Master of Engineering

Course code: NMEN

Course Requirements

To be eligible for the Master of Engineering, students are required to complete 192 credit points in total, consisting of:

- 48 credit points of Common Interdisciplinary studies;
- 48 credit points of Research studies;
- 96 credit points of Core Specialisation studies.

Students are required to enrol in all units for semester 1 and 2, and are not permitted to enrol in more than 48 credit points per semester as a full-time load.

Credit Points

A credit point is used to measure the study load for a unit. A standard unit consists of 12 credit points, with each completed unit's credit points adding up to meet your required total of credit points to complete your course.

Capstone Units

This course includes capstone units, which are third-year level units that are completed at the end of your last year of study. They involve demonstrating the skills and knowledge you have acquired through your course, usually through a large research project or an internship. They have the study load of 2 units, and are worth 24 credit points upon completion.

Further Information

Unit and course information is available from the University course search site at http://vu.edu.au/course-search or go to https://askvu.vu.edu.au or Phone VUHQ on 03 9919 6100

Campus

Footscray Park (FP)

College

College of Sport, Health and Engineering

Study Mode

Full Time or Part Time

Duration

2 years Full Time or Part Time equivalent

Fee Type

For information on course fees, refer to http://vu.edu.au/fees

Application Method

VTAC - https://vtac.edu.au
Direct Application - https://gotovu.custhelp.com/app/landing

Timetable

vu.edu.au/timetables

Course Chair

Horace King
Wasantha Pallewela Liyanage

Course Advice

AskCUA - https://askvu.vu.edu.au/app/askcua

Year 1 (Common Interdisciplinary studies)

Unit Code	Unit Title	Unit Type	Sem	Credit Points	Campus	Pre-Requisites
BMO6050	Art and Practice of Leadership	Other	8WB1, 8WB3	12	CC	
BMO6506	Work and Organisation Systems	Other	8WB2, 8WB3	12	CC	
BMO6511	Strategic Management and Business Policy	Other	8WB4	12	CC	
EPM5600	Principles of Project Management	Other	8WB1	12	ORT	
EPM5610	Project Planning and Control	Other	8WB1, 8WB3	12	ORT	
EPM5630	Project Management and People	Other	8WB3	12	FP	
EPM5630	Project Management and People	Other	8WB3	12	FP	
EPM5730	Project Stakeholder Management	Other	TBA	12	FP	
EPM5740	Project Risk Management	Other	8WB2	12	FP	
NIT5081	Fundamentals of Cyber Security	Other	8WB2	12	CC	
NIT5082	Cloud Security	Other	8WB1	12	CC	
NIT5110	Networking Systems	Other	8WB4	12	CC	
NIT5130	Database Analysis and Design	Other	8WB2	12	CC	
NIT5150	Advanced Object Oriented Programming	Other	8WB1, 8WB4	12	CC	
NIT6083	Security and Risk Management	Other	8WB4	12	CC	NIT5081

(Research studies)

Unit Code	Unit Title	Unit Type	Sem	Credit Points	Campus	Pre-Requisites
NEF6101	Research Thesis 1	Capstone	1, 2	24	FP	
NEF6102	Research Thesis 2	Capstone	1, 2	24	FP	NEF6101

Prerequisites

A number of units within the degree have 'prerequisites'. These prerequisites must be met before enrolment in the unit is permitted. Generally these prerequisites require the successful completion of a unit or units taken at an earlier stage in the course. Students should pay particular attention to these prerequisite requirements as failure to meet these can seriously hinder progression through the course.

Core

A unit that must be completed

Year 2 (Core Specialisation)

Electrical Power - NSPELE

The Master of Engineering specialisation in Electrical Power comprises coursework, design exercises and research projects designed to enable students to acquire specialised skills and expertise in the field of Power Systems, specifically catering for the contemporary Smart electricity system.

Making the electricity grid Smart compliant is a global priority. Upgrading electricity grids to 21st century standards requires incorporating power engineering with the latest digital communications systems and information technology areas (including sensors, electronics, controls and wireless devices).

The course will enhance students' academic experience through work-related learning. Active learning, strong contextualisation and industry relevance characterise the design, development and delivery of resources and course materials.

Unit Code	Unit Title	Unit Type	Sem	Credit Points	Campus	Pre-Requisites
NNM6001	Electrical Power Systems, Analysis and Operation	Specialisation	8WB3	12	FP	
NNM6002	Electric Energy Systems Protection and Communication	Specialisation	TBA	12	FP	
NNM6003	Overhead and Underground Power Line Design	Specialisation	TBA	12	FP	
NNM6005	Alternate Energy Systems	Specialisation	TBA	12	FP	
NNM7002	Transient Analysis, Stability and Surge Protection	Specialisation	8WB3	12	FP	
NNM7005	Power Quality and Harmonics	Specialisation	TBA	12	FP	
NNM7006	Insulation Co-Ordination and Sub-Station Design Principles	Specialisation	8WB2	12	FP	
NNM7007	National Electricity Market and Regulation Principles	Specialisation	8WB1	12	FP	

Telecommunication - NSPTEL

The Master of Engineering Telecommunications specialisation is supported by coursework, design exercises and research projects designed to enable the development of specialised skills and expertise in the telecommunications field, specifically wireless and network engineering.

Graduates will meet employment demand in the telecommunications industry within Australia and overseas. Particular emphasis on wireless and networking within the course will provide job opportunities in the areas of mobile broadband and fibre to the premises - the current growth drivers of the global telecommunications industry.

Students in this specialisation will benefit from the College's strong research outputs, capabilities and facilities which were major contributors to the Australian Research Council's 2018 (Excellence in Research Australia) ERA=5 (well above world standard) ranking in electrical engineering and contributed to the Engagement and Impact Outcomes rating of HIGH for Engineering impact.

Unit Code	Unit Title	Unit Type	Sem	Credit Points	Campus	Pre-Requisites
NIT5110	Networking Systems	Specialisation	8WB4	12	CC	
NIT6120	Mobile Applications	Specialisation	8WB4	12	CC	
NNT6501	Advanced Communication System Design 1	Specialisation	TBA	12	FP	
NNT6502	Advanced Communication System Design 2	Specialisation	TBA	12	FP	
NNT6510	Communication Theory	Specialisation	TBA	12	FP	
NNT6531	Radio Frequency Engineering	Specialisation	TBA	12	FP	
NNT6532	Satellite Network Design	Specialisation	TBA	12	FP	
NNT6542	Mobile Network Design	Specialisation	TBA	12	FP	

Civil Engineering - NSPCIV

This Masters builds upon the highly successful and industry renowned Bachelor of Engineering (Civil Engineering, Honours), NHEC. Full-time employment in NHEC (and EBDC) is 87% (GOS 2019) which is well above the national average of 82.4% for undergraduate Engineering degrees according to GOS 2019 data. The Masters in Civil Engineering will further fulfil the growing demand for professionals with advanced knowledge, problem solving skills and research ability in Civil Engineering.

This Masters will be technical in nature and will be aimed at enhancing students' ability to gain employment in both the private and public sector in positions of planning, designing, constructing and management of essential community infrastructure. Graduates will have a wide range of career opportunities in a variety of organisations including: construction companies, transportation authorities and organisations, water utility providers, mining, as well as defence, local councils and other government departments.

Unit Code	Unit Title	Unit Type	Sem	Credit Points	Campus	Pre-Requisites
NNC6001	Advanced Transportation Engineering	Specialisation	TBA	12	FP	
NNC6002	Sustainable Design and Development	Specialisation	TBA	12	FP	
NNC7001	Advanced Structures	Specialisation	TBA	12	FP	
NNC7002	Sustainable Design of Major Civil Engineering Infrastructure	Specialisation	TBA	12	FP	
NNC7003	Advanced Materials and Asset Management of Infrastructure	Specialisation	8WB1	12	FP	
NNC7004	Integrated Urban Water Management	Specialisation	8WB2	12	FP	
NNC7005	Smart Water Systems Design	Specialisation	TBA	12	FP	
NNC7006	Soil Mechanics and Foundation Engineering	Specialisation	TBA	12	FP	