Point Loma Nazarene University
Database Systems and Web Integration

Class Time and Location
Spring 2016
Tuesday, Thursday: 7:00pm – 8:40pm, Latter Hall 2

Credit
Four units for 4 lecture hours

Instructor Information

Instructor	Prof. Sam Ovando
Email	samovando@pointloma.edu
Office Hours	Tuesday, Thursday: 8:40pm - 9:00pm, Latter Hall 2 or by appointment.

Class Materials
Textbook	Ramakrishnan, R. and Gehrke, J. *Database Management Systems, 3/e*. McGraw Hill, San Francisco, 2003.
Required	GoDaddy Account Access (fee-based, $5.33)

Course Description
ISS 414 - Data Base Systems and Web Integration (4)
An introduction to database management systems covering data models (including relational, network, hierarchical, and object oriented), relational databases, query languages, relational database design, transaction processing, distributed databases, and physical database design. Students will see examples from both business and science. They will become familiar with analysis tools and gain experience accessing databases using Python scripts and web-based gateways. Students will also design web interfaces for data bases. Offered 2015-2016. Alternating year class. Prerequisite(s): CSC 154 .

Class Learning Outcomes
- Students will be able to write correct and robust software.
- Students will be able to apply their technical knowledge to solve problems.
- Students will analyze the interaction between hardware and software.
- Students will collaborate effectively in teams.
- Students will use information management as a tool to support decision making in business environments.
- Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.

Course Organization

Class time will be used for:

1. Introduction of material in the text to be assigned.
2. Discussion of assigned material in the text.
3. Discussion of student questions on the test or class material, including exercises attempted.
4. Administering tests.
5. Laboratory projects or Student Presentations

Objectives of the Course

At the conclusion of the course the student should understand the following:

Database Concepts	Web Integration Concepts

• Overview of database management systems
• Database Design essentials
• Data Models
• SQL
• Database Application Development
• Internet Applications
• Schema refinement, FDs, Normalization
• Familiarity with the major Database Management Systems in the Industry
 	
As time permits, database security will be introduced.
	• HTML
	  o HTML, HTML5
	  o Forms, Graphics, Media, APIs
	• CSS
	  o CSS, CSS3, CSS Responsive
	• JavaScript
	  o Forms, Functions, DOM, Web Building
	• PHP
	  o PHP, Web/Database integration
	
	Students are introduced to the tools and skills used in building and maintaining web sites on the Internet. A class project integrates the topics as the students build their own website.

Course Philosophy

The **instructor** is responsible for overall planning, for directing instructional activities, and for evaluation of student achievement.

As a **student**, you are ultimately responsible for your own achievement. For example, you are responsible for meeting all scheduled activities of the course, such as class meetings, problem assignments, quizzes, exams, and class project presentations. You are also responsible for regular work outside of class in preparation for class lectures and discussions.

Philosophy of Learning: The skills are learned primarily by doing exercises, not simply watching examples done by others. Effective learning is an active process of being exposed to new concepts and exercising the implementation of the concepts. Individual concepts are **learned** (mastered as opposed to memorized) by thinking and working through numerous examples and exercises which involve these concepts; by this process the concepts become familiar and less abstract.

Grading Policies

Grading

Item	%	Comments or Examples
Homework	15%	As assigned by the instructor.
Class Participation	10%	Answering questions accurately, contributing in class discussion, presentation of the Web Project at mid-term and end of term as assigned by the instructor
Student Led Lecture	10%	As assigned and described by the instructor
Web Project	10%	Semester long project as assigned by the instructor
Midterm Exam	30%	Covers database and internet material (text, online, homework)
Final Exam	25%	Covers database and internet material (text, online, homework)

Grading scale. Approximate minimal percentages required to obtain a given grade are:

	A	B	C	D	F
+		[87.5, 90)	[77.5, 80)	[67.5, 70)	
	[92.5, 100]	[82.5, 87.5)	[72.5, 77.5)	[62.5, 67.5)	[0-60)
-	[90, 92.5)	[80, 82.5)	[70, 72.5)	[60, 62.5)	

Grade components. The grade components are homework exercises, class participation, student led lecture, exams, and a semester website project that integrates the assigned learning and homework exercises.

- **Late work**. Late assignments will be worth 70% if turned in after the class period in which they are due, and are not accepted if late by more than 7 days.
- **Accuracy of solutions**. Answers to questions asked in class, on exams, or as part of assigned exercises must be formulated carefully in terms of words and notations used in the course. Credit is determined by the degree to which answers and solutions respond to the specific question or problem stated. Maximize your credit by learning the language and notation of the course.
- **Electronic Assignments**. Assignments sent in as attachments must be prepared in a style suitable for grading. The following guidelines are used to determine credit:
    - The organization must be easy to follow
    - The formatting must enhance the organization
    - Complete solutions must be written for problems (not just answers); answers must be clearly indicated
    - Use complete sentences to answer questions

- **Coding Guidelines.** Coding should conform to the guidelines as exemplified in the textbook and by the instructor. The following guidelines are also important
    - Use self-descriptive file-names
    - Use self-descriptive variable names
    - Make appropriate use of comments in the coding to help organize the coding and help explain logic or flow. If you were to use your coding as an example to someone you were teaching or tutoring, the coding with comments should help the novice understand your work clearly.
    - Use spacing appropriately so that the coding is easy to read. Jumbled coding without proper spacing within a line or spacing between lines will negatively affect your grade.
- **Semester Web Project**. Each student will be working on a project throughout the semester. The project will involve the creation of a personal website where the skills being taught are incrementally implemented into the website development.
    - 50% of the grade will be based on the student's ability to implement the skills in a technically accurate and appropriate manner.
    - 50% of the grade will be based on a student's ability to make the site visually appealing and easy for a user to navigate and use
        - Avoid the need for scrolling vertically and horizontally
        - Reduce the number of clicks as much as possible
        - Use text and background color schemes that are easy on the eye and not distracting
- **Mid-Term and Final Presentations**. At the middle and end of the semester, each student will present their project to the class, providing a visual presentation of their website development and providing a technical explanation of their work. No presentation shall be missed without prior consent or a well-documented emergency beyond your control. A score of zero will be assigned for a presentation that is missed without prior consent or a well-documented emergency beyond your control. Students will sign-up for their presentation time-slot and this schedule will be made public to the class. Grading for the presentation will fall in the category of class participation (50% of the presentation grade will be based on the student's ability to present professionally; 50% of the presentation grade will be based on demonstrating mastery of the technology learned and implemented through explanation or responses to questions asked by the instructor).

Academic & General Policies

The University's Official Academic and General Policies can be found online at:

- http://catalog.pointloma.edu/content.php?catoid=8&navoid=864

The information below is provided for your ease of reference and highlights policies for this course.

University Mission:

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Department Mission:

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

Attendance:

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work, quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so. Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to the student. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog: http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Class_Attendance

Class Enrollment:

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

Academic Accommodations:

While all students are expected to meet the minimum academic standards for completion of their courses as established by the instructors, students with special needs may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Students can also reach the Disability Resource Center by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. Once the student files documentation, the Disability Resource Center contacts the student's instructors and provides written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities. For more details see the PLNU catalog: http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Accommodations

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

Academic Honesty:

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. The details of PLNU's meaning of each of these words can be found in the PLNU catalog at: http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Honesty

A student remains responsible for the academic honesty of work submitted in PLNU courses and the consequences of academic dishonesty beyond receipt of the final grade in the class and beyond the awarding of the diploma. Ignorance of these catalog policies will not be considered a valid excuse or defense. Students may not withdraw from a course as a response to a consequence.

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty (http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Honesty).

Final Exam: Date and Time:

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student. **The final exam is 7:30-10:00 P, on Tuesday May 2, 2016.**

Copyright Protected Materials:

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

Credit Hour:

In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for an 4 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

Classroom Attire

All students are expected to dress in ways that make the classroom a place where all students are comfortable and can work efficiently. Distracting attire is not permitted in the classroom. For example, attire associated with the "rush" activities of fraternities and sororities simply causes too many distractions in the classroom. If you choose to "rush" one of the fraternities or sororities, please make sure the "rush" officials know that "rush" attire will not be allowed in this classroom.

Monday	Tuesday	Wednesday	Thursday	Friday
11-Jan **NO CLASSES**	12-Jan **NO CLASS - MONDAY ON TUESDAY**	13-Jan	14-Jan Chapter 1: Overview of DB	15-Jan
18-Jan **MLK Day**	19-Jan Chapter 2: Intro to Design	20-Jan	21-Jan Chapter 2: Intro to Design Internet: HTML	22-Jan
25-Jan	26-Jan Chapter 3: Relational Mod Internet: Forms	27-Jan	28-Jan Chapter 3: Relational Mod Internet: HTML5	29-Jan
1-Feb	2-Feb Chapter 3: Relational Mod Internet: Graphics	3-Feb	4-Feb Chapter 4: Rel Alg & Calc Internet: Media	5-Feb
8-Feb	9-Feb Chapter 4: Rel Alg & Calc Internet: APIs	10-Feb	11-Feb Chapter 4: Rel Alg & Calc Internet: CSS	12-Feb
15-Feb	16-Feb Chapter 5: Queries Internet: CSS3	17-Feb	18-Feb Chapter 5: Constraints Internet: CSS Responsive	19-Feb
22-Feb	23-Feb Chapter 5: Triggers	24-Feb	25-Feb Internet: Project, Day 1	26-Feb
29-Feb	1-Mar Internet: Project, Day 2	2-Mar	3-Mar **Mid-Term**	4-Mar
7-Mar **SPRING**	8-Mar **BREAK**	9-Mar **SPRING**	10-Mar **BREAK**	11-Mar **SPRING**
14-Mar	15-Mar Chapter 19: Refine & Norm Internet: JavaScript	16-Mar	17-Mar Chapter 19: Refine & Norm Internet: JS Forms	18-Mar
21-Mar	22-Mar Chapter 19: Refine & Norm Internet: JS Objects	23-Mar	24-Mar **EASTER**	25-Mar **EASTER**
28-Mar **EASTER**	29-Mar Chapter 21: Sec. & Auth Internet: JS Functions	30-Mar	31-Mar Chapter 6: Dbase App Dev Internet: JS DOM	1-Apr
4-Apr	5-Apr Chapter 6: Dbase App Dev Internet: JS Web Building	6-Apr	7-Apr Chapter 6: Dbase App Dev Internet: PHP	8-Apr
11-Apr	12-Apr Chapter 7: Internet Apps Internet: PHP & MySQL	13-Apr	14-Apr Chapter 7: Internet Apps	15-Apr
18-Apr	19-Apr Chapter 7: Internet Apps	20-Apr	21-Apr Chapter 7: Internet Apps	22-Apr
25-Apr	26-Apr Internet: Student Present Group	27-Apr	28-Apr Internet: Student Present Individual	29-Apr
2-May	3-May **7:30-10:00 PM FINAL EXAM**	4-May	5-May	6-May