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| **HARTNELL COLLEGE COURSE OUTLINE** |
| CC Approval:  Board of Trustees:  Last Revised: 11/01/2004 |
| DESIGNATOR & NUMBER: MAT 123L1 |
| COURSE TITLE: Intermediate Algebra |
| CREDIT UNITS: 5 |
| FACULTY INITIATOR: Ken Rand |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | CONTACT HOURS PER SEMESTER: | |  | | --- | | Lecture: 80 – 90 | | Lab: 0 | | DHR: 0 | | Other: | | |
| GRADING BASIS: |
| Grade Only |
| PREREQUISITE:   * MAT 121: Elementary Algebra with a grade of "C" or better |
| COREQUISITE: |
| ADVISORY:   * Students taking the on-line version of the course are advised that they must have basic computer skills for operating Word for Windows and e-mail including sending attachments and files. Students also need access to the internet and must have adequate hardware capabilities and software such as Windows 95/98/2000/XP/VISTA or MAC OS 8-10 or their equivalent. |
| COURSE DESCRIPTION: Review of elementary algebra plus more advanced problems of factoring, rational expressions, linear and quadratic equations, functions and graphs, systems of equations and inequalities, exponents and radicals, exponential and logarithmic functions, conic sections, sequences, series and applications related to all the functions of intermediate algebra. Not open to students who have completed, with a grade of C or better, MAT 123L2, or its equivalent. |
| COURSE OBJECTIVES: Upon satisfactory completion of the course, students will be able to:   |  |  |  | | --- | --- | --- | |  |  |  | |  | 1. | recognize, analyze, and employ the most effective strategies to solve various mathematical problems (both equations and inequalities) and judge the reasonableness of their results related to the following functions: linear, quadratic, polynomial, rational, radical, exponential, and logarithmic. | |  | 2. | compare.and contrast the equations and graphs of the following functions: linear, quadratic, polynomial, rational, radical, exponential, logarithmic, and the conic sections. | |  | 3. | model real world situations found in various fields of study that are related to the following functions: linear, quadratic, polynomial, rational, radical, exponential, logarithmic, and the conic sections. | |  | 4. | compare and contrast expressions, relations, functions, equations, and inequalities. | |  | 5. | simplify, manipulate.iand evaluate expressions and functions. | |  | 6. | communicate the mathematics of intermediate algebra in both oral and written form. | |  | 7. | solve applications related to all ofthe functions of intermediate algebra. | |  | 8. | use appropriate technology to enhance their mathematical thinking. | |  | 9. | demonstrate the basic concepts of sequences and series and their applications. | |
| COURSE CONTENT:  A. Linear Equations and Inequalities B. Exponents and Polynomials C. Rational Expressions D. Powers, Roots, and Radicals E. Quadratic Equations and inequalities F. Relations, Functions, and Graphs G. Conic Sections H. Systems ofequations and Inequalities 1. Exponential and Logarithmic Functions J. Sequences and Series K. Applications related to all of the functions of intermediate algebra. |
| INSTRUCTIONAL METHODOLOGY: |
| CLASSROOM |
| |  | | --- | | Lecture | | Individual Assistance | | Audiovisual (including PowerPoint or other multimedia) | | Demonstration | | Discussion | | Group Activity | | Requires a minimum of three (3) hours of work per unit including class time and homework. | |
| METHODS OF EVALUATING OBJECTIVES OR OUTCOMES: |
| Methods of evaluation to determine if students have met objectives may include, but are not limited to the following: |
| |  |  | | --- | --- | | CLASSROOM | EXPLANATION | | Written Assignments | Homework will be assigned and will include problems from the textbook and problems provided by the instructor. | |
| |  |  | | --- | --- | | EXAMS | EXPLANATION | |  |  | | Comprehensive Final | A comprehensive final is required for all sections. Final exam will include any combination of problem types such as, problem solving multiple choice, and true/false etc. | | Problem Solving | Will include problems that require the use of problem solving strategies. Types of problems may include, but are not restricted to, word problems, solving equations and inequalities, graphing functions,factoring, and solving real world problems using the concepts learned in the class. | | Skill Demonstration | Will include skill demonstration problems such as, algebraic problems and word problems simulating real world scenarios. | | Objective Test | Exams will include objective questions with one acceptable answer. This is not restricted to true/false or multiple choice questions only. | | Quizzes | Quizzes may be given and graded. | |  | | |
| MINIMUM STUDENT MATERIALS:  Textbook(s) similar to:   * Miller, Julie, Molly O'Neill, and Nancy Hyde. *Intermediate Algebra.* 1st Ed ed. Boston: McGraw Hill, 2007. * Scientific calculator * Additional materials for distance ed course: Software similar to: MyMathLab, Sail Francisco, CA; Addison-Wesley Publishing Co., 2005. |
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