Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications

Introduction to Mathematics 2

PMTH 127

Course Specifications

Institution: : Al-Majmaah University	***Date of Report:*** 18/10/2015
College/Department: Preparatory Year Deanship	

A. Course Identification and General Information

1. ***Course title and code:*** Introduction to Mathematics 2 / PMTH 127
2. ***Credit hours:*** 4 hours
3. ***Program(s) in which the course is offered:*** Engineering, Computer and Science Colleges
4. ***Name of faculty member responsible for the course:***
Mr. Mohammad Sudqi Mustafa
5. ***Level/year at which this course is offered:*** 2st level / 1st year
6. ***Pre-requisites for this course:*** PMTH 112
7. ***Co-requisites for this course:*** None
8. ***Location if not on main campus:***
PY building in Almajmaah male branch,
PY in Almajmaah female branch,
PY in Almajmaah male branch,
PY in Alzulfi female branch
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

1. ***What is the main purpose for this course?***
This course aims at providing make a pre-calculus background for the student by studying trigonometric functions, solving linear and nonlinear equations systems, studying Matrices, discussing analytical geometry and conic sections, and obtaining a brief introduction to the limits and continuity and rules of differentiation.
2. ***Briefly describe any plans for developing and improving the course that are being implemented.***
   - Plans that are being implemented for developing and improving the course:

○ Continuous updating of the information, knowledge and skills included in the course through continuous search for new knowledge and skills available in recent publications (references, books, researches, magazines, internet….). ○ Verifying the information resources. Continuous evaluation of the course content, student level, and develop plans accordingly

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**
Trigonometric Functions & Polar coordinates	4	16
Systems of linear and nonlinear equations	1	4
Matrices	1	4
Conic sections	4	16
Limits & Continuity	3	12
Derivatives	2	8

2. Course components *(total contact hours and credits per semester):*						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	60 hrs	--	--	--	--	60 hrs
Credit	60 hrs	--	--	--	--	60 hrs

3. Additional private study/learning hours expected for students per week.	8 hrs

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	Learning the trigonometric functions and their properties.	Discussing problems, and using a graph	Continuous feedback, quizzes, and oral question
1.2	Identifying elimination and substitution methods to solve linear and nonlinear systems	Discussing some example and using graphs	Continuous feedback, quizzes, and oral question

1.3	Identifying the matrices with their properties.	Discussing problems, and using a graph	Continuous feedback, quizzes, and oral question
1.4	Learning the basics of analytical geometry and the properties of conic sections.	Discussing problems, and using a graph	Continuous feedback, quizzes, and oral question
1.5	Identifying limits and continuity with their applications.	Discussing problems, and using a graph	Continuous feedback, quizzes, and oral question
1.6	Learning some rules in differentiation.	Discussing problems, and using a graph	Continuous feedback, quizzes, and oral question
2.0	**Cognitive Skills**		
2.1	Contrasting different trigonometric functions and solving related problems	Solving problems	Quizzes, written exams
2.2	Finding the variables of the system of two equations	Graphing	Quizzes, written exams
2.3	Calculating the distance, mid-point, and slope of two points.	Solving problems	Quizzes, written exams
2.4	Contrasting different conic sections by equations, graphs or other characteristics.	Making comparison, graphing	Quizzes, written exams
2.5	Finding the limits at any point using graphs or other method.	Solving problems, graphing	Quizzes, written exams
2.6	Finding the first derivative and second derivative.	Solving problems	Quizzes, written exams
3.0	**Interpersonal Skills & Responsibility**		
3.1	Develop certain teamwork responsibility activities.	Discussion	Evaluation of teamwork
4.0	**Communication, Information Technology, Numerical**		
4.1	Prepare and present certain topics during the semester, look out for certain issues in the course.	Presentation under supervision	Evaluation of Presentations
4.2	Use internet for further problems	assignments	Evaluation of assignments
5.0	**Psychomotor**		
5.1	N.A.		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task	***Week Due***	***Proportion of Total Assessment***
1	**First exam**	7-8	25%
2	**Second exam**	12-13	25%
3	**Quizzes and participation**	During the semester	10%
4	**Final exam**	17-18	40%

D. Student Academic Counseling and Support

Four hours per week (Office hours)

E. Learning Resources

1. List Required Textbooks • Young Anton, *Mathematics 1 & 2 PYP for Almajmaa university*, Wiley, 2013
2. List Essential References Materials (Journals, Reports, etc.) • Howard Anton, *Elementary linear algebra*, Wiley, 2013 , 11th Edition
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc) • Rhonda Huettenmueller, *Pre-calculus Demystified*, McGraw Hill, 2012, 2nd edition
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.) • www.khanacademy.org/math • www.coolmath.com • www.youtube.com • www.wikipedia.com
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. • Microsoft office

F. Facilities Required

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) • Classrooms with 20 chairs and 20 laptops
2. Computing resources (AV, data show, Smart Board, software, etc.) • Data show, Smart boards, Microsoft office
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) . • N.A

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching Continuous feedback, questioner
2. Other Strategies for Evaluation of Teaching by the Program/Department Instructor • Statistics of exams • Following up by evaluation unit • External auditing
3. Processes for Improvement of Teaching • Make a revision for students

- Giving extra lectures
- Using online websites

4. **Processes for Verifying Standards of Student Achievement**
   - Exams prepared by the coordinator of course
   - Statistical Processes for students results

5. **Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement**.
   - Continuous revision and coordination with other collages.

Faculty or Teaching Staff: Mr. Mohammad S. Mustafa

Signature: **Date Report Completed:** 18/10/2015

Received by: Dr. Waleed Albesher **Dean/Department Head: Dean/Preparatory Year**

Signature: _____ **Date: _____**