
Explore computer-aided drafting equipment and its application to architectural drawings. Learn basic AutoCAD commands and develop an understanding of the software's use in industry while completing a series of projects and exercises.

**614-109 Architectural History** 3  
Review architectural history through modern times. Identify styles of architecture by their cultural expression within the context of religion and politics of the era. Examine the structural environment and expression through art.

**614-127 Codes** 1  
Examine building codes used in residential and commercial construction in Wisconsin and throughout the nation, including those related to structural, plumbing, heating, air conditioning, and electrical components. Prerequisites: 614-108 Architectural CAD I

**614-128 Architectural Design Elements** 2  
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: 614-109 Architectural History and 614-107 Sketching and Working Drawings

**614-129 Architectural CAD II** 3  
Use advanced computer-aided drafting commands to generate blueprints for a wood frame building and locate the structure on a site. Interface Microsoft Word with AutoCAD. Prerequisites: 614-108 Architectural CAD I and 614-107 Sketching and Working Drawings

**614-133 Architectural CAD III** 3  
Explore advanced commands in AutoLisp-customization. Use AutoCAD software to complete projects that involve masonry buildings, field measurements, time sheets, and interfacing digital photography. Prerequisites: 614-129 Architectural CAD II

**614-138 Structural Concepts** 2  
Learn how to analyze structural components for buildings. Study concepts such as vertical and horizontal loadings, and shear and moment diagrams for concrete, masonry, wood, laminated wood, and steel beams. Solve simple structural engineering problems. Prerequisites: 614-127 Codes and 614-129 Architectural CAD II and 614-149 Building Systems

**614-143 Civil CAD** 3  
Study land development, road design, and basic surveying elements. Use the Microstation software package for development of topography prints, cut and fill, and drainage topics. Explore GIS aspects. Prerequisites: 614-133 Architectural CAD III

**614-145 Architectural CAD IV** 3  
Study the basic concepts related to steel buildings, parking lot development, 3-D modeling and design, solid modeling and mass properties calculations, rendering tools and techniques, and animation and simulation tools. Prerequisites: 614-133 Architectural CAD III

**614-146 Architectural Design Studio** 3  
Upon completion of this course students will have completed a design project which will include conceptual design through construction documents. Prerequisites: 614-133 Architectural CAD III and 614-109 Architectural History and 614-128 Architectural Design Elements and 614-107 Sketching and Working Drawings

**614-149 Building Systems** 3  
Learn building terminology and mechanical systems as applied to commercial and residential facilities. Prerequisites: 614-108 Architectural CAD I and 614-107 Sketching and Working Drawings

**801-195 Written Communication** 3  
Study and practice the transfer of information, ideas, and experiences in written form through reports, letters, memoranda, and other documents. Gain proficiency in the areas of organization, clarity, accuracy, and directness. Prerequisites: COMPASS-Writing Skills or ACT-English or ASSET-Writing Skills or Accuplacer Sentence Skills or TABE Advanced Language or 831-103 Intro to College Writing or 851-771 Writing-Program Readiness

**801-196 Oral/Interpersonal Comm** 3  
Practice the necessary skills for effective speech delivery, listening, assertiveness, conflict resolution, teamwork, and general interpersonal communication.

**804-115 College Technical Math 1** 5  
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B.

**804-116 College Technical Math 2** 4  
Topics include: vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rational exponents; dimension of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic sections; and analysis of statistical data. Emphasis will be on the application of skills to technical problems. Prerequisites: 804-115 College Technical Math 1 or 804-151 Technical Math I or Associate Dean approval

**806-143 College Physics I** 3  
Learn the applications and theory of basic physics principles. Emphasis is on problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinematics, dynamics, work, energy, power, temperature and heat. Prerequisites: 804-115 College Technical Math 1 (or concurrent) or 804-151 Technical Math I or 804-153 Unified Algebra & Trigonometry or 804-154 Technical Calculus I or 804-198 Calculus 1 (or concurrent)

**809-195 Economics** 3  
Discuss the major institutions and principles that underlie the contemporary American economic system, and consider topics such as the free enterprise system, supply and demand, circular flow, government involvement, the Federal Reserve System, economic growth and development, the effects of international trade, comparative economic systems, and global economics. Prerequisites: COMPASS-Reading Skills or 858-775 Reading - Program Readiness or 838-105 Intro Reading & Study Skills or TABE Advanced Reading or Accuplacer Reading Comprehensi or College Proficiency - Reading or Grandfathered Rdg Requirement or ACT-Reading

**809-196 Introduction to Sociology** 3  
Learn the basic concepts of sociology: culture, socialization, social stratification, multiculturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. Prerequisites: COMPASS-Reading Skills or 858-775 Reading - Program Readiness or 838-105 Intro Reading & Study Skills or TABE Advanced Reading or Accuplacer Reading Comprehensi or College Proficiency - Reading or Grandfathered Rdg Requirement or ACT-Reading

**809-199 Psychology of Human Relations** 3  
Examine the principles of interaction as applied to human relations at home and on the job. Explore topics such as self concept personality development, learning, motivation, emotions, stress, human relations processes, and special relationships. Prerequisites: COMPASS-Reading Skills or 858-775 Reading - Program Readiness or 838-105 Intro Reading & Study Skills or TABE Advanced Reading or Accuplacer Reading Comprehensi or College Proficiency - Reading or Grandfathered Rdg Requirement or ACT-Reading

**Elective Options**

614-155 Architectural 3D CAD

Any course at the associate degree level will meet the elective requirement.