

Course and Contact Information

Course: APSC 1001 Section 10 Engineering Orientation for Undeclared Majors

Semester: Fall 2019

Meeting time: Friday 9:35—10:25am, 10:40am—12:15pm

Location: Live virtual course on Blackboard Collaborate

Instructor

Name: Prof. Kartik Bulusu

Campus Address: SEH 3640

E-mail: bulusu@gwu.edu

Office hours: TBA

Teaching Assistant

Name: Samantha Racan

E-mail: samracan19@gwu.edu

Office hours: TBA

Learning Assistants

Name: George Wang

E-mail: maoxiwang@gwmail.gwu.edu

Office hours: Wednesdays, 3:30 PM -5:30 PM US EST (on Google Meet)

Name: Olivia Legault

E-mail: olegault@gwmail.gwu.edu

Office hours: Mondays, 12:00 PM -2:00 PM US EST (on Google Meet)

Name: Rick Sear

E-mail: searri@gwmail.gwu.edu

Office hours: Thursdays, 3:00 PM -5:00 PM US EST (on Google Meet)

Course Description

This is an introductory course designed for Engineering freshmen who have not chosen a major. The course will introduce the students to different majors in SEAS, to computational thinking and modeling using Python programming language and mobile app programming tools. Course will consist of

- (i) lectures on the various engineering disciplines in SEAS,
- (ii) hands-on Python programming exercises and
- (iii) hands-on exercises on creating simple mobile APPs.

The students will work on the following two projects:

- (i) Guided-python programming project and
- (ii) APP building project

Through the above course activities students will be exposed to computational thinking and the various engineering disciplines in SEAS. The course will use “Blackboard Collaborate” for lectures and synchronous communication between the instruction team and the students. The students will also get access to a “slack-workspace” for this course, that will facilitate offline discussions among themselves and the instruction team.

Prerequisites

None

Required Text(s):

None

Learning Outcomes:

As a result of completing this course, students will be able to:

1. Understand the different majors offered in SEAS.
2. Write simple mobile applications.
3. Write Python programs.
4. Work on engineering-innovation projects.

ABET Learning Outcomes:

- a an ability to apply knowledge of mathematics, science and engineering*
- b an ability to design and conduct experiments, as well as to analyze and interpret data*
- e an ability to identify, formulate, and solve engineering problems*
- k an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.*

Class Schedule [week-by-week]

Date	Topic(s) and readings	Hands-on work and Assignment(s) due
Week 1	Introduction to APSC1001; Python programming: APP development	Introduction to Python programming and APP development / activities; Intro to Group and Guided-Projects
Week 2	Intro to Electrical and Computer Engineering ; Python programming	Handling data arrays and plotting data using Python; In-class Lab on APP development / Intro to Final Projects; Student group formation; HW 1
Week 3	Fall Break No class this week	
Week 4	Introduction to Civil Engineering; Python programming	Python Guided-project; In-class Lab on APP development / activities
Week 5	SEAS R and D Showcase No class this week	
Week 6	Introduction to Systems Engineering; Python programming	HW 2; In-class Lab on APP development / activities
Week 7	Introduction to Computer Science	HW 3; In-class Lab / activities
Week8	Intro to Mechanical Engineering; Python programming	
Week 9	Intro to Biomedical Engineering	HW 4; Student Panel
Week10	Thanksgiving break No class this week	
Week 11	Final Project Presentations Review; Monday after this course !	
NOTE: In accordance with university policy, the final exams will be given during the final exam period and not the last week of the semester		

Time Requirements and Expectations

This course will have 50 minutes of lecture time per week, approximately 90 minutes of laboratory, review, and discussion per week, and will require 2 hours per week on average for homework assignments.

Assignments and Grades

Grading

List of what will be counted and percentages. For example:

- In-class work and Weekly Quizzes 10%
- Python programming and other Home work 30%
- Projects 60%
- There is no required final exam.

University Policies

Use of Electronic Course Materials and Class Recordings

Students are encouraged to use electronic course materials, including recorded class sessions, for private personal use in connection with their academic program of study. Electronic course materials and recorded class sessions should not be shared or used for non-course related purposes unless express permission has been granted by the instructor. Students who impermissibly share any electronic course materials are subject to discipline under the Student Code of Conduct. Please contact the instructor if you have questions regarding what constitutes permissible or impermissible use of electronic course materials and/or recorded class sessions. Please contact [Disability Support Services](#) if you have questions or need assistance in accessing electronic course materials.

University Policy on Religious Holidays

1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance.
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations.
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities.

For details and policy, see "Religious Holidays" at <https://provost.gwu.edu/policies-procedures-and-guidelines>

Support for Students Outside the Classroom

Disability Support Services (DSS)

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Rome Hall, Suite 102, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to:

<https://disabilitysupport.gwu.edu/>

Mental Health Services 202-994-5300

The University's Mental Health Services offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations confidential assessment, counseling services (individual and small group), and referrals.

<https://healthcenter.gwu.edu/counseling-and-psychological-services>

Academic Integrity Code

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. You are not allowed to collaborate on the home works and lab assignments; for programming projects and hardware lab assignments, you can work in teams only if they are designated as team projects (labs). Unless otherwise specified, you cannot search for solutions or code on the web – but you can use any code that is included in the textbook or lecture notes (but please cite them). I will be using a SW tool that checks for program code similarities – any pair of programs with greater than 25% similarity will be closely examined.

The Office of Academic Integrity maintains a permanent record of the violation. More information is available from the Office of Academic Integrity at <https://studentconduct.gwu.edu/academic-integrity>. The University's "Guide of Academic Integrity in Online Learning Environments" is available at <https://studentconduct.gwu.edu/guide-academic-integrity-online-learning-environments>. Contact information: rights@gwu.edu or 202-994-6757.