

Diploma of Science (Engineering Studies) (Year 1)

The units you will study are designed to enhance your learning experience, and provide you with the underpinning knowledge necessary to prepare you for studies in Engineering related courses at university level. This program is taught on ECU's state-of-the-art Joondalup Campus West.

The program consists of 8 units of study and can be completed over 2 or 3 trimesters, and provides opportunities for scaffolded learning and the development of core academic and employability skills. Students will study the 7 units outlined below, plus a Year 1 Elective.

This course will provide students entry into ECC Diploma of Science (Engineering Studies) (Year 2).

UNIT DESCRIPTORS

COM220 – Workplace Communication – Employability

Students will identify, analyse and apply communication, social and intercultural skills for effective interpersonal and workplace relationships. This unit develops written skills, oral presentation skills and research skills, to prepare students for academic or professional environments. Students will make connections between learning and future employability through topics such as effective workplace relationships, negotiation, managing conflict, and skills for teamwork and leadership.

CPT107 – Introductory Computing

This unit develops knowledge and skills in computing systems – software, hardware, digital security, communication networks, internet, information and data management. Students will develop their digital literacy and gain practical skills in specific computing applications from the Microsoft Office Suite. Students will also be introduced to very basic Java programming.

MTH104 – Introductory Mathematics

This unit is designed for students who require a general mathematics background suitable for studies in business, health sciences and computing/IT courses. Students will learn to use a scientific calculator and develop critical thinking skills to identify, analyse, synthesize and solve mathematical calculations in arithmetic, statistics, algebra, functions and their graphs, optimisation, sequences, series, growth and decay, trigonometry, geometric sequences, series, set theory and interest.

COM210 – Communication Skills

This unit introduces the foundations of academic writing – from library research using databases, selection of approved academic resources, to writing paragraphs and essays, using the APA referencing system and delivering oral presentations using multi-media. The unit also includes essential study skills to assist with time management, note-taking and the use of memory aids for study purposes.

PHY100 – Introductory Physics

This unit is designed to provide students with knowledge in a broad range of physics concepts, and to help students identify the impact of physics and technology on society. It is designed for those who do not have a physics background at secondary level but wish to study engineering or physical sciences at the university. This unit covers theory and practical investigations, using logical and analytical thinking, as well as developing skills in communicating scientific

information. Physics principles and methods applicable to Newton's Laws, forces, heat, motion, electricity, wave motion and optics are included.

MAT137 – Introductory Applied Maths

This unit introduces students to functions, calculus, descriptive statistics, probability and random variables, and their application to solve applied problems. Students will be introduced to functions and their properties, differential and integral calculus and its application to optimisation, area and rectilinear motion problems, arithmetic and geometric and sequences, sets and probability, descriptive statistics and discrete and continuous random variables.

CHE100 – Introductory Chemistry

This Chemistry unit is designed for students who wish to study engineering, physical sciences or health sciences at a tertiary level. It covers the study of matter and its interactions (chemical quantities, atoms, states, chemical bonding, chemical calculations, electronic and molecular structures, organic and inorganic chemistry). Students will develop skills in organising, analysing and interpreting information and use simulated activities to prepare for future laboratory work.

Year 1 Elective

Methods of Assessment at ECC

Methods of assessment may differ depending on the program and subjects you choose. Most subjects will be assessed through a combination of written examinations and assignments, essays, presentations, seminars and tutorial participation. Some coursework will include group-based projects and practical activities. At the beginning of each unit, students are given an outline that includes due dates for the completion of assignments. Students who fail to meet these submission deadlines may be penalised even though the work was completed. Attending all classes is essential in order to be successful at ECC. **Flyer is current as of 19 October 2022.**

Important information for students

International students must study a full-time study load.

ECC reserves the right to cancel classes due to insufficient demand. Timetable clashes may be unavoidable.