ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications

(Introduction to Statistics and Probability (4042301-3)**)**

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National Commission for
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Academic Accreditation

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الهيئــة الوطنيــة للتقويــم
والاعـتـمــاد الأكــاديـمــي

COURSE SPECIFICATIONS

Institution	Umm Al-Qura University
College/Department	Faculty of Applied Science/ Department of Mathematical Science

A. Course Identification and General Information

1. Course title and code: : Introduction to Statistics and Probability (4042301-3)
2. Credit hours   3 Hours
3. Program(s) in which the course is offered. Mathematics (If general elective available in many programs indicate this rather than list programs)
4. Name of faculty member responsible for the course   M. Ghoneim
5. Level/year at which this course is offered   The second level
6. Pre-requisites for this course (if any) Calculus(1)   404101-4
7. Co-requisites for this course (if any)
8. Location if not on main campus   Al-Abdia Campus

9. Mode of Instruction (mark all that apply)

a. Traditional classroom	✓	What percentage?	100
b. Blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. Correspondence		What percentage?	
f. Other		What percentage?	

Comments:

B Objectives

What is the main purpose for this course?

Acquiring the basic knowledge and concepts of describing data statistically and elementary theory of probability.

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2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

1. Encouraging students to collect problems from web based reference material and supervise classroom discussions.

2. Update references used in teaching process.

3. Use e-learning facilities more efficiently.

4. Use computer packages for solving exercise

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Definition and general view of statistics	1	3
Organization and presentation of statistical data	1	3
Measures of central tendency (Mean, Median, Mode) of the simple data and the frequency distribution	2	6
Measures of dispersion (The Range – The Variance and the standard deviation - Coefficient of variation) of the simple data and the frequency distribution	2	6
Correlation measures	1	3
Simple Linear regression	1	3
Sample space and Events Counting Techniques (Fundamental basics, Addition Rule – Multiplication Rule- Permutation and Combinations)	2	6
Definition of the probability and its applications	2	6
Conditional probability - Independence of events and Bayes theorem and its applications	2	6

2. Course components (total contact hours and credits per semester):

	Contact Hours				Self-Study	Other	Total
	Lecture	Tutorial	Laboratory	Practical			
Contact Hours	36	6	-	-	75	-	126 ch
Credit	3						3

3. Additional private study/learning hours expected for students per week. | 5 Hours |

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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Define the related basic scientific facts, concepts, principles and techniques in statistics and probability theory	Lectures Tutorials Discussion Problem Solving	Exams Home work.
1.2	Recognize the relevant theories and their applications in basic mathematics.		
2.0	**Cognitive Skills**		
2.1	Apply statistical tools for simple data analysis	Lectures Tutorials Solve Problem Brain Storming	Exams Quizzes. Homework. Discussion
2.2	Discuss the results of statistical measures		
2.3	Evaluate probability of events using different rules		
3.0	**Interpersonal Skills & Responsibility**		
3.1	Develop connections within branches of statistics and between statistical analysis and other disciplines	Cooperative education Competitive education	Home work. Reports. Quizzes. Discussion
	Solve problems using a range of formats and approaches in basic science		
3.2	show the ability to work independently and within groups.		
4.0	**Communication, Information Technology, Numerical**		
4.1	Apply scientific models and tools effectively.	Lectures tutorials brain storming	Home work. Reports. Discussion
4.2	Use the internet to write reports about basic statistical principles.		
	Apply statistical knowledge gained during the course using computer packages		
5.0	**Psychomotor**		
	Not applicable		

5. Schedule of Assessment Tasks for Students During the Semester			
Assessment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	Midterm 1	7th week	20 %
2	Midterm 2	13th week	20%
4	Homework + reports + Quizzes	During the semester	20%
5	Final exam	End of semester	40 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

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1- Office hours per week in the lecturer schedule (6 hours per week).
2- Contact with students by e-mail, SMS, and e-learning facilities.

E. Learning Resources

1. Required Text(s)
Probability & statistics for engineers & scientists. Ronald E. Walpole . . . [et al.]. Prentice Hall. 2012 — 9th ed. ISBN 978-0-321-62911-1
2. Essential References
1) R. J. Larsen and M. L. Marx, An introduction mathematical statistics and its applications, second edition, Prentice – Hall, Engle weed Cliffs, New Jersey, 1986.
2) R. V. Hogg and A. T. Craig, Introduction to mathematical statistics, fifth edition, Prentice – Hall, Inc. A Simon & Schuster company, New Jersey, 1995.
3. Recommended Books and Reference Material (Journals, Reports, etc) (Attach List):
Use previous list
4.Electronic Materials, Web Sites etc
http://www.freetechbooks.com
http://tutorial.math.lamar.edu/sitemap.aspx
5. Other learning material such as computer-based programs/CD, professional standards/regulations: Microsoft Excel

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Lecture rooms, laboratories, etc.)
-Classroom with capacity of 30-students.
- Library.
2. Computing resources: Not available
3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list): None

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:
• Student feedback through electronic survey organized by the deanship of registration and acceptance.
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department
• Evaluation of the teachers by internal & external faculty members.
• Visiting to the classrooms.
• Mutual visits between colleagues and giving advices to each other after each lecture
3 Processes for Improvement of Teaching
• Analysis of student course evaluation and feedback
• Peer evaluation and feedback
• Review of course portfolios
• Workshops on pedagogical methods

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4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Analysis of course assessments by other reviewers on a periodic basis.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments and universities.
- Studying the outcomes of the students' evaluations of the course and use it to improve teaching strategies.

Faculty or Teaching Staff: _____

Signature: ___ _____ Date Report Completed: _____

Received by: _____   Dean/Department Head

Signature: _____   Date_____

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