Wentworth Institute of Technology
College of Engineering and Technology

COMP1000 – Computer Science I
Fall 2017

Instructor	Frank Kreimendahl
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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, and 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.

RECOMMENDED TEXTBOOK:

- Liang, Y. Daniel. Introduction to Java Programming, Comprehensive Version. 10th ed. or 11th ed. Pearson, 2014 or 2017. (ISBN-13: 978-0133761313 or 978-0134670942).

(The book will be helpful for supplemental reading/clarification of class topics, and will be used in CS2 and Data Structures courses. You don't need an online access code so finding a used copy is fine.)

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)	35%
Lab assignments (8)	25%
Exams (3)	40%

LEARNING LAB:

The Center for Academic Excellence operates Learning Labs for Computer Science I that provide 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 48 hours after the deadline with a 20 point penalty the first day and 40 point penalty the second. For example, if an on-time submission might receive a grade of 90 points, the same programming assignment submitted 36 hours after the deadline would receive 50 points (90-40).

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 Center for Academic Excellence facilitates Wentworth students' academic success and helps them to achieve their full learning potential. Students may choose to receive individual assistance through one-on-one tutoring in many subjects, including math, science, writing, and major classes. In addition, the Center for Academic Excellence offers Facilitated Study Groups (FSGs), tutor-led study tables, academic workshops, and learning-strategy consultations. The peer-tutoring program is certified by the College Reading and Learning Association's International Tutor Training Certification program. To make an appointment or to review our drop-in offerings, please visit `www.wit.edu/cae`. For additional assistance or support on subjects not listed, please reach out via email at `cae@wit.edu`.

ACADEMIC HONESTY STATEMENT:

Students at Wentworth are expected to be honest and forthright in their academic endeavors. Academic dishonesty includes cheating, prohibited collaboration, coercion, inventing false information or citations, plagiarism, tampering with computers, destroying other people's coursework or lab or studio property, theft of course materials, or other academic misconduct. If you have any questions, contact your professor prior to submitting an assignment for evaluation. See your academic catalogue for a full list of definitions and the WIT Academic Honesty website for the procedures: `wit.edu/academic-honesty`.

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.

WELLNESS AND DISABILITY SERVICES:

College can be challenging and it is common to feel overwhelmed or stressed at times. If these feelings are related to course work or academic performance, please talk to me. For more significant mental health concerns, the **Center for Wellness and Disability Services (003 Watson Hall, 617-989-4390)** provides free and confidential mental health counseling.

If you or someone you know needs support around thoughts of suicide, the following resources are available:

- Center for Wellness and Disability Services, Watson 003, 617-989-4390, M-F 8:15-4:45
- Campus Police, First level of 610 Huntington Avenue, 617-989-4444, 24/7
- Samaritans, call or text 1-877-870-4673
- Crisis Text Line, text "start" to 741-741
- National Suicide Prevention Lifeline, call 1-800-273-8255
- GLBT Youth Hotline, call 1-866-488-7386
- Beth Israel Deaconess Emergency Room, 190 Pilgrim Rd Boston, MA

Students requiring academic accommodations must provide an official accommodation memo from the **Center for Wellness and Disability Services** and contact me privately to discuss logistics.

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