



Module Title	Module Code	Semester (Sem 1 / Sem 2)
Capstone Design III	MSDE 425	Sem 2
Credits	Level	Professor and email
10	6	Dong Young Jang dyjang@seoultech.ac.kr
Delivery Method	Delivery Location	
Seminar, tutorial, workshops / Project	SeoulTech, Mugung Hall	
Module Synopsis		
<p>This module aims to introduce students to principles of commercializing the successful engineering design from the capstone design II and to guide students with a practical manufacturing methodology and applying patent. Individually, students also conducts research of a search or discovery of new information or an adventure into solving real world problems. Having research experience is critical when applying for graduate and professional schools and is impressive to prospective employers as well.</p> <p>This module is the culmination of a three part design process Capstone Design I specifies the group project and allocates individual component projects Capstone Design II is performed by individuals on a particular part of the overall project Capstone Design III consolidates all the individual projects from Capstone Design II and combines them into a complete and complex Device</p> <p>Each student to take part in capstone design III has to define his job description within capstone deign II or the individual research topic permitted by the MSDE faculty. He has to submit his own report describing his/her portion and contribution to the overall group designed device.</p>		
Outline Syllabus		
<p>Types of works:</p> <ol style="list-style-type: none"> Project to commercialize the capstone design outputs -to make real product, -to apply patent for Intellectual Right. Special Problems are an individual study in certain specialized areas, including mathematical analyses or experimental investigation of problems of current interest. This can include design projects Research Opportunities are an independent research conducted under the guidance of a faculty member or research internships in which students may be paid for working on a project. <p>Review of Writing Good Report / Excellent Presentation. An integral part of the project is the report which should:</p> <ol style="list-style-type: none"> Describe the purpose of the investigation. Summarize the literature search and present an analysis of the findings. Describe the work done and clearly explain the logic behind the decisions and choices made. Present the results obtained. Critically review both the approach adopted and the results achieved. State any definite conclusions reached. A poster display shall be produced to assist the examiners in arriving at an appropriate classification of the achievement. 		



Indicative Reading:

N/A

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

Module Outcomes

KU1,2,3,4	Evaluate and apply unfamiliar knowledge of the scientific and mathematical principles of mechanical engineering to solve Real-World problems.
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MSDE Module Descriptor

	<p>Critically analyse unfamiliar interdisciplinary mechanical engineering systems. Establish and synthesise methodologies to create advanced solutions to a variety of Real-World mechanical engineering problems.</p> <p>Define and investigate complex interdisciplinary problems and constraints that occur in mechanical engineering design with the aid of specialist tools and the latest research.</p>
IPSA 1,4	<p>Apply advanced approaches to solving complex and unfamiliar real world mechanical engineering problems.</p> <p>Illustrate innovative solutions to complex and unfamiliar mechanical engineering problems</p>
PVA 1,2,3	<p>Describe, with justification, solutions to benefit society by applying structured engineering practise with a deep awareness of ethical considerations.</p> <p>Critically analyse advanced solutions to complex and unfamiliar mechanical engine problems.</p> <p>Critically reflect on interpersonal learning skills and formulate solutions to their use in a wide range of situation.</p>
	<p>Reflect upon interpersonal and learning skills and explain their use in differing situations</p>

Assessments	Assessment Type	Weighting %	Mid-Term/interim/final
Course Work	Weekly Reports	10	
Course Work	Final Report/ Presentation	50	Final
Quiz			
Test			
Laboratory			
Exam			
Presentation	Mid-Term Progress Presentation	40	