

**Engineering Units for Semester 2, 2019**

**Discipline Leaders / Course Directors**

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| No. | Subject Code<br>Old/ New | Subject Name<br>Old/ New (if applicable)   | Pre-requisites   | Remarks  |
|-----|--------------------------|--|--|--|
| 0   | EXAMPLE<br>e.g. MEE10001 | EXAMPLE<br>e.g. Engineering Materials      | EXAMPLE<br>e.g. Nil  | EXAMPLE<br>e.g. Offer every semester.<br>Effective Sem 1, 2017, MEE10001 will be renamed from "Materials and Processes" to "Engineering Materials" to be consistent with Hawthorn Campus. HEC2322 in Chemical Engineering will be renamed from "Engineering Materials" to "Engineering Materials and Characterisation" |
| 1   | ENG10001                 | Engineering, Design and Innovation         | Nil  | Also offered in October Term   |
| 2   | ENG10002                 | Engineering Materials                      | Nil  | Also offered in October Term   |
| 3   | ENG10003                 | Mechanics of Structures                    | Nil  |  |
| 4   | ENG10004                 | Digital and Data Systems                   | Nil  |  |
| 5   | MTH10012                 | Calculus and Applications                  | Nil  | Also offered in October Term   |
| 6   | MTH10013                 | Linear Algebra and Applications            | Nil  |  |
| 7   | PHY10001                 | Energy and Motion                          | Nil  | Also offered in October Term   |
| 8   | PHY10004                 | Electronics and Electromagnetism           | Nil  |  |
| 9   | MEE20004                 | Structural Mechanics                       | CVE10004/ENG10003  |  |
| 10  | CVE20002                 | Computer Aided Engineering Civil           | CVE10002 or pre/co-requisite ENG10003  |  |
| 11  | MME30001                 | Engineering Management 1                   | 100 CPS  | Also offered in Winter Term  |
| 12  | MEE20003                 | Fluid Mechanics                            | MTH10007/MTH10012&MTH10013   |  |
| 13  | CVE20003                 | Design of Concrete Structures              | MEE20004   |  |
| 14  | CVE20005                 | Road Engineering                           | CVE20001   |  |
| 15  | CVE30004                 | Cost Engineering                           | 175 CPS  |  |
| 16  | CVE40004                 | Water and Env. Engineering                 | CVE30001   |  |
| 17  | CVE40001                 | Geotechnical Engineering                   | CVE20004   |  |
| 18  | MME40001                 | Engineering Management 2                   | 100 CPS  | Also offered in Winter Term  |
| 19  | CVE40006                 | Infrastructure Design Project              | CVE20003 & CVE30002  |  |
| 20  | CVE40008                 | Final Year Research Project 1 (Civil)      | 287.5 CPS  |  |
| 21  | CVE40009                 | Final Year Research Project 2 (Civil)      | CVE40008   |  |
| 22  | EEE20001                 | Digital Electronics Design                 | Nil  |  |
| 23  | SWE20004                 | Technical Software Development             | ENG10004/COS10001/COS10009/RME10001  |  |
| 24  | TNE30003                 | Communications Principles                  | MTH10012 & MTH10013  |  |
| 25  | EEE20003                 | Embedded Microcontrollers                  | EEE20001 & SWE20004  |  |
| 26  | EEE20004                 | Analogue Electronics 1                     | EEE20002   |  |
| 27  | EEE20005                 | Electrical Machines                        | EEE20002 & MTH10012  |  |
| 28  | EEE30004                 | Digital Signal Processing                  | (MTH20004/MTH20007/MTH20005 / MTH20010 / MTH20014) and (EEE20002 / EEE20006) |  |
| 29  | EEE30005                 | Electrical Integrated Design Project       | EEE30002   |  |
| 30  | EEE40005                 | Power Electronics                          | EEE20005   |  |
| 31  | EEE40011                 | Final Year Research Project 1 (BEET)       | 287.5 credit points  |  |
| 32  | EEE40012                 | Final Year Research Project 2 (BEET)       | EEE40011   |  |
| 33  | MTH20011                 | Mathematics 4A                             | MTH10007 or (both MTH10013 & MTH10012)                                       |  |
| 34  | MEE20005                 | Materials & Manufacturing 1                | MEE10001a or ENG10002  |  |
| 35  | MEE20006                 | Machine Dynamics 1                         | (both MTH10007 & PHY10001) or MTH10013                                       |  |
| 36  | MEE40001                 | Thermodynamics 2                           | MTH20007   |  |
| 37  | MEE30004                 | Solid Mechanics                            | MEE20004   |  |
| 38  | MEE40002                 | Mechanical Systems Design                  | MEE30003   |  |
| 39  | MEE40008                 | Final Year Research Project 1 (Mechanical) | 287.5 CPS  |  |
| 40  | MEE40004                 | Fluid Mechanics 2                          | MEE20003   |  |
| 41  | MEE40009                 | Final Year Research Project 2 (Mechanical) | MEE40008   |  |
| 42  | RME20001                 | Electrical Actuators and Sensors           | PHY10004/EEE10001  |  |
| 43  | COS20007                 | Object Oriented Programming                | COS10009   |  |
| 44  | RME40002                 | Mechatronics Systems Design                | EEE20003   |  |
| 45  | RME30003                 | Robotic Control                            | RME30002   |  |
| 46  | RME40005                 | Final Year Research Project 1              | 287.5 credit points  |  |
| 47  | RME40006                 | Final Year Research Project 2              | RME40005   |  |
| 48  | CSM80003                 | Construction Law                           | Nil (for MCM)<br>250CPS (Elective for Undergraduate Students)                | Unit from Master of Construction Management / Elective Unit for undergraduate Engineering  |
| 49  | CSM80006                 | Engineering Project Management             | Nil (for MCM)<br>250CPS (Elective for Undergraduate Students)                | Unit from Master of Construction Management / Elective Unit for undergraduate of Engineering   |
| 50  | RSK80004                 | Introduction to Risk and Due Diligence     | Nil (for MCM)<br>250CPS (Elective for Undergraduate Students)                | Unit from Master of Construction Management / Elective Unit for undergraduate of Engineering   |
| 51  | ICT80011                 | Research Methods                           | Nil (for MCM)  | Unit from Master of Construction Management  |
| 52  | CMS80005                 | Engineering Project Control                | Nil (for MCM)  | Unit from Master of Construction Management  |
| 53  | MME80001                 | Resource Planning and Management           | Nil (for MCM)<br>250CPS (Elective for Undergraduate Students)                | Unit from Master of Construction Management / Elective Unit for undergraduate of Engineering   |
| 54  | CVE80001                 | Research Paper                             | ICT80011 (for MCM)   | Unit from Master of Construction Management  |
| 55  | CVE20007                 | Sustainable Built Environment              | 200 Credit Points  | Elective Unit for (Civil)  |
| 56  | CEE20004                 | Safe and Sustainable Design                | CVE10002 or ENG10001   | Chemical Engineering Unit / Elective Unit for (Civil)  |
| 57  | CEE20002                 | Chemical Engineering Thermodynamics        | Nil  | Chemical Engineering Unit  |
| 58  | CEE20003                 | Fluid Mechanics C                          | MTH10007 or MTH10012 & MTH10013  | Chemical Engineering Unit  |
| 59  | CEE30001                 | Transport Phenomena                        | HEC2421&HEC2411 or CEE20002 & CEE20003                                       | Chemical Engineering Unit  |
| 60  | CEE30005                 | Multiphase Processes                       | HEC2421/CEE20003   | Chemical Engineering Unit  |
| 61  | CEE30003                 | Process Mass Transfer                      | HEC2411/CEE20002   | Chemical Engineering Unit  |
| 62  | CEE40001                 | Final Year Research Project 1 (Chemical)   | 275 Credit points  | Chemical Engineering Unit  |
| 63  | CEE40002                 | Process Plant Design 1                     | HEC3523 & 275 Credit points  | Chemical Engineering Unit  |
| 64  | CEE40003                 | Final Year Research Project 2 (Chemical)   | CEE40001/HEC4771   | Chemical Engineering Unit  |

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|----|----------|---|---|--|---------------|
| 65 | CEE40004 | Process Plant Design 2                                    | CEE40002  | Chemical Engineering Unit  | ChemE/Science |
| 66 | CEE40015 | Chemical Engineering Computations                         | CEE30006  | Chemical Engineering Unit  | ChemE/Science |
| 67 | PEH20006 | Water Science   | CHE10001 or CEE20005                                    | Science Unit / Elective Unit for (Chemical Engineering / Mechanical)                               |               |
| 68 | NPS10001 | Introduction to e-Science                                 | Nil   | Science Unit / Elective Unit for (Chemical Engineering/Mechanical/Electrical and Electronic)       |               |
| 69 | BIO10003 | Concepts of Biotechnology                                 | Nil   | Science Unit / Elective Unit for (Chemical Engineering/Electrical and Electronics/Mechanical)      |               |
| 70 | CHE10001 | Chemistry 1   | VCE 3 and 4 Chemistry or equivalent                     | Science Unit / Elective Unit for (Electrical and Electronics/Mechanical/Robotics and Mechatronics) |               |
| 71 | CHE10002 | Chemistry 2   | CHE10001  | Science Unit / Elective Unit for (Mechanical)  |               |
| 72 | BIO10001 | Concepts of Biology                                       | Nil   | Science Unit / Elective Unit for (Electrical and Electronics/Mechanical/Robotics and Mechatronics) |               |
| 73 | BCH20001 | Biochemistry of Genes and Proteins                        | CHE10001 and BCH20002                                   | Science Unit / Elective Unit for (Electrical and Electronics/Mechanical/Robotics and Mechatronics) |               |
| 74 | NPS20005 | Communication for Scientists                              | 100 credit points of study                              | Science Unit / Elective Unit for (Mechanical)  |               |
| 75 | HES2205  | Aquatic Biotechnology                                     | 150 credit points of study                              | Science Unit / Elective Unit for (Mechanical)  |               |
| 76 | COS10003 | COMPUTER AND LOGIC ESSENTIALS                             | NIL   | Elective Unit for (Electrical and Electronics)   | ICT/CS Units  |
| 77 | COS10004 | COMPUTER SYSTEMS  | COS10003 (HIT1312)                                      | Elective Unit for (Electrical and Electronics)   | ICT/CS Units  |
| 78 | COS10081 | INTRODUCTION TO DATA SCIENCE                              | NIL   | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 79 | COS20001 | USER CENTRED DESIGN                                       | Nil   | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 80 | COS20007 | OBJECT ORIENTED PROGRAMMING                               | COS10001 / COS10009 / INF10016 / SWE20004               | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 81 | COS20085 | BIG DATA ARCHITECTURE AND APPLICATION                     | COS10081 & (COS20007 / COS30016)                        | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 82 | COS30008 | DATA STRUCTURE AND PATTERNS                               | COS20007 / COS30016 (HIT3037) / SWE20004 / COS20011     | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 83 | COS30017 | SOFTWARE DEVELOPMENT FOR MOBILE DEVICES                   | COS20007 / COS20011 / COS30014 / COS30016 / SWE20004    | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 84 | COS30019 | INTRODUCTION TO ARTIFICIAL INTELLIGENCE                   | COS20007 / COS30008                                     | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 85 | ICT30005 | PROFESSIONAL ISSUES IN INFORMATION TECHNOLOGY             | COMPLETED 16 UNITS (200 CREDIT POINTS)                  | Elective Unit for (Robotics and Mechatronics)  | ICT/CS Units  |
| 86 | INF10002 | DATABASE ANALYSIS AND DESIGN                              | NIL   | Elective Unit for (Electrical and Electronics)   | ICT/CS Units  |
| 87 | SWE20001 | DEVELOPMENT PROJECT 1 – TOOLS AND PRACTICES               | SWE20004 / COS10009                                     | Elective Unit for (Robotics and Mechatronics)  | ICT/CS Units  |
| 88 | SWE30010 | DEVELOPMENT PROJECT 2 -DESIGNING, PLANNING AND MANAGEMENT | (SWE20001 / MME30001) & (COS20007 / SWE20004 /COS20007) | Elective Unit for (Robotics and Mechatronics)  | ICT/CS Units  |
| 89 | TNE10006 | NETWORKS AND SWITCHING                                    | NIL   | Elective Unit for (Electrical and Electronics / Robotics and Mechatronics)                         | ICT/CS Units  |
| 90 | TNE20002 | NETWORK ROUTING PRINCIPLES                                | TNE10006  | Elective Unit for (Electrical and Electronics)   | ICT/CS Units  |
| 91 | TNE30018 | ENTERPRISE NETWORK SERVER ADMINISTRATION                  | TNE10005  | Elective Unit for (Electrical and Electronics)   | ICT/CS Units  |

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