# ARCHITECTURAL TECHNOLOGY

## PROGRAM CONFERENCE PRESENTATION

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# WHAT IS A.T.?

"In practice, architectural technology is developed, understood and integrated into a building by producing architectural drawings and schedules. Computer technology is now used on all but the simplest building types... As the design develops, that information can be shared with the whole design team. That process is currently taken to a logical conclusion with the widespread use of Building Information Modeling (BIM), which uses a three dimensional model of the building, created with input from all the disciplines to build up an integrated design." (source)

In other words, Architectural Technology is everything we need to bring the idea of a new building into a form where we can build it; drawings, renderings, and details, done with state-of-the-art software.
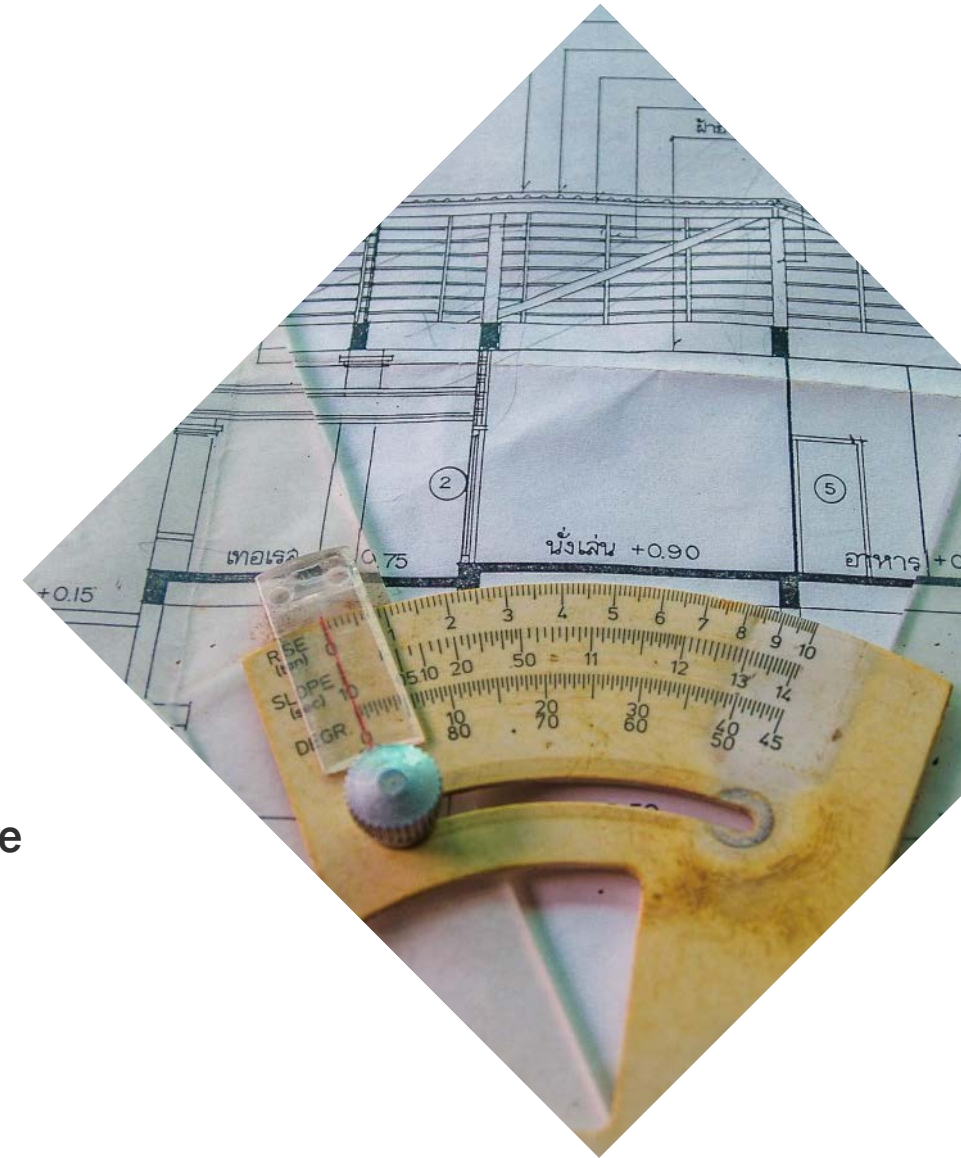
# MEET OUR FULL-TIME FACULTY AND STAFF

**Tim Hadsall**

Professor
Arch. Technology
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**Daniel Lamp**

Assistant Professor
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# WHAT OUR GRADUATES GO ON TO DO

### Drafter
Produce technical drawings for architects, general contractors, or real estate developers.

### Designer
Conceptualize original solutions for architects and engineers.

### Facilities Manager
Work with a company to plan and maintain their built property.

### Fabricator
Work on a factory floor drawing and detailing custom parts for assembly.

### Renderer
Specialize in presentation graphics for design and development companies.

### Construction Estimator
Find the cost of a building proposal and ways to control it.

### Material Sales/Marketing
Work with a manufacturer or dealer to supply area companies.

### Teacher/Professor
Work at the high school or college level to educate future professionals.

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# CAN I BECOME AN "ARCHITECT"?

Our graduates can go to work for architects (and contractors and engineers) in a wide variety of roles and rewarding career paths with their 2-year associate degree from Kirkwood. Yes, it is possible to become an architect yourself, but it will require more school after Kirkwood.

An "architect" is a legal term, meaning someone is professionally licensed by their state to practice in the field, like an engineer or a doctor. This licensure ordinarily requires five to six years of college and then many years of internship, culminating in a series of professional exams. The process is spelled out in detail here.

The good news is that your Kirkwood degree is an inexpensive first step toward a Bachelor's Degree in Architecture, which is the minimum requirement to practice as an architect. Refer to the next slide...



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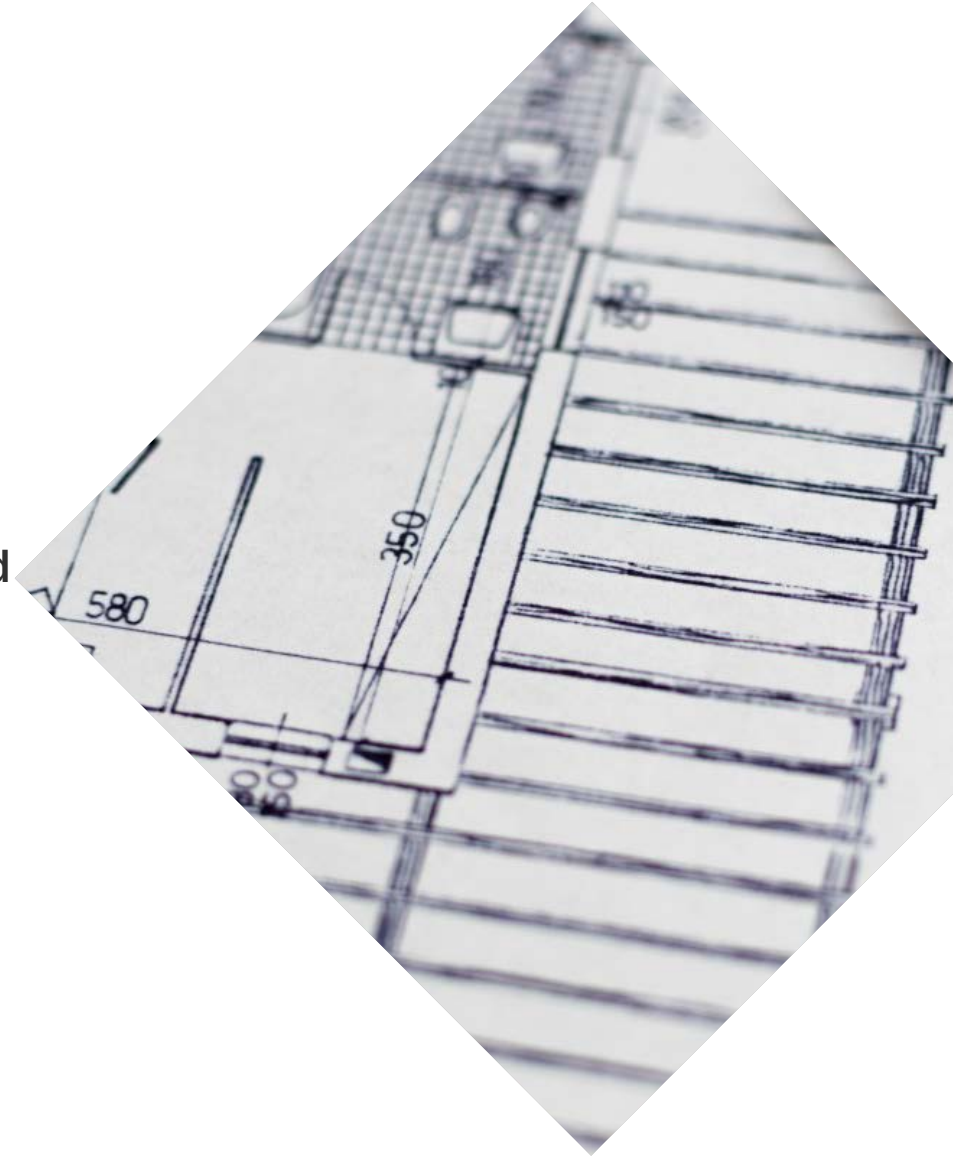
# CONSIDERING A HIGHER DEGREE?

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

For a **Bachelor of Architecture degree**, students may go on to [Dunwoody College in Minneapolis](#) for an additional 3 years. This is an accredited degree that will allow graduates to practice architecture with a license.

For a **Bachelor of Science degree in Civil Engineering**, students may go on to the [University of Iowa](#) for approximately 2.5 additional years.

Note: If you are interested in either option, let your advisor know soon. (This may change some of the elective courses you take.)

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

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# START TIMES

The school year at Kirkwood ordinarily begins with fall semester in late August. This is when the majority of our students begin their first year.

However, we know life can be funny and it doesn't always follow deadlines we set. If for some reason you want to enroll in the A.T. program but find you cannot start in the fall, we offer the option to start your classes in spring semester in late January. Contact your advisor (Victoria Dabler, victoria.dabler@Kirkwood.edu) about starting in the spring to develop a specialized academic plan.



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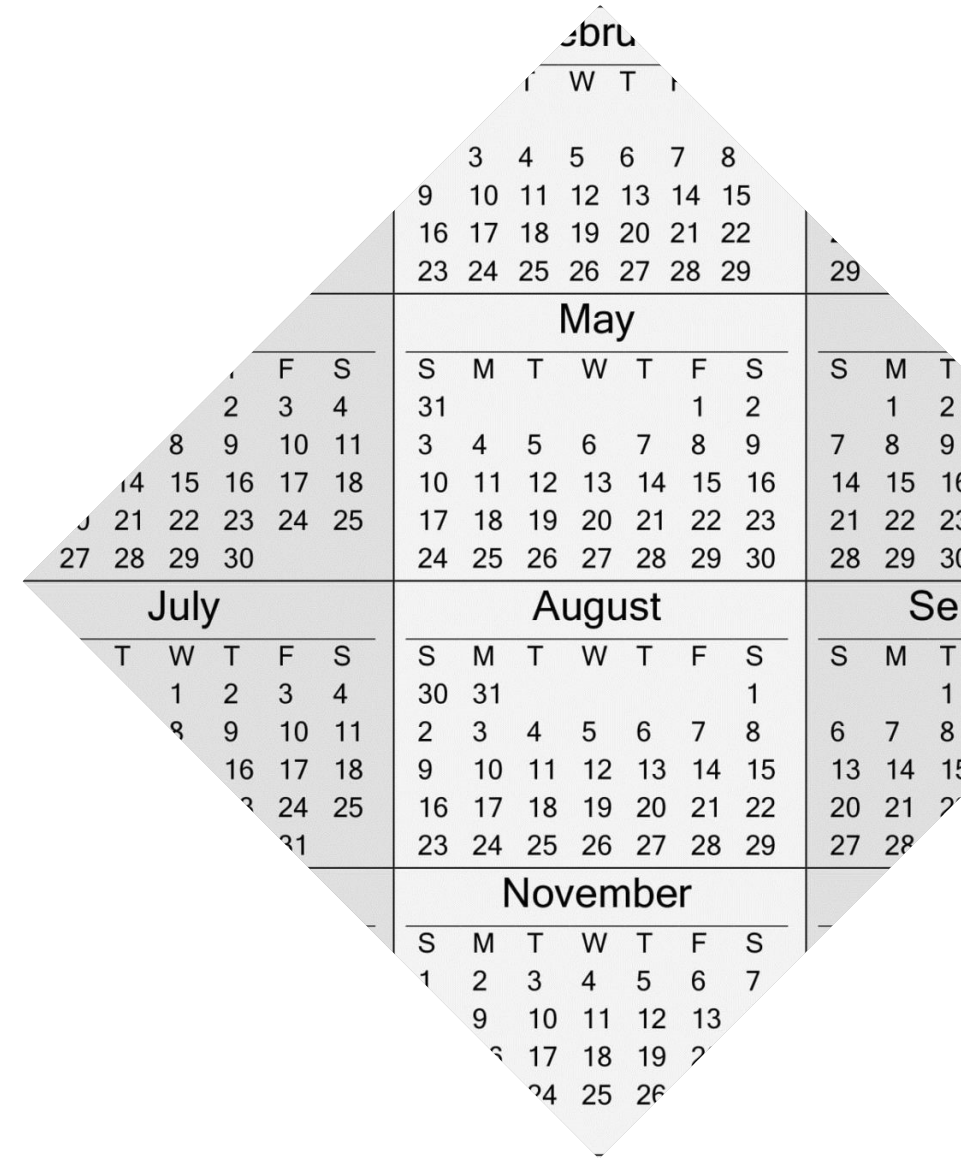
# THE 1-YEAR "A.C.E. DIPLOMA"

A.C.E. stands for "Architecture, Construction, and Engineering." There is a movement in the industry to better recognize the relationships between these three fields to help make better buildings.

The A.C.E. diploma is awarded at the end of the first year for Construction Management and Architectural Technology students, signifying that students have a grasp on the fundamentals of design and construction and how they relate to each other.

# LESS TIME ON CAMPUS...

Architectural Technology students are often busy people. Full- or part-time jobs, childcare, and long commutes are just a few of the things that we see our students juggling alongside their classes. The A.T. faculty want our students to have rewarding lives and, if possible, jobs where they put the skills they learn to use immediately.

To support students working part time, the Architectural Technology program tries to schedule A.T. technical courses only two days a week depending on the semester. In addition to architectural technical courses, students are required to take four general education courses throughout the two years in the program. Work with your academic advisor to choose general education courses that allow you to optimize your time on campus and at work.

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# WHAT TO EXPECT

CLASSES    REQUIREMENTS    OPPORTUNITIES

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# WHAT TO EXPECT: YEAR 1 CLASSES

| Quarter 1 (First 8 Weeks of Fall) | Quarter 2 (Second 8 Weeks of Fall) |
|---|---|
| **Work Based Learning (2 credits)** This course gives students hands-on experiences with real-world applications, featuring ACE professionals. | **Architectural Modeling (3 credits)** It is better to make mistakes digitally than in the field. Learn 3D modeling software and use it to assemble buildings and systems. |
| **Architectural Plans and Specs (3 credits)** Learn to read blueprints and specification books for residential and commercial projects of various sizes. | **Construction Lab (3 credits)** Put your safety gear on and get to work. Learn job safety, tool usage, and wood framing techniques building full-size mock-ups in a lab setting. |
| **Job Seeking Skills (1 credit)** This course helps students with hard and soft skills associated with their internships and eventual jobs. | |

**Math Class (3 credits) – All Semester**
Students will test into one of several courses designed to provide the math credit required for graduation and have relevance within our industry.

Note: There are general education (gen ed classes or electives) that are also required. Students have a wide variety of courses to choose from and have flexibility about when and how to take them.

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# WHAT TO EXPECT: YEAR 1 CLASSES

| Quarter 3 (First 8 Weeks of Spring) |
|---|
| **Construction Materials Science (3 cr.)** <br> Learn about the materials and products used in construction and explore their design, application, and limitations. |
| **Structures and MEP (3 credits)** <br> This stands for mechanical, electrical, and plumbing. Learn about the systems that make buildings function and work hands-on installing them. |

| Quarter 4 (Second 8 Weeks of Spring) |
|---|
| **Construction Estimating I (3 credits)** <br> Learn to provide a reliable estimate of a building's cost by breaking it down into its component systems and organizing cost data. |
| **Introduction to BIM (3 credits)** <br> This stands for building information modeling; learn advanced software that can integrate design, cost, and assembly data into a single 3D model. |

Note: There are general education (gen ed classes or electives) that are also required. Students have a wide variety of courses to choose from and have flexibility about when and how to take them.

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# CAREER DEVELOPMENT



The Architectural Technology program requires students to work a professional, paid internship at a company of their choosing, usually in the summer between years 1 and 2. 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.

There are several steps leading up to this internship beginning with a Work-Based Learning course and a Job Seeking Skills course. These classes are designed to guide students through the process of résumé writing, looking for jobs, matching their skills and wants to an employer, interviewing, and even negotiating salary.

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# WHAT TO EXPECT: YEAR 2 CLASSES

| Quarter 1 (First 8 Weeks of Fall) | Quarter 2 (Second 8 Weeks of Fall) |
|---|---|
| **Construction Documentation (3 credits)**<br>Take an advanced look at drawings and specifications as they relate to codes, regulations, contracts, and other facets of the construction process. | **Pre-Construction Services (3 credits)**<br>Learn how to bid a job, schedule a job, procure materials and talent for that work, and everything else that must happen before construction begins. |

## Residential Studio (6 credits) – All Semester
Draft, detail, and schedule a designed, unbuilt home in a studio setting
using the techniques and software you learned last year.

Note: There are general education (gen ed classes or electives) that are also required. Students have a wide variety of courses to choose from and have flexibility about when and how to take them.

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# WHAT TO EXPECT: YEAR 2 CLASSES

| Quarter 3 (First 8 Weeks of Spring) | Quarter 4 (Second 8 Weeks of Spring) |
|---|---|
| **Construction Services (3 credits)** <br> Learn what it means to manage a construction project from the first shovel in the ground to the cutting of the ribbon at the end. | **Sustainable Con. Science (3 credits)** <br> Examine the process of construction from beginning to end with an emphasis on environmentally sound materials and best building practices. |

## Commercial Design Studio (6 credits) – All Semester
This time, you are the designer and the project is bigger. Create a detailed set of documents and rendered images of a new classroom building of your own design.

Note: There are general education (gen ed classes or electives) that are also required. Students have a wide variety of courses to choose from and have flexibility about when and how to take them.

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# 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 at the Architectural Technology program website, or you can contact the Bookstore for details.**

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# REQUIRED MATERIALS: LAPTOP

Frequently asked questions:

## Do I have to buy this from the Kirkwood Bookstore?

*No, but we encourage it. PCs 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 you judge the specs on that machine to be 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.*

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# 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 you use another OS it is your responsibility to manage any incompatibility issues that may (will) arise.*

## Can I install my own software on this machine?
*Yes, the computer belongs to you; you 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.*



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# REQUIRED MATERIALS: OTHER
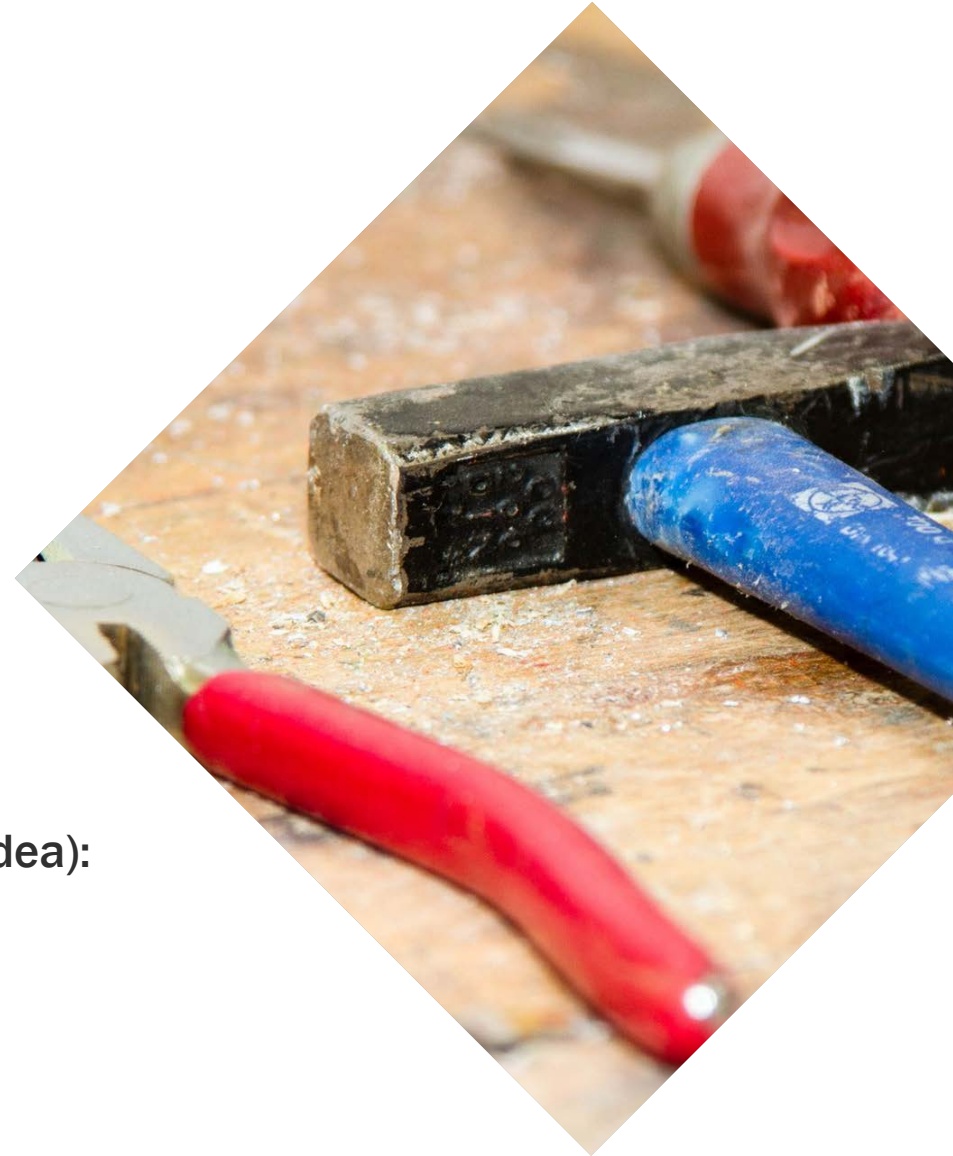
## Personal Protective Equipment (PPE) required:

- Hard hat
- Safety glasses

## Computer equipment required:

- Architect's scale
- A 3-button mouse (button #3 is usually a scroll wheel)
- 25-foot tape measure

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

- Tool belt
- Hammer
- High-visibility safety vest



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# OPPORTUNITIES: STUDY ABROAD

Kirkwood offers a [variety of summer travel programs](), ranging from two weeks to all summer long. Each has a different destination and a different focus. Scholarships are available. A.T. students in particular may be interested in the German Building program, led by our faculty, which visits notable cities, buildings, manufacturers, and showrooms throughout northern Germany over two weeks.



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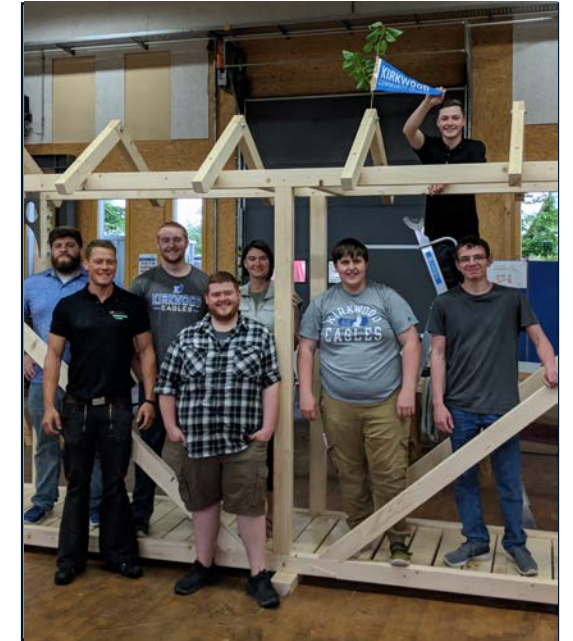
# OPPORTUNITIES: COMPETITIONS

Kirkwood fields interdisciplinary teams of students to participate in academic competitions during the school year. These are a great opportunity to sharpen skills, travel, get new experience, and brag about it on a résumé. A few examples include:

The [National Association of Home Builders (NAHB) Housing Contest](#) in which students compete in teams to design, draft, render, estimate, and schedule the construction of a new home. The finals are held regularly at the [International Builders' Show](#), which alternates between Las Vegas and Orlando every year.

The [SkillsUSA Student Competition](#), in which career and technical education students compete in discipline-specific challenges at the state and then national level. This is a massive event (41 acres in area) with over 100 competitions, including Architectural Drafting and Technical Drafting. Kirkwood A.T. students won the Architectural Drafting national contest in 2020.

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# FOR MORE INFORMATION

Follow the links below for more details...

[Architectural Technology Program Page](#)

[Study Abroad](#)

[Financial Aid](#)

[Job Placement/Internship](#)

[Learning Accommodations](#)

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# 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

ACE 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!



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# NEXT STEPS...

## ARE YOU READY TO APPLY?

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# STEPS TO BECOMING A KIRKWOOD STUDENT:

Visit the Kirkwood Admissions website for a detailed, step-by-step guide to application and enrollment.

Two quick notes about the application process:

This presentation fulfills the program conference step. Please fill out the program conference survey located at the Architectural Technology program website. This will tell us about you and put you on our list of interested students. After that, this step is completed!

Please do not forget the scholarship application step. Kirkwood has many scholarships available based on need, academics, and other things you may not think about, like your major and interests, and every year some scholarships go un-awarded because of lack of applications. To apply, go to www.kirkwood.edu/scholarships.

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# THANK YOU

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

## WE WILL SEE YOU IN CLASS!

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