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: Mon & Tue & Thur: 8:15am – 9:55am at Rm 3-102.
TEXTBOOK: *Briggs, Cochran, Lyle: Calculus, Early Transcendentals 2nd ed.*

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 vectors and the geometry of space.
COURSE OBJECTIVES: Students will develop a good understanding of applications of derivatives, three-dimensional vectors, the geometry of space. 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. Evaluation of students will be determined by in-Class presentation, quizzes, homework and tests.
LEARNING OUTCOMES FOR THIS COURSE:
1) Students will be able to use derivatives for applications.
2) Students will develop a basic understanding of two and three-dimensional vectors, the geometry of the three-dimensional space, equations of lines and planes in three dimensions, and be able to apply these concepts when working applied problems.
3) Students will learn various techniques of integration.
4) 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.
5) Students will develop a basic understanding of infinite series and their applications.

GRADE: The final grade will be based on the **score**. The score is a number determined by
Homework: 5%   Quizzes: 20%   Presentation: 10%   Major Exams: 40%   Final: 25%
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. Each test may earn bonus points if the immediate subsequent test score is higher. The bonus is half of the difference of the two tests. There is no bonus for the final exam. However, the lowest adjusted 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), homework average (85), Oral Presentation (80), tests (70, 80, 85), and final (85), then the adjusted test scores will be 75, 83, 85. Thus the student grade determination is 82 × 20% + 85 × 5% + 80 × 10% + (85+83+85)/3 × 40% + 85× 25% = 83.63, which is a B+. The final exam will be comprehensive. There is **NO** Make up for all the quizzes and exams.

Tentative exam dates are the following:

TEST 1: 10/29	TEST 2: 11/26	TEST 3: 12/17	FINAL: 01/14 (Tentative)

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-minutes quiz will be given on some lecture days and recitation classes.
RECITATION: We will decide a common time for a 45-min recitation every week for answering your questions. **Many quizzes** will be held during recitation.

GRADE REBUTTAL: For any test or quiz, you have only one week to request correction if you feel mis-graded. No correction will be made after a week when the test paper is returned.

HOMEWORK: TBA

CLASSROOM RULES: Electronic devices including but not limited to iphone, smartphone, ipod, ipad, pc are NOT allowed, except for course work.

ATTENDANCE: You are expected to attend all the classes; however, I will not check the attendance. 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 in each test period is to account for any missed assignments 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
5 (9/28)	2.3 – 2.6	Review Limits
7 (10/12)	3.2 – 3.11	Review Derivatives
8 (10/19)	4.1 – 4.7	Applications of derivatives
10/29		**Test 1 – Covers: topics from week 4 to week 8 up to section 4.7**
9 (10/26)	4.9, 5.1 – 5.3	Antiderivatives, Fundamental Theorem of Calculus
10 (11/2)	5.3 – 5.5; 6.2	Basic integration techniques, Area between curves
11 (11/9)	6.3 – 6.5	Volume of solid of revolutions, Curve Lengths
12 (11/16)	6.6, 6.7, 7.2	Surface Areas, Physical Applications, Integration by Parts
11/26		**Test 2 – Covers: topics from week 9 to week 12, except Section 7.2**
13 (11/23)	7.3, 7.4, 7.5	Trigonometric Integrations & substitutions, Partial Fractions
14 (11/30)	7.7, 7.8	Numerical integration, Improper Integrations
15 (12/7)	8.2 – 8.4	Sequences, Series, Divergence and Integral Tests
16 (12/14)	8.5, 8.6, 9.1	Ratio, Root, Comparison Tests, Alternating Series, Power Series
12/17		**Test 3 – Covers: topics from week 13 to week 16, except 9.1**
17 (12/21)	9.1 – 9.3	Power series, radius (interval) of convergence, Taylor series
18 (12/28)	9.4; 10.1	Working with Taylor series, Parametric equations
19 (01/04)	10.2, 10.3, Rev	Polar Coordinates, Calculus in Polar Coordinates, Review
01/14	**tentative**	**Final exam – Covers All topics learned in this semester**