Math 1420 Foundations of Mathematics University of Memphis

Course Description: (3 credit hours.) Basic logic: propositions and truth values, recognizing fallacies, sets and Venn Diagrams, analyzing arguments; approaches to problem solving; managing finances: compound interest, savings plans and investments, loan payments, credit cards and mortgages; fundamentals of statistical reasoning.

Combo sections: These are special sections that meet 5 hours per week and are designated by an "E" in the section number. Combo sections have lower prerequisite requirements and cover some additional preparatory material on real numbers and their representations, basic concepts of algebra including linear and quadratic equations, polynomials and factoring. Combo sections still count as 3 credit hour courses, and completing a combo section is equivalent to completing a regular section as far as all degree and course prerequisite requirements are concerned.

Prerequisites: <u>ALEKS math assessment test</u>. An ALEKS score of 30–45 places you in regular sections of Math 1420. An ALEKS score of 14–29 places you in combo sections of Math 1420.

Course objectives: To expand the student's ability to think logically, problem solve, manage finances, statistics, analyze basic concepts of algebra, and the real number system.

Student population: Lower Division Students. This course will fulfill a mathematics general education requirement in some degree programs.

Textbook: Using and Understanding Mathematics, 5th Custom Edition. This will be shrink wrapped with *MML student access code*, which *cannot* be purchased online. The access code purchased with the book at The Tiger bookstore or on campus bookstore are the only access codes that will work.

Mymathlab plus tech support number: 844.292.7015

Mymathlab website: http://mymathlab.com/

How to get to mymathlab from a UofM computer: Use Google Chrome. Do not use Mozilla Firefox. Registration procedures and access to MML will be discussed in class. Students must permanently register for MyMathLab within the first 2 weeks of class.

Methods: This course taught in a computer lab and will be delivered online through MyMathLab. The code for MyMathLab is sold shrink wrapped with your textbook. Students will begin each text section by viewing a video online and by viewing online sample problems if needed. The instructor will deliver a few short lectures per week as needed. Homework and quizzes will be completed online. Homework and quizzes may be worked on outside of class. Tests will always be done in-class and will be done with paper and pencil (not online).

Tutoring: Free tutoring is available through the University's Education Support Programs. They offer a drop-in tutoring service in the <u>Math Learning Center</u> in DH 341 and <u>online</u> <u>assistance</u>.

Email Rules: *All* email correspondence must be made through your <u>University of Memphis</u> email account. Check your email daily. Please include your section number in your email.

Disabilities: Any student who anticipates physical or academic barriers based on the impact of a disability should contact <u>Disability Resources for Students (DRS)</u> at 110 Wilder Tower, 901.678.2880 at the earliest opportunity. DRS coordinates access and accommodations for students with disabilities. You must give your instructor a copy of any accommodation memos provided by the DRS within the first week of class.

Evaluation: Grading policies and grade scale for the course will be listed on the course syllabus given out by the instructor at the beginning of the semester. Typically there will be several in-class tests (of the paper and pencil variety), quizzes, homework, and a final in-class comprehensive exam. Most instructors do not allow make-up tests or extra credit. Often instructors will drop lowest grades instead. Details of these policies vary by instructor and will be specified in the course syllabus.

Attendance: Attendance is absolutely necessary to your success in this class; therefore you are expected to be *in attendance* and *on time* at every class session. When you have an emergency and must miss class, watch the video at the publisher's website of the section(s) you missed. Call a classmate to get notes. It is your responsibility to use Math Learning Center, the online tutorial, or go to tutoring in DH 341 to get caught up. The teacher will help you with your homework on the sections you missed *after* you have attempted the assignment. *He/she cannot reteach you the entire lesson you missed*.

Inclement weather: Tel: 901.678.0888, or see <u>www.memphis.edu</u> for details.

Academic integrity: *Cheating will not be tolerated*. Any student caught cheating will receive no credit for the affected work and will be liable to failure of the course regardless of his/her grade at the time. The incident will be reported to the department. With respect to work undertaken in this class, students are responsible for reading, understanding and adhering to the terms and provisions of this policy.

Disruptive behavior: Disruptive behavior from students will not be tolerated. Turn off all cell phones. No excessive talking. If you have to leave early please sit on the end of the row and leave quietly.

Cell phone use: Turn off all cell phones and beepers when you are in class. You may not answer or talk on your cell during class.

Electronic devices: No iPods, cell phones, no open email or earphone during a test, unless specifically allowed by the instructor. In computer lab classes, students may only work on matters related to the math course.

Topics covered:

- CHAPTER 1 THINKING CRITICALLY Recognizing Fallacies Propositions and Truth Values Sets and Venn Diagrams Analyzing Arguments
- CHAPTER 2 Approaches to Problem Solving The Problem Solving Power of Units Standardized Units: More Problem Solving Power Problem Solving Guidelines and Hints
- CHAPTER 4 MANAGING MONEY Taking Control of Your Finances The Power of Compounding Savings plans and Investments Loan Payments, Credit Cards and Mortgages
- CHAPTER 5 STATISTICAL REASONING Fundamentals of Statistical reasoning Should You Believe a Statistical Study? Statistical Tables and Graphs Graphics in the Media

Additional topics (Combo sections):

- CHAPTER 6 THE REAL NUMBERS AND THEIR REPRESENTATIONS The real Numbers, Order, and Absolute Value Operations, Property, and Application of Real Numbers Rational Numbers and Decimal Representation Irrational Numbers and Decimal Representation Application of Decimals and Percents
- CHAPTER 7 BASIC CONCEPTS OF ALGEBRA
 - Linear Equations Applications of Linear Equations Ratios and Proportions Linear Inequalities Properties of Exponents and Scientific Notation Polynomials and Factoring Quadratic Equations and Applications