

**PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS**

**SURVEY OF MATHEMATICAL PRINCIPLES W/LAB
MATH 0010**

Class Hours: 2.0

Credit Hours: 3.0

Laboratory Hours: 2.0

Date Revised: Fall 2016

Catalog Course Description

The course consists of mastering prerequisite mathematics and the skills needed for success in the college-level course MATH 1010, and a supervised lab time in a designated academic support area each week to complete assignments covering topics from both MATH 0010 and MATH 1010.

Corequisites

MATH 1010

Textbook(s) and Other Reference Materials Basic to the Course

Personal Equipment

TI-83 or TI-84 Graphing Calculator, MyMathLab Access

Week/Unit/Topic Basis

Week	Topics
1	Sets of numbers, magnitude and ordering of numbers
2	Order of operations, evaluating expressions, irrational numbers
3	Rational numbers and operations with fractions, decimals, and percents
4	Problem-solving using critical thinking skills, scientific notation, exam 1.
5	Exponents, problem-solving involving rational numbers and scientific notation
6	Evaluating and simplifying expressions using powers and roots
7	Solving real world application problems, literal equations, exam 2
8	Frequency tables and statistical expressions, graphing, solving equations and inequalities.
9	Operations with fractions, function notation.
10	Tables of values, like terms, distributive law.

Week	Topics
11	Exam 3, more graphing, slope, rate of change
12	Analysis and applications involving linear models
13	Geometric figures, perimeter, area, volume, applications, proportions
14	Exam 4, review for final exam.
15	Final Exam

Course Goals*

The course will:

- A. Engage and guide students in substantial mathematical problem solving. VI. 1, 2, 4
- B. Expand student understanding of mathematics by solving real world application problems. VI. 1, 2, 3, 4
- C. Guide each student to master the critical thinking skills related to the solution of mathematical problems and applications. VI. 1, 2, 3, 4
- D. Use technology, reading ability, and critical thinking to judge the reasonableness of results. VI. 1, 2, 5
- E. Build the skills to perform arithmetic and algebraic operations, as well as reason and draw conclusions from quantitative information. VI. 1, 2, 6
- F. Build the skills to select, use, and translate among mathematical representations to organize information and solve problems using a variety of techniques. VI. 1, 2, 5, 6
- G. Increase student tenacity and confidence in the ability to use mathematics. VI. 3, 4

*Roman numerals after course goals reference the General Education Goals of the Mathematics program.

Expected Student Learning Outcomes*

Students will:

1. Perform operations with rational numbers and apply the order of operations to evaluate expressions. A, E, F
2. Identify irrational numbers and perform calculations with irrational numbers. A, D, E, F
3. Write and compare numbers in standard and scientific notation. C, D, E

4. Solve problems involving percents. A, B, D, G
5. Solve basic geometrical problems. A, B, E, F
6. Evaluate algebraic expressions and create tables of values from expressions. A, B, D, E, F
7. Evaluate expressions using powers and roots. A, D
8. Identify and interpret rate of change and analyze graphs of linear functions. A, B, D, E, F
9. Analyze, interpret, and graph linear functions in two variables. A, B, C, D, E, F, G
10. Solve linear equations in one variable. A, E
11. Solve formulas, literal equations, and proportions. A, B, C, E, G
12. Develop plans to solve problems and use mathematical knowledge and logical reasoning to find and justify solutions. B, C, E, F, G

*Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

Evaluation

Testing Procedures: 65% of grade

There will be four competency-based exams. Students must score at least 80% on each competency-based exam in order to pass. Students scoring below 80% will be required to do additional work and retest on that unit. A test authorization issued by the instructor of record will be required for each test attempt. No more than one attempt may be made in a 24-hour period. A new test authorization is required for each retest.

Laboratory Expectations: 15% of grade

Students are expected to attend each scheduled weekly class. Completion of the additional supervised 2 lab hours may be done at the students' convenience, in the designated academic support centers on each of the campuses.

Field Work:

N/A

Other Evaluation Methods: 20% of grade

Projects to be determined by the instructor and by the department.

Grading Scale:

94-100%	A
87-93%	B
80-86%	C
Below 80%	F

Policies

Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual department/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

Accommodations for Disabilities:

Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. [Disability Services](#) (<http://www.pstcc.edu/sswd/>) may be contacted via [email](#) or by visiting Alexander 130.

Other Policies:

Make Up Work: Instructor discretion about make-up tests and/or assignments.

Cell Phones: Cell phones are to be either turned off or put on vibration mode while in class. Instructor discretion as to penalty.