

Towson University

**COSC 175 – General Computer Science**

Spring 2011

Dr. Charles Dierbach Rm. 464 7800 York Road Office Phone: 410-704-3552	Office Hours: Tues. 12:30-1:30pm Wed. 10:00-11:00am Thurs. 3:30-4:30pm
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**Course Description**

This course is a preparation course for Introduction to Computer Science I (COSC 236), for those required by another major, or for those wanting a general introduction to computer programming. This course does NOT provide course credit towards either the Computer Science or Computer Information Systems degree. This course is strongly recommended, however, for those planning to take COSC 236 who do not have significant programming experience or feel the need for remedial coverage of fundamental programming concepts. (An assessment test is given during the first class meeting of all COSC 236 sections to help students make this determination.)

Topics covered include: (a) an overview of computer hardware and computer software, (b) data representation, (c) computer algorithms and problem solving, (d) fundamental programming concepts, including literal values, variables, operators and expressions, sequential/selection/iterative control, strings, (e) program testing, (f) program design using functions and procedures, and (g) linear data structures.

**Prerequisites**

None

**Required Reading**

Required readings will be posted on the class web site. (There is no textbook for the course)

**Labs**

Attendance to lab period is required. Each lab session, a new lab will be assigned, due at the start of lab period the following week. Lab assignments must be submitted to BlackBoard by the start of the next lab period. There is a 24 hour grace period, after which the lab assignment will not be accepted. Each individual's lowest lab grade of the semester will be dropped.

**Course Objectives**

Upon completion of this course, students will be able to:

1. Complete, find errors in, or determine the output of a simple computer algorithm.
2. Construct the fundamental program structure for the implementation of a given algorithm.
3. Develop an appropriate program design for computationally solving a given problem.
4. Design appropriate data structures for computationally solving a given problem.
5. Effectively debug and correct errors in a given program.

**Course Web Site**

You are to make sure to regularly check the web site maintained for this course for any important announcements. All materials for this class will be posted on the site, found at: <http://triton.towson.edu/~dierbach/>

**My Email Address**

You may email me at [cdierbach@towson.edu](mailto:cdierbach@towson.edu). I will respond to your email the same day, or no later than the following day. PLEASE INCLUDE your full name in all email messages, with COSC 175 in the subject heading.

## Learning Online (Blackboard) Web Site

Student grades will be posted on the Blackboard site for the course. The Blackboard site will ONLY be used to post grades and for of submission assignments. ALL OTHER materials will be posted on the course web site.

### Grading

Labs (12)	10%
Exercises (10)	10%
Programs (4)	15%
Midterm Exams (2)	40%
Final Exam	25%

### Grading Scheme

A	95-100	B-	80-82.99	D	60-66.99
A-	90-94.99	C+	75-79.99	F	Below 60
B+	87-89.99	C	70-74.99		
B	83-86.99	D+	67-69.99		

### Final Exam Date

Tuesday, May 24<sup>th</sup> from 10:15-12:15pm

\*\* Those with known conflicts on this date **must notify me at the start of the semester.**

### Class Policies

- Missed exams: If you miss an exam without presenting verifiable documentation of the reason for your absence, your grade for that exam will be zero.
- Late exercises: Assignments must be handed in at the start of the class that they are due. Late assignments will not be accepted as answers to the assignment will be discussed in class.
- Late programs: Program must be handed in BY MIDNIGHT of the day due. Otherwise, 10% will be taken off for each day late.
- Plagiarism: Feel free to discuss assignment questions with others, but what you turn in must be your own work. Cheating in any form – including copying someone else’s work or letting your work be copied – is unacceptable. You will be notified of any charges of cheating in writing, and you will be given the opportunity to question or challenge any finding. Possible penalties include, but are not limited to, grades of zero for the assignment, failing the course, and report to the Office of Judicial Affairs. (A statement on cheating and plagiarism may be found in the Undergraduate Catalog, Appendix F.)
- Cell phones: Please silence your cell phone during class. If the call is an urgent one, then please leave the room to answer it.
- Laptops: **Laptops are not allowed** to be used during class time for any reason. **This will be strictly enforced.**

### University Policies

- Students may appeal any charges of cheating or plagiarism
- Students may not repeat a course more than once without permission of the Academic Standards Committee.
- A grade of C or better is needed in order to count a course in the major (a grade of C- does not qualify).

### Disability Accommodations

If you may need an accommodation due to a disability please contact me privately to discuss your specific needs. A memo from Disability Support Services (DSS) authorizing your accommodation will be needed.

**Acknowledgement of Class and University Policies, Contact Information, Online Resources, Grading Scheme, and Scheduled Date of the Final Exam**

**COSC 175 Spring 2011**

I, \_\_\_\_\_ acknowledge that I have received a copy of the syllabus for this course and understand the policies, procedures, schedules (including date of final exam), grading scheme, and all other information stated within as written, and as explained in class. In particular, I am aware that **laptops may not be used for any reason** during class lectures.

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Signature

\_\_\_\_\_  
Date

## Class Schedule

<b>Week of</b>		<b>Assignments</b>
<b>1 – Jan 31<sup>st</sup></b>	<b>Introduction</b>	
Tues.	Course introduction	Install Scratch on your PC (not required)
Wed. (lab)	Scratch demonstration	
Thurs.	Computational problem solving	
<b>2 – Feb 7<sup>th</sup></b>	<b>Programming Concepts (via Scratch)</b>	
Tues.	Literal values, arithmetic/relational operators, logical (Boolean) operators, identifiers, variables Selection control: if, if-else statements	Exercise 1 (due Tues. 2/15)
Wed. (lab)	Lab 1 (Scratch)	
Thurs.	Iterative (repetition) control: repeat (definite loop), repeat-until (indefinite loop)	
<b>3 – Feb 14<sup>th</sup></b>		
Tues.	User input, input error checking, output display	Exercise 2 (due Tues. 2/22)
Wed. (lab)	Lab 2 (Scratch)	
Thurs.	Nested control	
<b>4 – Feb 21<sup>st</sup></b>		
Tues.	Strings	Exercise 3 (due Tues. 3/1)
Wed. (lab)	Lab 3 (Scratch)	
Thurs.	Event Handling	
<b>5 – Feb 28<sup>th</sup></b>		
Tues.	Lists	Exercise 4 (due Tues. 3/8)
Wed. (lab)	Lab 4 (Scratch)	
Thurs.	Lists (cont.)	<b>Program 1</b> (due Thurs. 3/17)
<b>6 – March 7<sup>th</sup></b>		
Tues.	Review for exam Discussion of Program 1	
Wed. (lab)	Lab 5 (intro to Python)	
Thurs.	<b>EXAM 1 (on weeks 1-4)</b>	
<b>7 – March 14<sup>th</sup></b>	<b>Programming Concepts (via Python)</b>	
Tues.	Comment statements / Identifiers Literal values / Integer, float, and Boolean data types Integer vs. float (real) division Operator Precedence	Exercise 5 (due Tues. 3/29) (after spring break)
Wed. (lab)	Lab 6 (Python)	
Thurs.	Logical (Boolean) operators, variables Type casting (conversion) Strings	

**8 – March 21<sup>st</sup> \* Spring Break \***

**9 – March 28<sup>th</sup>**

Tues.	Selection control structures: if, if-else	Exercise 6 (due Tues. 4/5)
Wed. (lab)	Lab 7 (Python)	
Thurs.	Iteration control structures: for, while Lists, Strings	<b>Program 2</b> (due Thurs. 4/14)

**10 – April 4<sup>th</sup>**

Tues.	Functions	Exercise 7 (due Tues. 4/12)
Wed. (lab)	Lab 8 (Python)	
Thurs.	Functions (cont.)	

**11 – April 11<sup>th</sup>**

Tues.	Procedures	Exercise 8 (due Tues. 4/19)
Wed. (lab)	Lab 9 (Python)	
Thurs.	Procedures (cont.)	

**12 – April 18<sup>th</sup>**

Tues.	Modular program design Unit testing / Integration testing	(no exercise assignment)
Wed. (lab)	Lab 10 (Python)	
Thurs.	Text Files	<b>Program 3</b> (due Thurs. 5/5)

**13 – April 25<sup>th</sup>**

Tues.	<b>EXAM 2 (on weeks 7-11)</b>	
Wed. (lab)	Lab 11 (Python)	
Thurs.	Overview of computer hardware and software	Exercise 9 (due Tues. 5/3)

**14 – May 2<sup>nd</sup>**

Tues.	Binary Representation	Exercise 10 (due Tues. 5/10)
Wed. (lab)	Lab 12 (Python)	
Thurs.	Image manipulation	<b>Program 4</b> (due Tues. 5/18)

**15 – May 9<sup>th</sup>**

Tues.	Image manipulation program discussion	
Wed. (lab)	(Work on current program)	
Thurs.	Image manipulation program discussion	

**16 – May 16<sup>th</sup>**

Tues. (5/17)	Last day of classes (review for final exam)	
Tues. (5/24)	<b>Final Exam</b> 10:15-12:15pm (in room 205)	