# Lincoln University

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| **Course Title**: College Mathematics | **Instructor:** Hamidreza Baharestani |
| **Course No**: MATH 10 | **Phone: TBA** |
| **Credit**: 3 units (45 lecture hours) | **Email**: hbaharestani@lincolnucasf.edu |
| **Class Hours:** Wednesdays, | **Office Hours:** by appointment through email |
| 12:30 PM – 3:15 PM | |
| **Semester:** Spring 2016 | **Office Number:** Room 407 |

## REQUIRED MATERIALS

**Textbook:** College Algebra, by Michael Sullivan, Pearson, 9th Edition, 2011

ISBN-10: 032171716817

**Required Tools:**

**Optional:** A scientific Calculator

## COURSE DESCRIPTION

Elementary Algebra: fundamental algebraic concepts and operations, number bases, linear equations and inequalities, functions, graphing. Intermediate Algebra: study of Algebra including exponents and radical polynomials, geometrics series, rational expressions, quadratic equations and logarithms. (3 units)

## LEARNING OBJECTIVES

The students will review the basic concepts and techniques of elementary and intermediate algebra, get complete coverage of the function and graph concepts, and learn how to apply them. Particular emphasis will be placed on the practical use of mathematics in business and in economics. The goal is to introduce students to problem solving and mathematical modeling using algebra and build a solid foundation in the principle of mathematics thinking.

**INSRUCTIONAL METHODS**

Lecture method is used in combination with practical use of calculator, business software, and the internet resources to solve application problems. The emphasis will be on learning by doing. Every student must participate in an intensive classroom activity. Reading, writing, and problem solving assignments will be made weekly throughout the course.

**OTHER REQUIREMENTS**

All students required to attend the class. Continuous assessment is emphasized. Written or oral quizzes will be given every week. Students must complete all assignments and take all quizzes, mid-term exam and final exam as well of the Dates Due. Talking in class, using cell phones, coming late, leaving the room at times other than at the break time is not allowed. Plagiarism/cheating will result in the grade F and a report to the administration.

**ASSIGNMENTS & QUIZZES**

Most assignments will from the textbook. Each assignment is due the beginning of the following class. You can return your assignments electronically or write them on a paper and submit to me. Quizzes will take place at the beginning of the course, after collecting assignments and answering questions. Quizzes are designed to last 30 minutes and are based on the material in the assignment.

**TESTING**

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| Classroom | activities every week | 10% |
| Quizzes | as scheduled | 10% |
| Assignments | every week | 10% |
| Mid-term exam | as scheduled | 30% |
| Final exam | as scheduled | 40% |

**GRADING**

| 100-93 | 92-90 | 89-87 | 86-83 | 82-80 | 79-77 | 76-73 | 72-70 | 69-67 | 66-60 | 59-0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |

**OTHER COMMENTS**

- Please participate. What you put into the class will determine what and others get of it. You will be asked to go to the board to solve exercises.
- Please come on time. Late arrivals disturb everyone else.
- If you miss a class, you are responsible for getting notes material covered from a classmate or the instructor.
- To avoid distracting noise in class, cellular phones must be turned off or the ringing mode silenced.
- Questions and comments during the class are welcome. Do not hesitate to ask questions – do not leave anything unclear for you.

**SCHEDULE OF TOPICS**

| Session | Date | Topics | Chapters |
|---------|------|--------|----------|
| 1 | 01/20 | Real Numbers, Algebra essentials, geometry Essentials, polynomials. | R1-R4 |
| 2 | 01/27 | Factoring Polynomials. Rational Expressions. Nth Roots. Rational Exponents. | R5-R8 |
| 3 | 02/03 | Linier Equations, Quadratic Equations and Solving Inequalities. | 1 |
| 4 | 02/10 | Distance and Midpoint Formulas; Graphs of Equations in Two Variables. | 2 |
| 5 | 02/17 | Functions: The Graph of Functions. | 3 |
| 6 | 02/24 | Graphing Techniques, Transformations; Mathematical Models | 3-4 |
| 7 | 03/02 | **Review. Midterm Exam** | R1-8, 1-4 |

| 8 | 03/09 | Quadratic Equations and their Properties. | 4 |
| 9 | 03/23 | Polynomial Functions and Model. Properties Of Rational Functions. | 5 |
| 10 | 03/30 | Composite Functions. One- to- One Functions. | 6 |
| 11 | 04/06 | Exponential and Logarithmic Functions | 6 |
| 12 | 04/13 | Compound Interest, Exponential Growth and Decay; Newton's Law. | 6 |
| 13 | 04/20 | Systems of Linier Equations, Matrix Algebra | 8 |
| 14 | 04/27 | Sequences; Induction; the Binomial Theorem | 9 |
| 15 | 05/04 | Review. Final | 1-9 |

**MODIFICATION OF THE SYLLABUS**

**This Syllabus was created on December 4, 2015.** The instructor reserves the right to modify this syllabus at any time during the semester. An announcement of any changes will be made in the classroom.