Class meetings

section 010: MWF 9:00–9:50 in MCS 115

Instructor

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office hours: online MTWRF 2:00–4:00 on demand and by appointment

Textbook


Description

Problem solving and program development techniques emphasizing modular design. Includes advanced programming topics such as class design, structures, strings, pointers and bit manipulation in C++ using a Unix environment.

Prerequisites

CS 1336 (Computer Science I) is a prerequisite for this course. Please see me if you haven’t taken it or if you’re unsure about your proficiency in C++ programming.

Grading breakdown

70% assignments (mostly programming)
30% exams (probably four, including final)

Student learning outcomes

Students will

- become familiar with the internal storage of integral data.
- learn how to create, compile, link and run a program in a Unix operating environment.
- learn how to create multi-file source programs.
- be introduced to bit manipulation, including left and right shift operators and bitwise operators (not, and, or, exclusive or).
- be introduced to pointers.
- learn about character data, including its representation and available functions for testing and manipulating characters.
- be introduced to the string data type and various functions for manipulating strings.
- be introduced to structured data.
- be introduced to object-oriented programming using the class concept.
**Class format**

This class will meet in a computer lab. Unlike in CS 1336, we will be using the GNU C++ compiler in a Unix environment. You will be given an account on the csunix.angelo.edu server and learn how to use it.

Current circumstances require a much different class format than I would prefer. I need to accommodate those students who won’t be coming to campus, so I will use a “flipped classroom” style. I will post everything you need (videos, reading assignments, other materials, announcements, instructions, assignments, quizzes, exams, etc.) online. It is very important that you watch all assigned videos and do all assigned reading before coming to class.

I plan to use face-to-face class meetings only to answer questions and give help; I won’t cover any course material that I don’t also cover online. Because of distancing requirements we won’t have enough room in the classroom for everyone to attend every time, so I’ll need to divide the class into two groups: one that attends only on Mondays and one that attends only on Wednesdays. I will take attendance, and you will need to sit in the same place all semester. Attendance is encouraged but will not directly affect your grade.

Discussion and giving and receiving help are generally encouraged when working on assignments, but all work you turn in must be your own; anything you turn in you must understand thoroughly and be prepared to explain in detail. Whenever you work with anyone but me (including tutors) in any way, you must write fully detailed comments in your code describing the help: who helped, how they helped on which part(s), etc. Failure to do so is considered taking credit for work not done and thus cheating. I will be glad to help you on assignments and concepts when you need it. There will likely be four exams: three midterms and one final.

Blackboard (blackboard.angelo.edu) will be used to keep track of grades and assignments. You should check Blackboard, the course webpage and your ASU e-mail at least once a day to make sure you’re not missing anything. In particular, your ASU e-mail is the only reliable way I have of contacting you, so please don’t neglect it.

**Safety**

In compliance with university policy, students in this class are required to wear a mask covering both mouth and nose before, during and after class meetings. Students must also complete the required ASU Wellness Screening each day before coming to class and keep as much distance from other students as is reasonably possible. When entering the classroom, students should use provided disinfecting wipes to clean their desk area. For the safety of everyone, any student not appropriately wearing adequate facial covering will be asked to leave the classroom immediately; the student will be responsible to make up any missed class content or work. Continued noncompliance with university policy may result in disciplinary action through the Office of Student Conduct.

For safety reasons, I will hold office hours online on demand using Blackboard Collaborate. Please take advantage of face-to-face class meetings to ask questions and get help, but when you need help outside of class just get in touch and I’ll do what I can to help.
**Computer requirements** You may use PCs in the computer labs, but I recommend that you have your own Windows 10 computer ready to use when you can’t get to a lab. You may need to download and install free software, such as the Respondus LockDown Browser. It is your responsibility to have and use a reliable Internet connection; for best results, use an Ethernet cable to connect to your Internet source instead of relying on Wi-Fi. You will need a webcam to use Blackboard Collaborate for virtual office hours.

**Semester schedule** This schedule of topics should be considered approximate and tentative.

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<th>week of</th>
<th>topic</th>
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<tbody>
<tr>
<td>August 17th</td>
<td>number systems</td>
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<td>August 24th</td>
<td>internal numerical representation</td>
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<td>August 31st</td>
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<td>September 9th</td>
<td>bitwise operations</td>
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<td>bitwise operations</td>
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<td>September 21st</td>
<td>pointers</td>
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<td>October 5th</td>
<td>strings</td>
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<td>November 9th</td>
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**Final exam** The final exam for this course is scheduled for Monday, November 23rd, 8:00–10:00.

**Academic honesty** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. By remaining enrolled in this course you agree not to commit academic misconduct as defined in section I.B.1 of the Student Handbook, available at [www.angelo.edu/student-handbook](http://www.angelo.edu/student-handbook).

**Important university policies**

- You must contact Student Disability Services in order to request and to implement academic accommodations.
- For ASU’s policy on absences due to religious holy days, see OP 10.19 at [www.angelo.edu/opmanual](http://www.angelo.edu/opmanual).
- I am obligated to report any knowledge of sexual misconduct to the Title IX office; see [www.angelo.edu/services/title-ix](http://www.angelo.edu/services/title-ix) for more.

**Modifications** This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.