

COURSE DETAIL

MACHINE DYNAMIC AND VIBRATIONS 1

Country

United Kingdom - England

Host Institution

Imperial College London

Program(s)

Imperial College London

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

113

UCEAP Course Suffix**UCEAP Official Title**

MACHINE DYNAMIC AND VIBRATIONS 1

UCEAP Transcript Title

MACHINE DYN& VIBR 1

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course teaches students how to evaluate the dynamic response requirements of a proposed machine design and to produce workable proposals for its safe and effective operation. It builds on the second year Mechatronics and Solid Mechanics courses, introducing a greater range of examples where the dynamic response of a machine must be controlled and making the link between vibration and fatigue failure. This involves some new subject matter in the vibration of continuous systems, rotor dynamics, signal processing and control analysis. A key aspect of the course is to demonstrate practical vibration measurements and to compare them to solutions of an idealized system in MATLAB.

Language(s) of Instruction

English

Host Institution Course Number

MECH60001

Host Institution Course Title

MACHINE DYNAMIC AND VIBRATIONS 1

Host Institution Course Details

<https://www.imperial.ac.uk/mechanical-engineering/study/undergraduate/detailed-...>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mechanical Engineering

Course Last Reviewed

2025-2026

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