

SIMULATION AND MODELING COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad/ College of Science for Women
2. University Department/Centre	Computer Science of Department
3. Course title/code	Simulation and Modeling /312 CSAM
4. Programme(s) to which it contributes	Advanced Mathematics, Statistics
5. Modes of Attendance offered	Actual attendance until the download status and there is no study remotely by the laws in force.

6. Semester/Year	Semester/ Third Year Second
7. Number of hours tuition (total)	60hours (30 hours theoretical and 30 hours practical)
8. Date of production/revision of this specification	20/4/2016
9. Aims of the Course	
<p>This course aims to enable the student to know the basic principles of the simulation and provide an idea of the simulation and basic steps involved in the design of systems simulation system.</p>	

10· Learning Outcomes, Teaching ,Learning and Assessment Methods
<p>NN-Knowledge and Understanding</p> <p>A1. Identification of system simulation.</p> <p>A2. Recognize the difference between simulation intermittently continuous system .</p> <p>A3. Speech recognition intermittent system.</p> <p>A4. Study Probability and Statistics.</p> <p>A5. To identify the basic principles of generating random numbers.</p> <p>A6. Identify ways to generate random numbers.</p>
<p>B. Subject-specific skills</p> <p>B1. Students gain experience in generating random numbers.</p> <p>B2. Start by designing a particular service system and study results.</p> <p>B3. Knowledge of mutant's simulation system.</p> <p>B4. Learn methods of preparing the random test.</p>
Teaching and Learning Methods

- Education: provide printed lectures and modern, diverse and rich sources of examples.
- Education: Harnessing the blackboard to teach students the goal of clarifying the steps the solution and extraction results.
- Education: resolving some questions.
- Learning: asking questions and inquiries and make the student turn into a teaching explanation and solution on the blackboard at that point.
- Learning: direct questions and each student is experimenting to see how its interaction in order to pay attention to the rest.
- Learning: give the questions a group duty to students to encourage them to follow up article where by solving those questions to know whether he has been absorbing material or not.

Assessment methods

- Quizzes (quiz) semi-weekly.
- Questions sudden and overlapping put up with to explain Article.
- Monthly and Semester tests.

C. Thinking Skills

- C1. Introducing a range of solutions to the same problem and discussed both individually and determine the appropriate method of solution to the problem at hand with a stand on the disadvantages of the rest of the roads.
- C2. Asked questions that need to be exceptional oral answers where exceptional be specified in terms of the weight of the calendar and grades, which are a strong incentive for student participation, competition and the race to solve them.

Teaching and Learning Methods

Discussions that arise in the course of the lecture and try to involve the largest possible number of students, and touched on the details of things and discussed objectively and targeted discussion.

Assessment methods

- Oral evaluated by involving students in discussions.
- Quizzes (quiz).
- laboratory tests on the computer and is written.
- Monthly and Semester Tests.

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1. Giving duties to students and ask them to solve them to know where the strengths and weaknesses.
- D2. Alert on errors in students' oral answers and discussion to see her fault.
- D3. Alert on errors in the answers written by students and notation to clarify the student.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Collecting data	Simulation Definition	According to point 10 above and as needed	According to point 10 above and as needed
2	2	Manipulating data	Simulation Definition	According to point 10 above and as needed	According to point 10 above and as needed
3	2	Some operations on arrays	Simulation Objectives and Steps	According to point 10 above and as needed	According to point 10 above and as needed
4	2	Reminder method	Random Number Generation	According to point 10 above and as needed	According to point 10 above and as needed
5	2	Practice	Random Number Generation	According to point 10 above and as needed	According to point 10 above and as needed
6	2	Testing the random	Arithmetic and Geometric Method	According to point 10 above and as needed	According to point 10 above and as needed
7	2	Basics in programming of random number generations	Congregational Method	According to point 10 above and as needed	According to point 10 above and as needed
8	2	Arithmetic method	Randomness Test	According to point 10 above and as needed	According to point 10 above and as needed
9	2	Geometric	Randomness Test	According to point 10 above	According to point 10

		method		and as needed	above and as needed
10	2	Fibonacci method	Deterministic Simulation	According to point 10 above and as needed	According to point 10 above and as needed
11	2	Basics of deterministic method	Deterministic Simulation	According to point 10 above and as needed	According to point 10 above and as needed
12	2	Water tank simulation	Deterministic Simulation	According to point 10 above and as needed	According to point 10 above and as needed
13	2	Shipping simulation	Deterministic Simulation	According to point 10 above and as needed	According to point 10 above and as needed
14	2	Bakery simulation	How to Program Simulation Problems	According to point 10 above and as needed	According to point 10 above and as needed
15	2	Optimization	How to Program Simulation Problems	According to point 10 above and as needed	According to point 10 above and as needed

12. Infrastructure

Required reading:

- CORE TEXTS
- COURSE MATERIALS
- OTHER

- Elements of Simulation, Byron J. T. Morgan, 2003.
- Discrete-Event System Simulation, Jerry Banks, 2005.
- Selected Topics From Internet.

Special requirements (include for example workshops, periodicals, IT software, websites)

Visual basic.net , c++

Community-based facilities (include for example, guest Lectures , internship , field studies)	
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13. Admissions	
Pre-requisites	Mathematics 1,2
Minimum number of students	Depending on the size of the classroom, according to the division of the people, 20 students
Maximum number of students	Depending on the size of the classroom, according to the division of the people, 30 students