

COURSE DETAIL

MECHANICS OF SOLIDS 3

Country

United Kingdom - Scotland

Host Institution

University of Glasgow

Program(s)

Scottish Universities, University of Glasgow

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

105

UCEAP Course Suffix**UCEAP Official Title**

MECHANICS OF SOLIDS 3

UCEAP Transcript Title

MECHANICS OF SOLIDS

UCEAP Quarter Units

4.00

UCEAP Semester Units

2.70

Course Description

This course develops the principles of stress and strain in three dimensions and illustrates the 2D plane stress and plane strain states as special cases of the 3D scenario. Stress and strain transformations in 3D and 2D are studied and special stresses and strains such as principal stresses and strains in 3D, etc. are discussed. Equilibrium, compatibility, and constitutive relationships are developed. Experimental stress analysis is treated in conjunction with laboratory exercises and the course concludes with a treatment of yield criteria and plasticity including assessment of the likelihood of failure in practical stress analysis scenarios such as in members undergoing combined bending and torsion and in pressure vessels.

Language(s) of Instruction

English

Host Institution Course Number

ENG3037

Host Institution Course Title

MECHANICS OF SOLIDS 3

Host Institution Campus

University of Glasgow

Host Institution Faculty

Host Institution Degree

Host Institution Department

School of Engineering

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