Lincoln University

Math 10 – College Mathematics

COURSE SYLLABUS
Spring 2019

Instructor:	Prof. Tom Sanford, MBA, JD, MSME
Lecture Schedule:	Tuesday, 9:00 AM – 11:45 AM
Credits:	3 units / 45 lecture hours
Level:	Introductory (I)
Office Hours:	Tuesday, 8:00 AM – 9:00 AM
	e-mail: tsanford@lincolnuca.edu
Textbooks:	**Knewton alta Intermediate Algebra v2**, Publisher: Knewton, Edition 2nd ISBN: 978-1-63545-084-2
Optional Textbook:	Blitzer, Robert F. **Intermediate Algebra for College Students.** 7th. Prentice Hall. 2016 ISBN-13: 978-0134178943
Last Revision:	January 3, 2019

CATALOG DESCRIPTION

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

COURSE LEARNING OUTCOMES[1]

	Course LO	General Education LO	Institutional LO	Assessment
1	Analyze, interpret, and communicate results of exponential, logarithmic, rational, and discrete models in a logical manner from four points of view – visual, formula, numerical, and written.	GELO 3	ILO 1a, ILO 2a	Quizzes, assigned problems
2	Evaluate real-world situations and distinguish between and apply exponential, logarithmic, rational, and discrete function models appropriately.	GELO 5	ILO 1a	Quizzes, assigned problems

[1] Detailed description of learning outcomes and information about the assessment procedure are available at the Center for Teaching and Learning website (ctl.lincolnuca.edu).

INSTRUCTIONAL METHODS

This is a classroom and online instruction course.

Lecture is used in conjunction with online adaptive learning to provide a rich learning experience for the student. The course requires the practical use of a computer and the internet to do assignments, quizzes and tests. The emphasis will be on learning by doing. Each student must participate in daily activity, but you may work ahead and it is best to be ahead of assignments to give you buffer time when struggling and needing any extra help.

Assignments and projects require students to actively use resources of the library. Detailed guide to business *resources of the library* as well as the description of Lincoln University approach to *information literacy* are available at the Center for Teaching and Learning website (ctl.lincolnuca.edu).

ACADEMIC HONESTY & INTEGRITY HONOR CODE

The faculty, administration, and staff reinforce academic honesty and principles of academic honor. Independent learning is vital to the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Students should avoid academic dishonesty in all of its forms, including plagiarism, cheating, and other forms of academic misconduct. The University reserves the right to determine what constitutes a violation of academic honesty and integrity.

DIVERSITY

Sharing our experiences and our ideas contribute to better understanding. Students are expected to show mutual respect to all. Please bring needed materials to class and participate actively, one-with-another, which may include working at the board and in groups, when requested.

REQUIREMENTS

All students are required to attend each class, be excused, or be dropped at the instructor's discretion. Continuous assessment is emphasized. Students must complete all assignments and take all quizzes, mid-term exam and final exam ON OR BEFORE THE DATES DUE.

ASSESSMENT

Exams *(50%)*. There are unit exams and optional comprehensive final exam. The optional final exam can only help your overall score, it cannot hurt it and, if better, replaces your lowest test score. It is your responsibility to be aware of the testing deadlines and to complete your tests on time. Tests will be given online using the Knewton software. There are no make-up or retake exams and missing a testing deadline will result in a zero score. Tests will be variable in length.

Homework *(30%)*. Give the instructor your name and email for your free Canvas account. Homework assignments will be due nearly every day of class. Homework will be completed using the Knewton-Alta software, which is easily accessible through each assignment link in Canvas. When you click to work on your first homework assignment, you will be asked to purchase the course materials, by either credit card or access code purchased from the bookstore.

***Quizzes** (20%).* Regular quizzes will be given.

Late work is not accepted for points. Assessments must be completed on the specified dates. If you get sick or have another emergency on a test day, it is your responsibility to contact me IMMEDIATELY, but it is better to work ahead. Do not cause another simultaneous emergency.

GRADING POLICY

Assignments	30%
Quizzes	20%
Exams	50%
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Total	**100%**

Letter grades will be given based on the following scaling:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	0 - 59

DISCLAIMER

This syllabus may be changed or updated according to instructor discretion.

COURSE SCHEDULE

Week 1 2.1 Solving Linear Equations in One Variable 2.2 Solving Linear Equations with Fraction and Decimal Coefficients Quiz 1 (Sections 2.1 & 2.2) 2.3 An Introduction to Problem Solving 2.3 An Introduction to Problem Solving 2.4 Percent Change and Interest Applications Quiz 2 (Sections 2.3 & 2.4) Quiz 2 (Sections 2.3 & 2.4) 2.5 Literal Equations and Using Formulas with Geometry 2.6 Mixture Problems with Coins, Tickets, or Stamps	**Week 2** Quiz 2.5 Quiz 2.6 Quiz 2.6 2.7 Mixture Word Problems and Uniform Motion 2.8 Solving Linear Inequalities Quiz 2.7 Quiz 2.8 2.9 Solving Compound Inequalities 2.10 Solving Absolute Value Equations and Inequalities Test 1 (Chapter 2)
Week 3 3.1 The Rectangular Coordinate System and Graphing Linear Equations 3.2 Graphing Linear Equations with Intercepts 3.3 The Slope of a Line 3.4 Graphing Linear Equations with Slope 3.5 Applications of Slope and Parallel and Perpendicular Lines 3.6 Equations of Lines Quiz 3.1/3.2	**Week 4** Quiz 3.3 Quiz 3.4 3.7 Equations of Parallel and Perpendicular Lines 3.8 Graphing Linear Inequalities Quiz 3.5/3.6 3.9 Introduction to Functions 3.10 Function Notation Quiz 3.7 3.11 The Vertical Line Test and Graphs of Functions Quiz 3.8
Week 5 Quiz 3.9/3.10 4.1 Solving Systems of Linear Equations in Two Variables by Graphing 4.2 Solving Systems of Linear Equations in Two Variables Algebraically Quiz 3.11 Quiz 4.1 Quiz 4.2 4.3 Systems of Linear Equations in Two Variables and Problem Solving 4.4 Mixture Problems and Systems of Linear Equations in Two Variables Quiz 4.3 Quiz 4.4 4.5 Solving Systems of Linear Equations in Three Variables	**Week 6** Test 2 (Chapters 3 & 4) 5.1 Adding and Subtracting Polynomials and Polynomial Functions 5.4 Multiplying Polynomials 5.5 Special Products of Binomials and Multiplying Polynomial Functions 5.6 Dividing Polynomials and Polynomial Functions

4.9 Solving Systems of Linear Inequalities	
Week 7 Quiz 5.1 5.7 Use synthetic division to divide polynomials 5.7 Use the remainder and factor theorems 6.1 The Greatest Common Factor and Factoring by Grouping Quiz 5.4 Quiz 5.5 Quiz 5.6 6.2 Factoring Trinomials 6.3 Factoring Special Products Quiz 5.7 Quiz 6.1 6.4 Choosing a Factoring Strategy 6.5 Solving Polynomial Equations by Factoring Manage 6.5 Solving Polynomial Equations by Factoring	**Week 8** Test 3 (Chapters 5 & 6) 7.1 Domain of Rational Expressions and Simplifying Rational Expressions 7.2 Multiplying and Dividing Rational Expressions 7.3 Adding and Subtracting Rational Expressions 7.4 Simplifying Complex Rational Expressions
Week 9 Quiz 7.1/7.2 7.5 Solving Rational Equations and Using Rational Functions 7.6 Proportions and Similar Figures with Rational Equations Quiz 7.3 Quiz 7.4 7.7 Uniform Motion, Work, and Problem Solving 8.1 Understanding Radical Expressions Quiz 7.5 Quiz 7.6 8.2 Simplifying Radical Expressions 8.3 Rational Exponents	**Week 10** Quiz 7.7-8.1 Quiz 8.2 Quiz 8.3 8.4 Operations with Radical Expressions 8.5 Dividing Radical Expressions and Rationalizing Denominators

Week 11 8.6 Solving Radical Equations 8.7 Radical Functions Quiz 8.4 Quiz 8.5 Quiz 8.6 Quiz 8.7 8.8 Introduction to Complex Numbers 8.9 Multiplying and Dividing Complex Numbers and Powers of i Test 4 (Chapters 7 & 8)	**Week 12** 9.1 Solving Quadratic Equations Using the Square Root Property 9.2 Solving Quadratic Equations by Completing the Square 9.3 Solving Quadratic Equations Using the Quadratic Formula 9.4 Solving Equations by Using Quadratic Methods 9.5 Problem Solving with Quadratic Equations 9.6 Parabolas and Their Properties 9.7 Graphing Quadratic Functions
Week 13 Test 5 (Chapter 9) 9.8 Transformations of Parabolas 9.9 Graphing Quadratic Functions	**Week 14** 10.1 Introduction to Logarithms Optional Final