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 Campus Edinburgh

Host Institution Faculty

Host Institution Degree

Host Institution Department Mathematics

<u>Print</u>