CSE5335: Web Data Management (Fall 2020)

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Office Hours: Tuesday and Thursday 3:30-5:00pm
Section Information: CSE 5335-001
Time and Place of Class Meetings: TuTh 2:00-3:20pm

Mode of Teaching:
Online synchronous: Lectures and exams will be online. There is no requirement for students to come to campus. The exams will be online and are required at a specific day and time. All lectures will be held live through Microsoft Teams at a scheduled day and time (TuTh 2:00-3:20pm). Public chat will be available during these live sessions. The video recording of each lecture will be uploaded on Canvas after the class. Students are strongly encouraged but not required to attend the live sessions, but if they miss a live session, they are required to watch the video of the session. Office hours will be held online on Microsoft Teams. Projects will be submitted on Canvas. You will need to use the Respondus Lockdown Browser to take the exams. You can take the exams on a Windows 10 or a Mac with a webcam. The webcam is required and must be on during the exams. The Lockdown Browser does not work on Linux. It is your responsibility to find a PC or a MAC with a webcam to take the exams.

Description of Course Content:
This course provides an in-depth study of the area of web data management. The course primarily covers the state of the art in designing and building web applications and services, primarily focusing on issues and challenges that revolve around the management and processing of web data. The first part of this course is an intensive study of Web programming with a focus on generating dynamic, database and web-service driven web content. The second part is an in-depth study of XML technologies, focusing on issues and challenges that revolve around the management and processing of XML data.

Student Learning Outcomes: Upon successful completion of this course, students will be able to:

- use current web technologies to develop dynamic web sites
- develop web sites that use dynamic content generated from a database
- develop web services and dynamic web applications that use web services

Prerequisites:
Prerequisites: CSE 3330/CSE 5330 (Database Systems I) or equivalent. Students are expected to have a working knowledge of Java, SQL, and basic HTML. Students without adequate preparation are at substantial risk of failing this course.
Required Textbooks and Other Course Materials:
There is no required textbook for this course but students are expected to read many online tutorials and references (links will be given out in class).

Optional Reading: Although not required, you may find the following book useful for additional background and explanation:


Descriptions of major assignments and examinations:
There will be eight small programming assignments, one midterm exam, and one comprehensive final exam.

Grading:
The final grade will be based on
- 48% 8 small programming assignments (6% each)
- 20% midterm exam
- 32% final exam (comprehensive)

Final grades will be assigned according to the following scale:

- A: score >= 90
- B: 80 <= score < 90
- C: 70 <= score < 80
- D: 60 <= score < 70
- F: score < 60

Sometimes, lower cutoff points are used for the final grades, depending on the overall performance of the class. Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.

Exams:
Both exams are open notes and books. The final exam will cover the material from the first lecture up to and including the last lecture. Both exams will be online and are required at a specific day and time. You will need to use the Respondus Lockdown Browser to take the exams. You can take the exams on a Windows 10 or a Mac with a webcam. The webcam is required and must be on during the exams. The Lockdown Browser does not work on Linux. It is your responsibility to find a PC or a MAC with a webcam to take the exams. Once the exam grades are posted, you will have 10 business days to dispute your grade and get your exam re-evaluated. No re-evaluation will be entertained after the 10 day period. No makeup exams will be given unless there is a justifiable reason (such as illness, sickness or death in the family). If you miss an exam and you can prove that your reason is justifiable, you should arrange with the instructor to take the makeup exam within a week from the regular exam time. For any other case, you will get a zero grade for the missed exam.

Programming Assignments:
There will be 8 small programming assignments. Each project will be done individually. Details will be given out in class. Late project assignments will be marked 20 points off per day (out of 100 max). So, there is no point submitting a project report more than 4 days late! This penalty cannot be waived, unless there was a case of illness or other substantial impediment beyond your control, with proof in documents from the school.

Software:
Most projects will be done in Java (using JDK) but some will be done in JavaScript, PHP, and XQuery. Students are expected to have a working knowledge of Java, SQL, and basic HTML. The software used for the projects is open-source, free, platform-independent, and well-suited for Java. You can do most of the projects on your own PC/laptop under any platform (Linux, MAC OS X, MS Windows, etc). Directions of how to download the required software will be given out in class.

**How to do Well in this Course:**
Students who get the most out of this course will be the ones who put in the most effort. If you want to do well, attend all the online lecture sessions, read the assigned reading material, and start early on your programming assignments. If you are having difficulty, the instructor and the GTA will be more than happy to help you. In addition to regular office hours, the best way of communication with the instructor or the GTA is through email. If you can't make it to the scheduled office hours but really need help, contact one of us for an appointment.

**Institution Information:**
UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the [Institutional Information page](#), which includes the following policies among others:
- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

**Mandatory Face Covering Policy:**
All students and instructional staff are required to wear facial coverings while they are on campus, inside buildings and classrooms. Students that fail to comply with the facial covering requirement will be asked to leave the class session. If students need masks, they may obtain them at the Central Library, the E.H. Hereford University Center’s front desk or in their department. Students who refuse to wear a facial covering in class will be asked to leave the session by the instructor, and, if the student refuses to leave, they may be reported to UTA's Office of Student Conduct.

**Attendance:**
The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I allow students to attend class sessions at their own discretion. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report must the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement
online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

**Tentative Course Schedule:**
1. Introduction and motivation
2. Web Programming
   a. Dynamic web pages, the HTTP protocol
   b. HTML forms
   c. XHTML and CSS stylesheets
   d. Client-side programming (JavaScript)
   e. The document object model (DOM) and dynamic HTML
   f. Asynchronous server requests (AJAX)
   g. Server-side programming: PHP scripts, cookies, and sessions
   h. Servlets, Java Server Pages (JSP), Java Server Faces (JSF)
   i. Database connectivity, JDBC
   j. Web services: RESTful vs SOAP-based, WSDL
3. XML
   a. XML basics
   b. DTD and XML Schema
   c. XPath
   d. XML APIs (DOM, SAX, StAX)
   e. XSLT
   f. XQuery

**Emergency Phone Numbers:**
In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381

_Last modified: 07/01/2020 by Leonidas Fegaras_