



UNIVERSITI TEKNOLOGI MARA

IDE550: INDUSTRIAL DESIGN IV

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| Course Name (English) | INDUSTRIAL DESIGN IV APPROVED |
| Course Code | IDE550 |
| MQF Credit | 3 |
| Course Description | This course aims at introducing students to the activity of analysis as a basis to creating design. This studio-base course which is a semester long project will also see to students' understanding to advance material and manufacturing technology. This course includes analysis of proper material for mass production or one-off prototyping methods. Combining knowledge acquired from previous Industrial Design courses, students will focus on selection of manufacturing processes that directly relates to the needs of user, the resources of manufacturers and allocated time to market of product. Course will also include general understanding of cost effective processes to meet various design constraints. |
| Teaching Methodologies | Lectures, Studio, Presentation, Workshop |
| CLO | CLO1 Apply previous understanding on industrial design with advance manufacturing requirements. CLO2 produce guided project which results in products that can meet relevant industry standards. CLO3 equip themselves with theoretical and practical knowledge on production technology. |
| Pre-Requisite Courses | No course recommendations |
| Topics | |
| 1. Brief on Design Research 1.1) Brief on Project / Research/ Theme Guideline 1.2) Research Methodology/ Problem | |
| 2. DESIGN & MANUFACTURING 2.1) Original Design Manufacturer (ODM) / Original Brand Manufacturer (OBM) 2.2) Design for Mass production 2.3) Design Branding & Commercialization | |
| 3. Progress Assessment 1 3.1) n/a | |
| 4. INTRODUCTION TO DESIGN FOR MANUFACTURING (DFM) 4.1) Design For Manufacturing 4.2) Design For Assembly | |
| 5. IDENTIFICATION ON NEW DESIGN & PRODUCTION EXERCISE 5.1) Market Needs 5.2) Needs vs. Function Chart 5.3) Initial Idea/ Sketches/ Concept | |
| 6. Progress Assessment 2 6.1) n/a | |
| 7. ESTABLISH DESIGN CRITERIA 7.1) Critical Analysis Studies 7.2) Idea Development 7.3) Sketches Presentation | |
| 8. MANUFACTURING AND COMMERCIALIZATION FEASIBILITY EVALUATION 8.1) Final Design, Idea, Construction of 3D Mock-up | |

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| 9. Design Ideation 9.1) n/a |
| 10. Design Detailing 10.1) n/a |
| 11. Pre- Assessment 11.1) n/a |
| 12. Technical Detailing 12.1) n/a |
| 13. WORKSHOP OBSERVATION 13.1) Material selection 13.2) Finishing |
| 14. FINAL ASSESSMENT 14.1) n/a |

| Assessment Breakdown | % |
|-----------------------|--------|
| Continuous Assessment | 40.00% |
| Final Assessment | 60.00% |

| Details of Continuous Assessment | Assessment Type | Assessment Description | % of Total Mark | CLO |
|----------------------------------|-----------------|--|-----------------|--------------------|
| | Assignment | Critics Session-2: Ideation Concept presentation | 10% | CLO1 , CLO2 |
| | Assignment | Critics Session-3: Design concept development | 10% | CLO1 , CLO2 , CLO3 |
| | Group Project | Critics Session-1: Research on project | 10% | CLO1 , CLO2 |
| | Presentation | Critics Session-4: Pre Assessment / Preview | 10% | CLO1 , CLO2 , CLO3 |

| Reading List | Reference Book Resources |
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| | <ul style="list-style-type: none"> • Daniel Cuffaro 2006, <i>Process, Materials, Measurements; All the Det</i>, Rockport • Bjarki Hallgrímsson 2012, <i>Prototyping and Modelmaking for Product Desig</i>, Laurence King Publishing • Paul Rodgers and Alex Milton 2011, <i>Product Design</i>, Laurence King Publishing • Chris Leftari 2007, <i>Making It: Manufacturing Techniques for Produ</i>, Laurence King Publishing • Terry Lee Stone 2010, <i>Managing the Design Process: Implementing Des</i>, Rockport • Alex Milton & Paul Rodgers 2013, <i>Research Method for Product Design</i>, Laurence King Publishing • Jim Lesko 2008, <i>Industrial Design: Materials & Manufacturing</i>, John Wiley & Sons |
| Article/Paper List | This Course does not have any article/paper resources |
| Other References | This Course does not have any other resources |