Coordinator: Assoc. Prof. Nate Chambers, x3-6838, nchamber@usna.edu

Course Description: This hands-on course introduces programming to a general audience using Python. Students will learn basic programming skills that they will be able to apply to a variety of disciplines, including the social sciences, humanities, sciences, and engineering. This course is intended for midshipmen without extensive prior programming experience.

Credits: 2-2-3

Learning Objectives:

1. Design, develop, and debug basic computer programs to solve problems.
2. Design computer programs that can read and parse multiple data formats.
3. Design computer programs that perform operations on a variety of data types like integers, strings, and lists.
4. Understand how to output data, results, and display information to the user.
5. Identify and utilize appropriate functions from a provided Python library, based on its documentation and usage examples.

Textbook(s): readings will be assigned from the free online textbook: https://books.trinket.io/pfe/

Syllabus:
- Variables, Types, and Operators
- Conditionals and Loops
- Lists and Tuples
- Functions
- Files and Data
- Dictionaries
- Objects, member functions and fields, initialization, instantiation
- Data formats and processing: CSV, JSON, HTML/XML
- Data Analysis with varying data formats
- Libraries and APIs for data handling

Extra Instruction: Extra instruction (EI) is strongly encouraged and should be scheduled by email with the instructor. EI is not a substitute lecture; students should come prepared with specific questions or problems. Except in special circumstances, students should seek EI only with their assigned instructor.
Collaboration: The guidance in the Honor Concept of the Brigade of Midshipmen and the Computer Science Department Honor Policy must be followed at all times. See www.usna.edu/CS/resources/honor.php. Specific instructions for this course:

- **Homework and Labs**: Collaborative conversations with regard to solving written problems, of syntax and strategies for accomplishing homework or lab (i.e. non-project!) programming assignments are allowed, however design and implementation must be the work of the individual student handing in the final product. Thus, the actual pencil-to-paper or fingers-to-keyboard work must be your own. Copying a file or parts of a file from anyone as a basis for your own submission is prohibited. Midshipmen must clearly state on their assignment whom they collaborated with or received help from — this includes help received from an instructor in EI or from an MGSP mid.

- **Quizzes and Exams**: All written exams and quizzes will be closed book. On all exams and quizzes, you may not receive help from anyone.

- **Project**: The class project MUST be submitted in order to pass this class. You must do your own work in designing, implementing, and testing your projects without assistance from anyone except for your instructor. The Department Policy Concerning Programming Projects provides detailed guidance.

All collaboration and outside sources should always be cited. The same rules apply for giving and receiving assistance. If you are unsure whether a certain kind of assistance or collaboration is permitted, you should assume it is not, work individually, and seek clarification from your instructor.

Classroom Conduct: The section leader will record attendance and bring the class to attention at the beginning and end of each class. If the instructor is late more than 5 minutes, the section leader will keep the class in place and report to the Computer Science department office. If the instructor is absent, the section leader will direct the class. Drinks are permitted, but they must be in reclosable containers. Food, alcohol, smoking, smokeless tobacco products, and electronic cigarettes are all prohibited. Cell phones must be silent and put away during class.

Remote Classes: Remote classes may be recorded for future reference. Remnote attendees will make every effort to connect to class sessions and give them undivided attention. Remote attendees will adhere to the same uniform and grooming standards as those attending in person.
Late Policy:

1. Late homeworks are not accepted (homework submission for excused absences should be resolved with your instructor).

2. Labs are due by the beginning of the next lab period. Late labs are permitted to be 1 day late with a 10% penalty or 2 days late with a 20% penalty. No further late days will be accepted.

3. The project is due on the date specified in the project description. Late projects are permitted to be 1 day late with a 10% penalty or 2 days late with a 20% penalty. No further late days will be accepted. One minute late is one day late.

Grading:

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Submitted: Assoc. Prof. Nate Chambers