

ENGR300 Additional Class Information

OVERVIEW: In this lab course you will learn basics of 3D printing, technology, workflows, techniques and related software, focused on practical usage and project development in engineering. Topics include technology of devices, usage, calibration and tuning, repair and maintenance, and techniques for maximizing part quality with minimal waste.

COURSE STRUCTURE: This course is a quasi-structured lab to help you self-learn 3D printing, with guidance and help from lab staff. You start by reviewing some basic on-line lectures to learn the background and fundamentals of 3D printing, then use your Idea2Product (I2P) lab through the semester to complete a simple project (see details below). There are some required readings associated with the initial class recordings.

NOTE, the "Course details" provided on Ramweb say the course instructional method is "face to face". This is because it's different than the existing teaching mode categories that Ramweb provides, and face-to-face is the closest choice. You do NOT need to arrange to meet me face-to-face. You are on your own - self-driven. The Ramweb Class details also say "Hours arranged". This is also because there isn't a category to describe the structure of this course. You use the lab when you schedule time through normal I2P Lab procedures that you will learn about when you take the introductory lab training.

REQUIRED TRAINING: You also need to take the free, 1 hour "Intro to 3D printing" class that the I2P Lab offers weekly. The information on this class is here <https://idea2product.net/3dprintingtraining/>. Just pick a time. **DO NOT WAIT** until later in the semester to take the training. The lab gets VERY busy and training seats are limited. And **DO NOT WAIT** until the end of the semester to get in the lab. In the last month of the semester all the printers are fully booked 24/7.

REQUIRED PROJECT: You will complete a very basic project through the semester, which is due at the end of the semester. The only requirement for your project is that it must relate to your specific field in engineering, e.g. biomedical, electrical, etc. You choose the project, and send me an email declaring your project. Then you make it. Your project comprises 100% of your grade in this pass/fail class. There is no textbook for this class. The only homework is the initial readings I mention above. Guidelines for the projects are sent out in the first few weeks of the semester.

FEES: You pay a small lab fee to use the lab for this class (<https://idea2product.net/pricing/>). This fee pays for: (1) Help and support from experienced staff; (2) Access to lots of well-maintained 3D printing and 3D scanning equipment for you to use; (3) Other tools, software and equipment; and (4) General supplies and materials to keep the lab running, such as printer cleaning supplies, print beds, bearings and the like. You will also purchase your own 3D printing material to use in your project. We have reduced the pricing dramatically from past years due to grants we received from YOUR Engineering Tech Fees (ESTC) and University Technology Fees (UTFAB) which now subsidize much of your cost. Remember to thank your board representatives for this! When you pay your fee you receive a pass to use the lab. You are not allowed to share passes with fellow students. This is how your I2P lab is funded so if you cheat the system, everyone suffers.

WORKLOAD: Lab times are self-directed with an expectation of a minimum of 3 hours per week. You will have help from our I2P lab staff. Ten (10) online lectures are about 35 to 45 minutes each. **HOMEWORK:** The only homework is the initial readings mentioned above.

GRADING: This is a **pass/fail** course. Many students don't have experience with this grading system. It means you either pass or you fail. There are advantages and disadvantages. Advantage - it's simple. Disadvantage - if you do not meet all the requirements of the class, you fail. This is an F on your transcript, which would be silly for a one-credit course. If you have any questions, ask immediately.

QUESTIONS? For more information, contact the instructor, Dr. Prawel, david.prawel@colostate.edu

GETTING STARTED (not in any particular order):

1. Take the 3D printing training in the I2P lab.
2. Go to Modules and complete all classes in the Modules I post there.
3. Pick a project and email a short description to the instructor. It can be anything that relates to your field of study.

Have fun!