

## Subject Description Form

<b>Subject Code</b>	ME573																		
<b>Subject Title</b>	Project on Product Design and Management																		
<b>Credit Value</b>	3																		
<b>Level</b>	5																		
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Students should have basic knowledge in Engineering and Applied Sciences.																		
<b>Objectives</b>	The subject helps student to learn, through a capstone project, how to carry out market analysis and how to manage a project. Through this project, the student will develop teamwork skills and product development abilities.																		
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>a. Think critically and holistically in dealing with product design project with real products, and generate realizable solutions.</li> <li>b. Possess state-of-the-art knowledge and skills in the area of project on product design and management.</li> </ol>																		
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><b>Overview of Marketing:</b> Market needs research; dynamic marketing environment; identification and selection of markets; price determination and pricing strategies; knowledge of user requirements.</p> <p><b>New Product Management:</b> Product life cycle; product life management; user-centered and market-driven approaches; team dynamics, budget, specifications and time management techniques; quality assurance and ISO. risk management.</p> <p><b>Capstone Project:</b> A group product design project.</p> <p><u>Capstone project assessment:</u></p> <ul style="list-style-type: none"> <li>• Feasibility study report;</li> <li>• Creativity, design considerations, analysis and work accomplishment;</li> <li>• Group discussion on the progress (Peer evaluation is required.)</li> <li>• An interim group oral presentation.</li> <li>• A formal written group report and an oral presentation at the end of the study, effort of every member in the same project group should be clearly acknowledged.</li> </ul>																		
<b>Teaching/Learning Methodology</b>	<ol style="list-style-type: none"> <li>1. The teaching and learning methods include lectures/tutorial sessions, assignments, and group product design project.</li> <li>2. The continuous assessment is aimed at providing students with integrated knowledge required for product design and management.</li> <li>3. Technical/practical examples and problems are raised and discussed in class/tutorial sessions.</li> </ol> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th rowspan="2" style="width: 50%;">Teaching/Learning Methodology</th> <th colspan="2" style="text-align: center;">Intended subject learning outcomes</th> </tr> <tr> <th style="width: 25%; text-align: center;">a</th> <th style="width: 25%; text-align: center;">b</th> </tr> </thead> <tbody> <tr> <td>1. Lectures</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> </tr> <tr> <td>2. Tutorials</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> </tr> <tr> <td>3. Assignments</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> </tr> <tr> <td>4. Group product design project</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> </tr> </tbody> </table>		Teaching/Learning Methodology	Intended subject learning outcomes		a	b	1. Lectures	√	√	2. Tutorials	√	√	3. Assignments	√	√	4. Group product design project	√	√
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<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed	
			a	
	1. Group assessment (Interim oral presentation & report, final project report & oral presentation)	50%	√	√
	2. Individual assessment (Project proposal, conceptual designs, final oral presentation, peer assessment, test)	50% (30% for the Test)	√	√
	Total	100%		
<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>Overall Assessment: 1.0 <input type="checkbox"/> Continuous Assessment</p> <p>The subject learning outcomes are achieved through a group product design project undertaken by the students. Each group consists of 3 to 4 students. Both individual and group level contributions are necessary to complete the project. The assessments are done based on the written reports, oral presentations and assignments submitted by the students periodically. The evaluations and the feedback provided will help the students in self-monitoring and fulfilling the respective subject learning outcomes, and enhancing the integration of the knowledge learnt.</p>				
<b>Student Study Effort Expected</b>	Class contact:			
	• Lecture		16 Hrs.	
	• Tutorial/Consultation		23 Hrs.	
	Other student study effort:			
	• Self Study/Group activities		45 Hrs.	
	• Project report preparation and presentation		21 Hrs.	
	Total student study effort		105 Hrs.	
<b>Reading List and References</b>	Textbook:			
	1. Karl T. Ulrich and Steven D. Eppinger, Product Design and Development, McGraw-Hill, 2008.			
	References:			
1. George E. Dieter and Linda C. Schmidt, Engineering Design, McGraw- Hill, 2009.				
2. Product realization [electronic resource]: a comprehensive approach/Mileta M. Tomovic, Shaoping Wang, ( <a href="http://www.springerlink.com/content/978-0-387-09481-6">http://www.springerlink.com/content/978-0-387-09481-6</a> )				
3. E-Book: Project management in new product development [electronic resource]/Burce T. Barkley, Sr. ( <a href="http://lib.myilibrary.com/browse/open.asp?id=110947&amp;loc=">http://lib.myilibrary.com/browse/open.asp?id=110947&amp;loc=</a> )				