

# Teaching Plan

[T-F] refers to the text book by G.B. Thomas and R.L. Finney: “Calculus and Analytic Geometry”, 9th Edition, Addison-Wesley, 1998 and [K] refers to the text book by Kreyszig: “Advanced Engineering Mathematics”, 8th Edition, John Wiley and Sons, 1999.

Sr. No.	Topic	[T-F]	[K]	No. of lectures
1.	Scalar and vector fields, Gradient, divergence and curl	14.2, 14.4	8.4, 8.9-8.11	1
2.	Double and triple integrals, Change of variables	13.1, 13.4, 13.6, 13.7	9.3, 9.7	2
3.	Space curves, Tangent and normal, Rectifiability	9.5, 9.6	8.5	1
4.	Line integrals	11.3, 14.1	9.1	2
5.	Potential functions and conservative vector fields	14.2, 14.3	9.2	1
6.	Green’s theorem and its applications	14.4	9.4	2
7.	Surfaces, tangent planes and normals	14.5, 14.6	9.5	1
8.	Surface areas and surface integrals	14.5, 14.6	9.5, 9.6	2
9.	Divergence theorem and its applications	14.8	9.7, 9.8	2
10.	Stokes’ theorem and its applications	14.7	9.9	2
11.	Matrices, Systems of linear equations, Gauss elimination	–	6.1-6.3	3

## Lectures and Tutorials:

Every week we have three lectures, each of one hour duration, and one tutorial of 2 hours duration. It may not be possible for you to take down notes of each lecture fully. So it is important that you remain attentive in the class and do not miss a lecture. However, most of the material is available in the text. Do read the text regularly. For any material not available in the book, handouts will be distributed.

Each tutorial will consist of two parts: Part I and Part II. For Part I of a tutorial which will last for 55 minutes, each division will be commonly engaged by one of the Instructors. For Part II of a tutorial, each division will be divided into 4 batches ( $T_1, T_2, T_3$

and  $T_4$ ). Each batch will be assigned to a “Course Associate”. The aim of the tutorials is to clear your doubts and to give you practice for problem solving. Based on the material covered each week, tutorial problems from the booklet for the following week will be announced in the class. You are expected to try the problems before coming to the tutorial class. In case you have doubts, please seek the help of your Course Associate.

Attendance in lectures and tutorials is compulsory. Students, who do not meet 80% attendance requirement may be awarded XX grade.

For attendance in the lectures, attendance sheets will be circulated. Each student is expected to sign against his/her name only. In case, some student is found **marking proxy for some other student, he/she will be expelled from the course.** Random attendance will also be taken.

## Evaluation

1. There will be two quizzes common for all the four divisions. Each quiz will be of 20 minutes duration and will carry 10% weightage. Quiz I will be held on January 21, 2004 and Quiz 2 will be held on March 24, 2004. These quizzes will be held in the Convocation Hall at 5.15 pm. Portions for Quiz I and Quiz II will be announced in the class.
2. The Mid-Semester examination, scheduled to be held during 23-27 February, will be of 30% weightage. The portion for Mid-Sem examination will be from topics 1 to 13 (as in Exercises). The End-Semester Examination, scheduled to be held during 24-30 April, will be of 40% weightage, and will cover all the topics.
3. The remaining 10% weightage will be given to two surprise quizzes to be held in the tutorial classes by the respective course associates.