

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:

- Columbus State Custom Edition: Hatfield, edition 1, ISBN: 9781269783330 taken from Basic Technical Mathematics, 10th edition, Allyn J Washington; Pearson
- 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 than 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:

$\geq 90\%$ - A 80-89% - B 70-79% - C 60-69% - D $< 60\%$ - E

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