

COURSE DETAIL

NUMERICAL METHODS IN ENGINEERING

Country

Singapore

Host Institution

National University of Singapore

Program(s)

National University of Singapore

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

130

UCEAP Course Suffix**UCEAP Official Title**

NUMERICAL METHODS IN ENGINEERING

UCEAP Transcript Title

NUMERICAL METHODS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course introduces students to fundamental concepts of numerical analysis as a powerful tool for solving a wide variety of engineering problems. Topics include numerical solution of linear systems of algebraic equations, numerical solution of nonlinear algebraic equations and systems of equations, elementary unconstrained optimization techniques, regression and interpolation techniques, numerical differentiation and integration, as well as the numerical solution of Ordinary Differential Equations (ODE). Applications are drawn from a broad spectrum of diverse disciplines in Mechanical Engineering. The course also introduces the use of scientific computing software packages for the numerical solution of practical engineering problems. The course requires students to take prerequisites.

Language(s) of Instruction

English

Host Institution Course Number

ME3291

Host Institution Course Title

NUMERICAL METHODS IN ENGINEERING

Host Institution Course Details

<https://nusmods.com/courses/ME3291/numerical-methods-in-engineering>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mechanical Engineering

Course Last Reviewed

2024-2025

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