

# 62550 MASTER OF PROFESSIONAL ENGINEERING – ELECTRICAL AND ELECTRONIC ENGINEERING

**Course Study Guide for Southwest University Articulating Students – Commencing Semester 1, 2024**

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| **Year 1** | | | | |
| *Semester 1,*  *2024* | **ELEC4401**  Circuits and Electronic Systems | **ELEC4404**  Signal Processing | **ELEC4505**  Power System Analysis | **RECOMMENDED OPTION**  **BUSN5100**  Applied Professional Business Communications |
| *Semester 2,*  *2024* | **ELEC4402**  Communications Systems | **ELEC4406**  Digital System Design | **GENG5505**  Project Management and Engineering Practice | **GENG5507**  Risk, Reliability and Safety |
| *It is recommended students undertake some practical work experience during the summer break to satisfy the GENG5010 Professional Engineering Portfolio* | | | | |
| **Year 2** | | | | |
| *Semester 1,*  *2025* | **ELEC5551**  Electrical & Electronic Engineering Design Project 1  Prereq: Completion of 24 points  Coreq: GENG5505 | **GENG5511**  Engineering Research Project Part 1  Prereq: Completion of 24 points L4/L5 units | **OPTION** | **OPTION** |
| *Semester 2,*  *2025* | **ELEC5552**  Electrical & Electronic Engineering Design Project 2  Prereq: ELEC5551 | **GENG5512**  Engineering Research Project Part 2  Prereq: GENG5511  [taken in semester after GENG5511] | **OPTION** | **OPTION** |
| *Students must complete all credit bearing units and GENG5010 Professional Engineering Portfolio to be eligible to graduate* | | | | |

*unit is available in Semester 1 and Semester 2;* N/A = unit not available for 2024*;* NS = unit is delivered during a non-standard teaching period.

Refer to Table of Options overleaf.

# Select FIVE option units, at least THREE of which must be taken from Group A:

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| **Group A** | |
| **AUTO4508 Mobile Robots** (S1) | **ELEC5506** Process Instrumentation and Control (S1) |
| **ELEC5501** Advanced Communications (S2)  Prereq: ELEC4402 | **ELEC5508** Semiconductor Nanoelectronics (S1) |
| **ELEC5502** Analogue Electronics (N/A)  Prereq: ELEC4401 | **GENG5503** Modern Control Systems (S2) |
| **ELEC5503** Digital Microelectronics System Design (S1) | **GENG5506** Renewable Energy (S2) |
| **ELEC5504** Power Electronics (S1) |  |
| **Group B** | |
| **BMEG4001** Biomedical Instrumentation (S2) | **ELEC5510** Design and Analysis of Smart Grids and Microgrids (S1) |
| **BUSN5100** Applied Professional Business Communications (S1, S2)  Note: only to be taken in first 48 points | **GENG4405** Numerical Methods and Modelling (S2) |
| **CITS4402** Computer Vision (S1)  Prereq: unit on programming | **GENG5516** Energy Storage Systems (S1) |
| **CITS4404** Artificial Intelligence and Adaptive Systems (S2)  Prereq: 12 points of programming-based units | **SCIE5516** Materials Characterisation for Bioengineering Applications (S1) |
| **CITS4419** Mobile and Wireless Computing (S1)  Prereq: unit on computer networks | **SVLG5003** Wicked Problems (N/A)  *Enrolment in this unit is subject to approval by the unit coordinators.* |
| **ELEC5509** Grid Integration of Renewable Energy (S2) |  |

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 Programming-based units are: [CITS2005](https://handbooks.uwa.edu.au/unitdetails?code=CITS2005) Object Oriented Programming; [CITS1401](https://handbooks.uwa.edu.au/unitdetails?code=CITS1401) Computational Thinking with Python; [CITS2002](https://handbooks.uwa.edu.au/unitdetails?code=CITS2002) Systems Programming; [CITS2200](https://handbooks.uwa.edu.au/unitdetails?code=CITS2200) Data Structures and Algorithms; [CITS2401](https://handbooks.uwa.edu.au/unitdetails?code=CITS2401) Computer Analysis and Visualisation; [CITS2402](https://handbooks.uwa.edu.au/unitdetails?code=CITS2402) Introduction to Data Science; and [CITS4009](https://handbooks.uwa.edu.au/unitdetails?code=CITS4009) Computational Data Analysis.

**\*\*SWU students are exempt from the core unit GENG4402 Control Engineering which was delivered by UWA staff at SWU. Students must take an Option Unit in its place (recommended unit BUSN5100). If you need to discuss your study plan further, please contact the EMS Student Office at** [**enquiries-ems@uwa.edu.au**](mailto:enquiries-ems@uwa.edu.au)

*Information in this study guide is correct as at July 2023, but is subject to change from time to time. In particular, the University reserves the right to change the unit availability and unit rules. Information about unit availability should be checked at the beginning of each semester and can be found at Timetables:* [*timetable.uwa.edu.au*](http://www.timetable.uwa.edu.au/) *or Handbooks:* [*handbook.uwa.edu.au.*](http://handbooks.uwa.edu.au/) *The Rules for the Master of Professional Engineering can be found at:* [*handbook.uwa.edu.au/courses/MPE/rules.*](http://handbooks.uwa.edu.au/coursedetails?id=c356&amp;rules)