



## Course Syllabus

Department of Mathematics and Computer Science, Lincoln University (SPRING 2010)

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**COURSE ID:** MAT106-02  
**COURSE NAME:** Math for the Liberal Arts  
**CREDITS:** 3

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**TEXT BOOK:** Bennett, J. & Briggs, W., Essentials of Using and Understanding Mathematics. Addison-Wesley: Boston. 2003.

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**Instructor:** Dr. Moses W. Haimbodi

**Office:** 242 New Science Building

**Office Hours:** M-F: 1-2 pm, T: 2-3 pm, R: 2-3 pm. Students are *also* encouraged to call (ext. 7455) or email (mhaimbodi@lincoln.edu) to make an appointment. (NB! Office hours are at the mercy of the demands of departmental duties).

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### **COURSE DESCRIPTION:**

Math for the Liberal Arts is an introduction to non-technical applications of mathematics in the modern world. The course is designed to cultivate an appreciation of the significance of mathematics in daily life and develop students' mathematical reasoning. Subjects include Quantitative Information in Everyday Life, Financial Management, Statistics, and Probability.

**PREREQUISITE:** None

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**COURSE REQUIREMENTS:** Take all the in-class exams, quizzes, midterm and the final exam. Complete all homework assignments and submit in timely schedule as requested. Students are required to put in extensive study time, an estimate of more than 10 hours each week outside of class. **There will be NO make-up exams and any additional un-scheduled "extra-credit."**

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### **COURSE GOALS- STUDENT LEARNER OUTCOMES:**

Upon completion of this course, students should be able to:

- Explain ways in which mathematics is relevant to their lives;
- Improve their self-confidence in dealing with mathematical issues;
- Reason with quantitative information, such as by explaining the use and meaning of percentages, graphs, probabilities, and averages;
- Strengthen the critical thinking skills for quantitative reasoning needed in life, for example by solving problems in consumer mathematics.

**Ch. 1 Thinking Critically (Quick Review)**

Recognizing Fallacies  
 Critical Thinking in Everyday Life

**Ch. 2 Approaches to Problem Solving (Quick Review)**

Working with Fractions  
 Problem Solving Guidelines and Hints

**Ch. 3 Numbers in the Real World**

Uses and Abuses of Percentages  
 Putting Numbers in Perspective  
 Dealing with Uncertainty  
 How Numbers Deceive

**Ch. 4 Financial Management**

The Power of Compounding  
 Savings Plans  
 Loan Payments, Credit Cards, and Mortgages

**Ch. 5 Statistical Reasoning**

Fundamentals of Statistics  
 Should You Believe a Statistical Study  
 Statistical Tables and Graphs  
 Graphics in the Media  
 Correlation and Causality  
 Characterizing as Data Distribution

**Ch 6 Probability: Living with the Odds**

Fundamentals of Probability  
 Combining Probability  
 The Law of Averages  
 Counting and Probability

Day	Date	Topic	Due Date	Day	Date	Topic	Due Date	Day	Date	Topics	Due Date
M				M	8-Feb	Chap.4	Quiz3	M	15-Mar	Chap.5	Quiz5
T				T	9-Feb			T	16-Mar		
W	6-Jan	Intro		W	10-Feb	Chap.4		W	17-Mar	Chap.5	
R	7-Jan			R	11-Feb			R	18-Mar		
F	8-Jan	Review Ch.1		F	12-Feb	Chap.4	Test#2	F	19-Mar	Chap.5	Test#4
M	11-Jan	Review Ch.1		M	15-Feb	Chap.4		M	22-Mar	Chap.6	
T	12-Jan			T	16-Feb			T	23-Mar		
W	13-Jan	Review Ch.2		W	17-Feb	Chap.4		W	24-Mar	Chap.6	
R	14-Jan			R	18-Feb			R	25-Mar		
F	15-Jan	Review Ch.2	Quiz1	F	19-Feb	Chap.4	HW#3	F	26-Mar	Chap.6	HW#5
M	18-Jan		MLK Day	M	22-Feb	Chap.5	Quiz4	M	29-Mar	Chap.6	Quiz6
T	19-Jan			T	23-Feb			T	30-Mar		
W	20-Jan	Chap. 3		W	24-Feb	Chap.5		W	31-Mar	Chap.6	
R	21-Jan			R	25-Feb			R	1-Apr		
F	22-Jan	Chap. 3	HW#1	F	26-Feb	Chap.5	Test#3	F	2-Apr	Chap.6	Easter
M	25-Jan	Chap.3	Quiz2	M	1-Mar	Chap.5		M	5-Apr	Chap.6	
T	26-Jan			T	2-Mar			T	6-Apr		
W	27-Jan	Chap.3		W	3-Mar	Chap.5		W	7-Apr	Chap.6	HW#6
R	28-Jan			R	4-Mar			R	8-Apr		
F	29-Jan	Chap.3	Test#1	F	5-Mar	Chap.5	MidTerms	F	9-Apr	Chap.6	Test#5
M	1-Feb	Chap.4		M	8-Mar	Chap.5		M	12-Apr	Chap.6	
T	2-Feb			T	9-Mar		Convocation	T	13-Apr		
W	3-Feb	Chap.4		W	10-Mar	Chap.5		W	14-Apr	Review	
R	4-Feb			R	11-Mar			R	15-Apr		
F	5-Feb	Chap.4	HW#2	F	12-Mar	Chap.5	HW#4	F	16-Apr	Review	

## COURSE ASSESSMENT- LEARNING OPPORTUNITIES:

- Homework

Problems for homework will be given on material covered in class on a cumulative basis to be collected as indicated on the schedule. On all assignments, all work must be shown for credit.

Students are encouraged to work cooperatively. The objective of group work is to develop individual skills while learning to work effectively as a team, to think and talk about problem solving and the underlying mathematical concepts, and to develop the ability to ask and answer questions as they arise. However, each student is responsible for all the assigned material, in other words, students can work together, but should not simply copy work from each other. Students are also encouraged to make regular visits during office hours, to meet in study groups, and to use the Learning Resource Center (LRC) or the Math Tutors from the School of Natural Sciences.

- Quizzes, Tests and Final Exam

Short (15 – 20 minute) quizzes will be given at the beginning of the assigned date. Tests are for the duration of the class – 50 minutes as scheduled. A midterm and a cumulative two hour Final Exam will be given as scheduled by the Registrar. All work must be shown for full credit.

- Late Work And Make-Ups

All graded assignments, quizzes and exams must be completed when scheduled. Late assignments or make-up tests or quizzes will only be allowed with **official documentation** and grades may be lowered.

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### **GRADING:**

5% Attendance; 5% Quizzes, 25 % Tests; 20 % Homework; 15 % Midterm; 30 % Final

Final Grade Calculation =  $0.05*A + 0.05*Q + 0.25*T + 0.2*HW + 0.15*MT + 0.30*F$

Key: A = Attendance, Q = Quizzes, T = Test, HW = Homework, MD = MidTerm, F = Finals

A	92-100 %
A-	89-91 %
B+	86-88 %
B	82-85 %
B-	79-81 %
C+	76-78 %
C	72-75 %
C-	69-71 %
D+	62-68 %
D	55-61 %
F	0-54 %

## **Class Attendance, Academic Integrity & Class Etiquette**

**Students are strongly advised to read the University Bulletin pp. 59-70. The instructor intends to enforce the regulations and penalties about class attendance, in-class behavior and academic integrity as outlined in the University Bulletin.**

### **UNIVERSITY POLICY:**

#### **1) Attendance:**

Lincoln University uses the class method of teaching, which assumes that each student has something to contribute and something to gain by attending class. It further assumes that there is much more instruction absorbed in the classroom than can be tested on examinations. Therefore, students are expected to attend all regularly scheduled class meetings and should exhibit good faith in this regard. For the control of absences, the faculty adopted the following regulations:

- Four absences may result in an automatic failure in the course.
- Three tardy arrivals may be counted as one absence.
- Absences will be counted starting with whatever day is specified by the instructor but not later than the deadline for adding or dropping courses.
- In case of illness, death in the family, or other extenuating circumstances, the student must present documented evidence of inability to attend classes to the Vice President for Student Affairs and Enrollment Management. However, in such cases the student is responsible for all work missed during those absences.
- Students representing the University in athletic events or other University sanctioned activities will be excused from class (es) with the responsibility of making up all work and examinations. The Registrar will issue the excused format to the faculty member in charge of the off- or on-campus activity for delivery by the student(s) to their instructors.

#### **2) Statement on Academic Integrity:**

Students are responsible for proper conduct and integrity in all of their scholastic work. They must follow a professor's instructions when completing tests, homework, and laboratory reports, and must ask for clarification if the instructions are not clear. In general, students should not give or receive aid when taking exams, or exceed the time limitations specified by the professor. In seeking the truth, in learning to think critically, and in preparing for a life of constructive service, honesty is imperative. Honesty in the classroom and in the preparation of papers is therefore expected of all students. Each student has the responsibility to submit work that is uniquely his or her own. All of this work must be done in accordance with established principles of academic integrity.

An act of academic dishonesty or plagiarism may result in failure for a project or in a course. Plagiarism involves representing another person's ideas or scholarship, including material from the Internet, as your own. Cheating or acts of academic dishonesty include (but are not limited to) fabricating data, tampering with grades, copying, and offering or receiving unauthorized assistance or information.

### **3) The Student Conduct Code:**

Students will be held to the rules and regulations of the Student Conduct Code as described in the Lincoln University Student Handbook. In particular, excessive talking, leaving and reentering class, phones or pagers, or other means of disrupting the class will not be tolerated and students may be asked to leave. Students who constantly disrupt class may be asked to leave permanently and will receive an F.

### **4) The Core Curriculum Learner Competencies:**

All courses offered through the Department of Mathematics and Computer Science require students to meet at least the following out of the 8 Core Curriculum Learner Competencies:

- (1) Listen and effectively communicate ideas through written, spoken, and visual means;
- (2) Think critically via classifying, analyzing, comparing, contrasting, hypothesizing, synthesizing, extrapolating, and evaluating ideas;
  
- (6) Apply and evaluate quantitative reasoning through the disciplines of mathematics, computational science, laboratory science, selected social sciences and other like-minded approaches that require precision of thought;
  
- (8) Demonstrate positive interpersonal skills by adhering to the principles of freedom, justice, equality, fairness, tolerance, open dialogue and concern for the common good.

**My late High School mathematics teacher used to say:**

**Ex Nihilo Nihil Fit = Nothing comes from Nothing = “Out of nothing comes nothing”**

***The professor reserves the right to change the content of this course syllabus.***