MATH 0310
Student Course Document - Revised Fall 2008

1. **Course Title:** Intermediate Algebra

2. **Prerequisite:** Introductory Algebra (Math 0308) or placement by testing

3. **Credit:** Three (3) Semester Hours

4. **Materials Needed:**
   - **4.1 Textbook:** *Intermediate Algebra*, 4th or 5th ed. Weltman/Perez/Tiballi
   - **4.2 Optional:** *Intermediate Algebra (Stud Sol Man/SG)*, Weltman/Perez/ Tiballi/Workbook
   - **4.3 Calculator Usage:** Generally, instructors set their own policies concerning calculator usage.

5. **Purpose:**

   Intermediate Algebra is designed to provide the student with background in fundamental algebra and skill in mathematical manipulation needed for a further study of mathematics and other courses in the science and technical areas.

6. **Major Course Outcomes:** (percents indicate the weight of that outcome on the departmental final exam)

   - **Outcome 1:** Factor higher degree polynomials. (10%)
   - **Outcome 2:** Solve quadratic equations using factoring. (5%)
   - **Outcome 3:** Perform operations and solve equations and applications involving rational expressions. (15%)
   - **Outcome 4:** Perform operations and solve equations involving radicals and rational exponents. (15%)
   - **Outcome 5:** Perform operations on complex numbers. (5%)
   - **Outcome 6:** Recognize functions defined by sets of ordered pairs, graphs and equations and apply function notation to applications. (15%)
   - **Outcome 7:** Sketch graphs of linear relations and determine a linear equation in two variables given pertinent information (15%)
   - **Outcome 8:** Solve inequalities in one and two variables. (5%)
   - **Outcome 9:** Solve quadratic equations using methods including the quadratic formula, completing the square, and extracting roots; graph quadratic equations. (10%)
   - **Outcome 10:** Solve applications using systems of linear equations in two variables. (5%)

7. **General Course Outline:**

   The following textbook sections will be covered: 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4.1, 4.2, 4.3, 4.4, 4.5, 4.8, 4.9, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 2.2, 6.1, 6.2, 6.3, 6.4, 6.5, 6.7, 7.3, 7.4, 7.5, 7.6, 9.3

8. **Evaluation:**

   All Math 0310 students at Lone Star College – North Harris will take a common final exam. This exam will include all major outcomes for the course. These outcomes are listed below along with the number of points the questions on each outcome will count on the final exam, as well as a short description of each outcome. All students will have access to a complete review for this final exam through the department website.

   The score a student makes on the final exam will count 20% of their final average in the course. In addition, students MUST have a score of 50% or higher on this final exam to be eligible to receive a final
grade of A, B, or C. Students who score less than a 50% on this final exam will automatically receive a grade of IP or F ** and will have to repeat the course.

**A grade of IP will only be given to students who continue to participate in class. Participation will be spelled out clearly in the course syllabus and is related to attendance, performance on homework, and participation in class.

9. **Computer Lab Requirement:**

All Math 0310 students have a computer lab requirement for the course. These computer assignments can be completed in one of the labs on campus or at home. In general, students can expect to spend 1 to 2 hours per week on these assignments. The instructor will explain where to find the labs on the LSC-NH network, which labs to complete, due dates on labs, and how to complete the labs at home.

10. **Take a Teacher Home Videotapes:** Videotapes created in-house tailored to each Math 0310 section covered in the course. Students may check these out at the LSC-NH Library Circulation Desk to take home or at the Main Desk in the Learning Center (LC) to view in the LC

11. **MyRecords:** MyRecords gives students, staff, and the community access to our databases. It allows a student to register online, look up a course schedule, get information regarding financial aid status, view unofficial transcripts, search for classes and get final semester grades for a specific term. Faculty use MyRecords for Mid-term and Final Grading. Go to http://northharris.lonestar.edu/ or https://myrecords.lonestar.edu/ from your internet browser. Click on MyRecords in the center box. Follow the instructions for securing your user name and password. Call 281-618-5486 or 832-813-6600 or email NorthHarris.HelpDesk@lonestar.edu or DSTC.Servicedesk@lonestar.edu for further assistance.

12. **Academic Integrity:**

Lone Star College System is committed to a high standard of academic integrity in the academic community. In becoming a part of the academic community, students are responsible for honesty and independent effort. Failure to uphold these standards includes, but is not limited to, the following: plagiarizing written work or projects, cheating on exams or assignments, collusion on an exam or project, and misrepresentation of credentials or prerequisites when registering for a course. Cheating includes looking at or copying from another student’s exam, orally communicating or receiving answers during an exam, having another person take an exam or complete a project or assignment, using unauthorized notes, texts, or other materials for an exam, and obtaining or distributing an unauthorized copy of an exam or any part of an exam. Plagiarism means passing off as one's own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism includes submitting a paper, report or project that someone else has prepared, in whole or in part. Collusion is inappropriately collaborating on assignments designed to be completed independently. These definitions are not exhaustive. When there is clear evidence of cheating, plagiarism, collusion or misrepresentation, a faculty member will take disciplinary action including but not limited to: requiring the student to retake or resubmit an exam or assignment, assigning a grade of zero or “F” for an exam or assignment, or assigning a grade of “F” for the course. Additional sanctions including being withdrawn from the course/program or being expelled from school may be imposed on a student who violates the standards of academic integrity.

*It is the responsibility of the student to drop a class by “W” day if he/she desires. Students with disabilities, who wish to request accommodations in this class, must notify the Disability Services Office as soon as possible so that the appropriate arrangements may be made. Students requesting accommodations must provide documentation of his/her disability to a Disability Services counselor. For more information, call or visit the Disability Services Office at A 104, (281) 618-5481.
Math 0310 Software Lessons Detail

Sec. 3.6 Factoring Summary
There are a total of eight problems. Two are factoring a sum or difference of cubes and one is to factor by grouping.

Sec. 3.7 Solving Quadratic Equations by Factoring
There are ten problems. All but one of the problems requires the students to put the equation in standard form before factoring.

Sec. 3.8 Applications Involving Quadratic Equations
There are a total of five problems. Two problems involve consecutive integers, one is the sum of the squares of two integers, one is the area of a triangle and one involves the legs of a right triangle.

Sec. 4.1 Integer Exponents
There are fourteen problems. All exponents are integers. Five problems involve raising a power to a power.

Sec. 4.3 Multiplying and Dividing Rational Expressions
There are a total of eight problems. Four problems are to multiply and divide monomials and four are to multiply and divide polynomials. One problem requires the factorization of a sum or difference of two cubes and one requires factoring by grouping.

Sec. 4.4 Adding and Subtracting Rational Expressions
This lesson contains six problems. Three problems require the student to factor the denominator of each fraction before finding a common denominator.

Sec. 4.8 Equations Involving Rational Expressions
There are eight problems. All equations contain the variable in the denominator of at least one fraction.

Sec. 4.9 Applications of Rational Equations
This lesson contains twelve problems. Five problems involve fractions. Four involve the time required for two or three people to complete a task and the time if working together. Three problems involve distance, rate and time.

Sec. 5.3 Simplifying Radical Expressions
There are eight problems. Three of the problems are cube roots. Five problems require the student to rationalize the denominator.

Sec. 5.4 Operations with Radical Expressions
This lesson contains six problems. Each problem requires the student to simplify one or two radicals before adding or subtracting.

Sec. 5.5 More Operations with Radical Expressions
There are seven problems. Four problems involve multiplying sums that contain radicals. Three problems involve rationalizing the denominator when the denominator is a sum or difference containing a radical.

Sec. 5.6 Radical Equations
This lesson contains seven problems. Two of the problems require the student to square both sides of the equation twice.

Sec. 5.7 Complex Numbers
There are eight problems. All problems are to add, subtract, multiply or divide complex numbers.
Sec. 6.3 **Function Notation and Combinations of Functions**
This lesson contains ten problems. Four problems are to add, subtract, multiply and divide two functions. Six problems are to evaluate a function.

Sec. 6.4 **Graph Given Point and Slope**
Click and drag the mouse to graph a line when given a point and the slope.

Sec. 6.5 **Equations of Lines**
This lesson contains seven problems. Each problem requires the student to enter the equation of the line in slope-intercept form and then draw the line by clicking and dragging the mouse.

Sec. 2.2 & 6.7 **Linear Inequalities**
This lesson contains problems that require students to graph inequalities on a number line and in the plane.

Sec. 6.8 **Variation-OPTIONAL**
The problems in this lesson involve direct variation, indirect variation and joint variation.

Sec. 7.4 **Quadratic Equations**
There are seven problems. All seven problems require the use of the quadratic equation.

Sec. 9.1 **Systems of Two Equations and Two Variables**
There are eight problems. All eight problems are to solve a system of two equations with two variables.

Sec. 9.2 **Systems of Three Equations and Three Variables-OPTIONAL**
There are four problems. All four problems are to solve a system of three equations with three variables.