Department of Mathematics and Statistics
MATH 1314.750, 752, 753, 755, 758, 760, 761 Dual Credit — College Algebra
Fall 2023

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Office: MTH 339

Office Hours (Held through Zoom):
Monday: 12:00 – 1:00 pm
Wednesday: 12:00 – 1:00 pm and 3:45 – 5:00 pm
Thursday: 1:45 – 3:30 pm
*Available other times by appointment*

Link to join office hours: sfasu.zoom.us/my/busbeeb (Meeting ID: busbeeb Password: 138220)

Class meeting time and place: Monday, Wednesday and Friday at 8 am
Final Exam Date and Time: Monday, December 11th from 8:00 - 10:00 am No Exceptions

Link to join live Zoom lecture at 8:00 am: https://sfasu.zoom.us/j/97529775697?pwd=TVN1akU4S2M4L044Y1FxYUh3OUNQUt09
(Meeting ID: 975 2977 5697 Password: 1314)

** You are required to be present each class day on Zoom with your camera on!!**

Course Description: Topics include mathematical models; solving equations; creating, interpreting and graphing functions. Particular focus is given to polynomial, exponential and logarithmic functions. Prerequisites: two years of high school algebra and one year of high school geometry and TSI complete/exempt status in mathematics.

Text and Materials

- There is no required text for this course. Homework problems will be assigned at the end of class each day.
- You will need a scientific calculator for this class.

GroupMe Information
I will be using GroupMe to send out reminders to all of my Dual Credit students this semester! I have classes at both 8 and 9 and will be making one group for all of you! This will allow for me to send reminders as well as for you to ask questions to me individually or to the whole group. You may join the GroupMe by clicking the following link, or by scanning the QR code to the right.
https://groupme.com/join_group/95966702/Ua55HhBS

Course Requirements
There will be three exams and a final exam. The final exam is comprehensive and mandatory. **There will be no make-up exams.**

The exams are tentatively scheduled as follows:
- Exam 1 – Friday, September 22nd
- Exam 2 – Friday, October 20th
- Exam 3 – Friday, November 17th
- Final Exam – Monday, December 11th: 8:00 to 10:00 am

* Please note that the dates for our in-class exams in the calendar below are subject to change. The final is university scheduled and cannot be taken at a different time without permission of the Dean of the College of Sciences and Mathematics.

Grading Policy
Your final grade will be determined as follows:

- 90% - 100% A
- 80% - 90% B
- 70% - 80% C
- 60% - 70% D
- 0% - 60% F

Course Requirements
Exams
Exams will be given during your scheduled class time. There are no make-ups for missed exams. Department policy requires that you bring and be recognizable from either your SFASU Student ID or another valid photo ID before you are permitted to take each exam. The final exam is comprehensive and mandatory. You must have a complete understanding of the course material in order to pass the final exam.

**Daily Work**

Quizzes and homework assignments will be given on a regular basis and can be in any format the instructor chooses. There will be no make-up quizzes, but a low quiz grade will be dropped at the end of the semester. Homework assignments will be submitted through D2L and will allow for multiple attempts.

**D2L**

Course materials will be located on D2L. It is your responsibility to check D2L daily. You will use your MySFA username and password on the website [www.D2L.sfasu.edu](http://www.D2L.sfasu.edu). You are responsible for everything that is posted on D2L for this course.

**AARC Tutoring**

The AARC (Academic Assistance and Resource Center) in the Steen Library has free help available! The AARC is also available through Zoom. Please go to the following website to get up to date information about getting help through the AARC: [http://www.sfasu.edu/aarc/tutoring](http://www.sfasu.edu/aarc/tutoring)

**Use of Zoom**

This class will utilize the Zoom web-conferencing tool for virtual class meetings. All SFA faculty, students, and staff can access and use Zoom by via sfasu.zoom.us. Students are required to have a webcam in order to participate. (Cell phone access is available with the Zoom mobile app.) Zoom links will be provided. Important note: Zoom auto transcribes all recorded sessions. Transcription is automated, often includes errors, and thus should not be considered a wholly accurate record of the session. Should errors exist in a Zoom session transcript, please contact me immediately.

**Restriction of Audio or Visual Recording, Reproduction, and Distribution of Content in Online Courses**

(Adapted from the University of Denver)

At Stephen F. Austin State University, we value and strive to protect the intellectual property of our faculty. We also value and strive to safeguard the privacy of all our students. To this end, students may not record, reproduce, screenshot, photograph, or distribute any video, audio, or visual content from a course without the express written permission of the faculty of record. This restriction includes but is not limited to:

- Pre-recorded and live lectures
- Live discussions
- Discussion boards
- Simulations
- Posted course materials
- Faculty feedback forms
- Visual materials that accompany lectures/discussions, such as slides
- Virtual whiteboard notes/equations, etc.

As we engage in online learning as an academic community, it is imperative to be respectful of your peers and instructor(s). Keep in mind that if any student is identifiable in an online class recording, this may constitute a violation of the educational record protections provided under the Federal Educational Rights and Privacy Act (FERPA). Students who violate this policy may be reported to the Office of Community Standards and subject to both legal sanctions for violations of copyright law and disciplinary action.

See [https://math.sfasu.edu/docs/syllabi/MATH1314Syllabus.pdf](https://math.sfasu.edu/docs/syllabi/MATH1314Syllabus.pdf) for elements common to all sections
<table>
<thead>
<tr>
<th>Week #</th>
<th>Week Starting on:</th>
<th>Material Covered and Exam Schedule</th>
</tr>
</thead>
</table>
| 1      | August 28<sup>th</sup> | Welcome/Course Introduction  
Linear Equations |
| 2      | September 4<sup>th</sup> | Quadratic Equations  
Other Types of Equations |
| 3      | September 11<sup>th</sup> | Rectangular Coordinates and Graphs  
Functions |
| 4      | September 18<sup>th</sup> | Review  
**Exam 1: Friday, September 22<sup>nd</sup>** |
| 5      | September 25<sup>th</sup> | Linear Functions  
Graphs of Basic Functions |
| 6      | October 2<sup>nd</sup> | Graphing Techniques  
Function Operations and Composition |
| 7      | October 9<sup>th</sup> | Quadratic Functions  
Synthetic Division |
| 8      | October 16<sup>th</sup> | Review  
**Exam 2: Friday, October 20<sup>th</sup>** |
| 9      | October 23<sup>rd</sup> | Zeros of Polynomial Functions  
Polynomial Functions |
| 10     | October 30<sup>th</sup> | Rational Functions  
Inverse Functions |
| 11     | November 6<sup>th</sup> | Exponential Functions  
Logarithmic Functions  
Evaluating Logarithms and Change of Base |
| 12     | November 13<sup>th</sup> | Review  
**Exam 3: Friday, November 17<sup>th</sup>** |
|        | November 20<sup>th</sup> | Thanksgiving Break |
| 13     | November 27<sup>th</sup> | Exponential and Logarithmic Equations  
Exponential Growth and Decay |
| 14     | December 4<sup>th</sup> | Systems of Linear Equations  
Matrix Solutions of Linear Systems |
| 15     | December 11<sup>th</sup> | **Final Exam: Monday, December 11<sup>th</sup>: 8:00 to 10:00 am** |
**Course description:** Topics include mathematical models; solving equations; creating, interpreting and graphing functions. Particular focus is given to polynomial, exponential and logarithmic functions.

**Core Objectives (CO):**
1. **Critical Thinking** [CO 1]: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication Skills** [CO 2]: to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. **Empirical and Quantitative Skills** [CO 3]: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

**Credit hours:** 3

The following is an excerpt from SFA Policy 5.4:

The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;
2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend a minimum of two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

**Course Prerequisites and Corequisites:** See general course prerequisites.

**General Education Core Curriculum:** This course has been selected to be part of SFA’s core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives. Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L, the assessment management system selected by SFA to collect student work for core assessment.

By enrolling in **MATH 1314 College Algebra** you are also enrolling in a Core Curriculum Course that fulfills the Mathematics Core Objective requirement.

The chart below indicates: (a) The core objectives that are required to be taught in this course per the Texas Higher Education Coordinating Board (THECB), (b) How the required core objectives will be addressed.
Core Curriculum Objective Table

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>How the Core Objective Will be Addressed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>In studying transformations of functions, students will evaluate graphs to determine the function rule.</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas through written, oral, and visual communication.</td>
<td>Students will communicate algebraic thinking by writing solutions in both interval and function notation.</td>
</tr>
<tr>
<td>Empirical and Quantitative Skills</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Students will be presented with information regarding exponential functions and will draw conclusions based on the information/data.</td>
</tr>
</tbody>
</table>

Course outline:

- Making Mathematical Models [CO 1, 2, 3] 5%
- Linear Equations, Functions and Models [CO 1, 2, 3] 20%
  - Review of Coordinate Geometry
  - Graphs of Equations
  - Lines and Linear Modeling
  - Systems of Equations
- Quadratic Equations, Functions and Models [CO 1, 2, 3] 20%
  - Graphs of Quadratic Equations
  - Techniques for Solving and Optimizing Quadratic Equations
  - Applications of Quadratic Functions
- Functions [CO 1, 2, 3] 20%
  - Graphs of Functions
  - Algebra of Functions
  - Inverses of Functions
  - Special Functions
  - Polynomial Functions
  - Division of Polynomials and Factorization
  - [Rational Functions]
- Exponential and Logarithmic Functions and Models [CO 1, 2, 3] 20%
  - Exponential Functions
  - Logarithmic Functions
  - Logarithmic Identities and Equations
  - Exponential Equations and Applications
  - Modeling with Exponential and Logarithmic Functions
- Solving Equations [CO 1, 2, 3] 10%
  - Field Properties: Associativity, Commutativity, Identity, Inverses, Distributivity
  - Review Rules for Exponents
Incorporating Exponents and Logarithms in the Order of Operations

- Explicit instruction in Critical Thinking, Communication and Empirical and Quantitative Reasoning is in addition to implicit instruction, modeling and practice that occur daily in the discussion of college algebra. This explicit instruction includes explanation of solving mathematical problems by thinking critically, communicating logically ordered solutions with complete and correct notation, and applying empirical or quantitative skills as appropriate to the problem.

Student Learning Outcomes (SLO): At the end of MTH 138, a student who has studied and learned the material should be able to:

1. Employ independence of thought and innovation in order to obtain solutions to typical algebraic problems. [CO 1]
2. Create, manipulate, analyze and solve algebraic equations and expressions, especially linear, quadratic, polynomial, rational, exponential and logarithmic expressions. [CO 1, 3]
3. Connect graphical properties with those of associated functions or equations, and use these connections to communicate graphical or physical properties in algebraic language. [CO 2, 3]
4. Read, interpret, and communicate written mathematics, both in prose and in its graphical or visual forms. [CO 2]
5. Use functions to model and solve real-world problems. [CO 1, 3]

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

Academic Integrity

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

Withheld Grades Semester Grades (SFA Policy 5.5)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.
Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices.

Student Wellness and Well-Being
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
The Dean of Students Office (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041

The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- Crisis Text Line: Text HELLO to 741-741

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom.

Date of document: 08/23/2023