Computer Science 3307A

Object-Oriented Design and Analysis

Instructor

- Michael Katchabaw, Associate Professor
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- Contact information:
  - Consulting: 1:30-2:30pm, Tuesdays and Thursdays via Zoom
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Context for the Course

Suppose you needed a bridge …

Context for the Course

Context for the Course

But what if you needed something bigger …

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Context for the Course

Are you the first one to see your problem?

Context for the Course

"re?invent wheels"

Context for the Course

You don’t have to reinvent the wheel …

Context for the Course

Texts and References

- Recommended texts:
  - The C++ Programming Language, 4th Edition by Bjarne Stroustrup.
  - Programming Principles and Practice Using C++, 2nd Edition by Bjarne Stroustrup.
  - Design Patterns: Elements of Reusable Object-Oriented Software by Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides.
  - UML Distilled: A Brief Guide to the Standard Object Modeling Language, Third Edition by Martin Fowler.
  - Object-Oriented Analysis and Design with Applications, Third Edition by Grady Booch, Robert A. Maksimchuk, Michael W. Engle, Bobbi J. Young Ph.D., Jim Conallen, Kelli A. Houston.
  - Exploring Raspberry Pi: Interfacing to the Real World with Embedded Linux by Derek Molloy. Published by Wiley, 2016.

Course Topics

- The course will address as many of the following topics as time will allow:
  - Overview of Object-Oriented programming
  - Programming in C++
  - The Unified Modeling Language (functional, structural, and behavioural modelling)
  - Architectural patterns
  - Design patterns (creational, structural, behavioural, ...)
  - Object-Oriented metrics and other software metrics
  - Quality Assurance (inspections)
  - Enterprise-Scale software and collaboration tools (Jira, Confluence, Bitbucket, ...)

How to Keep Informed

- Course website: http://owl.uwo.ca
  - Lecture notes
  - Assignment and project information
  - Class updates and other important information
- Your Western e-mail account (@uwo.ca)
  - Important notices
  - Group project contact
  - Forward your e-mail if you don’t check it regularly!
  - Configure your spam filters!

Student Evaluation

- Assignments
  - Single individual assignment, worth 15% c++.
- Projects
  - Group project, worth 55%
  - Consists of an initial stage (worth 5%), two intermediate stages (worth 10% each), final project submission (worth 25%), and final documentation (worth 5%)
- Final exam
  - Worth 30%

Student Evaluation

- To receive a passing grade or higher:
  - Final ≥ 40%
  - Assignment and project ≥ 40%
- To receive a C or higher:
  - Final ≥ 50%
  - Assignment and project ≥ 50%

Ethical Conduct

- You should read the definition and penalties of scholastic offenses at:

  https://www.csd.uwo.ca/undergraduate/current/policies/scholastic_offenses.html

- Students are expected to adhere to the Rules of Ethical Conduct to use the computing facilities of the Department:

  https://www.csd.uwo.ca/undergraduate/current/policies/ethical_conduct.html