

SYLLABUS

Course:MIS 341: Relational Database Design 1 Credit Hours: 4 Credits

Prerequisite(s):MIS 118 AND MIS 275 both with a 'C' or better.

Instructor:Lindy Stewart

Office Hours:By Appointment

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COURSE OUTLINE

Textbooks:

Database Systems Design, Implementation, and Management 12ed

Publisher: Cengage Learning

Authors: Coronel and Morris

ISBN: 978-1-305-62748-2

SQL Server 2016 for Developers

Publisher: Murach

Authors: Murach and Syverson

ISBN: 978-1-890774-96-7

Required Technologies/Applications:

- ✓ Access to a computer to complete homework
- ✓ Microsoft SQL Server 2016
- ✓ Visio (like or equivalent application is fine)
- ✓ Microsoft Word (like or equivalent application is fine)

Online Materials for the Course:

Course materials can be found on Canvas at <http://my.oit.edu>

COURSE DESCRIPTION

This course is a comprehensive study of SQL and TSQL using the SQL Server relational database management system. You will have hands-on training that will include the use of

TSQL, SQL Server Management Studio, database creation, CLR, data queries, view definitions and use operators and functions, triggers, calculations, indexing, cursors and data manipulation.

COURSE OBJECTIVES/LEARNER OUTCOMES

Upon successful completion of this course the student should be able to:

1. Identify and utilize database design methodologies
2. Use and describe database connectivity, database-performance tuning, and data mining methodologies
3. Describe distributed database management systems and their components
4. Describe high level concepts of utilization and data migration, data warehousing and online analytical processing (OLAP) methodologies
5. Identify and maintain databases with concurrency control, recovery management, account management and security
6. Identify and describe data modeling techniques

COURSE STRUCTURE

This course is presented as a series of 10 modules over the course of eleven weeks. These will include lectures, assignment/lab, term project, quizzes, and exams. The reading materials along with the course deliverables will be described in each module.

The quizzes and exams will cover textbook and lecture material. There will be weekly labs and activities based off of the readings required from each module. In place of having a final exam to show a comprehensive understanding of the learning objectives and course material that was covered over the entire term the term project will be used to measure your understanding and competencies.

The lectures will be given online asynchronously with the support of video lectures and resources that can be found on Canvas. There will be an online Zoom meetup session once per week for Q and A.

STUDENT RESPONSIBILITY

Class Participation: Students are expected to manage their time to be able to complete the course curriculum activities. This includes, turning in all assignments and accomplish all of the quizzes and exams by the assigned due date.

Grade Disputes: If you wish to dispute the grade assigned to a paper, presentation, or a question on an exam, you must do so *in writing*.

Distance Learning Etiquette

When class is being presented in Zoom you are expected to attend on time and fully participate as if you were physically present in class. It may be tempting to search the internet or catch up on other activities while in class, but this will decrease your chance of successfully completing this course.

Keep your microphone muted unless you are speaking to the group. Consider using headphones/earbuds with a mic as this will reduce feedback and background noise. It is not appropriate to join class from your bed, while lying on the couch, walking around, or driving down the road. If your video behavior is disruptive to the class, I will provide you with a prompt to change your behavior. If you cannot, I will eject you from the Zoom meeting in order to ensure that the other students are not disrupted by your actions.

GRADING SYSTEM

Each component will contribute to the following proportion:

Item	Points
Lab	8 @ 40 points = 320
Quizzes	8 @ 20 points = 160
Term Project	1 @ 200 points = 200
Practice Activity Videos	TBD points = 70
Midterm Exam	1 @ 150 points = 150
Total	900 points

Grade	Percentage Earned
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

1. Participation. You should read the learning material and resources to help gain greater understanding of the topics. Complete all labs and submit your work by the due date.
2. Individual work. All work must be turned in on the due date as defined by 11:59 p.m. Late assignments are not allowed at this level, and result in a “100%” loss of the grade assigned unless there is an extension approved by the professor.

TERM SCHEDULE

Modules	Topic	Reading / Exams	Due
Module 1	<ul style="list-style-type: none"> ❖ Database Design ❖ Using SQL Functions 	<ul style="list-style-type: none"> ✓ Read Cengage Chapter 9 ✓ Read Murach Chapters 9 & 10 	<ul style="list-style-type: none"> ✓ <u>Practice Activity 1</u> – <ul style="list-style-type: none"> • Murach SQL Server 2016 Chap 9 Exercises page 300 • Murach SQL Server 2016 Chap 10 Exercises page 331 ✓ <u>Lab 1</u> – <ul style="list-style-type: none"> • Cengage Problems 1, 4 and 6 pages 478-479 • Murach Exercises for Chaps 9 & 10 ✓ <u>Quiz 1</u>
Module 2	<ul style="list-style-type: none"> ❖ Transaction Management and Concurrency Control ❖ Creating and Maintaining SQL Server Databases 	<ul style="list-style-type: none"> ✓ Read Cengage Chapter 10 ✓ Read Murach Chapters 11 & 12 	<ul style="list-style-type: none"> ✓ <u>Practice Activity 2</u> – <ul style="list-style-type: none"> • Murach SQL Server 2016 Chap 11 Exercises page 365 • Murach SQL Server 2016 Chap 12 Exercises page 384 ✓ <u>Lab 2</u> – <ul style="list-style-type: none"> • Cengage Problems 1, 6, 7, and 8 pages 512-514 • Murach Exercises for Chaps 11 & 12 ✓ <u>Quiz 2</u> ✓ <u>Term Project Ideas Due</u>
Module 3	<ul style="list-style-type: none"> ❖ Database Performance Tuning and Query Optimization ❖ SQL Server Views and Scripts 	<ul style="list-style-type: none"> ✓ Read Cengage Chapter 11 ✓ Read Murach Chapters 13 & 14 	<ul style="list-style-type: none"> ✓ <u>Practice Activity 3</u> – <ul style="list-style-type: none"> • Murach SQL Server 2016 Chap 13 Exercises page 408 • Murach SQL Server 2016 Chap 14 Exercises page 447 ✓ <u>Lab 3</u> – <ul style="list-style-type: none"> • Cengage Problems 1, 2, 3, 7, 8, 9 and 10 page 548 • Murach Exercises Chaps 13 & 14 ✓ <u>Quiz 3</u>
Module 4	<ul style="list-style-type: none"> ❖ Distributed Database Management Systems ❖ SQL Server Stored Procedures, Functions and Triggers ❖ Midterm Review 	<ul style="list-style-type: none"> ✓ Read Cengage Chapter 12 ✓ Read Murach Chapter 15 	<ul style="list-style-type: none"> ✓ <u>Practice Activity 4</u> <ul style="list-style-type: none"> • Murach SQL Server 2016 Chap 15 Exercises pages 499-500 ✓ <u>Lab 4</u> <ul style="list-style-type: none"> • Cengage Problems 1, 2, and 3 pages 586-588 • Murach Exercises Chap 15

			✓ <u>Quiz 4</u>
Module 5	❖ SQL Server Transactions and Locking	✓ Read Murach Chapter 16 <u>Exams</u> Study for and take Midterm Exam	✓ <u>Practice Activity 5</u> – • Murach SQL Server 2016 Chap 16 Exercises page 526 ✓ <u>Lab 5</u> – • Murach Exercises Chap 16 ✓ <u>Midterm Exam</u>
Module 6	❖ Business Intelligence and Data Warehouses ❖ How to manage database security	✓ Read Cengage Chapter 13 ✓ Read Murach Chapter 17	✓ <u>Practice Activity 6</u> – • Murach SQL Server 2016 Chap 17 Exercises page 577 ✓ <u>Lab 6</u> – • Cengage Problem 1 all parts, 5-9 pages 639-644 ✓ <u>Quiz 5</u>
Module 7	❖ Database Connectivity and Web Technologies (including XML) ❖ XML in SQL Server	✓ Read Cengage Chapter 15 ✓ Read Murach Chapter 18	✓ <u>Practice Activity 7</u> – • Murach SQL Server 2016 Chap 18 Exercises page 609 ✓ <u>Lab 7</u> – • Cengage Problems 1, 4, 5 and 9 page 719 • Murach Exercises Chap 18 ✓ <u>Quiz 6</u>
Module 8	❖ Big Data Analytics and NoSQL ❖ SQL Server CLR Integration,	✓ Read Cengage Chapter 14 ✓ Read Murach Chapter 20	✓ <u>Practice Activity</u> - • Work on Term Project ✓ <u>Lab 8</u> – • Cengage Problems 4, 9 to 14, 19 and 20 page 677 ✓ <u>Quiz 7</u>
Module 9	❖ Database Administration and Security	✓ Read Cengage Chapter 16	✓ <u>Term Project</u> ✓ <u>Quiz 8</u>

Module 10	❖ Term Project	✓ NONE	✓ Term Project Due

PROFESSIONAL BEHAVIOR

It is expected that students and faculty will be respectful of each other during class and classroom activities. Students and faculty are expected to be courteous, listen, and speak to each other in a respectful manner. In the spirit of professionalism and respect, please minimize potential class disruptions by turning pagers or cell phones off, and do not bring small children to class.

ACADEMIC INTEGRITY

Students are expected to be honest and ethical in their academic work. Dishonesty, cheating, plagiarism, and other forms of unethical behavior will subject a student to appropriate punishments, including the potential for expulsion from the University. All submitted in this course is to be your own new, original work written in response to the assignments. Consciously or unknowingly presenting the ideas or writings of others as your own will result in academic sanctions.

If found guilty of cheating, plagiarism, or any other form of academic dishonesty, you will receive a zero on your assignment, and a report will be sent to the Student Affairs office, who has responsibility for enforcing OIT's Student Conduct Code. Further information, including definitions of plagiarism and cheating, can be found in OIT's statement on Student Academic Integrity (<http://www.oit.edu/docs/default-source/Student-Affairs-/student-handbook/student-academic-integrity-policy.pdf>).

In cases of suspected academic dishonesty, the procedures outlined in OIT's "Student Academic Integrity" policy will be strictly followed. (This includes the instruction to faculty that "*all academic dishonesty cases will be reported to the Office of Student Affairs.*"). I always include items that will provide indications that cheating has occurred, and I will not hesitate to report instances of academic dishonesty. You should know that the typical penalty at Oregon Tech for a second academic integrity violation is suspension from the university for somewhere between a term and a full academic year.

TITLE IX

Oregon Tech faculty and staff are committed to creating and maintaining a safe and equitable learning environment for the Oregon Tech community. Pursuant to U.S. Department of Education requirements, all Oregon Tech faculty and staff (other than designated confidential staff) must report any information they become aware of regarding gender-based bias, sexual harassment, sexual assault, sexual misconduct, relationship violence, or stalking involving a student to the University Title IX Coordinator.

In addition, Oregon law requires a mandatory report to the Oregon Department of Human Services of any physical or emotional abuse of a child or other protected person, including elders and people with disabilities, or when a child or other protected person is perceived to be in danger of physical or emotional abuse.

If you are the victim of sexual or physical abuse and wish to speak with a confidential resource, please call the National Sexual Assault Hotline at 1-800-656-4673. **The Anti-violence Project, empowering LGBTQ+ communities, provides a 24/7 confidential English/Spanish hotline for those who have experienced violence: 212-714-1141.**

You may report an incident using Oregon Tech's Anonymous Safe Campus Incident Report form on the Title IX site at <http://www.oit.edu/title-ix>, and select the "Report an Incident" button. For more information about your options, please visit <http://www.oit.edu/title-ix>.

CLASSROOM CONDUCT

Your conduct in the classroom should promote a positive learning environment. Conversations and comments should always be respectful; demeaning comments and offensive language will not be tolerated. Students are expected to abide by the OIT Student Conduct Code (<http://www.oit.edu/docs/default-source/Student-Affairs-/student-handbook/student-conduct-code.pdf>). Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other institutional activities on institutionally owned or controlled property is strictly prohibited by Oregon Tech's code of student conduct and may result in disciplinary action.

DROPPING A COURSE

For students who do not attend class the first two weeks of the term - please note that it is your responsibility to drop the course. If you decide that you must drop the course, you will need to do so by the close of Friday of Week 2 in order to receive a full 100% refund. If you drop by the close of Friday of Week 3, your refund will be 50%; if you drop by the close of Friday of Week 4, your refund will be 25%, and thereafter you cannot receive a refund. The last day to Withdraw from a course is Monday of Week 8.

Academic calendar can be found here:
<http://www.oit.edu/registrar/academic-info/calendars>

Cashier's calendar can be found here:
<http://www.oit.edu/faculty-staff/ba/ar/cashiers-office>

NON-ATTENDANCE

Teaching faculty are required to report non-attendance during the first two weeks of the term from a class if the student has not attended. Students will be administratively withdrawn from the course based on non-attendance.

If you miss class, you are still responsible for the material and homework assigned. If you know you will miss class for an official excused absence (e.g., school sports), let me know **well in advance** via email, and we can arrange an alternate quizzing plan.

Academic calendar can be found here:
<http://www.oit.edu/registrar/academic-info/calendars>

Cashier's calendar can be found here:
<http://www.oit.edu/faculty-staff/ba/ar/cashiers-office>

INCOMPLETE GRADE POLICY

In order to be eligible for an "Incomplete" grade, OIT policy requires that students must have

completed 80% of all course work by the time grades are due at the end of final's week. Incompletes are not automatic and are arraigned at the discretion of the instructor. If you have a personal matter preventing you from completing the course and have successfully completed most of the course work, please contact the instructor as soon as possible. Additionally, depending on the circumstances, to maintain fairness to the students who complete within the allotted timeframe, a one full-grade reduction may be assigned. However, all requests will be handled on a case-by-case basis.

FLEXIBILITY STATEMENT

Assignments/exam schedules may be changed in response to institutional, weather or class changes or problems.

ADA STATEMENT

Students with a documented disability who require assistance or academic accommodations should contact the office of Disability Services immediately to discuss eligibility. Disability Services staff are located on both the Klamath Falls and Wilsonville campuses, however arrangements can be made to meet with a student on any campus. Meetings are by appointment only, so please contact the Disability Services office at the campus closest to you: **Klamath Falls (541) 885-1790** and **Portland-Metro (503) 821-1305**. Specific information and Disability Services forms can be found at www.oit.edu, then go to "Academics" and click on "Student Success Center" and then "Disability Services." This link leads to the department's website: <http://www.oit.edu/academics/ssc/disability-services>

OIT EMERGENCY AND CLOSURE INFORMATION

OIT Alert will send you a text message or email informing you of unscheduled campus closures and emergency situations. For more info see <http://www.oit.edu/oit-alert>

DISCLAIMER

Content of syllabus is subject to change at instructor's discretion.