



Course No.	Course Title	No. of Units			Pre-requisites
		Th.	Pr.	Credit	
MATH 463	Differential Geometry	3	-	3	MATH 203 MATH 204

Course Objectives:

At the end of the course, students should have a strong working knowledge of the following topics:

- To provide the simple concept of the manifold and classifications, such as Differentiable Manifold and Sub-manifold and highlighting the importance of differential geometry in all the various sciences.
- Training the student to resolve the issues at Vector fields and tensor algebra and differential forms on manifolds.

Course Description:

Manifolds, Differentiable manifolds, Differentiable mapping, Sub manifolds, Tangent vector space, tangent vector, Tangent space, Differential at a point, Tangent bundle, Vector fields on manifolds, Lie algebra structure, Cotangent bundle, Co vector fields, Tensor Algebra, Exterior differential forms, Exterior form at a point, Differential forms on a manifold, Exterior differentiation, Orient able manifolds.

Main Text Book:

- Differential Geometry with Applications to Mechanics and Physics, by Y. Talpaert, First Edition, CRC Press, 2000.

Subsidiary Books:

- Differential Geometry, by Erwin Kreyszig, 1st edition, Dover Publications, 1991.