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| |  |  | | --- | --- | | **WEST VALLEY COLLEGE Course Outline** | | |  | | | **Department:**  WV Mathematics | **Date:** 11/06/1990 **Revised Date:** | |  | | | **Course Number and Title:** MATH 106 - Intermediate Algebra | | |  | | | **Length of course in weeks:** | 18 | | **Units:** | 5 | | **Total Class Hours/Week:** | 5 | | **Lecture Hours/Week:** | 5 | | **Lab Hours/Week:** |  | | **By Arrangement/Week:** |  | |  | | | **Grade Type:** Grade Only | | | **SAM Code:**     **TOP Code:** | | |  | | | **Approved as Meeting Title 5 Requirements:** | | | **Curriculum Committee:** | **Date:** | | **Governing Board:** | **Date:** | |  | | | **Oper Unit Coordinator:** | **Date:** | | **Instructional Dean:** | **Date:** | |  | | | **Catalog Description:** | | |  | | | The student will review and greatly extend knowledge of topics from elementary algebra. Functions, including logarithmic and exponential, and complex numbers will be covered. The course is designed for the student who has studied intermediate algebra, or has had difficulty with the subject. This course can also be taught via the internet. Distance Learning Certificate attached. | | |  | | | **Schedule Description:** | | |  | | | The student will review and greatly extend knowledge of topics from elementary algebra. Functions, including logarithmic and exponential, and complex numbers will be covered. The course is designed for the student who has studied intermediate algebra, or has had difficulty with the subject. This course can also be taught via the internet. Distance Learning Certificate attached. | | |  | | | **Prerequisite(s):**  Prerequisite MATH 103: Elementary Algebra or MATH 103R: Elementary Algebra or qualifying score on Placement Test ; Recommended Preparation MATH 104: Plane Geometry | | |  | | | **Course Outcomes/Objectives:**  List the major objectives in terms of the observable knowledge and/or skills to be attained as a result of completing this course.   Limit these to the maximum number of critical objectives that can be effectively monitored and assessed. Formulate at least some of them in terms of student accomplishments concrete and specific enough that it can be determined to what extent they have, in fact, been achieved.  Student learning Outcomes   1. Outcome:Analyze, apply, and interpret quadratic and exponential functions. Assessment:Examination question(s). 2. Outcome:Create and apply a system of linear equations to a real-world problem. Assessment:Examination question(s). 3. Outcome:Describe and interpret relationships between quantities using graphs, tables, symbols, and words. Assessment:Examination question(s). 4. Outcome:Justify, verify, and interpret heir solutions to symbolic and real-world problems. Assessment:Examination question(s). 5. Outcome:assess whether an answer to a problem is reasonable. Assessment:Examination question(s).   Upon completion of this course the student should be able to:   1. Upon completing the course, the student should be able to define, identify and  solve problems involving: polynomials, algebraic fractions, first-degree  equations and inequalities in one variable, exponents, radicals, complex  numbers, second-degree equations and inequalities, graphing involving two  variables, relations and functions, exponential and logarithmic functions and  systems of equations and inequalities. | | | **Assessment:**  Students in this course will be graded, at minimum, in at least one of the following four categories. Please check where appropriate; however, a degree-applicable course must have a minimum of one response in category 1, 2, or 3. If category 1 is not checked, the department must explain why substantial writing assignments are an inappropriate basis for at least part of the grade.   * **2. Problem Solving Demonstrations**   + exams | | |  | | | **Repeatability:** 1 time(s). | | |  | | | **Course Content:**  The outline should be complete enough to assist an instructor teaching the course for the first time. A listing of major topics covered and the amount of time devoted to each is required.   **Lecture Content:**   |  |  |  | | --- | --- | --- | | 1. | Preliminaries | 1.00 % | | 2. | Polynomials | 2.50 % | | 3. | Algebraic Fractions | 2.00 % | | 4. | First-degree equations and inequalities in  one variable | 2.00 % | | 5. | Exponents, radicals, and complex numbers | 3.00 % | | 6. | Graphing involving two variables | 2.00 % | | 7. | Relations and functions | 2.00 % | | 8. | Exponential and logarithmic functions | 2.50 % | | 9. | Systems of equations and inequalities | 1.00 % | | | |  | | | **Critical Thinking Tasks/Assignments:**  Critical thinking can be characterized by the ability to do such things as analyze, explain, deduce, solve problems, synthesize, and understand.   1. Critical thinking in Math 106 includes but is not limited to activities as:  distinguishing techniques appropriate for solving some problems but not others, applying principles to unfamiliar problems and interpreting word problems. | | |  | | | **College Level Required Reading, Writing, and other Outside-of-Class Assignments:**  Over an 18 week presentation of the course, three hours per week are required for each unit of credit. Two hours of independent work done out of class are required for each hour of lecture. Outside of the regular class time the students in this class will be doing the following outside of class:   1. **Study:** 3.50 additional hour(s) 2. **Problem solving activity or exercise:** 4.00 additional hour(s) 3. **Required reading:** 2.50 additional hour(s) | | |  | | | **College Level Appropriate Texts and Materials:**  For degree-applicable courses the adopted texts, as listed in the college bookstore, or instructor prepared materials have been certified primarily to contain college-level materials.  YES  For all courses a list of required and recommended materials is maintained in the college bookstore.   **Textbooks**:  NONE  **Manuals**:  NONE  **Periodicals**:  NONE | | |  | | |