MTH 023 & MTH033
Beginning and Intermediate Algebra Online
Spring 2024

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Prerequisite: Grade "C" or better in MTH013 or a minimum score of 39 on the ASSET Numerical Skills Placement Exam, 42 on the Compass Pre-Algebra Placement Exam, 26 on the Compass Algebra Placement Exam, 17 on the ACT Exam, 41 on the Accuplacer Elementary Algebra or 470 on the SAT Exam.

Supplies you need to get for this class:
Pencils (NO PENS!)
Erasers
Notebook or small three ring binder
Pocket Folder
Calculator

Course Description: This course is designed primarily for those students who do not have a unit of high school algebra or whose proficiency in mathematics may have declined during the years absent from formal schooling. The content includes real numbers and their applications, variable expressions, solving general equations, solving equations involving practical applications, operations of polynomials, and special products and factoring of polynomials. (Offered spring and fall semester)

Program Outcomes: The purpose of the Associate of Arts Program is to provide students with the knowledge and critical thinking skills that will enable the student to analyze problems, arrive at intelligent conclusions, and make reasoned choices in his or her professional and personal life. Course syllabi specify how each class will help students achieve the outcomes and competencies of the general education curriculum.

- **Students will demonstrate competency in mathematics, including analytical and occupational skills.**

Rationale: An objective of post-secondary education is to provide a core of knowledge that is shared with most educated people. By studying and developing a deeper understanding of mathematical computations, students can better analyze, problem solve and prepare critical thinking strategies for real world scenarios.

Course Objectives:
Upon successful completion of Beginning Algebra, the student should be able to do the following:

- **Apply the basic concepts of real numbers.**

- **Apply the basic concepts of variable expressions.**
- **Solve various types of linear equations (with and without application).**
- **Solve basic inequalities.**
- **Apply the basic operations to polynomials.**
- **Apply the various factoring techniques to polynomials.**
- **Graph ordered pairs of numbers and linear equations.**
- **Demonstrate proficiency in technological skills.**

Student will be able to demonstrate the above objectives in the form of passed certifies and tests.

Topical Outline for Beginning Algebra:

Chapter 8: <u>Introduction to Algebra</u>

A. **The Real Number Line and Absolute Value**
B. **Multiplication and Division with Real Numbers**
C. **The Order of Operations with Real Numbers**
D. **Simplifying and Evaluating Algebraic Expressions**
E. **Translating English Phrases and Algebraic Expressions**

Chapter 9: <u>Solving Linear Equations and Inequalities</u>

A. **Solving Linear Equations: $x + b = c$ and $ax = c$**
B. **Solving Linear Equations: $ax + b = c$**
C. **Solving Linear Equations: $ax + b = cx + d$**
D. **Working with Formulas**
E. **Applications: Number Problems and Consecutive Integers**
F. **Solving Linear Inequalities in One Variable**
G. **Absolute Value Equations**
H. **Absolute Value Inequalities**

Chapter 10: <u>Graphing Linear Equations and Inequalities</u>

A. **The Cartesian Coordinate System**
B. **Graphing Linear Equations in Two Variables**
C. **Slope – Intercept Form**

Topical Outline for Intermediate Algebra:

Chapter 11: <u>Systems of Linear Equations</u>

A. **Systems of Linear Equations: Solutions by Graphing**
B. **Solutions by Substitution**
C. **Solutions by Addition**

Chapter 12: **<u>Exponents and Polynomials</u>**

A. **Rules for Exponents**
B. **Power Rules for Exponents**
C. **Special Products of Binomials**

Chapter 13: **<u>Factoring Polynomials</u>**

A. **Greatest Common Factor (GCF) and Factoring by Grouping**
B. **Factoring Trinomials: $x^2 + bx + c$**
C. **Review of Factoring Techniques**

Chapter 15: **<u>Roots, Radicals, and Complex Numbers</u>**

A. **Evaluating Radicals**
B. **Simplifying Radicals**
C. **Introduction to Complex Numbers**

- **Course Conduct:**

<u>HLS Lessons</u>

- **Each lesson is composed of Instruct, Practice, and Certify. Certify is a quiz that is open book/notes which may be repeated.**
- **A minimum score of 80% is required on the Certify in order to proceed to the next lesson objective.**

UA Rich Mountain Credit Hour Calculator: For every course credit hour, you should expect to spend at least three clock hours per week of concentrated attention on course-related work, including but not limited to time attending class, as well as out-of-class time spent reading, reviewing, organizing notes, preparing for upcoming quizzes/exams, problem solving, developing and completing homework, and other activities that enhance learning. For a three hour course, a typical student should expect to spend at least nine hours per week dedicated to the course. This includes the time spent in class. Please see the credit hour calculator attached at the end of the syllabus.

Course Requirements/Evaluation:

Hawkes Labs	**33.3% (Grade taken for each Chapter)**
Hawkes Chapter Tests	**33.3%**
<u>Final Test</u>	**<u>33.3%</u>**
Total	**~100%**

Grades shall be assigned on the basis of a standard percentage scale:

A: 90 – 100%
B: 80 – 89%
C: 70 – 79%
D: 60 – 69%
F: 59% and below

Class Procedures/Student Requirements:

Attendance/ Make-up Policy:

If a student is absent from any class, it is the student's responsibility to contact the instructor before the next class meets to determine if the absence is excused. The student must make up the class time on their own accord during open lab. It is the student's responsibility to maintain a minimum pace as suggested on the back board in the classroom. Every three hours of recorded extra time will remove one EXCUSED absence when determining eligibility for incomplete status. Five or more absences could result in the removal of points from final grade. Students with excessive unexcused absences (more than five) can be given an NF (non-attendance failure) grade. STUDENTS THAT MISS TWO OR MORE DAYS DURING THE FIRST TWO WEEKS OF CLASSES WILL BE ADMINISTRATIVELY WITHDRAWN FROM THE ROSTER.

Success:
Success in this class requires good attendance, good study habits and note-taking skills, and extra-time spent outside the class time. Students should try to log in extra-time as often as possible to remain on pace.

Resources:

Hawkes Math tutoring is available from Student Support Services (SSS) and www.tutor.com. Contact Marsha Jenkins at (479) 394- RMCC ext. 1623 for more information on SSS tutoring. Contact Brenda Miner at (479) 394- RMCC ext. 1370 for more information on www.tutor.com.

Borrowed Materials:
If you borrow materials from the lab, you must turn them in upon completion of finals week. Failure to do so could lead to a registrar's hold on your account or a charge to your account to cover the cost of the item.

Pre-test and Post-test:
You are required to take a pretest and post-test to evaluate your knowledge of Beginning Algebra.

Academic Dishonesty: Plagiarism, cheating, and other forms of academic dishonesty are prohibited. In addition to other possible disciplinary sanctions which may be imposed

through the regular institutional procedures as a result of academic misconduct, your instructor will assign an "F" for the exercise or examination for the first offense and assign an "F" for the course for the second offense.

Disability Policy: It is the policy of UA Rich Mountain to accommodate students with disabilities, pursuant to state and federal law. Any student with a disability who needs accommodations should contact the Vice-Chancellor for Student Affairs Office, 394-7622 ext.1400.

Arkansas Clean Air Act: In compliance with the Arkansas Clean Air Act, UA Rich Mountain is a smoke and tobacco free facility. Students and guests are to refrain from the use of all tobacco products while on campus.

Student Misconduct: Students committing misconduct are subject to disciplinary sanction(s) and or restrictions. Misconduct or prohibited behavior includes, but is not limited to endangerment, harassment, disruption, sexual misconduct, dishonesty, illegal drugs and/or alcohol, fire or safety issues, gambling, property violations, computer violations or other violations as listed in detail in the UA Rich Mountain catalog.

UA Rich Mountain Mission: University of Arkansas Rich Mountain provides transformative education to all learners.

Campus Security: UA Rich Mountain strives to provide a safe learning environment; therefore, students who know of any security risk are asked to contact a college official. For more information follow this link and look under the title Health and Safety: http://www.uarichmountain.edu/at-a-glance/disclosures

Credit Hour Requirement Calculator

Course Information

Department, Course Number		Mathematics MTH023 & MTH033
Course Title	Remedial Math	
Credit Hours	3	
Mode of Delivery	Hybrid	
Weeks in Part of Term	15	
Level of Reading Material	Advanced/Scientific/Technical (2)	2
Reading Level of Students	Remedial Student or Slow Reader (3)	3
Average Pages per Hour	8	

Enter either week or term, not both

Contact Hours	**Hours/Week**	**Hours/Term**	**Total Hours**
Lab Contact Hours	3		45

Syllabus Items	**Pages Assigned**	**Hours/Week**	**Hours/Term**	
Assigned Homework		4		60
Tutor Assistance		1		15
				0
				0
				0
				0
				0
				0
				0
				0

Total Hours	120
Required Hours	112.5
Difference	Ok + 7.5