17-682 J2EE Web Application Development

Syllabus for Fall 2019, Mini #1
Version of August 26, 2019

Instructor

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Course Description

This course will introduce concepts in programming web application servers. We will study of the fundamental architectural elements of programming web sites that produce content dynamically. We will be demonstrating the course using Java Servlets and Java Server Pages. We will also cover the related topics as necessary so that students may build significant applications.

Such topics are expected to include: HTML, CSS, HTTP, Relational and Non-Relational Databases, Object-Relation Mapping Tools, Security Issues, AJAX, and Cloud Deployment.

Prerequisites

- Students are required to be familiar with Java Programming before taking this course. Those who are not are encouraged to take 17-681 before taking this course.
- Students are required to have a reasonably modern laptop computer on which to install the Java software used for this course.

Course Text

- You may choose any text or texts that covers the topics listed, below. Such books are commonly available. In the past students have used *Head Servlets and JSPs (O'Reilly)*.
- Most students used internet resources for this course. All the information on course topics can readily be found on the Internet. We will provide links during lectures, when necessary.

Class Meetings

- Lectures are on Tuesday and Thursdays from 12:00pm to 1:20pm in Scaife Hall Room 125
- Recitations on Fridays from 10:30am to 11:50pm in Wean Hall Room 5403

Office Hours

- Teaching Assistant(s) hold office hours weekly, according to the schedule posted on the Staff tab on the course Piazza page.
- Professor Eppinger is available for questions after (almost every) class or by appointment

Homework Assignments
- Five homework assignments are planned – they will be due on Monday nights

Exams & Quizzes
- Quizzes will be given during most recitation sessions
- Final Exam – There will be a 2-hour final exam, which will be scheduled by the University Registrar (likely on either Oct 17th or 18th. You must be at the exam on-time in order to take it.

Late Homework Policy
- Before homework assignments are due, students may request additional time by posting private Piazza question. In your request, please be sure to provide the following information:
  - o Your Name
  - o Your Andrew ID
  - o The homework assignment for which you want an extension
  - o When you want to turn in the assignment
- A TA (or professor) will respond to let you know that your request has been granted. In general, reasonable requests will be granted. If your request is posted late at night, just before the homework is due, we may not respond until the next day, but reasonable requests will be granted the next day, so it's OK.
- Students may have up to ten (10) penalty-free extension days that may be used to extend homework assignment deadlines.
- Students may use up to four (4) penalty-free extension days for any particular homework assignment.
- Students may request extensions of more than four (4) days for a particular homework assignment. Typically, reasonable requests will be granted.
- Students that use more than (4) extension days on a homework assignment or more than (10) extension days in total will receive a penalty at the end of the course when computing your grade. (Basically, if you use a small number of excess extension days and you are near a grade boundary, you'll get the lower course grade. However, you have a lot of excess extension days, I'll lower your course grade significantly.)
- Note: If you turn in a homework assignment late and did not request an extension (or turn it in beyond the extension), we will deduct points from the homework and retroactively add the additional extension days to your tally. There may also be confusion about which version of your homework we should grade, causing additional penalties. So, request extensions before the deadline. It's hard for us to keep track of things, if you don't.
- Yes, you may request a second extension for a homework assignment, but be sure to request it before the original extension period has ended.

Grade Computation
- The expected computation of students' grades will be:
  - o Homework: 65%
  - o In-class Quizzes: 2% (also, we won't count the lowest quiz score)
  - o Final Exam: 33%

Course Website

- As with many other CMU courses, we will use the "Canvas" server to host our course website. It's accessible via https://canvas.cmu.edu.
- Posted on the course website will be:
    - o contact information for the course staff,
    - o copies of the lecture materials,
    - o links to sample code,
    - o links to videos of the course lectures (but please come to class),
    - o homework specifications, and
    - o a link to our course Piazza.

Schedule of Lectures & Recitations (subject to change)

Week #1
       8/27 Lecture #1: HTML & HTTP
       8/29 Lecture #2: JavaScript, CSS, and DOM
       8/30 Recitation #1 (incl. Bootstrap)

Week #2
       9/3   Lecture #3: Servlets & Tomcat
       9/5   Lecture #4: Threads
       9/6   Recitation #2 (incl. DIY dynamic content in HTML pages)

Week #3
       9/10 Lecture #5: Sessions & Cookies (and Hidden Fields)
       9/12 Lecture #6: Java Server Pages
       9/13 Recitation #3

Week #4
       9/17 Lecture #7: SQL & JDBC
       9/19 Lecture #8: Object Relation Mapping Tools (GenericDAO)
       9/20 Recitation #4 (including reflection discussion)

Week #5
       9/24 Lecture #9: Transactions
       9/26 Lecture #10: Model-View-Controller
       9/27 Recitation #5

Week #6
       10/1 Tag Libraries
       10/3 AJAX
       10/4 Recitation #6

Week #7
       10/8   Security (SSL, SQL Injection, Cross-site Scripting)
       10/10 Cloud Deployment
       10/11 Recitation #7 (including a review for the final exam)

Academic Integrity
- You must adhere to the University's Academic Integrity Policy.
    - This includes the standard behavior of not communicating with others during exams, not copying from others and not allowing others to copy from you.
- You may use the course examples as a basis for your solution (so you may copy code from them).
- Do not electronically copy from any source code from any other sources (unless we have specifically given you permission to do so).
    - In this course, the typical violation is copying source code from other students or from the Internet. Do not do this.
    - You may not copy source code from students from previous instances of the course. We maintain databases of everyone's submissions, so we can check. Write the code yourself.
- Do not allow others to copy your files (or portions thereof).
    - You may discuss your homework with other students and even show them your solution to get comments, but you may not allow other students to copy your files (or portions thereof).
    - Protect your files:
        - Don't share them in the cloud
        - Don't e-mail them (or portions of them)
        - Don't post them (or portions of them) publicly on Piazza when asking questions – you can tell the TAs that your solution is in your class repo and they can see your files, there.

At the end of the day, please remember this is just class. So, take care of yourself and try not to stress. Prof. Eppinger is here to have some fun. He hopes you are having fun, too – at least some fun, anyway.

The homework late policy is designed to help reduce your stress by giving you some flexibility with deadlines. Remember, even if you surpass the penalty-free extensions, the penalty can be quite minimal if you're just a little late – go back and read that part again.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Our Counseling and Psychological Services (CaPS) is available to help: call 412-268-2922 or visit their website at http://www.cmu.edu/counseling/. Also, consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help. And, certainly, Prof. Eppinger is willing to talk with you, too.