

Integrated Design Project

5/2/2020

SMJP 3303

Ir. Dr. Puziah binti Muhamad

Agenda

1. Assessment
2. Project schedule
3. Cost
4. Project Monitoring –Supervisor
5. Industry panel
6. Project proposal

Capstone



**Integrated
Design Project**



Capstone 1

**Design process,
engineering analysis, final
design**



Monozukuri

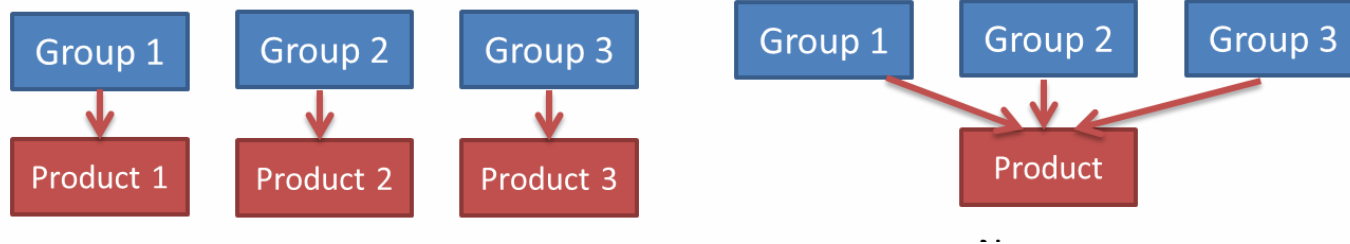


Capstone 2

**Fabrication process,
testing, optimization**

Project detail

- Different from previous project, instead of one group develop one machine/device, now all group develop one device



- The product can cater the Malaysian needs
- The product can be a platform to promote MJIIT
- Have commercial value
- Patented
- Innovation competition

Course Outcome and Assessment

No.	CLO	PLO EAC	Weight (%)	Taxo. & generic skills*	T&L methods	W P	W K	EA	Assessment methods
		UTM							
CO1	Able to apply knowledge of mathematics, sciences, engineering fundamentals and engineering specialization to the solution of complex engineering problems.	1	15	CTPS1	Group Project	2	v		Pr,R
		KW							
CO2	Able to conduct investigation into complex problems using research based knowledge, research methods, and synthesis of information to provide valid conclusions.	2	20	CTPS3	Group Project	3	v		Pr,R
		THPA							
No.	CLO	PLO EAC	Weight (%)	Taxo. & generic skills*	T&L methods	W P	W K	EA	Assessment methods
		UTM							
CO3	Able to design the solution of the complex engineering problem with appropriate engineering analysis, materials selection, considering trade-offs in performance, cost and manufacturability	3 THDS	25	C6 CTPS5	Group Project	7	v		Pr,R
CO4	Able to work effectively in a team as a member or leader in order to accomplish the project	10 TW	10	TS1-TS4	Group Project				PR
CO5	Properly document experiments with clear problem statement, procedures, project management and costing	9, 12	30	CS6 GC6	Group Project			3	Pr, R
		CS, ES							

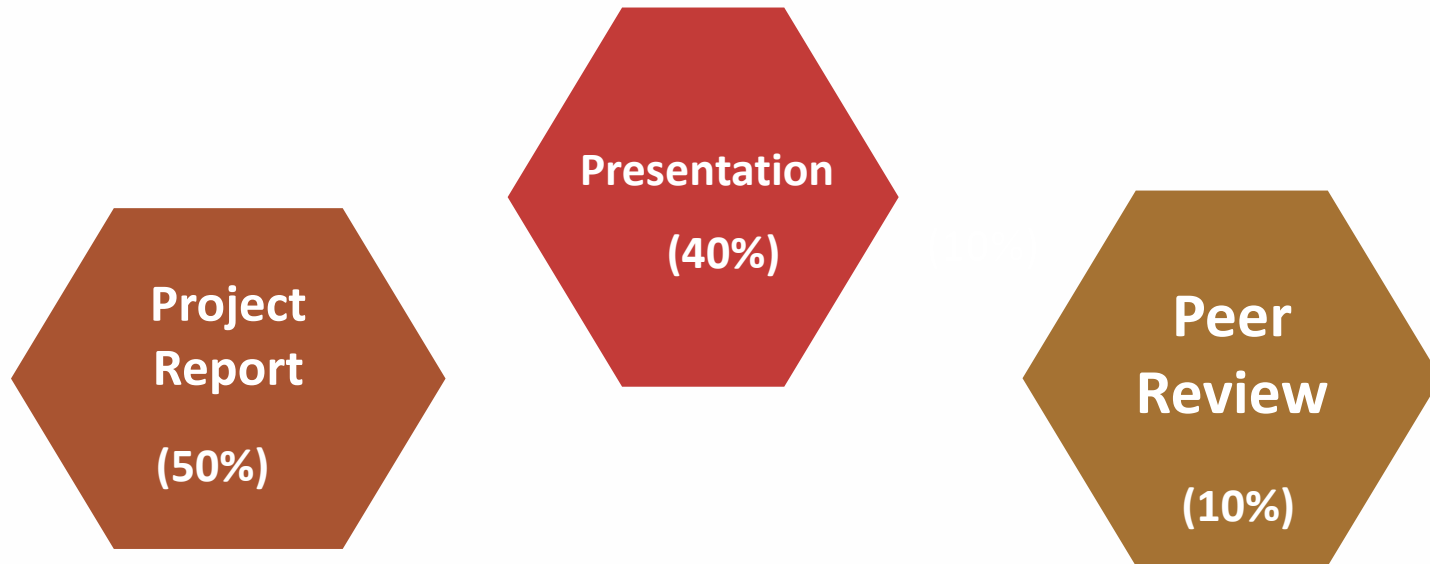
Refer *Taxonomies of Learning and **UTM's Graduate Attributes, where applicable for measurement of outcomes achievement

***T – Test; Q – Quiz; ASG – Assignment; PR – Project; Pr – Presentation; F – Final Exam; R-Report; PR-Peer Review etc.

Marks Distribution

Continuous Assessment		CLO	PLO EAC/UTM						Taxo	Total SLT
Components	Percentage		1/KW	2/THPA	3/THDS	9/CS	10/TW	12/E S	Gen.	
Peer Review	10	4					10		TS1-4	1
Presentation	5	1	5						CTPS1	1
	5	2		5					CTPS3	1
	10	3			10				CTPS5	1
	20	5				15		5	CS6 GC6	1
Final Assessment										
Final Report	10	1	10						CTPS1	1
	15	2		15					CTPS3	1
	15	3			15				CTPS5	1
	10	5				5		5	CS1, GC6	1
Total Marks	100 %		15	20	25	20	10	10		
Total SLT Continuous Assessment										9
Grand Total SLT										120

Assessment Method



Students should be able to think objectively, analytically and critically when looking at a complex engineering problem and solve it systematically using existing knowledge and by researching new ones (PO 1-3, 9,10,12,).

Compulsory to provide

- Design Process:
 - Conceptual design
 - Design selection and evaluation
 - Final conceptual design
- Engineering analysis (must have at least one from the list)
 - Analysis related to selection of component and material
 - Analysis related strength of the part
 - Simulation flow, heat, kinematic and dynamic motion
- Engineering Drawing
 - Exploded view
 - Bill of material
 - Drawing for every parts
 - Detail specification of component (example : DC motor)
- Budget cost planning

Weekly schedule

WEEKLY SCHEDULE

Week	Topic
1	Project briefing, rules, regulations and team setup
2 - 4	Design process- identifying need, constraint, product design specification
5 - 6	Conceptual design evaluation
7	Presentation 1
8-11	Engineering analysis
12-13	Final design- engineering drawing, bill of material, cost
14	Presentation and report submission

- Supervisor will monitored closely group progress every week
- Every groups need to present their progress every week and updating their log book

Cost

- Each groups will be allocated RM500 for the project
- The students need to upfront their money for the project expenses and make claim at the of the project
- Please keep all the receipts properly and clearly
- The expense exceeding the budget will not be paid

Industrial Panels

- Please propose at least 3 the industrial panels
- We will issue the invitation letter in mid semester

Supervisor

Section	Supervisor	Remarks
1	Dr. Ahmad Muhsin bin Ithnin	Program Coordinator
1	Assoc. Prof. Ir. Ts. Dr. Saiful Amri bin Mazlan	Lecture on design process
1	Ir. Dr. Khairil Anwar bin Abu Kassim	Lecture on project management
2	Ir. Dr. Pauziah binti Muhamad	
2	Assoc. Prof. Ir. Aminudin bin Abu	

Previous Project 2018

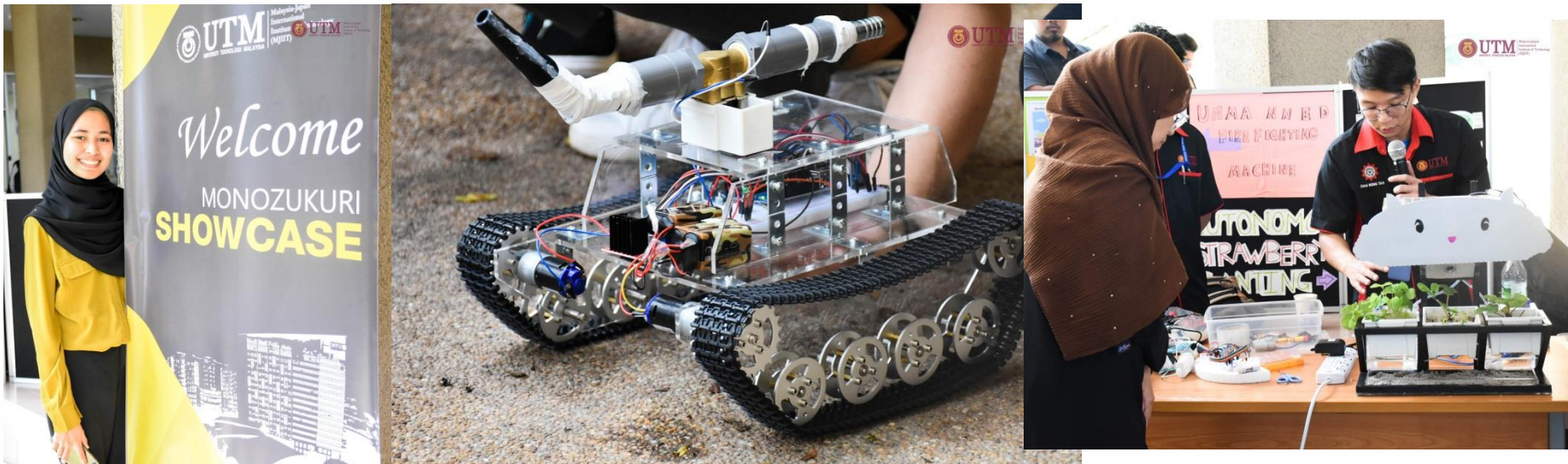


Previous Project 2018



INoMA.mp4

Previous Project 2019




WhatsApp Video 2019-12-18 at 3.56.39 AM.mp4

Project Proposal

- Theme : Automation in Agriculture Industry
- At least 60% of work covers the mechanical/mechanism component
- Project for section 1: ***Fully Automatic Urban Poultry Farming***
- Section 2 :
 - a) Smart urban farming
 - b) Smart ironing system
 - c) Robot for Cleaning Solar panel

[December 17, 2019](#) · Presentaion of MONOZUKURI

All are welcome to the product showcase of MECHANICAL students of MJIT 
link for the event photos <https://photos.app.goo.gl/cbsDxNdyq6rneWnh7>

<https://www.facebook.com/pauziah.muhamad/posts/2440057752783310>

<https://www.facebook.com/photo.php?fbid=2447697132019372&set=pcb.2440057752783310&type=3&theater>

<https://www.facebook.com/photo.php?fbid=2043141529141603&set=pcb.2043143065808116&type=3&theater>

On 10th May 2019, my 3rd year students (33 of them) presented their conceptual design project under the course of integrated design project aka Capstone which have started early Feb 2019. The final presentation was held at seminar room 2, level 9 mjiit utmkl. External evaluator from industry and academia were invited to evaluate their projects. This time their designs were aimed to look at the engineering analysis and simulation using the modern tools.

Next semester InsyaAllah they will be doing the fabrication, testing and optimization. Here too, I would like to thank the panels, Mr [Mohd Zulhaizan](#), Dr Muhsin, and Dr azurati. Overall, the students are very good, confident committed and very good understanding of their projects. They were excellent in the presentation with outstanding 3 mins video and ppt slides presentations. Each group was given 10 mins of presentation time and 5 mins for Q&A Session. 6 groups of them in total.. We start by 230pm and finished at 5pm. Well done dear students

