

Information Sheet of AMTL 100 (Calculus)

Instructor:

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Syllabus:

Limits, continuity and differentiability of functions, Mean value theorem and applications, Taylor's theorem, Maxima and Minima, Sequences and series of real numbers, Power series and Taylor's series.

Riemann integral, Applications of definite integrals, Improper integrals, Gamma and Beta functions.

Functions of several variables: limits and continuity, partial derivatives, gradient and directional derivatives, Maxima and minima, Lagrange multiplier method.

Double and triple integrals and their applications, Jacobian and change of variables method.

Textbook:

- Joel R. Hass, Christopher E. Heil, Maurice D. Weir, Przemyslaw Bogacki, "Thomas' Calculus", 15th Edition, Pearson Education, 2024.

Attendance Policy: Attendance is compulsory in lecture as well as tutorial classes. At least 75% attendance is mandatory in the lectures as well as tutorial classes.

Evaluation: There are three components.

1. Minor Exam 30%
2. Major Exam: 40%
3. Quizzes: 30% (best two out of three, 15 marks each).

Suggestions: Some study materials will be provided from time to time. It is expected that students read in advance before coming for the lectures to have better understanding. Please try to attempt all the problems in the tutorial sheet before coming to the tutorial classes. Necessary help will be provided in the tutorial classes. If any student is having any problems related to this course (e.g., not able to understand, requires extra attention), they may approach the instructor by writing an email. Some help sessions will be scheduled for those who need them. Never delay in approaching your teachers once you feel you need help. We request you to work hard from the first day itself. Since there is no extra time available to prepare for tests, it is expected that one studies regularly, solves the tutorial problems, clear the doubts in time and does not leave any work pending. Don't risk to copy/help others or adopt any other unfair means in quizzes or exams. Such cases will be dealt according to the institute policy.