

Augusta Technical College
Course Syllabus
MATH 1012 – Foundations of Mathematics

CRN:	Instructor: Ms. N. Molik
Credits: 3 credits	Office Phone: 706 – 771 – 4076
Term:	Office Location: Room 223, 200 Building, Augusta
Class Location:	Office Hours:
Class Time:	Email: nmolik@augustatech.edu
Emergency Contact: 706 – 771 – 4111	Website: www.augustatech.edu/math/molik/
Course Website: www.augustatech.edu/math/molik/1012worksheets.htm	

Course Description: Foundations of Mathematics (Prerequisite: MATH 0097 - Math II OR appropriate arithmetic placement test score.) Emphasizes the application of basic mathematical skills used in the solution of occupational and technical problems. Topics include fractions, decimals, percents, ratios and proportions, measurement and conversion, formula manipulation, technical applications, and basic statistics.

Competencies/Student Learning Outcomes:

After completing this section, the student will be able to:

Fractions

1. Simplify fractions.
2. Multiply and divide fractions.
3. Add and subtract fractions.
4. Add, subtract, multiply, and divide mixed numbers.
5. Solve application problems with fractions.
6. Perform hierarchy of operations.

Decimals

1. Read and write decimal word names.
2. Identify place value.
3. Round decimal notation.
4. Add and subtract decimal notation.
5. Multiply decimal notation.
6. Divide decimal notation.
7. Convert from fraction notation to decimal notation.
8. Estimate with decimal notation.
9. Solve application problems with decimal notation.
10. Perform hierarchy of operations.

Ratios and Proportions

1. Define ratios and rates.
2. Simplify ratios in fraction form.
3. Find unit rates.
4. Solve a proportion using cross products.
5. Solve application problems involving proportions.

Percents

1. Convert between percent and decimal notation.
2. Convert between percent and fraction notation.
3. Solve percent problems using percent equations.
4. Solve percent problems using proportions.
5. Solve application problems involving percents.

Measurement and Conversion

1. Convert linear measures involving American and metric units from one unit of measure to another.
2. Convert weight and mass units from one unit of measure to another.
3. Convert capacity from one unit of measure to another.
4. Solve application problems involving measurement and conversion.

Formula Manipulation

1. Solve basic formulas for a specified variable.
2. Identify basic two and three dimensional figures.
3. Find the areas of rectangular and circular figures.
4. Solve for volumes of cubes, rectangular solids, and right circular cylinders.
5. Identify, measure, and solve problems using angles.
6. Evaluate technical formulas.

Technical Applications

1. Apply mathematical concepts of varied occupational applications.

Basic Statistics

1. Solve applications involving circle, bar, and line graphs.
2. Solve applications involving frequency, distributions, and histograms.
3. Find the mean, weighted mean, median, and mode for a set of data.

Textbooks, Tools, and Supplies:

- Lial M. L., Salzman S. A., & Hestwood, D. L. (2010). Basic College Mathematics (8th edition.). Boston, MA: Addison Wesley
- A scientific calculator (preferably the TI-30 XIIS) is recommended for this course.
- This course requires use of a pencil at all times. The type of notebook you use depends on your personal preference, but binders with dividers and sheet protectors are great for keeping math items organized.

Evaluation and Grading:

Augusta Technical College Grading Scale

A	=	90-100	
B	=	80-89	
C	=	70-79	
D	=	60-69	
F	=	0-59	
WF	=	0-59	Signifies the student withdrew with a failing grade after mid-term. "WF" carries a grade point average of "0."
W			Signifies the student withdrew before midterm.
WP			Signifies the student withdrew after midterm with a passing grade.

Course Grade:

For this course, the following grading scale is used:

Tests/Projects: 75% of grade
Final Exam: 25% of grade

Tests include open-ended problems, which require students to show **all** of their work to receive credit, and various word/verbal problems relating to real-life problems in the various fields of work in which students are pursuing their higher education. Any projects will count as a test grade and will not be accepted late. Pop quizzes may be given at any time, many times at the very beginning of class, and will count as a test grade at the end of the semester. Pop quizzes will **not** be made up if missed. Don't be late!

There are **no** make-up tests or projects for any reason. Your lowest test grade will be dropped. If you miss a test, that will be the test grade you drop. Homework will only be collected if a day's

notice is given in advance. In general, most homework is considered practice and will not be collected. If a homework assignment is collected, its completion or lack of completion will be factored into your grade by the addition or subtraction of points from your test average.

Work Ethics: A work ethics grade will be assigned in this course. Therefore, students are encouraged to apply appropriate work ethics in class using the following determining factors: attendance, productivity, punctuality, teamwork, character traits, leadership, personal organizational skills, communication, respect, confidence, and appearance. The instructor will monitor these skills and will document those situations in which students exceed or fail to meet these factors.

At mid-semester students will receive a rating that reflects these documented situations. If a student has been deficient in a certain area, the student will be given the opportunity to bring his or her performance up to industry standards before grades are issued at the end of the semester. The work ethics grade will be placed on the student's permanent record. The work ethics grade does not affect the grade point average. The numerical scale for work ethics is as follows:

- | | |
|--------------------------|-----------------------|
| 3 – Exceeds Expectations | 1 – Needs Improvement |
| 2 – Meets Expectations | 0 – Unacceptable |

Make-up Policy: There are no make-up tests; projects, take-home tests, and other items are not accepted late. Instead, your lowest test/project grade will be dropped.

Withdrawal/Drop Policy:

Attendance Policy: To complete this class successfully, students are required to participate in class, complete assignments in a timely manner, and attend all scheduled classes. Students are expected to arrive on time and remain in class for the entire session. Students are allowed to miss 10 percent of the class without penalty. Failure to follow the attendance policy may result in suspension or withdrawal from class. Withdrawal or suspension from a class may affect a student's present and future academic and financial aid status as well as the class work-ethics grade.

Student-Initiated Withdrawal from Course(s): If a student decides to drop the class, the student will need to withdraw officially from the class by completing and submitting a Schedule Change Form to the Financial Aid Office.

Instructor-Initiated Suspension or Administrative Withdrawal from Class: If a student misses more than 10 percent of the scheduled class sessions, the student may be suspended or administratively withdrawn from class.

However, since it is your responsibility to drop yourself from any class you stop attending; you may not get dropped from the class and may receive an F instead. Both of these cases may affect your financial aid status.

A student who has been suspended or administratively withdrawn for attendance reasons has the right to appeal to in writing to the Dean of Learning Support and General Education (Mr. John Richardson) and must remain in school during the appeal process. When the appeal process is completed, the final decision is made retroactive to the date of the original notice of suspension.

For additional information, refer to the *Augusta Technical College Student Handbook and Wellness Guide*.

Disabilities and Counseling Policy: If there is a student in this class who needs testing or classroom accommodations due to a disability, please meet with the instructor to discuss any testing or accommodation needs. Augusta Technical College has ADA coordinator/disability counselor services available to all students. Please contact the counseling and testing center, which is located on the second floor in the 1300 Building, at (706) 771-4067 or 4068 for additional details.

Career Services: Career Services offers assistance with resume and cover letter preparation, mock interviewing, career information, and a website of job leads from local employers. The website can be accessed by clicking the "Experience" logo on the Career Services webpage or through the URL <http://augustatech.experience.com/er/security/login.jsp>

Warranty: "If one of our graduates, who was educated under a standard program, and his or her employer agrees that the employee is deficient in one or more competencies as defined in the standards, Augusta Technical College will retrain that employee at no instruction cost to employee or employer."

Honor Pledge:

By attending classes at Augusta Technical College, you agree to abide by the honor code, which reads as follows:

It is my honor to be an Augusta Technical College student. I pledge to do honor to myself, my classmates, and my college by doing my best and by following the college's honor code. I will not dishonor myself or my college by lying, cheating, stealing, or doing harm to another person or property. I understand that following an honor code is a reflection of my work ethics which is important to my success on the job and in life.

Anti-Discrimination Policy: As set forth in its student catalog, Augusta Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, political affiliation or belief, veteran status, or citizenship status (except in those special circumstances permitted or mandated by law).

Title IX/Title VI Coordinator: Mr. Randy Davis, Building 100, Room 129, 706-771-4081
ADA/Disabilities Coordinator: Ms. Karissa Wright, 2nd Floor of Building 1300, 706-771-4067

Tutoring Center: The Tutoring Center in the ITC is available every morning and some afternoons and is free of charge for students of Augusta Technical College. Their specific daily hours are posted on their door. They also are available by appointment, so please feel free to make an appointment if necessary.

Other Items of Note:

1. All cell phones and beepers should be **turned off or on vibrate** before class starts. Exceptions to this rule need to be discussed with the instructor prior to class time. Cell phones and beepers distract those who are trying to learn and especially those of us who have learning disabilities or ADD/ADHD, so please be considerate of those around you and take care of this before class starts. Texting during class will result in you being asked to leave the classroom.
2. All computers and other equipment in the classroom are property of either Augusta Technical College or me. Unless I have given an assignment that requires the computers or other equipment, those items are off-limits to students during class time. Anyone not respecting this fact may be asked to leave the classroom and will be marked absent for the day. Any note-taking during class on personal laptops or other electronic devices must be cleared with me ahead of time. Repeated violations may result in suspension from the class.

MATH 1012 Homework Assignments:

Whole Numbers

- 1.10** Learn indicator words p. 91, 1-25 odd, 31-39 odd
- p. 103** Review Exercises: 117-129 odd
- p. 111** Chapter 1 Test: 20-23 all

Multiplying and Dividing Fractions

- 2.1** 1 – 19 odd, 23, 25

- 2.2 1 – 53 alt. odds, 57 – 67 odd
- 2.3 1 – 11 odd, 29 – 51 alt. odds
- 2.4 1 – 37 odd, 39-49 odd, 53, 55
- 2.5 1 – 35 alt. odds, 37 – 41 odd, 45 – 53 odd
- 2.6 1 – 15 odd, 19 – 23 odd, 27 – 33 odd
- 2.7 9 – 25 odds, 29 – 35 odd, 39 – 45 odd
- 2.8 1 – 23 odd, 25 – 31 odd, 35 – 41 odd
- p. 187 Review Exercises: 1 – 81 odd
- p. 193 Chapter 2 Test: 1 – 25 all

Adding and Subtracting Fractions

- 3.1 1 – 31 odd, 35 – 39 odd
- 3.2 13 – 23 odd, 25 – 47 odd
- 3.3 1 – 35 alt. odds, 37 – 43 odd, 47 – 51 odd
- 3.4 1 – 45 odd, 49 – 69 odd
- 3.5 13 – 23 odd, 25 – 35 odd, 39 – 69 odd
- p. 253 Review Exercises: 1 – 45 odd, 51 – 93 odd
- p. 243 Chapter 3 Test: 1 – 15 all, 18 – 25 all

Decimals

- 4.1 1 – 35 odd, 37 – 55 odd
- 4.2 11 – 23 odd, 25 – 35 odd
- 4.3 1 – 17 odd, 37 – 59 odd
- 4.4 1 – 19 odd, 39 – 59 odd
- 4.5 1 – 19 odd, 31 – 61 odd
- 4.6 1 – 23 odd, 29 – 43 odd, 45 – 73 odd
- p. 321 Review Exercises: 1 – 81 odd
- p. 325 Chapter 4 Test: 1 – 24 all

Ratios and Proportions

- 5.1 1 – 15 odd, 17 – 27 odd, 35 – 47 odd
- 5.2 1 – 15 odd, 17, 19, 21, 25 – 35 odd
- 5.3 1 – 35 odd
- 5.4 1 – 25 odd
- 5.5 1 – 17 odd, 25 – 31 odd, 35, 37
- p. 377 Review Exercises: 1 – 67 odd
- p. 381 Chapter 5 Test: 1 – 20 all

Percents

- 6.1 1 – 35 odd, 39 – 61 odd, 69 – 87 odd
- 6.2 1 – 43 odd, 45 – 67 odd, 71 – 83 odd
- 6.3 45 – 59 odd
- 6.4 1 – 39 odd, 43 – 69 odd
- 6.5 1 – 31 odd, 35 – 55 odd
- 6.6 1 – 23 odd, 27 – 51 odd
- 6.7 1 – 29 odd, 33 – 45 odd
- p. 471 Review Exercises: 1 – 99 all
- p. 477 Chapter 6 Test: 1 – 17 all, 20 – 25 all

Measurement and Conversion

- 7.1 Memorize values in table p. 484
- 7.1 1 – 29 alt. odds, 31 – 45 odd, 49 – 61 odd
- 7.2 25 – 43 odd
- 7.3 29 – 53 odds, 63 – 73 odd
- 7.4 1 – 15 all
- 7.5 1 – 17 odd, 27 – 35 odd
- p. 533 Review Exercises: 1 – 19 odd, 27 – 31 odd, 41 – 55 odd, 61, 63
- p. 537 Chapter 7 Test: 1 – 33 all

Geometry

- 8.1 1 – 23 odd
- 8.2 1 – 16 odd, 19
- 8.3 1, 3, 13 – 29 odd
- 8.6 1 – 17 odd, 21 – 33 odd
- 8.7 1, 2, 7, 8, 13, 14, 18, 19, 23, 24
- p. 623 1 – 23 odd, 33, 35, 37, 41, 45, 47, 51, 72, 74, 77, 81 – 89 odd, 92, 95, 96
- p. 631 1 – 4 all, 6 – 10 all, 16 – 20 all, 22

Statistics

- 1.9 1 – 15 odd
- 10.1 1 – 25 odd, 29 – 35 odd, 37 (a and b), 39
- 10.2 1 – 22 odd, 25 – 29 odd, 35 – 39 odd
- 10.3 1 – 11 odd, 15 – 35 odd
- 10.4 1 – 21 odd, 25 – 29 odd
- p. 763 Review Exercises: 1 – 9 odd, 13 – 21 odd, 25 – 31 odd, 39 – 51 odd, 53
- p. 769 Chapter 10 Test: 1 – 11 all, 13 – 18 all, 20 – 22 all, 25 – 30 all

Schedule is subject to change.

Augusta Technical College does not discriminate on the basis of race, color, national origin, gender or disability. For information on ADA/504, contact the ADA/504 coordinator, Karissa Davis Wright at 706-771-4067 in the 1300 Building.