



Fahad Bin Sultan University
Foundation Year Program (FYP)
Foundation Mathematics - Level II (MATH 200)

Course Description

Course-in-brief

The course is the second in a series of two fundamental elementary mathematics courses required in the Foundation Year Program (FYP). It introduces students to Trigonometry, Vectors, Matrices and solving systems of linear equations, Sequences and series, and Probability concepts. The course is designed to be covered in approximately 15 weeks on the basis of 5 contact hours per week (i.e. daily lecture). This course must be passed before the student advances to any academic math course in their program.

The course is designed to be covered in 15 weeks on the basis of 5 contact hours per week (i.e. daily lecture).

Prerequisite: MATH100

Course Resources

Resources for the course include the instructor; textbook and references; class notes and handouts; your teammates; the library; and the World Wide Web.

Instructors:

Office Hours

The office Hours are posted at my office window

Textbook

College Algebra: With Trigonometry, 9th ed. Barnett, Ziegler, and Byleen McGraw: Boston, 2011.

References

Think well's Pre-calculus Companion Workbook. E Burger Think well, 2005.

Websites (sample)

www.purplemath.com

www.themathpage.com

www.algebrahelp.com

www.mathleague.com

www.intmath.com

www.mathsisfun.com

www.wikipidia.com

Course Objectives

General Objectives

1. To remedy the mathematical deficiencies in the student's background.
2. To prepare students for a smooth transition to the academic programs in professional schools.
3. To teach students to think and reason.

Specific Objectives

1. Understanding mathematical concepts.
2. Applying mathematical concepts to real life.
3. Developing problem-solving techniques.
4. Learning to formulate and formalize problems mathematically.
5. Developing computational and graphical skills.
6. Improving mathematical writing skills.
7. Developing mathematical study skills.
8. Understanding mathematical concepts.
9. Applying mathematical concepts to real life.
10. Developing problem-solving techniques.
11. Learning to formulate and formalize problems mathematically.
12. Developing computational and graphical skills.
13. Improving mathematical writing skills.
14. Developing mathematical study skills.

Intended Learning Outcomes

At the end of this course, students should be familiar with:

Chapter 10: Systems of Equations and Matrices

- 10.1 Systems of Linear Equations
- 10.3 Matrix Operations
- 10.4 Solving Systems of Linear Equations using matrix inverse methods
- 10.5 Determinants And Cramer's rule.

Chapter 8: Additional Topics in Trigonometry

- 8.3 Vectors in the Plane

Chapter 6: Trigonometric Functions

- 6.1 Angles and Their Measure
- 6.2 Right Triangle Trigonometry
- 6.4 Properties of Trigonometric Functions
- 6.5 Inverse Trigonometric Functions

Chapter 7: Trigonometric Identities and Conditional Equations

- 7.1 Basic Identities and Their Use
- 7.2 Sum, Difference, and Co-function Identities
- 7.3 Double-Angle and Half-Angle Identities
- 7.4 Product-Sum and Sum-Product Identities

Chapter 11: Sequences, Induction, and Probability

- 11.1 Sequences and Series
- 11.3 Arithmetic and Geometric Sequences
- 11.4 Multiplication Principle, Permutations, and Combinations
- 11.5 Sample Spaces and Probability

Course Policies

Homework Policy

Homework is undoubtedly one of the most effective means of learning. Problems will be assigned and collected at least once or twice a week. I will try my best to grade and promptly return the results to you in order to stay up-to-date with your progress in the course. Your solution must be organized and neat, otherwise it will be returned to you ungraded. The solution must include a problem statement, all pertinent solution steps, equations used and assumptions made, and **boxed** answers with proper units. Use only one side of a sheet and start the solution of a new problem on a new page.

Attendance

Attendance is a must! Attendance will be taken at the beginning of each class period. In case you are not present when the attendance sheet is passed on, **you will be counted as absent**; no exceptions. The following rule will be applied strictly, per University Catalog instructions, “Students who absent themselves during a semester for **more than 25%** of the required number of lectures of any course are not allowed to continue the course, denied from sitting for the final examination, and **assigned a course grade of DN** which is reported in their transcript.” [see General University Academic Information, Attendance and Withdrawal].

Class Discussion

Communication is very important in achieving our collective goals and objectives. Feel free to voice your opinions and ask questions anytime during a class period. Practice your right and freedom to learn. Remember you are here to learn and we are here to teach, and that teaching and learning are forever intertwined.

Help Sessions

Help sessions will be organized at convenient times as needed upon request from students.

Make-up Tests and Late homework Policy

NO makeup test will be given and late homework will not be accepted unless the reason is beyond the student's control. A valid excuse must be presented.

Expected Behavior

Practicing engineers are expected to conduct themselves in an ethical and professional manner. This includes attending all class activities; meeting deadlines; observing common courtesies to fellow students, teachers, and staff; being honest; making a diligent effort to learn; and not engaging in any disruptive, irresponsible manner. Legitimate collaboration is encouraged but academic dishonesty will not be tolerated.

Assessment and Evaluation

Many aspects of the course will receive on-going, real-time assessments and feedback to help improve students' performance. This will be done by discussing performance in class and by arranging individual meetings.

Assessment in the following areas will be converted to points, to compute your final grade in the course:

<i>Attendance</i>	10%
<i>Homework</i>	10%
<i>Quizzes</i>	10%
<i>First Exam</i>	20%
<i>Second Exam</i>	20%
<i>Final Exam</i>	30%