*MTH 033*

# *Intermediate Algebra*

*Spring 2020*

**Class Time and Location:**

| | | |
|---|---|---|
| Beginning Algebra | MTH023 | WA205 |
| MW | 4:30 – 5:45 | |

**Instructor Name/ Office Location/Office Hours/Office Phone:**

Shane Hale: shale@uarichmountain.edu
Office: (479) 394-7622 Ext: 1652
Office Hours: Mondays after 6PM by appointment only

Darla Williams: dwilliams@uarichmountain.edu
Office: (479) 637-7622 Ext: 4013
Office Hours: Monday, Tuesday, and Thursday 8:00am – 4:30am

**Instructors:** Shane J. Hale – B.S. Education: University of Arkansas – Fort Smith
Darla Williams – B.B.A.: Southern Arkansas University - Magnolia

**Prerequisite:** Grade "C" or better in MTH023, or a minimum score of 40 on the ASSET Elementary Algebra Skills Placement Exam, 31 on the Compass Algebra Placement Exam, 18 on the ACT Exam, or 480-490 on the SAT Exam.

**Resources:** The textbook used in this class is *Developmental Mathematics* by D. Franklin Wright, published by Hawkes Learning. You will NOT need to purchase this textbook! We provide this book free of charge. We also provide the software and calculators for this class.

**Supplies you need to get for this class:**
Pencils
Erasers

**Course Description:** This course is designed to prepare students for college-level mathematics. Course content includes review of basic concepts and properties, solving first-degree equations and inequalities with applications, polynomials, rational expressions, exponents and radicals, and quadratic equations and inequalities with applications. (Offered fall and spring semesters)

**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 Intermediate Algebra, the student should be able to do the following:

- Graph linear equations and inequalities
- Determine the slope and equation of a line.
- Apply various methods for solving systems of linear equations.
- Solve combined inequalities and absolute value equations.
- Apply various factoring techniques to polynomials.
- Simplify rational expressions.
- Solve rational equations.
- Simply exponents and radicals.
- Solve equations involving radicals.
- Solve quadratic and exponential equations.
- Demonstrate increased note taking skills.
- Demonstrate proficiency in technological skills.

Student will be able to demonstrate the above objectives in the form of passed certifies, tests and hand-written explanations.

**Topical Outline:**

Unit 11: <u>Systems of Linear Equations and Inequalities</u>

A. Systems of Linear Equations: Solutions by Graphing
B. Systems of Linear Equations: Solutions by Substitution
C. Systems of Linear Equations: Solutions by Addition
D. Absolute Value Equations and Inequalities
E. Graphing Systems of Linear Inequalities

Unit 12: <u>Factoring Polynomials and Solving Quadratic Equations</u>

A. Special Factoring Techniques
B. Additional Factoring Practice
C. Solving Quadratic Equations by Factoring

Unit 13: <u>Rational Expressions</u>

A. Multiplication and Division with Rational Expressions
B. Addition and Subtraction with Rational Expressions
C. Complex Fractions
D. Solving Equations with Rational Expressions
E. Variation

Unit 14: Radical Expressions/Equations, Pythagorean Theorem, and Complex Numbers

A. Roots and Radicals
B. Square Roots and Pythagorean Theorem
C. Simplifying Radicals
D. Addition, Subtraction, and Multiplication with Radicals
E. Rationalizing Denominators
F. Equations with Radicals
G. Introduction to Complex Numbers
H. Multiplication/Division with Complex Numbers

Unit 15: Quadratic Equations

A. Quadratic Equations: The Square Root Method
B. Quadratic Equations: The Quadratic Method
C. Applications
D. Quadratic Functions

## Course Schedule:

| Week # | Minimum Pace Required by Lesson # |
|---|---|
| 1 | Orientation/Pretest |
| 2 | Day 2 Orientation/ Homework Unit 11 |
| 3 | Placement Test 11/ Unit 11 Certifies |
| 4 | Unit 11 Certifies (continued)/ Unit 11 Test |
| 5 | Homework for Unit 12/ Placement Test 12 |
| 6 | Unit 12 Certifies/ Unit 12 Test |
| 7 | Homework for Unit 13/ Placement Test 13 |
| 8 | Unit 13 Certifies/ Unit 13 Test ***Midterm Grade*** |
| 9 | Homework for Unit 14 |
| 10 | Placement Test 14/ Unit 14 Certifies |
| 11 | Unit 14 Test/ Homework for Unit 15 |
| 12 | Placement Test 15/ Unit 15 Certifies |
| 13 | Unit 15 Test |
| 14 | Study Guide for Post-Test |
| 15 | Post-Test |

## ❖ Course Conduct:

**Hawkes Homework**

- Before students are allowed to take a unit placement test, they must present completed homework and software practice to their instructor.
- Assigned homework problems can be found on the course materials section in the Hawkes Learning System.

**HLS Lessons**

- Each student will be required to complete a minimum of 29 lesson objectives in the Hawkes Learning System.
- *Each lesson objective will have a placement test that is open book/notes (60-minute time limit), which may* ***not*** *be repeated. A score of 100% is required on the placement test in order to proceed to the next unit.*
- The placement test will place you on the lessons from which you have missed questions and give you 100% grades on the lessons from which you did not miss any questions. 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 quiz in order to proceed to the next lesson objective.

**Tests**

- There will be 5 Unit Tests given throughout the semester on the Hawkes Learning System. Each test will be given after the student completes the appropriate unit objectives. If the student makes a 100% on the Placement Test for a unit they will automatically receive a 100% for their Unit Test grade as well.
- *Each test may be taken only* ***once****, and* ***may only be taken when an instructor is present.*** *The Unit Test is locked by a password. Only your instructor can release the test for use. If a student manages to override the password and test without instructor approval, they will receive a 0% for the test.*
- *The tests will be closed notebook/book exams.* ***Any student caught using their book or notebook during a test will be given a zero for that test – NO TOLERANCE!***

**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:**

| | |
|---|---|
| HLS Lessons | 25% (Certifies) |
| TESTS | 60% (The highest of Placement/Unit will be taken) |
| Attendance | 5% (Attendance can be made up if excused) |
| Notebook | 10% (Grade taken for each unit) |
| Total | 100% |

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

**A: 89.5 – 100%**
**B: 79.5 – 89.4%**
**C: 69.5 – 79.4%**
D: 59.5 – 69.4%
F: 59.4% 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. Attendance will make up 5% of the overall grade. Students with excessive unexcused absences (more than five) can be given an NF (non-attendance failure) grade.

**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.

**Classroom Behavior:**
- ✓ **Food and drinks are NOT permitted near computers in this class.**
- ✓ Electronic devices, such as cell phones and pagers, are **NOT** permitted and **MUST** be turned off or turned onto vibrate during class. You may **NOT** answer your cell phone during a graded activity. Violation of these policies may result in disciplinary action.
- ✓ Students are **NOT** permitted to bring children, parents, siblings, spouses, or other significant others to class.

**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 Intermediate 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 Associate 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.

**Face Mask Policy:** As per the Executive Order from the governor of Arkansas, all students are required to wear a proper face mask covering that completely covers the nose and mouth while on campus and in class. Masks with holes or masks that do not completely cover nose and mouth are not acceptable. Any student that does not have a proper mask will leave class and be referred to the Vice Chancellor of Student Affairs for possible disciplinary action.

**Food and Drink:** Food and drinks, including water are not allowed in the classroom at any time.

**Campus Security:** University of Arkansas at Rich Mountain strives to provide a safe learning environment; therefore, students who know of any security risk are asked to contact a college official. http://www.uarichmountain.edu/at-a-glance/disclosures

**UA Rich Mountain Mission:** *UA Rich Mountain provides transformative education to all learners.*

**Under review*

# Credit Hour Requirement Calculator

| | | |
|---|---|---|
| **Course Information** | | |
| Department, Course Number | | Mathematics |
| Course Title | Intermediate Algebra | MTH033 |
| 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 |

| | **Pages Asg'd** | **Hours/Week** | **Hours/Term** | |
|---|---|---|---|---|
| **Syllabus Items** | | | | |
| 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 |