Programs and courses

ENG4104 Engineering Problem Solving Simulations

Subject	Cat-nbr	Term	Mode	Description	Units	Campus
ENG	**4104**	**2, 2010**	**ONC**	**Engineering Problem Solving Simulations**	**1**	**Toowoomba**

Academic group:	FOENS
Academic org:	FOENSV
Student contribution band:	2
ASCED code:	39999

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STAFFING

Examiner: Chris Snook
Moderator: Alexander Kist

REQUISITES

Pre-requisite: ENG3103 or Students must be enrolled in one of the following Programs: GCEN or GDET or METC or MEPR or GCNS or GDNS or MENS

RATIONALE

This course is intended for Bachelor of Engineering students. It forms the capstone to the Engineering Problem Solving strand in the Bachelor of Engineering program. In this course the student will be introduced to the complexity of the real world, the interactivity that occurs between engineering systems, and a range of problem solving philosophies. Students must realize that the work of the professional engineer can rarely be

confined within the boundaries of a single problem: the solution to one problem often causes or exacerbates another adjacent problem. The student must also realise that the world is rarely linear in nature, and most of the problems to be analysed show non-linear behaviour. These aspects will be explored against a background of increasing computer-programming skills. As in previous courses of this strand, the student is to develop skills in problem solving within an engineering context. A number of real world problems and case studies provide the basis for meeting this objective.

SYNOPSIS

This course introduces the student to the treatment of real world engineering systems. Advanced numerical techniques and programming skills for the handling of non linearity and partial differential equations will be learnt. In addition, the student is required to explore the philosophical approaches to engineering problem solving and evaluate the "downstream" consequences of specific solutions to the problems.

OBJECTIVES

This information will be available from 19-02-2010

TOPICS

This information will be available from 19-02-2010

TEXT and MATERIALS required to be PURCHASED or accessed

This information will be available from 19-02-2010

REFERENCE MATERIALS

This information will be available from 19-02-2010

STUDENT WORKLOAD REQUIREMENTS

This information will be available from 19-02-2010

ASSESSMENT DETAILS

This information will be available from 19-02-2010

IMPORTANT ASSESSMENT INFORMATION

This information will be available from 19-02-2010

ASSESSMENT NOTES

This information will be available from 19-02-2010

EVALUATION AND BENCHMARKING

In meeting the University's aims to establish quality learning and teaching for all programs, this course monitors and ensures quality assurance and improvements in at least two ways. This course: 1. Conforms to the USQ Policy on Evaluation of Teaching, Courses and Programs to ensure ongoing monitoring and systematic improvement. 2. Forms part of the Bachelor of Engineering and/or Bachelor of Engineering Technology program and is benchmarked against the: - USQ accreditation/reaccreditation processes which include (i) stringent standards in the independent accreditation of its academic programs, (ii) close integration between business and academic planning, and (iii) regular and rigorous review; and - professional accreditation standards of Engineers Australia.

OTHER REQUIREMENTS

This information will be available from 19-02-2010

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