COURSE DETAIL

COMPUTER-AIDED DESIGN AND MANUFACTURING

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
140

UCEAP Course Suffix

UCEAP Official Title
COMPUTER-AIDED DESIGN AND MANUFACTURING

UCEAP Transcript Title
COMP-AIDED DESN&MFG

UCEAP Quarter Units
6.00

UCEAP Semester Units
4.00

Course Description

This course covers the principles of the computer-aided design and manufacturing (CAD and CAM) used in the modern design and manufacturing industry. By introducing the mathematical background of CAD and CAM, this course provides the basics for understanding their techniques and industrial applications. Topics include CAD: geometric modelling methods for curves, surfaces, and solids; CAM: part fabrication by CNC machining based on given geometric model; Basics of CNC machining; Tool path generation in CAD/CAM (Option to introduce a CAM software to generate a CNC program for the machining of a part); and Verification of fabricated part by CNC measurement based on given geometric model. The course requires a prerequisite.

Language(s) of Instruction
English

Host Institution Course Number
ME3261

Host Institution Course Title
COMPUTER-AIDED DESIGN AND MANUFACTURING

Host Institution Course Details
https://nusmods.com/courses/ME3261/computer-aided-design-and-manufacturing

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mechanical Engineering

Course Last Reviewed
2025-2026

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