

WAYLAND BAPTIST UNIVERSITY  
DIVISION OF MATHEMATICS & SCIENCES

COURSE NO. AND TITLE: MATH 1300 - Intermediate Algebra

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**Description:** This course develops skills in basic concepts of algebra, real numbers, linear equations and inequalities, polynomials, systems of equations and inequalities, determinants, and graphing and functions.

**Text:** Intermediate Algebra for College Students, 7<sup>th</sup> 3d, ISBN#0-13-238357-8

**Supplies:** textbook, scientific or graphing calculator, pencil, paper

**Placement:** This class is generally for students with some background in high school algebra (at least a semester). If you have not had any, ACAC MATH is strongly suggested. If you have had two years of high school algebra with a "B" or better, take MATH 1304 (College Algebra).

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**Class Policies:**

**Attendance:** All students are expected to attend all class sessions and are responsible for knowing the material covered. No exams can be made up unless arrangements PRIOR to the absence have been made. Any student missing more than 25% of the class will FAIL the class.

**Academic Honesty:** Disciplinary action for academic misconduct is the responsibility of the faculty member assigned to this course. The faculty member is charged with assessing the gravity of any case of academic dishonesty, and with giving sanctions to any student involved.

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**Student Expectations:**

Demonstrated knowledge of principles encompassed in the course description  
Familiarization with contemporary, practical uses of those principles

**Homework:** Each section's assignment counts as one grade. Homework is due at the start of class the day it is due. You may work together, but do not copy. No late homework will be accepted. If there are extreme circumstances, contact your Instructor. At least four homework grades will be dropped. Show your work.

**TEST NOTEBOOK:** All tests and corrections may be kept in a notebook to be turned in the last 2 weeks of class. *This is optional*; Notebook points will be added to your course average. Corrections must be worked on a separate sheet of paper, and show the complete work for the problem.

1 test and corrections or 2 tests only	1 point
2 tests and corrections or 3 tests only	2 points
3 tests and complete corrections	3 points

Anything between point values gets the lesser number of points, ex: 3 tests and corrections of 2 tests gets only 2 points- It is not up to the next level.

**Exams:** During the semester there will be 3 exams. The content covered by each exam will be explicitly discussed in class.

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## Grading

20% **First Exam**  
20% **Second Exam**  
20% **Third Exam**  
20% **Homework**  
20% **Final (comprehensive)**  
Up to 3% **Optional Points for Corrections Notebook**

A: 90 – 100    B: 80 – 89    C: 70 – 79    D: 60 – 69    F: Below 60

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**Course Outline/Outcome Competencies:** You should be familiar with the following topics and be able to use them to set up and solve mathematical models of real-world problems.

### Sets

Variable, Constant, Algebraic Expressions  
Sets, Elements, Null Set  
Real, Natural, Whole, Rational, and Irrational Numbers, Integers  
Subset, Intersection, Union

### Properties of Real Numbers

Double Negatives, Absolute Value  
Commutative, Associative, Distributive, Identity, Inverse  
Order of Operations  
Roots and Powers  
Scientific Notation

### Linear Equations

Term, Coefficient, Degree  
Like and Unlike Terms, Simplification  
Solving Linear Equations  
Mathematical Models, Translating from Words to Formulas

### Linear Inequalities

Dividing and Multiplying by Negative Numbers  
Number Line, Interval Notation, Solution Set  
Compound Inequalities  
Absolute Values

### Graphs

Quadrants  
Plotting Points  
Graphing Functions

### Functions

Relation, Function, Domain, Range  
Linear Functions, Intercepts, Slope  
Standard Form, Slope-Intercept Form, Point-Slope Form  
Parallel and Perpendicular Linear Functions  
Adding, Subtracting, Multiplying, and Dividing Functions  
Graphing Linear Inequalities

### Systems of Linear Equations

No Solutions, Infinite Solutions, One Solution  
Solving by Graphing, Substitution, Elimination  
Three-Variable Problems  
Determinants, Cramer's Rule

### Systems of Linear Inequalities

Solving by Graphing

## Polynomials

Degree, Leading Term, Leading Coefficient  
Adding, Subtracting, and Multiplying Polynomials, FOIL  
Factoring, Greatest Common Factor, Grouping  
Solving Polynomial Equations  
Special Factoring Formulas

It is the university policy that no otherwise qualified disabled person be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the University. Students should inform the instructor of existing disabilities at the first class meeting.

This syllabus is only a plan. The teacher may modify the plan during the course. The requirements and grading criteria may be changed during the course if necessary.

### Suggested Course Outline:

Class	Date	Activities	Homework Due
1	8/18/09	Introduction Sections 1.1-1.4	NONE
2	8/25/09	Sections 1.5, 1.6. 2.1-2.3	Assignments from Class 1
3	9/01/09	Sections 2.4-2.6	Assignments from Class 2
4	9/08/09	Sections 3.1-3.4	Assignments from Class 3
5	9/15/09	Sections 3.5-3.7	Assignments from Class 4
6	9/22/09	Sections 4.1-4.3	Assignments from Class 5
7	9/29/09	Sections 4.4-4.6	Assignments from Class 6
8	10/06/09	Sections 5.1-5.2	Assignments from Class 7
9	10/13/09	Sections 5.3-5.4	Assignments from Class 8
10	10/20/09	Sections 5.4-5.8	Assignments from Class 9
11	10/27/09	General Discussion	Assignments from Class 10

- Classes with scheduled tests are shaded.

rev. 11/05