Columbus State Community College
Mathematics Department Syllabus

Course and Number: MATH 1113–Technical Mathematics  Credits: 5  Class Hours Per Week: 6

Prerequisites: MATH 1030 or MATH 1050 with a “C” or higher, or placement by MATH 1099 or COMPASS score

COURSE DESCRIPTION: This is a technical mathematics course which includes rules for measurement; the study of rational expression arithmetic and simplification; operations on radical expressions and expressions containing rational exponents; the complex number system; solving rational, radical, and quadratic equations; solving polynomial inequalities in one variable; solving compound inequalities in one and two variables; analysis and graphs of functions including quadratic and trigonometric functions. Emphasis is on technically oriented applications and activities to build skills in applied problem solving.

SPECIAL COURSE REQUIREMENTS: None

COURSE GOALS: To improve the student’s algebra and technical problem solving abilities. To prepare students for College Algebra (Math1148) or further study in mathematics

GENERAL EDUCATION GOALS: This course addresses the following Columbus State general education goals:
  • Critical Thinking
  • Quantitative Literacy

TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS:
  • My Math Lab/Course Compass – (included with purchase of a new text).
  • A graphing calculator is REQUIRED. The Texas Instruments’ TI-84 (regular, Plus, Silver, etc.) graphing calculator is fully supported and approved for use during proctored assessments.
    • Calculator Alternatives: Some students may prefer to use a CASIO-FX-9750GII or a TI-83. These are less expensive options that are similar to the TI-84, and that are approved for use during proctored assessments. However, note that your instructor will primarily use the TI-84 when teaching, meaning that you will need to learn how to perform any necessary operations using these other calculators without your instructor’s help.
  • Other graphing calculators may be permitted. If you own a different calculator, please check with your instructors to see if your calculator will be allowed during their proctored assessments.
  • The TI-89 and TI-92 (or other calculators that perform symbolic manipulations) are never allowed during proctored assessments.

UNITS OF INSTRUCTION***:
  • Measurement: Precision and Accuracy (Section 1.3)
  • Rational Expressions and Equations with Applications (Sections 6.5-6.7)
  • Functions and Graphs (Chapter 3)
  • Non-linear and Compound Inequalities with Linear Programming (Sections 17.3 – 17.6)
• Rational Exponents and Radicals and Radical Equations (Chapter 11 and Section 14.4)
• Quadratic Equations (Chapter 7)
• Fundamentals of Trigonometry (Chapter 4)
• Graphs of the Trigonometric Functions (Chapter 10)

**GENERAL INSTRUCTIONAL METHODS:** Lecture, discussion, demonstration, exploration and discovery exercises with the use of visual aids, calculators, and/or computer resources.

**STANDARDS AND METHODS FOR EVALUATION:**
Final Exam = 30% of course grade (final exam is 100% departmental).
The remaining 70% of the course grade will be determined by the instructor.
No more that 15% of the course grade may be determined using non-proctored assessments.

**GRADING SCALE:**
Letter grades for the course will be awarded using the following scale:

≥ 90% - A  
80-89% - B  
70-79% - C  
60-69% - D  
< 60% - E

Grades will not be curved, skewed, or otherwise inflated.