Math with Applications (MATH 105)
Spring Quarter, 2003

Time/Place: MWF 9:00-9:50 p.m. KRH 205
Instructor: Jonathan Duncan (duncjo@wwc.edu)
Office: Kretchmar Hall 330, phone: 527-2097
Office Hours: 10:00 MTWRF, 4:00 MWR, or by appointment

Text: Mathematics: One of the Liberal Arts,
Webpage: http://math.wwc.edu/courses/105/

This course provides an introduction to mathematics, including algebraic concepts, permutations, combinations, probability, descriptive statistics, and computer applications. The course will cover various chapters from your text, not necessarily in order. The deadline for withdrawing from the course is Tuesday, 20 May and the final will be given on Wednesday, 11 June.

Topics
1. Sets and Logic (Chapters 3 & 4):
   • Set equality, subsets, set operations, Venn diagrams, DeMorgan’s laws, logic terminology, connectives, truth tables, conditional sentences, valid arguments
2. Probability and Statistics (Chapters 7 & 8):
   • Experiments, outcomes, probability distributions, multiplication rule, permutations, combinations, other counting rules, compound events, graphical presentation of data, measuring centers, measuring spreads, normal distributions, statistical inference
3. Linear Programming: (Chapter 5 & Supplement)
   • Linear equations, graphs of linear equations, systems of linear equations, linear inequalities, graphing linear equalities, basic linear programming
4. Consumer Math (Chapter 10):
   • Exponential functions, simple and compound interest, annuities

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. demonstrated the ability to acquire mathematical knowledge independent of classroom instruction.

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

Quizzes (Q1,Q2)
Short 10 point quizzes which are based on previous homework will be given at the end of class on those Wednesdays and Fridays which do not fall on scheduled exam dates. Make-up quizzes will not be given, and no quizzes will be given early. 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 illness or for other appropriate and verifiable reasons, additional quiz scores may, at the discretion of the instructor, be dropped.
Homework (O2,O3)

Daily 10 point assignments will be given, each due at the beginning of the next class period. One writing question will also be available most weeks for extra credit, due on Monday of the following week. Homework which is more than one class period overdue will be discounted at a rate of 2 points per day late. Please see your instructor about homework which is late due to illness or other appropriate and verifiable reasons. Late homework may not be turned in after the beginning of review week. Your lowest two homework scores will be dropped at the end of the quarter.

Please observe the following guidelines when preparing your homework. You may be asked to redo assignments which do not meet these criteria. In such cases, normal late homework discounts will apply.

1. Use 8.5 × 11 paper with clean edges (not torn out of a notebook). Staple multiple pages together, fold them lengthwise like a book, and write your name and assignment number on the front cover.
2. Use a pencil, write legibly, and organize your problems and solutions in a logical manner.
3. 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 the correct solution to the problem.

Project (O2,O3)

Together with a group of classmates, you will be asked to prepare an oral presentation for the class, and write a paper for your instructor, dealing with one of a number of topics selected from the textbook which are not covered in class. Specifics will be given as the quarter progresses.

Exams (O1,O2)

There will be four exams during the course of the quarter, including the two-hour comprehensive final. You must attend the final exam at the scheduled time. Make-ups for other exams will only be given for written, verifiable excuses, with notification given to your instructor in advance.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Chapters/Supplement</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>Chapters 3 and 4</td>
<td>16 April</td>
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<tr>
<td>Exam II</td>
<td>Chapters 8 and 9</td>
<td>7 May</td>
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<tr>
<td>Exam III</td>
<td>Chapter 5 and Supplement</td>
<td>23 May</td>
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<tr>
<td>Final</td>
<td>Cumulative, emphasis on new material</td>
<td>Wed, 11 June 8:00 a.m.</td>
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Grades

Your final letter grade will be assigned based on your quarter average. This average is made up of seven scores: your homework average, quiz average, project score, and four exam scores. Score weights are shown below. Appropriate (to your instructor) modifications of the final grades may be made in individual cases.

<table>
<thead>
<tr>
<th>Score Weights</th>
<th>A+ 98%</th>
<th>B+ 88%</th>
<th>C+ 76%</th>
<th>D+ 63%</th>
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<tbody>
<tr>
<td>Final</td>
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<tr>
<td>Exams I-III</td>
<td>A 92%</td>
<td>B 82%</td>
<td>C 67%</td>
<td>D 57%</td>
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<tr>
<td>Homework</td>
<td>A- 90%</td>
<td>B- 80%</td>
<td>C- 65%</td>
<td>D- 55%</td>
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<td>Quizzes</td>
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<td>Project</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.