



Course Specification

Course Name: Simulation Games

Course Code: DS444

I. Basic Course Information

Major or minor element of program: Major

Department offering the course: [Operations Research and Decision Support Department]

Academic level: [400 Level]

Semester in which course is offered: [First (fall) Semester]

Course pre-requisite(s):

Credit Hours: 3

Contact Hours Through:

Lecture	Tutorial*	Practical*	Total
2.5	0.0	1.5	4.0

* 1.5 hours for **either** Tutorial or Practical

Approval date of course specification: [September 2014]

II. Overall Aims of Course

[This specialisation provides students with state of the art knowledge in modelling, simulation and gaming. Modelling, simulation and gaming can be used by organisations to enhance their understanding of complex systems in order to improve decision making. This specialisation deals with the design, development and use of (interactive) simulations and serious games.]

III. Program ILOs covered by course

Program Intended Learning Outcomes (By Code)			
Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills
[K18,K22,K23]	[I12,I14]	[P14,P16]	[G2,G5,G6]



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IV. Intended Learning Outcomes of Course (ILOs)

a. Knowledge and Understanding

On completing the course, students should be able to:

K.1 Show knowledge in the area of modeling and simulation.

K.2 Explain the agent based modeling concept.

K.3 Illustrate the field of serious gaming.]

b. Intellectual/Cognitive Skills

On completing the course, students should be able to:

I.1 Apply a game design cycle (or design steps).

I.2 Facilitate simple simulation-games.]

c. Practical/Professional Skills

On completing the course, students should be able to:

P.1 Define, conceptualize and construct the various game components.

P.2 Design a (prototype) of a simulation-game to be used for learning, research or intervention.]

d. General and Transferable Skills

On completing the course, students should be able to:

G.1 Enhance oral and written communication skills.

G.2 Enhance team Working skills.

G.3 Presenting knowledge of various modeling methods in different settings and Applications and present them.]

V. Course Matrix Contents

	Main Topics / Chapters	Duration (Weeks)	Course ILOs Covered by Topic (By ILO Code)			
			K & U	I.S.	P.S.	G.S.
1-	Agent-Based Modeling Meets Gaming Simulation: Perspective on Future Collaborations]	[2]	[K1,K2]	[]	[]	[]
2-	A Horizon of Simulation and Gaming: Difficulties and Expectations of Facilitating Science, Technology, and Practice]	[1]	[]	[I1]	[P1,P2]	[]
3-	The U-Mart Project: New Research and Education Program for Market Mechanism]	[1]	[K2,k3]	[I2]	[]	[G3]
4-	The Gaming of Firm Strategy in High-Tech Industry: Human Agents and Artificial Intelligence Agents Intermingled in a Simulation Model]	[1]	[K1]	[I2]	[P2]	[G3]



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5-	Simulation Analysis Using the Garbage Can Model for Designing a Citizen Participation System for Comprehensive Municipal Planning	[1]	[K1]	[I1,I2]	[P2]	[G3]
6-	Exploring Business Gaming Strategies by Learning Agents	[2]	[K1]	[I2]	[P1,P2]	[G3]
7-	Business Simulator Development Cycle with Both Human and Computer Players	[2]	[]	[I1]	[P1]	[G1,G2,G3]
8-	User Type Identification in Virtual Worlds	[1]	[K3]	[]	[P1,P2]	[G1,G2,G3]
9-	[A Model for Collusive Tendering Based on a Multiagent Approach	[2]	[K2]	[]	[P1,P2]	[G1,G2,G3]
Net Teaching Weeks		13				

VI. Course Weekly Detailed Topics / hours / ILOs

Week No.	Sub-Topics	Total Hours	Contact Hours	
			Theoretical Hours	Practical Hours*
1	An Overview of Modeling	2.5	2.5	
2	What is Gaming?	4	2.5	1.5
3	What lies behind the problems of Gaming Simulation?	4	2.5	1.5
4	What is the U-mart Project?	4	2.5	1.5
5	Simulation Game model	4	2.5	1.5
6	Design Problems	4	2.5	1.5
7	Midterm Exam			
8	What are Agents ?	4	2.5	1.5
9	Human and software players participating in the game	4	2.5	1.5
10	Development Cycle	4	2.5	1.5
11	Agent Modeling	4	2.5	1.5
12	MultiAgent Concept	4	2.5	1.5
13	Serious Games Concept	4	2.5	1.5
14	Implementation	4	2.5	1.5
15	Final Exam			
Total Teaching Hours		51	33	18

* No Practical/Tutorial during the first week of the semester



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VII. Teaching and Learning Methods

Teaching/Learning Method	Selected Method	Course ILOs Covered by Method (By ILO Code)			
		K & U	Intellectual Skills	Professional Skills	General Skills
Lectures & Seminars	<input checked="" type="checkbox"/>	[K1,K2,K3,]	[]	[]	[]
Tutorials	<input type="checkbox"/>	[]	[]	[]	[]
Computer lab Sessions	<input checked="" type="checkbox"/>	[K3]	[I1,I2]	[P1,P2]	[]
Practical lab Work	<input type="checkbox"/>	[]	[]	[]	[]
Reading Materials	<input checked="" type="checkbox"/>	[]	[I2]	[]	[]
Web-site Searches	<input type="checkbox"/>	[]	[]	[]	[]
Research & Reporting	<input checked="" type="checkbox"/>	[]	[I1]	[P2]	[]
Problem Solving / Problem-based Learning	<input checked="" type="checkbox"/>	[]	[]	[P1,P2]	[]
Projects	<input checked="" type="checkbox"/>	[]	[I2]	[P1,P2]	[]
Independent Work	<input checked="" type="checkbox"/>	[]	[I1]	[P1,P2]	[]
Group Work	<input checked="" type="checkbox"/>	[]	[I2]	[]	[G1,G2]
Case Studies	<input checked="" type="checkbox"/>	[]	[]	[]	[G3]
Presentations	<input checked="" type="checkbox"/>	[]	[I1]	[]	[G1]
Simulation Analysis	<input type="checkbox"/>	[]	[]	[]	[]
Others (Specify):	<input type="checkbox"/>	[]	[]	[]	[]

VIII. Assessment Methods, Schedule and Grade Distribution

Assessment Method	Selected Method	Course ILOs Covered by Method (By ILO Code)				Assessment Weight / Percentage	Week No.
		K & U	I.S.	P.S.	G.S.		
Midterm Exam	<input checked="" type="checkbox"/>	[K1,K2,K3,]	[]	[]	[G3]	[10%]	7
Final Exam	<input checked="" type="checkbox"/>	[K1,K2,K3]	[]	[]	[G3]	60%	15
Quizzes	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Course Work	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Report Writing	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Case Study Analysis	<input checked="" type="checkbox"/>	[]	[I1,I2]	[P1,P2]	[]	[15%]	[7]
Oral Presentations	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Practical	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Group Project	<input checked="" type="checkbox"/>	[]	[I2]	[]	[G1,G2]	[15%]	[12]
Individual Project	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]
Others (Specify):	<input type="checkbox"/>	[]	[]	[]	[]	[]	[]



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IX. List of References

Essential Text Books	<ul style="list-style-type: none">• [Agent-Based Modeling Meets Gaming Simulation, Vol 2 ,2005]
Course notes	<ul style="list-style-type: none">• [PowerPoint Slides]
Recommended books	<ul style="list-style-type: none">• [Crookall, D. and K Arai (1995), Simulation and Gaming across Disciplines and Cultures: ISAGA at a Watershed, Thousand Oaks: Sage Publications]
Periodicals, Web sites, etc....	<ul style="list-style-type: none">• [www.ist.ucf.edu]• Decision Support System Journal (www.elsevier.com/locate/dsw)]

X. Facilities required for teaching and learning

<ul style="list-style-type: none">• [Teaching Accommodation• Data Show Facility• Computer• Computer Labs]

Course coordinator:[Prof. Mohamed Mostafa Saleh]

Head of Department:[Prof. Mohamed Mostafa Saleh]

Date: September 2014