

## COURSE DETAIL

### GEOMETRY

**Country**

United Kingdom - Scotland

**Host Institution**

University of Edinburgh

**Program(s)**

University of Edinburgh

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mathematics

**UCEAP Course Number**

110

**UCEAP Course Suffix****UCEAP Official Title**

GEOMETRY

**UCEAP Transcript Title**

GEOMETRY

**UCEAP Quarter Units**

4.00

**UCEAP Semester Units**

2.70

## Course Description

The course begins with curves in euclidean space, which have no intrinsic geometry and are fully determined by the way they bend and twist (curvature and torsion). The rest of the course then develops the classic theory of surfaces. This is done in the modern language of differential forms. Surfaces possess a notion of intrinsic geometry and many of the more advanced aspects of differential geometry can be demonstrated in this simpler context. One of the main aims is to quantify the notions of curvature and shape of surfaces. The culmination of the course is a sketch proof of the Gauss-Bonnet theorem, a profound result which relates the curvature of surfaces to their topology.

## Language(s) of Instruction

English

## Host Institution Course Number

MATH10074

## Host Institution Course Title

GEOMETRY

## Host Institution Course Details

<http://www.drps.ed.ac.uk/15-16/dpt/cxmath10074.htm>

## Host Institution Campus

Edinburgh

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Mathematics

## Course Last Reviewed

2023-2024

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