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 Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mechanical Engineering

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