<div align="center">

SCUPI – Math0235 Calculus 1&2
Fall Semester, 2021, Section 1

</div>

INSTRUCTOR: Dr. Tsun-Zee Mai; **OFFICE:** 4-224; **EMAIL:** tmai@scu.edu.cn
OFFICE HOURS: Mon, Tue, Thr 10:00am – 11:55am, 2:00pm – 4:30pm & W: 9:00 – 11:00am at Rm 4-224, or by appointment.
LECTURES: 8:15am – 9:55am, Mon, Tue, & Thur at Rm 3-101.
RECITATION: 11:10am – 11:55am. Group A: Wed at Rm 3-309; Group B: Fri at Rm 3-310
TEXTBOOK: Stewart: *Essential Calculus,* Metric Version*,* 2nd International Edition*.*

DESCRIPTION: This is the first part of two-part calculus sequence for students in SCUPI. Topics are mainly focus on single variable calculus which include a review of limits and differential calculus, applications of integration, integration techniques, improper integrals, infinite series, and parametric equations and polar curves.
COURSE OBJECTIVES: Students will develop a good understanding of applications of derivatives. Students will be able to master fundamental theorems of calculus. Students will acquire basic skills needed to apply integration techniques to solve a wide range of integration problems. Students will develop a basic understanding of infinite series and their applications as well as concepts of parametric and polar equations. Evaluation of students will be determined by in-Class presentation, quizzes, and tests.
LEARNING OUTCOMES FOR THIS COURSE:
1) Students will be able to use derivatives for applications.
2) Students will learn various techniques of integration.
3) Students will be able to apply integration techniques to solve a range of applied problems, including volume problems and applications from physics and other disciplines.
4) Students will develop a basic understanding of infinite series and their applications.
5) Students will understand the concepts of parametric and polar equations.

GRADE: The final grade will be based on the **score**. The score is a number determined by
<div align="center">

Quizzes: 20%   Presentation: 10%   Major Exams: 45%   Final: 25%

</div>

The final letter grade is determined from the following table.

A: 90 – 100	A−: 85 – 90	B+: 80 – 84	B: 76 – 80	B−: 73 – 76
C+: 70 – 73	C: 66 – 70	C−: 63 – 66	D: 60 – 63	F: < 60

Note that if you want to apply for 2+2 or 3+1 transferring abroad, you must have a grade of C or above to be eligible.

EXAMS: There are three 90 minutes major tests and a final exam. Tentative Dates are given in the table below. Each major test will be cumulative with more emphasis on the material since the previous test. The lowest test score may be replaced by the final exam score if the final is higher. Here is an example: if a student's grades are: quiz average (82), Oral Presentation (80), tests (70, 80, 85), and final (85). Thus the student grade determination is 82 × 20% + 80 × 10% + (85+80+85)/3 × 45% + 85× 25% = 83.15, which is a B+. The final exam will be comprehensive. There is **NO** Make up for all the quizzes and tests.

<div align="center">

Tentative exam dates are the following:

</div>

TEST 1: 10/21	**TEST 2: 11/18**	**TEST 3: 12/16**	**FINAL: TBA**

ORAL PRESENTATION GRADE: Presentation grade is determined by my evaluation score(50%) and the average of class evaluation score(50%) which is held right after the presentation.
My evaluation criteria are: (1.)   Use of English: 20%   (2.) Preparation: 40%   (3.) Correctness: 20% (4.) Use of time: 20%.
QUIZZES: In-class 10 or 15-minutes quiz will be given on some lecture days and recitation classes.
RECITATION: 11:10am – 11:55am. Group A: Wed at Rm 3-309; Group B: Fri at Rm 3-310. You must attend recitation every week. This recitation is an opportunity for answering your questions. It may have some new material been covered in this time. Moreover, **many quizzes** will be held during recitation.
GRADE REBUTTAL: You must receive your own test or quiz paper. For any test or quiz, you have only one week to request correction if you feel your answer is mis-graded. No correction will be made after a week when the test paper is returned. **IMPORTANT: If you don't get your quiz and test paper back within a week, your score will be deducted by 2 points per day until it becomes 0**.
HOMEWORK: Homework will be assigned for each section but will not be collected nor graded. It is your responsibility to find out if your work is correct. Solutions for homework problems will be provided.

CLASSROOM RULES: Electronic devices including but not limited to iphone, smartphone, ipod, ipad, pc can be used <u>ONLY</u> for course work.

ATTENDANCE: You are expected to attend all the classes; I may check the attendance occasionally. A student who misses a class is responsible for finding out what was covered in the class. Remember there are no make ups all grades related activities.

MAKE-UP POLICY: No makeup work will be allowed. The dropped grade(s) in quizzes is to account for any missed quiz due to illness or any other circumstances.

CODE OF ACADEMIC CONDUCT: All students in attendance at the SiChuan University are expected to be honored and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student. The Academic Misconduct Disciplinary Policy will be followed in the event of academic misconduct.

NON-ACADEMIC MISCONDUCT: All cell phones and other electronic devices are to be turned off and out of sight while you are in the classroom. All newspapers and other materials not related to the class are to be put away once class begins. Operating these devices and reading unrelated materials while in class is disrespectful of your instructor and fellow classmates. If you fail to abide by this rule, the instructor has the right to confiscate the device or materials. If you have an emergency and need to have your phone turned on during class, ask your instructor for permission

MATERIAL COVERED: Tentative Progress:

Week of	Contents	Descriptions
3 (9/13)	1.1 - 1.5	Functions and Their Representations, A Catalog of Essential Functions, The Limit of a Function, Calculating Limits, Continuity
4 (9/20)	1.6, 2.1 - 2.4	Limits Involving Infinity, Derivatives and Rates of Change, The Derivative as a Function, Basic Differentiation Formulas, The Product and Quotient Rules
5 (9/27)	2.4 - 2.8	The Product and Quotient Rules, The Chain Rule, Implicit Differentiation, Related Rates Linear Approximations and Differentials
6 (10/4)		National Holiday
7 (10/11)	3.1 – 3.4	Maximum and Minimum Values, The Mean Value Theorem, Derivatives and the Shapes of Graphs, Curve Sketching
8 (10/18)	3.5 – 3.7	Optimization Problems, Newton's Method, Antiderivatives.
10/21		**Test 1 – Covers: topics from week 3 to week 8 up to section 3.5**
9 (10/25)	4.1 – 4.5	Areas and Distances, The Definite Integral, Evaluating Definite Integrals, The Fundamental Theorem of Calculus, The Substitution Rule
10 (11/1)	5.1 – 5.4	Inverse Functions, The Natural Logarithmic Function, The Natural Exponential Function, General Logarithmic and Exponential Function,
11 (11/8)	5.5 – 5.6, 5.8	Exponential Growth and Decay, Inverse Trigonometric Functions, Indeterminate Forms and l'Hospital's Rule
12 (11/15)	6.1 – 6.2	Integration by Parts, Trigonometric Integrations and Substitutions
11/18		**Test 2 – Covers: topics from week 9 to week 12, except Section 6.2**
13 (11/22)	6.3, 6.5 – 6.6	Partial Fractions, Approximate Integrals, Improper Integrals
14 (11/29)	7.1 – 7.4	Area between curves Volumes, Volumes by Cylindrical Shells, Arc Length
15 (12/6)	7.5 – 7.7	Area of a Surface of Revolution, Applications to Physics and Engineering, Differential Equations
16 (12/13)	8.1 – 8.3	Sequences, Series, The Integral and Comparison Tests, Other Convergence Tests
12/17		**Test 3 – Covers: topics from week 13 to week 16, except 8.3**
17 (12/20)	8.3 – 8.6	Power Series, Representing Functions as Power Series, Taylor and Maclaurin Series, Applications of Taylor Polynomials
18 (12/27)	8.7 – 8.8 & 9.1 – 9.2	Parametric Curves, Calculus with Parametric Curves, Polar Coordinates, Areas and Lengths in Polar Coordinates
19 (01/03)	9.2- 9.4 & Review	Polar Coordinates, Calculus in Polar Coordinates, Review
01/12	**tentative**	**Final exam – Covers All topics learned in this semester**