

## MATH3380 - Differential Geometry

[MATH 3380](#) Differential Geometry (3 semester hours) Curves and surfaces, multilinear algebra, alternating tensors, tangent vectors, tangent space, vector fields, differential forms; Curvature and torsion of curves, Riemannian metrics, curvature of surfaces, isometries, geodesics, Gauss map, First and Second Fundamental Forms, area on surfaces, Gauss-Bonnet Theorem, surfaces with constant negative curvature and elements of hyperbolic geometry. Prerequisites: [MATH 2451](#) and [MATH 2418](#) and [MATH 2420](#) or equivalent courses. (3-0) Y