

Math 4304-115, 80086, Survey of Mathematical Ideas

Fall 2022

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

August 22nd, 2022 – October 14th, 2022

This is a 100% online course and uses the A&M-Central Texas Canvas Learning Management System

<https://tamuct.instructure.com/>

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Dr. Mienie Roberts

Office: HH Room 302-K

Virtual office: <https://tamuct.webex.com/meet/dekock>

Phone: 903.705.9703

Email: Preferred email is the Canvas Inbox. Student can also reach me at:
dekock@tamuct.edu

Office Hours

Mondays: 6pm-7pm

Wednesdays: 1pm-2pm

Or by appointment

Link to office hours: <https://tamuct.webex.com/meet/dekock>

Graduate assistant office hours:

Tuesdays and Thursdays from 6pm-7pm

Student-instructor interaction

Instructor will follow the weekly schedule on the syllabus. Daily announcements will be sent out on Canvas. It is the student's responsibility to monitor the announcements posted under the "Announcements"-tab.

No late assignments will be accepted in this class.

Student can contact the instructor via the Canvas messenger under the "Inbox"-tab or via email at: dekock@tamuct.edu

Instructor will respond within 24 hours to emails.

Student will receive immediate feedback on most assignments on Canvas. Instructor will

provide feedback on presentations within a week.

The tests, midterm, and final exams are proctored exams. Students need to install the Proctorio software to proctor these exams. The midterm is scheduled for September 21st and the final exam for October 12th.

All meetings will be conducted over webex at the link:

<https://tamuct.webex.com/join/dekock>

Emergency Warning System for Texas A&M University-Central Texas

SAFEZONE. SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also provides Texas A&M University-Central Texas the ability to communicate emergency information quickly via push notifications, email, and text messages. All students automatically receive email and text messages via their myCT accounts.

Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the [SafeZone](http://www.safezoneapp.com) website [www.safezoneapp.com].

To register SafeZone on your phone, please follow these 3 easy steps:

1. Download the SafeZone App from your phone store using the link below:
 - [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [https://apps.apple.com/app/safezone/id533054756]
 - [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp)
[https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]
2. Launch the app and enter your myCT email address (e.g. {name}@tamuct.edu)
3. Complete your profile and accept the terms of service

For updates on COVID information, please monitor the University [website](https://www.tamuct.edu/covid19/)

[https://www.tamuct.edu/covid19/]

COURSE INFORMATION

This course is intended for prospective teachers who want to review key concepts, principles and strategies for teaching mathematics in 7-12 classrooms. The course is aligned with the Mathematics 7-12 Texas educator standards/frameworks and serves as preparation for taking the TExES certification examination.

Prerequisites: Math 120 and Math 402 or concurrent enrollment.

Competency Goals Statements (certification or standards)

Course Objectives:

Student Learning Outcomes:

Students will become thoroughly proficient in the following areas:

- Demonstrate understanding of number concepts, including the real number system and complex number system. (Covered on all assignments)
- Demonstrate understanding of patterns and Algebra being able to solve problems and formulate conjectures. Understands attributes of functions, relations, and their graphs. Understands trigonometric and circular functions and uses them to solve problems. (Covered on all assignments)
- Demonstrate understanding of mathematical reasoning and problem solving and how to communicate mathematical ideas and concepts. (Covered on all assignments)
- Demonstrate understanding of geometry (Euclidean) and measurement. (Covered on Midterm, Final)
- Demonstrate understanding of probability and statistics, including how to use appropriate graphical and numerical techniques to explore data, characterize patterns, and describe departures from patterns. Understand concepts and applications of probability. (Covered on Midterm, Final)
- Demonstrate understanding of mathematical learning, including how children learn mathematics and plans, organize, and implement instruction using knowledge of students, subject matter, and statewide curriculum (Covered on all assignments)
- Use software to explain abstract mathematical concepts via virtual manipulatives and animations. (Covered on tests)

Students will satisfy the Texas competencies and standards as outlined below by the Texas Education Agency:

TExES competencies and standards:

The Standards

Mathematics 7–12 Standard I

Number Concepts: The mathematics teacher understands and uses numbers, number systems and their structure, operations and algorithms, quantitative reasoning and technology appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) to prepare students to use mathematics.

Mathematics 7–12 Standard II

Patterns and Algebra: The mathematics teacher understands and uses patterns, relations, functions, algebraic reasoning, analysis and technology appropriate to teach the statewide curriculum (TEKS) to prepare students to use mathematics.

Mathematics 7–12 Standard III

Geometry and Measurement: The mathematics teacher understands and uses geometry, spatial reasoning, measurement concepts and principles and technology appropriate to teach the statewide curriculum (TEKS) to prepare students to use mathematics.

Mathematics 7–12 Standard IV

Probability and Statistics: The mathematics teacher understands and uses probability and statistics, their applications and technology appropriate to teach the statewide curriculum (TEKS) to prepare students to use mathematics.

Mathematics 7–12 Standard V

Mathematical Processes: The mathematics teacher understands and uses mathematical processes to reason mathematically, to solve mathematical problems, to make mathematical connections within and outside of mathematics and to communicate mathematically.

Mathematics 7–12 Standard VI

Mathematical Perspectives: The mathematics teacher understands the historical development of mathematical ideas, the relationship between society and mathematics, the structure of mathematics and the evolving nature of mathematics and mathematical knowledge.

Mathematics 7–12 Standard VII

Mathematical Learning and Instruction: The mathematics teacher understands how children learn and develop mathematical skills, procedures and concepts; knows typical errors students make; and uses this knowledge to plan, organize and implement instruction to meet curriculum goals and to teach all students to understand and use mathematics.

Competencies:

Domain I — Number Concepts

Competency 001: *The teacher understands the real number system and its structure, operations, algorithms and representations.*

The beginning teacher:

- A. Understands the concepts of place value, number base and decimal representations of real numbers.
- B. Understands the algebraic structure and properties of the real number system and its subsets (e.g., real numbers as a field, integers as an additive group).
- C. Describes and analyzes properties of subsets of the real numbers (e.g., closure, identities).
- D. Selects and uses appropriate representations of real numbers (e.g., fractions, decimals, percents, roots, exponents, scientific notation) for particular situations.
- E. Uses a variety of models (e.g., geometric, symbolic) to represent operations, algorithms and real numbers.
- F. Uses real numbers to model and solve a variety of problems.
- G. Uses deductive reasoning to simplify and justify algebraic processes.
- H. Demonstrates how some problems that have no solution in the integer or rational number systems have solutions in the real number system.

Competency 002: *The teacher understands the complex number system and its structure, operations, algorithms and representations.*

The beginning teacher:

- A. Demonstrates how some problems that have no solution in the real number system have solutions in the complex number system.
- B. Understands the properties of complex numbers (e.g., complex conjugate, magnitude/modulus, multiplicative inverse).
- C. Understands the algebraic structure of the complex number system and its subsets (e.g., complex numbers as a field, complex addition as vector addition).
- D. Selects and uses appropriate representations of complex numbers (e.g., vector, ordered pair, polar, exponential) for particular situations.
- E. Describes complex number operations (e.g., addition, multiplication, roots) using symbolic and geometric representations.

Competency 003: *The teacher understands number theory concepts and principles and uses numbers to model and solve problems in a variety of situations.*

The beginning teacher:

- A. Applies ideas from number theory (e.g., prime numbers and factorization, the Euclidean algorithm, divisibility, congruence classes, modular arithmetic, the fundamental theorem of arithmetic) to solve problems.
- B. Applies number theory concepts and principles to justify and prove number relationships.
- C. Compares and contrasts properties of vectors and matrices with properties of number systems (e.g., existence of inverses, non-commutative operations).
- D. Uses properties of numbers (e.g., fractions, decimals, percents, ratios, proportions) to model and solve real-world problems.
- E. Applies counting techniques such as permutations and combinations to quantify situations and solve problems.
- F. Uses estimation techniques to solve problems and judges the reasonableness of solutions.

Competency 004: *The teacher uses patterns to model and solve problems and formulate conjectures.*

The beginning teacher:

- A. Recognizes and extends patterns and relationships in data presented in tables, sequences or graphs.
- B. Uses methods of recursion and iteration to model and solve problems.
- C. Uses the principle of mathematical induction.
- D. Analyzes the properties of sequences and series (e.g., Fibonacci, arithmetic, geometric) and uses them to solve problems involving finite and infinite processes.
- E. Understands how sequences and series are applied to solve problems in the mathematics of finance (e.g., simple, compound and continuous interest rates; annuities).

Competency 005: *The teacher understands attributes of functions, relations and their graphs.*

The beginning teacher:

- A. Understands when a relation is a function.
- B. Identifies the mathematical domain and range of functions and relations and determines reasonable domains for given situations.
- C. Understands that a function represents a dependence of one quantity on another and can be represented in a variety of ways (e.g., concrete models, tables, graphs, diagrams, verbal descriptions, symbols).
- D. Identifies and analyzes even and odd functions, one-to-one functions, inverse functions and their graphs.
- E. Applies basic transformations [e.g., $k f(x)$, $f(x) + k$, $f(x - k)$, $f(kx)$, $|f(x)|$] to a parent function, f , and describes the effects on the graph of $y = f(x)$.
- F. Performs operations (e.g., sum, difference, composition) on functions, finds inverse relations and describes results symbolically and graphically.
- G. Uses graphs of functions to formulate conjectures of identities [e.g., $y = x^2 - 1$ and $y = (x - 1)(x + 1)$, $y = \log x^3$ and $y = 3 \log x$, $y = \sin(x + \frac{\pi}{2})$ and $y = \cos x$].

Competency 006: *The teacher understands linear and quadratic functions, analyzes their algebraic and graphical properties and uses them to model and solve problems.*

The beginning teacher:

- A. Understands the concept of slope as a rate of change and interprets the meaning of slope and intercept in a variety of situations.
- B. Writes equations of lines given various characteristics (e.g., two points, a point and slope, slope and y -intercept).
- C. Applies techniques of linear and matrix algebra to represent and solve problems involving linear systems.
- D. Analyzes the zeros (real and complex) of quadratic functions.
- E. Makes connections between the $y = ax^2 + bx + c$ and the $y = a(x - h)^2 + k$ representations of a quadratic function and its graph.
- F. Solves problems involving quadratic functions using a variety of methods (e.g., factoring, completing the square, using the quadratic formula, using a graphing calculator).
- G. Models and solves problems involving linear and quadratic equations and inequalities using a variety of methods, including technology.

Competency 007: *The teacher understands polynomial, rational, radical, absolute value and piecewise functions, analyzes their algebraic and graphical properties and uses them to model and solve problems.*

The beginning teacher:

- A. Recognizes and translates among various representations (e.g., written, tabular, graphical, algebraic) of polynomial, rational, radical, absolute value and piecewise functions.
- B. Describes restrictions on the domains and ranges of polynomial, rational, radical, absolute value and piecewise functions.
- C. Makes and uses connections among the significant points (e.g., zeros, local extrema, points where a function is not continuous or not differentiable) of a function, the graph of the function and the function's symbolic representation.
- D. Analyzes functions in terms of vertical, horizontal and slant asymptotes.
- E. Analyzes and applies the relationship between inverse variation and rational functions.
- F. Solves equations and inequalities involving polynomial, rational, radical, absolute value and piecewise functions using a variety of methods (e.g., tables, algebraic methods, graphs, use of a graphing calculator) and evaluates the reasonableness of solutions.
- G. Models situations using polynomial, rational, radical, absolute value and piecewise functions and solves problems using a variety of methods, including technology.

Competency 008: *The teacher understands exponential and logarithmic functions, analyses their algebraic and graphical properties and uses them to model and solve problems.*

The beginning teacher:

- A. Recognizes and translates among various representations (e.g., written, numerical, tabular, graphical, algebraic) of exponential and logarithmic functions.
- B. Recognizes and uses connections among significant characteristics (e.g., intercepts, asymptotes) of a function involving exponential or logarithmic expressions, the graph of the function and the function's symbolic representation.
- C. Understands the relationship between exponential and logarithmic functions and uses the laws and properties of exponents and logarithms to simplify expressions and solve problems.
- D. Uses a variety of representations and techniques (e.g., numerical methods, tables, graphs, analytic techniques, graphing calculators) to solve equations, inequalities and systems involving exponential and logarithmic functions.
- E. Models and solves problems involving exponential growth and decay.
- F. Uses logarithmic scales (e.g., Richter, decibel) to describe phenomena and solve problems.
- G. Uses exponential and logarithmic functions to model and solve problems involving the mathematics of finance (e.g., compound interest).
- H. Uses the exponential function to model situations and solve problems in which the rate of change of a quantity is proportional to the current amount of the quantity [i.e., $f'(x) = kf(x)$].

Competency 009: *The teacher understands trigonometric and circular functions, analyzes their algebraic and graphical properties and uses them to model and solve problems.*

The beginning teacher:

- A. Analyzes the relationships among the unit circle in the coordinate plane, circular functions and the trigonometric functions.
- B. Recognizes and translates among various representations (e.g., written, numerical, tabular, graphical, algebraic) of trigonometric functions and their inverses.
- C. Recognizes and uses connections among significant properties (e.g., zeros, axes of symmetry, local extrema) and characteristics (e.g., amplitude, frequency, phase shift) of a trigonometric function, the graph of the function and the function's symbolic representation.
- D. Understands the relationships between trigonometric functions and their inverses and uses these relationships to solve problems.
- E. Uses trigonometric identities to simplify expressions and solve equations.
- F. Models and solves a variety of problems (e.g., analyzing periodic phenomena) using trigonometric functions.
- G. Uses graphing calculators to analyze and solve problems involving trigonometric functions.

Competency 010: *The teacher understands and solves problems using differential and integral calculus.*

The beginning teacher:

- A. Understands the concept of limit and the relationship between limits and continuity.
- B. Relates the concept of average rate of change to the slope of the secant line and relates the concept of instantaneous rate of change to the slope of the tangent line.
- C. Uses the first and second derivatives to analyze the graph of a function (e.g., local extrema, concavity, points of inflection).
- D. Understands and applies the fundamental theorem of calculus and the relationship between differentiation and integration.
- E. Models and solves a variety of problems (e.g., velocity, acceleration, optimization, related rates, work, center of mass) using differential and integral calculus.
- F. Analyzes how technology can be used to solve problems and illustrate concepts involving differential and integral calculus.

Domain III — Geometry and Measurement

Competency 011: *The teacher understands measurement as a process.*

The beginning teacher:

- A. Applies dimensional analysis to derive units and formulas in a variety of situations (e.g., rates of change of one variable with respect to another) and to find and evaluate solutions to problems.
- B. Applies formulas for perimeter, area, surface area and volume of geometric figures and shapes (e.g., polygons, pyramids, prisms, cylinders, cones, spheres) to solve problems.
- C. Recognizes the effects on length, area or volume when the linear dimensions of plane figures or solids are changed.
- D. Applies the Pythagorean theorem, proportional reasoning and right triangle trigonometry to solve measurement problems.
- E. Relates the concept of area under a curve to the limit of a Riemann sum.
- F. Uses integral calculus to compute various measurements associated with curves and regions (e.g., area, arc length) in the plane, and measurements associated with curves, surfaces and regions in three-space.

Competency 012: *The teacher understands geometries, in particular Euclidian geometry, as axiomatic systems.*

The beginning teacher:

- A. Understands axiomatic systems and their components (e.g., undefined terms, defined terms, theorems, examples, counterexamples).
- B. Uses properties of points, lines, planes, angles, lengths and distances to solve problems.
- C. Applies the properties of parallel and perpendicular lines to solve problems.
- D. Uses properties of congruence and similarity to explore geometric relationships, justify conjectures and prove theorems.
- E. Describes and justifies geometric constructions made using compass and straightedge, reflection devices and other appropriate technologies.
- F. Demonstrates an understanding of the use of appropriate software to explore attributes of geometric figures and to make and evaluate conjectures about geometric relationships.
- G. Compares and contrasts the axioms of Euclidean geometry with those of non-Euclidean geometry (i.e., hyperbolic and elliptic geometry).

Competency 013: *The teacher understands the results, uses and applications of Euclidian geometry.*

The beginning teacher:

- A. Analyzes the properties of polygons and their components.
- B. Analyzes the properties of circles and the lines that intersect them.
- C. Uses geometric patterns and properties (e.g., similarity, congruence) to make generalizations about two- and three-dimensional figures and shapes (e.g., relationships of sides, angles).
- D. Computes the perimeter, area and volume of figures and shapes created by subdividing and combining other figures and shapes (e.g., arc length, area of sectors).
- E. Analyzes cross-sections and nets of three-dimensional shapes.
- F. Uses top, front, side and corner views of three-dimensional shapes to create complete representations and solve problems.
- G. Applies properties of two- and three-dimensional shapes to solve problems across the curriculum and in everyday life.

Competency 014: *The teacher understands coordinate, transformational and vector geometry and their connections.*

The beginning teacher:

- A. Identifies transformations (i.e., reflections, translations, glide-reflections, rotations, dilations) and explores their properties.
- B. Uses the properties of transformations and their compositions to solve problems.
- C. Uses transformations to explore and describe reflectional, rotational and translational symmetry.
- D. Applies transformations in the coordinate plane.
- E. Applies concepts and properties of slope, midpoint, parallelism, perpendicularity and distance to explore properties of geometric figures and solve problems in the coordinate plane.
- F. Uses coordinate geometry to derive and explore the equations, properties and applications of conic sections (i.e., lines, circles, hyperbolas, ellipses, parabolas).
- G. Relates geometry and algebra by representing transformations as matrices and uses this relationship to solve problems.
- H. Explores the relationship between geometric and algebraic representations of vectors and uses this relationship to solve problems.

Competency 015: *The teacher understands how to use appropriate graphical and numerical techniques to explore data, characterize patterns and describe departures from patterns.*

The beginning teacher:

- A. Selects and uses an appropriate measurement scale (i.e., nominal, ordinal, interval, ratio) to answer research questions and analyze data.
- B. Organizes, displays and interprets data in a variety of formats (e.g., tables, frequency distributions, scatter plots, stem-and-leaf plots, box-and-whisker plots, histograms, pie charts).
- C. Applies concepts of center, spread, shape and skewness to describe a data distribution.
- D. Understands measures of central tendency (i.e., mean, median, mode) and dispersion (i.e., range, interquartile range, variance, standard deviation).
- E. Applies linear transformations (i.e., translating, stretching, shrinking) to convert data and describes the effect of linear transformations on measures of central tendency and dispersion.
- F. Analyzes connections among concepts of center and spread, data clusters and gaps, data outliers and measures of central tendency and dispersion.
- G. Supports arguments, makes predictions and draws conclusions using summary statistics and graphs to analyze and interpret one-variable data.

Competency 016: *The teacher understands concepts and applications of probability.*

The beginning teacher:

- A. Understands how to explore concepts of probability through sampling, experiments and simulations and generates and uses probability models to represent situations.
- B. Uses the concepts and principles of probability to describe the outcomes of simple and compound events.
- C. Determines probabilities by constructing sample spaces to model situations.
- D. Solves a variety of probability problems using combinations and permutations.
- E. Solves a variety of probability problems using ratios of areas of geometric regions.
- F. Calculates probabilities using the axioms of probability and related theorems and concepts such as the addition rule, multiplication rule, conditional probability and independence.

- G. Understands expected value, variance and standard deviation of probability distributions (e.g., binomial, geometric, uniform, normal).
- H. Applies concepts and properties of discrete and continuous random variables to model and solve a variety of problems involving probability and probability distributions (e.g., binomial, geometric, uniform, normal).

Competency 017: The teacher understands the relationships among probability theory, sampling and statistical inference and how statistical inference is used in making and evaluating predictions.

The beginning teacher:

- A. Applies knowledge of designing, conducting, analyzing and interpreting statistical experiments to investigate real-world problems.
- B. Analyzes and interprets statistical information (e.g., the results of polls and surveys) and recognizes misleading as well as valid uses of statistics.
- C. Understands random samples and sample statistics (e.g., the relationship between sample size and confidence intervals, biased or unbiased estimators).
- D. Makes inferences about a population using binomial, normal and geometric distributions.
- E. Describes and analyzes bivariate data using various techniques (e.g., scatterplots, regression lines, outliers, residual analysis, correlation coefficients).
- F. Understands how to transform nonlinear data into linear form to apply linear regression techniques to develop exponential, logarithmic and power regression models.
- G. Uses the law of large numbers and the central limit theorem in the process of statistical inference.
- H. Estimates parameters (e.g., population mean and variance) using point estimators (e.g., sample mean and variance).
- I. Understands principles of hypotheses testing.

Competency 018: *The teacher understands mathematical reasoning and problem solving.*

The beginning teacher:

- A. Understands the nature of proof, including indirect proof, in mathematics.
- B. Applies correct mathematical reasoning to derive valid conclusions from a set of premises.
- C. Uses inductive reasoning to make conjectures and uses deductive methods to evaluate the validity of conjectures.
- D. Uses formal and informal reasoning to justify mathematical ideas.
- E. Understands the problem-solving process (i.e., recognizing that a mathematical problem can be solved in a variety of ways, selecting an appropriate strategy, evaluating the reasonableness of a solution).
- F. Evaluates how well a mathematical model represents a real-world situation.

Competency 019: *The teacher understands mathematical connections both within and outside of mathematics and how to communicate mathematical ideas and concepts.*

The beginning teacher:

- A. Recognizes and uses multiple representations of a mathematical concept (e.g., a point and its coordinates, the area of a circle as a quadratic function of the radius, probability as the ratio of two areas, area of a plane region as a definite integral).
- B. Understands how mathematics is used to model and solve problems in other disciplines (e.g., art, music, science, social science, business).
- C. Translates mathematical ideas between verbal and symbolic forms.
- D. Communicates mathematical ideas using a variety of representations (e.g., numeric, verbal, graphical, pictorial, symbolic, concrete).
- E. Understands the use of visual media, such as graphs, tables, diagrams and animations, to communicate mathematical information.
- F. Uses appropriate mathematical terminology to express mathematical ideas.

Competency 020: *The teacher understands how children learn mathematics and plans, organizes and implements instruction using knowledge of students, subject matter and statewide curriculum (Texas Essential Knowledge and Skills [TEKS]).*

The beginning teacher:

- A. Applies research-based theories of learning mathematics to plan appropriate instructional activities for all students.
- B. Understands how students differ in their approaches to learning mathematics.
- C. Uses students' prior mathematical knowledge to build conceptual links to new knowledge and plans instruction that builds on students' strengths and addresses students' needs.
- D. Understands how learning may be enhanced through the use of manipulatives, technology and other tools (e.g., stop watches, rulers).
- E. Understands how to provide instruction along a continuum from concrete to abstract.
- F. Understands a variety of instructional strategies and tasks that promote students' abilities to do the mathematics described in the TEKS.
- G. Understands how to create a learning environment that provides all students, including English-language learners, with opportunities to develop and improve mathematical skills and procedures.
- H. Understands a variety of questioning strategies to encourage mathematical discourse and to help students analyze and evaluate their mathematical thinking.
- I. Understands how to relate mathematics to students' lives and to a variety of careers and professions.

Competency 021: *The teacher understands assessment and uses a variety of formal and informal assessment techniques to monitor and guide mathematics instruction and to evaluate student progress.*

The beginning teacher:

- A. Understands the purpose, characteristics and uses of various assessments in mathematics, including formative and summative assessments.
- B. Understands how to select and develop assessments that are consistent with what is taught and how it is taught.

Required Reading and Textbook(s):

Students are required to log into the following website:

www.examedge.com

Username: dekock@tamuct.edu

Password: science123

A test will be assigned to the student.

COURSE REQUIREMENTS

Grading Criteria Rubric and Conversion

The student will be required to complete 6 projects online and complete one proctored midterm and one proctored final exam by using the Proctorio software.

Homework assignments	(100 points)	10%
Quizzes	(100 points)	10%
Presentations/Lab	(200 points)	20%
Midterm (1 x 300)	(300 points)	30%
Final (1 x 300)	(300 points)	30%
TOTAL	(1000 points)	100%

Posting of Grades

Students will receive immediate feedback on the following assignments on examedge:

Midterm

Final

Students will receive feedback within one week of the due date on the following assignments:

Presentations

Grading Policies

NO LATE ASSIGNMENTS WILL BE ACCEPTED IN THIS CLASS.

All grades will be posted to the gradebook on Canvas. Please keep track of your “Overall score” and let me know if there are any mistakes.

It is the student's responsibility to log into the Canvas LMS on a daily basis and to monitor the "Announcements".

The Quizzes, Midterm and Final exams are proctored exams, and the student is allowed 1 attempt at the exams.

Students have infinitely many attempts available on the homework assignments.

Rubric for project:

	A	B	C	D	F
Solve the problem mathematically (70%)	Perfect solution using the EXCEL software	Almost Perfect solution using the EXCEL software	Partial solution using the EXCEL software	Perfect solution without using the EXCEL software	Partial solution without using the EXCEL software
Video presentation (30%)	Perfect explanation of all steps using screen capturing software and audio	Almost perfect explanation of steps using screen capturing software and audio.	Mistakes in presentation/ solution/use of EXCEL software	Mostly correct presentation With no audio	Wrong explanation with no audio
Total:					
100%					

- Projects should be completed using screen capturing software. Audio should be included (explanation of concepts and steps). No credit will be given if audio is not included in presentations.
- The tests, Midterm, and Final exams are proctored exams. Students need to use the Proctorio software to proctor the exams. Students are allowed to use the built-in calculator and whiteboard on the Proctorio software during tests. Students can also use a physical whiteboard for scratch work.

COURSE REQUIREMENTS

The student will be responsible for 10 projects, 2 proctored tests, labs, a proctored midterm, and a proctored final exam.

Course Requirements: (include point values for each- not just a percentage)

Grading Criteria Rubric and Conversion

Homework assignments	(100 points)
Test 1	(25 points)
Test 2	(25 points)
Test 3	(50 points)
Quizzes	(100 points)
Midterm	(300 points)
Labs	(100 points)
Final	(300 points)

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

	Monday	Tuesday	Wednesday	Thursday
Week 1	Aug 22	Aug 23 Homework 1.1, 1.2 due	Aug 24 Homework 1.3, 1.4, 1.5 due	Aug 25 Quiz 1 due
Week 2	Aug 29	Aug 30 Homework 2.1- 2.5 due	Aug 31 Quiz 2 due	Sep 1 Homework 3.1- 3.5 due Quiz 3 due
Week 3	Sep 5 Labor Day No class	Sep 6 Homework 4.1- 4.5 due	Sep 7 Homework 4.6- 4.9 due	Sep 8 Test 1 due
Week 4	Sep 12 Homework 5.1-5.5 due	Sep 13 Quiz 4 due Lab 1 due	Sep 14 Homework 5.6- 5.10 due	Sep 15 Test 2 due
Week 5	Sep 19 Homework 6.1-6.5 due	Sep 20 Homework 6.6- 6.10 due Quiz 5 due	Sep 21 Proctored Midterm due	Sep 22
Week 6	Sep 26 Homework 7.1-7.5 due	Sep 27 Lab 2 due	Sept 28 Homework 7.6- 7.10 due	Sep 29 Quiz 6 due

Week 7	Oct 3 Test 3 due Lab 3 due	Oct 4 Homework 8.1- 8.5 due	Oct 5 Homework 8.6- 8.10 due	Oct 6 Lab 4 due Quiz 8 due
Week 8	Oct 10 Lab 5 due	Oct 11 Lab 6 due	Oct 12 Proctored Final exam due	Oct 13

Important University Dates

<https://www.tamuct.edu/registrar/academic-calendar.html>

TECHNOLOGY REQUIREMENTS AND SUPPORT

Access office hours on Webex:

<https://tamuct.webex.com/meet/dekock>

Use screen capturing software (for example Studio on Canvas) to record the projects.

Access the ExamEdge website for the labs to work through practice certification exams at:

www.examedge.com

This course will use the A&M-Central Texas Instructure Canvas learning management system.

We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This

service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support

For log-in problems, students should contact Help Desk Central, 24 hours a day, 7 days a week

Email: helpdesk@tamu.edu

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [http://hdc.tamu.edu]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Warrior Center for Student Success, Equity and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information, please visit our [Access & Inclusion](https://tamuct.instructure.com/courses/717) Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more [information regarding the student conduct process](https://www.tamuct.edu/student-affairs/student-conduct.html), [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may [submit a referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0), [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdId=https://eis-prod.ec.tamuct.edu:443/samlso&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant, experiencing pregnancy-related conditions, and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, both virtually and in-person. Student success coaching is available online upon request.

If you have a question, are interested in becoming a tutor, or in need of success coaching contact the Warrior Center for Student Success, Equity and Inclusion at (254) 501-5836, visit the Warrior Center at 212 Warrior Hall, or by emailing WarriorCenter@tamuct.edu.

To schedule tutoring sessions and view tutor availability, please visit [Tutor Matching Services](https://tutormatchingservice.com/TAMUCT) [https://tutormatchingservice.com/TAMUCT] or visit the Tutoring Center in 111 Warrior Hall.

Chat live with a remote tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject

areas except writing support. Access Tutor.com through Canvas.

University Library & Archives

The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 400,000 eBooks and 82,000 journals, in addition to the 96,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments/?g=6956) [https://tamuct.libcal.com/appointments/?g=6956]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](http://tamuct.libguides.com/index) [http://tamuct.libguides.com/index]

University Writing Center

University Writing Center: Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. The hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday 12:00-3:00 p.m.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the [referral](#) online

[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](#) website for more information [https://www.tamuct.edu/bit]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5805.

OTHER POLICIES

No late assignments will be accepted.

Copyright Notice

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

Copyright. (2022) by (*Dr. Mienie Roberts*) at Texas A&M University-Central Texas,
(*College of Arts and Sciences*); 1001 Leadership Place, Killeen, TX 76549; 903.705.9703,
(*dekock@tamuct.edu*)