UNIVERSITY OF CANBERRA

Bachelor of Engineering in Network and Software Engineering (106JA.2)

Please note these are the 2015 details for this course

Domestic students

Selection rank	
Delivery mode	On campus
Location	
Duration	4.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
UAC code	
English language requirements	An IELTS Academic score of 6.0 overall, with no band score below 6.0 (or equivalent). View IELTS equivalences

International students

Academic entry requirements	To study at UC, you'll need to meet our academic entry requirements and any admission requirements specific to your course. Please read your course admission requirements below. To find out whether you meet UC's academic entry requirements, visit our academic entry requirements page.

	View UC's academic entry requirements
Delivery mode	On campus
Location	
Duration	4.0 years
Faculty	Faculty of Science and Technology
Discipline	Academic Program Area - Technology
CRICOS code	
English language requirements	An IELTS Academic score of 6.0 overall, with no band score below 6.0 (or equivalent). View IELTS equivalences

About this course

The Bachelor of Engineering in Network and Software Engineering is a comprehensive four-year degree designed to meet the criteria for accreditation as a professional engineering with Engineers Australia (EA). The course provides education in core areas of network and software engineering to produce a multi-skilled graduate engineer, who can fill the growing demands of the merging information and telecommunications industry. Students acquire in-depth knowledge and skills on design, develop, and implement a range of software based systems over communication network infrastructures. Graduates gain deep technical skills in data communications and networking, mobile and wireless communications, network security and the proliferation of internet worked applications and services relating to cloud computing, big data and multimedia. With multiple articulated pathways, and flexible delivery modes and industry oriented internships, students are able to tailor the course to suit their own career aspirations.

Professional accreditation

Accreditation by the Engineers Australia (EA) is being pursued and is expected to be granted within the normal timeframe.

Admission requirements

Applicants must meet normal University requirements for admission to an undergraduate course or hold qualifications deemed to be equivalent by the University's Admissions Committee.

Assumed knowledge

Specialist Maths (Recommended) (T) or Mathematical Methods (T) and English (T).

Periods course is open for new admissions

This course is not open for new admissions.

Credit arrangements

There are currently no formal credit transfer arrangements for entry to this course. Any previous study or work experience will only be considered as part of the application process in accordance with current course rules and university policy.

Course requirements

Bachelor of Engineering in Network and Software Engineering (106JA) | 96 credit points

Expand All | Collapse All

Required - 78 credit points as follows

Required Units - Must pass 54 credit points as follows

Software Technology 1 (4483) | 3 credit points — Level 1

Introduction to Software Engineering (5531) | 3 credit points — Level 1

Database Design (5915) | 3 credit points — Level 1

Systems Analysis and Modelling (6365) | 3 credit points — Level 2

Distributed Systems Technology (7159) | 3 credit points — Level 3

Object Oriented Software Design (7165) | 3 credit points — Level 3

Software Technology 2 (7170) | 3 credit points — Level 2

System Software (7171) | 3 credit points — Level 2

Web Design and Programming (7175) | 3 credit points — Level 2

Introduction to Computer Engineering (8223) | 3 credit points — Level 1

Engineering Management 2A (8228) | 3 credit points — Level 2

Real Time Operating Systems (8229) | 3 credit points — Level 3

Communication Theory (8233) | 3 credit points — Level 3

Introduction to Network Engineering (8741) | 3 credit points — Level 2

Major in Network Engineering (MJ0158) | 24 credit points

Required - Must pass 24 credit points as follows

Electronics Systems (8224) | 3 credit points — Level 1

Introduction to DSP (8226) | 3 credit points — Level 1

Wireless Networks (8227) | 3 credit points — Level 2

Embedded Systems (8231) | 3 credit points — Level 3

Engineering Project A (8238) | 3 credit points — Level 4

Network Security (8239) | 3 credit points — Level 4

Engineering Project B (8243) | 3 credit points — Level 4

Advanced Wireless Communication (8244) | 3 credit points — Level 4

Restricted Choice - Must pass 18 credit points from the following

Network Security - May select from

Database Systems (7157) | 3 credit points — Level 3

Security and Support in IT (7167) | 3 credit points — Level 2

System Testing (7172) | 3 credit points — Level 3

Biometric Person Authentication (8020) | 3 credit points — Level 3

Introduction to Digital Forensics (9074) | 3 credit points — Level 2

Gaming Technologies - May select from

Game Programming Techniques (7160) | 3 credit points — Level 3

Soft Computing (7168) | 3 credit points — Level 3

Visual and Interactive Computing (7174) | 3 credit points — Level 3

Pattern Recognition (8240) | 3 credit points — Level 4

Virtual Worlds Technology (8698) | 3 credit points — Level 3

Communications Technologies - May select from

Radio Communications (8230) | 3 credit points — Level 3

Analogue and Digital Communications (8237) | 3 credit points — Level 4

Optical Communications (8242) | 3 credit points — Level 4

Networked Technologies - May select from

Network Programming (8241) | 3 credit points — Level 4

Enterprise and Cloud Computing (9281) | 3 credit points — Level 3

Note:

- Note: Networked Technologies is also known as Internet of Things

Unspecified/Ungrouped - May select from

Advances in Information Sciences 1 (7897) | 3 credit points — Level 3

Advances in Information Sciences 2 (7898) | 3 credit points — Level 3

Information Sciences Internship (7899) | 3 credit points — Level 3

Note:

- Students may choose a single theme and/or units from any theme

In addition to course requirements, in order to successfully complete your course you must meet the inherent requirements. Please refer to the inherent requirements statement applicable to your course

Typical study pattern

UC - Canberra, Bruce

Standard Full Time, Semester 1 Commencing

Year 1

Semester 1

Database Design (5915)

Introduction to Computer Engineering (8223)

Introduction to Software Engineering (5531)

Semester 2

Electronics Systems (8224)

Introduction to DSP (8226)

Software Technology 1 (4483)

Year 2

Semester 1

Introduction to Network Engineering (8741)

Software Technology 2 (7170)

System Software (7171)

Wireless Networks (8227)

Semester 2

Distributed Systems Technology (7159)

Engineering Management 2A (8228)

Systems Analysis and Modelling (6365)

Web Design and Programming (7175)

Year 3

Semester 1

Embedded Systems (8231)

Object Oriented Software Design (7165)

Real Time Operating Systems (8229)

Restricted Choice Unit

Semester 2

Communication Theory (8233)

Restricted Choice Unit

Year 4

Semester 1

Engineering Project A (8238)

Network Security (8239)

Two Restricted Choice Units

Semester 2

Advanced Wireless Communication (8244)

Engineering Project B (8243)

Two Restricted Choice Units

Course information

Course duration

Standard eight semesters full-time or equivalent. Maximum twenty four semesters.

Learning outcomes

Learning outcomes	Related graduate attributes

Determine which principles in the sciences and engineering are appropriate to use in the solution of complex technological problems in the field of information engineering;	Communication, information literacy and numeracy, problem solving, effective workplace skills
Communicate effectively in oral and written form.	Communication, information and communication technology, personal attributes
Develop a functional specification from an initial brief, evaluate the various design options available to meet a given set of specifications, formulate a final design specification, and implement and test the preferred option.	Information literacy and numeracy, problem solving, effective workplace skills, personal attributes
Apply relevant theories and techniques to the analysis and solution of problems in information technology.	Information and communication technology, problem solving, effective workplace skills
Assess the impact of an engineering project on the social and physical environment;	Information literacy and numeracy, information and communication technology, problem solving, effective workplace skills
Transfer and enhance the knowledge and skills acquired during the course to new or complementary areas of engineering and technology through lifelong learning;	Lifelong learning, personal attributes
Manage the human, physical and financial resources required to implement or maintain a complex engineering project;	Communication, information and communication technology, problem solving, effective workplace skills, social responsibility, personal attributes
Apply their particular engineering strengths to the design, construction and maintenance of hardware, software, and systems in all sizes of computer installations, from the large mainframe and client-server systems encountered in the Commonwealth Public Service and its supporting organisations, to embedded microprocessors dedicated to controlling a single appliance or process	Information and communication technology, problem solving, working with others, effective workplace skills, professional ethics, social responsibility, personal attributes

Understand and participate in the processes of business analysis of systems;	Information and communication technology, working with others, social responsibility
Design, implement and maintain large software systems, following contemporary software engineering practices	Information literacy and numeracy, information and communication technology, problem solving, working with others, effective workplace skills
Apply their particular engineering strengths to the design, construction and maintenance of systems in network communications and software engineering, such as those encountered in the Commonwealth Public Service, major telecommunications companies and national and international standard electronics and electrical industry companies.	Problem solving, working with others, effective workplace skills, professional ethics, social responsibility, lifelong learning and personal attributes

Majors

- Major in Network Engineering (MJ0158)

Awards

Award	Official abbreviation
Bachelor of Engineering in Network and Software Engineering	BE Network&SE

Honours

Honours degree programs are available to students who achieve good results [Grade Point Average (GPA) of 5.00 or better) in the third year of their studies. Honours student?s then complete additional work (an extension to the project) in their fourth year of study to qualify to graduate with the degree with Honours. The degree with Honours will be awarded in the following classes depending on the Grade Point Average obtained and other conditions as follows: 1. First Class - GPA>6 in fourth-year subjects, High Distinction for the Engineering project, outstanding work in the Honours extension; 2. Second Class Division 1 - GPA>5.5 in fourth-year subjects, Distinction for the project, excellent work in the extension; and 3. Third Class - Not awarded. Student takes out the pass degree.

Enquiries

Student category	Contact details
Prospective Domestic	Email study@canberra.edu.au or Phone 1800 UNI CAN (1800 864 226)

Students	
Prospective International Students	Email international@canberra.edu.au or Phone +61 2 6201 5342
Current and Commencing Students	Please contact the University Student Centre by Email student.centre@canberra.edu.au or Phone 1300 301 727

Download your course guide

Scholarships

Find the scholarship that's the right fit for you

Explore Scholarships

University of Canberra, Bruce ACT 2617 Australia

+61 2 6201 5111

ABN 81 633 873 422

CRICOS 00212K

TEQSA Provider ID: PRV12003 (Australian University)

UC acknowledges the Ngunnawal people, traditional custodians of the lands where Bruce campus is situated. We wish to acknowledge and respect their continuing culture and the contribution they make to the life of Canberra and the region. We also acknowledge all other First Nations Peoples on whose lands we gather.