

Course Introduction

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<http://classes.cec.wustl.edu/~cs342/>

Course Introduction

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Philosophy

Good design and programming is not learned by generalities, but by seeing how significant programs can be made

- clean,
- easy to read,
- easy to maintain and modify,
- human-engineered,
- efficient, and
- reliable,

by the application of good design and programming practices.

Course Goals

- Enhance object-oriented design and programming skills
- Appreciate the value of patterns in designing large-scale software
- Attain proficiency with C++
- Learn some useful programming tools and techniques

Course Contents

- Practical aspects of software design and programming
 - Introduction to software lifecycle and OO design
 - Reuse of design patterns and software architectures
 - Developing, documenting, and testing reusable class libraries and frameworks
 - Building applications based on reusable components
- Central themes are:
 - Good programming principles and practices, eg, separation of interface from implementation
 - Design patterns

Course Work

- Discussions (lectures)
 - OO programming with C++
 - OO design/programming with patterns and frameworks
 - Tools and techniques
- Labs
 - Illustrate key design and programming principles via hands-on experience
 - Construct components and applications
 - C++ on Solaris
- Quizzes, weekly, at end of Thursday lecture/discussion
- Final Exam

Textbooks

- Required
 - Schildt, *C++: The Complete Reference, Third Edition*, Osborne McGraw-Hill, ISBN 0078824761, 1998.
 - Gamma, Helm, Johnson, and Vlissedes, *Design Patterns*, 1995, Addison-Wesley.
- Recommended: see CS 342 web page (classes.cec/~cs342) for recommendations

Labs

- Times
 - A: Tuesday 12:30 pm to 2:30 pm
 - B: Tuesday 2:30 pm to 4:30 pm
 - C: Thursday 12:30 pm to 2:30 pm
 - D: Thursday 2:30 pm to 4:30 pm
- Location: Lopata 400 (CEC SparcStation Lab)
- 7 or 8 Lab projects, due approximately every other week
- Turn in code and very short (1 – 2 page) report (in a text file)
- Turn in by email **before** deadline: **LATE LABS WILL NOT BE ACCEPTED**

Other Course Resources

- Web page: <http://classes.cec.wustl.edu/~cs342>
(or, <http://cs.wustl.edu/~levine/courses/cs342>)
- Newsgroup: **wu.cs.class.342**
- TA's
 - Christine West, **clw1@cec.wustl.edu**
 - Sean Bowman, **rsbowman@artsci.wustl.edu**
 - Steve Donahue, **sd1@cec.wustl.edu**
 - Andrew Gilpin, **agg1@cec.wustl.edu**
 - Matt Hampton, **mph2@cec.wustl.edu**
 - Gerald Pogue, **gap1@cec.wustl.edu**
- Professors
 - David L. Levine, **levine@cs.wustl.edu**
 - Christopher D. Gill, **cdgill@cs.wustl.edu**

The “G” Word

Please try to understand the course material and keep up with the course work. If you do that, you should not have to worry about your grade.

The grade breakdown is:

Labs	40 percent
Quizzes	35 percent
Final exam	20 percent
Participation	5 percent

This is a lab course. So, the lectures may be a bit less formal than in non-lab courses. Please ask questions, stimulate discussions, participate, and learn!