

# Math 120A: General Course Outline

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## Catalog Description

**120A. Differential Geometry. (4)** Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B, 115A, 131A. Course 120A is requisite to 120B. Curves in 3-space, Frenet formulas, surfaces in 3-space, normal curvature, Gaussian curvature, congruence of curves and surfaces, intrinsic geometry of surfaces, isometries, geodesics, Gauss/Bonnet theorem. P/NP or letter grading.

## Textbook

Kuhnel, *Differential Geometry, 2nd Edition*, AMS

## Schedule of Lectures

Week	Chapter	Topic
1	1	Curves
2	2	Curvature of Curves
3	3	Global Theory of Curves
4 + 5	4	Surfaces
6	5	Examples of Surfaces
7	6	First Fundamental Form
8	7 (omit 7.4)	Curvature of Surfaces
9 + 10	8	Second Fundamental Form

## Comments

Outline update: P. Petersen, 3/11  
(Requisites updated 5/98)

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