

ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

**Course Specifications
(CS)**

Mathematical Economics (Econ 323)

Course Specifications

Institution : King Saud University	Date of Report : 5/1 / 2016
College/Department : College of Business Administration/Economics Department	

A. Course Identification and General Information

1. Course title and code: Mathematical Economics , ECON 323			
2. Credit hours : 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)			
BSBA (Bachelor of Science in Business Administration), Economics			
4. Name of faculty member responsible for the course: Afaf A. Abaalkhail			
5. Level/year at which this course is offered : 7 th semester			
6. Pre-requisites for this course (if any) : Econ 201/ Econ 202			
7. Co-requisites for this course (if any) : NA			
8. Location if not on main campus : NA			
9. Mode of Instruction (mark all that apply) :			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. Laboratory	<input type="text" value="NA"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="text" value="NA"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="text" value="NA"/>	What percentage?	<input type="text"/>
f. Other	<input type="text" value="NA"/>	What percentage?	<input type="text"/>
Comments: The program is offered as day scholar program, hence traditional classroom and laboratory approaches are used.			

B Objectives

1. What is the main purpose for this course?
<ul style="list-style-type: none"> Understand the basis of the theoretical and empirical mathematical economics. Provides students with basic skills in the analysis and understanding of modern theories using necessary mathematical methods. Explain the mathematical analysis theories and its precise application in the fields of micro- and macro-economics.
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)
<ul style="list-style-type: none"> Some lectures on how to use mathematical tools to solve micro- and macro-economic problems. Solving mathematical exercises by using MS-Excel for example. Applying programs such as, Eviews , MatLab,...

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
Differential Calculus.	1	3
Matrices, determinants, and Systems of equations.	2.33	7
Multivariate Calculus, Implicit Functions, and Euler's Theorem.	1.66	5
Constrained and Non-Constrained Optimization.	2	6
Convexity and Concavity.	2	6
Linear and Non-Linear Programming.	2	6
Kuhn – Tucker's Theorem, Duality.	2	6
Difference Equations.	2	6

2. Course components (total contact hours and credits per semester):					
	Lecture	Case solving	Group discussion	Videos	Total
Contact Hours	42	3	-	-	45
Credit	3	-	-	-	3

*Note: any faculty member assigned to teach this course should deliver the materials at least (minimum) for 45 contact hours.

3. Additional private study/learning hours expected for students per week.	9
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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	Understand the theories and models developed in the fields of micro- and macro-economics.	<ul style="list-style-type: none"> - Formal lectures and tutorials. - Exercises and assignments. - Problem solving methodologies. - Case studies. 	Formal Examinations (LO 1.0, 2.0): <ul style="list-style-type: none"> - Two mid-term Exams 40-50%; - Final Exam 40%; Tutorials and exercises <ul style="list-style-type: none"> - Assignments (LO 1.0, 2.0) 10-20%
1.2	Define the mathematical analysis tools for solving problems of micro- and macro-economics.		
1.3	Adapt the numerical results to the economic theory.		
1.4			
2.0	Cognitive Skills		
2.1	Understanding and memorizing the subject matter and the fundamental theories and models of mathematical economics		
2.2	Use advanced mathematical tools to analyze economic problems.		
2.3	Solve economic problems using computer programs.		
2.4	Develop critical thinking of findings of theories and applications of mathematical economics.		
3.0	Interpersonal Skills & Responsibility		
3.1	Constructive cooperation between students in solving problems of raised economic topics.		
3.2	Overcoming potential problems in understanding some topics.		
4.0	Communication, Information Technology, Numerical		
4.1	Using Computer. Using internet. Using MS-Excel		
4.2	Using software MatLab, Eviews Mathamtica		
5.0	Psychomotor		
	N/A		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Exercises and assignments	5th and 12th	20%
2	First exam	3th	5%
3	Second exam	5th	5%
4	Third exam	7th	5%
5	Fourth exam	9th	5%
6	Fifth exam	11th	5%
7	Sixth exam	14th	5%
8	Projects	15th	10%
9	Final Exam	16th	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)

Each instructor is expected to give the marks of the research project and home works, and first and second mid-exams to all students. During this process, the students are advised on academic issues including their performance. Furthermore, students are given teachers official e-mail and office phone number for communication as per needs. Moreover, teaching staff are expected to be available for 6 hours per week to be announced besides lectures hours.

E. Learning Resources

1. List Required Textbooks

- Chiang, A. C. Fundamental Methods of Mathematical Economics. McGraw Hill. 2005.

- أسس الاقتصاد الرياضي تأليف د. حمد بن محمد آل الشيخ و د. أحمد بن عبد الله عسيري (جامعة الملك سعود الرياض)، 2010 م

2. List Essential References Materials (Journals, Reports, etc.)

Na

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

- Alpha C. Chiang. Fundamental Methods of Mathematical Economics McGraw Hill Higher Education. 2005.

- عرب ، عاصم ومحمود عبدا لحמיד . مبادئ الاقتصاد الرياضي (النظرية الجزئية)؛ جامعة الملك سعود ، الرياض (2001م).
- متولي ، مختار . الأساليب الرياضية للاقتصاديين ، جامعة الملك سعود و الرياض (1995م).

- Mathematics for Economics, Third Edition By Michael Hoy, John Livernois, Chris McKenna, Ray Rees and Thanasis Stengos

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Software MatLab, Mathematica Eviews,

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Number of seats in class room : 30
2. Computing resources (AV, data show, Smart Board, software, etc.) LCD projector, Blackboard/LMS access, Software MatLab.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Equip laboratory by Software MatLab.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching After first and second midterm-exams, feedback is taken by the instructor in the classroom on all the activities. If the feedback of students they are considered for necessary changes.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor <ul style="list-style-type: none"> At the end of the semester before taking the final grade from the “edugate” students are expected to give feedback on the course. This feedback can be accessed by the department chair. Statistically comparing the results of several semesters' results Reviewing samples of students' answers
3 Processes for Improvement of Teaching <ul style="list-style-type: none"> Consulting the curriculum committee Approval of the department council on course matter Changes at global level are taken into consideration for improving teaching

4. Processes for Verifying Standards of Student Achievement (e.g. 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)

Random assessment of students performance by other teachers or external examiners

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

Periodical review for courses plans by the curriculum committee.

Faculty or Teaching Staff: Afaf A. Abaalkhail

Signature:  **Date Report Completed:** 5/1 / 2016

Received by: Prof. Mohammed Aljarrah (Department Head)

Signature: _____ **Date:** _____