

Winter 2018: MWF 10 - 10:50am, WNGR 151 & 2 - 2:50pm, LINC 100

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Links Clubs

Syllabus

Office Hours - 3087 KEC/2101 KEC

- Shannon (3087 KEC): T/W 11-12 or by appointment
- Jennifer (2021 KEC): by appointment

Class Information

- Class Email - cs161-001-w18@ENGR.ORST.EDU & cs161-002-w18@ENGR.ORST.EDU
(distributed to whole class, TAs, and instructor)
- TA Email - cs161-ta@ENGR.ORST.EDU (distributed to all TAs and instructor)
- DO NOT send messages through Canvas. Send emails directly to myself, TAs, or class using the above addresses.

Textbook Resources

- (Wikibooks) [Wikibooks C++ Programming](#)
- (Miller) [An Introduction to the Imperative Part of C++](#)
- (Downey) [How to think like a computer scientist](#)

Additional Textbook References

Author(s): Gaddis T., Walters, & Godfrey (2014)

Name: Starting out with C++ : early object, 8th Edition

Publisher: Boston, MA: Addison-Wesley.

Digital ISBN: 978-0133449198

Paperback ISBN: 978-0133360929

Author(s): Schildt, H. (1998)

Name: C/C++ Programmer's Reference, 3rd Edition

Publisher: Berkley, CA: Osborne McGraw Hill

Digital ISBN: 0-07-213293-0

Paperback ISBN: 0-07-882476-1

Author(s): Savitch, W. (2012)

Name: Absolute C++ W/ MyProgrammingLa, 5th Edition

Publisher: Boston, MA: Addison-Wesley

Digital ISBN: 978-0132846578

Paperback ISBN: 978-0132989923

Author(s): Dale, N. & Weems, C. (2009)

Name: Programming and Problem Solving with C+, 5th Edition

Publisher: Jones & Bartlett Publishers

Paperback ISBN: 978-0763771560

Prerequisites

MTH 112* [C] or Placement Test MPT(33) or Placement Test MPAL(061)

Course Description

Overview of fundamental concepts of computer science. Introduction to problem solving, software engineering, and object-oriented programming. Includes algorithm design and program development.

Course Content:

- Identifiers and primitive data types
- Assignment, arithmetic, logical, and relational operators
- Expressions and statements
- Flow of control: selection, repetition, recursion
- Functions/parameter-passing including call-by-value and call-by-reference
- 1- and 2-dimensional arrays, strings, and other structured data types
- Pointers
- Error Handling

- Debugging

Course Objectives

1. Design and implement programs that require
 - a. various control statements involving selection and repetition
 - b. expressions with variables, constants, function calls, pointers, and arithmetic/relational operators with mixed data
 - c. arrays, strings, and other data structures
 - d. library functions and programmer-defined functions with parameter-passing by value and by reference
 - e. abstraction, modularity, separation of concerns
 - f. use of the object-oriented programming model
2. Debug programming syntax and run-time errors.
3. Produce recursive algorithms, and choose appropriately between iterative and recursive algorithms.
4. Describe and apply basic software engineering design principles and software quality factors.

A detailed description and time-line of the topics covered in this course can be on the [calendar page](#). This calendar is strictly a guide for the course. It is tentative and subject to change. You can find the topics covered in the daily lectures in slides posted on the calendar page, and the assignments with their corresponding actual due dates are located on the [assignments page](#).

Attendance Policy

- Lecture: Strongly Encouraged. In class extra credit exercises can only be made up with approved absences.
- Recitations: Required. You must attend registered recitation section. Missed recitations result in a zero score for the quiz. A recitation may be excused with 24 hour notice prior to a planned absence. Unplanned absences must be petitioned by the end of the day of the absence with valid excuse, including, but not limited to, family emergency, injury, hospitalization, death, birth of a child, trauma, or illness. Petitioning is contacting the instructor and your recitation TA via email . Instructor will or will not provide consent to the absence. All decisions made by the instructor are final.
- Labs: Required. You must attend registered lab section. Missed labs result in a zero score for the lab. A lab may be excused with 24 hour notice prior to a planned absence. Unplanned

absences must be petitioned by the end of the day of the absence with valid excuse, including, but not limited to, family emergency, injury, hospitalization, death, birth of a child, trauma, or illness. Petitioning is contacting the instructor via email with all lab TAs for the section copied on the message. Instructor will or will not provide consent to the absence. All decisions made by the instructor are final.

- If the instructor is late for a lecture or a TA is late for lab, please remain in the classroom for 10 minutes.
- You must remain in the lab until (your work is complete or until the lab period has ended) **and viewed/graded** by a lab TA.

Technology Requirements

- Laptops required in lab. Make sure they are fully charged as outlets are limited.
- Laptops are not welcome in lecture or recitation. If you must use a laptop, you are required to sit in the back rows of the class room. If there are extenuating circumstances that require the use of a laptop in class, arrangements need to be made with the instructor prior to attending lecture.
- Cell phones, tablets and other mobile devices should be silenced and away during lecture. Repeated use of a cell phone or tablet in lecture will result in you being excused from the lecture.

About My Courses

- BE PROACTIVE, don't be reactive!!!
- BE RESPECTFUL, no one is perfect. Programming is difficult, and everyone in the class comes with different skills. The brain is a muscle and needs a work out in this area. You weren't born programming, you learned with practice. Please read the document on [establishing a positive community](#).
- HAVE A GROWTH MINDSET!!! Everyone around you does not know more than you:) On the other hand, you do not know everything!
- "For every teacher there are two learners." This is a learning environment for all skills. You can learn from helping others.
- ACTIVE LEARNING! I need YOU to participate.
- "...it is far more honorable to fail than to cheat."
- "The task of the modern educator is not to cut down jungles but to irrigate deserts."

Grade Evaluation Scores for labs, recitations, assignments, and exams will be posted on Canvas as they are graded.

Labs - 10%

- There are 10 total labs in this course, i.e. one to be completed each lecture week.
- You **MUST** attend the lab in which you are registered, unless receiving permission **PRIOR** to missing the lab!!! (Read Attendance policy!)
- Some parts of the lab will be group work while others will be individual work. You can submit one copy for any portion of the lab that is group work.
- Labs are graded on a 10-point scale and primarily based on participation and effort, rather than correctness.
- You are **required to bring a laptop to the lab**.
- These labs are supposed to enhance the lectures using hands-on learning.
- Labs are designed to be finished in 70-90 minutes and graded during lab time by your lab instructor.
- If you attended a lab and did not finish, you can finish **up to 3 points of the lab** at home and bring it with you to the next week's lab for a grade. You must show your update from the previous lab within the first 15 minutes of the current lab to redeem points on the prior lab, otherwise the work is not accepted.
- If you have a problem with a lab grade, **you must contact your lab instructor through EMAIL within ONE WEEK** of receiving your grade. After one week, you will not be able to dispute your grade.

Recitations - 20%

- The recitations consist of 4 designs, 8 peer-to-peer design critiques, and 10 quizzes.
- Attendance is required for recitations, and **YOU WILL RECEIVE A ZERO** for the quiz portion of ANY UNEXCUSED MISSED RECITATION.
- You **MUST** attend the recitation in which you are registered, unless receiving permission **PRIOR** to missing the recitation. (Read Attendance policy)
- The recitations are used to check and supplement student understanding, and the grades will be based on designs (40%), quizzes (40%), and critiques (20%).

Assignments - 30%

- There are 6 total assignments to be completed over the course of this class.
- DO NOT expect answers to emails about assignments after 5pm on the day it is due.
- All assignments include writing a computer program, which MUST compile and execute on ENGR.
- Programming assignments that do not compile will receive a grade of **zero on the implementation portion of the assignment without any exceptions.**
- Assignments are to be turned in before Midnight (by 11:59pm) on Sunday night, otherwise the assignment is late.
- You will turn in your assignments through hand-in on the [TEACH website](#).
- Programs are evaluated on how well they solve the assigned problem (adherence to program specification), proper formatting/use of comments, and creativity.
- **You have up to 5 free late days to be used on any assignment.** You can use the late days on one assignment or spread the days out across assignments. An assignment will be accepted without penalty as long as it is submitted prior to the number of late days you have remaining. After using your 5 free late days, a late assignment will not be accepted. You turn in your assignment to TEACH, just as you would normally.
- Programming assignments in this course are graded by demoing your work for 10 minutes with a TA. You are required to **meet with a TA** within two weeks of the due date to demo. You can schedule a demo with a TA on the [home page](#) in the far right column of the bottom table labeled "Grading Hours".
- **Demo Outside 2 Weeks:** Assignments that are not demo'd within the acceptable time period will be subject to a 50 point deduction.
- **Demo Late Assignments:** Late assignments must still be demoed within the two week demo period beginning from the assignment's due date.
- **Missing a Demo:** If you miss your demo with a TA, you will receive a 10 point (one letter grade) deduction to that assignment for each demo missed. If you need to reschedule a demo, remove your name from the poll before rescheduling. If you need to **reschedule the day of your demo**, still remove your name from the poll and email your demo TA with subject **CS 161 Cancel Demo**.
- If you have a problem with an assignment grade, **you must contact your TAs through EMAIL** within ONE WEEK of receiving your grade. After one week, you will not be able to dispute your grade.
- Remember to use your TAs because they are the ones who execute, read, and grade the assignments.

Exams - 30% (15% each exam)

- There are 2 total exams for this course.
- The exams are true/false and multiple-choice, and they will be given during lecture time.
- A student must notify the instructor BEFORE the exam to schedule a make-up.

Final Exam- 10%

- There will be a cumulative final exam.
- The final exam may include any combination of programming, written work, and explanation of existing code.
- A student must notify the instructor BEFORE the final to schedule a make-up.

Proficiency Demo (Ability to Keep a Passing Grade (C or above)!)

- You will take a pass/fail live proficiency coding demo during the lab in week 10.
- There will be a practice demo given in week 5 with material from the first half of the class. In the practice demo, you will be scored on a pass/almost/no-pass score to give you feedback on where you stand in the class.
- If you do not have a passing grade in the class (below C), then failing the proficiency demo cannot hurt your grade because you are not expected to be proficient (C or above) in the class to move forward. However, if you have a passing grade in the class (C or above), then you are expected to pass the proficiency demo to keep your passing grade in the class, i.e. **you cannot receive higher than a C- without passing the proficiency demo.**
- Do not freak out!!! If you have a passing grade for your assignments and YOU have been the one to do the work, then you should be able to pass the proficiency demo program.
- A student must notify the instructor BEFORE the final demo to schedule a make-up.

Grading Scale

Grade	Average
A	93 or greater
A-	90 - 92
B+	87 - 89
B	83 - 86
B-	80 - 82

C+	77 - 79
C	73 - 76*
C-	70 - 72
D+	67 - 69
D	63 - 66
D-	60 - 62
F	less than 60

* REMINDER: A passing grade for core classes in CS is a C or above. A C-, 72 or below, is not a passing grade for CS/ECE majors.

Academic Dishonesty

I encourage students to work together and learn from one another on labs and assignments. However, I do expect you to turn in your OWN work for every assignment. Assignments are NOT paired-programming, and all assignments are checked for similarities with others in the class, prior class assignments, and work published online!!! Working with someone does not include copying someone else's work and changing a small amount of that work, such as variable names, comments, spacing, etc. During group assignments you and your partners may turn in one assignment per group with everyone's name attached. Working together is discouraged on exams and the final. At NO point should you copy work from the internet, and if you do copy material from an external resource, then you need to cite the resource and author(s). Paying someone to complete your work is unacceptable and will result in immediate referral to the university!!! Cheating and plagiarism are not taken lightly!

You will receive a zero on your first abuse of these rules, and in the case of shared work, the student sharing the work and the student copying the work will both receive zeros. In addition, the academic dishonesty charge will be documented and sent to your school's dean and the [Office of Student Conduct](#). The bottom line is: Each student is expected to understand all aspects of the programs s/he submits for credit!!!

Please, read the university dishonesty policy:

[OAR 576-015-0020 \(2\) Academic or Scholarly Dishonesty](#)

Students with Disabilities

"Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations."

Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should be aware of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, and no later than the first week of the term. Class materials will be made available in an accessible format upon request.

Religious Accommodation of Students Policy

Oregon State University recognizes a diverse group of students, and the university accommodates diverse religious holidays. Please read the policy on religious accommodations for students:

[religious accommodations](#)