

CS 1655: Secure Data Management and Web Applications (Fall 2014)

Department of Computer Science, University of Pittsburgh

Lectures: (first one will be on Monday, August 25th)

Monday 9:30 am – 10:45 am @ 5129 Sennott Square

Wednesday 9:30 am – 10:45 am @ 5129 Sennott Square

Instructor: Prof. Alexandros Labrinidis

Email: labrinid@cs.pitt.edu

Office hours: Monday: 10:45am – 12:15pm

Web: <http://labrinidis.cs.pitt.edu>

Wednesday: 10:45am – 12:15pm

Office: 6105 Sennott Square

Phone: 412-624-8843

Recitations: (first one will be on Friday, September 5th)

Friday 1:00 – 1:50 pm / 4:00 – 4:50 pm @ 6110 Sennott Square

Graduate Teaching Assistant: Cory Thoma

Email: cs1655-staff@cs.pitt.edu

Office hours: Tuesday: 10:00am – 12:00pm

Office: 6414 Sennott Square

Thursday: 1:00pm – 3:00pm

Phone: 412-624-8443

Friday: 2:00pm – 4:00pm

Course Description: This course is the second data management course in the CS Department. As such, it has the following main objectives. First, to study topics that go beyond the traditional relational database management system framework, such as information retrieval, data mining, and data warehousing. Second, to study security-related issues as they arise in web-database environments. Third, to expose students to advanced database applications and also to related data/information management and analysis technologies, while gaining hands-on experience.

Prerequisites: A grade of C or better in CS 441 and CS 445 is required (or permission of the instructor). Good working knowledge of **Java** and familiarity with Unix are assumed.

Class Web Page: <http://db.cs.pitt.edu/courses/cs1655/fall12014>

All handouts and class notes will be published on the class web page. You are expected to check this page frequently (at least twice a week).

Textbook: There is no single textbook with enough coverage of all the material that we want to discuss in this class. We will rely on online references and also on O'Reilly's *Safari Bookshelf* for which the University has institutional access (i.e., you will not have to buy extra books).

Course Grading:

Assignments	40%	There will be 5 assignments, most of which will have a significant programming component (see important dates for deadlines).
Class participation	10%	For both lecture and recitations. We will use the Socratic system to capture student responses and record attendance. A minimum of 80% attendance is required for you to get a non-zero class participation score.
Midterm Exam	25%	Wednesday, October 8th, 9:30 am – 10:45 am (SENSQ 5129)
Final Exam	25%	Tuesday, December 9th, 4:00 pm – 5:50 pm (SENSQ 5129)

Important Dates: (will also be provided through a shared Google Calendar)

- September 9, Assignment #0 (test) released
- September 9, Assignment #1 released
- September 12, Assignment #0 due
- September 23, Assignment #1 due
- September 23, Assignment #2 released
- October 8, **Midterm Exam**
- October 16, Assignment #2 due
- October 21, Assignment #3 released
- November 4, Assignment #3 due
- November 4, Assignment #4 released
- November 18, Assignment #4 due
- November 18, Assignment #5 released
- December 5, Assignment #5 due
- December 9, **Final Exam**

Class communications policies (NEW - please read carefully!):

- **Mailing List** – All students will be automatically subscribed to the class mailing list, so that they receive time-sensitive announcements from the instructor and TA(s).
- **In-class student responses** – we will use the **Socrative** system to capture student responses to questions and record attendance. It is crucial that you provide your Pitt user account name (e.g., xyz123) at the name prompt, to properly record your answers.
- **Email to instructor and TA – instead of email**, we will use the **Piazza** system (which is essentially a web-based bulletin board) for questions and clarifications to assignments. More instructions will be posted on the class web site.
- **Confidential Email to instructor and TA** – in case you need to communicate with the instructor and TA outside of the Piazza system (i.e., for confidential matters), you should send email to **cs1655-staff@cs.pitt.edu**. We will make every effort to respond to all email requests within one business day at the latest. **Due to spam filtering, you should always use your pitt email address when sending email and include your full name.**

Cell Phone Use (NEW - please read carefully!): Answering a cell phone or texting is very disruptive and hence any use of a cell phone to make or receive calls or text messages **is not permitted** in the class or recitation. Cell phones must be switched to silent mode and if you have a phone call which cannot wait until the end of the class, you need to step out of the class and then answer it.

Technology Policy (NEW - please read carefully!): Since this is the 21st century, the use of laptops, tablets, and other digital devices **is allowed** in class. **However**, when using digital devices in the classroom you must:

- **be mindful** – when you are emailing, tweeting, texting, surfing, etc, you are not paying attention. Research shows that no one can multitask that well, you included. Paying attention and taking good notes is essential to success in this course. Isn't that why you are here?
- **be respectful** – your use of digital devices should not distract other students in the class. It is unlikely that taking notes or searching class-related topics will be distracting to the other students. However, viewing videos of kittens or ice bucket challenges (gone well or gone wrong) will likely distract others. Complaints about inappropriate technology use in class will result in your privileges being curtailed or revoked.
- **be honest** – emailing, surfing, and the use of any other applications or technologies is not allowed during examinations. Doing so (unless explicitly allowed) is considered cheating in the exam and will be dealt accordingly.

Audio/Video Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Grading Policy: Unless explicitly noted otherwise, the work in this course is to be done independently. Discussions with other students on the assignments should be limited to understanding the statement of the problems (except when assignments are to be done in groups in which case it is expected of members of the same group to work together). **Cheating in any way, including giving your work to someone else, will result in an F for the course and a report to the appropriate University authority.** Submissions that are alike in a substantive way will be considered to be cheating by ALL involved parties. Please protect yourselves by only storing your files in private directories, and by retrieving all printouts promptly.

Students are expected to abide by the Dietrich School of Arts and Sciences' Academic Integrity code of conduct, posted at <http://www.as.pitt.edu/fac/policies/academic-integrity>

All assignments must be submitted electronically. Grades can be appealed up to two weeks after they have been posted; no appeals will be considered after that time.

Late Policy: A late assignment will receive a deduction of 5 points if it is up to one day past the deadline and 15 points if it is up to two days past the deadline. Assignments that are past two days late will not be accepted.

Make-up Policy: Students are expected to be present for all exams and quizzes. Make-up exams will only be given in the event of an emergency, and only if the instructor is informed **in advance**. Failure to notify the instructor prior to missing an exam will result in a zero for the exam.

Final Exam Conflict Policy: In case you have a final exam conflict (i.e., have more than two exams scheduled on the same date during finals week), you need to notify the instructors of all classes involved in order to resolve the conflict by the sixth week of classes, according to the University policy (posted at http://www.registrar.pitt.edu/final_examination_schedules.html).

Students with Disabilities:

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, 216 William Pitt Union, 412-648-7890 or 412-383-7355 (TTY) as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course. Their web site is <http://www.drs.pitt.edu>.

Religious Observances:

In order to accommodate the observance of religious holidays, students should inform the instructor (by email) of any such days that conflict with scheduled class activities **within the first two weeks of the term**.

Copyrighted Material All material provided through this web site is subject to copyright. This applies to class/recitation notes, slides, assignments, solutions, project descriptions, etc. You are allowed (and expected!) to use all the provided material for personal use. However, you are strictly prohibited from sharing the material with others in general and from posting the material on the Web or other file sharing venues in particular.

Outline: A detailed reading guide will be published on the web page, along with the class notes and additional online articles and resources. Time permitting, we will cover the following topics:

- Data Mining
- Information Retrieval
- PageRank
- Recommendation Systems
- Data Warehousing
- XML / RSS / XPath / XQuery
- SQL / PHP Review
- SQL Injection
- RDF / SPARQL
- Data Streams

[Last updated on August 24, 2014 at 8:23pm EST]