Introductory Programming – PHY 186/MCS 186
Fall 2016
SUNY College at Cortland

Catalog Description

Data types, arithmetic statements, input/output statements, control structures and one-dimensional arrays.

Textbook

- *Think Python* (2^{nd} Ed.) by Allen Downey ISBN: 9781491939369.

Instructor Information

Instructor: Douglas Armstead
Office: 127 Bowers (607) 753-2919
Office Hours: TWR 2-3pm and by appointment.
Email: douglas.armstead@cortland.edu
Class meets: TR 10:05am-11:20am in Sperry 103.
Course Website: http://facultyweb.cortland.edu/douglas.armstead/F16/Programming.html

Expectations

This course is an introduction to computer programming using the Python language. I have selected it because it is less niggling than some languages while still being widely used and useful. The software to program in Python is also freely available and has many useful libraries. You can and should use this on your own computer.

What you should expect from me:

- Explanations of programming concepts that include concrete examples that draw from both physics and math.
- In-class examples that help you to develop the level of reasoning that is necessary to do the problems you will encounter in the homework and on exams.
- Careful and respectful consideration of your questions.
- An open door policy–if my office door is open you should feel free to come in and talk about physics. This is in addition to my regularly scheduled office hours listed above.

What I expect of you:

- Your presence in class, both physical and mental, for the entire class period.
- To prepare for class. This includes doing the reading at a level that you arrive with questions in hand about the material.
- When you have a question, ask it. Your fellow classmates will thank you–if you are unclear on something, chances are the person next to you is, too.
- Submit work for grading that is your own. If you copy from another student or source and submit it for a grade, then you risk receiving an F in the course.

Grades

The final score for the class is found in the following way:

$$score = \frac{H + E + F}{3} \tag{1}$$

where H =homework average, $E =$ in semester exam, and F =final exam.

The homework is a vehicle for your mastering the concepts, syntax, debugging techniques, and thought processes relevant to computer programming and for communicating this in well commented code. There are a number of aids at your disposal: the book, the instructor, in and out of class; and your classmates. But in the end nothing beats quiet concentration and gradually sorting things out for yourself.

Homework will typically be assigned on Thursday and due on the following Thursday, when solutions will be provided. Allowing late homework is not really in your best interest and will generally not be accepted.

Make-up exams will only be administered for "Excused Absences" (see University Catalog for details). Supporting documentation to excuse your absence will be required.

The score is mapped into a grade roughly as:

Final %	Grade
90-100	As
80-89	Bs
70-79	Cs etc.

Improvement and class participation may be used raise a border line grade.

Academic Integrity

You are expected to observe the University's statements and procedures on Academic Integrity in the college handbook, Chapter 340. Ask me if you have any uncertainty about what it means to cheat or the distinction between proper collaboration and plagerism.

Students with a Disability

If you are a student with a disability and wish to request accomodations, please contact the office of Student Disability Services located in VanHoesen B-1 or call (607) 753-2066 for an appointment. Information regarding your disability will be treated in a confidential manner. Because requests for accommodation take time to review and many accommodations require early planning, requests for accommodations should be made as early as possible.

Class Schedule

All dates are tentative.

Week of	Chapter(s)	Topic
8/30	1 & 2	Introduction and anatomy of a program
9/6	3	Functions
9/13	4	Functions as building blocks, Case Study
9/20	5 & 20	Program flow control
9/27	6	Functions revisited
10/4	7	Iteration
10/11	8	Non-numerical data, strings
		Exam on 10/13 (Chapters 1-7).
10/18	9	Case Study
		Fall break 10/18, no class.
10/25	10	Lists (1 dimensional arrays)
11/1	11	Dictionaries
11/8	12	Tuples
11/15	13	Case Study
11/22	14	File input/output
		Thanksgiving break, no class on 11/24.
11/29	15	3-D Modeling with visual python
12/6	16	3-D Modeling with visual python

Final Exam at 8-10am on Tuesday December 13, 2016