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CS161 – Introduction to Computer Science I

Credits: 4
Instructor: Joseph Jess
email: jessjo@eecs.oregonstate.edu
(you should use IRC, discussion boards, then email to contact me)
phone: this is a poor way to communicate with me, for a number of reasons, do not expect me to answer if you call my office phone

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 112 or (MTH 251 or MTH 251H) or Placement Test

Course content:

1. Introduction to programming
2. Coding conventions
3. Variables
4. User input (keyboard)
5. Conditional execution (If statement)
6. Repetition (For loops)
7. Errors and debugging
8. Functions, parameters, and argument passing
9. Overloading
10. Recursion
11. Pointers
12. Arrays
13. Command line arguments
14. Structs
15. Classes
16. Intro to Object-oriented programming

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. For technical assistance, Blackboard and otherwise, see http://ecampus.oregonstate.edu/services/technical-help.htm.

Piazza – I will be using, and expect people in my class to use, Piazza in order to discuss coursework materials, questions, and other forms of discussion.

Measurable student learning outcomes:

At the completion of the course, students will be able to:

1. **Translate** a problem statement into an appropriate algorithm containing arithmetic, relational, and logical expressions.
2. **Translate** the semantics of an algorithm into the syntax of a computer programming language.
3. **Develop** an object-oriented solution to a problem using classes, methods, and objects.
4. **Develop** proper error handling for possible run-time errors.
5. **Develop** the debugging skills to help determine errors in a computer program.
6. **Understand** how to effectively test a solution for correctness.
7. **Describe** a program implementation in terms of a natural language.

Learning resources:

Savitch, W. (2012). Absolute C++(5th Ed.). Boston, MA: Addison-Wesley. Digital: ISBN 978-0132855709 Paperback: ISBN 978-0132830713

- *NOTE to prospective students: Please check with the OSU Bookstore for up-to-date DVD, course packet, and textbook 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.*

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 should be sure to give themselves ample time to submit coursework as late work will not be accepted without prior consent,

To receive a passing grade in this course you must demonstrate at least basic proficiency in each of the following course work 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 based on participation (completed or not completed) rather than correctness or efficiency, discussion will be assessed at the end of the term based on what the student feels are their most meaningful discussions,
- Discussion about course topics help 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: Assignment exercises and projects - 30%

- There are a number of different assignment components to be completed over the course of this class,
- Assignments are composed of exercises and programming project requirements, are designed to be completed by a single person, but also designed to be easier when the problems and possible approaches are discussed with other people,
- An assignment is generally scored on the following categories:
  - understanding,
  - design,
  - testing,
  - implementation,
  - reflection,
- Assignment submissions are evaluated based on how well they demonstrate understanding of the problem, approach and solve the problem, test the problem, meet specification, and follow an easy to read, academically acceptable, and consistent style in any code submitted,
- **Programs submitted must compile and run on our servers or they will not be graded,**
  (to help ensure that you have a working program at the end of your assignment, be sure to start with a simple program that you can get to work, then add to it, expanding its capabilities, so that if at some point it stops compiling you might 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**, a program should be explained, compiled, and run from just the files you submit)

Examination: Exams - 50%

- There are 2 exams for this course,
- These 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 curved 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/,

* 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 a 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 can be considered.

Incompletes – 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. 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, but you will have the chance to request re-evaluation of a requirement on the final project for the class,
  (You must explicitly request this in your report on the final project)

- If you have a problem with a coursework grade, then you must contact your grader (or instructor if the TA is not responsive) by email within **one** week of receiving your grade or your request will very likely be ignored.

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.

If you have any emergency medical information, then let me know before the end of the first week of classes.

If you have any personal difficulties that are not registered with the DAS, you can still contact me so we can discuss your options.

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 be graded on the work that is clearly their own work and that additional materials will be excluded from consideration of the grading of that submission. Work that is not created by the student or cited by the student, but still submitted will be considered plagiarized material and may result in a failed submission and may result in administrative action.

To try to be clear:

- 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 the participation and demonstration categories of coursework and exams category of coursework after grading of the item is complete with any party as long as they explicitly know that it is an academic assignment **and that the discussion is accompanied by an explanation of any materials presented**,

- You **MAY** openly discuss the meaning of assignments, general approaches, and strategies with other students in the course; you may share code if it comes with an explanation and citations are included with any code used that you do not write.

- 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 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 any code 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 own direct skills); you should do this even if the source is an instructor or TA. **This basically means that a citation will save you from most situations that may get you in trouble with plagiarism, but that 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 when working on the assignments at hand. We "CS people" spend a majority of our time looking at patterns, so any simple copying may result in some questions about your code. If you cite your sources, then instead of confronting you about possible plagiarism, we will instead grade you based on the work that you 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.

We may use plagiarism-detection software check your code against other code-bases, so reduce the likelihood we will use these tools by citing your sources and recreating the desired behavior by recreating the code you learn from (in the very least it will give you more practice)!

If you are found in violation of any of the above policies, 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). The academic dishonesty charge will be 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 discouraged (e.g. telephone numbers, addresses, personal websites), but not forbidden.
- *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.
- 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)

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:

Getting 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 yourself after some searching, you should then communicate with your fellow classmates,
  (remember that I want you to learn the basics in whatever way works best for you!)
- If you and your classmates cannot find a solution, then asking the TAs or I by discussion board or chat would be next,
- Contacting us by email is a poor way to ask a question, not because email is bad, but that questions can usually benefit the whole class,
- Traditional students form study groups for a reason, I strongly encourage you find people to help support you throughout the class and throughout the other classes that you take in our online program,
- I will have virtual office hours based on student needs, but because of the lack of regular use they will be by appointment,
- 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.

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.

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.