



**SYLLABUS: Introduction to Engineering Design (PLTW IED) 2019 – 2020**

Mr. Grul peter.grul@mpls.k12.mn.us  
Room 120D washburnctegrul.pbworks.com  
Office hours: 3:15-4:00 p.m. M,T,Th, or by appt 612-668-3400

**What is IED?**

In Introduction to Engineering Design (IED) students are introduced to the engineering design process, applying math, science, and engineering standards to identify and design solutions to a variety of real problems. They work both individually and in collaborative teams to develop and document design solutions using PLTW Engineering Notebooks and 3D modeling software.

Students passing the final exam may apply for 3 credits at many universities (\$100 fee).

**What materials do I need for class?**

- black or blue pen for writing in Engineering Notebook (provided)
- non-mechanical (sharpenable) pencil for sketching
- scientific calculator (e.g. TI-30X, Casio FX115, HP 30s)
- notebook with pockets
- you may download Autodesk Inventor for personal/home use (see teacher for details)

**What will I be learning?**

1. Design Process (4 weeks)
2. Technical Sketching and Drawing (3 weeks)
3. Measurement and Statistics (5 weeks)
4. Modeling Skills (3 weeks)
5. Geometry of Design (5 weeks)
6. Reverse Engineering (3 weeks)
7. Documentation (6 weeks)
8. Advanced Computer Modeling (4 weeks)
9. Design Team (2 weeks)
10. Design Challenge (optional)

**What's the grading scale?**

≥ 93%	<b>A</b>	≥ 77%	<b>C+</b>	70%	Mastery (projects, exams, engineering notebook)
≥ 90%	<b>A-</b>	≥ 73%	<b>C</b>		
≥ 87%	<b>B+</b>	≥ 70%	<b>C-</b>		
≥ 83%	<b>B</b>	≥ 60%	<b>D</b>		
≥ 80%	<b>B-</b>	< 60%	<b>F</b>		
				30%	Practice (activities, quizzes)

**Is there any extra credit?**

- No extra credit is offered; think about your grade now - do your best today!

**What are the classroom expectations?**

- All the Washburn policies (see your student handbook & see below for cell phone policy)
- No eating and drinking (except water in spill-proof bottle at tables, never at computers)
- Your ears must be visible
- Stow your backpacks, bags, purses, etc. on the floor, not on your table

**Do tardies count?**

- >2 tardies: loss of redo/retake privileges, no passes, no field trips, contact parents/guardians
- excessive tardies: removal of your outside lunch privilege & turning off your bus card outside school hours
- tardies may be made up in several ways, including: 10 min after school work, bringing class supplies for classmates (pencils, pens, tissues, etc.)

**What about my precious phone?** (straight from student handbook)

CELL PHONES AND ELECTRONIC DEVICES MUST BE POWERED DOWN IN THE CLASSROOM OR INSTRUCTIONAL SPACES DURING ANY SCHEDULED CLASSES

- 1st Occurrence: Device will be confiscated and turned in to appropriate grade level Dean. The device will be returned to the student at the end of the day.
- 2nd Occurrence: Device will be confiscated and turned in to appropriate grade level Dean. The device will be returned to the student at the end of the day.
- 3rd Occurrence and ongoing: Device will be confiscated by the staff member, labeled and given to the appropriate grade level Dean. A Parent/Guardian must come pickup the device from school at the end of the school day.

For ALL occurrences involving electronic devices:

- Students will need to show their ID when they retrieve their device
- Uncooperative students are to be referred immediately to the appropriate administrator.

**Now what?** Just sign on the dotted line and turn in by Friday, 6 September 2019:

I have read this syllabus, asked questions, and understand it to my satisfaction:

Student.....

Parent/Guardian.....