

Upper Iowa University External Degree Program

MATH 090-05 Foundations of Math

COURSE DESCRIPTION:

This course emphasizes study skills for algebra and calculator use while covering the following topics: basic algebra including real numbers, variable expressions, solving equations and equation applications. This course is designed for students who have not had a mathematics course for several years or who have never had an algebra course. Students should enroll only if indicated by placement test results or upon the advice of their academic advisor. This course is the first in a series of two courses that will prepare the student for the general education requirement in mathematics. Foundations of Mathematics fulfills three of the credits needed for the 120-credit graduation requirement, but cannot be used to fulfill the mathematics general education requirement. This course may not be taken for credit after successfully completing a higher level math course.

COURSE OBJECTIVES

1. Acquire study skills for algebra.
2. Demonstrate calculator use.
3. Use fractions, decimals, and percents in the context of the real number system.
4. Solve mathematical problems using the correct order of operations.
5. Evaluate and simplify variable expressions.
6. Translate verbal expression into variable expressions.
7. Employ logic, reasoning and critical thinking skills and problem solving strategies that require knowledge of equations and inequalities.
8. Solve linear equations and inequalities according to the additive and multiplicative properties of equality, as well as graphically.

REQUIRED COURSE MATERIALS:

1. Textbook: Beginning Algebra with Applications, Sixth Edition, 2004
Authors: Aufmann, Barker and Lockwood
Publishers: Houghton-Mifflin
2. Scientific Calculator
3. Syllabus

You may purchase your textbook through MBS Direct by calling their toll free number – 800-325-3252 or through the UIU homepage – www.uiu.edu. Click on the link called Resources for Center, External Degree and Online Program learners. Follow the link and select External Degree for your location.

OPTIONAL COURSE MATERIAL:

Student Solution Manual

COURSE TOPICS:

Chapter 1 – The following concepts and their applications will be covered: operations with integers and rational numbers.

Chapter 2 - The following concepts and their applications will be covered: simplification of variable expressions, and translating verbal expressions into variable expressions.

Chapter 3 - The following concepts and their applications will be covered: how to solve equations and inequalities with a single variable.

Chapter 4- The following concepts and their applications will be covered: applications of solving equations and inequalities with a single variable (unknown)

Chapter 5- The following concepts and their applications will be covered: introduction to equations with two variables, straight line equations and graphs

Chapter 6- The following concepts and their applications will be covered: introduction to systems of linear equations (i.e. two linear equations)

COURSE OVERVIEW:

The course will proceed as follows:

Unit One - Chapter 1

Test 1 (Terms) - First proctored test over chapter 1

Unit Two - Chapter 2

Test 2 (Terms) – Second proctored test over chapters 1 & 2.

Unit Three - Chapter 3

Unit Four - Chapter 4

Test 3 – Third proctored test over chapter 1-4

Unit Five - Chapters 5 and 6

Final exam - Final proctored exam over chapters 1-6

Read each section and work the illustrated examples. Complete the assigned problems as stated for each section, following the directions provided by the text. In order to receive a grade, assignments must be submitted in Unit form with the appropriate cover sheet.

ASSIGNMENT INFORMATION

The assignment sheets list the category or type of problems within each section of a chapter, and the corresponding problem numbers of that category at the end of the section. It is advisable to do as many of the problems in each category you can until you have mastered those types of problems. The odd problems have answers in the back of the book for your guidance. Only a selection of those problems will be graded, they are indicated in the right hand column. All of the assigned problems are multiple choice with possible answers given in this workbook. To choose

an answer circle the correct letter at the appropriate position on the answer sheet provided. Each assignment is worth 5% of your final grade. Because there are free response questions on the tests and exam, you should always calculate your answer first, and then see which option it corresponds to, rather than just seeing which of the options works.

TEST/EXAMINATION INFORMATION:

The homework units are excellent study guides for the proctored tests and exam. Therefore, consider allowing extra time for them to be graded and returned before taking the proctored tests and exam. Also chapter review exercises and tests give good practice for the tests.

The tests and exams in this course are cumulative. That is, they generally focus on material covered since the last test but also have questions from previously covered material. Proctored terms test 1 will be over Chapter 1, proctored terms test 2 will cover material predominately from Chapter 2 but with some questions from Chapter 1, proctored terms test 3 will cover material predominantly from Chapter 3 and 4 but with questions from Chapters 1 and 2. The final proctored exam will cover material from Chapters 1-6 (50% of the exam will be on material from chapters 5 and 6). On all proctored tests, the maximum time allowed to complete the test is two and a half hours, and on the final exam the maximum time allowed to complete the exam is three hours. Calculators may be used, however, no books or notes are allowed. A formula sheet will be given to you to use in the terms tests and exam. A copy of formula sheets follow.

The tests and exams are mostly multiple choice with a few free response (i.e. where you have to write down the answer) with 25 questions on each test, and 30 questions on the final exam. To study for the tests use the assignment problem categories, and their associated problems to make sure you are well prepared, as well as the chapter and cumulative tests and reviews at the end of each chapter. The test questions fall into the categories in the assignments sheets. Even though the tests and exam are largely multiple choice you will need to work out the correct answer and then identify it. Don't just guess, they are NOT multiple guess questions. The questions in the tests cover *all* the material in the relevant chapters being tested. The final exam is comprehensive, it has questions from all the chapters covered in the course.

COMPOSITION OF THE GRADE:

Grading for the course is determined as follows:

Homework assignments (5x 5%)	25%
Proctored Term Test 1	15%
Proctored Term Test 2	15%
Proctored Term Test 3	15%
Proctored Final Exam	30%

Students must pass at least one of the three proctored tests (1 – 3) and the final exam to be able to pass this course. If a student achieves this, then the course grade is determined using the above weighting of test, exam and assignment grades.

Upper Iowa University Grading Criteria:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% or less

UPPER IOWA UNIVERSITY USES A STANDARD GRADING SYSTEM:

A = All work is excellent, shows exceptional understanding of materials; logical, clear, and insightful written and oral work, incorporates knowledge from other sources and moves easily to the next level of understanding, works well beyond minimum requirements.

B = Understanding material is good to very good, demonstrates good grasp of material, good oral and written skills, produces more than the minimum requirements, quality of all work is high.

C = Satisfactory understanding of the material, submits only the minimum requirements, communicates adequately in oral and written formats, displays an adequate understanding of all basic concepts.

D = Quality and quantity written and oral work is below average and barely acceptable.

F = Quality and quantity written and oral work is unacceptable.

CHEATING, ACADEMIC DISHONESTY AND PLAGIARISM:

Because cheating, academic dishonesty and plagiarism are affronts to the University community as a whole and a denial of the offender's own integrity, they will not be tolerated. Cheating includes but is not limited to:

- the use of unauthorized books, notes or other sources in the giving or securing of help in an examination or other course assignments,
- the copying of other students' work or allowing others to copy your work,
- the submission of work that is not your own or allowing others to submit your work as theirs,
- the submission of the same work for two or more classes without the approval of any instructors involved.

Academic dishonesty includes, but is not limited to:

- sharing academic materials knowing they will be used inappropriately,
- having access to another person's work without permission,
- providing false or incomplete information on an academic document,
- changing student records without approval.

Plagiarism includes, but is not limited to:

- the presentation of another's published or unpublished work as one's own,
- taking words or ideas of another and either copying them or paraphrasing them without proper citation of the source,
- using charts, graphs, statistics or tables without proper citation.

Detected cheating, academic dishonesty, or plagiarism will result in consequences that may, at the instructor's discretion, include course failure. In addition, an offender may be reported to the

Senior Vice President for the Extended University, the Dean of the Extended University, or designee for possible disciplinary action, which may include suspension or dismissal from the University. Upper Iowa University may make use of various plagiarism detection services. Individuals, by enrolling in courses offered by the University, consent to submission by the University of course-related assignments to such services and the retention of a copy of such assignments by the service. Extended University Catalog 2005/06 page 87.

ATTENDANCE:

Even though a student does not attend a regular classroom in the traditional sense and keep up with a set schedule of assignments, it should be pointed out how important it is to keep yourself on a regular timely schedule if possible to complete and send in units. It is too easy to set work aside and decide to do it later. Suddenly, the need to complete assignments and get them in by deadlines can become stressful and, at times, impossible. The key would be to set time aside on a regular basis and submit work in a timely manner.

LIBRARY RESOURCES:

As a student of Upper Iowa University, you have access to the resources of the Henderson-Wilder Library on the Fayette campus. If travel to the campus is not feasible, you can access the library through the University's website. For InfoTrac access information, please contact the library at library@uiu.edu.

WITHDRAWAL

If you wish to withdraw prior to the last day of the enrollment period you must contact the External Degree office by phone or in writing. After your original six month enrollment period, you no longer have the option to withdraw from the course. You must finish the course or have a final grade assigned based on the coursework submitted.

SPECIAL NEEDS:

If you require accommodation for special needs, please provide documentation to: Director of External Degree.

This syllabus is tentative and subject to change.