

Course Title: DIFFERENTIAL GEOMETRY I

Course #: MATH 71000

Time and Location: T & TH, 11:45AM - 1:15PM

Instructor Name: JOZEF DODZIUK

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Pre-Requisites: Material covered in MATH 70900

Office Hours: T & TH, 10:30AM - 11:30AM

Description:

The course will cover the following topics.

1. Differential forms, integration and Stokes' Theorem
2. De Rham Theorem
3. Basic Riemannian geometry, geodesics, Gauss-Lemma, completeness and Hopf-Rinow theorem
4. Curvature and Jacobi vector fields, comparison theorems, Hadamard and Bonnet-Myers theorem
5. Gauss-Bonnet formula for surfaces