Math 1151Q: Honors Calculus I (Sec 002) - Fall 2017 Syllabus

Goals for Math 1151Q

The main goal of this course is for us to develop our understanding of the concepts and procedures involved in calculus, as well as an understanding of some applications to other fields in the natural sciences (hopefully including your intended major(s)).

(1) We will explore the theoretical side of calculus, seeing how the ideas of calculus fit together.
(2) We will explore the procedural side of calculus, seeing how to use the machinery of calculus.
(3) We will see how calculus can be applied to fields in the natural sciences (biology, chemistry, engineering, and/or physics) through a group project.
(4) We will focus on clear oral communication of mathematics through conversation inside and outside of class.
(5) We will focus on clear written communication of mathematics (using numbers, pictures, symbols, and/or words) through written assignments and a group project.
(6) We will gain an increased understanding of what it is like to do mathematics.
(7) We will (hopefully) gain a new appreciation for mathematics.

Math 1151Q Class Meeting Structure

This class will be a guided Inquiry-Based Learning (IBL) class, which may be structured differently than other classes you are used to. While I might give periodic mini-lectures throughout the semester, the majority of the class time will be designed to have you work both by yourself and with your peers on mathematics in a friendly and supportive environment, where my role is to serve as more of a coach or mentor. Mathematics education research has shown that students can learn more and do better when IBL methods are used. Also, you will get more authentic sense of what it really means to do mathematics. The three main types of student activities that will happen in class are

(1) individual and group work (like "working in a project team" in the real world) on skeletal notes and in-class activities,
(2) individual and group presentations (like "giving a project report/update" in the real world) of in-class activities and the group project, and
(3) actively listening to, asking questions about, and giving constructive feedback on the ideas and presentations of your peers.

Some Advice for How to Succeed in Math 1151Q

(1) ***Be an active participant in the class.*** Ask questions. Participate during class activities. Do your best to keep up with the material. Come to office hours. Work on assignments as soon as they are assigned instead of at the last minute. Write rough drafts and final drafts for your work (just like for papers).
(2) ***Spend some time reading and engaging with the textbook.*** Use a notebook to keep track of your progress. Write down questions that come up. Write down important concepts. Work through examples and activities as you read. Explore without worrying about being correct all the time.
(3) ***Work with other students in this class*** during in-class activities and on group assignments. Form exam and quiz study groups. Build your own math community.

Class Details and Contact Information

Class Meeting Days/Times/Locations: MWF 8:00 - 9:15 a.m. in ITE 127

Professor: Erin Rizzie

Email: erin.rizzie@uconn.edu

A Note about Email: Please check your email daily for announcements and other information. Also, email is the best way to contact me outside of class.

Office: MONT 411 (**Monteith Building**)

Office Hours: Tues. 1:30 – 3:00 p.m. and Fri. 9:30 – 11:00 a.m.

A Note about Office Hours: You don't need an appointment to come to my office hours listed above. Just stop by! If these times do not work, please email me so we can arrange a time to meet.

Course Materials and Resources

Class Webpage: All course-related materials and assignments will be posted on our HuskyCT site for this course. Go to **https://huskyct.uconn.edu**. Click on "Login" and sign in using your UConn NetID and password. Click on "**MATH-1151Q-Honors Calculus I-SEC002-1178**". Please visit our HuskyCT site daily. I will regularly upload and update all course materials on this site.

Class Resources:

(1) Main Textbook: ***Active Calculus*** by Matthew Boelkins, David Austin, and Steven Schlicker.
- This is a FREE open-source textbook. Links to this textbook (both HTML and PDF versions) and the activities workbooks for this textbook are posted in the "Active Calculus Textbook and Workbooks" section of our HuskyCT site.

(2) Online Homework: We will also use the MAA's WeBWorK online homework system.
- This is a FREE open-source online homework system. A link to the WeBWorK site is posted in the "WeBWorK Online Homework" section of our HuskyCT site.

(3) Math Writing Article: "Guidelines for Good Mathematical Writing" by Francis Su

Assessments

WeBWorK Online Homework Assignments: ***WeBWorK online homework assignments*** will be assigned during the semester. These assignments will consist of approximately 10-15 questions and will be due most Sundays at 11:59pm. **I will drop your lowest WeBWorK online homework grade.** This allows you to miss a WeBWorK online homework assignment due to travel, illness, a bad day, etc.

WeBWorK Preview Activities: ***Preview assignments*** (from the *Active Calculus* textbook) consist of a short introductory reading and a preview activity that are meant to be completed at home in preparation for discussion of a new section during class. Like the online homework assignments, the preview activities use the WeBWorK online homework system. There will usually be two or three WeBWorK preview activities due per week. **I will drop your lowest WeBWorK preview activity grade.** This allows you to miss a preview assignment due to travel, illness, a bad day, etc.

Written Homework Assignments: ***Five written homework assignments***, which will consist of approximately six questions of a more conceptual nature, will be assigned during the semester. To highlight the fact that finding a solution to a problem and clearly communicating a solution to a problem are two separate activities, scratch work will be required and collected in addition to a final draft. See the schedule below for tentative due dates. **I will drop your lowest homework grade.** This allows you to miss a written homework assignment due to travel, illness, a bad day, etc.

Quizzes: ***Five quizzes*** will be given during the semester. See the schedule below for tentative dates. **I will drop your lowest quiz grade.** This allows you to miss a quiz due to travel, illness, a bad day, etc.

Midterm Exams: There will be ***two midterm exams*** (Exam 1 and Exam 2). See the schedule below for tentative exam dates. These may be in-class exams or exams with both in-class and take-home portions. **Note that Option 2 below allows you to drop your lowest midterm exam score and add the weight of this exam to the final exam.** This is meant to reward improvement as the semester progresses.

Group Project: ***A group project*** will be assigned during the semester. The report component of the project will be broken up as follows: project proposal, feedback, first submission, feedback, and final submission. There will also be a presentation component. See the course schedule for tentative due dates.

Final Exam: There will be ***a cumulative final exam*** at the end of the semester. The date, time, and location of the final exam is determined by the university and will be announced as soon as it is known.

Grading

Grading Schemes: Final course grades (as a percentage) will be determined by **Option 1** and **Option 2** below. **You will be given whichever option results in a higher grade.**

Option 1	**Weight**		**Option 2**	**Weight**
WeBWorK Preview Activities (lowest score dropped)	5%		WeBWorK Preview Activities (lowest score dropped)	5%
WeBWorK Online Homework Assignments (lowest score dropped)	5%		WeBWorK Online Homework Assignments (lowest score dropped)	5%
Written Homework Assignments (lowest score dropped)	20%		Written Homework Assignments (lowest score dropped)	20%
Quizzes (lowest score dropped)	5%		Quizzes (lowest score dropped)	5%
Exam 1	15%		Exam 1 or Exam 2 (lower score dropped)	15%
Exam 2	15%			
Group Project	15%		Group Project	15%
Final Exam	20%		Final Exam	35%

Final Grades: The following grading scale will be used to determine final course grades.

A	[92, 100]	**B**	[82,88)	**C**	[72, 78)	**D**	[62, 68)
A-	[90, 92)	**B-**	[80, 82)	**C-**	[70, 72)	**D-**	[60, 62)
B+	[88, 90)	**C+**	[78, 80)	**D+**	[68, 70)	**F**	[0,60)

Policies and Resources

Working with Other Students: This class will involve a mix of individual and group assignments and assessments.

- For the WeBWorK online homework assignments and preview activities, you are allowed and encouraged to work with one or two other people.
- For the written homework assignments, you are allowed and encouraged to work with one or two other people during the "brainstorming/rough draft stage" of the assignments (after you have thought about and worked on the assignment by yourself). For the "final draft stage" of the assignments, you are expected to work individually to write up your own solutions in your own words. This structure gives you the benefit of collaboration and gives you the benefit of receiving feedback on your own written communication of mathematics.

Attendance: You should attend all class meetings and are responsible for what we discuss. If you miss a class meeting, you should talk with a classmate to figure out what you missed, get any handouts/materials you missed from the HuskyCT site, and get caught up as soon as possible.

Make-Up/Late Policy: In fairness to everyone, there are generally NO make-ups and NO extensions for any form of assessment (WeBWorK online homework assignments and preview activities, written homework assignments, quizzes, midterm exams, the group project, and the final exam). Only extreme situations with an officially documented excuse will allow you to make up an assessment. Whenever possible, these excuses must be presented before the assessment is due.

Grading Policy: If you have any questions about the grading of any assessment, please talk to me privately after class on the day it is returned to resolve it. If we need to meet later or if I need to review it further, I will take it with me. Once you leave the classroom with your assignment, the grade is final.

Calculator Policy: Unless stated otherwise during the semester, calculators will NOT be allowed (or needed) on any in-class assessments (quizzes, midterm exams, or the final exam).

Academic Integrity: It is in everyone's best interest to maintain his or her academic integrity. Any form of academic dishonesty undermines the goals of our course and devalues the learning process. Academic dishonesty is a serious offense at UConn and can result in a zero grade on an assessment and/or failure in the course. For more information, see the **Student Code**. For strategies to minimize academic misconduct, follow **this link**.

The Quantitative Learning Center: The **Quantitative Learning Center** (Q Center) at UConn provides free drop-in tutoring for a number of mathematics and science courses. The Q Center is located on Level 1 of the **Homer Babbidge Library**.

Accommodations for Students with Disabilities: Students who think that they may need accommodations because of a disability are encouraged to meet with me privately early in the semester. Students should also contact the Center for Students with Disabilities as soon as possible to verify their eligibility for reasonable accommodations. For more information, please go to the website **http://www.csd.uconn.edu/**.

Tentative and Incomplete Schedule for Math 1151Q

Sections of *Active Calculus* Textbook Covered: Chapter 1-4, Sections 5.1-5.3, 6.1, 6.2

Day	Date	Topics/Readings Discussed That Day, Due Dates, etc.
Monday	8/28/17	Quick Entrance Survey and Introductions Syllabus and HuskyCT Orientation Section 1.1
Wednesday	8/30/17	Section 1.1-1.2
Friday	09/01/17	Section 1.2-1.3
Monday	09/04/17	**NO CLASS – Labor Day**
Wednesday	09/06/17	Section 1.4 Written HW 1 Assigned (Sections 1.1-1.4)
Friday	09/08/17	Section 1.5
Monday	09/11/17	**Written HW 1 Due** **Quiz 1 (Sections 1.1-1.4)** Section 1.6
Wednesday	09/13/17	Section 1.7
Friday	09/15/17	Section 1.8
Monday	09/18/17	Section 2.1 Written HW 2 Assigned (Sections 1.5-1.8, 2.1, 2.2)
Wednesday	09/20/17	Section 2.2
Friday	09/22/17	Section 2.3
Monday	09/25/17	**Written HW 2 Due** **Quiz 2 (Sections 1.5-1.8, 2.1, 2.2)** Section 2.4
Wednesday	09/27/17	Section 2.5
Friday	09/29/17	Section 2.6
Monday	10/02/17	**Exam 1 In-Class Part (Sections 1.1-1.8, 2.1-2.5)** Exam 1 Take-Home Question Assigned
Wednesday	10/04/17	Section 2.7 **Exam 1 Take-Home Question Due**
Friday	10/06/17	Section 2.8
Monday	10/09/17	Section 3.1 Written HW 3 Assigned (Sections 2.6-2.8, 3.1)
Wednesday	10/11/17	Section 3.1
Friday	10/13/17	Section 3.2
Monday	10/16/17	**Written HW 3 Due** **Quiz 3 (Sections 2.6-2.8, 3.1)** Section 3.3
Wednesday	10/18/17	Section 3.4
Friday	10/20/17	Section 3.5
Monday	10/23/17	Section 4.1 Written HW 4 Assigned (Sections 3.2-3.5, 4.1-4.2)
Wednesday	10/25/17	Section 4.2
Friday	10/27/17	Section 4.3
Monday	10/30/17	**Written HW 4 Due** **Quiz 4 (Sections 3.2-3.5, 4.1-4.2)** Section 4.4

Wednesday	11/01/17	Section 5.1
Friday	11/03/17	**Group Project Proposal Due** Section 5.2
Monday	11/06/17	**Exam 2 In-Class Part (Sections 2.6-2.8, 3.1-3.5, 4.1-4.4, 5.1)** Exam 2 Take-Home Question Assigned
Wednesday	11/08/17	Section 5.2 **Exam 2 Take-Home Question Due**
Friday	11/10/17	Section 5.3
Monday	11/13/17	Section 5.3 Written HW 5 Assigned (Sections 4.3-4.4, 5.1-5.3)
Wednesday	11/15/17	Section 6.1
Friday	11/17/17	**Group Project Report (First Submission) Due** Section 6.1
Monday	11/20/17	**NO CLASS - Thanksgiving Recess**
Wednesday	11/22/17	**NO CLASS - Thanksgiving Recess**
Friday	11/24/17	**NO CLASS - Thanksgiving Recess**
Monday	11/27/17	Section 6.2
Wednesday	11/29/17	**Written HW 5 Due** **Quiz 5 (Sections 4.3-4.4, 5.1-5.3)** Section 6.2
Friday	12/01/17	Review (Everything)
Monday	12/04/17	**Group Project Report (Final Submission) Due** **Group Project Presentations**
Wednesday	12/06/17	Review (Everything)
Friday	12/07/17	Review (Everything)
???day	12/??/17	**Final Exam (Date, Time, and Location TBA)**

DISCLAIMER: This is an evolving syllabus and schedule. Any changes or additions to the syllabus and schedule will be made in the "Course Syllabus and Schedule" section of the class HuskyCT site.