Prince Sultan University

College : DES

First Semester 2017 - 2018

INSTITUTIONAL COURSE SYLLABUS TEMPLATE

Course Code: **MATH 002**	Course Title: **Orientation Mathematics II**
Course Instructor: **Various**	Email: **Various**
Credit Hours: **4**	Lectures: **U,M,T,W,Th**
Office Hours:	**Various**
Office	**Various**

Mission:

The Department of General Sciences is committed to offering a broad high quality education that will lay a durable educational foundation to meet the specialized professional development requirements in PSU degree programs. The department supports the development of student's skills that enables them to perceive patterns in complexity, render reasoned judgments, and seek the highest level of intellectual achievement and personal growth. We also encourage the students to develop personal qualities such as perseverance, initiative, self-confidence and independence.

Course Description:

This course is designed to improve the student's computational skills in basic Algebra, and to demonstrate his writing ability in Mathematics with logical steps.

II. Course Learning Outcomes:

Skills	Course Learning Outcomes	Measured by
Knowledge	**Recognize and evaluate trigonometric functions, solve equations, illustrate applications and prove trig identities.**	**Quizzes Major Exams Final Examination**
Cognitive Skills	**1. Evaluate exponential and logarithmic functions, graph their equations, and construct their applications. 2. Solve systems of equations and inequalities using algebraic techniques including matrices and determinants.**	**Quizzes Major Exams Final Examination**
Interpersonal Skills & Responsibility		
Communication, Information Technology, Numerical	**Identify different conic sections, state their equations and graph them.**	**Quizzes Major Exams Final Examination**

III. Course Content or your weekly schedule

Week	Date	Topics	Contact Hours
1	Sep 17 – 21	**Introduction 4.1 Exponential functions Exponents 4.2 Logarithmic functions**	4
2	Sep 24 – 28	**4.3 Properties of logarithms 4.4 Exponential and Logarithmic Equations**	4
3	October 01 – 05	**5.1 Angels and their measure 5.2 Right triangle trigonometry**	4
4	October 08 – 12	**5.3 Trigonometric functions of any angle**	4
5	October 15 – 19	**5.3 Trigonometric functions of any angle 5.4 Trigonometric functions of real numbers**	4
6	October 22 – 26	**5.5 Graphs of sine and cosine functions**	4
Major I Exam Tuesday 25 October (Ch. 4.1 -- 5.4)			
7	Oct. 29 – Nov. 02	**5.7 Inverse trigonometric functions**	4
8	November 05 – 09	**5.7 Inverse trigonometric functions 6.1 Verifying Trigonometric Identities**	4

9	November 12 – 16	**6.2 Sum and Difference Formulas** **6.5 Trigonometric Equations**	4
10	November 19 – 23	**8.1 Systems of linear equations in two variables** **8.2 Systems of linear equations in three variables**	4
11	November 26 – 30	**8.5 Systems of inequalities** **9.1 Matrix solutions of linear systems**	4
12	Dec. 03 – 07	**9.2 Inconsistent and dependent systems** **9.3 Matrix operations and applications**	4
Major II Exam Tuesday 05 December (Ch. 5.5 – 9.2)			
13	Dec. 10 – 14	**9.4 Matrix inverses and matrix equations** **9.5 Determinants and Cramer's Rule**	4
14	Dec. 17 – 21	**10.1 The Ellipse** **10.2 The hyperbola**	4
15	Dec. 24 – 28	**10.2 The hyperbola** **10.3 The Parabola**	4

Omitted Objectives (Topics)							
Section	**Objectives**		**Section**	**Objectives**		**Section**	**Objectives**
4.1	4		8.1	5		9.4	3
5.1	8		8.5	3			
5.5	6					10.1	4
			9.2	3		10.2	5
6.2	3		9.3	7		10.3	4

IV. Course Components

Component	**Contact Hours**
Lecture	**60**
Tutorial	**15**
Practical/Field	

V. Teaching Strategies

Domain	Strategy
Knowledge	**Lectures, Discussions, Examples & Tutorials**
Cognitive Skills	**Lectures, Discussions, Examples & Tutorials**
Interpersonal Skills & Responsibility	**N/A**
Numerical & Communication Skills	**Lectures, Discussions, Examples & Tutorials**

VI. Course Requirements

Quizzes, Major Exams, Homework, and Final Exam

VII. Student Assessment

A. Assessment Task

Domain	Assessment Task
Knowledge	**Quizzes, Major Exams, Homework, and Final Exam**
Cognitive Skills	**Quizzes, Major Exams, Homework, and Final Exam**
Interpersonal Skills & Responsibility	**N/A**
Numerical & Communication Skills	**Quizzes, Major Exams, Homework, and Final Exam**

B. Schedule of Assessment

Assessment	Assessment Task	Week Due	Proportion of Final Assessment
1	**Quizzes**	**Weekly**	**10%**
2	**Major Exams**	**Week 6 Week 12**	**40%**
3	**Online Homework**	**As per published deadlines**	**5%**
4	**Attendance and Participation**	**Daily**	**5%**
5	**Final Examination**	**Week 17**	**40%**

VIII. Learning Resources

A. References

Required Textbook:

Algebra and Trigonometry, Fifth Edition; Robert Blitzer; Prentice Hall, 2014.

Recommended Textbooks:

1. **College Algebra and Trigonometry, 7th edition**
   By Richard N. Aufmann, Vernon C. Barker, and Richard D. Nation

2. **College Algebra with Trigonometry, 9th edition**
   By Raymond A. Barnett, Michael R. Ziegler, Karl E. Byleen, Dave Sobecki

Electronic Materials, Web Sites

MyMathLab Code for Online Homework. Access to University LMS

B. Facilities Required

- **a. Classrooms with capacity of 30 students**
- **b. Whiteboard**
- **c. Data show projector and screen**
- **d. Smart board and online course.**

C. Learning Management System

LMS is efficiently used. All solutions to quizzes and Major Exams, Lecture Notes and Important instructions can be found on the university LMS at https://lms.psu.edu.sa/

Homework

- There is an online tool "**MyMathLab**" which is a very helpful tool that should improve your performance in the course with all the helping features available. Your instructor will give you all the details about registering and using it.

- **Online Homework** will be given during the term. A deadline for submitting each homework will be determined by your instructor. **5 points** will be assigned to the Homework.

Math Department Website:

- A student can visit "The Math Department Page" through the "Math and General Sciences" Website **(info.psu.edu.sa)** where he can find several helping information such as the syllabi for all math courses, useful links to help the student in his study, and a huge collection of the previous midterm and final exams that were administered by the Department through the previous semesters.

Calculators:

- Only Scientific Calculators are allowed in this course (No Graphing Calculators).
  We recommend **Casio fx-991ES**

Office Hours:

- You are advised and encouraged to seek help to clarify matters that are not clear to you as soon as possible.
- Check the table posted on your instructor's door for the office hours incase you need assistance or you need to inquire about matters concerning your marks, absence, and so on. If you need to see him at a different time, arrange with him in advance.

SECTION	PAGE	PRACTICE PROBLEMS			
		Exercises	Practice Plus	Application	Critical Thinking
4.1	420	5,9,13,17,27,29,35,39,45,49,51	59,61	65,67,73	91
4.2	434	5,11,19,21,29,35,41,43,49,55,59,73, 77,79,83,89,91,99	101,107, 111	113,119	143,144
4.3	445	7,11,15,23,27,33,35,39,47,53,59,65,67,69,73	83,87,95, 99	---	127,129, 131
4.4	456	5,13,15,19,23,31,35,37,41,45,47,55,61,69,71, 73,77,81,89	91,99	101,115	139,140
5.1	494	9,17,19,25,31,37,43,47,53,55,61,65,73	77,85	89,95	122
5.2	509	7,11,15,17,19,21,29,37,43,47,51,53,55,61	65,69,71	73,75,79	99,100
5.3	525	5,9,13,19,25,27,31,35,39,41,45,51,57, 61,65,69,73,77,85	89,91,93 103	---	---
5.4	532	3,7,11,17,19,23,25,29	37,41	43	59
5.5	554	5,9,13,21,25,29,39,41,47,51,55,59	61,65,69	85	115
5.7	584	5,9,21,25,29,33,39,41,49,53,59,61,67,69,71	85,89	95	120
6.1	614	1,7,9,11,17,19,27,33,37,45,49,51,55,59	69,71	---	92,93
6.2	623	1,3,5,7,9,13,15,19,25,33,39,41,45,57,59,61	73,74	---	99,101
6.5	656	7,19,23,25,35,37,39,47,59,65,71,77,83,93,99 105,113	123,125		
8.1	758	3,7,15,19,27,33,37,41,43	47,51	77,78	---
8.2	769	3,7,11,15,21	25,27	39	---
8.5	803	3,7,15,17,27,33,41,47,51,57,59,61	65,75	---	111,112
9.1	830	1,5,9,15,21,23,31,35,37,41	39,41	45	---
9.2	840	1,5,7,11,15,21,23	---	---	41
9.3	854	3,7,15,19,25,27,31,35,39,43	47	---	---
9.4	869	1,5,9,11,17,19,23,27,31,35,37,39,41	43,47	---	87,90,91
9.5	882	1,5,13,17,21,25,29,31,33,37,39,41,43	45,47,51	53,55,57	75
10.1	899	1,17,23,25,27,29,31,33,35,39,41,43,45,49,51, 53,55	57,61	65	85,86
10.2	913	3,5,7,11,17,23,29,33,37,41,43,45,47	51,57	63	87,89
10.3	925	5,9,13,15,19,23,27,35,39,43,47	53,59	67	83