

## Program Overview

The Architectural Commercial Design program will prepare students to translate the ideas, rough sketches, specifications, and calculations of engineers, architects, and designers into commercial and residential working drawings. Our program emphasizes construction techniques and materials used in commercial building design.

Campus:

Rice Lake



## Special Feature

This program is unique in the state.

## Admission Requirements

Students in this program must:

- Complete application form and submit with fee (fee waiver may apply if previously submitted)
- Complete Accuplacer entrance assessment to determine placement (waiver may apply with acceptable alternative test scores and/or postsecondary degree completion)
- Complete admissions interview with a WITC counselor (above requirements should be completed prior to interview)

## Program-Specific Requirement

Students in this program must:

- Complete the SmarterMeasure Learning Readiness Indicator assessment for online learning at: <http://www.witc.edu/online/smartermeasure.htm>.

## Student Profile

Architectural Commercial Design students should:

- Possess some mathematical and science background
- Enjoy the application of problem solving involved in building design
- Possess the desire to assume responsibility
- Be able to work well with others

## Preparation for Admission

Students should strive to reach a comfort level in the following courses or skills:

- Algebra
- Communications/English
- Geometry
- Trigonometry
- Computers

## Program Outcomes

Employers will expect Architectural Commercial Design graduates to be able to:

- Draw and detail buildings
- Apply construction knowledge to develop working drawings
- Detail construction connections
- Research product information
- Utilize the Enrolled Wisconsin Commercial Building Code incorporating the International Building Code
- Apply a working knowledge of heating, plumbing, electrical, and other mechanical systems within a building
- Use computer-aided drafting, building information modeling, and architectural-related software
- Utilize office practices and standards

Collegewide outcomes and indicators will also be addressed to develop personal awareness, career effectiveness, and professionalism. See page 5 for a list of collegewide outcomes and indicators.

## Career Outlook

This program will prepare students to work in both residential and commercial construction. Positions available after graduation include:

- CAD Drafter
- Store Planner
- Project Manager
- Technical Coordinator
- Design Technician
- CAD Technician

With additional experience, graduates may move into one of these positions:

- Architect
- Project Manager
- CAD Manager

## Curriculum

Number	Course Title	Credits
<b>Technical Studies Courses</b>		
10410121	Wood Frame Construction	3
10481155	Sustainable Architecture	2
10614101	Architectural Drafting Principles <sup>▲</sup>	4
10614103	Wood Frame Drafting/Design <sup>▲</sup>	4
10614110	Architectural Drafting Studio (WBL) <sup>▲</sup>	5
10614111	Plumbing and Electrical Systems <sup>▲</sup>	2
10614115	Architectural Internship <sup>▲</sup> <b>or</b>	3
10614116	Case Studies in Architecture <sup>▲</sup>	3
10614124	Commercial Construction <sup>▲</sup>	3
10614129	Building Estimating <sup>▲</sup>	3
10614135	Architectural CAD <sup>▲</sup>	3
10614139	Heating, Ventilating, and Air Conditioning Systems <sup>▲</sup>	2
10614162	Intro to Building Information Modeling (BIM) <sup>▲</sup>	2
10614163	Commercial Drafting <sup>▲</sup>	5
10614164	Structural Design	3
10614165	Site Design <sup>▲</sup>	3
10890100	Success Strategies 1	1
10890105	Job Quest	<u>1</u>
		49
<b>General Studies Courses <sup>▸</sup></b>		
10801195	Written Communication <sup>▲</sup>	3
10801196	Oral/Interpersonal Communication <b>or</b>	3
10801198	Speech	
10804115	College Technical Mathematics 1 <sup>▲</sup>	5
10804116	College Technical Mathematics 2 <sup>▲</sup>	4
10809122	Introduction to American Government <b>or</b>	3
10809166	Introduction to Ethics: Theory and Application <b>or</b>	
10809172	Race, Ethnic, and Diversity Studies <b>or</b>	
10809195	Economics <b>or</b>	
10809196	Introduction to Sociology	
10809159	Abnormal Psychology <b>or</b>	3
10809198	Introduction to Psychology <b>or</b>	
10809188	Developmental Psychology	<u>21</u>
		70
<b>PROGRAM REQUIREMENTS</b>		<b>70</b>

<sup>▲</sup> Requires a prerequisite and/or corequisite that must be completed with a grade point of 2.0 or better.

<sup>▸</sup> See page 40 for General Studies course descriptions.

# Course Descriptions

(See page 40 for General Studies course descriptions)

## 10410121

### Wood Frame Construction - Credits: 3

This course introduces the student to the materials and methods used in wood frame construction. It familiarizes students with components of modern construction for the purpose of selecting the materials best suited to various construction jobs.

## 10481155

### Sustainable Architecture - Credits: 2

In the broad context, sustainable architecture seeks to minimize the negative environmental impact of buildings through ecological and efficient use of energy and materials resources. This course introduces the student to current theories and practices of sustainable building design through the study of energy efficiency techniques, renewable energy resources, and the reduction, recycling or reuse of building construction materials.

## 10614101

### Architectural Drafting Principles - Credits: 4

This course introduces graphic representation in construction. It covers the fundamentals of drafting including line work, lettering, measuring, sketching, projections, and pictorial drawings. Students will use the aforementioned fundamentals to complete a set of drawings for a residence. COREQUISITE: 10614135 Architectural CAD.

## 10614103

### Wood Frame Drafting/ Design - Credits: 4

This course introduces the student to the design principles needed for wood frame structures and incorporates the many aspects of building aesthetics and working drawings. The final assignment is to plan a set of drawings for a wood frame commercial building. PREREQUISITE: 10614101 Architectural Drafting Principles.

## 10614110

### Architectural Drafting Studio (WBL) - Credits: 5

This final semester course is designed to prepare the student for the challenges of working in an architectural office. The major portion of the course is the preparation of a set of architectural working drawings for a commercial building. The course also includes architectural office orientation, specifications, architectural group projects, and commercial building planning considerations as well as several activities directed toward successful job-hunting skills. PREREQUISITE: 10614163 Commercial Drafting.

## 10614111

### Plumbing and Electrical Systems - Credits: 2

This course introduces basic principles of plumbing and electrical systems in building design and construction. These systems are studied in the context of the overall building design with emphasis on materials, equipment, systems design, engineering principles, and sustainable design practices. PREREQUISITE: 10614101 Architectural Drafting Principles.

## 10614115

### Architectural Internship - Credits: 3

Internship is designed to provide students with on-the-job experience in actual work situations. These experiences strengthen student competencies through participation in a wide variety of occupational experiences, ranging from routine assignments to specialized work-related duties. PREREQUISITES: Appropriate technical studies courses and a minimum of one year successful associate degree program competencies and/or instructor approval.

## 10614116

### Case Studies in Architecture - Credits: 3

This course builds upon students' prior experience from other courses in which Revit has been instrumental in developing projects. Students will spend part of their time learning advanced concepts in Revit such as creating and editing families, exploring interoperability, exploring 3D viewing options, and other advanced features. Throughout the course, students will also apply those concepts to a project of their choosing. PREREQUISITE: 10614163 Commercial Drafting.

## 10614124

### Commercial Construction - Credits: 3

This course introduces the student to the commercial phase of the building spectrum with applications to steel, concrete, and heavy timber structures. Methods and practices utilized in buildings consisting of the various materials and combinations of materials are covered. PREREQUISITE: 10410121 Wood Frame Construction.

## 10614129

### Building Estimating - Credits: 3

This course introduces the student to the basic methods of building estimating and systems for doing quantity surveys. Emphasis is placed on developing the skills received in preparing the kinds of estimates commonly used in architecture and building construction. Practical exercises in developing estimates for wood frame and light commercial structure are included in the course of study. PREREQUISITE: 10410121 Wood Frame Construction.

## 10614135

### Architectural CAD - Credits: 3

AutoCAD and related architectural software is utilized to teach learners the fundamentals of architectural computer-aided drafting. Topics from CAD applications in architecture and the equipment required to do actual drafting, modifying, and plotting operations are covered. COREQUISITE: 10614101 Architectural Drafting Principles.

## 10614139

### Heating, Ventilating, and Air Conditioning Systems - Credits: 2

This course introduces basic principles of heating, ventilating and air conditioning systems in building design and construction. These systems are studied in the context of the overall building design with emphasis on materials, equipment systems design, engineering principles, and sustainable design practices. PREREQUISITE: 10614101 Architectural Drafting Principles.

## 10614162

### Intro to Building Information Modeling (BIM) - Credits: 2

This course is an introduction to the application of BIM software in architectural drafting. Students will apply Revit Architecture software to create a three-dimensional building model that allows for deliverables such as floor plans, building sections, exterior elevations, and schedules. The building model will include walls, openings, floors, stairs, roofs, foundations, and footings. Topics such as datum, annotation, modifying family types, and profiles will be covered.

## 10614163

### Commercial Drafting - Credits: 5

This course introduces the student to commercial building terminology, materials, methods of construction, and the codes governing their design. Students complete a series of building wall sections and a set of drawings for a concrete masonry building. PREREQUISITES: 10410121 Wood Frame Construction, 10614103 Wood Frame Drafting/Design, 10614162 Intro to Building Information Modeling (BIM) and COREQUISITE: 10614124 Commercial Construction.

## 10614164

### Structural Design - Credits: 3

Basic concepts of design as applied to steel and timber beams and columns, as well as concrete bases, slabs, columns, and foundations are developed. Emphasis is on developing a sound conception of the related problems faced by the architect, contractor, construction superintendent, and distributors in planning and erecting buildings.

## 10614165

### Site Design - Credits: 3

The course focuses on the fundamental design issues of the building site with an introduction to land surveying and topography, land planning and zoning, and environmental regulations. The lab portion of the course provides an opportunity to develop site analysis and design skills through the development of an architectural commercial site design project. PREREQUISITES: 10614101 Architectural Drafting Principles and 10804116 College Technical Mathematics 2.

## 10890100

### Success Strategies 1 - Credits: 1

This course is designed to facilitate greater learner success affecting the academic, professional, and personal lives of students.

## 10890105

### Job Quest - Credits: 1

This course is designed to enhance the student's ability to seek, obtain, and retain employment. Assessment of personal characteristics, job-seeking and retention skills, preparation of employment-related documents, and interviewing strategies are included.

## Graduate Employment Information

(WITC Graduate Survey Responses 2009-2010; for most recent data, go to [witic.edu](http://witic.edu))

Number of graduates	5	Number employed	5	% employed in WITC district	50%
Number of responses	5	Percent employed	100%	Range of yearly salary	\$24,958-\$29,000
Number available for employment	5	Employed in related field	4	Average yearly salary	\$26,986

*career vision*