Wentworth Institute of Technology
College of Engineering and Technology

COMP1000 – Computer Science I
Fall 2015

Instructor	Nate Derbinsky
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Credits/Hours	3/2/4

COURSE DESCRIPTION:

An introductory course covering the fundamental concepts and skills of programming in a high-level language. Emphasis is placed on problem solving; algorithm development; program design and structure; code documentation and style; as well as testing and debugging. Topics include hardware and software systems; data types and variables; device/file input and output; flow control and functions; use of basic data structures; as well as principles and applications of object-oriented programming.

COURSE PREREQUISITES/COREQUISITES:

None.

REQUIRED TEXTBOOK(S):

- Liang, Y. Daniel. *Introduction to Java Programming, Comprehensive Version.* 10th ed. Pearson, 2014. (ISBN-13: 978-0133761313)

THE COLLEGE BOOKSTORE:

Location: 103 Ward Street Boston MA 02115
Telephone: (617) 445-8814

COURSE LEARNING OUTCOMES:

At the completion of this course, the student should be able to:

- Choose the appropriate data type(s) for implementing a given problem.
- Analyze the behavior of simple programs involving the fundamental programming constructs variables, expressions, assignments, I/O, control constructs, functions, and parameter passing.
- Choose appropriate conditional and iteration constructs for a given programming task.
- Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, the definition of functions, and parameter passing.

INSTRUCTIONAL METHODOLOGIES:

This course will combine traditional lecturing with hands-on assignments that reinforce the lecture material. In particular, lectures will focus on concepts and ideas while in-class exercises, lab assignments, and programming assignments will provide concrete experience and skills.

ATTENDANCE POLICY:

Students are expected to attend classes regularly, take tests, and submit papers and other work at the times specified by the instructor. Students who are absent repeatedly from class or studio will be evaluated by faculty responsible for the course to ascertain their ability to achieve the course objectives and to continue in the course. Instructors may include, as part of the semester's grades, marks for the quality and quantity of the student's participation in class. At the discretion of the instructor, a student who misses 15 percent of class may be withdrawn from the course by the instructor. A grade of **WA** will appear on the student's official transcript as a result.

GRADING POLICY:

There will be approximately 11 programming assignments during the course of the semester. Programming assignments will involve writing, testing, and documenting one or more programs. Each programming assignment will include a detailed description of the problems and expectations for successful completion.

Additionally, there will be approximately 8 lab assignments that students will complete during their scheduled lab meetings. These lab assignments will test the student's ability to write and test complete programs from start to finish. Each lab assignment will include a detailed description of the problem and expectations for successful completion.

There will also be 3 exams (including the final exam), spread throughout the semester.

Student grades are based upon the following criteria:

Programming assignments (11)	30%
Lab assignments (8)	30%
Exams (3)	40%

LEARNING LAB:

The Learning Center operates Learning Labs for Computer Science I that provide excellent opportunities for students to build more experience through additional programming practice and concept review. Learning Lab sessions are offered once a week and run for one hour. The sessions are led by an experienced student tutor who will work with participants using materials provided by the Computer Science I instructors. Students are strongly encouraged to attend these Learning Labs, particularly if they are struggling with the course concepts or assignments.

Students who complete each Learning Lab session will earn back missed credit towards their programming assignment grade (see Grading Policy section above). In particular, students can earn back up to 10% of their programming assignment average if they complete every Learning Lab session. Note that this credit will not allow a student's programming assignment average to exceed 100%. For example, a student who has a programming assignment average of 80% that attends half of the Learning Lab sessions will have an 85% for their final programming assignment average when computing their final course grade.

WENTWORTH GRADING SYSTEM:

Grade	Definition	Weight	Numerical
A	Student learning and accomplishment far exceeds published objectives for the course/test/assignment and student work is distinguished consistently by its high level of competency and/or innovation.	4.00	96 – 100
A-		3.67	92 – 95
B+	Student learning and accomplishment goes beyond what is expected in the published objectives for the course/test/assignment and student work is frequently characterized by its special depth of understanding, development, and/or innovative experimentation.	3.33	88 – 91
B		3.00	84 – 87
B-	Student learning and accomplishment meets all published objectives for the course/test/assignment and the student work demonstrates the expected level of understanding, and application of concepts introduced.	2.67	80 – 83
C+		2.33	76 – 79
C		2.00	72 – 75
C-	Student learning and accomplishment based on the published objectives for the course/test/assignment were met with minimum passing achievement.	1.67	68 – 71
D+		1.33	64 – 67
D		1.00	60 – 63
F	Student learning and accomplishment based on the published objectives for the course/test/assignment were not sufficiently addressed nor met.	0.00	< 60

ADD/DROP:

Students should check the academic calendar to confirm the add/drop deadline. Dropping and/or adding courses is done online. Courses dropped in this period are removed from the student's record.

Non-attendance does not constitute dropping a course. If a student has registered for a course and subsequently withdraws or receives a failing grade in its prerequisite, then the student must drop that course. In some cases, the student will be dropped from that course by the Registrar. However, it is the student's responsibility to make sure that he or she meets the course prerequisites and to drop a course if the student has not successfully completed the prerequisite. The student must see his or her academic advisor or academic department chair for schedule revision and to discuss the impact of the failed or withdrawn course on the student's degree status.

MAKE-UP POLICY:

All programming assignments have a specific due date and time. Submissions will be accepted for up to one week after the deadline with a 50% penalty. The programming assignment will be graded and returned as normal, but the grade will be recorded as half of what was earned. For example, an on-time submission might receive a grade of 90 points. The same programming assignment submitted after the deadline would receive 45 points (90*0.5).

Students who miss scheduled lab assignments or exams will not, as a matter of course, be able to make up those lab assignments or exams. If there is a legitimate reason why a student will not be able to complete a lab assignment on time or not be present for an exam, then they should contact the instructor beforehand. Under extreme circumstances, as decided on a case-by-case basis by the instructor, students may be allowed to make up lab assignments or exams without first informing the instructor.

ACADEMIC SUPPORT:

The Learning Center (TLC) assists all Wentworth students in the areas of math, science, technical courses specific to majors, and writing. In this student-based learning environment, students can receive individual help with their studies, meet and work in study groups, attend workshops on a wide variety of subjects and find resources to assist them in meeting their goals for academic success. It includes tutors in many subjects, writing assistance and workshops focused on helping good students become great students. Make appointments at `http://www.wit.edu/tlc` or through LConnect.

ACADEMIC HONESTY STATEMENT:

"Students at Wentworth are expected to be honest and forthright in their academic endeavors. Academic dishonesty includes cheating, inventing false information or citations, plagiarism, tampering with computers, destroying other people's studio property, or academic misconduct" (Academic Catalog). See your catalogue for a full explanation.

STUDENT ACCOUNTABILITY STATEMENT:

Behavior unbecoming a student is any violation of a published Wentworth policy in an academic environment, and/or any behavior that individual faculty or staff determines is unacceptable in his or her classroom, laboratory, or other academic area or function. Behavior unbecoming a student in an academic environment will not be tolerated. Violations of behavioral expectations may be forwarded to the Office of Community Standards for disciplinary action.

Wentworth takes violations of academic dishonesty and misconduct very seriously. Sanctions for such violations include, but are not limited to, a grade of "F", removal from a course, Institute suspension, or Institute expulsion.

DISABILITY SERVICES STATEMENT:

Any student who thinks s/he may require a disability-related accommodation for this course should contact Disability Services privately to discuss their specific needs. Disability Services coordinates reasonable accommodations for students with documented disabilities. They are located in Watson Hall 003 (the Center for Wellness and Disability Services) and can be contacted at 617-989-4390 or **counseling@wit.edu**. For more information on acceptable documentation and the Disability Services process, visit the Disability Services website at **http://www.wit.edu/disabilityservices**.

COLLEGE OF THE FENWAY STUDENTS:

If you are enrolled in this course through COF Cross Registration, notify your course instructor. Please provide her/him with your email address to be sure that you receive course information in a timely way. You should also discuss how to access online applications that might be used in the course.

WEEKLY SCHEDULE:

The following schedule is tentative and subject to change (including topics, assignments, and exams). PA = Programming Assignment, LA = Lab Assignment

It will benefit you greatly to complete the assigned reading before attending the lecture.

Week	Topic	Reading	Assignments/Notes
1	Introduction to Computation and Programming	Chapter 1	
2	Variables, I/O, Types, Strings	Chapters 2, 4	PA0 due
3	Control Flow, Conditionals	Chapter 3	PA1 due
4	Expressions, Testing and Debugging	Chapter 2 (review)	PA2 due
5	Exam 1 Review, Loops	Sections 5.1 – 5.4	Exam 1
6	Loops cont'd	Sections 5.5 – 5.9	PA3 due, LA1
7	Methods	Chapter 6	PA4 due, LA2
8	Arrays	Chapter 7	PA5 due, LA3
9	Arrays cont'd	Chapter 8	PA6 due, LA4
10	Exam 2 Review, Object Oriented Programming	Chapter 9	Exam 2
11	Designing Classes	Chapter 10	PA7 due, LA5
12	Exceptions, File I/O	Chapter 12	PA8 due, LA6
13	ArrayLists	Sections 11.11 – 11.12	PA9 due, LA7
14	Advanced Topics		PA10 due, LA8
15	Final Exam Review		Final Exam