

COURSE DETAIL

DIFFERENTIAL GEOMETRY 1

Country

Korea, South

Host Institution

Yonsei University

Program(s)

Yonsei University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

130

UCEAP Course Suffix

A

UCEAP Official Title

DIFFERENTIAL GEOMETRY 1

UCEAP Transcript Title

DIFFERENTL GEOMETRY

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course studies geometric properties of curves and surfaces in the 3-dimensional Euclidean space, applying tools of multivariable and vector calculus. Topics include Euclidean Space, Tangent Vectors, Directional Derivatives, Curves in \mathbb{R}^3 , Differential forms, Mappings, Dot Products, Curves, The Frenet Formulas, Arbitrary-Speed Curves, Isometries of \mathbb{R}^3 , The Tangent Map of an Isometry, Euclidean Geometry, Congruence of Curves, Surfaces in \mathbb{R}^3 , Patch Computations, Differential Functions and Tangent vectors, Differential Forms on a Surface, Mappings of Surfaces, Integrations of forms, and Topological Properties of Surfaces.

Language(s) of Instruction

English

Host Institution Course Number

MAT3103

Host Institution Course Title

DIFFERENTIAL GEOMETRY 1

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

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