CS161 – Introduction to Computer Science I
Credits: 4
Instructor: Tim Alcon
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(you should use IRC, discussion boards, then email to contact me)

Note before we begin: This is an introduction course to computer science (CS), but it is in the form of a crash course through many related topics from an introductory perspective rather than a gentle intro to programming, design, or testing. Expect to do lots of reading, lots of practicing, and lots of discussing the topics we expose you to.

OSU catalog course description, including pre-requisites/co-requisites:
Overview of fundamental concepts of computer science. Introduction to problem solving, software engineering and object-oriented algorithm development and programming. Lec/lab. PREREQS: MTH 111 or Placement Test or Placement Test or MTH 112* and for CS Double Degree students: BA/BS and (MTH 111 or MPT>=24 or MPAL>=061)

Course content:
• Introduction to problem solving
• Introduction to programming
• Coding conventions
• Variables
• User input (keyboard)
• Conditional execution (if and switch statements)
• Repetition (for, while, and do-while loops)
• Errors and debugging
• Functions, parameters, and argument passing
• Function overloading
• Recursion
• Pointers
• Arrays
• Command line arguments
• Structs
• Classes

Measurable student learning outcomes:
At the completion of the course, students will be able to:
• Translate a problem statement into an appropriate algorithm containing arithmetic, relational, and logical expressions.
• Translate the semantics of an algorithm into the syntax of a computer programming language.
• Develop an object-oriented solution to a problem using classes, methods, and objects.
• Develop proper error handling for possible run-time errors.
• Develop the debugging skills to help determine errors in a computer program.
• Understand how to effectively test a solution for correctness.
• Describe a program implementation in terms of a natural language.

Learning resources:
TextBook:
starting out with >>> C++ Early Objects, 8th ed. By Gaddis et al.

Note: Please check with the OSU Bookstore for up-to-date course material information for the term you enroll (http://www.osubookstore.com/or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.
(I do not generally have additional materials required that are not freely available online)

Course Tools:
• **Blackboard** – This course will be largely delivered via Blackboard, where you will interact with the course content. Within the course Blackboard site you will access the learning materials, tutorials, syllabus, and calendar as well as backup your projects. To preview how an online course works, visit the [Ecampus Course Demo](http://ecampus.oregonstate.edu/services/technical-help.htm). For technical assistance, Blackboard and otherwise, see [http://ecampus.oregonstate.edu/services/technical-help.htm](http://ecampus.oregonstate.edu/services/technical-help.htm).

• **Piazza** – You will use Piazza in order to discuss coursework materials, questions, and other topics relevant to the course.

• **TEACH** – You will use TEACH to submit your coursework items (feedback will be available through blackboard).

• **IRC** – You will use IRC as your first line of live communication – contact us if you have troubles using this tool.

**Grading:**
Scores for assignments, quizzes, and exams will be posted on Blackboard as they are graded. Feedback will be provided when available via blackboard or email.

Students will be required to turn in all coursework items through TEACH **before 23:59 (TEACH server time, Pacific Time Zone)** on the date they are due (generally Sunday in my courses), students must be sure to give themselves plenty of time to submit coursework as late work will not be accepted without prior consent or special circumstances.

To receive a passing grade in this course you must demonstrate at least basic proficiency in each of the following coursework item grading categories:

• **Participation: Discussion and quizzes – 20%**
  ◦ There are a number of exercises in this course that ask students to participate in discussion.
  ◦ Discussion will be graded at the end of the term based on meaningful discussions.
  ◦ Discussion about course topics helps solidify understanding and practice with related vocabulary.
  ◦ There may be quizzes to help guide you in discovering what topics you might need to practice more.

• **Demonstration: Assignments and final project – 30%**
  ◦ There are a number of different assignments to be completed over the course of this class.
  ◦ Assignments are generally composed of exercise and project components.
  ◦ Assignment exercises are generally based on completion and compilation rather than correctness.
  ◦ Assignment projects are generally based on the completeness **and** correctness of the program or code based on the project requirements.
  ◦ Assignments are designed to be completed by a single person.
  ◦ Assignments are designed to be easier when problems and possible approaches are discussed in a group.
  ◦ **Note very well:** Project programs submitted must compile and run on our servers or they will not be graded.
    (To create a working program: get it working simply, then add to it; if at some point it stops compiling you will better know where an error was introduced.)
  ◦ Be sure to submit all relevant files (all report related documents, source files, and any data files used) for each assignment **with each submission**.
    (**This includes files provided to you**, your submission should be explained, compiled, and run from just the files you submit.)
  ◦ Each student's lowest assignment score for the quarter will be dropped.

• **Examination: Exams and final quiz – 50%**
  ◦ There will be 2 exams and a final quiz for this course.
  ◦ The exams are designed to take about 60 minutes each, but you will have 110 minutes to complete them.
  ◦ These exams are designed to challenge students and may be adjusted to reflect major difficulties.
  ◦ **Exams will be proctored, so you should schedule your exams a week or two in advance. There is generally a small fee associated with exam proctoring. For more information please visit:** [http://ecampus.oregonstate.edu/services/proctoring/](http://ecampus.oregonstate.edu/services/proctoring/).

**Note well:** course work of each type is generally scored on the following categories:
• demonstration of understanding
• demonstration of explicit design (one of the greatest ways to learn about the problem you are trying to solve)
• demonstration of explicit testing
• implementation of solutions (meeting specification and consistent, easy to read, academically acceptable style)
• demonstration of reflection on current and past work and lessons

Note: This means you need to tell us what you are doing rather than just show us that your programs run.

* REMINDER: A passing grade for classes in CS is a C or above. A C- in a CS course is not considered a passing grade toward a CS degree.

Course Policies:
Makeup Exams – Makeup exams take considerable effort to schedule, so they will not be given under normal circumstances. If you learn about an event that may cause you to alter your exam scheduling, then contact me and your proctor (or the testing coordinator) as soon as you can so that accommodations may be considered.

Incomplete course grades – In this online program, there will rarely be cases where an incomplete is appropriate. I will only consider giving an incomplete grade for emergency cases such as a death in the family, major disease, or child birth, while also having a passing grade, being beyond the drop date, and having completed more than 70% of the coursework. If you have a situation that may prevent you from completing the coursework, let me know as soon as you can.

Late work, extra credit, and coursework problems –
Late assignments will not be graded.
Extra credit will not be available.

If you disagree with a score on any coursework, then contact your grader by email within one week of receiving your grade or your request will very likely be ignored. Elevate to the instructor if the TA is non-responsive.

Students with Disabilities:
Accommodations are collaborative efforts between students, faculty, and Disability Access Services (DAS), those with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Accommodations discussed after the first week of the term may be considered, but the default approach will be to advise the person of their available resources and to work with the help provided (other students, alternative learning sources, TAs, and the instructor).
If you have any personal difficulties that are not registered with the DAS, you can still contact me so we can discuss your options.

If you have any emergency medical information, then let me know before the end of the first week of the class (less likely an issue in the online version of classes).

Expectations for Student Conduct:
Academic Integrity: Students in academic studies are expected to demonstrate their own knowledge and capabilities. This means that a student will only be graded on their own work. Any work not created by the student or cited by the student, but still submitted as part of an assignment, will be considered plagiarized material and may result in a failed submission and possible administrative action.

To clarify:
You may openly discuss the presented learning materials and participation category materials at any time with any party as long as they explicitly know that it is for an academic assignment.

You may openly discuss coursework after grading of the item is complete with any party as long as they explicitly know that it is academic coursework AND the other party has submitted any similar work (if a student).

You may openly discuss the meaning of assignments, general approaches, and strategies with other students in the course; you may only share code if it comes with explanations included with any material used that you do not write and a
citation in all works created by all givers and receivers of the data wherever it is used.

You may be asked questions about your assignment, exam, or participation materials, so be sure you have a good understanding of whatever you write,

You may (and should) use the Internet and other resources to research how to solve a problem, and you should share what you find for others in the course to learn from, but be sure to understand and cite your sources!

You may share source code, but only if it is accompanied by an explanation on how each piece of code works and a citation is included in all givers and receivers of the data that you do not write,

You MUST include a citation in the form of a comment in your source code to indicate the source of any help you received (otherwise you will be claiming that you are the originator of the work, which is unfair and possibly a misrepresentation of your skills). You should do this even if the source is an instructor, TA, or required learning resource. Giving a citation will save you from most situations that might get you in trouble with plagiarism, but I will exclude any work created by others from grading consideration.

You SHOULD write your own code for your assignments; this means that you should take notes on anything you do with others and use your notes instead of any shared code (the shared code had better have citations of all who worked on it) when working on the assignments at hand. We “CS people” spend a majority of our time looking at patterns, so any simple copying or renaming or simple reformatting may result in some questions about your code. If you cite your sources, then instead of confronting you about possible plagiarism, we will grade you based on the work you actually authored.

In this online program we want to encourage collaboration and building upon the work of others in an honest way, this means that instead of strictly disallowing working with others (or their work) we will primarily be using your exams as a gauge of your individual work and the other coursework (tutorials, exercises, labs, assignments, tutorials, quizzes, and lectures) should be viewed as preparatory material for the exams. The more you practice writing your own code, the better prepared you will be for the exams and for future classes.

We may use plagiarism-detection software to check your code against other code-bases, so reduce the likelihood we will use these tools by citing your sources.

If you are found in violation of any of the above policies or guidelines, whether you are the giver or the receiver of non-cited help, you may be given a zero on the assignment, failed from the course, or higher administrative action (Instructor's discretion). Academic dishonesty charges are documented and sent to your school's dean and the Office of Student Conduct. The first offense may result in a warning; the second offense results in an academic dishonesty charge on your transcript, a disciplinary hearing, and possible expulsion.

Conduct in this online classroom — Students are expected to conduct themselves in a civil manner at all times through any communication media (voice, body language, email, discussion boards, etc.). Students will be expected to treat all others with the same respect as they would want afforded themselves. Disrespectful behavior to others (such as harassing behavior, personal insults, or inappropriate language) or disruptive behaviors (such as persistent and unreasonable demands for time and attention both in and out of the classroom) is unacceptable and can result in sanctions as defined by Oregon Administrative Rules http://arcweb.sos.state.or.us/pages/rules/oars_500/oar_576/576_015.html.

(Adapted from statements provided by Becky Warner, SOC)

Communications:
Ground Rules for Online Communication & Participation:
Online threaded discussions are public messages, and all writings in this area will be viewable by the entire class or assigned group members. If you prefer that only the instructor sees your communication, send it to by email, and be sure to identify yourself and identify the class in the subject line.

Posting of personal contact information is strictly at your own risk.

Online Instructor Response Policy: I will check email somewhat frequently and will respond to course-related questions within a day or two if possible.
Observation of "Netiquette": All your online communications need to be composed with fairness, honesty and tact. Spelling and grammar are very important in an online course. What you put into an online course reflects on your level of professionalism. Here are a couple of references that discuss netiquette: [http://www.albion.com/netiquette/corerules.html](http://www.albion.com/netiquette/corerules.html).

Check the Announcements area and the course syllabus before you ask general course "housekeeping" questions (i.e. how do I submit assignment 3?). If you don't see your answer there, then please contact someone through chat or discussion boards. (Adapted from Jean Mandernach, PSY)

Electronic Communications in this Course:
This program strives to prepare students for careers in computer science; which includes preparing students to communicate professionally. Therefore, students in this class are expected to communicate in a professional manner in discussion forums, email messages and all communications for this course. Critiques, disagreements, problems, or other topics of a sensitive nature can be addressed, but should be addressed civilly and professionally. If a student's communications become unprofessional, disruptive, abusive, inflammatory, or if they otherwise obstruct the learning process of the class, the instructor may restrict the student from participating in the electronic forums associated with the class and notify Ecampus and the OSU Office of Student Conduct and Community Standards. Productive learning communities and workplaces depend on civil, professional discourse. It is our hope that this policy strengthens your learning community and prepares you for the professional workplace.

Guidelines for a productive and effective online classroom:
The discussion board is your space to interact with your colleagues related to current topics or responses to your colleague’s statements. It is expected that each student will participate in a mature and respectful fashion. Participate actively in the discussions, having completed the readings and thought about the issues. Pay close attention to what your classmates write in their online comments. Ask clarifying questions, when appropriate. These questions are meant to probe and shed new light, not to minimize or devalue comments. Think through and reread your comments before you post them. Assume the best of others in the class and expect the best from them. Value the diversity of the class. Recognize and value the experiences, abilities, and knowledge each person brings to class. Disagree with ideas, but do not make personal attacks. Do not demean or embarrass others. Do not make sexist, racist, homophobic, victim-blaming, or other discriminatory comments at all. Be open to being challenged or confronted about ideas or prejudices; do not take challenges personally, even if it seems insulting. (Adapted from a statement provided by Susan Shaw, WS)

Student Assistance:
Your first line of assistance should be to take a break, skim through the book, lectures, notes, and Internet. If you cannot find the answer after some searching, you should then communicate with your fellow classmates, the TAs, and me by discussion board. Remember that I want you to learn the basics in whatever way works best for you! Contacting us by email is a poor way to ask a question, not because email is bad for questions, but that questions usually benefit the whole class. I strongly encourage you form a study group with fellow students to help support you throughout this class and the other classes in this program. I will have virtual office hours by appointment, based on student needs. We have several methods of communicating, but I would prefer we use a discussion board so that we can refer back to our previous discussions and citations and build upon our previous learning such that everyone can benefit.

Technical Assistance — If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the OSU Computer Helpdesk online. (you can also clearly ask in discussion with the class and we can try to work through it for the benefit of the class as well!)

Tutoring: Effective fall term 2009 we went to a new online Tutoring Service, NetTutor, to meet the needs of Ecampus students. (This service is directly accessible in blackboard by going to Tools → NetTutor)

"NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online
writing lab where tutors critique and return essays within 24 to 48 hours.”

**Course Evaluation:**
I hope to have a location in the discussion boards for evaluation of the course, where any student will be able to, anonymously, make comments, requests, or suggestions in regards to the design and implementation of the content of the course. You may also feel free to email me suggestions at any time.

**OSU Student Evaluation of Teaching** — Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions through ONID. You will login to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.