Master of Engineering (Systems) (EN50)

Year offered: 2011
Admissions: Yes
CRICOS code: 060811A
Course duration (full-time): 1 year
Course duration (part-time): 2 years
Domestic Fees (indicative): 2011: Full fee tuition $8,875 (indicative) per semester
International Fees (indicative): 2011: $11,375 (indicative) per semester
Domestic Entry: February and July
International Entry: February and July
Total credit points: 96
Standard credit points per full-time semester: 48
Course coordinator: Associate Professor Mark Ho (Please refer course specific enquiries to Course Leader.)
Discipline coordinator: Dr Michael Mason (Course Leader)
Campus: Gardens Point

Full-time Course structure - February Entry

Year 1, Semester 1
BEN610 Project Management Principles
ENN520 Advanced Signal Processing and Systems
ENN540 Engineering Optimisation
AMN435 Communication, Negotiation and Leadership

Year 1, Semester 2
BEN710 Sustainable Practice in Built Environment and Engineering
BEN910 Integrated Project
ENN560 System Design
ENN580 Control Systems

Full-time Course structure - Mid Year Entry

Year 1, Semester 2
BEN710 Sustainable Practice in Built Environment and Engineering
ENN560 System Design
ENN580 Control Systems
AMN435 Communication, Negotiation and Leadership

Year 2, Semester 1
BEN610 Project Management Principles
BEN910 Integrated Project
ENN520 Advanced Signal Processing and Systems
ENN540 Engineering Optimisation

Part-time Course structure - February Entry

Year 1, Semester 1
BEN610 Project Management Principles
ENN520 Advanced Signal Processing and Systems

Year 1, Semester 2
ENN560 System Design
ENN580 Control Systems

Year 2, Semester 1
ENN540 Engineering Optimisation
AMN435 Communication, Negotiation and Leadership

Year 2, Semester 2
BEN710 Sustainable Practice in Built Environment and Engineering

International Student Entry

International students must maintain an enrolment program that will allow them to complete their course within the specified timeframe of their eCoE (electronic Confirmation of Enrolment).

Advanced Standing

Students completing two Masters courses in the Faculty of Built Environment and Engineering will be eligible to apply for a maximum of 24 credit points advanced standing in the second course on the basis of common units already completed. Such students will be required to complete a minimum of 72cp to be determined in consultation with the nominated Course Leader, to achieve the second Masters.

Limits on grades of 3

A new policy concerning grades of 3 came into effect from 1 January 2009 (QUT MOPP C/5.2). With effect from this date grades of 3 are no longer considered a conceded or low pass but are classified as a fail grade. Any grades of 3 awarded prior to 1 January 2009 retain the conceded pass status and will be counted for graduation purposes up to the maximum number of grades of 3 permitted for your course. Grades of 3 incurred in units that commence after 1 January 2009 will not count towards your degree. Further information is available on the Student Services website

Further Information

Faculty of Built Environment and Engineering - Phone +61 7 3138 1433, email: bee.enquiries@qut.com

Full-time Course structure - February Entry
Engineering
BEN910 Integrated Project

Part-time Course structure - Mid Year Entry

Year 1, Semester 2
- ENN560 System Design
- ENN580 Control Systems

Year 2, Semester 1
- BEN610 Project Management Principles
- ENN520 Advanced Signal Processing and Systems

Year 2, Semester 2
- BEN710 Sustainable Practice in Built Environment and Engineering
- AMN435 Communication, Negotiation and Leadership

Year 3, Semester 1
- BEN910 Integrated Project
- ENN540 Engineering Optimisation

Potential Careers:
Civil Engineer, Electrical and Computer Engineer, Electrical Engineer, Engineering Technologist, Mechanical Engineer, Medical Engineer.

UNIT SYNOPSES

AMN435 COMMUNICATION, NEGOTIATION AND LEADERSHIP
The unit serves as an introduction to effective leadership, communication, and negotiation processes as fundamental skills in today’s organisations. In particular, it focuses on the increasing importance of such skills for Engineering, Built Environment, Project management and other professionals to bridge cultural boundaries and enhance organisational performance in an increasingly globalised world. 
Equivalents: GSN235  Credit points: 12  Contact hours: 3  Campus: Gardens Point  Teaching period: 2011 SEM-1 and 2011 SEM-2

BEN610 PROJECT MANAGEMENT PRINCIPLES
This unit serves as an introduction to project management as a fundamental skill for all postgraduate coursework students in built environment and engineering. It offers an overview of the framework, processes and key knowledge areas of project management.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1 and 2011 SEM-2

BEN710 SUSTAINABLE PRACTICE IN BUILT ENVIRONMENT AND ENGINEERING
Sustainability has become a global agenda that impacts upon our work and everyday life. The unit will introduce principles, challenges and skills for dealing with a diversity of trans-disciplinary issues in sustainable development. By introducing critical sustainability theory and challenging best practices, this unit will prepare you for the impending changes that are necessary in all built environment and engineering disciplines.
Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

BEN910 INTEGRATED PROJECT
Problems that confront professionals are ill-defined and complex. The ability to define a problem, and collect and analyse relevant information using appropriate research methods is essential to professional practice. From a learning perspective, one of the most effective ways of achieving this is to consolidate and extend previously gained skills through an activity that is relevant to industry and, where possible, is associated with a specific workplace.
Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1 and 2011 SEM-2

ENN520 ADVANCED SIGNAL PROCESSING AND SYSTEMS
The concepts of signals, images and systems arise in a wide variety of fields, and the ideas and techniques associated with these concepts play an important role in such diverse areas of science and technology as communications, aeronautics and astronautics, circuit design, acoustics, seismology, biomedical engineering, process control, and speech and image processing. The field of signal and image processing has grown rapidly in the last few decades and it continues to grow in importance as technologies such as very large scale integration, programmable logic devices and high performance computing make it possible to implement digital signal and image processing systems for many practical applications.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1

ENN540 ENGINEERING OPTIMISATION
In a society that recognises the impact of resource depletion and industrial activity on the environment, it is critical that professional engineers are equipped with the skills necessary to develop effective engineering conceptual solutions, optimise them, and then deliver them. This highly practical unit will introduce you to a range of advanced tools...
used in engineering concept development and optimisation, using mathematical and numerical methods.  
**Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**ENN560 SYSTEM DESIGN**
A system comprises a number of elements which interact in order to perform a function that the individual elements could not. The systems engineering methodology considers whole of life cycle development, interactions between system elements, and interactions with other systems. The professional engineer requires the technical skills to implement the system engineering methodology, the ability in interact with other professionals, and to communicate in an appropriate and industry recognised manner.  
**Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**ENN580 CONTROL SYSTEMS**
Feedback control systems form the basis of a large number of systems engineering applications in a diverse range of disciplines, including aerospace, robotics, power systems, and manufacturing. An advanced knowledge of real world control system issues, such as dealing with non-linearities and non-stationary phenomena, is essential for the advanced systems engineering practitioner.  
**Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2