

Math 172 Syllabus

COURSE:	MATH 172H
SECTION:	202
TERM:	Fall 2019
CLASS TIMES AND ROOMS:	MWF 10:20 - 11:10 am, Blocker 164 T 3:55 - 4:45 pm, Blocker 160

INSTRUCTOR INFORMATION

Name	N. Sivakumar
Office	Blocker 533C
E-mail address	sivan@tamu.edu
Office hours	MW 11:30 am to 1:00 pm, and by appointment

COURSE DESCRIPTION AND PREREQUISITES

Description:

- Integral Calculus of functions of one variable and applications, Sequences and Series
- Calculus involving parametric curves, Polar co-ordinates in two dimensions
- Designed to be more rigorous than MATH 152

Prerequisites: MATH 147/151/171 with a grade of C or better

LEARNING OBJECTIVES AND OUTCOMES

- This is a second course in univariate calculus, beginning with integral calculus and applications, followed by a discussion of sequences and series. In addition, students will also be exposed to some calculus involving parametric curves and polar co-ordinates in two dimensions.
- Students will be expected to acquire a firm grasp of the diverse computational aspects of the course: for example, computing indefinite and definite integrals, improper integrals, solving problems involving areas between curves, volumes, and work, calculating lengths of curves and surface areas, solving problems involving parametric curves and polar co-ordinates, using various tests to determine convergence/divergence of series, ascertaining the radius and interval of convergence of a power series, expanding functions in Taylor series.
- As this is a course targeted towards mathematics and other science majors, particular emphasis will be laid upon conceptual understanding and mathematical formality. Thus, in addition to being able to tackle the aforementioned computational problems, students will also be expected to present simple proofs, technical definitions, and statements of theorems, in a sound fashion. For example, when responding to questions involving sequences and series, students will be expected to provide coherent and well-constructed arguments.

TEXTBOOK

- *Calculus: Early Transcendentals, TAMU Custom Edition*, by James Stewart

EXAMINATIONS AND GRADING SCHEME

- There will be three examinations in all. Your best score will account for 30% of the final grade, the second-best score for 25%, and the lowest score for 20%. Homework assignments will contribute the remaining 25%.

- **Grading Scale**

Letter-grade assignment will be at least as generous as the following standard scale:

Range	Grade
≥ 90	A
$\geq 80, < 90$	B
$\geq 70, < 80$	C
$\geq 60, < 70$	D
< 60	F

- **Examination Schedule**

Examination	Date and Time	Venue
Exam I	Thursday, Oct 3, 7:00 pm	303 Fermier Hall
Exam II	Thursday, Nov 7, 7:00 pm	303 Fermier Hall
Exam III	TBA	TBA

ATTENDANCE POLICY

- Regular attendance in class is expected. To learn the university rules governing excused absences, refer to Student Rule 7 here: <http://student-rules.tamu.edu/rule07>.

POLICY CONCERNING MAKE-UP EXAMINATIONS

- University regulations state the following: To be excused the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. In cases where advance notification is not feasible (e.g. accident, or emergency) the student must provide notification by the end of the second working day after the absence. The notification should include an explanation of why notice could not be sent prior to the absence.
- In addition, the reason for absence must be substantiated by providing proper documentation.

SOME NOTEWORTHY DATES

- Friday, Nov 15: Last day to Q-drop
- November 27, 28, 29: Thanksgiving holidays
- Monday, December 2, and Tuesday, December 3: Redefined days - classes on Monday will follow Friday's timetable whereas classes on Tuesday will follow Thursday's timetable
- Wednesday, December 4: last day of classes

COURSE OUTLINE (APPROXIMATE WEEKLY SCHEDULE; CHANGES NECESSITATED BY CIRCUMSTANCES ARE INEVITABLE.)

WEEK	TOPIC
1	Review of Riemann integration, Fundamental Theorem of Calculus
2	Method of Substitution, Areas between curves, Volumes
3	Volumes continued, Work
4	Average value of a function, Integration by parts, Trigonometric integrals
5	Trigonometric substitutions, Integration via partial fractions
6	Catch up, Improper integrals
7	Arc length, Areas of rotational surfaces
8	Review of parametric curves, Some calculus involving parametric curves, Polar co-ordinates
9	Sequences, Introduction to infinite series
10	Integral test and associated estimates, Comparison and Limit-Comparison Tests
11	Alternating series, Absolute convergence, Ratio Test
12	Power series, Representation of functions as power series
13	Catch up, Taylor and Maclaurin series
14	Applications of Taylor polynomials
15	Catch up

AMERICANS WITH DISABILITIES ACT

- The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. Additional information is available here: <http://disability.tamu.edu/>

ACADEMIC INTEGRITY

- The Aggie Honor Code states the following: “An Aggie does not lie, cheat, or steal, or tolerate those who do”. The Honor Council rules and procedures may be found here: <http://aggiehonor.tamu.edu>