Course Syllabus

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School of STEM

ISS 4014 Database Systems and Web Integration

Fall 2025 (4 Credit Hours)

Time and Place: Tuesday / Thursday 12:30 - 2:15 pm

PLNU Campus - RS 395

Final Exam: Thursday, Dec 18, 1:30 pm

Instructor: Mike Leih - Professor (619) 248-3008

mleih@pointloma.edu office: Rohr Science 240

Office Hours:	Tuesday	9 am to 11:30 am and 2:15 pm to 4 pm
	Thursday	9 am to 10:30 am and 2:15 pm to 4 pm

Students are welcome to contact me via email and schedule an appointment whenever I am available. Appointments can be face-to-face in my office, on the phone, or via a video conference call. I will keep office hours

as often as I can, but off-campus appointments may require me to be unavailable. It is always best to arrange a time and location with me prior to a meeting.

Changes to Course and Syllabus: The syllabus and course schedule presented here are subject to change based on the learning needs of the students as determined by the instructor. Changes will be announced in class or through e-mail. Students are responsible for checking their PLNU e-mail and reviewing due dates in Canvas on a regular basis to ensure they are aware of changes.

Required Text:

Database Systems – Design, Implementation and Management 14e

Carlos Coronel and Steven Morris

ISBN: 978-0-357-67303-4

Needed Supplies:

Access to a laptop computer (preferably running Windows or Mac with a Windows virtual environment) with at least 8Gb of RAM and 50Gb of free storage space, Microsoft Office software, the XAMPP server installed, and the ability to install software on your computer. You must bring your computer to class to start in-class assignments more easily. You should bring your textbook to each class session. We will use information from the textbook each week as part of in-class assignments. Students must also have MS Word, MS Excel, and MS Visio installed or available.

Catalog Description:

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 databases.

Course Learning Outcomes:

- Students will be able to explain the importance of database design.
- Students will be able to explain the main components of database systems.
- Students will be able to explain data modeling and why data models are important.
- Students will be able to explain relational model components and how tables relate within the database.
- Students will be able to create ER Diagrams and define the components within the ER Diagram.
- Students will be able to define the characteristics of good primary keys and foreign keys within a relational table.

- Students will be able to write basic and advanced SQL statements to create tables, insert table records, select database information, and delete table records and tables.
- Students will be able to create database triggers and stored procedures.
- Students will be able to create a sound database design using the SDLC.
- Students will be able to explain database locking rules and concurrency control systems.
- Students will be able to explain data warehousing and OLAP concepts.
- Students will be able to explain concepts about big data analytics and NoSQL.
- Students will be able to write simple HTML/PHP to access database tables from web/PHP servers and display the information on a web page.

Course Organization:

Reading: The assigned reading each week should be completed before class. Lecture, class discussion, and class activities will be based on the assumption that the reading has been completed before the class where the topic is being discussed.

Chapter Quizzes: Quizzes are open book and will focus on having read and understood the reading assignment. Quizzes will be taken online using Canvas before class and will be available a week before they are due. Each quiz will have 10 questions, and students will have 8 minutes to complete the quiz. Each quiz is due before we discuss the topic in class. This is to encourage students to complete the reading prior to class discussion. Missed quizzes will receive zero points, and there will be no make-up for missed quizzes. Quiz questions are randomly pulled from a large dataset, and students are able to take the quiz as many times as they would like before the quiz's due date and time. The highest quiz score will be recorded.

Chapter Questions: After reading a given chapter, students should submit one or more questions they have regarding the chapter before 6 am on the due date (typically before the chapter is discussed in class). Questions posted after the due date will receive zero points.

Chapter Activities and Homework: In each chapter, students will be assigned a series of class activities and problems to begin during class time and completed before the next class session. Activities and assignments will be based on in-class discussions and various problem-solving tasks to reinforce the learning covered in the weekly readings.

Case Problems (Teams): Some chapters will have additional case problems beyond those assigned as activities and homework. These problems will be worked on and submitted as teams.

Web Integration Project (Teams): Teams will create a web-based project that will update and extract data from a database and display that data on a web form or other application interface.

Exams: Exams will be given in class. Exams will cover the material up to the exam. The final exam will cover all the material throughout the course. All or part of the exams will be a closed-book and closed-note exam and will include multiple-choice, short-answer, and problem-solving questions. **If you will miss an exam for a school function, you must make arrangements ahead of time to take it during an alternative time. If you ever miss an exam without giving the instructor prior notice, there is a good chance you will receive a zero unless, of course, there was clearly an emergency. Exams may require the use of Honorlock and screen recording to ensure students do not share exam solutions or communicate with others or artificial intelligence during the exam.**

Final Exam: Date and Time: The final exam is scheduled for Thursday of finals week at 1:30 pm. It will be cumulative for the entire course and contain questions similar to those on both the exams and chapter reading quizzes.

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Traditional Undergraduate Records: Final Exam Schedules site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

E-mail and Messages:

Students are expected to regularly use their PLNU e-mail. The instructor will periodically send you information and updates via email and/or Canvas. Students must activate their PLNU e-mail account a week prior to the first class session if they are not currently using it.

Activity Point Distribution: Note: Points may be adjusted throughout the semester to meet the learning objectives of the course.

Activity	**Points**	**Percent**
Chapter Questions and Survey	60	6%
Chapter Quizzes	120	11%
Chapter Homework	385	36%
Team Cases	60	6%
Team Integration Project	60	6%
Exams	100	9%

Final Exams	290	27%
Total	1075	100%

Grading Scale:

Students must earn 60% or more of the available points in the class and 50% or more of the points on the final exam to earn a passing grade in the course.

The grading scale for the course, in percentages of the maximum points, is:

A	92.50 - 100%		**C**	72.50 - 77.49%
A-	90.00 - 92.49%		**C-**	70.00 - 72.49%
B+	87.50 - 89.99%		**D+**	67.50 - 69.99%
B	82.50 - 87.49%		**D**	62.50 - 66.49%
B-	80.00 - 82.49%		**D-**	60.00 - 62.49%
C+	77.50 - 79.99%		**F**	0 - 59.99%

Credit Hour Information: Distribution of Student Learning Hours

In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for a 4-unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request. It is anticipated that you will spend a minimum of 37.5 participation hours per credit hour in your course. The estimated time expectations for this course are shown below:

Activity	**Hours**
Chapter Reading and Online Quizzes	39
In-Class Discussion and Activities	42
Chapter Assignments	39

Team Cases	6
Team Project	16
Exams Preparation	8
TOTAL	**150**

Late Homework/Classwork:

Online chapter quizzes, chapter questions, assignments, and labs are not accepted late. If you fail to take the chapter quiz or post a chapter question before the due date/time, you will receive zero points. Assignments and labs are not accepted late unless by official university accommodation at the instructor's discretion. No assignment will be accepted after the last day of class.

University Mission:

To Teach ~ To Shape ~ To Send

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.

Institutional Learning Outcomes:

1. Learning, Informed by our Faith in Christ - Students will acquire knowledge of human cultures and the physical and natural world while developing skills and habits of the mind that foster lifelong learning.
2. Growing, In a Christ-Centered Faith Community - Students will develop a deeper and more informed understanding of others as they negotiate complex professional, environmental and social contexts.
3. Serving, In a Context of Christian Faith - Students will serve locally and/or globally in vocational and social settings.

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.

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:

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (**EAC@pointloma.edu (mailto:EAC@pointloma.edu)** or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive, so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to ensure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Artificial Intelligence (AI) Policy:

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course unless stated in the assignment. We will be utilizing an AI Tutor chatbot in the course through the BoodleBox platform. This AI tutor will have relevant information from the textbook that can be used to explore course topics. If you have any doubts about using AI, please gain permission from the instructor.

LomaBooks Instructions for Students

This course is part of our course material delivery program, **LomaBooks**. The bookstore will provide each student with a convenient package containing all required physical materials; all digitally delivered materials will be integrated into Canvas.

You should have received an email from the bookstore confirming the list of materials that will be provided for each of your courses and asking you to select how you would like to receive any printed components (in-store pick up or home delivery). If you have not done so already, please confirm your fulfillment preference so the bookstore can prepare your materials.

For more information about **LomaBooks,** please go: HERE (https://www.pointloma.edu/lomabooks)

Additional Course Information

Additional PLNU policies and practices that apply to this course can be found here (https://docs.google.com/document/d/11BgAANLOJ9tjt837d24EZ181ukM2qzHF)

Course Summary:

Date	Details	Due
Thu Sep 4, 2025	Chapter 01 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196207)	due by 6am
	Sign-up for and use BoodleBox AI Tool (https://canvas.pointloma.edu/courses/80335/assignments/1213715)	due by 6am
	Software Installation Verification (https://canvas.pointloma.edu/courses/80335/assignments/1196230)	due by 6am
	Chapter 01 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196177)	due by 12:30pm
Thu Sep 11, 2025	Chapter 01 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196211)	due by 6am
	Chapter 02 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196206)	due by 6am

Date	Details	Due
	Chapter 02 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196188)	due by 12:30pm
Thu Sep 18, 2025	Chapter 02 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196212)	due by 6am
	Chapter 03 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196205)	due by 6am
	Chapter 03 BoodleBox AI Tutor	to do: 12pm
	Chapter 03 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196185)	due by 12:30pm
Thu Sep 25, 2025	Chapter 03 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196213)	due by 6am
	Chapter 04 + 05 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196204)	due by 6am
	Chapter 04-05 BoodleBox AI Tutor Copy	to do: 12pm
	Chapter 04 + 05 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196189)	due by 12:30pm
Thu Oct 2, 2025	Chapter 04 + 05 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196214)	due by 6am

Date	Details	Due
	Chapter 04 Team Case (https://canvas.pointloma.edu/courses/80335/assignments/1196215)	due by 6am
	Chapter 06 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196203)	due by 6am
	Chapter 06 BoodleBox AI Tutor	to do: 12pm
	Chapter 06 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196191)	due by 12:30pm
Thu Oct 9, 2025	Chapter 06 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196216)	due by 6am
	Exam 1 (https://canvas.pointloma.edu/courses/80335/assignments/1196179)	due by 1:30pm
	Chapter 07 - Inclass Lab (https://canvas.pointloma.edu/courses/80335/assignments/1238345)	due by 2:15pm
Mon Oct 13, 2025	Exam 1 (https://canvas.pointloma.edu/courses/80335/assignments/1196179) (1 student)	due by 4pm
Tue Oct 14, 2025	Chapter 07 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196202)	due by 6am
	Chapter 07 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196187)	due by 12:30pm
	Chapter 07-08 BoodleBox AI Tutor	to do: 11:59pm

Date	Details	Due
Thu Oct 16, 2025	Mid-Course Survey (https://canvas.pointloma.edu/courses/80335/assignments/1196176)	due by 12:15pm
Tue Oct 21, 2025	Chapter 08 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196201)	due by 6am
	Chapter 07 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196217)	due by 12pm
	Chapter 08 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196182)	due by 12:30pm
Thu Oct 30, 2025	Chapter 08 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196218)	due by 6am
	Chapter 08 Team Case (https://canvas.pointloma.edu/courses/80335/assignments/1196219)	due by 6am
	Chapter 10 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196200)	due by 6am
	Chapter 10 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196183)	due by 12:30pm
Thu Nov 6, 2025	Chapter 10 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196220)	due by 6am
	Chapter 10 Locking Lab (https://canvas.pointloma.edu/courses/80335/assignments/1196221)	due by 6am

Date	Details	Due
	Chapter 14 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196199)	due by 6am
	Chapter 14 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196181)	due by 12:30pm
Thu Nov 13, 2025	AWS MySQL Database Lab (https://canvas.pointloma.edu/courses/80335/assignments/1196209)	due by 6am
	Chapter 14 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196222)	due by 6am
	Chapter 15 Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196198)	due by 6am
	Chapter 15 Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196178)	due by 12:30pm
Thu Nov 20, 2025	Chapter 15 Activities and Homework (https://canvas.pointloma.edu/courses/80335/assignments/1196223)	due by 6am
	Exam 2 - Open Book Practice Questions (https://canvas.pointloma.edu/courses/80335/assignments/1196190)	due by 10am
	Exam 2 - Closed Book (https://canvas.pointloma.edu/courses/80335/assignments/1196186)	due by 1pm
	Exam 2 - Open Book (https://canvas.pointloma.edu/courses/80335/assignments/1196193)	due by 1:30pm

Date	Details	Due
	Exam 2 - Curve (https://canvas.pointloma.edu/courses/80335/assignments/1196224)	due by 11:59pm
Tue Nov 25, 2025	AWS Registration Verification Image (https://canvas.pointloma.edu/courses/80335/assignments/1196210)	due by 6am
	HTML Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196197)	due by 6am
	HTML Reading Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196192)	due by 12:30pm
Thu Dec 4, 2025	AWS Elastic Beanstalk Website Hosting (https://canvas.pointloma.edu/courses/80335/assignments/1196208)	due by 6am
	HTML Fan Page (https://canvas.pointloma.edu/courses/80335/assignments/1196225)	due by 6am
	PHP Questions - Due 6 am before class (https://canvas.pointloma.edu/courses/80335/assignments/1196196)	due by 6am
	PHP Reading Quiz (https://canvas.pointloma.edu/courses/80335/assignments/1196195)	due by 12:30pm
Thu Dec 11, 2025	PHP Fan Page (https://canvas.pointloma.edu/courses/80335/assignments/1196228)	due by 6am
	Website Project (https://canvas.pointloma.edu/courses/80335/assignments/1196231)	due by 6am

Date	Details	Due
	Official Course Evaluation (https://canvas.pointloma.edu/courses/80335/assignments/1196227)	due by 11:59pm
Thu Dec 18, 2025	Final Exam Part 2 - Practice (https://canvas.pointloma.edu/courses/80335/assignments/1196180)	due by 10:30am
	Final Exam Part 1 - Closed Book (https://canvas.pointloma.edu/courses/80335/assignments/1196194)	due by 4:30pm
	Final Exam Part 2 - Open Book (https://canvas.pointloma.edu/courses/80335/assignments/1196184)	due by 4:30pm
	Individual Web Project Point Adjustment (https://canvas.pointloma.edu/courses/80335/assignments/1196226)	