COMP 4/6302: Web Services and the Internet – Spring 2016

Ernest McCracken

Contact Information:

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Office Hours:

Wed 2-5pm in the ACM Student Lounge and by appointment.

Lecture Meeting Times/Locations:

5:30 - 7:00 Mon/Wed FIT 226

Catalog Description:

COMP 4130: Web Services and the Internet: From early Distributed Systems to Service Oriented Architecture, Software as a Service. Transitioning from method invocation(RMI/RPC) to platform independent communication(JSON, XML). Communication layers and protocols. Java EE Technology in creating highly scalable application servers. Describing services and exposing web layer API's(WSDL/REST). Supporting Authentication and Authorization. Separation of Concerns development. Modern Web using Javascript. A background in databases and networking is needed.

Course Website:

eCourseware system: https://elearn.memphis.edu

Required Text:

Martin Kalin, *Java Web Services Up and Running*, 2nd Edition
Chappell, Richards, Haefel, *Java Message Service*, 2nd Edition

Assignments:

This is a very hands on class and such there will be lab assignments most weeks. You must use Eclipse projects when turning in your source code. This makes it easier to streamline grading. You will also need to submit as part of your code, connection string config files for making connections between servers. We will discus this further. There will also be 3 larger projects throughout the semester.

Attendance:

Attendance doesn't officially count towards your final grade, but it's crucial that you attend class regularly.

Email:

Please check your University of Memphis email account at least once a day, as that is my primary means of communicating with you outside of class.

Late/Makeup Policy:

All assignments are expected to be completed and turned in on schedule. Due dates will be clearly indicated for each assignment. Late assignments are NOT accepted except in extreme circumstances. Likewise, makeup exams will be given only under extreme circumstances. If you feel that your circumstances warrant a late work submission or a makeup exam, get in touch with me as soon as possible. Be prepared to show some kind of documented proof of your situation.

Plagiarism/Cheating Policy:

An essential part of learning how to program is getting plenty of practice with it yourself. As such, all labs for this class (unless specifically indicated otherwise) are expected to be individual efforts. If I determine that you have copied another student's assignment, this will happen to both you and the person from whom you copied. The incident may also be forwarded to the University Judicial Affairs Office for further disciplinary action. Please don't put me in this situation.

The 3 semester projects can be worked in teams of up to 2 people.

Student Disabilities:

If you have a disability that may require assistance or accommodations, or if you have any questions related to any accommodation for testing, note taking, reading, etc., please speak with me as soon as possible. You must contact the Student Disability Services Office (678-2880) to officially request such accommodations / services.

Evaluation:

Labs	400 pts. (8 @ 50 pts. each)
Semester Projects	480 pts. (3 @ 160 pts. each)
Exam 1	120 pts.
Exam 2	120 pts.

Final grade: add up your point total and divide by 1120.

Grading Scale: Letter grades will be determined as follows:

CS 4302
A+: 96-100%; **A**: 90-95%
B+: 87-89%; **B**: 81-86%; **B-**: 79-80%
C+: 77-78%; **C**: 71-76%; **C-**: 69-70%
D+: 67-68%; **D**: 60-66%
F: Below 60%

CS6302
A+: 98-100%; **A**: 92-97%
B+: 89-91%; **B**: 84-88%; **B-**: 81-83%
C+: 79-80%; **C**: 74-78%; **C-**: 71-73%
D+: 69-72%; **D**: 64-68%
F: Below 63%

Tentative Course Schedule:

Date	Lecture Material	Assignments
1/20	Course introduction and Tools	
1/25 1/27	Examples of web service applications History of Web Service Technology	
2/1 2/3	Databases Concepts Review Database Connections in Java	Project 1 Lab 1: Databases
2/8 2/10	Networking and Internet Application Servers/ Servlets	
2/15 2/17	Synchronized Collections and Multithreading Lab Day	 Lab 2: Socket Servers
2/22 2/24	Client Technologies Client Technologies	
2/29 3/2	Intro to XML and JSON parsing Lab Day	Project 2
3/7 3/9	**Spring Break** **Spring Break**	
3/14 3/16	**Test 1** Concept of Marshalling with JSON	**Test 1,** Lab 3: Web
3/21 3/23	Representational State Transfer (REST) REST Cont'd	Lab 4: REST
3/28 3/30	Simple Object Access Protocol (SOAP) SOAP Cont'd	Lab 5 SOAP
4/4 4/6	Web Service Description Language (WSDL, UDDI) WSDL Cont'd	Project 3 Lab 6: Web API
4/11 4/13	Publisher/Subscription Model Java Messaging Service	
4/18 4/20	Security Security Cont'd	Lab 7:JMS Queue
4/25 4/27	TBD **Test 2**	 **Test 2**

- Required Tools
    - Latest JDK and JRE
    - Eclipse for Java EE Developers
    - Tomcat Server 8.x (do not use 9.x)
    - MySQL Community Server and Workbench
    - Apache Web Server
- Needed JARs
    - MySQL JDBC Driver (5.1x)
    - Jersey
- Client Tools
    - Twitter Bootstrap
    - Node.js
- Services
    - Github