
SISAT

School of Information Systems & Technology
Faculty of Informatics

ISIT924 Simulation and Modelling Subject Outline Spring Session 2009

Head of School –Associate Professor Peter Hyland, Student Resource Centre, Tel: (02) 4221 3606

GENERAL INFORMATION

Subject Coordinator

Telephone Number:

Email:

Location:

Dr Reza Zamani

4221 3648

reza@uow.edu.au

39.106

Dr Zamani's consultation times during session:

Day

Tuesday

Friday

Time

10:00 am - 12:00 noon

10:00 am - 12:00 noon

Subject Organisation

Session:

Credit Points

Contact hours per week:

Lecture Times & Location:

Tutorial Day, Time and Location can be found at:

Spring Session, Wollongong Campus

6 credit points

2hr lectures, 2hr tut

Monday 8:30 AM – 10:30 AM 67-301

<http://www.uow.edu.au/student/timetables/index.html>

Students should check the subject's web site regularly as important information, including details of unavoidable changes in assessment requirements will be posted from time to time via e-Learning space <http://www.uow.edu.au/student/>. Any information posted to the web site is deemed to have been notified to all students.

Subject Description

This subject aims to introduce the concepts of systems modelling and simulation, and its role in analysing the operation characteristics of a system for supporting management in decision making. Both discrete and continuous systems modelling and simulation will be covered.

Subject Objectives

At the successful completion of this subject, students should have an understanding of the role of systems modelling and simulation in supporting decision making; understand the concepts of systems modelling; know general methodologies in systems modelling; understand the nature of systems simulations; know the requirements for conducting successful system simulations.

Graduate Qualities

This subject will continue to the following graduate qualities:

-Informed

-Independent learners

- Problem solvers
- Effective communicators
- Innovation and Design

Further information can be found at:

<http://www.uow.edu.au/informatics/sisat/current/SubjectInformation/UOW051055.html>

Attendance Requirements:

It is the responsibility of students to attend all lectures/tutorials/labs/seminars/ practical work for subjects for which you are enrolled. It should be noted that the amount of time spent on each 6 credit point subject should be at least 12 hours per week, which includes lectures/tutorials/labs etc.

Satisfactory attendance is deemed by the University, to be attendance at approximately 80% of the allocated contact hours.

Attendance rolls will be kept for lectures and computer labs. If you are present for less than 80% and would have otherwise passed you need to apply for student academic consideration, otherwise a TF (technical fail) grade will be recorded.

Students **MUST** attend their **allocated** tutorial unless they have the written permission of the subject coordinator.

Method of Presentation:

In order to maximize learning outcomes, it is strongly recommended that students attend all lectures.

Lecture Schedule: A proposed Lecture schedule for the subject is as follows:

Week	Topic	Reading
1	Introduction & Excel Programming	Chapter-1 http://www.functionx.com/vbaexcel/ +
2	Simulation Examples& Excel Programming	Chapter-2 http://www.functionx.com/vbaexcel/
3	General Principles & Excel Programming	Chapter-3 http://www.functionx.com/vbaexcel/
4	Simulation Software & Excel Programming	Chapter-4 http://www.functionx.com/vbaexcel/
5	Statistical Models in Simulation	Chapter-5
6	Queuing Models	Chapter- 6
7	Random-number Generation	Chapter-7
8	Random-variate Generation	Chapter- 8
9	Input Modeling	Chapter-9
10	Verification and Validation of Simulation Models	Chapter-10
11	Output Analysis for a Single Model & Evaluation of Alternative Designs	Chapters-11&12
12	Applications in computer systems and networks	Chapters-14&15
13	Review	

This program is subject to change based on the progress of the class. In the case of any changes, they will be posted via e-Learning space <http://www.uow.edu.au/student/>. Any information posted to the web site is deemed to have been notified to all students.

Subject Materials:

Any readings/references are recommended only and are not intended to be an exhaustive list. Students are encouraged to use the library catalogue and databases to locate additional readings

Textbook(s):

Jerry Banks, John Carson, Barry L. Nelson, David Nicol (2005) "Discrete-Event System Simulation", Fourth Edition, Pearson Publishing Company, ISBN: 9780131446793 (Available in the Wollongong University Bookshop)

Other Resources:

- 1) M. Schiff (2006), Introduction to communication systems simulation, Boston, Mass. : Artech House.
- 2) A.B. Shiflet (2006) , Introduction to computational science : modeling and simulation for the sciences, Princeton, N.J. : Princeton University Press
- 3) Stephen L. Campbell, Jean-Philippe Chancelier, Ramine Nikoukhah (2006), Modeling and simulation in Scilab/Scicos, New York : Springer
- 4) R. Manni, & E. Kambiz. (2007), Systems thinking, system dynamics : managing change and complexity, North Shore, N.Z. : Pearson Education New Zealand
- 5) D. Gross, F. Akaiwa, K. Nordquist, B. Littlefield, Succeeding in Business with Microsoft Office Excel 2007: A Problem Solving Approach, 2008, Boston, Course Technology: Thomson
- 6) C. Albright, W. Winston, C. Zappe, Data Analysis & Decision Making with Microsoft Excel, 2009, Mason, OH, CENGAGE Learning,

Assessment:

This subject has the following assessment components.

ASSESSMENT ITEMS & FORMAT	% OF FINAL MARK	GROUP/ INDIVIDUAL	DUE DATE
Assessment 1: Title (Minor 1)	3%	INDIVIDUAL	Posted on the e-learning space in Week 2 and Due in Week 3 in the computer lab
Assessment 2: Title (Minor 2)	3%	INDIVIDUAL	Posted on the e-learning space in Week 3 and Due in Week 4 in the computer lab
Assessment 3: Title (Minor 3)	3%	INDIVIDUAL	Posted on the e-learning space in Week 4 and Due in Week 5 in the computer lab
Assessment 4: Title (Minor 4)	3%	INDIVIDUAL	Posted on the e-learning space in Week 5 and Due in Week 6 in the computer lab
Assessment 5: Title (Minor 5)	3%	INDIVIDUAL	Posted on the e-learning space in Week 6 and Due in Week 7 in the computer lab
Assessment 6: Title (Minor 6)	3%	INDIVIDUAL	Posted on the e-learning space in Week 7 and Due in Week 8 in the computer lab
Assessment 7: Title (Major 1)	15%	INDIVIDUAL	Posted on the e-learning space in Week 8 and Due in Week 11 in the computer lab
Assessment 8: Title (Minor 7)	3%	INDIVIDUAL	Posted on the e-learning space in Week 11 and Due in Week 12 in the computer lab
Final Examination	64%	INDIVIDUAL	The final examination date will be confirmed during the course of the subject and published on SOLS 3 to 4 weeks before the examination period.

Marking Criteria for Assignments 1-6 & 8

- Completing all of the parts (1 mark).
- Proper answering to your tutor's questions about the associated topic in the computer lab (1 mark).
- Being able to change some part of the codes based on your tutor's request in the computer lab (1 mark).

Marking Criteria for Assignment 7

Assignment 7 includes 6 Tasks. The 15 marks of the assignment have been distributed as follows:

Task1: Online testing (1) Report (1) Task2: Online testing (1) Report (1)

Task3: Online testing (1) Report (1) Task4: Online testing (1) Report (2)

Task5: Online testing (1) Report (3) Task 6: Report (2)

Notes on Assessment:

All assignments are expected to be completed independently. Plagiarism may result in a FAIL grade being recorded for that assignment.

Electronic Submission of Assessment Items:

Unless otherwise notified by the subject coordinator, all written assignments must be submitted electronically.

Submission of assessment items via email will not be accepted.

Other Procedures for the submission of assessment items:

All assignments will be returned within 2 weeks of their submission.

Procedures for the return of assessment items:

Penalties for late submission of assessment items:

Penalties apply to all late work, except if student academic consideration has been granted. Late submissions will attract a penalty of 100% (per day) of the assessment mark. This amount is per day including weekends.

Work more than (1) day late will be awarded a mark of zero.

Tutorial/Lab Closure Policy

If for any reason, the number of students in a tutorial or lab falls below a sustainable enrolment level, as determined by the Head of School, tutorials/labs offered for that subject may be collapsed or deleted.

You will have to attend the new tutorials/lab if this closure affects the one you are attending.

We will endeavour to make this decision no later than Week 4 of session.

Supplementary Exams

Supplementary Exams will be dealt with in accordance with student academic consideration policy (<http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>) 9.2 Timing of Supplementary Exams.

While the School normally grants supplementary exams when the student does not sit the standard exam for an acceptable reason, each case will be assessed on its own merit and there is no guarantee a supplementary exam will be granted. If a supplementary exam is granted, you will normally be notified via SOLS Mail the time and date of this supplementary exam. You must follow the instructions given in the email message.

Please note that if this is your last session and you are granted a supplementary exam, be aware that your results will not be processed in time to meet the graduation deadline.

Student Academic Consideration Policy

The School recognises that it has a responsibility to ensure equity and consistency across its subjects for all students. Sometimes, in exceptional circumstances, students need to apply for student academic consideration in order to complete all assessable work.

The University applies strict criteria to the granting of student academic consideration. Before applying for student academic consideration, students should carefully read the University's policy which can be found at: <http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>.

Plagiarism

When you submit an assessment task, you are declaring the following

1. It is your own work and you did not collaborate with or copy from others.

2. You have read and understand your responsibilities under the University of Wollongong's policy on plagiarism.
3. You have not plagiarised from published work (including the internet). Where you have used the work from others, you have referenced it in the text and provided a reference list at the end of the assignment.

Students must remember that:

Plagiarism will not be tolerated.

Students are responsible for submitting original work for assessment, without plagiarising or cheating, abiding by the University's policies on Plagiarism as set out in the University Handbook under University Policy Directory and in Faculty handbooks and subject guides. Plagiarism has led to the expulsion from the University.

Student Academic Grievance Policy

The School aims to provide a fair, equitable and productive learning environment for all its students. The Student Academic Grievance Policy seeks to support the achievement of this goal by providing a transparent and consistent process for resolving student academic grievances.

Any student who has a grievance over a result should obtain a Faculty of Informatics Appeal Against Decision or Action Affecting Academic Experience form from the Informatics Student Enquiry Centre. (<http://www.uow.edu.au/content/groups/public/@web/@inf/@faculty/documents/doc/uow017433.pdf>) The student should firstly take the form to the marker/lecturer to discuss the matter and, if the student is still not satisfied, s/he should take the next step as outlined on the form.

Once the grievance has been considered by the Faculty, if the student still feels the situation has not been fully resolved s/he may consult the Dean of Students. However, the Dean of Students can have no input into the academic judgment of the lecturer and can only review the grievance to ensure proper procedure has been followed.

Relevant University Policies, procedures and students services:

For more information students must refer to the Faculty handbook, online references or consult the UOW policy in full at <http://www.uow.edu.au/handbook/courserules/studacgrievpol.html> which contains a range of policies on educational issues and student matters.

This outline should be read in conjunction with the following documents:

Code of Practice - Teaching and Assessment http://www.uow.edu.au/handbook/codesofprac/teaching_code.pdf	Code of Practice - Students http://www.uow.edu.au/handbook/codesofprac/cop_students.html
Code of Practice-Honours http://www.uow.edu.au/handbook/CodeofPractice-Honours.pdf	Acknowledgement Practice Plagiarism will not be tolerated: http://www.uow.edu.au/handbook/courserules/plagiarism.html
Key Dates http://www.uow.edu.au/student/dates.html	Student Academic Consideration Policy: http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf
Course Progress Requirements: http://www.uow.edu.au/student/mrp/index.html	Graduate Qualities Policy: http://www.uow.edu.au/about/teaching/qualities/index.html#_The_new_UOW
Academic Grievance Policy (Coursework and Honours students) http://www.uow.edu.au/handbook/courserules/studacgrievpol.html	Non-Discriminatory Language Practice and Presentation http://staff.uow.edu.au/eed/nondiscrimlanguage.html
Occupational Health and Safety http://www.uow.edu.au/about/policy/ohs.html	Ownership of Work & Intellectual Property Policy: http://www.uow.edu.au/handbook/generalcourserules/UOW028651.html
Human Research Ethics Committee: http://www.uow.edu.au/research/rso/ethics/human/	Rules for student conduct: http://www.uow.edu.au/handbook/generalrules/StudentConductRules.pdf
Independent Learners' Introductory Program http://www.uow.edu.au/student/attributes/ilip/	Informatics Faculty Librarian, Ms Annette Meldrum, phone: 4221 4637, email: ameldrum@uow.edu.au
Student Support Services: http://www.uow.edu.au/student/services/ Informatics Faculty SEDLO (Student Equity and Diversity Liaison Officers) Virginie Schmelitschek, phone 4221 3833, virginie@uow.edu.au	SISAT Internet Access & Student Resource Centre http://www.uow.edu.au/informatics/sisat/current/uow024466.html
SISAT Computer Usage Rules http://www.uow.edu.au/informatics/sisat/current/uow024457.html	SISAT Subject Outlines http://www.uow.edu.au/informatics/sisat/current/UOW055502.html