PmWiki

ComputingIV /
Syllabus

COMP.2040 Spring 2018

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Catalog Description

Advanced C++ programming, which deepens students' understanding of object-oriented analysis and design. Basic software engineering principles and practice, including work with APIs. Topics may include program translation, web software, parsing, and regular expressions.

Course Prerequisites

COMP.2010 Computing III.

Required Textbook

No required textbook

Learning Outcomes

- Employ appropriate object-oriented (OO) techniques in C++ in the development of 500+ line programs
- Analyze technical specifications for a variety of algorithms, and create working code based on specs provided
- Use the Unix shell for C/C++ code development, including use of the gcc compiler and linker tools, and Makefiles
- Use the C++ SFML (simple fast media library) for event handling, graphics, animation, and sound
- Employ unit testing in your software development process
- Use industry-standard C++ API libraries, including Boost (e.g. unit testing, regular expression, and date/time libraries)
- Describe the value (and limitations) of coding standards, and use a static style checker to review your own code
- Document your work for technical written presentations

Grading

70% Weekly Homeworks
21% Quizzes
6% Final portfolio
3% Classroom Participation
5 extra points Pop quizzes

Academic Integrity

- You are welcome to discuss ideas in the class with your peers, but assignments must be completed individually. You may not look at each others' code, nor allow others to look at your code. When posting code on our own course forum for help, or a public forum, do not post more than an individual function.

- If you received any help on a given assignment, you must discuss this in the assignment README file.
- When turning in an assignment, you attest that, beyond any starter code I have provided or has been provided in standard API and reference documentation, you are the sole author the code that it includes.
- Please be familiar with the university's policy on academic integrity

No Posting of Solution Code Policy

You are not allowed to post solution code to problem sets assigned in this class in public places (e.g. Github). This includes your own solutions as well as solutions that may be provided by the instructors. This policy is a courtesy to future students, who — to the fullest extent possible — should have the opportunity to struggle with the problems in the same way that you do.
Please note that this is typical policy at premier computer science departments. E.g.:

- *Princeton COS 126*. “Your work must never be shown or communicated to anyone who is taking COS 126 now or who might take COS 126 in the future. ... You must never place your work in any public location (including websites, leaving printouts in a classroom, etc.). ... The rules ... continue to apply even after this semester is over.”
- *Harvard CS50*. “Not reasonable: Providing or making available solutions to problem sets to individuals who might take this course in the future.”
- *MIT 6.01*. “Students should never share their solutions (or staff solutions) with other students, including through public code repositories such as Github.” (emphasis in the original)

Non-compliance will be pursued rigorously per UMass Lowell's academic integrity policy.

Student Affairs Information and Services for Students

- see Student Affairs Information and Services for Students

Discussion Group / E-Mail List

We will use Google Groups for announcements and discussion of material outside of class.

To join the group, create a Google account (or log into your existing one) and go to:

`https://groups.google.com/forum/#!forum/comp-iv-spring-2018`

Then request a membership.

Important: Set your “Email delivery preference” to ”Notify me for every new message.” Otherwise, you won't get announcements and discussions on a timely basis.

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