Department of Mathematics and Statistics  
MATH 1314.006 - College Algebra  
Fall 2023

Name: Robert Payne  
Email: rpayne@sfasu.edu  
Phone: (936) 468-1620  
Office: Bush Math-332

Class meeting time and place:  
TTh 9:30 – 10:45 in Bush Math-208

Final Exam Date and Time:  
Thursday, Dec. 14th from 8:00 – 10:00 a.m.

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:  
- You will need 16-week ALEKS access. The cheapest option is to purchase from www.aleks.com.  
- The required textbook for this course is College Algebra, 2nd edition by Miller and Gerken, McGraw Hill. The textbook is available for no extra charge as an ebook through your ALEKS account.  
- You will need a scientific calculator for this class. A TI-30 XS Multiview is an excellent choice. The calculator function of a cell phone or tablet will not be permitted during exams or quizzes. Graphing calculators are not permitted on exams, although some assignments will allow the use of a graphing calculator, or Desmos. Ask me for more information.

Exams and Grading:  
- There will be three exams and a comprehensive final. The exams are tentatively scheduled as follows:  
  Exam 1 – Thursday, Sept. 21st  
  Exam 2 – Thursday, Oct. 26th  
  Exam 3 – Thursday, Nov. 30th  
  Final Exam – Thursday, Dec. 14th from 8:00 – 10:00 a.m.  
  Please note that the dates for our in-class exams here, and 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.  
- Normally there are no make-up exams. A missed or low exam grade can be replaced a final exam grade of at least 70% as long as the student has no more than 2 unexcused absences, and has not cheated.  
- Your final grade will be determined as follows:  
  20% Daily Average  
  60% Exams (3 @ 20% each)  
  20% Comprehensive Final Exam  
  90% - 100%  A  
  80% - 90%  B  
  70% - 80%  C  
  60% - 70%  D  
  0% - 60%  F  
- Your Daily Average will include one or more of the following: ALEKS pie progress, ALEKS Notebook, in-class activities, worksheets, quizzes, homework assignments, attendance, etc. Daily activities cannot be made up. Homework assignments will not be accepted late. However, depending on the number, I may drop one or two daily grades at the end of the semester to allow for excused absences.

Attendance Policy:  
Attendance is expected and recorded for all students. Attendance will be formally factored into your course grade. All students will be allowed 2 unexcused absences. After that, each unexcused absence will reduce your attendance grade by 10 points. A tardy generally counts as ½ an absence. University Attendance Policy 6.7.
Commitment:
You must make a commitment to attend every class, to arrive on time and to stay the entire time. Bring all necessary materials to each class, be attentive to the task at hand, take notes, and be prepared to participate in class discussions. You must make an additional commitment of doing work outside of class - one to two hours every day. Most importantly, ask for help!

Cell Phones and Technology:
When you are in class, your cell phone should be on silent and out of sight. If your cell phone becomes an issue, this is considered a class disruption and will affect your daily average/attendance. If there is any special issue that might require you to be reached via cell phone, please discuss this with me beforehand. iPads and similar devices may be used for notetaking during regular class times.

Additional Help:
Free tutoring is available from the AARC M-Th 3:00 – 8:00. They offer appointments, a walk-in table, and other services, some of which may be available both in-person and via Zoom. For more information, visit the AARC website at [http://library.sfasu.edu/aarc/](http://library.sfasu.edu/aarc/).

In addition, the Mathematics Department has a “CoReq Corner” which is staffed by students who have made an “A” in this course. The schedule will be posted on D2L, outside Math-305, and outside Math-359.

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, 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 more information see: [http://www.sfasu.edu/disabilityservices](http://www.sfasu.edu/disabilityservices).

Definition of Academic Dishonesty: Academic dishonesty includes cheating, plagiarism, collusion, and misrepresentation. Articles IV, VI, and VII of the 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...

Any student caught cheating, aiding another student in cheating, or appropriating the words or work of others without proper citation will be subject to academic discipline. It is the responsibility of the student not only to abstain from cheating, but in addition, to avoid the appearance of cheating, and to guard against making it possible for others to cheat. Penalties are given at the discretion of the instructor and range from receiving zeros for the work done to dismissal from the course and/or University. Violations are tracked by the dean’s office.

*Students in this class are welcome to study any exams from past semesters.*

I may opt to give an in-person oral examination if I have reason to suspect that work a student submits is not his/her own.

**Student IDs:** You must show your student picture ID before exams. No ID, no exam!

**Extended Syllabus:** See [https://math.sfasu.edu/docs/syllabi/MATH1314Syllabus.pdf](https://math.sfasu.edu/docs/syllabi/MATH1314Syllabus.pdf) for elements common to all sections.
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, seek 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” www.sfasu.edu/thehub 936.468.4008 thehub@sfasu.edu
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

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)
• johCrisis Text Line: Text HELLO to 741-741

Special notes for this class:

• You are welcome and encouraged to work ahead as the topics become available (unlocked) in your ALEKS pie. Thus, you will have an early exit option for this class. As soon as you are finished with the material for an exam, let me know, and I’ll schedule you a personal pre-exam Knowledge Check (KC). Once you take the KC you will know what topics you need to review for your exam. Once you have reviewed those, you may have a second KC for further guidance. After any further review that may seem useful, you may take the unit exam. This is the general procedure, but I will customize the procedure for each student. I won’t let you shoot yourself in the foot! If I feel you need more review before an exam, and if there is time, I’ll show you the topics in ALEKS to work on.

• Students who are working ahead may arrange for an excused absence from class to work independently, and to meet with me one-on-one outside of class. If you wish to avail yourself of this option, you MUST clear it with me before class, otherwise the absence will count against your grade.

• All students must take the exams no later than the dates indicated below, but you may take the exams early if I can tell that you are ready. The bottom line is you can finish the course early, but you can’t finish late!

• ALEKS Notebook: All your pie work must be documented in a notebook with the proper steps to completion. Mathematics is not “done in the air.” It is important to be able to clearly communicate on paper your reasoning and steps to solve any problem, whether in math class or in the world of work. The better you document your steps, the fewer mistakes you will make, and the quicker your work will progress. ALEKS awards “two for one” bonus progress when you get several consecutive problems correct. If you are making careless errors, it will take twice as long to do your work. Careful notebook work will speed up your progress. Just as importantly, when you do make errors, I, or a tutor, will be able to trouble-shoot easier if you have written down what you did. Furthermore, I grade exams on partial credit, but if your work is not clear and organized so I can follow your reasoning, you won’t get much partial credit for a problem with an error. Specific notebook requirements and grading will be covered in a separate handout.
- **Registration Process:** Go to [www.aleks.com](http://www.aleks.com) and click the “Sign Up/New Student?” link. Do NOT click the “Free Trial” link! Then enter the ALEKS Course ID (RKTWJ-P33QE) and continue to register using your SFA email. If you do not have access to a credit card, or if you are waiting on financial aid, you may use the temporary access code to start working in your course: 259DB-B45A2-AF383-80BE0.

**Course Schedule:**

This is a tentative schedule only! I’ll notify you of any changes that must be made.

Each week’s work is due at midnight Sunday. Review/Catchup work is due at 9:30 a.m. on exam days.

<table>
<thead>
<tr>
<th>Week Starting:</th>
<th>Material Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>ALEKS Pie Week 1 Material</td>
</tr>
<tr>
<td>8/28 due 9/10</td>
<td>34 topics or fewer</td>
</tr>
<tr>
<td>Week 2</td>
<td>ALEKS Pie Week 2 Material</td>
</tr>
<tr>
<td>8/28 due 9/10</td>
<td>42 topics or fewer</td>
</tr>
<tr>
<td>Week 3</td>
<td>ALEKS Pie Week 3 Material</td>
</tr>
<tr>
<td>8/28 due 9/10</td>
<td>45 topics or fewer</td>
</tr>
<tr>
<td>Week 4</td>
<td>ALEKS Pie Week 4 Material</td>
</tr>
<tr>
<td>9/11 due 9/17</td>
<td>27 topics or fewer</td>
</tr>
<tr>
<td>Exam 1 Catchup</td>
<td>Review/Catchup</td>
</tr>
<tr>
<td>9/18 due 9/21 @ 9:30 am</td>
<td>All topics above will be available.</td>
</tr>
<tr>
<td>Exam 1: Thursday, Sept. 21st</td>
<td></td>
</tr>
<tr>
<td>Week 5</td>
<td>ALEKS Pie Week 5 Material</td>
</tr>
<tr>
<td>9/25 due 10/1</td>
<td>~20 topics</td>
</tr>
<tr>
<td>Week 6</td>
<td>ALEKS Pie Week 6 Material</td>
</tr>
<tr>
<td>10/2 due 10/8</td>
<td>~30 topics</td>
</tr>
<tr>
<td>Week 7</td>
<td>ALEKS Pie Week 7 Material</td>
</tr>
<tr>
<td>10/9 due 10/15</td>
<td>~23 topics</td>
</tr>
<tr>
<td>Week 8</td>
<td>ALEKS Pie Week 8 Material</td>
</tr>
<tr>
<td>10/16 due 10/22</td>
<td>~24 topics</td>
</tr>
<tr>
<td>Exam 2 Catchup</td>
<td>Review/Catchup</td>
</tr>
<tr>
<td>10/23 due 10/26 @ 9:30 am</td>
<td>All topics since Exam 1 will be available.</td>
</tr>
<tr>
<td>Exam 2: Thursday, Oct. 26th</td>
<td></td>
</tr>
<tr>
<td>Week 9</td>
<td>ALEKS Pie Week 9 Material</td>
</tr>
<tr>
<td>10/30 due 11/5</td>
<td>~23 topics</td>
</tr>
<tr>
<td>Week 10</td>
<td>ALEKS Pie Week 10 Material</td>
</tr>
<tr>
<td>11/6 due 11/12</td>
<td>~19 topics</td>
</tr>
<tr>
<td>Thanksgiving Break</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>Week 11</td>
<td>ALEKS Pie Week 11 Material</td>
</tr>
<tr>
<td>11/13 due 11/19</td>
<td>~15 topics</td>
</tr>
<tr>
<td>Exam 3 Catchup</td>
<td>Review/Catchup</td>
</tr>
<tr>
<td>11/27 due 11/30 @ 9:30 am</td>
<td>All topics since Exam 2 will be available.</td>
</tr>
<tr>
<td>Exam 3: Thursday, Nov. 30th</td>
<td></td>
</tr>
<tr>
<td>Week 12</td>
<td>ALEKS Pie Week 12 Material</td>
</tr>
<tr>
<td>12/4 due 12/10</td>
<td>~10 topics</td>
</tr>
<tr>
<td>Final Exam: Thursday, Dec. 14th</td>
<td>from 8:00 - 10:00 a.m.</td>
</tr>
</tbody>
</table>
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 though 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.

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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.
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- 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