



July 11, 2025

Dear Students,

Welcome to the Johns Hopkins University and to the Whiting School of Engineering! I will be your instructor for several courses this fall and would like to tell you a little about what to expect from them. These courses are

530.107 *MechE Undergraduate Seminar I*
530.111 *Intro to MechE Design and CAD*
530.115 *MechE Freshman Lab I*

Most of you should be registering for all three courses. If not, please contact me ASAP.

MechE Undergraduate Seminar I is a weekly course in which you will learn about the mechanical engineering profession (e.g. career paths and planning, the patent process, what is “research”?) and about how to succeed as a college student and engineer.

Intro to MechE Design & CAD and *MechE Freshman Lab I* are complementary courses with a focus on the engineering design process. Lecture topics will address such questions as “Why do machines fail?”, “How are components manufactured?”, and “How is energy transformed into mechanical work?” In the weekly labs you will disassemble power tools, learn basic fabrication skills, and work on a group design-build-test project. You will spend a lot of time in both courses developing visual thinking and visual communication skills (which are crucial tools for a successful engineer to possess). You will also learn the fundamentals of Computer Aided Design (CAD) and how to create proper engineering drawings using SolidWorks.

I hope you enjoy the remainder of summer and I look forward to meeting you soon.

Regards,

Steven P. Marra
Teaching Professor