

PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS

**FINITE MATHEMATICS  
MATH 1630**

**Class Hours: 3.0**

**Credit Hours: 3.0**

**Laboratory Hours: 0.0**

**Date Revised: Spring 2011**

**Catalog Course Description:**

Linear functions and applications, interest, annuities, amortization, systems of linear equations including Gauss-Jordan elimination, and matrix theory. Linear programming using graphical and simplex methods.

**Entry Level Standards:**

Students must be able to read at the college level.

**Prerequisites:**

High school algebra I and algebra II and precalculus and ACT math score of at least 21; or MATH 1130 or 1710.

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

**Textbook:**

Barnett, Ziegler, Byleen. *College Mathematics for Business, Economics, Life Sciences, and Social Sciences*. Custom Edition. Pearson 2011 (ISBN 0558694888)

**Recommended Reference:**

Lial, Hungerford, Holcomb. *Mathematics with Applications*. Ninth Edition. Addison Wesley, 2007

**Personal Equipment**

A graphing calculator is required. The TI-83, TI-83 Plus, TI-84, or TI-84 Plus is highly recommended.

**I. Week/Unit/Topic Basis:**

<b>Week</b>	<b>Topic</b>
1	Linear Equations and Inequalities, Linear Graphs and Regression (1.2, 1.2, 1.3)
2	Functions, Graphs and Transformations, Quadratic Functions (2.1, 2.2, 2.3)
3	Polynomial and Rational Functions, Exponential Functions, Logarithmic Functions (2.4, 2.5, 2.6)
4	Simple and Compound Interest (3.1, 3.2), Test 1
5	Present and Future Value of an Annuity (3.3, 3.4)
6	Systems of Linear Equations, Augmented Matrices (4.1, 4.2)
7	Gauss-Jordan Elimination, Basic Matrix Operations, Inverse of a Square Matrix (4.3, 4.4, 4.5)

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| 8  | Matrix Equations (4.6), Test 2  |
| 9  | Linear Inequalities, Systems of Linear Equalities (5.1, 5.2)                          |
| 10 | Geometric Linear Programming, Geometric introduction to the Simplex Method (5.3, 6.1) |
| 11 | Simplex Method Maximization and Minimization (6.2, 6.3)                               |
| 12 | Simplex Method for Mixed Constraints (6.4), Test 3                                    |
| 13 | Logic, Sets, Basic Counting Principles (7.1, 7.2, 7.3)                                |
| 14 | Permutations and Combinations (7.4), Review for Final                                 |
| 15 | Final Exam  |

**II. Course Objectives\*:**

- A. Build on students' ability to demonstrate mastery of the algebraic and linear programming skills necessary for success in the technologies. VI. 1,2,3,4,5,6
- B. Guide students toward translating verbal situations into algebraic equations. VI. 3,4
- C. Enhanced students' ability to construct and discuss mathematical models. VI. 2,4,6
- D. Introduce the Simplex method to solve maximization or minimization problems. VI. 1,4,5,6
- E. Enhance effective use of mathematics to solve business problems and related business applications. VI. 3,4,5,6

\*Roman numerals after course objectives reference goals of the Mathematics program (Career Program Goals and General Education Goals are listed

[http://www.pstcc.edu/departments/curriculum\\_and\\_instruction/syllabi/](http://www.pstcc.edu/departments/curriculum_and_instruction/syllabi/) )

**III. Expected Student Learning Outcomes\*:**

The student should be able to:

- 1. Graph systems of linear inequalities. A
- 2. Algebraically solve systems of equations. A
- 3. Solve linear programming problems graphically. A, B, C
- 4. Use basic matrix operations and discover their relationships to systems of equations. E
- 5. Use the Gauss-Jordan method to solve systems of linear equations. D
- 6. Solve and apply the Simplex Method to linear programming problems. A, B, D, E
- 7. Calculate simple and compound interest. A, E
- 8. Determine future amount and the present value of an annuity. A, E

\*Letters after performance expectations reference the course objectives listed above.

**IV. Evaluation:**

A. Testing Procedures: Testing Procedures: 100% of grade or instructor discretion if other criteria used.

Students are evaluated primarily on the basis of tests, quizzes, research project, and a comprehensive final exam. A minimum of 4 chapter tests is recommended

**B. Other Evaluation Methods:**

As assigned by instructor

**C. Grading Scale:**

93	-	100	A
88	-	92	B+
83	-	87	B
78	-	82	C+
70	-	77	C
60	-	69	D
Below 60			F

**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 the Learning Division, 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 the Learning Division.

**B. Academic Misconduct:**

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.

**C. Accommodations for Disabilities**

Students who 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 Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at [www.pstcc.edu/departments/swd/](http://www.pstcc.edu/departments/swd/).

**D. 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.

