PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS  
COLLEGE MATHEMATICS PRINCIPLES W/LAB  
MATH 0030

Class Hours: 2.0  
Credit Hours: 3

Laboratory Hours: 2.0  
Date Revised: Fall 2015

Catalog Course Description:
A corequisite course for MATH 1030, Introduction to College Mathematics. The course consists of mastering prerequisite mathematics and the skills needed for success in the college-level course MATH 1030, and a supervised lab time in a designated academic support area each week to complete assignments covering topics from both MATH 0030 and MATH 1030.

Entry Level Standards:
Students must be able to read at the college level.

Prerequisites:
None

Corequisites:
MATH 1030

Textbook(s) and Other Course Materials:
“Introductory Algebra for College Students” by Blitzer. Custom Fifth Edition of Chapters 6 – 10. (MATH 1030 required textbook)

Technology Requirements:
A non-symbolic graphing calculator is required; the TI-84 Plus is preferred. Accompanying software support as determined by the department

I. Week/Unit/Topic Basis:
As a co-requisite course, MATH 0030 topics correspond to learning objectives covered in MATH 1030.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1-14</td>
<td>TBA as the course is developed.</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam Period</td>
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</tbody>
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II. Course Goals*:
As a co-requisite supporting course for MATH 1030, Introduction to College Algebra, MATH 0030 will provide students with the algebraic skills essential for success in MATH 1030 and subsequent college-level mathematics courses required to achieve their educational goals. Students will be introduced to various representations of algebraic relationships.

The course will:

A. Extend student knowledge of the basic definitions and terms used when describing algebraic
and mathematical concepts and procedures

B. Build on the mathematical and algebraic skills needed to be successful in subsequent courses of mathematics and other courses where mathematical concepts and applications are taught. VI.1, 2, 3, 4, 5, 6

C. Enhance and expand student knowledge of the appropriate use of the graphing calculator and other technologies. VI.1, 5

D. Guide students towards a better understanding of underlying algebraic concepts when those concepts are applied to a variety of real-world applications and models. VI.1, 2, 3, 4, 5, 6

E. Develop and expand the problem solving skills of students when interpreting and modeling situations, choosing among many different strategies of solution, and presenting the solution to the problem using clear and concise language. VI.1, 2, 3, 4, 5, 6

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

III. Expected Student Learning Outcomes*:

Students will be able to:

1. Use the order of operations to simplify numerical and polynomial expressions. A, B, D, E

2. Add, subtract, multiply and divide integers, decimals, rationales, polynomials, radicals, and other irrational numbers and state the answer in simplest form. A, B, D, E, F

3. Identify polynomials and classify them by degree. A

4. Convert numbers in scientific notation to standard notation. A, B, C

5. Convert numbers in standard notation to scientific notation. A, B, C

6. Use scientific notation to model and find solutions for appropriate applications. C, D, E

7. Factor polynomials, if possible, using trial-and-error, the ac method, grouping, and greatest common factor. B, C, E

8. Solve quadratic equations by factoring, quadratic formula, or inverse properties. B, C


10. Solve rational equations. A, B, C, E

11. Create algebraic equations containing polynomials, rationals, or radicals that describe applications, solve and check the validity of solutions. A, B, C, D, E

12. Rationalize the denominator of a radical expression. A, B, E

13. Add, subtract, multiply and divide expressions with terms containing rational exponents. B, E


15. Determine whether a relation represents a function. A, B, D

16. Evaluate a function at a given value. A, B, C
17. Analyze a given function and describe its domain and range using appropriate notation. A, B, C, D, E

18. Sketch the graph of linear and quadratic equations and functions using appropriate techniques. A, B, C, D, E

19. Analyze and model graphs of real-world applications with linear and quadratic equations and functions and defend the solutions. A, B, C, D, E


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

IV. Evaluation:

A. Testing Procedures: ___70__% of grade

There will be four, competency-based assessments. Students must score at least 80% on each assessment in order to pass.

B. Laboratory Expectations: ___15__% of grade

Students are expected to attend each scheduled weekly class hour. Completion of the additional, supervised 2 hours lab hours may be done at the students’ convenience, in the designated academic support centers on each of the campuses. These hours will be tracked via scanning of the students’ PSCC ID card.

C. Field Work:

N/A

D. Other Evaluation Methods: ___15__% of grade

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

E. Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>94-100%</td>
</tr>
<tr>
<td>B</td>
<td>87-93%</td>
</tr>
<tr>
<td>C</td>
<td>80-86%</td>
</tr>
<tr>
<td>F</td>
<td>Below 80%</td>
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V. Policies:

A. 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 departments/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.

B. 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.

C. 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 may be contacted by sending email to disabilityservices@pstcc.edu, or by visiting Alexander 130. More information is available at http://www.pstcc.edu/sswd/.