



**GSOE9830**

**ECONOMIC DECISION ANALYSIS IN  
ENGINEERING**

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# I. Staff contact d

## Contact details and consultation times for course convenor

Dr Maruf Hasan  
Room 208H, Building J17  
Tel (02) 9385 5629  
Fax (02) 9663 1222  
Email [m.hasan@unsw.edu.au](mailto:m.hasan@unsw.edu.au)

Consultation time for Maruf Hasan in on Fridays between 2.00 and 5.00 pm.

Guy Allinson  
School of Petroleum Engineering  
Room 249, Tyree Energy Technology Building  
Tel (02) 9385 5189  
Email [g.allinson@unsw.edu.au](mailto:g.allinson@unsw.edu.au)



## Credit Points

This is a 6 unit-of-credit (UoC) course, and involves three (3) hours per week (h/w) of face-to-face contact.

The approximately 25 hours per semester for each UoC, including class contact hours, other learning activities, preparation and time spent on all assessable work. Thus, for a full-time enrolled student, the normal workload, averaged across the 16 weeks of teaching, study and examination periods, is about 37.5 hours per week.

This means that you should aim to spend about 9 h/w on this course. The additional time should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

There is NO parallel teaching in this course.

## Contact Hours

	Day	Time	Location
<b>Lectures</b>	Thursday	12:00-14:00	Ainsworth Building G02
<b>Demonstrations</b>	Thursday	14:00-15:00	Ainsworth Building G02

## **Summary of the course**

The course consists of two sections:

Section 1 (Week 1-6, 13) : Dr Maruf Hasan

Section 2 (Week 7-12): Guy Allinson

### 3. Teaching strategies

Readings and lectures will be used to introduce and explain the theoretical foundations of various economic analysis principles. Problem solving exercises will be used to apply and reinforce the understanding of the concepts and how they can be applied to solve problem

## Module B

Week	Date	<u>Topic</u>
7	8/09	Limitations of sensitivity analysis Using probability distributions
6	15/09	Exploration decisions
7	22/09	Binomial distributions
	27/09	Mid-semester break
8	6/10	Decision trees
9	13/10	Value of information
10	20/10	Monte Carlo simulation Portfolio analysis

### Course revision (Week 13)

13	27/10	Course Revision
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We reserve the right to change the course content without notice.

You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods, which are June for Semester 1 and November for Semester 2. Provisional Examination timetables are generally published on myUNSW in May for Semester 1 and September for Semester 2

For further information on exams, please see the [Exams](#) section on the intranet.

## **Calculators**

You will need to provide your own calculator, of a make and model approved by UNSW, for the examinations. The list of approved calculators is shown at [student.unsw.edu.au/exam-approved-calculators-and-computers](http://student.unsw.edu.au/exam-approved-calculators-and-computers)

It is your responsibility to ensure that your calculator is of an approved make and model, and

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allowed into the examination room.

## **Special consideration and supplementary assessment**

For details of applying for special consideration and conditions for the award of supplementary assessment, see the School [intranet](#) [Special Consideration page](#).

# 6 ~~resources for students~~

## **Text book 1**

International, 16th Ed., 2014.

This textbook is available for purchase at the UNSW book shop.

## **Textbook 2 (optional)**

Decision Analysis for Petroleum Exploration

Paul Newendorp and John Schuyler

Planning Press 2000

Lecture outlines and course notes will be provided on Moodle.

UNSW Library website can be accessed at

<http://info.library.unsw.edu.au/web/services/services.html>





Further information on School policy and procedures in the event of plagiarism is available on the

## Appendix A: Engineers Australia (EA) Stage 1 Competencies for Professional Engineers

	<b>Program Intended Learning Outcomes</b>
<b>PE1: Knowledge and Skill Base</b>	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge
	PE1.4 Discernment of knowledge development and research directions
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
<b>PE2: Engineering Application Ability</b>	PE2.1 Application of established engineering methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources
	PE2.3 Application of systematic engineering synthesis and design processes
	PE2.4 Application of systematic approaches to the conduct and management of engineering projects
<b>PE3: Professional and Personal Attributes</b>	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (professional and lay domains)
	PE3.3 Creative, innovative and pro-active demeanour
	PE3.4 Professional use and management of information
	PE3.5 Orderly management of self, and professional conduct
	PE3.6 Effective team membership and team leadership