

# ECE 508 Python and Scripting Workshop

Spring 2021

Class meets the first six Fridays only, 12:30 - 2:20 pm

- **Exam:** During regular class time in Week 6
- **Project** Due Friday of week 8

**Spring 2021:** This term's classes will be delivered using *active remote learning* methods. Lectures, office hours, group work, etc. will all be done using online communication tools. While not optimal, I've taught Westside campus classes for several years that were taken by students away on internships who excelled in them. Many of these students have sent me unsolicited feedback (after their graduation) that they found those course very beneficial to their careers.

Nevertheless, I want to acknowledge that we're operating in unusual circumstances. The current COVID-19 pandemic is affecting all of us in various ways, both big and small. PSU is working to keep the community informed (see <https://www.pdx.edu/coronavirus-response>) and you are not alone. Faculty are adjusting course plans to accommodate remote teaching and I anticipate we may have to make additional changes as the term progresses and we learn what is and is not working. Please reach out if you have questions or concerns.

**Course Description:** Introduction to Python programming. This seminar/workshop is targeted for students who are not familiar with Python. The objective is to give students a working understanding of how to use Python so that they will be able to use the language to quickly solve a variety of problems, automate solutions, and apply these new skills in other classes.

**Prerequisites/co-requisites:** Graduate standing, introductory programming

**Course Instructor:** Tom Schubert  
FAB 20-10, 503.725.5395  
tom.schubert@pdx.edu (email is the best way to contact me)

**Office Hours:** Online, TBD

**D2L website active:** Lecture notes, papers, homework assignments and dropbox, announcements, etc

**Zoom:** We will use Zoom for virtual meetings. Your use and my use of Zoom is governed by the [Acceptable Use Policy](#) and PSU's [Student Code of Conduct](#). A record of all meetings and recordings is kept and stored by PSU, in accordance with the Acceptable Use Policy and FERPA. Individual use and distribution of recording is limited to academic purposes. Class recording content cannot be shared outside of the class without a FERPA release from all course participants.

Lectures will be available for replay, but office hours will not be recorded. Like other ECE faculty, I teach multiple recorded courses each year and we find there are cases when a lecture recording failed. This is a not-so-subtle way of saying that skipping the live lectures figuring you can watch them later is not a good strategy for successfully completing this course.

Background: PSU purchased a Zoom license in September 2019 and all PSU users can access Zoom at [pdx.zoom.us](https://pdx.zoom.us) with their Odin credentials. Zoom was selected by a faculty-led steering group, replacing Blackboard Collaborate as our virtual classroom solution. Zoom was selected because of its strong reliability and broad menu of features. I know of several classes that have successfully used Zoom the last two quarters.

## Required Texts

- Python Crash Course: A Hands-On, Project-Based Introduction to Programming, Eric Matthes, No Starch Press. 1<sup>st</sup> or 2<sup>nd</sup> edition. I recommend the 2<sup>nd</sup> edition.

**Course Objectives:** Students will gain experience using the Python programming language.

## Course Content:

- Python development environment
- The Python Language
  - Build-in data types, Variables, Statements. Sequencing (conditionals, looping)
  - Functions
  - Object oriented programming
  - Modules, Libraries
  - I/O
- Libraries
  - We'll discuss a number of libraries that expand the base functionality including: math, random, json, pickle, sys, os, subprocess, re, tkinter, matplotlib, numpy, csv, datetime, pandas, and pygame. This list only scratches the surface. For whatever programming task you may wish to accomplish, there is probably a special purpose library that can save you time.
- Scripting
- Applications
  - We'll study several applications including two reasonable sized examples in the text that demonstrate Python capabilities, libraries, and tools.

## Course requirements (letter grade only)

- Assignments (20%), Exam in week 6 (40%), Project due by end of week 8 (40%)

To pass the course, assignments must be turned in on or before its due date. Assignments must be done individually. Solutions can sometimes be found through web surfing or from previous classes. **Doing so is very counterproductive!** The purpose of the class is to provide you with an opportunity to grow your skills. Also to pass the exam, you'll need to develop analysis skills by working through problems. I strongly encourage you to come to my office hours after struggling and we'll work out the correct answer together.

**Grading:** Grades are not curved. The course covers material that you need to know to be a successful engineer. Percentage grades can be converted to letter grades as follows:

	A	>93%	A-	>90%	
B+	>87%	B	>83%	B-	>80%
C+	>77%	C	>73%	C-	>70%
F	Below	70%			

**Professionalism:** In our worldwide discipline, we work with many people with different genders, cultures, races, sexual preferences, religions, political affiliations, etc. We expect a culture of professionalism and mutual respect in our department. To pass this course, each student must demonstrate they are a good team player. Students are expected to work/learn in a harassment free environment with the highest professional standards.

**Safe Campus:** As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited

discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals. For more information about Title IX please complete the required student module *Creating a Safe Campus* in D2L.

**Academic Honesty:** I enjoy teaching very much, and consider students to be professionals. Thus cheating is an extremely depressing thing for me to encounter and will be taken very seriously. Cheating is definitely not just a harmless prank. It can have very serious effects, harmful to your standing at the university, and also possibly very harmful to your job prospects when you seek employment after graduation. The penalty for cheating is an F in the course and a letter describing the incident sent to the Vice Provost for Student Affairs. Please avoid any actions during an exam (e.g. talking, looking around, etc.) which might make the exam proctors doubt your honesty.

**Doing Well:** Lectures cannot cover all aspects of the material. Much of the detail will be learned through exercises or supplied by consulting the book. The reading assignments are absolutely crucial to success in the course, so make sure that you set aside enough time to do the reading carefully, thoroughly and thoughtfully. Ask me about anything that you don't understand, no matter how minor it seems. Finally, note that grading is non-competitive, so it is possible for everyone to do well.