



The University of Southern Queensland

Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.
Please consult the web for updates that may occur during the year.

Description: Management Science II

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
MGT	2102	78104	2, 2008	EXT	1.00	Toowoomba

Academic group:	FOBUS
Academic org:	FOB004
Student contribution band:	3A
ASCED code:	080301

STAFFING

Examiner: Mehryar Nooriafshar
Moderator: Glenda Adkins

OTHER REQUISITES

Students are required to have access to a personal computer, e-mail capabilities and Internet access to USQConnect. Current details of computer requirements can be found at <http://www.usq.edu.au/business/aboutfob.htm>.

RATIONALE

Regardless of the size or the nature of business, all operating systems (organisations) must be able to produce or provide the right goods or services in the right quantity at the right time. In order to meet these objectives, business managers have to make decisions both on a short and/or medium/long term basis. There must be a rationale and basis for these decisions. In other words, the decision makers must adopt systematic approaches so that they can justify their choices. Management Science offers a number of techniques which can be used for the purpose of decision-making within any operating system (goods producing or service providing). These topics are covered in the course Management Science II.

SYNOPSIS

This course requires students to be capable of applying managerial control techniques to the outputs of projects; to understand the concept of decision theory; to formulate and solve dynamic programming models; to model and solve Brand switching/Markov Process models; to model and solve queuing problems; to be aware of the technique of simulation and to understand where it can be applied.

OBJECTIVES

The course objectives define the student learning outcomes for a course. The assessment item/s that may be used to assess student achievement of an objective is/are shown in parentheses after each objective. On successful completion of this course, students should be able to:

1. apply project management techniques for business related problems (Assignment 1 and Examination)
2. construct models to aid the making of decisions under uncertainty and use such models in reaching decisions (Examination)
3. show knowledge of formulating and solving dynamic programming models (Assignment 2 and Examination)
4. demonstrate an understanding of Markov process models, by formulating and solving examples applied to business (Examination)
5. demonstrate an understanding of, and apply queuing theory to the solution of problems (Examination)
6. understand the concept of Monte Carlo simulation (Assignment 1, Assignment 2 and Examination).

TOPICS

Description	Weighting (%)
1. Project management techniques, work breakdown structures, network diagrams and Gantt charts	25.00
2. Decision theory	10.00
3. Dynamic programming	25.00
4. Markov process/brand switching	15.00
5. Queueing theory	15.00
6. Simulation	10.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

Lawrence, JA Jnr & Pasternak, BA 2002, *Applied management science: modelling, spreadsheet analysis and communication for decision making*, 2nd edn, John Wiley, New York.

(includes CD-ROM package)

Summers, J & Smith, B 2006, *Communication skills handbook: how to succeed in written and oral communication*, 2nd edn, John Wiley & Sons, Milton, Queensland.

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Any text in management science or operations research will be useful.

Winston, WL 2004, *Operations research: applications and algorithms*, 4th edn, Thomson Brooks/Cole, Australia.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessments	15.00
Directed Study	33.00
Private Study	117.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	15.00	15.00	11 Aug 2008
ASSIGNMENT 2	35.00	35.00	15 Sep 2008
2 HOUR EXAMINATION	50.00	50.00	END S2 (see note 1)

NOTES

1. The examination is scheduled to be held in the end-of-semester examination period. Students will be advised of the official examination date after the timetable has been finalised.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
If you are an international student in Australia, you are advised to attend all classes at your campus. For all other students, there are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:
To satisfactorily complete an individual assessment item a student must achieve at least 50% of the marks. (Depending upon the requirements in Statement 4 below, students may not have to satisfactorily complete each assessment item to receive a passing grade in this course.)
- 3 Penalties for late submission of required work:
If students submit assignments after the due date without prior approval of the examiner, then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.
- 6 Examination information:

This is a restricted examination. Candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination).

- 7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
- 8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6 Assessment, and 5.10 Student Academic Misconduct for further information and to avoid actions which might contravene university regulations. These regulations can be found at <http://www.usq.edu.au/corporateservices/calendar/part5.htm>. Students should also read the Faculty of Business Policies and Procedures which can be found at <http://www.usq.edu.au/business/aboutfob.htm>.

ASSESSMENT NOTES

- 1 Assignments: (i) The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the examiner. (ii) Students must retain a copy of each assignment submitted for assessment. This must be produced within 24 hours if required by the examiner. (iii) In accordance with university policy, the examiner may grant an extension of the due date of an assignment in extenuating circumstances.
- 2 Course weightings: Course weightings of topics should not be interpreted as applying to the number of marks allocated to questions testing those topics in an examination paper.
- 3 Deferred work: Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded: IDS (Incomplete - Deferred Examination); IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

OTHER REQUIREMENTS

- 1 E-mail and Internet access: Students will require access to e-mail and Internet access to USQConnect for this course.
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