Syllabus for MT 120 (E-Start)
Topics in Applied College Math (CRN 11396)
Fall 2015

Instructor Contact Information

Alisa Kadenic-Newman
E-mail: akadenic@ccsnh.edu

Course Hours

100% Online
Start Date: September 2nd, 2015
End Date: December 18th, 2015
(our class day will be Wednesday -> weekly modules will be available on Wed)
(Final Exam due date)

Required Course Materials

- **MyMathLab Student Access Code** for MyLab/Mastering web site: www.pearsonmylabandmastering.com
- **A Scientific Calculator** (TI 83+ or 84+ recommended - especially for the chapters on probability and statistics).
- **Textbook**: *Thinking Mathematically*
  Edition: 6
  Author: Robert Blitzer
  Publisher: Pearson Education

| ISBN (Textbook only): 9780321867322 |
| ISBN (MyMathLab only): 9780321199911 |
| ISBN (Textbook + MyMathLab Bundle): 9780321923233 |

**NOTE:** The textbook is optional as it is available as an e-Book within the MyLab/Mastering course. To access the book, click Chapter Contents.

Students are expected to enroll in the My MathLab portion of the course by **Wednesday September 9th**. **Students who fail to meet this deadline will not be able to do the work and may be dropped from the course** - you will need your EasyLogin username and password to access your CCSNH student email and Blackboard. **Contact NHTI helpdesk if you require assistance with EasyLogin credentials.**

Instructions will be posted on Blackboard and emailed to everyone prior to course start date (**please do not create account via Pearson website before receiving the email**)! Make sure that you have access to your CCSNH student email well before the start date.

Temporary access to MyMathLab for 14 days is available for those students who are unsure about taking this class or those awaiting financial aid. Be sure to follow the instructions for making a temporary account permanent as I will explain in a separate document. Assignments from duplicate accounts will **not** be accepted or merged!

Course Description

This course is designed to expose the student to a wide range of general mathematics. Problem Solving and Critical Thinking skills, along with the use of technology, will be emphasized and reinforced throughout the course as the student becomes actively involved in solving applied problems. Topics to be covered include: Number Theory and Systems, Functions and Modeling, Finance, Geometry and Measurement, Probability and Statistics, and selected subtopics related to the student’s major field of study.

(Prerequisite: NHTI’s MT 103 with a grade of “C” or higher or the high school equivalent with a grade of “C” or higher)
Course Format

The course will primarily consist of online homework assignments and online tests. Additional resources (PowerPoint lectures, instructional videos, and practice problems) will be made available through Blackboard and MyLab/Mastering web site. Discussions will be conducted via Blackboard and/or by email and may include the whole class at times and individuals at other times.

Attendance Policy and Missed Work

Attendance is indicated by the student’s activity in the MyLab/Mastering web site and Blackboard, which automatically tracks the time spent on each lecture, assignment, and test. A strong correlation exists between a student’s final grade in the course and the amount of hours the student spends on course work. In other words, if you are willing to make a good effort you can achieve a good grade (and vice versa).

A student who has not completed any assignments for any consecutive two-week period without contacting the instructor is subject to termination from the course with a grade of AF.

Student E-mail

The instructor will use Student E-mail to communicate with individual students or with the class as a whole. Students are expected to regularly check their Student E-mail accounts for messages from the instructor.

Online Homework

All homework assignments for the semester are to be completed online via MyMathLab. No limits are placed on the number of attempts or time to complete problems. Homework assignments become available on the date that the previous chapter test becomes available. (For example, the homework assignments for Chapter 2 become available on the same date that the Chapter 1 test becomes available.) Students are expected to complete the online homework problems for each chapter by the due date (which is the same as the due date for the corresponding chapter test). Students are able to continue working on past-due homework assignments, but late problems receive a penalty of 25%. After each exam, assignments marked Past Due will receive a score of 0 to more accurately reflect academic standing.

Online Tutoring Service

Students have two sources for online tutoring services:

The Pearson Tutor Center provides support for Addison-Wesley and Prentice Hall mathematics and statistics content and is staffed by college-level mathematics instructors who can help you with what you’re learning. As a MyMathLab student, you can register for the Pearson Tutor Center at no additional cost using either of the following methods:

- Visit the Tutor Center’s registration page to sign up for tutoring. When asked for a registration number, simply provide your MyMathLab course ID or student access code.
- Call 1-800-877-3016 (5:00 PM - 12:00 AM EST, Sun-Thurs)

SMARTThINKING is an online tutoring service available to you 24 hours a day, 7 days a week. You can obtain help by chatting with a tutor or by e-mail. Access to SMARTThINKING is provided through the NHTI Blackboard website:

1) Login to the Blackboard (not MyLab/Mastering).
2) Click the link for Smartthinking in the panel on the left side of the window.

To obtain support and instructions for SMARTThINKING use, use this link:


Online Tests

A test will be assigned for each chapter. To permit the student flexibility, each test may be taken any time within its scheduled period. No time limit (other than the due date) is imposed on tests.

The student is expected to complete a comprehensive final exam which includes problems from all chapters covered during the course. The final exam may be completed any time within a one-week time period at the end of the course. Test dates are of the utmost priority; students are expected to take each test by the due date. Any test not completed by the due date receives a score of 0. Missed tests cannot be made up! No exceptions!

NOTE: All students are REQUIRED to take the final exam, regardless of their score at the end of the semester.
Assignment Weighing Policy

Grades will be computed according to the following weighting scheme, and maintained in Blackboard/MyMathLab throughout the semester. Students are encouraged to regularly check their in Blackboard/MyMathLab and report any discrepancy to the instructor as soon as possible.

<table>
<thead>
<tr>
<th>Weighting Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
</tr>
<tr>
<td>Online Tests</td>
</tr>
<tr>
<td>Online Homework</td>
</tr>
<tr>
<td>Online Final Exam</td>
</tr>
</tbody>
</table>

Grading Policy

Mid-term and final grades are determined according to the following chart. An academic warning is sent to any student with a grade of C- or below at the midterm.

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
<th>Score</th>
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<th>Score</th>
<th>Grade</th>
<th>Score</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>87-89</td>
<td>B+</td>
<td>77-79</td>
<td>C+</td>
<td>67-69</td>
<td>D+</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
<td>83-86</td>
<td>B</td>
<td>73-76</td>
<td>C</td>
<td>63-66</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80-82</td>
<td>B-</td>
<td>70-72</td>
<td>C-</td>
<td>60-62</td>
<td>D-</td>
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<td>Below 60</td>
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Academic Honesty

Honesty is expected of all students, as discussed in Academic Affairs Notices (posted in the Syllabus area in Blackboard). Academic honesty is taken very seriously by the faculty and administration at NHTI. Penalties for infractions can range from a 0 score to dismissal from the college. For further clarification, see the Student Handbook.

Services

See Academic Affairs Notices (posted in the Syllabus area on MyMathLab) for a description of services available to students through various college offices and departments.
The date in the Available column is the date when assignments appear in Blackboard and/or MyLab/Mastering. The date in the Due column is the date by which all specified sections of homework and the test for the relevant chapter must be completed. Each test will be made available five days in advance of the due date. (Homework assignments for the following chapter become available on this date, as well.) Immediately following each chapter due date, any homework assignment or test marked Past Due receives a score of 0.

A period of time for study and review is allowed between the Test 12 and the Final Exam. The Final Exam will be made available one week in advance of the due date.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Text Sections</th>
<th>Available</th>
<th>Due (midnight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro and Registration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chapter 1 - Problem Solving &amp; Critical Thinking</td>
<td>1.2, 1.3</td>
<td>Sep 2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Sep 11&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Chapter 5 - Arithmetic Operations &amp; Number Theory</td>
<td>5.1, 5.2, 5.3, 5.6</td>
<td>Sep 9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Sep 18&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Scientific Notation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Test 1</td>
<td>Ch. 1 &amp; Ch. 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chapter 6 - Algebra: Equations Ratio and Proportion</td>
<td>6.1, 6.2, 6.3</td>
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<tr>
<td>Test 2</td>
<td>Ch. 6</td>
<td></td>
<td></td>
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<tr>
<td>Chapter 7 - Algebra: Graphing Quadratics, Exponentials Systems of Equations</td>
<td>7.1, 7.2, 7.3</td>
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<tr>
<td>Test 3</td>
<td>Ch. 7</td>
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<tr>
<td>Chapter 8 - Consumer Mathematics and Financial Management</td>
<td>8.1, 8.2, 8.3, 8.4, 8.5</td>
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<td>Test 4</td>
<td>Ch. 8</td>
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<tr>
<td>Test 5</td>
<td>Ch. 9</td>
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<tr>
<td>Chapter 10 - Geometry: Lines/Angles/Triangles/Polygons Perimeter Area, Volume Applications, Right Triangle Trig</td>
<td>10.1, 10.2, 10.3</td>
<td>10.4, 10.5, 10.6</td>
<td>11.1, 11.2, 11.3</td>
</tr>
<tr>
<td>Test 6</td>
<td>Ch. 10</td>
<td></td>
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<tr>
<td>Chapter 11 - Counting with Permutations/Combinations Probability of Simple Events</td>
<td>11.1, 11.2, 11.3</td>
<td>11.4, 11.5</td>
<td></td>
</tr>
<tr>
<td>Test 7</td>
<td>Ch. 11</td>
<td></td>
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</tr>
<tr>
<td>Chapter 12 - Basic Statistical Methods Scatter Plots Linear Regression</td>
<td>12.1, 12.2, 12.3, 12.4, 12.5, 12.6</td>
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<td></td>
</tr>
<tr>
<td>Test 8</td>
<td>Ch. 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester Review/Study Period*</td>
<td>All of the above</td>
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</tr>
<tr>
<td>Final Exam</td>
<td>All of the above</td>
<td>Dec 18th</td>
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</tbody>
</table>

* Depends on when the student finishes the Chapter 12 test and starts the final exam.
Major Objectives
The student will be able to:
1) Model data using equations, graphs, formulas, and tables
2) Demonstrate critical thinking in choosing from among a variety of problem solving strategies
3) Solve annuity, amortization, and compound interest problems
4) Use various measurement systems and convert them
5) Solve problems involving geometrical concepts and relationships
6) Analyze data using statistical tools including charts, histograms, graphs and formulas

Performance Objectives:
Upon successful completion of this course, the student, using appropriate technology, will be able to:
1) Algebra applications
   (a) Interpolate data using a graph or table
   (b) Use linear, quadratic and exponential functions to create mathematical models from formulas, tables and graphs
   (c) Solve problems relevant to students major fields using linear, quadratic, exponential and logarithmic functions
   (d) Using appropriate technology, perform regression analysis on raw data
2) Math of finance
   a) Calculate simple and compound interest
   b) Determine the actual cost of a loan
   c) Determine monthly payments given the rate and term of a loan
   d) Calculate the future value of an investment or annuity
   e) Calculate the present value of an investment or annuity
3) Measurement and metric system
   a) Use basic measurement units, i.e. length, mass, weight
   b) Recognize and use the English system
   c) Use dimensional analysis to convert units within the English system
   d) Recognize and use the metric system
   e) Use metric prefixes for larger and smaller base units
   f) Use dimensional analysis to convert units with the Metric system
   g) Use dimensional analysis to convert between the systems
4) Geometric applications
   a) Use points, lines, and planes, the basic components of geometry
   b) Use angle measurement between lines and planes
   c) Use a protractor for angle measurements
   d) Recognize parallel and perpendicular relationships
   e) Use similar and congruent triangles to solve problems
   f) Recognize various geometric shapes and their properties: triangles, rectangles, polygons, circles, etc.
   g) Use appropriate formulas to solve for the area and perimeter of two-dimensional geometric shapes
   h) Use appropriate formulas to solve for the volume and surface areas of three-dimensional geometric shapes
5) Probability
   a) Calculate using the fundamental counting principle
   b) Evaluate factorial expressions
   c) Calculate and apply permutations and combinations
   d) Compute theoretical and empirical probabilities
   e) Compute expected value and use to solve applied problem
6) Statistics
   a) Gather data using sampling techniques for various populations
   b) Organize and present data using tables, graphs and histograms
   c) Compute measures of central tendency and dispersion and interpret the results
   d) Use normal distribution characteristics to recognize other distributions
   e) Create scatter plots, determine correlations and/or regression lines if present
   f) Interpret and use various statistical graphs