

CSCI 6312
Advanced Internet Programming

W, 5:55-8:25pm
ENGR 1.268, ACSB 2.113

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Course Information

<http://faculty.utrgv.edu/emmett.tomai/courses/6312/>

- All course materials and announcements will be available on this web site
 - Syllabus
 - Instructor and TA contact information
 - Lecture materials
 - Assignments
 - Due dates, exam schedule, announcements
- Course announcements and other updates will also be sent via email
 - You are expected to check your email every weekday and at least once on weekends

Web Application Programming

- Web (browser-based) applications are increasingly the preferred way to provide software services
 - Started with simple web pages, mostly news and “brochures”
 - E-commerce (amazon, ebay, etc)
 - Intra-net corporate apps (timesheets, reporting, help requests, etc)
 - Community forums
 - Lightweight applications (email, calendar, trip planners)
 - “Web 2.0” community created sites (blogs, youtube, facebook, reddit, instagram, etc)
 - Desktop-like applications (gmail, games)
 - Mobile apps use similar paradigms and tech stacks

Why so popular?

- Browser platform
 - No additional installation
 - Accessible anywhere
 - Familiar interface
- Filthy lucre
 - No distribution and update costs
 - Lots of momentum = customers, funding
- Software as service
 - Control over who gets to use it when
 - Defeats piracy and used market
 - Control of the data

Course structure

- This is a practical course to teach you how to design and implement web applications
 - Learn the fundamental architecture of web applications
 - Practice with specific technologies
 - Learn how to keep up with the fast-changing landscape
 - Those technologies may be obsolete in 3 years
 - There will certainly be new technologies and ways to use them
 - You have to be able to try out, evaluate and adopt new things quickly and efficiently

Course structure

- Weekly (there will be exceptions)
 - Lecture in ENGR 1.268
 - Review prior assignments
 - Discuss readings and responses
 - Introduce new concepts
 - Demonstrate design, development, debugging, testing
 - Lab in ACSB 2.113
 - Try out what we talked about, build on it
 - Leading into the weekly homework assignment due the next class time

Course structure

- Course project
 - The last 2-4 weeks of the semester will be spent on a larger team project
 - This will involve learning and reporting on a different web technology
- Midterm and final exam
 - In lab, on computers, open web
 - Based on the weekly assignment material
 - Can you build the basics on your own with a time limit?

Main Topics

- Static web pages: HTML, XHTML, CSS
- Dynamic web pages: JavaScript and the DOM
- More dynamic: AJAX, HTML5 and JavaScript libraries
- Data encoding: XML, JSON, SOAP, AMF
- Clients and servers: TCP/IP, sockets, HTTP
- Server-side scripting: PHP, J2EE, node.js
- Session management
- Security and encryption
- Databases and SQL
- Multi-tier apps: MVC
- Web application frameworks

Textbook

- This course does not use a traditional textbook. Web programming is a fast-moving field, and the most current resources are online. We will be relying on those in class.
 - A significant skill in web application development is the ability to learn new technologies
 - Many books, fragmented and quickly outdated
 - Excellent, up-to-date resources are available online
 - In this class, you will be required to find resources and learn from them as part of your assignments

Course requirements

- Students are expected to attend
 - You are responsible for everything discussed in class
 - No make-ups for in-lab/class exercises
- Weekly assignments
 - Submit lab work at the end of each lab for credit
 - Finished assignments due at the beginning of class
 - If you are having trouble, come see me *before* the due date

Scoring and Grading

- Scoring:

| | |
|-----------------------------|-------|
| In-class/lab exercises | 10% |
| Assignments & Project | 55% |
| Midterm and final | 35% |
| | ----- |
| Total possible score (max): | 100% |

- Final grade:

| | |
|---------|---|
| 90-100% | A |
| 80-89% | B |
| 70-79% | C |
| 60-69% | D |
| 0-59% | F |

Office Hours

- Any time by appointment, email one day in advance
- Scheduled drop-in times on website
 - Open drop in, first-come first-served
- Any time, I'm usually around, but may not be available

Teamwork and Academic Honesty

- Students are encouraged to assist one another, but each student must still do their own work
- **Giving and receiving major sections of code is considered cheating** and will be dealt with on an individual basis (beginning with total loss of points followed by formal disciplinary action)
- All students should be familiar with University policies on academic dishonesty
- Some assignments may allow team work
 - Partners are there to learn teamwork and motivate each other
 - Your partner is not there to carry you or teach you
 - You are responsible for the assignment, regardless of how helpful or not your partner is

Students With Disabilities

- Services such as note takers, extended test time or separate accommodations for testing are available
- Contact Student Accessibility Services (SAS):
 - <http://www.utrgv.edu/accessibility/>
 - University Center 108, 956-665-7005
- Verification of disability and processing is required and will be determined by SAS
- Completely confidential
- Contact information also available on the syllabus

Questions?

- All course details and policies, as well as a complete (tentative) schedule are in the course syllabus, available on the web site