

Revised: Fall 2009

MATH 1300 STUDENT SYLLABUS

Course: MATH 1300 (Intermediate Algebra)

Prerequisite: A grade of “C” or better in MATH 0300 or placement by exam taken at UH-Downtown. If you do not meet this prerequisite, you may be dropped from the course without prior notification at your own expense. Please see your instructor immediately if you do not meet this prerequisite, so you can be enrolled in MATH 0300.

Textbook: *Beginning and Intermediate Algebra*, Fourth Edition, by Elayn Martin-Gay, Pearson Prentice Hall, Upper Saddle River, NJ, 07458.

OPTIONAL: *Math Study Skills*, by Alan Bass, Pearson Education, Inc, 75 Arlington Street, Suite 300, Boston, MA 02116

Why You Are In This Course: Like many students at UHD, your placement test results indicate that your arithmetic and algebra skills are not sufficiently developed for you to pass one of the core college level mathematics courses required of all students at UHD (these core courses are MATH 1301 or MATH 1310). MATH 1300 is a developmental course intended to help build your mathematical skills up to the college level. If you feel that the material in MATH 1300 is too advanced for you and you were misplaced, please see your instructor immediately, so you can be enrolled in MATH 0300. Remember, it is better to drop back than drop out.

Where to Find Course Resources: The first place to seek assistance and resources is from your instructor, both inside and outside of class. Your instructor will provide the times and locations where he or she is available for office hours to work with you outside of class. Next, students enrolled in MATH 1300 at UHD have access to the Math Lab in the Academic Support Center (925-N) where they may obtain additional tutoring with understanding concepts or improving their skills. The Center is staffed with mathematics faculty and student assistants, and offers tutorial help, videotapes, calculators, and computer access on a walk-in basis. The Math Lab maintains extensive hours which are published each semester. You are encouraged to visit the Math Lab throughout the semester whenever you feel you have time to work there, no appointment required. It is also an excellent place to study the textbook and work on homework problems, so that you can receive immediate answers to your questions as necessary. The accompanying online homework component, MyMathLab, at <http://www.coursecompass.com> provides numerous help resources such as chapter pretests, exercise examples, and self-quizzes. The multimedia online library contains section lecture videos, animation examples, PowerPoint slides, test prep videos corresponding to each textbook chapter test, and a multimedia textbook. The CD that comes with text, *The Test Prep Video*, also contains step-by-step video instruction for each question corresponding to the chapter tests in the textbook. A copy of this CD is available in the Math Lab for use in the lab. The *Martin-Gay's Interactive DVD/CD Lecture Series* is also available for purchase at <http://www.mypearsonstore.com>. Students which utilize the online component have access to the UHD Math Portal, http://www.pearsoncustom.com/tx/uhd_math, which provides a direct link to the online homework program and textbook, the optional *Math Study Skills* workbook, the *Student Solutions Manual*, as well as additional materials corresponding to numerous Math Department courses.

Goals/Objectives: At the completion of this course, a student should be able to: (1) factor out the greatest common factor from a polynomial; (2) factor binomials and trinomials using standard techniques; (3) use the Zero Factor Theorem to solve equations; (4) solve quadratic equations in one variable by the methods of factoring, the Square Root Property, and the Quadratic Formula; (5) solve various geometric and real-world models involving quadratic functions; (6) simplify rational expressions, utilize the fundamental principle of rational expressions, and determine the domain of a rational expression; (7) perform basic operations to combine rational expressions; (8) solve rational equations and identify those with no solution; (9) solve proportions and proportional models; (10) simplify complex fractions; (11) recognize the equation of a straight line and determine the equation of a line from information such as: given two points on the line, or, one point on the line and the slope of the line; (12) state and use the relationship between the slopes of parallel and perpendicular lines; (13) graph linear functions, recognize and write various linear equations in functional notation, determine parallel and perpendicular functions; (14) recognize and graph nonlinear functions expressed as graphs, formulas, or tables, and evaluate expressions involving functional notation; (15) solve compound inequalities containing intersection and/or union of sets; (16) evaluate and graph square and cube roots, compute n th roots, and approximate roots; (17) write radicals using rational exponents and vice versa; (18) simplify

and combine radical expressions using the basic operations and the rules for exponents, and rationalize denominators and numerators in radical expressions; (19) find the distance and midpoint between two points in the plane by using the appropriate formulas; (20) solve equations containing radicals and use the Pythagorean Theorem to model problems.

Developmental Education Objectives:

- A) Develop positive mathematical attitude and success study skills such as effective use of mathematical textbooks, test preparation and taking strategies, and class time management.
- B) Acquire the ability to read, write, listen to, and speak mathematics in order to effectively translate mathematical sentence, phrases, and relationships between two quantities into mathematical statements and algebraic expressions.
- C) Engage in substantial mathematical problem solving, reason appropriately from linear models to draw conclusions, and judge the reasonableness of results.
- D) Utilize multiple-approaches such as numerical, graphical, symbolic, and verbal reasoning to solve mathematical problems.
- E) Prepare students for College Algebra and develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

Department Grading Policy: The final exam for this course is comprehensive and counts 1/3 of your course average. Your instructor will provide complete information as to how your course average will be computed. Your final course average will be used assign your final course grade according to the formula shown here. Since MATH 1300 is considered a pre-college course, this grade will appear on your transcript but will not be calculated into your GPA.

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| 90-100 | “A” |
| 80-89 | “B” |
| 70-79 | “C” |
| 0-69 | “IP” [not a passing grade] |

The following cases are exceptions:

1. If your final exam score is less than 50, you will receive a “U” or “IP” for the course regardless of your average.
2. If you violate the MATH 1300 Attendance Policy (see item below), you will receive a “U” for the course regardless of your average.
3. If you are attending class but are not making a genuine effort to pass (as evidenced by not handing in assignments, not participating in class, not seeking help outside of class, etc.), you will receive an “F” for the course regardless of your average.
4. You may only request a W for this course if you (a) withdraw from the university, or (b) if you have a compelling reason.

You cannot receive the grade “I”-Incomplete unless you have a documented personal emergency that prevents you from completing the last fraction of the course, such as the last test and/or the final exam. You must have a passing average based on the work you have already completed to receive an “I.”

Excess Course Attempts: In accordance with state law, effective Fall 2004 the University of Houston-Downtown is charging an additional fee for each credit hour for enrollment in a developmental course, after 18 hours of developmental work has already been attempted. Once 18 attempted hours of developmental course work has been accumulated, registration in a developmental course will result in the additional charge. An attempt is defined as an enrollment that results in a letter grade (including “S”, “U”, “IP”, and “W”). A developmental course is defined as MATH 0300, MATH 1300, ENG 1300, ENG 130A, and RDG 1300.

Satisfactory Progress Policy: Students are required to demonstrate satisfactory progress toward completing their developmental course requirements. MATH 1300 is a developmental course. See the separate sheet Satisfactory Progress Policy for Developmental Courses for details.

MATH 1300 Attendance Policy: An attendance policy is enforced for this course. See the separate sheet MATH 1300 Attendance Policy for details.

Calculator Policy: Students are allowed to use scientific calculators on the final exam, although no problem on the final exam requires the use of a calculator. Students possessing graphing calculators may NOT use the advanced features of a graphing calculator on the final exam. Your instructor will give you more information about the use of calculators in your class.

General University Policy: All students are subject to UHD Academic Honesty Policy and to all other university-wide policies and procedures as they are set forth in the UHD University Catalog and Student Handbook.

Statement on Reasonable Accommodations: UHD adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. Students with disabilities should register with Disabled Student Services (409-S) and contact the instructor in a timely manner to arrange for appropriate accommodations.

Using MyMathLab: To supplement what is done in class, your instructor may require an online resource called MyMathLab. In order to use MyMathLab, you must purchase a Student Access Code from the UHD Bookstore (bundled with new textbook or sold separately) or purchase it online at <http://www.coursecompass.com>. If you purchased a MyMathLab code for MATH 0300 or MATH 1300 last semester, you DO NOT need to purchase a new code this semester. Your account will still be active, but you will need to enroll in a new section. You can use MyMathLab on any computer that has Internet access. If you do not have a computer at home with Internet access, you can log into MyMathLab from a UHD computer, print out the MyMathLab assignment, work through the exercises on paper, and then enter the answers in MyMathLab when you are next on campus. To register with MyMathLab, you will also need a valid email address – use one that you regularly check. You must register with MyMathLab at <http://www.coursecompass.com> only the first time that you use it. (1) The course ID number will be given to you by your instructor. (2) The zip code for UHD is 77002. (3) You will then create a Login Name and Password which you will use to log in whenever you use MyMathLab at <http://www.coursecompass.com>. Make sure to record your exact login name and password for future logins. *Note:* The computers in the Math Lab (N925), the Academic Computing Labs (S800, C300, B200), the CMS Lab (S738), and the SI Lab (S405) can be used to access MyMathLab. Some of the features you can access are:

- Complete and submit homework assignments online (if required);
- Check out your MyMathLab homework grades and other course grades in the Gradebook;
- View a complete online version of the textbook and look at multimedia sources such as online video clips that accompany the textbook, and much more.

Be sure to register with MyMathLab during the FIRST WEEK of the semester, so you can begin to use it right away. Also, you can use your MyMathLab Login Name and Password to access the UHD Math Portal at http://www.pearsoncustom.com/tx/uhd_math to find additional helpful student resources such as a Video Tutor and Student Solutions Manual.

See you instructor for more information regarding MyMathLab and the UHD Math Portal.

Course Content: The course covers the following sections of the textbook. In some cases, not all pages from a section are covered.

| <i>Chapters</i> | <i>Sections</i> |
|---|---|
| Chapter 6 Factoring Polynomials | 6.1 The Greatest Common Factor and Factoring by Grouping 6.2 Factoring Trinomials of the Form $x^2 + bx + c$ 6.3 Factoring Trinomials of the Form $ax^2 + bx + c$ and Perfect Square Trinomials 6.4 Factoring Trinomials of the Form $ax^2 + bx + c$ by Grouping 6.5 Factoring Binomials 6.6 Solving Quadratic Equations by Factoring 6.7 Quadratic Equations and Problem Solving |

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| Chapter 7 Rational Expressions | 7.1 Rational Functions and Simplifying Rational Expressions 7.2 Multiplying and Dividing Rational Expressions 7.3 Adding and Subtracting Rational Expressions with Common Denominators and Least Common Denominators 7.4 Adding and Subtracting Rational Expressions with Unlike Denominators 7.5 Solving Equations Containing Rational Expressions 7.6 Proportion and Problem Solving with Rational Equations 7.7 Simplifying Complex Fractions |
| Chapter 8 More on Functions and Graphs | 8.1 Graphing and Writing Linear Functions 8.2 Reviewing Function Notation and Graphing Nonlinear Functions |
| Chapter 9 Inequalities | 9.1 Compound Inequalities |
| Chapter 10 Rational Exponents, Radicals, and Complex Numbers | 10.1 Radicals and Radical Functions 10.2 Rational Exponents 10.3 Simplifying Radical Expressions 10.4 Adding, Subtracting, and Multiplying Radical Expressions 10.5 Rationalizing Denominators and Numerators of Radical Expressions 10.6 Radical Equations and Problem Solving |
| Chapter 11 Quadratic Equations and Functions | 11.1 Solving Quadratic Equations by Completing the Square 11.2 Solving Quadratic Equations by the Quadratic Formulas |

Tips for Becoming a Successful College Student:

1. Come to class.
2. Read your book.
3. Do your homework.
4. Listen and ask questions.
5. Contribute to classroom discussions.
6. Interact with your teachers, either face to face or using the phone or email.
7. Form study groups with your classmates.
8. Meet with your advisor.
9. Get involved in campus activities.
10. Share new ideas with your friends and family.

VISIT THE UHD ALGEBRA STUDENT WEB PAGE FOR MORE INFORMATION:

<http://cms.dt.uh.edu/qep/algebra>