# STUDY SCHEME 2016-2020

**STUDY SCHEME 2016-2020**
**BACHELOR OF MECHANICAL ENGINEERING WITH HONOURS**
**Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, Universiti Putra Malaysia**

| FIRST SEMESTER | | | SECOND SEMESTER | | |
|---|---|---|---|---|---|
| CODE | COURSE | CREDIT | CODE | COURSE | CREDIT |
| **YEAR 1** | | | | | |
| ECC3011 | Engineering Mathematics I | 3(3+0) | ECC3012 | Engineering Mathematics II | 3(3+0) |
| EMM3103 | Statics | 3(3+0) | EMM3105 | Dynamics | 3(3+0) |
| EMM3122 | Engineering Materials | 3(3+0) | EMM3126 | An Introduction to Programming Language | 3(1+2) |
| EMM3518 | Computer Aided Engineering Drawing | 3(1+2) | EMM3409 | Strength of Materials I | 3(3+0) |
| PRT2008 | Agriculture and Man | 2(2+0) | EMM3806 | Mechanical Engineering Laboratory I | 1(0+1) |
| QKXXXX | Credited Co-curriculum | 1(0+1) | BBI2423 | Academic Interaction and Presentation | 3(2+1) |
| | | | QKXXXX | Credited Co-curriculum | 1(0+1) |
| | **TOTAL** | **15** | | **TOTAL** | **17** |
| **YEAR 2** | | | | | |
| EMM3132 | Applied Engineering Mathematics and Statistics | 3(3+0) | EEE3020 | Electrical and Electronics Technology | 3(2+1) |
| EMM3213 | Thermodynamics I | 3(3+0) | EMM3214 | Thermodynamics II | 3(3+0) |
| EMM3305 | Fluid Mechanics I | 3(3+0) | EMM3306 | Fluid Mechanics II | 3(3+0) |
| EMM3410 | Strength of Materials II | 3(3+0) | EMM3610 | Engineering Economic Analysis | 3(3+0) |
| EMM3808 | Mechanical Engineering Laboratory II | 1(0+1) | EMM3722 | Manufacturing Technology and Processes | 3(3+0) |
| BBI2424 | Academic Writing | 3(2+1) | EMM3810 | Mechanical Engineering Laboratory III | 1(0+1) |
| | | | SKP2204 | Ethnic Relations | 2(2+0) |
| | **TOTAL** | **16** | | **TOTAL** | **18** |
| **YEAR 3** | | | | | |
| EMM3520 | Instrumentation and Control | 3(3+0) | ECV3011 | Engineers and Society | 3(2+1) |
| EMM3507 | Engineering Design I | 3(2+1) | EMM3218 | Heat Transfer | 3(3+0) |
| EMM3524 | Mechanics of Machines | 3(3+0) | EMM3509 | Engineering Design II | 3(1+2) |
| EMM3526 | Computer Aided Engineering | 3(1+2) | EMM3528 | Mechanical Vibrations | 3(3+0) |
| EMM3612 | Engineering Project Management | 3(3+0) | EMM3706 | Production Planning and Automation Systems | 3(3+0) |
| EMM3614 | Industrial Safety and Health | 3(3+0) | EMM3814 | Mechanical Engineering Laboratory V | 1(0+1) |
| EMM3812 | Mechanical Engineering Laboratory IV | 1(0+1) | | | |
| | **TOTAL** | **19** | | **TOTAL** | **16** |
| **YEAR 4** | | | | | |
| EMMXXXX | Elective I [2] | 3(3+0) | EMMXXXX | Elective III [2] | 3(3+0) |
| EMMXXXX | Elective II [2] | 3(3+0) | EMMXXXX | Elective IV [2] | 3(3+0) |
| EMM3707 | Manufacturing System Design | 3(3+0) | EMM4949B | Bachelor's Project | 4(0+4) |
| EMM4911 | Industrial Training [1] | 5(0+5) | SKP2101 | Malaysian Nationhood | 3(3+0) |
| EMM4947 | Mechanical Engineering Design Project | 4(0+4) | SKP2203 | Islamic Civilisation and Asian Civilisation | 2(2+0) |
| EMM4949A | Bachelor's Project | 2(0+2) | | | |
| | **TOTAL** | **20** | | **TOTAL** | **15** |

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| **GRAND TOTAL OF THE CREDITS** | **136** |

## SELECTION OF THE ELECTIVE COURSES

Students are free to choose four elective courses from any of the elective courses offered in the final year of study. Proposal selection of elective courses are as follows:

| FIRST SEMESTER | | | SECOND SEMESTER | | |
|---|---|---|---|---|---|
| CODE | COURSE | CREDIT | CODE | COURSE | CREDIT |
| EMM4212 | Building Environment and Services | 3(3+0) | EMM4209 | Internal Combustion Engine | 3(3+0) |
| EMM4405 | Fabrication and Characterisation of Composite Materials | 3(3+0) | EMM4303 | Tribology | 3(3+0) |
| EMM4509 | Robot Dynamics | 3(3+0) | EMM4412 | Advanced Engineering Materials | 3(3+0) |
| EMM4512 | Finite Element Method in Engineering Analysis | 3(3+0) | EMM4607 | Total Quality Control | 3(3+0) |
| EMM4711 | Tooling Engineering | 3(3+0) | EMM4713 | Operations Research | 3(3+0) |
| EMM4718 | Human Responses to Vibration | 3(3+0) | EMM4715 | Powder Metallurgy | 3(3+0) |

**NOTE**
[1] EMM4901 Industrial Training run for 10 weeks during the semester break in Second Semester, Year 3.
[2] Elective courses EMMXXXX can be chosen by the student