

# Introduction to Computing (810:051) Fall 2010

**Time and Place:** 11 - 12:15 PM Tuesday and Thursday in ITTC 328 **and** 10 – 11:50 AM Wednesday in Wright 112

**Web-sites:** <http://www.cs.uni.edu/~fienup/cs051f10/>

**eLearning:** <https://lms.uni.edu/webct/logon/1071528719011>

**Class Email List:** Send messages to 810-051-02-fall@uni.edu from your UNI account or through the course eLearn site

**Instructor:** Mark Fienup (fienup@cs.uni.edu)

Office: ITTC 313

Phone: 273-5918 (Home 266-5379)

Office Hours: M 9-11, 1:10-3; T 9:30-10:30; W 1:10-3; Th 9:30-10:30; F 9-11, 1:10-3

**Prerequisite:** None

**Goals:** The goal of this course is to teach you the skills necessary to:

- 1) read and trace the execution of programs,
- 2) design software (programs) through algorithmic problem solving and procedural abstraction,
- 3) write well styled programs involving fundamental control structures, data modeling, and file processing, and
- 4) test programs.

**Text:** *Fundamentals of Python: From First Programs through Data Structures*, 1st Edition, 2010, Kenneth A. Lambert, ISBN-10: 1-4239-0218-1, ISBN-13: 978-1-4239-0218-8

(We'll cover the first 10 chapters, but the plan is to use this textbook next semester for Data Structures (810:052) too!)

**Assignments:** Assignments will consist of weekly laboratory exercises along with concurrent weekly or bi-weekly programming assignments.

**Pedagogic Approach:** In class, I'll tend to break up the lecture with active (and group) learning exercises to aid learning. While this is not formally graded, part (5%) of your grade will be based on your participation in these in-class activities. Students benefit by (1) increased depth of understanding, (2) increased comfort and confidence, (3) increased motivation, and (4) being better prepared to work in groups on the job. This might sound great, but it will require you (and me) to work differently to prepare for class. Before the class, you must read the assigned reading, thought about what I asked you to think about, etc.; otherwise you won't be able to effectively participate during class. **Before lecture, check the eLearning web-site to take the chapter quiz.**

**Grading policy:** There will be three tests (including the final). I'll announce tests at least one week in advance to allow you time to prepare. Tentative weighting of course components is:

Pre-class quiz and In-class Work:	5 %
Labs:	15 %
Programming Assignments:	20 %
In-class Test 1:	20 % (about Sept. 30)
In-class Test 2:	20 % (about Nov. 4)
Final:	20 % (Thursday, Dec. 16 from 10-11:50 AM in ITT 328)

Grades will be assigned based on straight percentages off the top student score. If the top student's score is 92%, then the grading scale will be, i.e., 100-82 A, 81.9-72 B, 71.9-62 C, 61.9-52 D, and below 52 F. Plus and minus grades will be assigned for students near cutoff points.

**Scholastic Conduct:** You are responsible for being familiar with the University' Academic Ethics Policies (<http://www.uni.edu/pres/policies/301.shtml>). Copying from other students is expressly forbidden. Doing so on exams or assignments will be penalized every time it is discovered. The penalty can vary from zero credit for the copied items (first offense) up to a failing grade for the course. If an assignment makes you realize you don't understand the material, ask questions designed to improve your understanding, *not* ones designed to discover how another student solved the assignment. The solutions to assignments should be **individual, original** work unless otherwise specified. Remember: discussing assignments is good. Copying code or test-question answers is cheating.

Any substantive contribution to your assignment solution by another person or taken from a publication (**or the web**) should be properly acknowledged in writing. Failure to do so is plagiarism and will necessitate disciplinary action. In addition to the activities we can all agree are cheating (plagiarism, bringing notes to a closed book exam, etc), assisting or collaborating on cheating is cheating. Cheating can result in failing the course and/or more severe disciplinary actions.

**Special Notice:** In compliance with the University of Northern Iowa policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances, so arrangements can be made. Students are encouraged to register with Student Disability Services, 103 Student Health Center, to verify their eligibility for appropriate accommodations

### Schedule for Introduction to Computing Fall 2010

Lect #	Tuesday		Thursday	
1	8/24	Chapter 1: Hardware and Software; Python environment	8/26	Chapter 2: Waterfall model, binary numbers, character set
3	8/31	Arithmetic expressions, operator precedence, math module	9/2	Chapter 3: range, xrange, and for-loops
5	9/7	Format operator, if and while statements, random module	9/9	
7	9/14	Sections: 6.1 - 6.2; function definition, parameter passing, run-time stack	9/16	Top-down Design
9	9/21	Top-down Design Practice	9/23	Chapter 4: String operations and methods
11	9/28	Review for Test 1	9/30	<b>Test 1: Chapters 1 - 3</b>
13	10/5	Chapter 4: Strings and Text Files	10/7	File-system functions and Practice top-down design
15	10/12	Chapter 5: List operations and methods	10/14	Tuple and dictionary operations and methods
17	10/19	Chapter 6: Recursive functions	10/21	Higher-order functions and lambda expressions
19	10/26	Chapter 7: Turtle Graphics	10/28	Image module
21	11/2	Review for Test 2:	11/4	<b>Test 2: Chapters 4 - 6</b>
23	11/9	Chapter 8: Intro. to classes and objects	11/11	Intro. to inheritance
25	11/16	Chapter 9: Intro. to GUI modules: Tkinter and Tix	11/18	More GUI widgets, handling keyboard and mouse events
<b>Thanksgiving Break</b>				
27	11/30	Intro. to threads	12/2	Networks
29	12/7	Client/Server programming	12/9	Review for Final Exam
<b>Final Exam, Thursday (December 16) 10-11:50 AM in ITT 328</b>				