

# Bachelor of Engineering (Honours) Specialisation in Software Engineering

## ENTRY REQUIREMENTS

|                            |                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assumed Knowledge</b>   | HSC Mathematics Advanced (Band 4) or equivalent. If you don't have the assumed knowledge, you're advised to undertake a bridging course in mathematics. |
| <b>Recommended Studies</b> | HSC Mathematics Extension 1 or HSC Mathematics Extension 2 plus HSC Physics, or equivalent. HSC Software Design and Development or equivalent.          |

## COURSE STRUCTURE

### Essential units - 100 credit points

Complete each unit below.

|          |                                                     |
|----------|-----------------------------------------------------|
| ENGG1100 | Introduction to Engineering                         |
| ENGG1110 | Engineering in Balance                              |
| ENGG1130 | Engineering in Motion                               |
| ENGG1140 | Fundamentals of Digital Computing                   |
| ENGG1150 | Foundations of Signals and Circuits                 |
| ENGG1160 | Programming and Proof                               |
| ENGG2100 | Engineering Project                                 |
| ENGG3100 | Advanced Engineering Project                        |
| ENGG4100 | Engineering Professional Practice                   |
| ENGG4101 | Engineering Thesis Project A                        |
| ENGG4099 | PACE: Industry Experience - <u>No credit points</u> |

### Elective Unit - 10 credit points (contains 20)

Complete 10 credit points from the following options.

- Students enrolling in Software Engineering and Mechatronic Engineering Specialisations must enrol in COMP1020.
- Students enrolling in Civil Engineering and Mechanical Engineering Specialisations must enrol in ENGG1120.
- Students enrolling in Electrical and Electronic Engineering Specialisation can select either COMP1020 or ENGG1120.

COMP1020 Software Development Practices

ENGG1120 Engineering with Heat and Fluids

### Complementary Option Sets - 60 credit points

Complete 60 credit points from one of the following:

- Environmental Management
- Management and Leadership
- Strategy, Innovation and Entrepreneurship
- Artificial Intelligence
- Cyber Security
- Mathematics
- Engineering Breadth
- Intelligent Systems
- Renewables Engineering

### Capstone unit - 10 credit points

ENGG4102 Engineering Thesis Project B - 10 credit points

### Elective Units - 20 credit points

Complete 20 credit points from any 1000, 2000, 3000 or 4000 level units for which you meet the requisites.

### Specialisation in Software Engineering - 120 credit points.

Complete each unit below.

|          |                                                          |
|----------|----------------------------------------------------------|
| COMP2020 | Applied Object Oriented Programming                      |
| COMP2030 | Applied Cyber Security for Interactive Data Applications |
| COMP2100 | Systems Programming                                      |
| COMP2270 | Networking and Cloud Computing                           |
| COMP3020 | Software Architectures                                   |
| COMP3050 | Software Systems Development and Operations              |
| COMP3310 | Secure Applications Development                          |
| COMP4000 | Formal Methods                                           |
| COMP4010 | Concurrent and Distributed Systems                       |
| COMP4020 | Programming Paradigms                                    |
| COMP4050 | Software Engineering Practices                           |
| MATH3007 | Advanced Discrete Mathematics                            |

Specialisation = 120 Credit Points

Degree = 320 Credit Points

CORE ZONE

CORE ZONE

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