

CSE 316, Fundamentals of Software Development

Course Information

Fall 2020

Stony Brook University

Instructor: Dr. Paul Fodor

<http://www.cs.stonybrook.edu/~cse316>

Course Description

- *“Introduction to systematic design, development and testing of software systems, including event-driven and Web programming, information management, principles and practices for secure computing, software design and development fundamentals, and the application of these skills to the construction of large, robust programs. Students design and implement a secure, full-stack, distributed web application.”*

(<https://www.cs.stonybrook.edu/students/Undergraduate-Studies/courses/CSE316>)

- Prerequisites:
 - C or higher in CSE 216 or CSE 260;
 - CSE major
- 3 credits

Course Outcomes

- The following are the official course goals agreed upon by the faculty for this course

<https://www.cs.stonybrook.edu/students/Undergraduate-Studies/courses/CSE260>:

- *An ability to use event-driven and reactive programming to the construction of Web software.*
- *An understanding of information management systems and querying databases.*
- *An ability to use current design and development principles to systematically build and test large programs.*

Major Topics

- Event-driven programming, including the use of front-end Web frameworks
- Information management, including database CRUD operations and transactions
- Software design principles, techniques and patterns
- Continuous integration / continuous development
- Fundamentals of secure, distributed computing

Textbooks (optional)

- Ian Sommerville, "Software Engineering", 9th Edition.
Publisher: Pearson, Date: 2011, ISBN-13: 9780137035151.
- McLaughlin, Brett, Pollice, Gary, West, David, "Head First Object Oriented Analysis & Design", O'Reilly Media Inc, 2007.
ISBN: 978-0-596-00867-3.
- Freeman, Eric, Robson, Elisabeth, Bates, Bert, and Sierra, Kathy, "Head First Design Patterns", O'Reilly Media Inc, 2014.
ISBN: 978-0-596-00712-6.

Instructor Information

- Dr. Paul Fodor
214 New Computer Science Building
- Office hours: Mondays and Wednesdays 2:30-4pm, on Google Meet <http://meet.google.com/xyu-jhqc-bdx>
- Phone: 1 (631) 632-9820
- Email: paul (dot) fodor (at) stonybrook (dot) edu
 - Please include “CSE 316” in the email subject and your name in your email correspondence
- **Blackboard** will be used for assignments, grades and course material.

Class Time and Place

- CSE316 Lectures: TuTh 4:45-6:05PM, on Google Meet
<http://meet.google.com/xyu-jhqc-bdx>

Grading Schema

- Grades will be based on homework and exams according to the following formula:
 - Homework assignments = 25%
 - Quizzes = 5%
 - Project = 25%
 - Midterm exam 1 = 15%
 - Midterm exam 2 = 15%
 - Final exam = 15%

Examinations

- Midterm 1: Th. 10/1, during class time (80 minutes), with Lockdown Browser and Monitoring.
- Midterm 2: Th. 11/5, in classroom, during class time (80 minutes), with Lockdown Browser and Monitoring.
- Final Exam: Tuesday December 15, 2020, 2:15-4:15pm (120 minutes), with Lockdown Browser and Monitoring.
 - See Final Exams University Schedule here:

<https://www.stonybrook.edu/commcms/registrar/registration/exams.php>

The exams will be like the problems that we solve in the class!

- **The Pass/No Credit (P/NC) option is not available for this course**
 - This policy applies to *all* CSE/ISE undergraduate courses used to satisfy the graduation requirements for the major

Grading

- **Grade Cutoffs:** A [95-100], A- [90-95), B+ [87-90), B [83-87), B- [80-83), C+ [77-80), C [73-77), C- [70-73), D+ [65-70), D [60-65), F [0-60)
- ***SPECIAL RULE:*** If all your grades, including homework assignments, quizzes, recitation and your three exam grades are above the respective class averages, you're guaranteed to receive a grade of C or higher for this class.
- There will be extra credit problems as a part of quizzes and homework assignments which values to an increase of less than 4% in the final grade.
- There will be in-class quizzes / brief assessments used to practice the class material and measure growth in knowledge, abilities, and skills.
- They will be solved in class and they are valued 2 points each.

Grading

- The final grade you receive in this class will reflect, as far as possible, the extent to which you have mastered the concepts and their applications.
 - How much someone needs a grade, or how close they are to the next higher grade, will have no effect on grade.
 - As the instructor, I want everyone to do well in this course, and will make every reasonable effort to help you understand the material taught.
 - However, the grades provided at the end of the semester are final, except for rare situations involving grading errors.
 - They will not be altered for any reason, so please do not ask me to do so.

Assignments

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

Regrading of Homework/Exams

- Please meet with a grading 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

Class Schedule

Week	Lecture Topics
1	Software Development lifecycle
2	Web Development Concepts
3	JavaScript
4	JavaScript
5	JavaScript/DOM
6	Transaction Processing Systems
7	Reactive Programming with React
8	Ajax
9	Restful Web Services
10	Serialization/JSON
11	XPath, jQuery
12	Design Patterns
13	Databases
14	The MERN Stack
15	Computer Security Principles

Disability Support Services

- 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.
- **All documentation of disability is confidential.**

Academic Integrity

- The following rules are posted in every course syllabus:
"Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/"

Academic Integrity

- You can discuss general assignment concepts with other students: explaining how to use systems or tools and helping others with high-level design issues
- You **MAY NOT share** assignments, source code or other answers by copying, retyping, looking at, or supplying a file
 - Assignments are subject to manual and automated similarity checking (We do check! and our tools for doing this are much better than cheaters think)
- If you cheat, you will be brought up on academic dishonesty charges - we follow the university policy:
 - <http://www.stonybrook.edu/uaa/academicjudiciary>

Examples of Academic Dishonesty

- Unpermitted collaboration (on a paper, homework, lab reports, etc.). Unless an instructor has explicitly approved working together, students should assume, for their own protection, that it is not permitted.
- Helping someone else to plagiarize from one's own homework (for example, by giving them a copy of yours, or doing it for them)
 - This includes having a public repository on Github that other students can copy from.
- Representing someone else's source code as one's own. If another person's code is being used, it must be properly cited.
- Buying or selling source code.
- Using source code or pieces of a paper from the internet without properly citing the source.

Academic Integrity

- The instructor makes a recommendation at the Academic Judiciary office
 - Cheating is cheating! No matter the amount of cheating or if one is the source or destination of cheating.
 - Do not cheat! You are cheating yourself.
 - Our job is to teach you the material and make sure that you learn it.
 - Our recommendation is always F for the cheaters!

Catastrophic events

- Major illness, death in family
- Formulate a plan (with your CEAS academic advisor) to get back on track
- Advice
 - Once you start running late, it's really hard to catch up

What do you need to get started?

- Blackboard account
 - <http://blackboard.stonybrook.edu>

Please

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

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- On-topic questions are welcome

Welcome
and Enjoy!