



A.C.E. PROGRAM CONFERENCE

ARCHITECTURE CONSTRUCTION ENGINEERING

Kirkwood
COMMUNITY COLLEGE

MEET OUR FULL TIME FACULTY



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WHAT IS A.C.E.? A.T.? C.M.?

A.C.E. - Architecture, Construction, Engineering (Civil)

One year diploma program, prepares students to enter the A.C.E. industry with a basic foundation of skills necessary for entry level positions.

A.T. - Architectural Technologies

Two year A.A.S. program includes instruction in a variety of CAD software, hand sketching as well as business and graphic editing computer applications.

C.M. - Construction Management

Two year A.A.S. program, prepares students for project engineering and construction management and business ownership within the A.C.E. industry.



WHAT IS THE “A.C.E. DIPLOMA”?

The A.C.E. Diploma is the combined first year for both the Architectural Technologies and Construction Management programs. All students in either program will receive this diploma at the end of their first year.

This is the reason why A.T. and C.M. are combined into a single presentation: the programs (and professional fields) are so closely intertwined that, at least for the first year, they both take the same classes.

The diploma is not a degree, but it is a useful credential to show prospective employers that you have a general understanding of how buildings are built.



THE WIDE, SHALLOW SEA...



In the A.C.E. programs at Kirkwood, we talk about the first-year curriculum as a very wide but shallow sea. This means that we are looking to expose future design and construction professionals to as many facets of the building process that we can. This is the “wide” part; the best drafters are the ones that understand how their designs might be built, and the best contractors are the ones that understand why something was designed a certain way. However, not every individual can be an expert in every field; that is the “shallow” part. Students should develop in their first year a *basic understanding of everything* it takes to build a building.

WHAT ARE OUR GRADUATES DOING...

Architectural Designer	Jobsite Foreman	Construction Material Sales / Distribution	Industrial Technology Teacher (H.S.)
Project Engineer	Civil Engineering CAD Technician	Construction Technologist	Architect (via Dunwoody College)
Carpenter	Project Manager	Architectural Drafter	Civil Engineer (via U. of I.)
General Contractor	Construction Estimator	Facility Management	Construction Manager (via U.N.I.)

CONSIDERING A 4 YEAR DEGREE?

As a community college, Kirkwood does not offer advanced degrees. We have pathways in place with some partner institutions who do:

For **Construction Management**, students may go on to the [University of Northern Iowa](#) for an additional 2 years and earn a bachelor's degree.

For **Civil Engineering**, students may go on to the [University of Iowa](#) for approximately 2.5 years and earn a bachelor's of science degree.

For **Architecture**, students may go on to [Dunwoody College in Minneapolis](#) for an additional 2.5 years and earn a bachelor's degree.

Kirkwood is an excellent way to jump start a bachelor's degree!



INDUSTRY CREDENTIALS

The A.T. and C.M. programs both have imbedded industry credentials in the curriculum. When they graduate, students receive certification in:

OSHA 10

First Aid

C.P.R.

LEED Green Associate





WHAT TO EXPECT

CLASSES REQUIREMENTS OPPORTUNITIES

OUR CLASSES ARE TWO DAYS A WEEK!

That's right, your **TECHNICAL** classes within the program are just two days a week (for most students.) We like to have our students in an office or on a jobsite working, and by blocking out only two days a week, a student can work *part-time at least*. BUT, there are some elective courses that we do not control:

The A.C.E. diploma – Year 1

Requires **1** math and **1** communications course.

The A.T. and C.M. programs – Year 2

Require **1** additional communications course and **1** humanities course.

These “gen-ed” courses can be taken whenever the student has availability. To keep the two day a week schedule, most often our students take these courses online, in the evening or in the summer.

WHAT TO EXPECT : YEAR 1

Fall Semester

8 weeks

A.C.E. Professions

*introduction to the industry, resume writing,
team-building & college 101*

Architectural Plans & Specs

*basic plan reading, measuring,
& introduction to specifications*

8 weeks

Estimating I

*introduction to the financial side of things,
especially the cost of construction*

Construction Modeling

*3D digital construction of common practices,
assembly types, and details.*

Our typical course path involves 8 first year courses taught in four 8 week sessions.

Our first semester (above) is about fundamentals...

WHAT TO EXPECT : YEAR 1

Fall Semester

8 weeks

A.C.E. Professions

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Architectural Plans & Specs

basic plan reading, measuring, & introduction to specifications

8 weeks

Estimating I

introduction to the financial side of things, especially the cost of construction

Construction Modeling

3D digital construction of common practices, assembly types, and details.

Spring Semester

8 weeks

Structures and M.E.P.

introduction to engineering: structures, building mechanics, electrical, plumbing

Introduction to B.I.M.

introduction to building information management, the “new CAD”

8 weeks

Civil Engineering & Architecture

more on engineering infrastructure and the process and history of design

Construction Lab

basic skills lab for framing, carpentry, tool use, and jobsite safety

WHAT TO EXPECT : YEAR 1

Fall Semester

8 weeks

Our second semester (below) is about building on those fundamentals.

Note: If a student has completed the 4 “A.C.E. Academy” courses in high school, he or she can *skip the first semester* and start here!

8 weeks

But, remember your gen-eds...

Spring Semester

8 weeks

Structures and M.E.P.

introduction to engineering: structures, building mechanics, electrical, plumbing

8 weeks

Civil Engineering & Architecture

more on engineering infrastructure and the process and history of design

Introduction to B.I.M.

introduction to building information management, the “new CAD”

Construction Lab

basic skills lab for framing, carpentry, tool use, and jobsite safety

WHAT TO EXPECT : SUMMER

The best way to learn is with experience.

Students are required to prepare a resume, interview, negotiate, and work a **professional, paid internship** at a company of their choosing, usually in the summer between years 1 and 2. Students may work anywhere they like, as long as it is somehow related to the degree they are seeking.

This is an excellent opportunity for students who do not have professional contacts nor experience to enter the working world. Many of our students end up working for their internship companies after graduation.



WHAT TO EXPECT : YEAR 2

Fall Semester

8 weeks

Construction Documents

advanced drawing and specifications and an introduction to contracts

Pre-Con Services

team selection, bidding, scheduling, mobilization and procurement

8 weeks

Construction Services

execution of a project from shovel to ribbon cutting

Sustainable Building Science

an overview of current technologies and best practices.

Both A.T. and C.M. students continue on the same track in the beginning of year 2 with a series of classes designed to walk through the construction process from start to finish.

The 4 classes together form another certificate, the Project Management Certificate.

WHAT TO EXPECT : YEAR 2 – C.M.

Fall Semester	8 weeks	Construction Documents <i>advanced drawing and specifications and an introduction to contracts</i>	Pre-Con Services <i>team selection, bidding, scheduling, mobilization and procurement</i>
	8 weeks	Construction Services <i>execution of a project from shovel to ribbon cutting</i>	Sustainable Building Science <i>an overview of current technologies and best practices.</i>
Fall Semester	8 weeks	Principles of Supervision <i>learning to manage people</i>	Principles of Project Management <i>learning to manage... everything else</i>
	8 weeks	Estimating II <i>More sophisticated take-off and estimation techniques</i>	Construction Capstone <i>a beginning to end simulation of a construction project, done by the student.</i>

WHAT TO EXPECT : YEAR 2 – A.T.

Fall Semester

8 weeks

Construction Documents

advanced drawing and specifications and an introduction to contracts

Pre-Con Services

team selection, bidding, scheduling, mobilization and procurement

A student in Architectural Technology will finish his or her time at Kirkwood learning to prepare a full set of drawings and the process of design.

8 weeks

Construction Sequence

execution of a project from shovel to ribbon cutting

Sustainable Building Science

an overview of current technologies and best practices.

Fall Semester

8 weeks

Residential Design Studio

the process of preparing a full set of drawings for a simple, designed residence

8 weeks

Commercial Design Studio

the process of programming and documenting your own design from scratch

REQUIRED MATERIALS : LAPTOP

A laptop computer is required that meets certain specifications in order to run the software that we use. We have arranged for the [Kirkwood Bookstore](#) to stock a model that is competitively priced, meets our expectations, and comes with the required software.

The recommended configuration is linked on the web page below, or you can [contact the bookstore](#) for details.



REQUIRED MATERIALS : LAPTOP

Frequently asked questions:

Do I have to buy this from the Kirkwood Bookstore?

No, but we encourage it. PC's purchased from other vendors may not be eligible for tech support and service from EagleTech, which is convenient and often free. Also, the bookstore has the required software bundled. (Note: We receive no commission from sales at the bookstore.)

Can I use the computer I already own or buy a different model?

Yes, but only if the student judges the specs on that machine to comparable (or better) than what we have recommended. We cannot be responsible for compatibility or performance issues that may arise from use of another machine, and we cannot provide tech support.



REQUIRED MATERIALS : LAPTOP

Frequently asked questions (continued):

Can I use a Mac or Linux PC?

Yes, but all of our classes are designed for Windows. If a student uses another O.S. it is his / her responsibility to manage any incompatibility issues that may (will) arise.

Can I install my own software on this machine?

Yes, the computer belongs to the student, they own it!

Can I use financial aid to buy this computer?

Yes, after a certain date in the summer. Contact the [Kirkwood Bookstore](#) for details.



REQUIRED MATERIALS : OTHER

P.P.E. (Personal Protective Equipment) required:

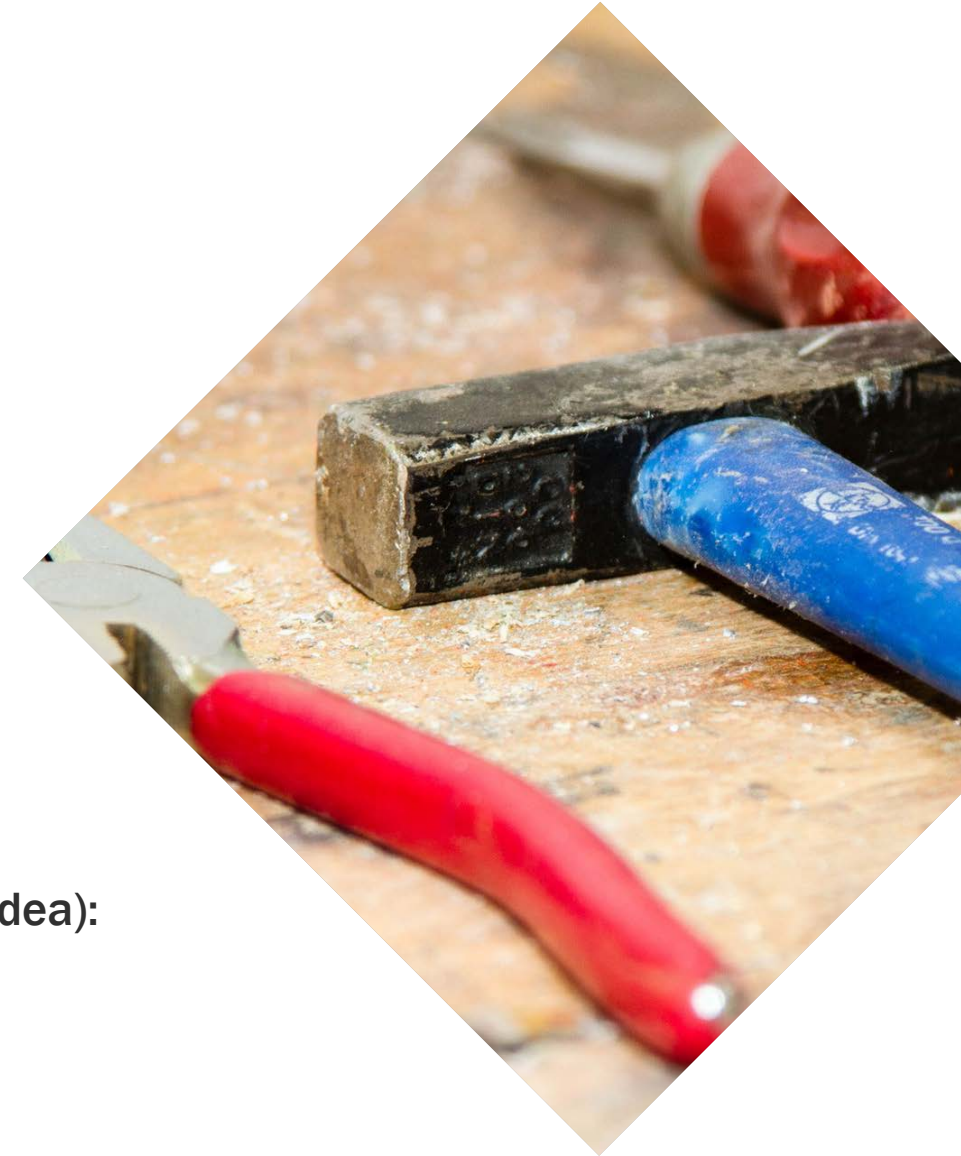
- Hard hat
- Safety glasses
- High-visibility safety vest

Design / computer equipment required:

- 16 GB thumb drive OR cloud storage (for file backup)
- [Architect's scale](#)
- A mouse (yes, it is required and you will thank us)

Construction tools and accessories (not required, but a good idea):

- Tool belt
- Hammer
- 25' Tape measure



OPPORTUNITIES

Study Abroad

Scholarships are available for foreign study trips ranging from 2 weeks to all summer long. Each has a different destination and a different focus. Recent trips taken by A.T. and C.M. students include:

Germany

China

Dominican Republic

Denmark

Competitions

Each year, the A.T. and C.M. programs (as well as other programs in Industrial Technologies) field teams to travel to academic competitions. Frequent competition entries include:

Skills U.S.A.

N.A.H.B.

FOR MORE INFORMATION

Follow the links below for more details...

[Architectural Technologies](#)

[Construction Management](#)

[Study Abroad](#)

[Financial Aid](#)

[Job Placement / Internship](#)

[Learning Accommodations](#)



FOR MORE INFORMATION

If you are still uncertain of what you want to major in, need more information about the professions mentioned here, or just want to explore career possibilities, we have a great resource for you...

www.explore-ace.org

A.C.E. is a nationwide initiative focusing on educating future design and construction professionals at the high school and college levels. Check them out, take a personality test, look at day-to-day examples of careers, and see where you fit into this industry!





NEXT STEPS...

ARE YOU READY TO APPLY?

Kirkwood
COMMUNITY COLLEGE

STEPS TO BECOMING A KIRKWOOD STUDENT:

Step 1: Program Conference (you are doing this now)

Fill out the Program Conference Survey form on this page. This will tell us about you and put you on our list of interested students. After viewing this presentation and completing that form, the “Program Conference” step is complete!

Step 2: Apply to Kirkwood

If you have not yet already, complete a formal application to Kirkwood Community College by going to:

www.kirkwood.edu/apply

Step 3: Placement Exams

Submit your current ACT scores to the [One Stop Center](#) at the main campus, OR take our in-house placement exams for math and reading. These will tell you what “gen-eds” to register for.

STEPS TO BECOMING A KIRKWOOD STUDENT:

Step 4: Attend a New Student Orientation

Orientation sessions for new students are held in the weeks before the start of a new term. Come to campus, register for classes, get your I.D., and have a look around. Pick a day and time that work for you. Go to:

www.kirkwood.edu/orientation

Step 5: Apply for Financial Aid

[Submit your FAFSA](#) (Free Application for Federal Student Aid) after January 1 and don't wait too long – the process can take three to five months! Try to submit prior to March 15. When you fill out the form, it will ask you for a school code: Kirkwood is 004076

Step 6: Apply for Scholarships (after October 1)

Kirkwood has many scholarships available based on need, academics, and other things you may not think about, like your major and interests. Every year scholarship goes un-awarded because of lack of applicants. Go to:

www.kirkwood.edu/scholarships



THANK YOU

This completes your Program Conference presentation. Please fill out the form on the page below, and you are set. We are excited to be building our industries in Eastern Iowa and we hope you can join us.

SEE YOU IN THE FALL!