Syllabus

This is a single, concatenated file, suitable for printing or saving as a PDF for offline viewing. Please note that some animations or images may not work.

Course Description

This module(allpages.htm) is also available as a concatenated page, suitable for printing or saving as a PDF for offline viewing.

MET CS669

Database Design and Implementation for Business

This course uses the latest database tools and techniques for persistent data and object-modeling and management. Students gain extensive hands-on experience with exercises and a term project using Oracle, SQL Server, and other leading database management systems. Students learn to model persistent data using the standard Entity-Relationship model (ERM) and how to diagram those models using Entity-Relationship Diagrams (ERDs), Extended Entity-Relationship Diagrams (EERDs), and UML diagrams. Students learn the standards-based Structured Query Language (SQL) and the extensions to the SQL standards implemented in Oracle and SQL Server. Students learn the basics of database programming, and write simple stored procedures and triggers.

The Role of this Course in the MSCIS Online Curriculum

This is a core course in the MSCIS online curriculum. It provides students with an understanding and experience with database technology, database design, SQL, and the roles of databases in enterprises. This course is a prerequisite for the three additional database courses in the MSCIS online curriculum, which are CS674 *Database Security*, CS699 *Data Mining and Business Intelligence* and CS779 *Advanced Database Management*. By taking these three courses you can obtain the Concentration in Database Management and Business Intelligence. CS674 *Database Security* also satisfies an elective requirement for the *Concentration in Security*. CS779 *Advanced Database Management* covers advanced design and normalization, ANSI and Oracle extensions to the relational model, object-oriented and object-relational databases, XML in databases,

advanced database tuning, emerging database technologies, and other more advanced database topics.

Technical Note

The table of contents expands and contracts (+/- sign) and may conceal some pages. To avoid missing content pages, you are advised to use page icons in the top right corner of the learning modules.

Course Objectives

This course will enable you to:

- Explain database concepts, particularly the concepts of relational databases
- Design and implement SQL databases of ordinary complexity
- Explain and use top-down database design with bottom-up techniques
- Understand and use basic object-oriented design techniques and the EERD notation.
- Understand and use the Structured Query Language—DDL, DML and DCL.
- Write simple stored procedures and triggers using PL/SQL or Transact-SQL
- Use and develop application databases.

Learning Outcomes

By reading the lectures and completing the assignments in this course, you will be able to:

- Understand and explain the roles that databases play in organizations.
- Normalize database tables so that you can design and implement correct database systems.
- Understand and use the Structured Query Language (SQL) in depth and obtain ample hands-on practice.
- Understand and use database transactions and concurrency.
- Create a Term Project that covers all aspects of designing a database and the SQL requests that run against that database.
- Understand the basics of advanced topics such as database performance tuning, distributed databases, and the data warehouse.

Instructor

Pamela Farr

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Office Hours and Questions: You will have ample opportunity for questions at our many Live Classrooms. I also welcome your questions via Online Campus and standard email.

Hello,

My name is Pamela Farr and I will be your instructor for this course. One of my greatest joys in teaching is interacting with students in the live classrooms. Some of our main goals in this course are to show you how interesting and exciting database design can be and how it directly relates to business functionality in today's world.

I received my master's degree from this program in 2012, and I have been facilitating and teaching at BU ever since. I have been an Oracle database administrator since 1998, and have been on the production support end of such systems as Travelocity and American Airlines. I currently support multiple databases at a medium-sized community college (20,000 students) in Eugene, Oregon, just down the road from the University of Oregon.

I have two sons, a dog and a husband and a mid-century modern home in Eugene. We are working on updating the house to this century, so on any particular day I might be up a ladder painting and/or plastering.

Initial Course Developers

Dr. Robert Schudy

Dr. Schudy made significant contributions to all aspects of this course over many years. He has been practicing advanced database management in industry and teaching database classes in industry and at BU for years. His responsibilities as an Associate Professor in the MET Computer Science Department include faculty coordination of the database area and faculty coordination of this MSCIS online program.

He received a Ph.D. in Computer Science from the University of Rochester. He has conducted research and developed systems at Hewlett Packard Laboratories, and Bolt Beranek and Newman. He hase served as chief scientist for startups and have architected designed and managed the development of many computer systems.

Dr. Vijay Kanabar

This course was originally developed by Professor Vijay Kanabar. Dr. Kanabar has been consulting and teaching in the applied areas of IT and Project Management for more than 25 years in the US and Canada. He has authored two database books—An Introduction to Structured Query Language (Wm C Brown now McGraw-Hill) and XBase for the True Beginner (McGraw-Hill)—and has been recognized with awards for outstanding teaching and research. He has substantial business experience and is frequently invited to present seminars at conferences organized by corporations such as Fidelity, BEA, Staples, Fleet and State Street. Dr. Kanabar holds graduate degrees in Computer Science from Florida Tech and a Ph.D. in Information Systems from University of Manitoba. Professor Kanabar and is a certified Project Management Professional (PMP) and the author of a recent text on project management.

Study Guide

Module 1 Study Guide and Deliverables

Concept Readings:	Coronel & Morris, chapters 1 and 2
SQL Readings:	Coronel & Morris, sections 7.1 through 7.4 of chapter 7
Assignments:	Concepts Assignment 1, SQL Lab 1 due Tuesday, September 13 at 6:00 AM ET
Term Project **Milestones:**	Read the term project specification. Decide if you are doing the default or student-defined term project and submit your decision in Iteration 1.
Assessments:	Quiz 1 due Tuesday, September 13 at 6:00 AM ET

Module 2 Study Guide and Deliverables

Concept Readings:	Coronel & Morris, chapters 3 and 4
SQL Readings:	Coronel & Morris, sections 7.5 through 7.7 of chapter 7, section 8.1 of chapter 8
Assignments:	Concepts Assignment 2, SQL Lab 2 September 20 at 6:00 AM ET
Term Project **Milestones:**	Submit a conceptual entity-relationship diagram for your Term Project in Iteration 2.
Assessments:	Quiz 2 due Tuesday, September 20 at 6:00 AM ET

Module 3 Study Guide and Deliverables

Concept Readings:	Coronel & Morris, chapters 5 and 6
SQL Readings:	Coronel & Morris, section 8.3 and 8.4 of chapter 8. Note that section 8.2 will be read in module 5
Assignments:	Concepts Assignment 3, SQL Lab 3 due September 27 at 6:00 AM ET
Term Project **Milestones:**	Submit a normalized, logical entity-relationship diagram for your term project database in Iteration 3.
Assessments:	Quiz 3 due Tuesday, September 27 at 6:00 AM ET

Module 4 Study Guide and Deliverables

Concept Readings:	Coronel & Morris, chapters 9 and 10
SQL Readings:	Coronel & Morris, sections 8.4 through 8.8 of chapter 8
Assignments:	Concepts Assignment 4, SQL Lab 4 due Tuesday, October 4 at 6:00 AM ET
Term Project **Milestones:**	Provide the tables, data, and SQL which address an iterative subset of the use cases in Iteration 4.
Assessments:	Quiz 4 due Tuesday, October 4 at 6:00 AM ET

Module 5 Study Guide and Deliverables

Concept Readings:	Coronel & Morris, sections 11.1 to 11.7 of chapter 11, and chapter 12
SQL Readings:	Coronel & Morris, section 8.2 of chapter 8
Assignments:	Concepts Assignment 5, SQL Lab 5 due Tuesday, October 11 at 6:00 AM ET
Term Project **Milestones:**	Provide the tables, data, and SQL which address an iterative subset of the use cases in Iteration 5.
Assessments:	Quiz 5 due Tuesday, October 11 at 6:00 AM ET

Module 6 Study Guide and Deliverables

Concept Readings:	**11th edition:** Coronel & Morris, chapter 13, sections 14.1 and 14.2 of chapter 14, sections 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, and 15.7.1 of chapter 15 **12th edition:** Coronel & Morris, chapter 13, chapter 14, sections 15-1 and 15-2 of chapter 15, sections 16-1 through 16-7a of chapter 16
SQL Readings:	There are no SQL readings this week
Assignments:	There are no assignments
Term Project **Milestones:**	Your final term project submission is due Tuesday, October 18 at 6:00 AM ET. Please be sure include all items mentioned in the "Deliverables" page in the Term Project document.
Assessments:	Quiz 6 due Tuesday, October 18 at 6:00 AM ET

Final Exam Details

The Final Exam is a proctored exam available from October 19 at 6:00 AM ET to October 22 at

11:59 PM ET. The Computer Science department requires that all final exams be proctored.

The exam is a three-hour, closed-book exam. It will be accessible during the final exam period. You can access it from either the Assessments section of the course or from the Final Exam module on the home page. Your proctor will enter the password to start the exam.

You will receive a technical support hotline number before the start of the exam. Please bring this number with you to the exam.

Course Resources

Required Textbook

You may use **either the 11th or 12th edition** of the textbook. References to chapters and pages apply to both editions in all modules but Module 6. For that module, the different page numbers for each edition will be indicated in the Study Guide.

Coronel, C. M., & Morris, S. (2014). *Database Systems: Design, Implementation, & Management* (11th ed.). Boston: Cengage Learning.
ISBN: 9781285196145

This textbook can be purchased from Barnes&NobleatBostonUniversity (http://bu.bncollege.com/) .

OR

Coronel, C. M., & Morris, S. (2017) *Database Systems: Design, Implementation, & Management* (12th ed). Boston: Cengage Learning.
ISBN: 9781305627482

This textbook can be purchased from Barnes&NobleatBostonUniversity (http://bu.bncollege.com/) .

Required Software: Oracle or Microsoft SQL Server

You will need either Oracle or Microsoft SQL Server to complete the labs and the Term Project. There is full support for both types of databases in the course, and Oracle is the default if you do not have a preference. Your choice of database for this course does not limit your options for other courses in the BU program, as material for other courses is not designed with an assumption that you select any particular database in this course. Please be sure to follow the instructions in the appropriate install guide listed below, because database installs are more complex than typical application installs.

Installation

Use the links below to download a PDF with the most recent version of the detailed instructions:

- Oracle Express Installation Guide (../documents/OracleExpressInstallationGuideV01.pdf)
- SQL Server Installation Guide (../documents/SQLServerInstallationGuideV4.pdf)

If you are installing Oracle and would prefer to install the full version rather than the Express version, access the Oracle Installation Guide (../documents/OracleInstallationGuideV35.pdf) instead

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Download (http://www.bu.edu/av/disted/met/cis/cs669/downloadable/disted-mscis-cs669-metcs669_oracle.mp4)

Database Specific, Supplemental Books

The following database-specific books are not required to successfully complete the course, and no assignments or quiz materials are drawn from them. However, some individuals find that the contents of these books provides them with additional assistance when using their respective database. If you opt to purchase one of these books, you would want to only purchase the one corresponding to your choice of database.

Bryla, B. & Loney, K. (2013). *Oracle database 12c : the complete reference.* New York: McGraw-Hill Education.

ISBN-13: 9780071801751

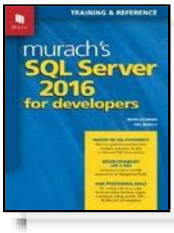
This is the standard Oracle reference. It includes excellent general SQL database tutorial material and extensive material on Oracle. You do not have to purchase this text for the course. There are no assignments from this text. This reference is here in case you want a good Oracle reference text. This is a required text for CS779 Advanced Database Management.

Syverson, B. & Murach, J. (2012). *Murach's SQL server 2012 for developers.* Fresno, CA: Mike Murach & Associates.

ISBN-13: 9781890774691

Students have the option to use Microsoft SQL Server for the assignments, exercises, and term project in this class. This book explains well the SQL programming constructs used in Microsoft SQL Server. You do not have to purchases this text for the course and there are no assignments from this text. This book is listed here in case you would like additional assistance programming in SQL using Microsoft SQL Server.

OR



Syverson, B. & Murach, J. (2016). *Murach's SQL server 2016 for developers.* Fresno, CA: Mike Murach & Associates.

ISBN: 1890774960

Recommended Software: Microsoft Visio Pro

In this class we will demonstrate the use of Microsoft Visio Pro to create entity-relationship diagrams. You can obtain Visio Pro free of charge from the Microsoft DreamSpark for Academic Institutions program, to which the college subscribes. Many students use Microsoft Visio to create their diagrams, but you are not required to do so. Any capable database diagramming application will suffice. If you do not have a Windows platform, you may instead want to use http://lucidchart.com(http://lucidchart.com) , which allows you to create a free account and draw the same diagrams as in Visio.

Supplemental Live Sessions

In this class there will be Supplemental Live Sessions every week. Live Sessions provide you with an opportunity to listen to the course instructor or lead facilitator, and to ask questions in real-time. In many cases, the Live Sessions also provide you with step-by-step demonstrations of diagramming database designs, or writing specific kinds of SQL. The Live Sessions supports chat, voice conferencing over telephone or internet, and a variety of visual interaction facilities, including PowerPoint slides and even video if we choose to use it. All Live Sessions are recorded so that you will not miss a session if you are not able to attend.

I look forward to talking with you, discussing the material, and answering your questions, and encourage you to attend as many supplemental live sessions as you are able, to assist in your learning.

Live Classroom Instructions and Procedures

Complete instructions and procedures, as well as description of features and tools, go to the "Live Classroom/Offices" link in the left-hand menu.

Live Offices

This course includes a “Live Office” for each facilitator, one for the course instructor, and one for student use. Live Offices are similar to Live Classroom, except for a few minor configuration differences. Live Offices are a good way for facilitators and students to go over their assignments or other course material, because it supports convenient document or web sharing and voice. If you plan to take advantage of Live Office sessions, I recommend that you purchase a headset designed to plug into the audio jacks or USB port on your computer. This will give you the ability to talk directly with your facilitator. These headsets are available from many vendors. The price ranges from $10 for a basic but serviceable model up to $50 for a professional model. You may alternatively telephone into the Live Classroom as you would to a conference call.

Boston University Library Information

Boston University has created a set of videos to help orient you to the online resources at your disposal. An introduction to the series is below:

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Download (http://www.bu.edu/av/disted/training/library/downloadable/met_ode_library_14_sp1_00_intro.mp4)

All of the videos in the series are available on the OnlineLibraryResources(https://onlinecampus.bu.edu/bbcswebdav/courses/00cwr_odeelements/library/library_videos/ode_elements_library.html) page, which is also accessible from the Campus Bookmarks section of your Online Campus Dashboard. Please feel free to make use of them.

As Boston University students, you have full access to the BU Library. From any computer, you can gain access to anything at the library that is electronically formatted. To connect to the library, use the link http://www.bu.edu/library(http://www.bu.edu/library/) . You may use the library's content whether you are connected through your online course or not, by confirming your status as a BU community member using your Kerberos password.

Once in the library system, you can use the links under “Resources” and “Collections” to find databases, eJournals, and eBooks, as well as search the library by subject. Some other useful links follow:

Go to http://www.bu.edu/library/research/collections(http://www.bu.edu/library/research/collections/) to access eBooks and eJournals directly.

If you have questions about library resources, go to http://www.bu.edu/library/help/ask-a-librarian (http://www.bu.edu/library/help/ask-a-librarian) to email the library or use the live-chat feature.

To locate course eReserves, go to http://www.bu.edu/library/services/reserves(http://www.bu.edu/library/services/reserves/) .

Please note that you are not to post attachments of the required or other readings in the water cooler or other areas of the course, as it is an infringement on copyright laws and department policy. All students have access to the library system and will need to develop research skills that include how to find articles through library systems and databases.

Free Tutoring Service

Free online tutoring with SMARTHINKING is available to BU online students for the duration of their courses. The tutors do not rewrite assignments, but instead

teach students how to improve their skills in the following areas: writing, math,

sciences, business, ESL, and Word/Excel/PowerPoint.

You can log in directly to SMARTHINKING from Online Campus by using the link in the left-hand navigation menu of your course.

YouTube (https://www.youtube.com/watch?v=wpvWfPhstQM)

Please Note

The SMARTHINKING service can be used for Boston University online class work only. Use of this service for personal purposes or for anything other than Boston University online class work will result in deactivation of your SMARTHINKING account.

Course Grading Information

Course Structure

The course is organized as a sequence of six main weekly modules, plus a seventh module for the proctored final exam. Each of the six main modules includes assigned textbook readings and online lectures in text, graphic, and video formats. Students have an opportunity each week to participate in synchronous Live Classroom sessions where students interact with their faculty in real time; these live sessions are recorded for students who can't make the live sessions. Each of the first six modules includes graded homework assignments, graded discussions, a review quiz and a graded quiz. There is a term project which helps you

integrate everything that you learn in the course, and apply that learning to the development of a significant database system. During each week of the course you will implement the aspects of the term project that are based on the database technology that you are studying that week.

Grade Weighting

The following table summarizes the five kinds of graded items and the default percentage of grades determined by each of these kinds of graded items. Each of these graded items is explained below.

Deliverable	Weight
Concepts Assignments	15%
SQL Labs	15%
Quizzes	20%
Term Project	20%
Final Exam	30%

Assignments

In each of the first five weekly modules you will have homework assignments. Feel free to do additional exercises of your own design and submit them to your facilitator for feedback. If you wish you can ask your facilitator or professor for additional exercises tailored to your background and educational needs.

If you are stuck, and just can't complete part of an assignment, send what you have completed to your facilitator via Online Campus email, asking for help. Your facilitator can then provide you with guidance in the areas where you are stuck, and return the partial assignment to you for further work.

Occasionally your facilitator may opt to give you a chance to resubmit an assignment, particularly if you are struggling. The second submission will be graded fairly, and the facilitator may choose to deduct from your score any portion of the solution provided by the facilitator.

Quizzes

There is a review quiz in each of the first six modules. These review quizzes are primarily to help you prepare you for the module quizzes. When you finish a review quiz you will see the questions, your answer, the correct answers and tutorial material for each question, as well as grading rubrics for paragraph questions and references in the text. The review quizzes do not count in your grade. You can take the review quizzes at any time, as many times as you want.

There is one graded quiz in each of the first six modules. The results for your quiz will be released as soon as possible after the quiz closes. When the quizzes are released you will be able to see the questions, your answers, the correct answers, and tutorial material, just as in the review quizzes. Your professor releases the quiz results. Quizzes may be taken after the results have been released, with permission, but the scores on late quizzes do not count on your grade.

The Final Exam

Your final exam will be offered in the last week of the course. You will have three hours to complete it; there should be plenty of time. Your final exam will be proctored and you may use remote proctoring to take it at home, work, or elsewhere. If you live near to BU you may take it on campus as well. The intent of the final exam is to evaluate your mastery of the course material, so that if you learn the course material well, you will do well on the final exam.

Note that your overall final exam score will be released to you, but the questions and answers will not be released. This is to maintain the integrity of the final exam for concurrent and future online and on-campus runnings of this course.

The Term Project

For the term project, you will design and implement a database schema, and write SQL that uses the schema you create. Additional details in the Term Project inbox in the Assignments area of the course. Satisfactory completion of the Term Project is required to pass the course, and *failure to complete the Term Project will result in an F for the course*.

Grading Structure

Your assignments, quizzes, term project, and final exam will be graded on a percentage basis. The following table summarizes typical correspondence of percentage grades and letter grades for individual graded items.

Letter Grade	**Approximate** percentage **grade range**	Grade Points
A	95–100	4.0
A−	90–94.9	3.7
B+	87–89.9	3.3
B	83–86.9	3.0
B−	80-82.9	2.7
C+	77–79.9	2.3
C	73–76.9	2.0
C−	70-72.9	1.7
D	60–69.9	1.0
F	0–59.9	0

Note that C is the lowest grade that satisfies degree requirements in graduate courses and that you need to maintain a grade point average of 3.0 or better to graduate. For more information, see the MSCISAcademic Policiesonlinemanual(http://www.bu.edu/met/for-students/met-policies-procedures-resources/grading/) .

The percentage ranges above are approximate. Your letter grade is determined by your professor as the best overall measure of how well you have demonstrated that you understand the material, taking into separate consideration your performance in the quizzes, assignments, term project, and final exam. Additional grading criteria include any substantial difference in your performance on the proctored final exam and the general trend of your scores over the term. The actual grade ranges will be adjusted to reflect the difficulty of graded items.

Lateness

We recognize that emergencies and unexpected but significant extensions in work hours occur in

professional and personal lives. If one occurs that prevents your completion of a course item by a deadline, please make this plain to your facilitator. This must be done in advance of the deadline (unless it is an emergency that makes this impossible, of course), and should be accompanied by particulars that back it up. Additional documentation may be requested. Twenty points will otherwise be deducted for late submissions: we want to be fair to everyone in this process, including the vast majority of you who sacrifice so much to submit your homework on time in this demanding schedule.

Concepts Assignment Grading Rubric

All assignment submissions are evaluated on the quality of the original content, and on how well the content is expressed.

Your facilitator will grade your assignment submissions with the grading rubric below. When mapping the letter grade to a corresponding number grade, your facilitator will use the following letter-to-number mappings:

A+	**A**	**A−**	**B+**	**B**	**B−**	**C+**	**C**	**C−**	**D**	**F**
100	96	92	88	85	82	78	75	72	67	0

To avoid subjectivity and to maintain consistency across facilitator groups, facilitators will use only the letter to number mappings given above, and will not attempt to further distinguish the number grade. For example, if you receive an A for both criteria, then your assignment grade will be a 96, and facilitators will not attempt to distinguish between a 97, 96, or 95. If you receive an A− for both criteria, your assignment grade will be a 92, and facilitators will not attempt to distinguish between a 93, 92, or 91.

	Grade	Qualities Demonstrated by the Assignment Submission
Content (70%) **Measures the** quality of the	A+	The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major relevant issues are thoroughly covered, and all content is very focused and on-topic. There is no known way to improve the content, and there are absolutely no technical or coverage errors present.

	content in the **assignment**	A	The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major

	relevant issues are thoroughly covered, and all content is very focused and on-topic. At most one insignificant technical or coverage error may be present
A−	The content demonstrates deep understanding of all relevant subject matter and its inter-relationships. All major relevant issues are covered, and all content is on-topic.
B+	The content demonstrates understanding of all relevant subject matter and its inter-relationships. Almost all major relevant issues are covered, and the content is at least reasonably on-topic.
B	The content demonstrates understanding of most relevant subject matter and its inter-relationships. Almost all major relevant issues are covered, and all content is at least reasonably on-topic.
B−	The content demonstrates moderate understanding of much relevant subject matter and its inter-relationships. There is reasonable coverage of major relevant issues, and the content is at least reasonably on-topic.
C+	The content demonstrates some understanding of relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least some content is on-topic.
C	The content demonstrates understanding of a small portion of the relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least a small portion of the content is on-topic.
C−	The content demonstrates little understanding of and insight into the relevant subject matter and its inter-relationships. A small portion of the major relevant issues are covered. The focus of the content may be off topic or on insubstantial or secondary topics
D	The content demonstrates almost no understanding of or insight into the relevant subject matter and its inter-relationships.

		Almost none of the major relevant issues are covered, and the content may be almost entirely off-topic.
	F	The content demonstrates no understanding of or insight into the relevant subject matter and its inter-relationships. No major relevant issues are covered, and the content is entirely off-topic.
Exposition (30%) **Measures how** well the content is **expressed**	A+	The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There is no known way to improve the clarity or organization of the submission.
	A	The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There may be at most one insignificant way to improve the clarity or organization of the submission.
	A−	The presentation of all ideas and designs is very clear and persuasive; the entire submission is very organized.
	B+	The presentation of all ideas and designs is clear and persuasive; the entire submission is organized.
	B	The presentation of most ideas and designs is clear and persuasive; most of the submission is organized.
	B−	The presentation of most ideas and designs is generally clear; most of the submission is reasonably organized.
	C+	Some parts of the submission are hard to understand; some parts are disorganized.
	C	About half of the submission is hard to understand; about half is disorganized.
	C−	Most parts of the submission are hard to understand; most parts are disorganized.
	D	Almost all of the submission is hard to understand and disorganized.

	F	The entire submission is hard to understand and disorganized.

Lab Grading Rubric

Your lab submissions will be evaluated according to the rubric given below. All lab submissions are evaluated on the completeness and correctness of the results and explanations, as well as the quality of the constitution of the SQL constructs used.

When mapping the letter grade to a corresponding number grade, your facilitator will use the same letter to number mappings as for assignments:

A+	**A**	**A−**	**B+**	**B**	**B−**	**C+**	**C**	**C−**	**D**	**F**
100	96	92	88	85	82	78	75	72	67	0

	Letter Grade	Qualities Demonstrated by the Lab Submission
Correctness, completeness, and constitution Measures the correctness and completeness of the results, and the quality of the constitution of the SQL constructs	A+	The results and explanations are entirely complete and correct for all steps. There are absolutely no technical or other errors present. There is no known way to improve the logic and makeup of any of the SQL constructs.
	A	One insignificant technical or other error is present, but otherwise the results and explanations are entirely complete and correct for all steps. Excluding the insignificant error, there is no known way to improve the makeup of any of the SQL constructs.
	A−	One or two consequential technical or other errors are present, but otherwise the results and explanations are entirely complete and correct for all steps. Excluding the one or two errors, there is no known way to improve the makeup of any of the SQL constructs.

B+	A few steps have significantly incomplete or incorrect results or explanations. The results and explanations are complete and correct for the remainder of the steps. The logic and makeup of most SQL constructs are sound.
B	A few steps have significantly incomplete or incorrect results or explanations. The results and explanations are mostly complete and correct for the remainder of the steps, with the exception of a few insignificant technical or other errors. The logic and makeup of most SQL constructs are sound.
B−	About ¼ of the steps have significantly incomplete or incorrect results or explanations. The results and explanations are complete and correct for the remainder of the steps. The logic and makeup of at least ¾ of the SQL constructs are sound.
C+	About ¼ of the steps have significantly incomplete or incorrect results or explanations. The results and explanations are mostly complete and correct for the remainder of the steps, with the exception of a few insignificant technical or other errors. The logic and makeup of at least ¾ of the SQL constructs are sound.
C	About half of the steps have significantly incomplete or incorrect results or explanations. The results and explanations are complete and correct for the remainder of the steps. The logic and makeup of at least half of the SQL constructs are sound.
C−	About half of the steps have significantly incomplete or incorrect results or explanations. The results and explanations are mostly complete and correct for the remainder of the steps, with the exception of a few insignificant technical or other errors. The logic and makeup of at least half of the SQL constructs are

		sound.
	D	About ¾ of the steps have significantly incomplete or incorrect results or explanations. The results and explanations are complete and correct for the remainder of the steps. The logic and makeup of at least ¼ of the SQL constructs are sound
	F	All or almost all of the steps have incomplete or incorrect results or explanations. The logic and makeup of all or almost all of the SQL constructs are unsound.

Quiz Instructions

Accessing the Quiz

You will have access to the quiz at the beginning of the module. However you should not access the quiz until you have completed all learning activities for the module and are prepared to meet the objectives for that module.

Quiz Details

- All six quizzes have twenty questions. You can access the quiz details from the assessments menu.
- The questions are either choose multiple, multiple choice (choose one), or True/False.
- All questions are randomized.
- The points for each question are shown.
- The quiz questions will display one at a time on your screen.
- You may skip over questions and revisit them in any order.
- You will have 90 minutes to complete the quiz. You should have enough time so that you aren't rushed.
- You can take each graded quiz only once.
- You may not pause the quiz and return to it later.
- You will be able to continue to save answers to questions after the time has expired, but any late answers will be time stamped and marked as late. This will allow us to grade your quiz fairly in the event that technical difficulties occur while you take your quiz.

Saving Answers

- To answer a multiple choice question, select the appropriate choice from the list below the question.
- When you have completed your response, click “Save Answer” at the top of the question.
- As you proceed through the exam, you can go back and edit previous responses that you saved.
- A timer is displayed above the questions tracking the remaining time available.
- You will see question number buttons above questions. You will need to click on “Question Completion Status” to see the question numbers. You can use these buttons to navigate from question to question at any time.
- When you have completed all answers, go to the last question of the exam and click the “Save and Submit” button.

If a technical issue of any kind arises during the quiz requiring you to go beyond the time limit, complete the quiz answering the remaining questions and then contact your facilitator or instructor immediately.

The Quiz Comment Questions

There is one short answer question at the end of each quiz and the final exam. This *comment question* appears as a quiz question, but there are no points for this item. Use this as a place to provide feedback about the quiz as a whole or to comment upon a particular quiz question, the way that you might write comments in the margins of a paper quiz. Be sure to reference the question number, because question order is randomized. Your facilitator will examine your comments and determine whether a grade adjustment or other action is appropriate.

Other Questions

If you have any questions about the quiz please feel free to contact your facilitator.

Technical Support

Assistance with course-related technical problems is provided by the IS&T Help Center. To ensure the fastest

possible response, please fill out the online form using the link below.

IT Help Center Support	
Email	ithelp@bu.edu(mailto:ithelp@bu.edu) Please use “BB Learn Question” in the subject line
Web	http://www.bu.edu/help/tech/learn(http://www.bu.edu/help/tech/learn/) (http://www.bu.edu/tech/web/course-sites/blackboard-learn/)
Phone	(888) 243-4596

Final Exam Overview

The Computer Science department requires that all exams be proctored.

The exam is a three-hour, closed-book exam consisting of a combination of 50 choose multiple, multiple choice (choose one), and True/False questions. The exam is only accessible during the final exam period. You will access it from either the Assessments section of the course or from the Final Exam module on the home page.

If you have any technical problems during the exam that prevent you from continuing or completing the exam, please have your proctor call the exam hotline immediately. You will receive this important phone number from Student Services before the exam.

Note

A page instructing how to schedule your proctored final exam will be visible by the third week of this course.

Format

- You will have

metcs669_finalexam is displayed here

Download (http://www.bu.edu/av/disted/met/cis/cs669/downloadable/metcs669_finalexam.mp4)

three hours to complete the final exam. There is a clock in the upper right corner of the screen keeping time for the exam.

- There are 50 questions.
- This is a closed book/closed notes exam. You cannot bring any materials into the exam. You cannot access any web based content other than the course exam during the three hour period.
- You can take the exam only once.
- Each question will be delivered one at a time.
- You can revisit the questions and change your answers as many times as you want before submitting the exam.

Saving Your Answers

- To answer a multiple choice question, select the appropriate choice from the list below the question.
- When you have completed your response, click “Save Answer” at the top of the question.
- As you proceed through the exam, you can go back and edit previous responses that you saved.
- A timer is displayed above the questions tracking the remaining time available.
- You will see question number buttons above questions. You will need to click on “Question Completion Status” to see the question numbers. You can use these buttons to navigate from question to question at any time.
- When you have completed all answers, go to the last question of the exam and click the “Save and Submit” button.

Opening the Exam

Go to the Assessments Menu or the Final Exam Module on your course home page to access the exam. Your proctor will enter the required password to start the exam.

Technical Support

Assistance with course-related technical problems is provided by the IS&T Help Center. To ensure the fastest possible response, please fill out the online form using the link below.

IT Help Center Support

Email	ithelp@bu.edu(mailto:ithelp@bu.edu) Please use “BB Learn Question” in the subject line
Web	http://www.bu.edu/help/tech/learn(http://www.bu.edu/help/tech/learn/) (http://www.bu.edu/tech/web/course-sites/blackboard-learn/)
Phone	(888) 243-4596

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