CSE 219, Computer Science III
Course Information

Spring 2015 Section 1

Stony Brook University

Instructor: Dr. Paul Fodor

http://www.cs.stonybrook.edu/~cse219

Course Description

- "Development of the basic concepts and techniques learned in CSE 114 Computer Science I and CSE 214 Computer Science II into practical programming skills that include a systematic approach to program design, coding, testing, and debugging. Application of these skills to the construction of robust programs of 1000 to 2000 lines of source code. Use of programming environments and tools to aid in the software development process."
- Prerequisites: C or higher in CSE 214 and CSE major or ECE major.

General Information

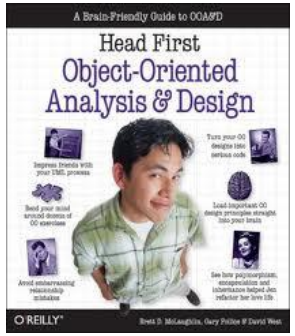
- Meeting Information:
  - Section 1 Lectures: TUTH 07:00-08:20PM, Computer Science 2120.
- Course Web page: http://www.cs.stonybrook.edu/~cse219
  - Blackboard will be used for assignments, grades and course material
- This course will use the Java programming language (all code you submit for this course must compile and run under Java JDK 8).
  - The programming environment for this semester will be the NetBeans IDE. Get your own free copy from the NetBeans download page: http://netbeans.org/downloads/index.html
- You will be using *git* for version control (remote repository on BitBucket as a PRIVATE! repository)

Instructor Information

- Dr. Paul Fodor
  1437 Computer Science Building
- Office hours: Tuesdays 10:00AM-11:30AM and
  Wednesdays 8:00AM-9:30AM
- Email: pfodor@cs.stonybrook.edu
  - Please include "CSE 219" in the email subject and your name in your email correspondence.
- TAs: see course Web page: http://www.cs.stonybrook.edu/~cse219
- Exams:
  - Midterm exam: Thursday, 03/12/2013, during lecture time in classroom.
  - Final exam: Tuesday, 05/19/2013, 8:30-10:30 PM in classroom (set by university final exam schedule).
  - **The exams will be like what we solve in the class!**

Textbooks

- *Head First Object Oriented Design and Analysis* by Brett McLaughlin, Gary Pollice, David West. Published by O'Reilly Media, Inc. 2006. Print ISBN-10: 0-596-00867-8. Print ISBN-13: 978-0-596-00867-3.
  - ViaSBLibrary Safari Technical Books: http://proquestcombo.safaribooksonline.com.proxy.library.stonybrook.edu



- *Head First Design Patterns* by Eric T Freeman, Elisabeth Robson, Bert Bates, Kathy Sierra. Published by O'Reilly Media, Inc. 2004. Print ISBN-10: 0-596-00712-4. Print ISBN-13: 978-0-596-00712-6.
  - ViaSBLibrary Safari Technical Books.

- *Core Java Volume 1 - Fundamentals, 8th Edition* by Cay Horstmann. Published by Prentice Hall, 2007. Print ISBN-13: 978-0132354769.

Course topics

- Project Technologies Basics
  - GUIs & Event Programming
  - 2D Graphics
- Software Design (UML)
- Design Patterns
- Programming style
- Algorithms and data structure selection
- Code maintenance & documentation

Course topics (cont.)

- Effectively using an IDE & associated tools for:
  - Designing
  - Code editing
  - Testing
  - Debugging
  - Revision control
  - Profiling
  - Documentation
  - Deployment

Course Focus

- Programming style and its impact on readability, reliability, maintainability, and portability.
- Decomposing problems into modular designs with simple, narrow interfaces. **Object-oriented design!**
- Selecting appropriate algorithms and data structures:
  - Systematic testing and debugging.
  - Improving program performance.
- Reusing code, including external libraries designed and built by others.
- Making effective use of a programming environment, including: Syntax-directed editor, Source code management tools, Build tools, Debugging tools, profiling tools.

Official Course Outcomes

- The official course goals agreed upon by the faculty for this course:
  - An ability to use current design principles to systematically design, code, debug, and test programs of about two thousand lines of code.
  - An understanding the importance of programming style and modularity to the construction and evolution of robust software.
  - An ability to apply techniques of object-oriented programming in the context of large-scale programs.
  - An ability to use programming tools such as syntax-directed editors, debuggers, execution profilers, documentation generators, and revision-control systems.

Coursework

- Grades will be based on homework and exams according to the following formula:
  - Homework and class quizzes -- 30% (5 % each)
  - Class project -- 20%
  - Midterm exam -- 25%
  - Final exam -- 25%
- Note CEAS Policy: The Pass/No Credit (P/NC) option is ***not*** available for this course.

Assignments

- hws due on fixed dates and times
  - **no late submission is permitted**
- All assignments should be submitted electronically
  - Blackboard

Regrading of Homework/Exams

- Please meet with a TA or the instructor and arrange for regrading.
- **You have one week from the day grades are posted or mailed or announced**
  - Late requests will not be entertained
  - Exception: final exam = we will try to grade it in one day

Course IDE

- Download: http://netbeans.org/downloads/index.html
- HW 1:
  - NetBeans Tutorials
  - Build Process/Version Control
  - Contract

ADVICE FOR THE SEMESTER

- 3 ½ months is a long time (**NOT** :-)!
- Points are ***more*** difficult to makeup later in the semester
- Have the same sense of urgency for the 1st assignment as you would for the last
- ***NO EXTRA CREDIT***

SO WHAT IS THIS COURSE *REALLY* ABOUT?

- Short Answer:
  - OOP mastery
  - No more toys
  - Plan, then do (design, then code)
  - Student to Pro

The LONG... answer

- Learn *methodologies* for building high quality software systems

Lab facilities

- CS Windows Lab:
- http://www.cs.stonybrook.edu/facilities/windowslab
- CS 2114, CS 2120, CS 2126, & CS 2129
- all registered students have accounts

Academic Integrity

- You can discuss general assignment concepts with other students
- You **MAY NOT share** assignments, source code or other answers
  - Assignments are subject to manual and automated similarity checking
- If you cheat, you will brought up on academic dishonesty charges without warning - we follow the university policy:
  - http://www.stonybrook.edu/uaa/academicjudiciary

Disability

- If you have a physical, psychological, medical or learning disability, contact the DSS office at Room 128 ECC. Phone 632-6748/TDD
- If you are planning to take an exam at DSS office, you need to tell me ahead of time for every exam. Otherwise you may not be able to take it there
- **All documentation of disability is confidential**

Please

- Please be on time
- Please show respect for your classmates
- Please turn off (or use vibrate for) your cellphones

…

- On-topic questions are welcome