



Module Title CAD/CAM	Module Code MSDE 325	Semester (Sem 1 / Sem 2) Sem 1
Credits 10	Level 5	Professor and email Nak-Kyun Cho nkcho@seoultech.ac.kr
Delivery Method Tutorials and Lecture	Delivery Location SeoulTech, Mugung hall	

Module Synopsis

This module introduces a system and tools that demonstrate the integration of Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM). This course emphasizes the computer automation of design and manufacturing systems. This is a study of modern prototyping and machining methods, teaching the use of specific software for converting 2D and 3D CAD drawing geometry directly into tool path information used to drive numerically controlled turning and milling machines. Assessment of the module is made through group projects, with components deliverable at the mid-term and final stages of the semester. Three short group assignments will also be given.

Outline Syllabus

1. 3-D CAD Pro/Engineer Practice
2. Design and Production Engineering Theory
3. Basic Theory of NC Programming
4. Process Engineering, Tooling, Process Planning
5. CAM (Power Mill) Learning
6. Integrated Computer Aided Manufacturing Practice

This course provides practice of 3-D Computer Aided Design Method and Computer Aided Manufacturing, Design and Manufacturing integration, CNC, NC Programming and Rapid Proto-typing, and Integration process of CAD and CAM.

Indicative Reading:

- 1) Computer Aided Manufacturing, Tien-chien Chang, Richard A. Wysk, Hsu-Pin Wang,
- 2) Computer Aided Manufacturing, 3rd Edi., Prentice Hall,
- 3) Computer Integrated Manufacturing, James A Rheg and Henry W. Kraebber, 3rd. Prentice Hall, 2005

Any Other Resources

Proengineer WildFire, Dong Young Jang, Wan Jin Jung, 2003, Chungmoon Gak



Power Mill Manual, 2010

NOTIONAL STUDENT WORKLOAD	Hours
MODE OF DELIVERY (FT / PT / DL)	FT
Lectures	20
Seminars	10
Tutorials	
Laboratories/studios/practical	40
Directed learning	
Independent Learning	30
Work experience/fieldwork	
Other: eg formal presentation	
Total Workload 100 hours for a 10 credit module 200 hours for a 20 credit module	100

Module Outcomes	
KU1,2,3	KU1. Apply advanced knowledge of the scientific and mathematical foundations of engineering to solve problems. KU2. Perform comprehensive analysis of engineering systems. KU3. Identify and utilise basic methodologies to create solutions to specific engineering problems.
IPSA4,5	IPSA4. Illustrate a range of solutions to advanced engineering problems. IPSA5. Demonstrate the ability to solve open ended design problems and communicate the designs to a third party
PVA2	PVA2. Apply creativity in the development of solutions to standard engineering problems.

Assessments	Assessment Type	Weighting %	Midterm/interim/final
Course Work	3 assignments	30	
Course Work	Midterm formal presentation	30	Midterm



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MSDE Module Descriptor

Course Work	Final presentation and report	40	Final
Course Work			
Laboratory			
Exam			