CS118
Fundamentals of Computer Programming

Web site: **http://cs118.kindy.net**

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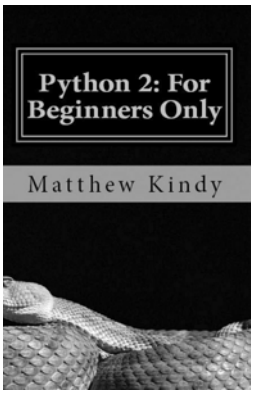
Course Description:
This is an introductory course in computer programming using the language of Python. This course uses a problem-solving approach for developing algorithms. Algorithms will be implemented in Python and include the following topics: data types and related operations, looping, decision, input/output, simple data structures such as arrays and tuples, functions, and files.

Course Goals:
Upon successful completion of this course the student should be able to analyze various information-based problems, then design and implement solutions to these problems in the language of Python. This course is intended to introduce the student to the fundamentals of programming and computer-based problem solving.

Performance Objectives:
1. Understand the role of algorithmic design as it applies to solving problems using computers.
2. Create, edit, and execute Python programs.
3. Design and implement algorithmic solutions to problems requiring elementary processing concepts of arithmetic, basic data types and operations.
4. Design and implement algorithmic solutions to problems requiring the basic control structures of sequences, selection, and repetition.
5. Design and implement algorithmic solutions to problems requiring array structures,
6. Design and implement algorithmic solutions to problems requiring the application of linear search and sorting.
7. Design and implement solutions of intermediate complexity requiring the use of I/O with files.
8. Design and implement solutions of intermediate complexity using functions.
9. Design and implement solutions of intermediate complexity requiring the use of non-numerical data such as booleans, characters, and strings.

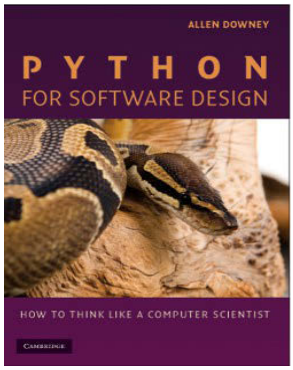
Required Textbook

Python 2: For Beginners Only by Matthew Kindy
http://cs118.kindy.net/p2fbo_20131025.pdf



Optional Textbook

Python for Software Design: How to Think Like a Computer Scientist
by Allen B. Downey (Author)



My job is to help you get the knowledge you need. If you can help yourself then I am certainly willing to help you. **PLEASE USE MY OFFICE HOURS** - if the standard times are not good for you, please make an appointment that better fits your schedule. My goal is to make the concepts clear - if my in-class explanations don't cut it for you, PLEASE contact me or stop by my office.

STUDENTS WITH A SCORE LESS THAN 60% WILL FAIL THIS COURSE. You MUST have an average of 60% or greater to pass this course. A curve is determined at the end of the semester based upon the performance of the section. Typically this is between 0 and 5% added to the computed score. I do not apply negative curves.

Grading Breakdown - This may be revised; any revisions will be announced and posted

Exercises/Quizzes/Misc	20%
Programs	30%
Exams	50% (all exams equally weighted)

Exams will be scheduled and announced well ahead of time. Attendance is mandatory at an exam. Do NOT miss an exam. Exam makeups for illness are handled on a case-by-case basis. Final Exam time and location will be announced in class and posted on the website well in advance.

THERE ARE NO MAKEUPS WHATSOEVER FOR THE FINAL EXAM.

Exercises

Exercise sets will be assigned to assist you in learning the material. These count toward your final grade but the real benefit is from gaining experience in programming. Each will have an assigned Due Date, and a no-penalty **2-day** Cutoff Date. Do not assume the Cutoff date is the Due Date as there will be many more assignments coming due in the interim. There will be NO EXTENSIONS past the Cutoff Date for any reason – the 2-days provided WAS the extension.

Programs

The key to success is in writing the programs yourself. Further, you will find writing the programs much easier if you begin immediately after they are assigned. The purpose of the programs is for practical experience - not to give you a headache. Work on the programs yourself, but don't be afraid to ask for assistance with bugs. **Extra credit on programming assignments is available ONLY if you get 100% on the assignment.** Do not attempt the extra credit until you have the program complete!

Assignments are due when they're due

The goal, however, is to get you to practice by doing the programs. Thus, I will allow programs to be turned in late with the following penalties:

Up to 24 hours late:	loss of	20 %
24 to 48 hours late:	loss of	50 %
> 48 hours late:	loss of	100 %

NO ASSIGNMENTS WILL BE ACCEPTED VIA E-MAIL. Use Blackboard's Submission button. **Save your receipt.** Your receipt is evidence of the time and date when you submitted your assignment. It can mean (and has meant) the difference between a 0 and 100 on an assignment. The emergency submit link is available ONLY IF BLACKBOARD IS NOT FUNCTIONING. Do not use the emergency submission system when you have missed a deadline – your submission will not be accepted.

Academic Integrity

I expect, and actually encourage you to confer on programs as we can learn from many other people. The problem is that the work you turn in should primarily be YOUR OWN *intellectual* contribution (e.g. typing up another person's work and claiming it as yours is plagiarism and **not** a contribution). I *will* give 0's for too much collaboration (as well as plagiarism). Discuss the assignment with others, but do not share code (see below).

Cheating of any kind will result in a score of 0 on the project, quiz, or exam and may result in referral to the department for expulsion.

I would define cheating as:

"Using or providing any resource not explicitly allowed in an attempt to secure a higher score on an academic submission."

Unless otherwise noted, the only explicitly-allowed resources for exams are the student's unwritten knowledge and experience.

Affirmation

Every piece of work submitted by you MUST credit *any* person with whom you conferred, except instructors and course tutors. As for programs, the header comment block of all programs must contain a section similar to this and points will be deducted for omission . This acts as a reminder to you to remain honest, and credits those who assist you:

```
# ------------------------------------------------
# Program Number: 3
# Submitted By: <Your Name>
# Credit to:   Jack Jones
#              Jill Smarty
#
# Submitted On: Jan 30, 2010
#
# By submitting this program with my name,
# I affirm that the creation and modification
# of this program is primarily my own work.
# ------------------------------------------------
```