



MATH 011: Calculus I

Term: 2020 Winter Session

Instructor: Staff

Language of Instruction: English

Classroom: TBA

Office Hours: TBA

Class Sessions Per Week: 5

Total Weeks: 3

Total Class Sessions: 15

Class Session Length (minutes): 240

Credit Hours: 4

Course Description:

This course covers topics including functions; limits; continuity; derivatives; differentiation of algebraic functions; rules of differentiation, exponential, log, trigonometric, and inverse trigonometric functions; Applications to maxima, minima, and convexity of functions; The definite integral; the fundamental theorem of integral calculus; applications of integration and simple substitution.

Course Materials:

Essential Calculus: Early Transcendentals, James Stewart, 2nd edition

Course Format and Requirements:

The basic rules of classroom etiquette apply in this course. There is no talking out of turn or during lectures unless called upon to answer a question. If you have a question you will be given every opportunity to ask for the answer. You are encouraged to ask questions since extra credit may be given for thoughtful questions.

Laptop and cell phone regulation: Please turn off all cell phones during lecture. No texting during class lectures.

Attendance



Students are expected to attend and participate in class. Strong attendance and participation are good indicators of success. Each student is responsible for all course material, announcements, quizzes and exams made in class, whether or not the student attended that day's class.

Grading Scale:

A+: 98%-100%

A: 93%-97%

A-: 90%-92%

B+: 88%-89%

B: 83%-87%

B-: 80%-82%

C+: 78%-79%

C: 73%-77%

C-: 70%-72%

D+: 68%-69%

D: 63%-67%

D-: 60%-62%

F: Below 60%

Course Assignments:

Quizzes

There will be 5 quizzes administered through the whole semester and the LOWEST score will be dropped. Quizzes will always be completed in the first ten minutes of class. The quiz problems will be similar to homework problems and in-class examples. There will be no make-up quizzes.

Midterm Exams

There will be two midterm exams in this course. The midterm exam will be based on concepts covered in class. It will be in-class, close-book and non-cumulative.

Final Exam

The final will be cumulative and close-book. Note that the final will not be taken during the normal class times. Exact time and location for final will be announced later.

Course Assessment:



Quizzes (4 out of 5)	15%
Midterm Exams 1	25%
Midterm Exams 2	25%
Final Exam	35%
Total	100%

Course Schedule:

Week 1- Class 1	Week 1- Class 2
Review of Algebra and Trigonometry: Diagnostic Tests for Algebra Analytic Geometry Functions	Functions and Limits: Functions and Their Representations A Catalog of Essential Functions The Limit of a Function Calculating Limits <u>Quiz 1</u>
Week 1- Class 3	Week 1- Class 4
Functions and Limits: Continuity Limits Involving Infinity Derivatives: Derivatives and Rates of Change The difference quotient, definition of derivative	Derivatives: Secant lines, average and instantaneous velocity Tangent lines The Derivative as a Function Basic Differentiation Formulas The Product and Quotient Rules <u>Quiz 2</u>
Week 1- Class 5	Week 2- Class 6
Derivatives: Trig functions The Chain Rule <u>MIDTERM EXAM 1</u>	Derivatives: Implicit Differentiation Related Rates Linear Approximations and Differentials Exponential Functions
Week 2- Class 7	Week 2- Class 8



<u>Quiz 3</u> Inverse Functions and Logarithms ; Derivatives of Logarithmic and Exponential Functions ; Exponential Growth and Decay	Inverse Trigonometric Functions ; Hyperbolic Functions ; Indeterminate Forms ; L'Hospital's Rule ;
Week 2- Class 9	Week 2- Class 10
<u>Quiz 4</u> Maximum and Minimum Values The Mean Value Theorem Derivatives and the Shapes of Graphs; Concavity	Derivatives and the Shapes of Graphs; Concavity – continued <u>MIDTERM EXAM 2</u>
Week 3- Class 11	Week 3- Class 12
Curve Sketching Optimization Problems	Newton's Method Antiderivatives
Week 3- Class 13	Week 3- Class 14
<u>Quiz 5</u> Integrals: Areas and Distances The Definite Integral	Evaluating Definite Integrals The Fundamental Theorem of Calculus
Week 3- Class 15	<u>Final Exam (Cumulative): TBA</u>
The Substitution Rule Review for final	

Academic Integrity:

Students are encouraged to study together, and to discuss lecture topics with one another, but all other work should be completed independently.

Students are expected to adhere to the standards of academic honesty and integrity that are described in the Shanghai Normal University's *Academic Conduct Code*. Any work suspected of violating the standards of the *Academic Conduct Code* will be reported to the Dean's Office.

Penalties for violating the *Academic Conduct Code* may include dismissal from the program. All



students have an individual responsibility to know and understand the provisions of the *Academic Conduct Code*.

Special Needs or Assistance:

Please contact the Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material. Our goal is to help you learn, not to penalize you for issues which mask your learning.