Beijing Jiaotong University

2019 Summer Session

MATH 111 Calculus 1

Course Outline

Term: July 08-August 09,2019

Class Hours: 12:00-14:00 (Monday through Friday)

Code: MATH 111

Instructor: Ulises Fidalgo

Home Institution: Case Western Reserve University

Office Hours: TBA and By Appointment

Email: ulisesfidalgoprieto@yahoo.es

Credit: 4

Class Hours: This course will have 72 class hours, including 40 lecture hours, 10 lecturer office hours, 10-hour TA discussion sessions, 2-hour review sessions, 10-hour extra classes.

Course contents and goals:

This course covers differentiation and its applications. We will cover Chapters 2, 3, and 4. The content includes, but is not limited to, limits and rates of change, continuity, derivatives, derivative rules, higher derivatives, implicit differentiation, and applications of differentiation. Our goals are to enable students to understand the concepts and rules of differentiation, learn different techniques for finding derivatives, and develop problem solving skills. We expect students to apply concepts and theories learned in class to solve application problems that include optimization and curve sketching. Math 111 will prepare students for higher level calculus/other courses and enhance critical thinking and analytical reasoning abilities.

TEXT:

Calculus Early Transcendentals w/ binder by William Briggs & Lyle Cochran; ISBN: 9781256652533

TESTS:

1. There will be four major tests during the semester. Each test will count 100 points. The test questions will be similar in format to the examples in class. The lowest test grade will be replaced by the final exam percentage.
2. Quizzes will be given throughout the semester. Each will count 10 points, so your ten best will total as a 100-point grade.
3. The final examination is comprehensive and will count 200 points.

VERY IMPORTANT:

1. If a test is missed for ANY reason, a grade of 0 will be given. There will be absolutely NO make up tests given for ANY reason.
2. However, the lowest of the four major test grades will be replaced by the exam percentage. Please note that the quiz grade cannot be replaced.
3. Any student who will miss one of the four tests must reschedule and take this test at a time BEFORE the test is scheduled to be given. NO OTHER rescheduling will be allowed.
4. Students must show all work for each test question and arrive at a correct answer.

FINAL GRADE: The cumulative point total for the course is 700 points – tests: 400, quizzes: 100, final exam: 200. The following point scale will be used to determine your final grade:

Grade	Percentage	Grade	Percentage
A	**93%**	**C+**	**77%**
A-	**90%**	**C**	**70%**
B+	**87%**	**D**	**60%**
B	**83%**	**F**	**below 60%**
B-	**80%**		

ATTENDANCE POLICY Students are allowed (5) absences. Ten (10) points are deducted from the final point total for each absence above the limit. It is the student's responsibility to make sure his/her attendance record is correct.

CALCULATORS: Your brain is a sufficient calculator in Math 111. Electronic calculators and cell phones are prohibited on tests and quizzes. No electronic devices are needed in classroom.

TENTATIVE COURSE SCHEDULE:

Week 1

Session 1: Limits, Intuitive ideas and Definition.

Session 2: Technique for computing limits. Infinite limits. Quiz 1.

Session 3: Limits at infinity and Continuity. Quiz 2.

Session 4: Test 1.

Week 2

Session 5: Introducing the derivative. Working with derivatives.

Session 6: Rules of differentiation. The product and quotient rules. Quiz 3.

Session 7: Derivatives of trigonometric functions. Derivatives as rates of change. Quiz 4.

Session 8: Test 2.

Week 3

Session 9: Chain rule. Implicit differentiation.

Session 10: Derivatives of logarithmic and exponential functions. Derivatives of trigonometric functions. Quiz 5.

Session 11: L'Hôpital's rule. Quiz 6.

Session 12: Test 3.

Week 4

Session 13: Maxima and minima.

Session 14: Graphing functions. Quiz 7.

Session 15: Optimization problems. Mean values Theorem. Quiz 8.

Session 16: Test 4.

Week 5

Session 13: Antiderivatives.

Session 14: Approximating areas under curves. Definite integrals. Quiz 9.

Session 15: Fundamental Theorem of Calculus. Quiz 10.

Session 16: Working with integrals.