Introductory Programming – PHY 186/MCS 186
Fall 2019
SUNY College at Cortland

Catalog Description

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

Textbook

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

Instructor Information

Instructor: Douglas Armstead
Office: 127 Bowers (607) 753-2919
Office Hours: MWR 1-2pm 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/F19/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.

Class Schedule

All dates are tentative.

Final Exam at 8:30-10:30am on Thursday December 12, 2019

Week of	Chapter(s)	Topic
8/27	1 & 2	Introduction and anatomy of a program
9/3	3	Functions
9/10	4	Functions as building blocks, Case Study
9/17	5 & 20	Program flow control
9/24	6	Functions revisited
10/1	7	Iteration
10/8	8	Non-numerical data, strings
		Exam on 10/10 (Chapters 1-7).
10/15	9	3-D Modeling with visual python
		Fall break 10/15, no class.
10/22	10	3-D Modeling with visual python
10/29	11	3-D Modeling with visual python
11/5	8 and 9	Strings and case study
11/12	10	Lists (1-D arrays)
11/19	11	Dictionaries
11/26	13	Case Study
		Thanksgiving break, no class on 11/28.
12/3	14	Files and Databases

Required Statements

Academic Integrity Statement

All students are expected to uphold academic integrity standards. Plagiarism is defined as taking the ideas of others and using them as one's own without due credit. Students who cheat in examinations, course assignments, or plagiarize in this course may be disciplined in accordance with university rules and regulations.

Disability Statement

As part of SUNY Cortland's commitment to a diverse, equitable, and inclusive environment, we strive to provide students with equal access to all courses. If you believe you will require accommodations in this course, please place a request with the Disability Resources Office at disability.resources@cortland.edu or call 607-753-2967. Please note that accommodations are generally not provided retroactively so timely contact with the Disability Resources Office is important. All students should consider meeting with their course instructor who may be helpful in other ways.

Diversity Statement

SUNY Cortland is dedicated to the premise that every individual is important in a unique way and contributes to the overall quality of the institution. We define diversity broadly to include all aspects of human difference. The College is committed to inclusion, equity, and access and thus committed to creating and sustaining a climate that is equitable, respectful and free from prejudice for students, faculty and staff. We value diversity in the learning

environment and know that it enhances our ability to inspire students to learn, lead and serve in a changing world. We are committed to promoting a diverse and inclusive campus through the recruitment and retention of faculty, staff and students. As a community, we hold important the democracy of ideas, tempered by a commitment to free speech and the standards of inquiry and debate. To this end, we are dedicated to developing and sustaining a learning environment where it is safe to explore our differences and celebrate the richness inherent in our pluralistic society.

Inclusive Learning Environment Statement

SUNY Cortland is committed to a diverse, equitable and inclusive environment. The course instructor honors this commitment and respects and values differences. All students enrolled in this course are expected to be considerate of others, promote a collaborative and supportive educational environment, and demonstrate respect for individuals with regard to ability or disability, age, ethnicity, gender, gender identity/expression, race, religion, sex, sexual orientation, socio-economic status or other aspects of identity. In an environment that fosters inclusion, students have the opportunity to bring their various identities into conversation as they find helpful, but are not expected to represent or speak for an entire group of people who share aspects of an identity. If you have any questions or concerns about this statement, contact the Institutional Equity and Inclusion Office at 607-753-2263.

Title IX Statement

Title IX, when combined with New York Human Rights Law and the New York Education Law 129-B, prohibits discrimination, harassment and violence based on sex, gender, gender identity/expression, and/or sexual orientation in the education setting. The federal Clery Act and NY Education Law 129-B provide certain rights and responsibilities after an incident of sexual or interpersonal violence. When a violation occurs, victims and survivors are eligible for campus and community resources. Where the College has jurisdiction, it may investigate and take action in accordance with College policy. If you or someone you know wishes to report discrimination based in sex, gender, gender identity/expression, and/or sexual orientation, or wishes to report sexual harassment, sexual violence, stalking or relationship violence, please contact the Title IX Coordinator at 607-753-4550, or visit cortland.edu/titleix to learn about all reporting options and resources. (Updated by SUNY Legal Feb. 1, 2018).