Fundamentals of Mathematics II (MATH 122)
Spring Quarter, 2004

Time/Place: MTWF 1:00-1:50 p.m. KRH 347

Instructor: Jonathan Duncan (duncjo@wwc.edu)
Office: Kretchmar Hall 330, phone: 527-2097
Office Hours: 10:00 MWRF, 12:00 T, 1:00 R, 3:00 M, or by appointment

Text: College Algebra with Trigonometry, 7th Edition,

Page: http://math.wwc.edu/courses/122/

Calculator: A scientific calculator with trigonometric function keys.

This course examines college algebra and trigonometry including trigonometric functions; graphs; the binomial theorem; matrices; determinants; progressions; and mathematical induction. The course will cover selected sections from chapters 6 through 11 in your text, in order. The deadline for withdrawing from the course is **Tuesday, 18 May** and the final will be given on **Wednesday, 9 June**.

Topics

1. Trigonometric Functions:
   Basic definitions, domains, ranges, special angles, circular functions, graphing, the inverse functions.

2. Trigonometric Identities and Conditional Equations:
   Basic identities, sum & difference identities, product identities, double- & half-angle identities, equations.

3. Additional Topics and Applications of Trigonometry:
   Law of sines, law of cosines, vectors, complex numbers, polar coordinates, De Moivre’s Theorem.

4. Systems of Equations:
   Basic systems, using matrices, determinants, Cramer’s Rule.

5. Sequences and Series:
   Mathematical induction, arithmetic and geometric sequences, the Binomial Theorem.

Objectives

Upon completion of this course, students will have

1. developed demonstrable understanding of the topics outlined above.
2. successfully engaged in mathematical thinking, reasoning, and problem solving.
3. become proficient in expressing clear and accurate solutions to mathematical problems in written form.

The following requirements encourage and measure the successful completion of these objectives.

Quizzes (O1,O2)

Short quizzes based on previous lectures will be given promptly at the beginning of class on Tuesdays and Fridays, excluding those days which fall directly before, on, or after a schedule exam. Students who wish their quiz to be counted must be present for the entire class period, or make arrangements to leave early. Make-up and early quizzes will not be given for any reason. Your lowest quiz score will be dropped at the end of the quarter. In the event that you miss more than one quiz due to appropriate and verifiable reasons, additional quiz scores may, at the discretion of the instructor, be dropped.
Mathematics is not a spectator sport. Daily assignments will be give, each due by 5:00 p.m. on the day of the next class period. These assignments should be considered the minimal amount of homework required to pass the course, and will take approximately 2 hours of work for each hour of lecture. Assignments which are more than one class day late will not be accepted. Your lowest two homework scores will be dropped at the end of the quarter. If you miss more than two assignments due to appropriate and verifiable reasons, additional homework scores may, at the discretion of your instructor, be dropped.

Please observe the following guidelines when preparing your homework. Papers which do not meet these criteria may not be accepted.

1. Use letter (8.5 × 11) sized paper with clean edges (not torn out of a notebook).
2. Multi-page assignments must be stapled or paper-clipped together.
3. Fold the assignment lengthwise like a book and write your name, the course number, and assignment number(s) on the front cover.
4. Use a pencil, write legibly, and organize your problems and solutions in a logical manner.
5. Show all essential steps in solving the problem, include figures, and notes when appropriate. A reader must be able to easily verify that you not only have the correct answer, but have also expressed a correct solution to the problem.

Exams (O1,O2)

There will be four exams during the quarter, including the two-hour comprehensive final. The first three exam dates are subject to in-class change, and will be announced at least one week in advance. You may request alternative exam dates in advance for appropriate and verifiable reasons. The final exam may only be taken out of schedule after consultation with the Associate Academic Dean.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Chapters</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>Chapter 6</td>
<td>16 April</td>
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<tr>
<td>Exam II</td>
<td>Chapters 7 and 8</td>
<td>7 May</td>
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<tr>
<td>Exam III</td>
<td>Chapters 8-11</td>
<td>26 May</td>
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<tr>
<td>Final</td>
<td>Chapters 6-11, emphasis on 11</td>
<td>Wednesday, 9 June 2:00 p.m.</td>
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Grades

Your final letter grade will be based on your quarter average. Your quarter average is made up of six scores: your homework average, quiz average, and four exam scores. Weights for each of these are given below. Appropriate (to your instructor) modifications of the final letter grades may be made in individual cases for progress, unusual circumstances, etc.

<table>
<thead>
<tr>
<th>Score Weights</th>
<th>Letter Grades (lowest percent)</th>
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<tbody>
<tr>
<td>Final 25%</td>
<td>B+ 89% C+ 78% D+ 64%</td>
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<tr>
<td>Exams I-III 3×17%</td>
<td>A 93% B 82% C 68% D 57% F 0%</td>
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<tr>
<td>Homework 12%</td>
<td>A- 91% B- 80% C- 66% D- 55%</td>
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<tr>
<td>Quizzes 12%</td>
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Disabilities

Students with a physical and/or learning disability who require accommodations should contact the instructor or Disability Support Services at 527-2366. This syllabus is available in alternative formats upon request.