UNSW Course Outline

ELEC4611 Power System Equipment - 2024

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General Course Information

Course Code : ELEC4611
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Electrical Engineering & Telecommunications
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Postgraduate, Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

The electricity supply network is a critical infrastructure in present-day societies. It covers the generation, transmission, and distribution of bulk electricity from various sources (e.g., power stations, wind farms, solar farms) to the loads (industrial, commercial, domestic consumers). To

this end, the grid comprises many different types of high-voltage high-power equipment and components, e.g., generators, transformers, transmission lines, switchgear, etc. This course provides essential knowledge of the technical challenges imposed on them in terms of the electrical, thermal, and mechanical operational requirements.

The topics covered in this course include: Overview of electricity supply network infrastructure; Electrical insulation in power system equipment and components: materials and dielectric properties, electric stress calculation, field grading; Overcurrent: electrodynamic forces, offset current transient, short-circuit thermal effects, protection (fuses, circuit breakers); Overvoltage: steady-state and transient, recovery voltage, surge propagation, protection (arresters), insulation coordination; Equipment rating: thermal equivalent circuit, steady-state temperature rise; High-voltage testing: power frequency overvoltage, lightning and switching impulse; Diagnostic methods for insulation assessment: insulation resistance, dielectric dissipation factor, partial discharge, dissolved gas-in-oil analysis.

Course Aims

This course covers an important area of the power engineering specialisation. The course aims to provide the student with essential knowledge of high-voltage power system equipment and components:

- Their general functions and operational requirements
- Electrical, thermal, and mechanical factors affecting their operation
- Diagnostic testing and monitoring techniques to assess their condition.

Relationship to Other Courses

This is a fourth-year UG elective course in the Energy Systems (Power Engineering) discipline. Many of the topics covered in this course are further expanded in the PG course ELEC9712, High Voltage Systems. The pre-requisite for this course is ELEC3105, Electrical Energy. It is essential that you are familiar with ELEC3105, in particular, fundamental aspects of electrical energy transmission and distribution systems; and basic concepts used in power circuit analysis. It is further assumed that you are familiar with MATLAB and have good computer literacy.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems
CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients
CLO3 : Calculate the steady-state thermal ratings of power cables and overhead lines
CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components
CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment

Course Learning Outcomes	Assessment Item
CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems	• Laboratory Report • Final Examination • Mid-Term Exam • Laboratory Practical Experiments
CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients	• Laboratory Report • Final Examination • Mid-Term Exam • Laboratory Practical Experiments
CLO3 : Calculate the steady-state thermal ratings of power cables and overhead lines	• Final Examination • Mid-Term Exam
CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components	• Laboratory Report • Laboratory Practical Experiments • Final Examination • Mid-Term Exam
CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment	• Laboratory Report • Laboratory Practical Experiments • Final Examination • Mid-Term Exam

Learning and Teaching Technologies

Moodle - Learning Management System

Learning and Teaching in this course

You are expected to attend all lectures, tutorials, labs, and mid-term exams to maximize learning. You must prepare well for your laboratory classes and your lab work will be assessed. In addition to the lecture notes/video, you should read relevant sections of the recommended text. Reading

additional texts will further enhance your learning experience. Group learning is also encouraged. UNSW assumes that self-directed study of this kind is undertaken in addition to attending formal classes throughout the course.

Lectures: Students are expected to prepare themselves for the lectures. The lectures provide the students with a focus on the core material in the course. Generic features and functions of various types of major equipment and apparatus required in a typical power system network are explained. This is further illustrated with practical examples from Australian power utility installations. Mathematical tools and computer-aided analysis are then used to convey a qualitative understanding of critical issues affecting the operation of power system equipment. This in turn leads students to an appreciation of the equipment ratings and choice of particular insulation materials and designs. The basic principles covering the high-voltage testing and condition monitoring of equipment are presented and then illustrated by examining a wide array of diagnostic devices that are currently being used in the power industry.

Tutorial classes: The tutorial sessions provide personal assistance to students in solving problems. A total of 5 problem sets will be presented throughout the term and some of these will be worked through during the tutorials. The tutorials take the student through all critical course topics and aim to exercise the students' analytical and critical thinking skills. Students are strongly encouraged to complete all the tutorial problems as these help to develop an in-depth quantitative understanding of the course materials. During tutorials, students will also be invited to raise any concepts or topics covered in lectures with which they are experiencing difficulty and required another explanation. Tutorials are also opportunities for an interactive discussion on any questions, issues or topics relevant to the course.

Laboratory work: The laboratory work provides the student with exposure to practical high-voltage testing, measurement and reporting. Students will work in groups of three. There will be five three-hour experiments in total. The experiments will contain material that may not be covered in lectures until after the experiment is done. This requires that the laboratory sheets must be read thoroughly before the laboratory session. Students must come prepared for the laboratory sessions; the laboratory sessions are short, so this is the only possible way to complete the given tasks. Laboratory attendance WILL be kept, and you MUST attend all labs. If, for medical reasons, (note that a valid medical certificate must be provided) you are unable to attend a lab, you will need to apply for a catch-up lab during another lab time, as agreed by the laboratory coordinator.

Home work: The class lectures can only cover the course material to a certain depth; students

must download the lecture notes (from the course website) and reflect on their content as preparation for the lectures to fully appreciate the course material. Further research and reading from the recommended list of text/reference books are also required. The ability to read the literature, identify relevant parts and extract critical information with the aid of the lectures is regarded as an essential component of this course. Also, a significant component of homework is preparation for laboratory, tutorials, and writing laboratory reports.

Other Professional Outcomes

Engineers Australia, Professional Engineer Stage 1 Competencies

The course learning outcomes (CLOs) contribute to your development of EA competencies:

PE1: Knowledge and Skill Base

- PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals: CLOs 1, 2, 3, 4
- PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing: CLOs 1, 2, 3, 4
- PE1.3 In-depth understanding of specialist bodies of knowledge: CLOs 1, 2, 3, 4, 5
- PE1.4 Discernment of knowledge development and research directions: CLO 5
- PE1.5 Knowledge of engineering design practice: CLOs 3, 4
- PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice

PE2: Engineering Application Ability

- PE2.1 Application of established engineering methods to complex problem solving: CLOs 1, 2, 3, 4, 5
- PE2.2 Fluent application of engineering techniques, tools and resources: CLOs 1, 2, 3, 4, 5
- PE2.3 Application of systematic engineering synthesis and design processes:
- PE2.4 Application of systematic approaches to the conduct and management of engineering projects:

PE3: Professional and Personal Attributes

- PE3.1 Ethical conduct and professional accountability
- PE3.2 Effective oral and written communication (professional and lay domains): CLOs 1, 2, 3, 4, 5
- PE3.3 Creative, innovative and pro-active demeanour
- PE3.4 Professional use and management of information: CLOs 1, 2, 3, 4, 5
- PE3.5 Orderly management of self, and professional conduct: CLOs 1, 2, 3, 4, 5
- PE3.6 Effective team membership and team leadership: CLOs 2, 4, 5

Targeted Graduate Capabilities

Electrical Engineering and Telecommunications programs are designed to address the following targeted capabilities which were developed by the school in conjunction with the requirements of professional and industry bodies:

- The ability to apply knowledge of basic science and fundamental technologies;
- The skills to communicate effectively, not only with engineers but also with the wider community;
- The capability to undertake challenging analysis and design problems and find optimal solutions;
- Expertise in decomposing a problem into its constituent parts, and in defining the scope of each part;
- A working knowledge of how to locate required information and use information resources to their maximum advantage;
- Proficiency in developing and implementing project plans, investigating alternative solutions, and critically evaluating differing strategies;
- An understanding of the social, cultural, and global responsibilities of the professional engineer;
- The ability to work effectively as an individual or in a team;
- An understanding of professional and ethical responsibilities;
- The ability to engage in lifelong independent and reflective learning.

UNSW Graduate Capabilities

The course delivery methods and course content directly or indirectly address a number of core UNSW graduate capabilities, as follows:

- Developing scholars who have a deep understanding of their discipline, through lectures and solutions of analytical problems in tutorials and assessed by written examinations.
- Developing rigorous analysis, critique, and reflection, and the ability to apply knowledge and skills to solving problems. These will be achieved by laboratory experiments and oral assessments during the labs.
- Developing capable independent and collaborative enquiry, through a series of tutorials spanning the duration of the course.
- Developing digital and information literacy and lifelong learning skills through written report work.
- Developing ethical practitioners who are collaborative and effective team workers, through group activities (laboratory work), and tutorials

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Laboratory Report Assessment Format: Group	5%	Due Date: 25/04/2024 11:59 PM
Final Examination Assessment Format: Individual	60%	Due Date: TBA
Mid-Term Exam Assessment Format: Individual	25%	Due Date: 13/03/2024 04:00 PM
Laboratory Practical Experiments Assessment Format: Individual	10%	Start Date: At start of each lab session Due Date: At end of each lab session

Assessment Details

Laboratory Report

Assessment Overview

A detailed written report on one experiment is to be submitted at the end of the term. It is a group report. Marks are awarded based on a sound explanation of the experiment concepts and theoretical analysis, measurement results, and interpretation.

Course Learning Outcomes

- CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems
- CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients
- CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components
- CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment

Detailed Assessment Description

An announcement will be made in week 9 regarding which particular experiment to write report. The report must be submitted online via the course Moodle as one pdf file including a cover page declaring that the work detailed in the report is entirely that of the named student(s) only.

Assessment Length

About 10 pages typically

Final Examination

Assessment Overview

The final exam is a 2-hour written examination to be scheduled during the final exam period. It covers all remaining course contents that were not covered in the mid-term exam. Some questions are of a descriptive nature (e.g., explaining some concept) and the rest are problem-solving. The examination tests analytical and critical thinking and understanding of the course material in a controlled fashion. Assessment is a graded mark according to the correct fraction of your answers to the exam questions.

Course Learning Outcomes

- CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems
- CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients
- CLO3 : Calculate the steady-state thermal ratings of power cables and overhead lines
- CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components
- CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment

Detailed Assessment Description

The final exam period is from 26 April to 9 May.

Mid-Term Exam

Assessment Overview

This is a 90-minute written examination scheduled at mid-term. It comprises numerical and analytical questions as well as descriptive-type questions, drawn from course contents covered in the first 4 weeks. Assessment is a graded mark according to the correct fraction of answers to the test questions. Verbal class-wide feedback will be given during lectures and individual feedback will also be provided upon request.

Course Learning Outcomes

- CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems
- CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients
- CLO3 : Calculate the steady-state thermal ratings of power cables and overhead lines
- CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components

- CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment

Laboratory Practical Experiments

Assessment Overview

There are 5 laboratory experiments. You are required to attend all the scheduled laboratory sessions and do the experiments in groups (2-3 students in each group). At the end of each laboratory session, you will be assessed individually and given oral feedback by the demonstrator. Assessment marks will be awarded based on your lab preparation, how much of the experiment you were able to complete, your understanding of the topic and the experiment tasks involved, and the quality of the data you recorded.

Course Learning Outcomes

- CLO1 : Explain the functions of various types of equipment and major components used in electrical power systems
- CLO2 : Explain the different effects (thermal, mechanical, electrical) caused by short-circuit faults and over-voltage transients
- CLO4 : Calculate the electric stress and explain the dielectric design of high-voltage components
- CLO5 : Apply appropriate electrical/physical/chemical measurements for insulation assessment

Detailed Assessment Description

You are required to maintain a lab book for recording your observations and experimental results. A lab book is an A4 size notebook containing a mix of plain pages and graph sheets. A suite of video recordings explaining laboratory experiments available on Moodle to help students prepare before they attend laboratory classes.

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Topic 1: Overview - Equipment and components used in electrical power systems Topic 2: Insulation of HV equipment - electric stress calculation, field grading
Week 2 : 19 February - 25 February	Lecture	Topic 2 (cont.)
	Tutorial	Tutorial 1: Electric stress
Week 3 : 26 February - 3 March	Lecture	Topic 3: Overcurrents - electrodynamic forces, thermal effects, protection.
Week 4 : 4 March - 10 March	Lecture	Topic 4: Overvoltages – steady-state/transient, recovery voltage, current chopping.
	Tutorial	Tutorial 2: Overcurrent
	Laboratory	First lab session
Week 5 : 11 March - 17 March	Lecture	Topic 4 (cont.): surge propagation on transmission lines or cables, overvoltage protection, insulation coordination.
	Laboratory	Second lab session
Week 6 : 18 March - 24 March	Homework	Flexibility week
Week 7 : 25 March - 31 March	Lecture	Topic 5: Equipment rating: thermal equivalent circuit, steady-state temperature rise.
	Tutorial	Tutorial 3: Overvoltage
	Laboratory	Third lab session
Week 8 : 1 April - 7 April	Lecture	Topic 5 (cont.)
	Laboratory	Fourth lab session
Week 9 : 8 April - 14 April	Lecture	Topic 6: High-voltage testing techniques and insulation assessment.
	Tutorial	Tutorial 4: Thermal rating
	Laboratory	Fifth lab session
Week 10 : 15 April - 21 April	Lecture	Topic 6 (cont.), revision
	Tutorial	Tutorial 5: HV testing

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Course Resources

Prescribed Resources

Moodle

The website for this course is on UNSW Moodle. It contains lecture notes, tutorials, laboratory materials, some past exam papers, as well as other relevant information and announcements about this course: https://moodle.telt.unsw.edu.au/login/index.php.

Mailing list

Announcements concerning course information will be given in the lectures and/or on Moodle and/or via email (which will be sent to your student email address).

Recommended Resources

Textbooks

Prescribed textbook: there are no prescribed textbooks for the course. A set of lecture notes developed by the convener will be made available for download from the course web site.

Reference books: the following references will each cover parts of the course only. They are listed in no particular order of importance:

- E. Kuffel, W.S. Zaengl, and J. Kuffel, High Voltage Engineering: Fundamentals, 2nd ed., Butterworth-Heinemann, 2000.
- P. Gill, Electrical Power Equipment Maintenance and Testing, 2nd ed., CRC Press, 2008.
- H.M. Ryan (ed.), High Voltage Engineering and Testing, 2nd ed., London : Institution of Electrical Engineers, c2001.
- R.E. James and Q. Su, Condition Assessment of High Voltage Insulation in Power System Equipment, IET, 2008.
- W. Hauschild and E. Lemke, High-Voltage Test and Measuring Techniques, Springer Berlin Heidelberg, 2014.
- F.A.M. Rizk and G.N. Trinh, High Voltage Engineering, CRC Press, 2014.
- C.L. Wadhwa, High Voltage Engineering, 2nd ed., New Age International, 2007.
- T.J. Gallagher and A.J. Pearmain, High Voltage: Measurement, Testing, and Design, Chichester [Sussex] ; New York : Wiley, c1983.
- N.H. Malik, et al, Electrical Insulation in Power Systems, Marcel Dekker, 1998.
- M.S. Naidu and V Kamaraju, High Voltage Engineering, 2nd ed., McGraw-Hill, 1996.
- C.R. Bayliss and B.J. Hardy, Transmission and Distribution Electrical Engineering, 4th ed, Elsevier, 2012.
- J.D. Glover, T.J. Overbye and M.S. Sarma, Power System Analysis and Design, 6th ed., Cengage Learning, 2016.
- B.M. Weedy, and B. Cory, Electric Power Systems, 4th ed., Wiley, 1998.
- N. Mohan, First Course on Power Systems, Minneapolis, 2006.
- T.R. Bosela, Electrical Power System Technology, Prentice-Hall, 1997.
- J. Eaton, and E. Cohen, Electric Power Transmission Systems, 2nd ed., Prentice-Hall.
- M.E. El-Hawary, Electrical Power System Design and Analysis, Prentice-Hall, 1983.
- T. Gonen, Electric Power Distribution System Engineering, McGraw-Hill, 1986.
- P. Hasse, Overvoltage Protection in Low Voltage Systems, Peter Peregrinus, 1992.
- F. Kussy, and J. Warren, Design Fundamentals for Low Voltage Distribution and Control, Marcel Dekker, 1987.
- J.C. Whitaker, AC Power Systems Handbook, CRC Press, 1991.

Course Evaluation and Development

This course is under constant revision in order to improve the learning outcomes for all students. Please forward any feedback (positive or negative) on the course to the course convener or via

the online student survey myExperience. You can also provide feedback to ELSOC who will raise your concerns at student focus group meetings. As a result of previous feedback obtained for this course and in our efforts to provide a rich and meaningful learning experience, we have continued to evaluate and modify our delivery and assessment methods.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Toan Phung		Room 123, Elec. Eng. Building G17	9385-5407	12 -1 pm Mon-Wed	Yes	Yes
Demonstrator	Hua Chai					No	No

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's Special Consideration page.

II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- Attendance
- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism

- Equitable Learning Services

III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: https://www.unsw.edu.au/engineering/student-life/student-resources/program-design.

Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: student.unsw.edu.au/plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

Faculty-specific Information

Engineering Student Support Services – The Nucleus - enrolment, progression checks, clash

requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

UNSW Study Abroad – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

School-specific Information

General Conduct and Behaviour

Consideration and respect for the needs of your fellow students and teaching staff is an expectation. Conduct which unduly disrupts or interferes with a class is not acceptable and students may be asked to leave the class.

Use of AI for assessments

Your work must be your own. If you use AI in the writing of your assessment, you must acknowledge this and your submission must be substantially your own work. More information can be found on this website.

Workplace Health & Safety (WHS)

WHS for students and staff is of utmost priority. Most courses involve laboratory work. You must follow the rules about conduct in the laboratory. About COVID-19, advice can be found on this website.

School Contact Information

Consultations: Lecturer consultation times will be advised during the first lecture. You are welcome to email the tutor or laboratory demonstrator, who can answer your questions on this course and can also provide you with consultation times. ALL email enquiries should be made from your student email address with ELEC/TELExxxx in the subject line; otherwise they will not be answered.

Keeping Informed: Announcements may be made during classes, via email (to your student email address) and/or via online learning and teaching platforms – in this course, we will use Moodle https://moodle.telt.unsw.edu.au/login/index.php. Please note that you will be deemed to have received this information, so you should take careful note of all announcements.

Student Support Enquiries

For enrolment and progression enquiries please contact Student Services

Web

Electrical Engineering Homepage