

# Sp19 MIS-6330-SB1

## MIS 6330 ADVANCED DATABASE IMPLEMENTATION

### Course Description

Application of advanced database concepts using enterprise-wide database products. Includes advanced structured query language (SQL) development, database programming development, database administration basics, integration of database tools within a project context, introduction of data mining and data warehousing, reporting tools, and database and XML integration.

Prerequisite/Restriction: MIS 6230

Semester(s) Traditionally Offered: Spring

### Course Objectives

By the end of this course, you will be able to:

1. Write advanced SQL in an Oracle database
2. Write basic PL/SQL
3. Understand how to improve SQL queries for performance
4. Pass the Oracle SQL certification exam

### Instructor

Michelle Hardwick

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801-957-4110

Office hours by appointment

### Course Resources

Required Text:

Oracle Database 12c SQL, Price, 2014, McGraw Hill Education ISBN: 978-0-07-179936-2

Since USU is part of Oracle Academy, as a student in this course you can receive 50% off this textbook by going to the following url: <https://www.mhprofessional.com/oraclepressbooks> and enter the promotion code of **OPAcademy**. After entering the promotion code, you will see this textbook in the list of available books.

# Evaluation Methods and Criteria

Final grades will be determined as follows:

Exam 1	25%
Exam 2	25%
Assignments (6 total)	20%
Labs	10%
Quizzes*	15%
Class Ethic**	5%

\* Lowest quiz score will be dropped

\*\*Class Ethic is determined by the following factors: 1) Student Attendance 2) Attitude 3) Participation 4) In-Class Task Completion.

**Late work will not be accepted for any reason at all.**

## Grade Scheme

The following grading standards will be used in this class:

Grade	Range
A	100 % to 93.0%
A-	< 93.0 % to 90.0%
B+	< 90.0 % to 87.0%
B	< 87.0 % to 83.0%
B-	< 83.0 % to 80.0%
C+	< 80.0 % to 77.0%
C	< 77.0 % to 73.0%
C-	< 73.0 % to 70.0%
D+	< 70.0 % to 67.0%
D	< 67.0 % to 60.0%
F	< 59.0 % to 0.0%

# Testing Policy

Your final class grade includes two exams, a midterm and a final. Both exams will be available to take at a scheduled time in the USU testing center. Exams will emphasize material taken from the text, assignments, and the lecture notes. In other words, anything from the readings, lecture notes, or assignments is fair game for the exams. Students who have questions concerning their exams may request that a test be regraded. Be aware, however, that the entire test will be regraded and that a lower or higher score could result. This is designed to discourage students from "haggling" over points.

The format of the exams will be discussed in class prior to the exam.

## Quizzes

Quizzes will be given randomly at the start of the class period. The quizzes will cover the assigned pre-reading for that day. They will be between 4-8 multiple choice questions. Your lowest quiz score will be dropped.

## Certification

Earning a certification can be a boost to your resume and put you above the pack of other candidates for jobs. Passing the [Oracle Certified SQL Associate exam](https://education.oracle.com/pls/web_prod-plq-dad/db_pages.getpage?page_id=5001&get_params=p_exam_id:1Z0-071) (https://education.oracle.com/pls/web\_prod-plq-dad/db\_pages.getpage?page\_id=5001&get\_params=p\_exam\_id:1Z0-071) will earn you an A on one of this course's exams (Exam Number 1Z0-071). The certification exam can be taken at any point in the semester prior to May 6, 2019. Since Utah State University is an Oracle Academy school, you can receive a 25% discount on the exam by requesting a pass through your instructor.

The coursework that was covered in MIS 6230 and this course will prepare you for the certification exam.

If you are considering taking this certification exam, I recommend that you purchase the following book which contains practice questions and tips to prepare for the exam. This book is also available at a discount through Oracle Press Books using the same link and code as listed in the textbook section of this syllabus.

Recommended Additional Text: OCA Oracle Database SQL Exam Guide (Exam 1Z0-071),  
ISBN: 9781259585494

## Succeeding in Class

It's my job to make you into someone I'd want to hire at my company. Therefore, I find it just as important as being able to memorize a definition to be able to apply it. Through the exams, the assignments, quizzes and the potential of earning a certification, I'll be testing your ability to learn the material and also apply it to real world situations. It's through practice that the application of these concepts will become easier for you and engrained in your memory. I encourage you to not only follow along with examples in class but to find ways that you can apply these concepts in your own life either at your job or personal life. Create a database to

track your car expenses and start doing analytics over it! Find opportunities to continue to think in an analytical way and how you would implement a system for the problems and situations you encounter.

## Course Schedule/Outline

This course will utilize Modules in Canvas to organize content for each week and section covered. Each week will have assigned pre-reading listed in the module.

Week	Topic
1	<ul style="list-style-type: none"><li>• Course Intro</li><li>• Differences between Oracle &amp; SQL Server</li><li>• Basic SQL Review: SELECT, WHERE &amp; ORDER BY</li></ul>
2	<ul style="list-style-type: none"><li>• DDL &amp; Managing Schema Objects</li><li>• Manipulating Data</li></ul>
3	No Class - Holiday Break
4	<ul style="list-style-type: none"><li>• Using Single Row Functions to Customize Output</li><li>• Using Conversion Functions and Conditional Expressions</li><li>• Reporting Aggregated Data using Group Functions</li></ul>
5	<ul style="list-style-type: none"><li>• Using Dates in Oracle</li><li>• Manipulating Large Data Sets</li></ul>
6	<ul style="list-style-type: none"><li>• Displaying Data from Multiple Tables</li><li>• Using Subqueries to Solve Queries</li><li>• Using Set and Logical Operators</li></ul>
7	No Class - Holiday Break
8	<ul style="list-style-type: none"><li>• Managing Objects with Data Dictionary Views</li><li>• Controlling User Access</li><li>• Midterm Exam Review</li></ul>

9	Midterm Exam
10	No Class - Spring Break
11	<ul style="list-style-type: none"> <li>• Analytic Functions</li> </ul>
12	<ul style="list-style-type: none"> <li>• More Analytic Functions &amp; SQL Practice</li> </ul>
13	<ul style="list-style-type: none"> <li>• Advanced SQL</li> </ul>
14	<ul style="list-style-type: none"> <li>• PL/SQL Intro</li> </ul>
15	<ul style="list-style-type: none"> <li>• PL/SQL Loops, Procedures &amp; Functions</li> </ul>
16	<ul style="list-style-type: none"> <li>• SQL Tuning</li> <li>• Data Security</li> <li>• Final Exam Review</li> </ul>
17	Final Exam

## Attendance and Excused Absences Policy

Attendance is not required but highly encouraged. If a quiz is given in class and you miss it due to an unexcused absence, a retake will not be allowed. Email your instructor in advance of the class time to obtain an excused absence.

## Classroom Civility.

Utah State University supports the principle of freedom of expression for both faculty and students. The University respects the rights of faculty to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede the learning process. Disruptive classroom behavior will not be tolerated. An individual engaging in such behavior may be subject to disciplinary action. Read [Student Code Article V Section V-3](https://studentconduct.usu.edu/studentcode/article5) [\\_ \(https://studentconduct.usu.edu/studentcode/article5\)](https://studentconduct.usu.edu/studentcode/article5) for more information.

## University Policies & Procedures

### Academic Freedom and Professional Responsibilities

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. [Faculty Code Policy #403](http://www.usu.edu/hr/files/uploads/Policies/403.pdf) [\\_ \(http://www.usu.edu/hr/files/uploads/Policies/403.pdf\)](http://www.usu.edu/hr/files/uploads/Policies/403.pdf) further defines academic freedom and professional responsibilities.

### Academic Integrity – "The Honor System"

Each student has the right and duty to pursue his or her academic experience free of dishonesty. To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:

*"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."*

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

### Academic Dishonesty

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University's Student Code. Acts of academic dishonesty include but are not limited to:

- **Cheating:** using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:
  - Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually;"
  - Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;

- Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
- Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
- Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
- Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.
- **Falsification:** altering or fabricating any information or citation in an academic exercise or activity.
- **Plagiarism:** representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

For additional information go to: [ARTICLE VI. University Regulations Regarding Academic Integrity \(https://studentconduct.usu.edu/studentcode/article6\)](https://studentconduct.usu.edu/studentcode/article6)

## Sexual Harassment/Title IX

Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and [USU Policy 339 \(http://www.usu.edu/policies/339\)](http://www.usu.edu/policies/339) address sexual harassment in the workplace and academic setting.

The university responds promptly upon learning of any form of possible discrimination or sexual misconduct. Any individual may contact USU's [Affirmative Action/Equal Opportunity \(AA/EO\) Office \(http://aaeo.usu.edu\)](http://aaeo.usu.edu) for available options and resources or clarification. The university has established a complaint procedure to handle all types of discrimination complaints, including sexual harassment ([USU Policy 305 \(http://www.usu.edu/policies/305\)](http://www.usu.edu/policies/305)), and has designated the AA/EO Director/Title IX Coordinator as the official responsible for receiving and investigating complaints of sexual harassment.

## Withdrawal Policy and "I" Grade Policy

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

## Students with Disabilities

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the [Disability Resource](#)

**Center (DRC)** (<http://www.usu.edu/drc/>) as early in the semester as possible (University Inn # 101, (435) 797-2444, [drc@usu.edu](mailto:drc@usu.edu) (<mailto:drc@usu.edu>)). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

## Diversity Statement

Regardless of intent, careless or ill-informed remarks can be offensive and hurtful to others and detract from the learning climate. If you feel uncomfortable in a classroom due to offensive language or actions by an instructor or student(s) regarding ethnicity, gender, or sexual orientation, contact:

- Division of Student Affairs: <https://studentaffairs.usu.edu> (<https://studentaffairs.usu.edu/>), (435) 797-1712, [studentservices@usu.edu](mailto:studentservices@usu.edu) (<mailto:studentservices@usu.edu>), TSC 220
- Student Legal Services: <https://ususa.usu.edu/student-association/student-advocacy/legal-services> (<https://ususa.usu.edu/student-association/student-advocacy/legal-services/>), (435) 797-2912, TSC 326,
- Access and Diversity: <http://accesscenter.usu.edu> (<http://accesscenter.usu.edu/>), (435) 797-1728, [access@usu.edu](mailto:access@usu.edu) (<mailto:access@usu.edu>); TSC 315
- Multicultural Programs: <http://accesscenter.usu.edu/multiculture> (<http://accesscenter.usu.edu/multiculture/>), (435) 797-1728, TSC 315
- LGBTQA Programs: <http://accesscenter.usu.edu/lgbtqa> (<http://accesscenter.usu.edu/lgbtqa/>), (435) 797-1728, TSC 3145
- Provost's Office Diversity Resources: <https://www.usu.edu/provost/diversity> (<https://www.usu.edu/provost/diversity/>), (435) 797-8176

You can learn about your student rights by visiting:

The Code of Policies and Procedures for Students at Utah State

University: <https://studentconduct.usu.edu/studentcode> (<https://studentconduct.usu.edu/studentcode/>)

## Grievance Process

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: [Article VII](https://studentconduct.usu.edu/studentcode/article7) (<https://studentconduct.usu.edu/studentcode/article7>).

Full details for USU Academic Policies and Procedures can be found at:













- [Student Conduct](http://www.usu.edu/studentconduct) (<http://www.usu.edu/studentconduct>)
- [Student Code](https://studentconduct.usu.edu/studentcode/) (<https://studentconduct.usu.edu/studentcode/>)
- [Academic Integrity](https://studentconduct.usu.edu/studentcode/article6) (<https://studentconduct.usu.edu/studentcode/article6>)
- [USU Selected Academic Policies and Procedures](http://www.usu.edu/provost/faculty-life/syllabus.cfm) (<http://www.usu.edu/provost/faculty-life/syllabus.cfm>)
- [USU Academic Policies and Procedures](http://catalog.usu.edu/content.php?catoid=4&navoid=546) (<http://catalog.usu.edu/content.php?catoid=4&navoid=546>)
- [Academic Freedom and Professional Responsibility Policy](http://www.usu.edu/hr/files/uploads/Policies/403.pdf) (<http://www.usu.edu/hr/files/uploads/Policies/403.pdf>)














## Emergency Procedures



In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

## Course Summary:

Date	Details	
Mon Jan 21, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2633640">Lab 3 &amp; 4</a> <a href="https://usu.instructure.com/courses/533051/assignments/2633640">https://usu.instructure.com/courses/533051/assignments/2633640</a>	due by 11:59pm
Fri Feb 1, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575512">Quiz 1</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575512">https://usu.instructure.com/courses/533051/assignments/2575512</a>	due by 11:59pm
Mon Feb 4, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575518">Assignment 1</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575518">https://usu.instructure.com/courses/533051/assignments/2575518</a>	due by 5:15pm
Mon Feb 4, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575513">Quiz 2</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575513">https://usu.instructure.com/courses/533051/assignments/2575513</a>	due by 11:59pm
Mon Feb 4, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2638279">Lab 5</a> <a href="https://usu.instructure.com/courses/533051/assignments/2638279">https://usu.instructure.com/courses/533051/assignments/2638279</a>	due by 11:59pm
Mon Feb 11, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2640474">Lab 6, 7 &amp; 8</a> <a href="https://usu.instructure.com/courses/533051/assignments/2640474">https://usu.instructure.com/courses/533051/assignments/2640474</a>	due by 11:59pm
Mon Feb 18, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2642951">Lab 9</a> <a href="https://usu.instructure.com/courses/533051/assignments/2642951">https://usu.instructure.com/courses/533051/assignments/2642951</a>	due by 11:59pm
Wed Feb 27, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575519">Assignment 2</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575519">https://usu.instructure.com/courses/533051/assignments/2575519</a>	due by 11:59pm
Tue Mar 5, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575519">Assignment 2</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575519">https://usu.instructure.com/courses/533051/assignments/2575519</a> (1 student)	due by 11:59pm
Fri Mar 8, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575515">Midterm Exam</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575515">https://usu.instructure.com/courses/533051/assignments/2575515</a>	due by 11:59pm
Mon Mar 18, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2648792">Lab 10, 11, 12</a> <a href="https://usu.instructure.com/courses/533051/assignments/2648792">https://usu.instructure.com/courses/533051/assignments/2648792</a>	due by 11:59pm
Sun Mar 24, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575520">Assignment 3</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575520">https://usu.instructure.com/courses/533051/assignments/2575520</a>	due by 11:59pm

Date	Details	
Mon Mar 25, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575514">Quiz 3</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575514"> (https://usu.instructure.com/courses/533051/assignments/2575514)</a>	due by 11:59pm
	 <a href="https://usu.instructure.com/courses/533051/assignments/2646318">Extra Credit: Attend UTOUG Training Days</a> <a href="https://usu.instructure.com/courses/533051/assignments/2646318"> (https://usu.instructure.com/courses/533051/assignments/2646318)</a>	due by 11:59pm
	 <a href="https://usu.instructure.com/courses/533051/assignments/2652066">Lab 13 &amp; 14</a> <a href="https://usu.instructure.com/courses/533051/assignments/2652066"> (https://usu.instructure.com/courses/533051/assignments/2652066)</a>	due by 11:59pm
Mon Apr 1, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2654449">Lab 15</a> <a href="https://usu.instructure.com/courses/533051/assignments/2654449"> (https://usu.instructure.com/courses/533051/assignments/2654449)</a>	due by 11:59pm
Mon Apr 8, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575521">Assignment 4</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575521"> (https://usu.instructure.com/courses/533051/assignments/2575521)</a>	due by 11:59pm
	 <a href="https://usu.instructure.com/courses/533051/assignments/2656670">Lab 16</a> <a href="https://usu.instructure.com/courses/533051/assignments/2656670"> (https://usu.instructure.com/courses/533051/assignments/2656670)</a>	due by 11:59pm
Mon Apr 15, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575516">Quiz 4</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575516"> (https://usu.instructure.com/courses/533051/assignments/2575516)</a>	due by 11:59pm
Thu Apr 18, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575522">Assignment 5</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575522"> (https://usu.instructure.com/courses/533051/assignments/2575522)</a>	due by 11:59pm
Mon Apr 22, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2658606">Lab 17</a> <a href="https://usu.instructure.com/courses/533051/assignments/2658606"> (https://usu.instructure.com/courses/533051/assignments/2658606)</a>	due by 11:59pm
	 <a href="https://usu.instructure.com/courses/533051/assignments/2662467">Lab 18</a> <a href="https://usu.instructure.com/courses/533051/assignments/2662467"> (https://usu.instructure.com/courses/533051/assignments/2662467)</a>	due by 11:59pm
Sun Apr 28, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2575523">Assignment 6</a> <a href="https://usu.instructure.com/courses/533051/assignments/2575523"> (https://usu.instructure.com/courses/533051/assignments/2575523)</a>	due by 11:59pm
Wed May 1, 2019	 <a href="https://usu.instructure.com/courses/533051/assignments/2667695">Final Exam</a> <a href="https://usu.instructure.com/courses/533051/assignments/2667695"> (https://usu.instructure.com/courses/533051/assignments/2667695)</a>	due by 11:59pm
	 <a href="https://usu.instructure.com/courses/533051/assignments/2575524">Ethic</a> ( <a href="https://usu.instructure.com/courses/533051/assignments/2575524">https://usu.instructure.com/courses/533051/assignments/2575524</a> )	