

Pre-Algebra, Fall 2009
Edna Mahan Correctional Center for Women

Why Learn Algebra?

This question has both a practical and a philosophical answer. Practically, algebra today is as much a part of literacy as reading and writing. Someone who does not know algebra, and has not practiced the skills of abstraction and problem-solving that it teaches, faces serious disadvantages when searching for a job, reading a newspaper, or thinking about political issues that hinge on technical questions. Conversely, mastering algebra opens doors to economic success, and it empowers us as citizens.

The philosophical answer is that algebra is the language in which the sciences are written. Modern science is powerful because it allows us to think in abstractions, and to recognize apparently different phenomena as manifestations of the same underlying principles. Algebraic abstraction is what makes this possible. Someone who does not speak the language of algebra can have at best a limited understanding of science, just as someone who does not speak English can have only a limited appreciation of Shakespeare. The sciences are human achievements as significant and as rewarding to study as Shakespeare, and to appreciate them we must learn algebra.

Logistics and Assignments

Each week there will be two classes, on Tuesday and Thursday nights, 5:30 –7:30. The first class each week will be a lecture, and the second will be a problem solving session, in which you will work in small groups on a set of worksheet problems. There is no textbook for this course – we hand out lecture notes for each class. Homework will be given out each week and collected at the beginning of class the following week. There will be two exams, on the first and second halves of the course material. Late homeworks will be accepted at the next class with a penalty of 30%, and not accepted after that, unless there is a valid excuse. Attendance is **mandatory** for all classes. Students who miss three classes without a valid excuse will be assumed to have dropped the course. If you miss class due to circumstances beyond your control, let the instructor know or have a friend let the instructor know.

We will return your graded homeworks and exams, together with solution sets, one week after they are handed in. Please write the date, the assignment number and your first and last names on every page of your homework and exam. Please write neatly, and you *must* show your work - a correct answer with no work shown will get zero credit. You are encouraged to work and study together, but the homework you turn in must be your own work.

Grading

Grades will be assigned based on homework (60%), unit tests (40%).

This course is a pre-requisite for MAT 135, and if you successfully complete the course we will give you a certificate and you can take MAT 135. MAT 135 carries 4 credit hours from Mercer County Community College; this pre-algebra course does not (yet) carry credit.

Class Schedule

Day	Date	Topic
T	9/15	Class 1. Integers
Th	9/17	Worksheet 1
T	9/22	Class 2. Factoring HW 1 due
Th	9/24	Worksheet 2
T	9/29	Class 3. Fractions I HW 2 due
Th	10/1	Worksheet 3
T	10/6	Class 4. Fractions II HW 3 due
Th	10/8	Worksheet 4
T	10/13	Class 5. Fractions III HW 4 due
Th	10/15	Worksheet 5
T	10/20	Class 6. Decimals and Percents HW 5 due
Th	10/22	Practise Exam I
T	10/27	Exam I
Th	10/29	Worksheet 6
Th	11/5	Class 7. Solving Equations HW 6 due
T	11/10	Worksheet 7
Th	11/12	Class 8. Powers, Exponents, Square roots HW 7 due
T	11/17	Worksheet 8
Th	11/19	Class 9. Graphing HW 8 due
T	11/24	Worksheet 9
T	12/1	Class 10. Geometry HW 9 due
Th	12/3	Worksheet 10
T	12/8	Practise Exam II HW 10 due
Th	12/10	Exam II