INTERMEDIATE ALGEBRA (TMTH 0375-3C1)

INSTRUCTOR CONTACT INFORMATION

Instructor: Daniel Dove

Email: dadove@lit.edu

Office Phone: 409-247-5017

Office Location: TC 112A
Office Hours M 8:00 am – 9:30 am, 11:00 am – 1:30 pm
T 8:00 am – 11:00 pm, 12:30 pm – 1:30 pm
W 12:00 pm – 1:30 pm
R 8:00 am - 11:00 am
F 8:00 am-12:30 pm

CREDIT
3 Semester Credit Hours (3 hours lecture, 0 hours lab)

MODE OF INSTRUCTION
Face-To-Face

PREREQUISITE/CO-REQUISITE:
Must be co-enrolled in TMTH 0165 BASE NCBO (Mathematics)

COURSE DESCRIPTION
A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

LEARNING OUTCOMES

Upon successful completion of this course, students will:

1. Define, represent, and perform operations on real and complex numbers.

2. Recognize, understand, and analyze features of a function.

3. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical, and rational expressions.

4. Identify and solve absolute value, polynomial, radical, and rational equations.

5. Identify and solve absolute value and linear inequalities.

6. Model, interpret, and justify mathematical ideas and concepts using multiple representations.

7. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

REQUIRED TEXTBOOK AND MATERIALS
1. A Pearson MyMathLab Standalone Access Code
a. Once a student has access to this class in Blackboard, they will be able to access the Pearson website and purchase a code online directly from Pearson.
OR
b. May be purchased at a local bookstore:
i. 18 Week Standalone Access Card: Ask instructor if you need this information.
ii. 24 Month Standalone Access Card: Ask instructor if you need this information.
2. You will need at least a basic 6 function calculator, but I will not penalize you for more advanced calculators.

ATTENDANCE POLICY
Attendance is mandatory and will count as an exam grade. The grade will be determined by the ratio of number of days attended to total class days. Two "free" absences are allowed before this policy takes effect to help in earning a 100. I also reserve the right to allow an extra day(s) for documented extenuating circumstances. In addition, all exams will be in person on days listed in the course schedule. If you must miss an exam day, you need to contact me in advance of the test to make alternate arrangements.

DROP POLICY
If you wish to drop a course you are eligible to drop, you are responsible for initiating and completing the drop process by the specified drop date as listed on the Academic Calendar. If you stop coming to class and fail to drop the course, you will earn a "DF" in the course.

STUDENT EXPECTED TIME REQUIREMENT
For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. **For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16- week session** OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

Course Outline

A. Module 1- Introduction to Real Numbers and Algebraic Expressions

1. The Real Numbers
2. Addition & Subtraction of Real Numbers
3. Applications Involving the Addition
and Subtraction of Real Numbers
4. Multiplication & Division of Real Numbers
5. Applications Involving the Multiplication
and Division of Real Numbers
6. Order of Operations
7. Introduction to Algebra
8. Properties of Real Numbers

B. Module 2-Solving Equations & Inequalities

1. Solving One-Step Equations with Addition or Subtraction
2. Solving One-Step Equations with Multiplication and Division
3. Solving Multi-Step Equations
4. Solving More Multi-Step Equations
5. Solving Absolute Value Equations 7. Introduction to Inequalities
8. Solving Inequalities
9. Solving Absolute Inequalities

C. Module 3- Polynomials

1. Exponents
2. Rules of Exponents
4. Introduction to Polynomials
5. Evaluating Polynomials
6. Addition of Polynomials
7. Subtraction of Polynomials
8. Multiplication of Polynomials
9. More Multiplication of Polynomials
10. Division of Polynomials by Monomials
11. Division of Polynomials by Binomials

D. Module 4- Factoring

1. Factoring and the Greatest Common Factor
2. Factoring by Grouping
3. Factoring Trinomials
4. Factoring More Trinomials
5. Factoring Binomials

C. Module 5- Rational Expressions & Equations

1. Finding all Numbers for which a
Rational Expression is Undefined
2. Simplifying Rational Expressions
3. Multiplying Rational Expressions
4. Dividing Rational Expressions
5. Finding the Least Common Denominator
6. Adding Rational Expressions
7. Subtracting Rational Expressions
9. Solving Rational Equations
10. Applications Using Rational Equations (The Work Principle, Motion Formulas & Proportions)

D. Module 6- Radical Expressions & Equations

1. Introduction to Radical Expressions

Approved: Initials/date

2. Simplifying Radical Expressions
3. Multiplying Radical Expressions
4. Dividing Square Roots
5. Rationalizing the Denominator
6. Adding and Subtracting Radical Expressions
7. Multiplying Radical Expressions (FOIL)
10. Solving One-Radical Equations
E. Module 7- **Complex Numbers**
1. Addition and Subtraction of Complex Numbers
2. Multiplication of Complex Numbers
3. Dividing Complex Numbers
F. Module 8- **Quadratic Equations**
1. Solving Quadratic Equations by Factoring
2. Solving Quadratic Equations using the
Principle of Square Roots
3. Solving Quadratic Equations by Completing the Square
4. Solving Quadratic Equations using the Quadratic Formula
G. Module 9-**Functions**
1. Introduction to Functions
2. Function Notation

COURSE CALENDAR

What is Due	Location	Due Date
All Module 1 Assignments	MyMathLab	Sunday, January 28
Module 1 Test	MyMathLab	Tuesday, January 30
All Module 2 Assignments	MyMathLab	Sunday, February 11
Module 2 Test	MyMathLab	Tuesday, February 13
All Module 3 Assignments	MyMathLab	Sunday, February 25
Module 3 Test	MyMathLab	Tuesday, February 27
All Module 4 Assignments	MyMathLab	Sunday, March 17
Module 4 Test	MyMathLab	Tuesday, March 19
All Module 5 Assignments	MyMathLab	Sunday, March 31
Module 5 Test	MyMathLab	Tuesday, April 2
All Module 6 Assignments	MyMathLab	Sunday, April 14
Module 6Test	MyMathLab	Tuesday, April 16
All Module 7,8, and 9 Assignments	MyMathLab	Sunday, April 28
Module7, 8, 9 Test	MyMathLab	Tuesday, April 30

COURSE EVALUATION
Final grades will be calculated according to the following criteria:

Tests 60%
Course Assignments 40%
GRADE SCALE
- 90-100   DA
- 80-89   DB
- 70-79   DC
- 0-69   DF

LIT does not use +/- grading scales

ACADEMIC DISHONESTY
Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty.

TECHNICAL REQUIREMENTS
The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT
The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT
It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at

<u>www.lit.edu</u>. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

- **Late Work**
  - **I may apply up to a 20% penalty on any homework assignments turned in after the due date.**
  - **There are NO late exams or retakes. If you miss an exam without prior arrangements with the professor, you will earn a zero on the missed exam! Remember, exams are face-to-face during class time.**
- **At least one weekly announcement will be sent by the instructor regarding upcoming due dates and exams each week, with possibly more. Be sure to check Blackboard and your LIT email three or more times per week to keep up with Course Announcements!**
- **I will do my best to respond to all communication within 24 hours except on weekends and holidays.**