Finite Mathematics (MATH 105)
Spring Quarter, 2005

Time/Place: MWRF 9:00-9:50 a.m. KRH 345

Instructor: Jonathan Duncan (duncjo@wwc.edu)
Office: Kretchmar Hall 330, phone: 527-2097
Office Hours: 9:00 T, 10:00 MWRF, 13:00 MR, or by appointment

Calculator: You will need a simple scientific calculator.
Webpage: http://math.wwc.edu/courses/105/

This course provides an introduction to mathematics, including algebraic concepts, sets, counting, probability, and descriptive statistics. We will cover selected sections from chapters 1-3 and 6-9 in your text. The deadline for withdrawing is Tuesday, 17 May and the final will be given on Wednesday, 8 June.

Topics

1. Sets and Counting (Chapter 6):
   - sets, number of elements in a set, multiplication principle, permutations, combinations
2. Probability (Chapters 7 & 8):
   - sample spaces, assignment of probabilities, properties of probabilities, probability from counting techniques, conditional probability, independent events, Bayes' formula, binomial probability, expected value
3. Statistics (Chapter 9):
   - data and sampling, representing data, organizing data, measures of center, measures of dispersion, the normal distribution
4. Linear Equations and Systems of Equations (Chapters 1 and 2):
   - rectangular coordinates, lines, pairs of lines, systems of linear equations, solutions by substitution, solutions by matrices, matrix algebra, multiplication of matrices, matrix inverses, applications
5. Linear Programming (Chapter 3)
   - systems of linear inequalities, a geometric approach, applications

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, problem solving, and expression;
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 10 point quizzes based on previous homework will be given promptly at the beginning of class on Wednesdays and Fridays, excluding those days which fall directly on or after a scheduled 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 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 quizzes due to appropriate and verifiable reasons, additional quiz scores may, at the discretion of the instructor, be dropped.
Homework (O2,O3)

Mathematics is not a spectator sport. Daily assignments will be given, 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 be discounted.

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 steps in solving the problem. Include figures, and notes if appropriate. A reader must be able to verify that you not only have the correct answer, but have also expressed a correct solution.

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, to 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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<tr>
<td>Exam I</td>
<td>6 and 7</td>
<td>15 April</td>
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<tr>
<td>Exam II</td>
<td>8 and 9</td>
<td>6 May</td>
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<tr>
<td>Exam III</td>
<td>1 and 2</td>
<td>26 May</td>
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<tr>
<td>Final</td>
<td>Cumulative, emphasis on Chapter 3</td>
<td>Wed, 8 June 12:00 p.m.</td>
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Grades

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

<table>
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<tr>
<th>Score Weights</th>
<th>Letter Grades (lowest percent)</th>
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<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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All acts of dishonesty are unacceptable, including cheating, plagiarism, forgery, misrepresentation, falsification, and prohibited collaboration. Violation of academic integrity codes will result in disciplinary action. Collaboration on homework is encouraged, but be certain that the work you hand in is your own.

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.