

## Project Lead the Way: Engineering Design and Development FAQs

Does my student need any previous experience before taking this class?

Yes. To be eligible to enroll in this course, a student must have completed the pre-requisite courses, Introduction to Engineering Design (IED) and Principles of Engineering (POE) and either Civil Engineering and Architecture or Computer Integrated Manufacturing during their freshmen, sophomore, or junior years and will be a graduating senior.

If my student attends this course, should they go to college or straight to the workforce?

College. This course is designed to prepare students to attend either a two-year or four-year college in the fields of architecture, engineering, manufacturing, or construction.

How much homework can a student expect from this course?

Given that most of the software and equipment is located within the classroom, students should expect a minimum of one hour a week with the possible maximum of eight hours. The amount of homework depends on the topics being covered in class, assigned projects, and how efficient the student is at using the lab time available during class.

What expenses will I incur? Fees, book rental or purchase, tool costs, etc?

Yes. Please see the below for a typical list of supplies and textbooks that will be required for the class.

- (1) USB flash drive, minimum 4 GB
- (1) 1" three ring binder
- (1) TOPS™ Engineer's Computation Pad, 8 1/2" x 11", 200 Sheets, Green
- Pens and/or pencils
- (1) Index Dividers (8-tabs)
- (1) Pair of non-tinted safety glasses

Due to the nature of the course, students will be responsible to purchase equipment, supplies, and materials associated with the design solution. The will be identified as the semester and their project progresses. Students may be required to purchase materials related to their project out of pocket or will be required to seek funding from outside sources. Project cost is typically \$50.00 to \$150.00 per team member. All costs are dependent on project as defined by student teams.

What software would be taught as part of this program?

Within the program students will become familiar and use the following software titles. NOTE: Software is project dependent and not all titles may not be required for all projects.

- Multisim (intermediate level)
- SolidWorks (intermediate to advanced level)
- Arduino (intermediate level)
- Python (intermediate level)
- Autodesk AutoCAD (intermediate to advanced level)
- Autodesk Revit (intermediate to advanced level)
- Microsoft Excel (intermediate level)
- Microsoft Word (intermediate level)
- MDSolids (intermediate level)
- Adobe InDesign (beginner to intermediate level)
- Adobe Illustrator (beginner to intermediate level)

Is college dual credit available for this course? If so, is there a cost? How many credit hours is available? Is the college dual credit transferrable to other colleges?

At this time, no college dual credit is offered for this course.

If my student is undecided on what field of architecture or engineering to pursue in college, will this class help them decide?

Absolutely. We want to help students not only decide go to college, but also to ensure that once they reach college they have an understanding on their field of interest. During their time at the SICTC, students will work on several skills and be placed in different scenarios that correspond with different fields related to engineering and architecture. We also will introduce problem solving, design, and team building skills during this time that translate to multiple fields of study. From their experience they will have the opportunity to gain an understanding of careers and what it takes to be successful in college and beyond.