

(—; 3-0-0)

**Elementary Geometry: An Advanced
Perspective**

MATH-387*

This course is suitable for all students in a MATH Honours programme. It is one of the courses in the department's Teaching Focus. It is offered every other year, and was last offered in Winter 2004.

Textbook: *Geometry for College Students*
by I. Martin Isaacs

Prerequisite: MATH 211 *or* 212* *or* 221* *or* 280* *or* 281*.

Instructor: M. Orzech

Evaluation:	Homework	30%
	Midterm Test	20%
	Report (and possibly Presentation)	20%
	Final Examination	30%

Outline:

This course is an in-depth follow-up to high school geometry. We will study striking results (extending those encountered in high school) about plane figures (e.g. triangles, polygons, circles and other conic sections), and connections between them. We will analyse new and familiar geometric theorems from various perspectives, and where appropriate, will prove these results with classical and modern techniques. We will examine extensions from plane to projective geometry, as well as the relation of classically unsolvable constructions to modern algebra. We will use physical models, and technology such as Geometer's Sketchpad, for geometric exploration.