DEREE COLLEGE SYLLABUS FOR: MA 1004 INTERMEDIATE ALGEBRA

(Previously MA 1022 Intermediate Mathematics) 3/0/3
(Updated Spring 2020)

PREREQUISITES:	None
CATALOG DESCRIPTION:	Real Numbers. Fractions, Decimals and Percents. Linear Equations and Inequalities. Systems of Linear Equations. Exponents and Polynomials. Rational Expressions. Rational Exponents and Radicals. Quadratic Equations. *This course is offered for non-graduation credit.*
RATIONALE:	This course is intended for incoming students. The purpose of this course is to introduce basic and intermediate techniques in mathematics. The course intends to provide a base so a student to be able to apply simple mathematical methods to the solution of real-world problems.
LEARNING OUTCOMES:	1. Show ability to work with fractions, decimals and percents. 2. Show ability to work with equations in one and two variables and inequalities in one variable. 3. Demonstrate knowledge of how to solve a 2×2 system of linear equations. 4. Illustrate ability to work with exponents, polynomials and be able to factor polynomials. 5. Demonstrate knowledge of a rational expression and its reduction to lowest terms. 6. Illustrate ability to work with rational exponents and radicals. 7. Show ability to solve quadratic equations.
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: ➢ Class lectures, class discussion, and practical problems solved in class. Furthermore interactive learning, group work and online presentations may be used. ➢ Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class. ➢ Office hours: Students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture material. ➢ Use of the blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.
ASSESSMENT:	Summative: In-class Examination 1 **30%** In-class Examination 2 **30%** Final Examination **40%** Examination 1 is a 1-hour in-class examination. Learning outcomes: 1, 2 Examination 2 is a 1-hour in class examination. Learning outcomes: 3, 4, 5 The final examination is a 2-hour comprehensive examination. Learning outcomes: (1, 2, 3, 4, 5), 6, 7 Students will be graded on a pass/fail basis The final grade for this module will be determined by averaging all summative assessment grades, based on the predetermined weights for each assessment. Students are not required to resit failed assessments in this module. Failure to pass the module results in module repeat.

INDICATIVE READING:	**REQUIRED READING:** Julie Miller, Molly O'Neil and Nancy Hyde, Beginning and Intermediate Algebra, McGraw Hill, © 2018 e-book.
	RECOMMENDED READING: • Instructor hand-outs. • Charles P. McKeague, Intermediate Algebra, Cengage © 2012 Edition • Kruglak, H., Moore, J., Mata-Toledo, R. Schaum's Outline of Basic Mathematics with Applications to Science and Technology, McGraw Hill, © 2008 Edition. • Library reserved material.
INDICATIVE MATERIAL: *(e.g. audiovisual, digital material, etc.)*	**REQUIRED MATERIAL:** **RECOMMENDED MATERIAL:** • College Mathematics
COMMUNICATION REQUIREMENTS:	Verbal presentation skills using academic / professional English.
SOFTWARE REQUIREMENTS:	Any software distributed with the course textbook.
WWW RESOURCES:	https //www.khanacademy.org
INDICATIVE CONTENT:	**1. Set of Real Numbers** 1.1. Natural, Rational and Real Number Sets 1.2. Fractions and Operations 1.3. Ratios, Proportions and Percents 1.4. Applications **2. Linear Equations and Inequalities** 2.1. Linear Equations in One Variable 2.2. Linear Inequalities in One Variable 2.3. Applications **3. Graphing Linear Equations in Two Variables** 3.1. Rectangular Coordinate System 3.2. The Slope of a Line 3.3. Slope-Intercept Form and Point-Slope Form of a Line 3.4. The Graph of a Line in Two Variables 3.5. Applications **4. Systems of Linear Equations** 4.1. Systems of Linear Equations in Two Variables 4.2. The Substitution and the Elimination Method 4.3. Applications **5. Exponents and Polynomials** 5.1. Properties of Exponents-Scientific notation 5.2. Polynomials and Operations 5.3. Factoring Polynomials 5.4. Applications **6. Rational Expressions** 6.1. Basic Properties and Reducing to Lowest Terms 6.2. Operations Involving Rational Expressions 6.3. Applications **7. Rational Exponents and Radicals** 7.1. Properties of Rational Exponents 7.2. Simplified Form of Radicals 7.3. Operations Involving Rational Expressions 7.4. Equations with Radicals **8. Quadratic Equations** 8.1. Solution of the Quadratic Equation 8.2. Applications