University of North Texas at Dallas
Fall 2024
Syllabus for MATH 1314-0001
Algebra for STEM Majors

Department of	Mathematics and Information Sciences	**School of**	Liberal Arts and Sciences
Instructor Name:	Brian Beck-Smith, M. Ed.		
Office Location:	Founders Hall (FH) 302A		
Office Phone:	**N / A**		
Email Address:	brian.beck-smith@untdallas.edu		
Office Hours:	Tuesdays and Thursdays (TR): 4:15pm – 5:15pm		
Classroom Location:	Founders Hall (FH) 241		
Class Meeting Days & Times:	Tuesdays and Thursdays: 7:00pm – 8:20pm		
Course Catalog Description:	Quadratic equations; systems involving quadratics; variation, ratio and proportion; progressions; the binomial theorem; inequalities; complex numbers; theory of equations; determinants; partial fractions; exponentials and logarithms.		
Prerequisites:	TSI-Math complete; successful completion of MATH 1305 (formerly MATH 1010); or concurrent enrollment in MATH 1305 (formerly MATH 1010)		
Required Text:	MyLab Math for Algebra and Trigonometry 11th Edition Sullivan: Algebra & Trigonometry, 11e. ISBN-13: 9780135163078. Students can gain access to the course from the UNT Dallas Bookstore to the Pearson website at https://registration.mypearson.com/ by entering the course name: ***beck-smith23712.*** This will give you temporary access for approximately 14 days prior to deactivation if you have not purchased an access code for the course.		

Access to Learning Resources:	**UNT Dallas Library:** phone: (972) 780-1616 web: http://www.untdallas.edu/library email: library@untdallas.edu **UNT Dallas Bookstore:** phone: (972) 780-3652 web: http://www.untdallas.edu/bookstore e-mail: untdallas@bkstr.com
Supported Browsers: Chrome 67 & 68 Firefox 60 & 61 Flash 29, 30 (for audio/video) Microsoft Wedge Respondus Lockdown Browser Safari 10, 11 **Supported Devices:** iPhone	**Getting Help with Canvas:** **Canvas 24/7 Phone Support for Students:** **1-833-668-8634** **Canvas Help Resources:** **Web:** Canvas Student Guide **For additional assistance, contact Student Assistance (Distance Learning):**

Android Chromebook *(Tablet users can use the Canvas app)* **Screen Readers:** VoiceOver (Safari) JAWS (Internet Explorer) NVDA (Firefox) *Note: There is no screen reader support for Canvas in Chrome*	DAL 1, RM 157 phone: (972)338-5580 email: distancelearning@untdallas.edu ***If you are working with Canvas 24/7 Support to resolve a technical issue, make sure to keep me updated on the troubleshooting progress. If you have a course-related issue (course content, assignment troubles, quiz difficulties) please contact me during office hours or by email.***

Course Goals or Overview: The goals of this course are as follows -

This course addresses the core objectives of **critical thinking skills, communication, and empirical and quantitative skills**
Critical Thinking Skills – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
Communication Skills – to include effective development. Interpretation and expression of ideas through written, oral and visual communication
Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Learning Objectives/Outcomes: At the conclusion of this course, the student will be able to:

1	Represent functions in different ways.
2	Graph polynomial, rational, exponential, and logarithmic functions.
3	Model various applications using algebraic and transcendental functions.
4	Identify and solve linear and nonlinear equations and inequalities using appropriate methods.
5	Solve systems of linear and nonlinear equations and inequalities using matrices when appropriate.
6	Identify, solve, and model problems involving sequences and series.
7	Use and solve problems using The Binomial Theorem.

Course Outline
This schedule is subject to change by the instructor. Any changes to this schedule will be communicated in class, via class email, or Canvas announcement. Additional readings, activities, or tasks may be added per the teacher's discretion. These will be noted in the Topics, Activities, and Tasks section. Important dates are color-coded under the Schedule column.

Schedule	Unit	Topics, Activities, and Assignments	Due Dates
Week 1: 08/26 – 08/30	**Unit 1: Equations and Inequalities**	**Tuesday:** Review Course Syllabus Linear Equations Quadratic Equations with Real Solutions **Thursday:** Quadratic Equations with Complex Solutions Radical Equations	**All Unit 1 and 2 Assignments are due by 09/20/2024 before 11:59pm**

Week 2: 09/02 – 09/06 **09/02** **Labor Day**	**Unit 1:** **Equations and Inequalities**	**Tuesday:** Solving Inequalities Absolute Value Equations and Inequalities	**All Unit 1 and 2 Assignments are due by 09/20/2024 before 11:59pm**
		Thursday: Problem Solving Applications	
Week 3: 09/09 – 09/13	**Unit 2:** **Graphs**	**Tuesday:** Graphs of Equations, Intercepts, and Symmetry Lines ***The Midpoint and Distance Formulas*** ***(Notes provided in Canvas)***	
		Thursday: Circles Variation	
Week 4: **09/16 – 09/20**	**Units** **1 and 2**	***Exam 1*** ***Review and Assessment***	
Week 5: 09/23 – 09/27	**Unit 3:** **Functions and Their Graphs**	**Tuesday:** Functions Graphs and Properties of Functions	**All Unit 3 and 4 Assignments are due by 10/12/2024 before 11:59pm**
		Thursday: ***Library of Functions*** ***(Notes provided in Canvas)*** Piecewise Functions Graphical Transformations Mathematical Modeling with Functions	
Week 6: 09/30 – 10/04	**Unit 4:** **Linear and Quadratic Functions**	**Tuesday:** Properties of Linear Functions Building Linear Models from Data	
		Thursday: Properties of Quadratic Functions Solving Quadratic Inequalities ***Building Quadratic Models from Data*** ***(Notes provided in Canvas)***	
Week 7: **10/07 – 10/11**	**Units** **1 through 4**	***Exam 2 (Midterm)*** ***Review and Assessment***	

<table>
<tr><td rowspan="2">Week 8:
10/14 – 10/18</td><td rowspan="2">Unit 5:
Polynomial and Rational Functions</td><td>Tuesday:
Polynomial Functions
Graphs and Models
of Polynomial Functions</td><td rowspan="9">All Unit 5 and 6 Assignments and Unit 5 Project are due by 11/15/2024 before 11:59pm</td></tr>
<tr><td>Thursday:
Properties and Graphs of
Rational Functions</td></tr>
<tr><td rowspan="2">Week 9:
10/21 -10/25</td><td rowspan="2">Unit 5:
Polynomial and Rational Functions</td><td>Tuesday:
Polynomial and
Rational Inequalities</td></tr>
<tr><td>Thursday:
Real and Complex Zeros
of a Polynomial Function
Fundamental Theorem of Algebra</td></tr>
<tr><td rowspan="2">Week 10:
10/28 – 11/01</td><td rowspan="3">Unit 6:
Exponential and Logarithmic Functions</td><td>Tuesday:
Composite, One-to-One,
and Inverse Functions</td></tr>
<tr><td>Thursday:
Exponential and
Logarithmic Functions</td></tr>
<tr><td rowspan="2">Week 11:
11/04 – 11/08</td><td>Tuesday:
Properties of Logarithmic Functions
Exponential and Logarithmic Equations</td></tr>
<tr><td>Thursday:
Financial Models
Exponential Growth and Decay Models
Logistic Growth and Decay Models</td></tr>
<tr><td>Week 12:
11/11 – 11/15</td><td>Units
1 through 6</td><td>Exam 3 Review and Assessment
Unit 5 Project: Polynomial Solver</td></tr>
</table>

Week 13: 11/18 – 11/22	**Unit 12: Systems of Equations and Inequalities**	**Tuesday:** Solving Systems of Linear Equations: Substitution and Elimination Solving Systems of Linear Equations: Matrices and Determinants	**All Unit 12, 13, and Late Assignments are due by 12/06/2024 before 11:59pm**
		Thursday: Partial Fraction Decomposition	
Week 14: 11/25 – 11/29 **Fall Break: 11/28 – 11/29**		**Tuesday:** Systems of Nonlinear Equations and Inequalities	
	Unit 13: Sequences and The Binomial Theorem	**Thursday:** No Class Meeting (Thanksgiving Day)	
Week 15: 12/02 – 12/06 **Reading Day: 12/06**		**Tuesday:** ***Basic Sequences*** ***(Notes provided in Canvas)*** Arithmetic and Geometric Sequences and Series The Binomial Theorem	
		Thursday: ***Final Exam Review*** ***(Attendance Recommended but Not Required)***	
Week 16: 12/09 – 12/13	**All Units**	***Final Exam:*** ***TBD***	

Course Evaluation Methods: This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

- **Attendance:** Attendance is highly recommended for this course and it is documented accordingly. If you are not going to be in attendance for a class meeting, please send me a Canvas message or email me directly.
- **Discussion Boards:** Discussion boards are discussions that address essential questions through the unit reinforces or elaborates on information presented during lecture. You are required to participate in the discussion posts as they will be used as documentation for course participation.
- **Exercise Sets:** Exercises sets are problems that allows reinforcement of topics presented during class meetings. Students are required to complete these assessments so that adequate feedback is given in preparation for assessments.
- **Assessments**: Assessments are either projects or exams that allow the student to showcase mastery through the units presented in the course. ***Make-up or rescheduled exams will not be given unless communication has been made to me at least 24 hours before the day of the exam.*** Please reference the **Exam Policy** section below for more information.
- **Final Exam:** The final exam is a cumulative assessment that addresses all the units in the course. Please reference the **Exam Policy** section below for more information.

GRADING MATRIX

Instrument	Value
Discussion Boards	10 points each
Exercise Sets	10 points each
Assessments	100 points each
Final Exam	150 points

GRADE DETERMINATION:

Grade Determination
A: 89.50% - 100%
B: 79.50% - 89.49%
C: 69.50% - 79.49%
D: 59.50% - 69.49%
F: 0.00% - 59.49%

University Policies and Procedures

Students with Disabilities (ADA Compliance):
Chapter 7(7.004) Disability Accommodations for Students:

The University of North Texas at Dallas makes reasonable academic accommodation for students with disabilities. Students seeking accommodations must first register with the Disability Services Office (DSO) to verify their eligibility. If a disability is verified, the DSO will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, DSO notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet/communicate with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see Disability Services Office. You may also contact them by phone at 972-338-1777; by email at UNTDdisability@untdallas.edu or at Building 2, room 204.

Canvas Instructure Accessibility Statement:
University of North Texas at Dallas is committed to ensuring its online and hybrid courses are usable by all students and faculty including those with disabilities. If you encounter any difficulties with technologies, please contact our ITSS Department. To better assist them, you would want to have the operating system, web browser and information on any assistive technology being used. Canvas Instructure Accessibility Statement is also provided.

NOTE: Additional instructional technology tools, such as Turnitin, Respondus, Panopto, and publisher cartridge content (i.e. MyLab, Pearson, etc.) may NOT be fully ADA compliant. Please contact our Disability Office should you require additional assistance utilizing any of these tools.

Course Evaluation Policy:
Student's evaluations of teaching effectiveness is a requirement for all organized classes at UNT Dallas. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students' evaluations to be an important part of your participation in this class.

Assignment Policy: The written assignments are submitted at the beginning of lecture of the specified due date mentioned above in the Course Outline. Late submission will be accepted with the late penalty of 2% per day as stated in Canvas. In any case, the final submission of any assignment must be done the Friday prior to taking the final exam.

Exam Policy: Exams must be taken in person or online, as scheduled, except for documented emergencies approved by the instructor in individual bases. TI-84 or TI-Inspire level calculators are allowed, but calculators with computer algebra system (such as TI-89, TI-92 or Voyage 2000) are not allowed during the exam. Other than pre-approved calculators, no other computing aid (such as those supported by tablets and smart phones) is allowed. Cell phones are allowed but they are for emergency calls only..

Academic Integrity:
Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to UNT Dallas' Student Code of Academic Integrity for complete provisions of this code.

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

Web-based Plagiarism Detection*:* Please be aware in some online or hybrid courses, students may be required to submit written assignments to Turnitin, a web-based plagiarism detection service, or another method. If submitting to Turnitin, please remove your title page and other personal information.

Student Evaluation of Teaching Effectiveness Policy:
The Student Evaluation of Teaching Effectiveness (i.e., SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Classroom Policies

Online Attendance and Participation:
The University attendance policy is in effect for this course. Class attendance in the Canvas classroom and participation is expected because the class is designed as a shared learning experience, and because essential information not in the textbook will be discussed in the discussion board. Online presence and participation in all class discussions is essential to the integration of course material and your ability to demonstrate proficiency.

Attendance for this online or hybrid course is considered when you are logged in and active in Canvas, i.e., posting assignments, taking quizzes, or completing Discussion Boards. To maintain financial aid award eligibility, activity must occur before the census date of the session or term of the course. Refer to UNT Dallas' Registrar for specific dates. If you are absent/not active in the course shell, it is YOUR responsibility to let the instructor know immediately, upon your return, the reason for your absence if it is to be excused. All instructors must follow university policy 7.005 covering excused absences; however, it is the instructor's discretion, as outlined in the course syllabus, of how unexcused absences may or may not count against successful completion of the course.

Inclement Weather and Online Classes: Online classes may or may not be effected by campus closures due to inclement weather. Unless otherwise notified by your instructor via e-mail, online messaging, or online announcement, students should assume that assignments are due as scheduled.

Online "Netiquette":
In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. Emails, Discussion Board messages and/or any other forms of written communication in the online environment should use proper "netiquette" (i.e., no writing in all caps (usually denotes yelling), no curse words, and no "flaming" messages (angry, personal attacks).

Racial, ethnic, or gender slurs will not be tolerated, nor will pornography of any kind.

Any violation of online netiquette may result in a loss of points or removal from the course and referral to the Dean of Students, including warnings and other sanctions in accordance with the University's policies and procedures. Refer to UNT Dallas Student Code of Conduct. Respect is a given principle in all online communication. Therefore, please be sure to proofread all of your written communication prior to submission.

Diversity/Tolerance Policy:
Students are encouraged to contribute their perspectives and insights to class discussions in the online environment. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Dean of Students as the instructor deems appropriate.

Technology Assistance: In order to successfully access the materials in an online or hybrid course, UNT Dallas advises that your computer be equipped with the minimum system requirements listed on the first page of the syllabus.

If you experience difficulty accessing or using components of the course, try using Google Chrome browser. If you still experience technical difficulties, first, notify your instructor.

If the problem is still not resolved, call Student Assistance (Distance Learning) at the phone number listed on the first page of the syllabus. Also, no matter what browser you use, always enable pop-ups. For more information see:

- UNT Dallas Canvas Technical Requirements
- Canvas Instructure Supported & Unsupported Operating Systems

Important Dates:

First Day of Class	08/26/2024
Last Day to add a Class	08/29/2024
Last Day to drop a Class	09/11/2024
Census Date	
Midterm Exams	10/07/2024 – 10/12/2024
Drop Date (Last day to withdraw with a W)	09/12/2024 – 11/08/2024
Reading Day (No Classes)	12/06/2024
Final Exams	12/09/2024 – 12/13/2024