

Towson University
Department of Computer and Information Sciences

Spring 2010
COSC 175.003 — General Computer Science

Mon, Wed — 3:30PM – 4:45PM — YR202
Tue — 3:30PM – 4:20PM — YR304

Course Site: <http://bbweb.towson.edu> Course ID: 1102COSC175003

Instructor: Adam J. Conover, D.Sc.	Contact info: See http://pages.towson.edu/aconover/ for all contact information.
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Course Description

Computer systems overview, algorithm development, data representation, software design and testing methodologies, and brief overview of advanced topics.

“Textbook” Resources

All Texts are freely available on line:

- [Think Python: How to Think Like a Computer Scientist](#)
- [Python 101 -- Introduction to Python](#)
- [Dive Into Python](#)

Course Objectives

- Define the science of computer programming and the software engineering process.
- Apply methods of structured design and algorithm development including sequence, decisions, loops, procedures, functions, and parameter passing.
- Explain different design methodologies, including top-down design and object oriented design.
- Analyze and design structured programs.

Grading

Assignment Weights:

HW/Labs	35%
Exam 1	20%
Exam 2	20%
Final Exam	25%

Grading Scale (in %):

A	≥ 93.00	C+	75–79.99
A-	90–92.99	C	70–74.99
B+	87–89.99	D+	67–69.99
B	83–86.99	D	60–66.99
B-	80–82.99	F/FX	≤ 59.99

Homework, “Labs”, Project

- Labs and homework are designed to emphasize points made during the course lecture and may include basic “question and answer” type exercises as well as the modification or creation of small programs.
- In this course, we may examine programs written in several different programming languages. However, our emphasis will be on learning about “programming” and not about learning the intricate details of any particular programming language.
- All homework and lab assignments will be given with a due date/time which will be specified with the assignment. Late assignments **will not** be accepted for credit without prior approval or a documented, university approved absence. If you are having difficulty completing an assignment on time (and require additional assistance), you must contact the instructor before the due date. Submitting incomplete assignments that demonstrate significant progress towards a solution will generally be awarded partial credit.
- All Assignments, unless otherwise noted, are to be submitted to *BlackBoard* using the “view/complete” link associated with every assignment. **No hard-copies (paper) or emailed assignments will be accepted** unless specifically permitted in the assignment instructions or by express permission of the instructor.
 - The Towson *BlackBoard* URL is: <https://bbweb.towson.edu>
 - Instructions for *BlackBoard* usage will be given in class.

Class Policies

- All class policies are fundamentally intended to sustain an atmosphere that is non-disruptive to the classroom and conducive to learning.
- All students are expected to be on-time for – and remain for the duration of – all class sessions.
- Cell phones should be silenced during class.
- Portable computers are prohibited from use during lectures, unless permission is otherwise given.
 - This is simply to prevent the *inevitable* distraction of the other students.
- It is the intent of the instructor to make all grading as fair and uniform as possible. To this end, “subjective” grading will be avoided wherever possible and all grading criteria will apply uniformly to all students.

Attendance

- Attendance may be taken at any time during regularly scheduled lecture sections of the course.
- Though it is not the policy of this instructor to directly penalize students for missed classes, class attendance is essential to doing well in the course as material may be presented in class that *augments* any notes posted to *BlackBoard*.
- Since all assignments (and pre-prepared lecture notes) will be posted on *BlackBoard*, you should check *BlackBoard* (or the syllabus) **before** emailing the instructor with any questions pertaining to assignments or daily topics.
 - However, *BlackBoard* is not a replacement for class attendance; not every instruction given in class will necessarily be repeated on *BlackBoard*.
- Since all assignments are to be submitted via *BlackBoard*, assignments are expected to be submitted on time regardless of you attendance on a particular day.
- Missed exams may not be made up without prior approval from the instructor, or satisfactory documentation of an emergency situation.
 - See the undergraduate catalog for more information pertaining to the university attendance policies.

University Policies

- For issues pertaining to Academic Integrity, the student should consult the *Student Academic Integrity Policy*. It should be noted that the instructor is obliged to report any incidents of academic dishonesty to the office of Academic Affairs. Occurrences of cheating or plagiarism (including the submission of source code copied from the Internet) may yield a failing grade for the assignment or course, and are subject to the university established academic integrity policies:
 - <http://www.towson.edu/provost/resources/studentacademic.asp>
- Course repeat policy: Students may not repeat a course more than once without prior permission of the Academic Standards Committee.
- For any issues not specifically addressed in this syllabus, the student should consult the *Towson University Undergraduate Catalog*
 - <http://www.towson.edu/main/academics/ugrad/undergraduatecatalog.asp>

Software Downloads

All necessary software for lab programming exercises is installed on the the lab computers. If you wish to install the course software on a personal machine, most all of the programs we will be using are freely available.

- **BASIC Programming Language**
 - *SmallBASIC*: This free implementation of the BASIC programming language includes image manipulations and audio capabilities and provides a very clear and easily understandable syntax.
 - <http://smallbasic.sourceforge.net/>
- **Python Programming Language**
 - *JES - Jython Environment for Students*:
 - <http://code.google.com/p/mediacomp-jes/>
 - *Official Python Language*
 - <http://www.python.org/download/>
- **Netbeans** development environment
 - Netbeans is not a language but a software development tool that supports many languages including Python. The Netbeans environment is designed with experienced programers in mind; however once the initial learning curve has passed, it makes many programming tasks very easy. (Think of a “Word Processor” for writing software. Word has hundreds of features and can be very complicated at first, but it can make document preparation much easier is used properly.)

Links to various database environments and general Java information can be found on the instructor's web site at: <http://pages.towson.edu/aconover>

Important Note:

As there is no required textbook for this course, readings will be assigned from various sources, mostly from the list of “*Textbook*” Resources above. These reading assignments will be posted to Blackboard when appropriate. The lecture notes will serve as the primary source of information for class meetings. Since much of the material for the course will come directly from the lectures, regular attendance is extremely important.

Tentative Schedule* :

Week	Starting	Topic(s)
1	Jan 25 th	● Course Introduction
2	Feb 1 st	● Programming, Analysis, Interpreters and Compilers
3	Feb 8 th	● Data Types
4	Feb 15 th	● Algorithms
5	Feb 22 nd	● Input and Output ● Exam 1
6	Mar 1 st	● Control Flow – Introduction
7	Mar 8 th	● Control Flow – Conditionals
	Mar 15 th	● Spring Break!!!
8	Mar 22 nd	● Control Flow – Loops
9	Mar 29 th	● Control Flow – Advanced Looping
10	Apr 5 th	● Review of Functions ● EXAM 2
11	Apr 12 th	● Control Flow – Subroutines: Procedures and Functions
12	Apr 19 th	● Functions, Procedures and “Advanced” Parameter Passing
13	Apr 26 th	● Arrays
14	May 3 rd	● Composite Data Types
15	May 10 th	● Program Design and Development Considerations
	May 17th (Monday)	● Final Exam (3:00 pm) ○ See: http://www.towson.edu/registrar/calendars/exams.asp

* Please note that all scheduled dates are tentative and additional topics will be introduced to augment the material in the text. Class progress, university closings, etc. may necessitate alteration of the schedule. Unless extenuating circumstances arise, the exam dates will remain fixed; only the chapter coverage of the exam will change if we have failed to cover the given chapters by an exam date.

The schedule of homework assignments will be given at the discretion of the instructor based on the material covered to date.