

PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

MODELING & CRITICAL THINKING
MATH 0805

Class Hours: 4.0

Credit Hours: 1.0

Laboratory Hours: 2.0

Revised: Spring 2013

Catalog Course Description:

MATH 0805 builds competency in applying modeling, and critical thinking. The course focuses on implementing problem solving strategies and developing mathematical connections, as well as developing study skills and communicating mathematically.

Entry Level Standards:

ACT or COMPASS scores and scores earned on the Pellissippi math placement test will be used to determine placement in the class.

Prerequisite(s):

MATH 0804

Textbook(s) and Other Course Materials:

License for Carnegie Learning
Classroom Activity Packet
Review Packet
The TI-83 or TI-83 Plus or TI-84 graphics calculator is required. A symbolic manipulator such as the TI-89 or TI-92 is not permitted.
Headphones/earphones for use in the Math Center

I. Week/Unit/Topic Basis:

Week	Topic
1	Models of linear systems; systems of linear equations
2	Systems of linear inequalities; Test

II. Course Goals*:

The course will

- A. Engage the student in substantial mathematical problem solving. VI. 1,2,4
- B. Expand student understanding of mathematics through modeling real-world situations. VI. 1,3,4
- C. Foster the ability to read, write, listen to, and speak mathematics. I. 1,2,6

- D. Use appropriate technology to enhance mathematical thinking and understanding and to judge the reasonableness of results. VI. 2,5; VII. 1,4,5,6
- E. Build the skills to perform arithmetic operations, as well as reason and draw conclusions from numerical information. VI. 1,2,6
- F. Build the skills to select, use, and translate among mathematical representations – numerical, graphical, symbolic, and verbal – to organize information and solve problems using a variety of techniques. VI. 1,2,6
- G. Increase student tenacity and confidence in the ability to use mathematics. VI. 3,4

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

III. Expected Student Learning Outcomes*:

Students will be able to:

1. Identify independent and dependent quantities and units in real world problems. B,C,G
2. Write expressions for systems of linear equations to model real world problems. B,C,F,G
3. Evaluate expressions to find dependent values; solve linear equations to find independent values. A,D,E,F
4. Choose appropriate graph bounds and intervals. B,D,F,G
5. Find the point of intersection in a system of equations or inequalities. A,D,E,F
6. Determine whether an ordered pair is a solution to a system of equations or inequalities. D,E,F
7. Solve systems of linear equations using substitution. A,D,E,F
8. Solve systems of linear equations using elimination. A,D,E,F
9. Graph systems of inequalities in two variables and identify intersecting regions. A,D,E,F
10. Solve systems of equations with no solution. D,E,F
11. Interpret the solution of a system of equations or inequalities in real world problems. A,B,C,F,G

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

IV. Evaluation:

A. Testing Procedures:

Students must score at least 80% on a course posttest to complete the course.

B. Laboratory Expectations:

Students will work in the Learning Commons to complete interactive mathematics instruction and other activities based on various learning styles.

C. Field Work:

N/A

D. Other Evaluation Methods:

The grade for MATH 0805 will be determined by points earned on the course posttest, the course requirements grade, and the COMPASS posttest. Classroom attendance, classroom participation, assignments, and Learning Common's attendance determine a student's Course Requirements Grade. Students will not be allowed to take a course test if their current Course Requirements Grade is below 80%.

$$(\text{Test Grade} + \text{Test Grade} + \text{Course Requirements Grade}) \div 3 = \text{MATH 0805 Grade}$$

E. Grading Scale:

A = 94 - 100

B = 87 - 93

C = 80 - 86

F = below 80

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 Academic Affairs.

MATH 0800 students who miss 8 or more classroom or lab days will receive an F for any uncompleted courses. MATH 0820 students who miss 3 or more classroom OR 4 for more lab days will receive an F for any uncompleted courses.

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.

Individual instructors must distribute their policies on academic dishonesty and calculator use during the first week of classes. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or a zero for the assignment or (2) an F for the modules.

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 <http://www.pstcc.edu/sswd/>.

D. Other Policies:

Cell Phones: Cellular telephones and other devices with photographic imaging capabilities must be turned off and cannot be visible during any Pellissippi State instructional or testing activity. Students who violate this policy during an instructional activity will be asked to leave the classroom or other instructional area; a violation of the policy during a test or other evaluation activity will be considered cheating and the student will be given a zero for that activity or an F for the module.

Withdrawal: Students placed and enrolled in a Learning Support course are not permitted to withdraw except for serious documented circumstances. Students wishing to withdraw should discuss this matter first with their mathematics instructor and then must confer with a counselor. The counselor will notify the student of the decision to allow him or her to withdraw.