

RECOMMENDED STUDY PLAN

2021-2022

DEGREE Bachelor of Engineering (Honours) MAJOR Mechanical Engineering (MEN)

NAME _____ MINOR Physics (PHY)

To assist you with subject information, we recommend you consult with your CSE Course/Major Advisor and refer to [Subject Search](#). If you would prefer a part-time study plan, please adjust the below planner, reviewing subject prerequisites to ensure you are on track for course completion.

| | Study Period 1 - SP1 | Study Period 2 - SP2 |
|--------|--|---|
| Year 1 | Degree Core: <u>EG1000</u> Engineering 1 | Degree Core: <u>EG1010</u> Process Engineering |
| | Degree Core: <u>EG1002</u> Computing and Sensors | Degree Core: <u>EG1011</u> Statics and Dynamics PREREQ: PH1005 OR (PHYSICS AND MATHS C) |
| | Degree Core: <u>MA1000</u> Mathematical Foundations PREREQ: MA1020 OR MATHS B OR MATHS C | Degree Core: <u>EG1012</u> Electric Circuits |
| | Degree Core: <u>PH1005</u> Advanced Stream Physics 1 PREREQ: MATHS B OR MA1020 OR MA1000 OR MA1008 | Degree Core: <u>MA1003</u> Mathematical Techniques PREREQ: MA1000 OR MA1011 OR MA1009 |

| | Study Period 1 - SP1 | Study Period 2 - SP2 |
|--------|--|---|
| Year 2 | Degree Core: <u>MA2000</u> Mathematics for Scientists and Engineers PREREQ: MA1003 | Major Core: <u>EG2010</u> Materials Science and Engineering |
| | Major Core: <u>CS2001</u> Engineering Strength of Materials PREREQ: EG1011 | Major Core: <u>ME2525</u> Machine Element Design PREREQ: CS2001 |
| | Major Core: <u>ME2512</u> Thermofluid Mechanics PREREQ: EG1011 | Major Core: <u>EE3600</u> Automatic Control 1 PREREQ: EG1012 AND MA2000 |
| | Major Core: <u>ME2521</u> Dynamics of Machine Elements PREREQ: EG1011 | Minor Core List 1: |

| | Study Period 1 - SP1 | Study Period 2 - SP2 |
|--------|---|---|
| Year 3 | Major Core: <u>EG3001</u> Finite Element Analysis PREREQ: EG1002 AND EG1011 AND MA2000 | Major Core: <u>CS3008</u> Fluid Mechanics PREREQ: MA2000 AND ME2512 |
| | Major Core: <u>ME3511</u> Dynamics and Acoustics PREREQ: MA2000 AND ME2521 | Major Core: <u>ME3512</u> Heat and Mass Transfer PREREQ: MA2000 |
| | Major Core: <u>ME3515</u> Advanced Manufacturing Engineering – offered EVEN years only* PREREQ: ME2525 | Major Core: <u>ME3525</u> Mechanical Design PREREQ: ME2525 |
| | Minor Core: <u>PH2002</u> Classical Mechanics and Quantum Physics 1 PREREQ: MA1003 AND PH1005 AND (PH1006 OR PH1007 OR (EG1012 AND EG1011)) | Minor Core List 1 and 2: |

| | | |
|---------------|---|---|
| Year 4 | Study Period 1 - SP1 | Study Period 2 - SP2 |
| | Degree Core: <u>EG4011</u> Thesis Part 1 of 2 PREREQ: 72CP | Degree Core: <u>EG4012</u> Thesis Part 2 of 2 PREREQ: EG4011 |
| | Degree Core: <u>EG3000</u> Introduction to Systems Engineering and Project Management PREREQ: EG1000 AND EG1002 AND EG1010 AND EG1011 AND EG1012 AND MA1000 AND MA1003 AND (PH1005 OR EG1001) OR 36CP | Major Core: <u>EG4013</u> Asset Management, Maintenance and Reliability PREREQ: (EG1000 AND EG1002 AND EG1010 AND EG1011 AND EG1012 AND MA1000 AND MA1003 AND (PH1005 OR EG1001)) OR 36CP |
| | Major Core: <u>ME4513</u> Advanced Fluid Mechanics PREREQ: CS3008 | Major Core: <u>ME4515</u> Advanced Mechanical Engineering Design PREREQ: ME3525 |
| | Minor Core List 1 and 2: | Major Core: <u>ME4522</u> Energy, Conversion and Refrigeration PREREQ: ME2512 |

Further Degree Options: Select 1 Subject from List 1 AND 2 subjects from List 1 OR List 2

| Minor Core List 1: | |
|--|---|
| Study Period 1 – SP1 | Study Period 2 – SP2 |
| <u>PH2019</u> Introduction to Electromagnetism Optics and Early Quantum PREREQ: (EG1012 OR PH1005) AND MA1003 | <u>PH2240</u> Atomic and Nuclear Physics PREREQ: PH2002 AND MA1003 |
| <u>PH3008</u> Statistical Mechanics and Transport PREREQ: PH2019 AND PH2002 AND MA2000 | |

| Minor Core List 2: | |
|--|---|
| Study Period 1 – SP1 | Study Period 2 – SP2 |
| <u>PH3019</u> Electromagnetic Phenomena PREREQ: MA2000 AND PH2019 | <u>PH3002</u> Quantum Physics 2 PREREQ: MA2000 AND PH2002 |
| <u>MA3211</u> Mathematical Modelling and Differential Equations PREREQ: MA2000 AND (MA2210 OR MA2201) | <u>PH3006</u> Oceanography and Meteorology PREREQ: MA2000 AND PH2019 |
| | <u>MA2210</u> Linear Algebra PREREQ: MA1003 |