



Exam1	20%	Individual
Exam2	20%	Individual
Participation	10%	Individual

### **Deliverables**

There are 5 group assignments. You can discuss in your group the best ways to solve the problems. Although you can work in groups, you are responsible for understanding how to answer each question.

Each group will have about four students. You can form your groups as long as each member of the group uses the same operating system. Since a large component of the project is tools based, having a common operating system for the group makes collaboration easier. If you are having difficulty in forming a team let me know, I'll assign you to a team. A component of your grades on group assignment and the project will depend on the peer evaluation by team members.

There are two exams. Exams are open book, open notes, and open laptop (due to the technical nature of the course). But you may not access the Internet reaching outside Boston University servers, or use a web-browser for any reason during the exam. You should store any class material you might need on your laptop before the exam. You may not communicate with anyone during the exam.

Assignments and project deliverables are due by 11pm on their due dates. Except under extreme circumstances, late assignments or deliverables will not be accepted, nor will make-up exam be arranged.

### **Expectations**

I expect all students in the course to attend each class and to actively participate in class discussions and exercises. I try to foster an informal, hands-on approach to learning. Much of what will be presented and discussed in class is available only, or primarily, in class.

### **Preparing for the class**

To get the most out of the lectures and the in-class discussions you should read the assigned readings before the class. These are posted at the end of this syllabus. Don't worry if you don't understand everything in the assigned reading. They'll be clear after the class.

You should also review the slides from the *previous* week before coming to class. Ask questions about things covered in the previous week which are still unclear at the start of the class. To test your understanding, I'll often take small verbal quizzes at the start of the class.

### **Class Etiquette**

We'll use laptop to do in-class exercises involving databases and datamining tools. However, do not use the laptop during the class for anything not related to the class activities. For example, you may not use the laptop for social media browsing, following news or sports, online chatting, etc. during the class. This is poor use of your limited class time and is distracting to your fellow students. Any use of laptop or cellphone that is not related to class activity will result in a 0 for the class participation for the day.

Arrive to class on time. Coming in late disrupts and distracts the rest of the class. Stay until the end of the class. If you absolutely need to leave early then please see me before class to explain the reason and sit near the door to minimize the disruption that your departure will have on the rest of the class.

Turn your cell phones off during class.

**Evaluation**

You will learn new skills in this class largely through hands-on work. Accordingly, you will be evaluated primarily on your ability to demonstrate the skills being taught by applying them to class discussions, homework assignments, project, and exams. It is very important that you attend each class, actively participate in class discussions and activities, and keep up with the homework assignments.

**Tips for HW**

The homework assignments require significant work and should not be left until the last day. In the previous years, students who procrastinated have suffered because of it. Attempt the next homework soon after you complete the last, and ask me any question you might have in the next class. All homework are posted on questromtools from the start of the course.

**Class Participation**

I will evaluate your class participation as a combination of objective factors (attendance, frequency of contribution) and subjective factors (quality of contribution). In general, the quality of your contributions to the class is more important than the quantity. I will routinely call on different students to solve problems on board and performance on those problems as well as class discussion would constitute the participation portion of your grade. I will be happy to let you know how you are doing with participation if you stop by my office to discuss the matter, but your participation grade is assigned at my sole discretion and is non-negotiable. If you find that your participation grade to date is below where you would like it to be I will be happy to work with you to figure out how to raise it for the remainder of the course.

Please display the tent card with your name on it so that you reliably receive the credit for your participation. If you don't have one already you can prepare one using the template from <http://questromworld.bu.edu/udc/essentials/forms/#toggle-id-14>

**Re-grade Policy**

If you believe that your homework or final project has been incorrectly graded, feel free to speak with me and explain why you believe the grading is incorrect. If, after discussing it with me, you still believe that your answer is correct you can submit a brief written request to me to re-grade the assignment within one week of the assignment being returned. Your request must explain why you believe your answer is correct and include the original assignment and my feedback. Upon receiving this request, I will re-grade the assignment. There is no guarantee that your grade will go up; it may go down as well.

I will only re-grade assignments where the correctness of an answer is in dispute or for which there was a tabulation error in calculating the score. Emotional appeals for a better grade are not grounds for a re-grade request.

**Online Course Management and Support:**

We have created a course on Questrom Tools ([questromtools.bu.edu](http://questromtools.bu.edu)) that will serve as the official repository for course announcements, syllabus, schedule, lecture slides, assignments, and grades. In addition to Questrom Tools, you can contact me by e-mail at [nachi@bu.edu](mailto:nachi@bu.edu). I will try to reply to your e-mail in a timely manner, generally less than one working day, but I cannot guarantee a specific turnaround time. This is why you should start working on the assignments as early as you can and not leave it to the last day. If you need any clarification or help, you want to give me enough time to respond to your question.

## **Academic Integrity**

The university's policies on academic integrity govern the class. These policies are available at: <http://questromworld.bu.edu/acc/>

Any clear evidence of an honor code violation on an assignment, project, or test will be brought to the Academic Conduct Committee. The Boston University Questrom School of Business defines academic misconduct as

“Conduct by which a student misrepresents his or her academic accomplishments or impedes other students’ chances of being judged fairly for their academic work.”

This includes, but is not limited to, cheating on assignments or examinations, plagiarizing, i.e. misrepresenting as one’s own work any work done by another, submitting the same project or substantially similar projects, to meet the requirements of more than one course without the approval and consent of the instructors concerned, or sabotaging another’s work. Students found guilty of academic misconduct face penalties ranging from lowering of the course grade to suspension from the University.

## **Accommodation of Disability**

In keeping with University policy, any student with a disability who needs or thinks they need academic accommodations must call the Office of Disability Services at 353-3658 or stop by 19 Deerfield Street to arrange a confidential appointment with a Disability Services staff member. Accommodation letters must be delivered to me in a timely fashion (within two weeks of the date on the letter and not later than two weeks before any major examination). Please note that accommodations will not be made without an official letter of accommodation.

## **Diversity and Inclusion Statement**

In this course, I have tried to be thoughtful about how identity and culture impact the course content. I invite you to share your personal experiences and perspective related to the course content. If there are topics or conversations that you feel would benefit from incorporation of social context or a differing perspective please let me know. I will explore resources and opportunities for us to engage a wide variety of perspectives in our classroom.

## **Questrom Community Statement of Norms**

In addition to the expectations outlined in the COVID-19 Health Commitments & Expectations for Boston University Students, we expect all members of our Questrom community to adhere to the following classroom norms:

- Use the designated paths and doors to enter and exit the classrooms and move around the Hariri building.
- Use the wipes provided in classrooms to clean desktops and other spaces before and after use.
- Wear an appropriate personal protection equipment (PPE) face covering when in the Hariri building, including in the Hariri classrooms and offices. Students not wearing a face covering will be asked to leave and are expected to comply with the request.
- Be willing to display your “green screen” compliance app upon request (e.g., in class or for a meeting).

- Eat only in the designated locations in the Rafik B. Hariri Building. Eating is NOT permitted in the classrooms. Eating is only permitted in Starbuck/Breadwinners and in student lounges. Only drinking with a straw is permitted in classrooms. Adhering to these norms will allow us to continue to enjoy a residential learning experience

### Course Recording Policy

All class sessions will be recorded for the benefit of registered students who are unable to attend live sessions. Recorded sessions will be made available to registered students ONLY via their password-protected QuestromTools account. Students may not share such sessions with anyone not registered in the course and may certainly not repost them in a public platform. Students have the right to opt-out of being part of the class recording. Please contact your instructor or teaching assistant to discuss options for attending the course in such cases.

### Tentative Schedule

Class #	Date	Topic(s)	Background Material	Deliverables
01	1/24	Course Introduction		
02	1/26	Core Database Concepts	HRT: Chapter 1	
03	1/31	Data Modeling	HRT: Chapter 2	
04	2/2	Data Modeling		
05	2/7	Advanced Data Modeling	HRT: Chapter 3	
06	2/9	Relational Data Modeling	HRT: Chapter 4	HW1 due
07	2/14	Normalization		
08	2/16	Introduction to MySQL		HW2 due
09	2/22	Import and Export data and database, introduction to SQL	LSQL: Chapter 2	
10	2/23	SQL: Query data		
11	2/28	SQL: Query data	LSQL: Chapter 3,4	<i>Discuss project ideas with me by this date.</i>
12	3/2	SQL: Multi-table Queries and Scalar functions	LSQL: Chapter 7	HW3 due
13	3/14	Review		
14	3/16	MIDTERM EXAM		
15	3/21	SQL: Sets and groups	LSQL: Chapter 8	Project part 1 and TLA mid-semester feedback due.

16	3/23	SQL: correlated sub-queries, views	LSQL: Chapter 9, 14	
17	3/28	SQL: joins	LSQL: Chapter 5, 10	
18	3/30	SQL: Advanced queries	LSQL: Chapter 6	
19	4/4	Introduction to Data mining	“The Chemistry of a 90+ wine” – NYTimes.	HW4 due
20	4/6	Classification	<b>WMV: 1.2–1.5, 3.6</b>	
21	4/11	Evaluating a classifier	<b>WMV: 2.2–2.6</b> WFH: 5.1–5.4, 5.7, 5.8	
22	4/13	Project wrap up in class		Project part 2 due
23	4/20	More on classification	<b>WMV: 3.1–3.3</b> WFH: 4.2, 4.7	
24	4/25	Decision Trees	<b>WMV: 3.4, 3.5</b> WFH: 4.3	
25	4/27	Cost/Revenue optimization using a classifier	Video lectures titled <b>MDMW 2.5, 4.5, 4.6</b>	
26	5/2	Exercises on optimization using classifiers		HW5 due
27	5/4	Review		

### Disclaimer

I hope to cover all of the material on this schedule. If I find that the pace of the class is too quick, or that students are having difficulty with particular sections, I reserve the right to spend more time on specific topics and push subsequent topics to later dates, or skip them completely. It is more important to build a deep understanding of core content than it is to cover all topics on the syllabus. Likewise, if I find that the pace of the course is too slow we can accelerate the schedule and add some more advanced topics to the end of the course.

### Acknowledgements

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