Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Year: 2025
Course Prefix: EGDT
Course and Section #: 1600-001
Course Title: Technical Math Algebra
Credits: 3

Course Description

Covers the basic principles of algebra, geometry, and trigonometry as they relate to problem solving on the job. Includes solving equations, percent, proportion, variation, calculator operations, measurements, formula rearrangement, functions and graphs, and solving right and oblique triangles.

Course Attributes

This course has the following attributes:

☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☐ Elective Core Requirements in Program
☐ Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Professor Darin Taylor

Student Learning Outcomes

Chapter 1: Define real numbers and learn the basic operations with real numbers. Define powers with integral exponents and learn and apply the laws of exponents, powers of ten, and scientific notation. Learn the proper order of operations for expressions involving more than one operation. Translate English phrases to algebraic expressions.

Chapter 2: Learn the algebraic principles and processes that are used to solve non-fractional equations and pure quadratic equations.

Chapter 3: Learn the methods for solving fractional equations.

Chapter 4: Learn and apply the decimal number system and the rules for rounding and basic operations on a scientific calculator. Learn and apply the rules for percents, ratios, proportions, and the following variations: direct, inverse, direct square, inverse square, joint, and combined.

Chapter 5: Learn and apply the ability to do combined operations in one process on a scientific calculator. Learn the steps used to do various types of combined operations needed for formula evaluation. This chapter is not covered in formal class time but given as self study.

Chapter 6: Learn the units of length, weight, time, liquid measures, temperature, and rates in both the English and Metric System. Apply conversions of units within each system and between the two systems. Learn the following properties of measurements: precision, lower and upper limits, absolute error, significant digits, relative error, and accuracy. Learn and apply the rules for reporting answers for operations with measurements.

Chapter 7: Learn and apply methods of solving problems with geometric figures and facts. Learn how to solve problems involving similar triangles. Learn and apply solutions for perimeter, area, volume, and surface area. Learn basic units for area and volume in both the English and Metric system. Learn how to calculate densities of various materials.

Chapter 8: Learn how to define algebraic fractions and solve basic operations with them. The student will learn how to do formula rearrangement and derivation.

Chapter 9: Using formula rearrangement principles, the student will learn how to eliminate a variable, or variables from a system of formulas so that a new formula may be derived.

Chapter 10: Learn the Cartesian Coordinate System and methods for graphing linear and non-linear equations. Learn and apply the calculations for slope, slope-intercept form, the graphs of formulas, and the application of functions.

Chapter 11: Learn and apply the angle-sum principle, the Pythagorean Theorem, and the three basic trigonometric ratios of Sine, Cosine and Tangent to solve for unknown angles and sides in right triangles.

Chapter 12: Learn and apply the Law of Sines and the Law of Cosines to find the unknown sides and angles in Oblique Triangles.

Chapter 13: Learn how to define and solve a system of two equations and solve systems of that type by the graphing method, the addition method, the substitution method and the elimination method.

Course Materials and Texts

Required Materials: A Scientific Calculator.

Required Text: Technical Mathematics 1 by McHale/Witzke (Addison-Wesley Publishing Company, Inc.)

Course Requirements

Course Assignments, Assessments, and Grading Policy

Course Assignments

Week 1: Class Introduction and Daily Assignments 1 & 2 (Chapter 1).

Week 2: Daily Assignments 3, 4, 5 & 6 (Chapters 1 & 2).

Week 3: Daily Assignments 7 & 8 (Chapter 2). Chapters 1 & 2 Test Review.

Week 4: Chapter 1 & 2 Test. Daily Assignments 9 & 10 (Chapter 3).

Week 5: Daily Assignments 11, 12, 13, 14, 15 (Chapters 3 & 4) Chapters 3 & 4 Test Review.

Week 6: Chapters 3 & 4 Test. Daily Assignments 20 & 21 (Chapter 6).

Week 7: Daily Assignment 22 (Chapter 6). Chapter 6 Test Review. Chapter 6 Take-home Test.

Week 8: Daily Assignments 23, 24, 25, 26 & 27 (Chapters 7 & 8).

Week 9: Daily Assignments 28 & 29 (Chapter 8). Chapter 7 & 8 Test Review. Chapter 7 & 8 Test.

Week 10: Daily Assignments 30, 31, 32, 33 & 34 (Chapters 9 & 10).

Week 11: Daily Assignments 35 & 36 (Chapter 10). Chapters 9 & 10 Test Review. Chapters 9 & 10 Test.

Week 12: Daily Assignments 37, 38, 39 & 40 (Chapters 11 & 12).

Week 13: Daily Assignments 41 & 42 (Chapter 12). Chapters 11 & 12 Test Review. Chapters 11 & 12 Take-home test. Daily Assignments 43 & 44 (Chapter 13).

Week 14: Daily Assignments 45 & 46 (Chapter 13). Chapter 13 Test Review. Chapter 13 Test.

Week 15: Final Exam Review and Final Exam to Follow as Scheduled.

Grading Method

You will be graded on the following:		Record Your Score Below
Chapters 1 & 2 Test		
(Real Numbers & Solving Equations)	100 points	_____
Chapters 3 & 4 Test		
(Fractional Equations & %, Proportions & Variations)	100 points	_____
Chapter 6 Test		
(Measurements)	100 points	_____
Chapters 7 & 8 Test		
(Geometry & Algebraic Fractions)	100 points	_____
Chapters 9 & 10 Test		
(Formula Rearranging & Functions & Graphs)	100 points	_____
Chapters 11 & 12 Test		
(Right Triangles & Oblique Triangles)	100 points	_____
Chapter 13 Test		
(Systems of Two Equations)	100 points	_____
Final Exam		
(Comprehensive Chapters 1-4 & 6-13)	200 points	_____
You get to drop your lowest Chapter Test score	- 100 points	_____
TOTAL AMOUNT POSSIBLE	**800 POINTS**	_____

Testing Procedures

Chapter Tests will be given in class as scheduled on the calendar. Taking the test early or late is not allowed. If you miss the test you will receive a "0" for that exam. I understand that things do happen, if you foresee a schedule conflict it is important that you bring it to my attention before the fact and I will see if other arrangements can be made. As mentioned earlier you will be allowed to drop your lowest test score. You will also be provided the opportunity to retake one test (Final Exam not included). You can keep the higher score of your original test or retake.

Homework Assignments

The homework assignments will be corrected in class. Although the homework assignments will not be recorded for scores, I periodically call for the homework to be turned in so that I can evaluate your progress. It is very important that you complete each of the homework assignments, you will notice the Chapter Test problems are very similar to those assigned in the homework. I have noticed a direct correlation with final grades and the student's dedication to completing the homework assignments.

GRADING BREAKDOWN

100-93	**A**
92-90	**A-**
89-87	**B+**
86-83	**B**
82-80	**B-**
79-77	**C+**
76-73	**C**
72-70	**C-**
69-67	**D+**
66-60	**D**
59-50	**D-**
49-0	**E**

CLASS SCHEDULE

CLASS: EGDT–1600 TECH MATH 1 **CLASS DAYS:** 28 **SEMESTER:** SPRING 2025

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
6 JAN INTRODUCTION	7	8 CORRECT & REVIEW DAILY ASSIGNMENTS 1 & 2	9	10
13 CORRECT & REVIEW DAILY ASSIGNMENTS 3 & 4	14	15 CORRECT & REVIEW DAILY ASSIGNMENTS 5 & 6	16	17
20 MARTIN LUTHER	21	22 CORRECT & REVIEW DAILY ASSIGNMENTS 7 & 8	23	24
27 **TEST** **CHAPTERS 1 & 2** (REAL NUMBERS) (SOLVING EQUATIONS)	28	29 CORRECT & REVIEW DAILY ASSIGNMENTS 9 & 10	30	31
3 FEB CORRECT & REVIEW DAILY ASSIGNMENTS 11 & 12 & 13	4	5 CORRECT & REVIEW DAILY ASSIGNMENTS 14 & 15	6	7
10 **TEST** **CHAPTERS 3 & 4** (FRACTIONAL EQUATIONS) (%, PROPORTION, VAR.)	11	12 CORRECT & REVIEW DAILY ASSIGNMENTS 20 & 21	13	14
17 PRESIDENTS DAY	18	19 CORRECT & REVIEW DAILY ASSIGNMENT 22 **TEST CHAPTER 6** (MEASUREMENTS) TAKE HOME TEST	20	21
24 CORRECT & REVIEW DAILY ASSIGNMENTS 23 & 24 **TEST CHAPTER 6** DUE @ 5:00	25	26 CORRECT & REVIEW DAILY ASSIGNMENTS 25 & 26 & 27	27	28
3 MAR CORRECT & REVIEW DAILY ASSIGNMENTS 28 & 29	4	5 **TEST** **CHAPTERS 7 & 8** (GEOMETRY) (ALGEBRAIC FRACTIONS)	6	7
10 SPRING BREAK	11 SPRING BREAK	12 SPRING BREAK	13 SPRING BREAK	14 SPRING BREAK
17 CORRECT & REVIEW DAILY ASSIGNMENTS 30 & 31	18	19 CORRECT & REVIEW DAILY ASSIGNMENTS 32 & 33 & 34	20	21
24 CORRECT & REVIEW DAILY ASSIGNMENTS 35 & 36	25	26 **TEST** **CHAPTERS 9 & 10** (FORMULA REARRANGING) (FUNCTIONS & GRAPHS)	27	28
31 CORRECT & REVIEW DAILY ASSIGNMENTS 37 & 38	1 APR	2 CORRECT & REVIEW DAILY ASSIGNMENTS 39 & 40	3	4
7 CORRECT & REVIEW DAILY ASSIGNMENTS 41 & 42 **TEST CHAPTERS 11 & 12** (RIGHT & OBLIQUE TRIANGLES) TAKE HOME TEST	8	9 CORRECT & REVIEW DAILY ASSIGNMENTS 43 & 44	10	11 **TEST** **CHAPTERS 11 & 12** DUE @ NOON
14 CORRECT & REVIEW DAILY ASSIGNMENTS 45 & 46	15	16 **TEST** **CHAPTER 13** (SYS. OF 2 EQUATIONS)	17	18
21 FINAL EXAM REVIEW	22	23 STUDY DAY – NO CLASSES	24 FINALS	25 FINALS
28 FINALS	29 FINALS	30 **FINAL EXAM** 1:00 P.M. – 2:50 P.M.	1 MAY	2

Required or Recommended Reading Assignments
Reading will consist of working through the textbook as required to complete each of the Daily Assignments as shown above.

General Description of the Subject Matter of Each Lecture or Discussion
See Chapter by Chapter explanations as shown above in class objectives and course assignments.

Required Course Syllabus Statements

Generative AI
AI is not used in this class as students are graded strictly on tests. Tests are given in class with the only resources allowed being a calculator and a pencil.

Using Remote Testing Software
☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities
Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions

of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.
To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.