Department of Mathematics and Statistics
MATH 1314.002 - College Algebra
Fall 2021

Names: Robert Payne/Sean Rangel, GTA
Email: rpayne@sfasu.edu
Phone: (936) 468-1620
Office: Math-332

Class meeting time and place:
MWF 9:00 – 9:50 in Bush Math-357

Final Exam Date and Time:
Wednesday, December 8th from 8:00-10:00 a.m.

Office Hours:
MW: 10:00 – 11:00
TTh: 9:00 – 11:00, 1:30 – 2:30
F: 10:00 – 11:00
*Available other times by appointment*

Office Zoom: https://sfasu.zoom.us/my/rpayne
Meeting ID: 936 468 1620. No PW.

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:
• For this semester only you will be provided with free access to the ALEKS online HW system.
• The required textbook for this course is College Algebra, 2nd edition by Miller and Gerken, McGraw Hill. The textbook is available as an ebook (also free this semester) 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 tests 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 – Wednesday, September 22nd
  Exam 2 – Wednesday, October 20th
  Exam 3 – Wednesday, November 17th
  Final Exam – Wednesday, December 8th from 8:00-10:00
  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.
• Your final grade will be determined as follows:
  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: in-class activities, worksheets, quizzes, homework assignments, ALEKS pie progress, 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 may be formally factored into your course grade. Missing in-class activities, quizzes, etc. will lower your daily average. Also, missing classes will significantly reduce the instruction you receive, and will therefore naturally decrease your semester grade. 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. Any laptop or tablet use must be for legitimate class purposes.

Laptop (or similar device) Required:
You will be doing online HW during class (working on your ALEKS pie) on a regular basis. You will need to bring your device (fully charged) to class each day so you can practice the things we discuss. This will be an essential part of your participation grade.

Additional Help:
Free tutoring is available from the AARC. They offer SI Groups, one-on-one tutoring, and the Math Walk-in Table. These services are available both in-person and via Zoom. For more information, visit the AARC website at (http://library.sfasu.edu/aarc/).

This course has a TA who is available especially for you. The TA’s available times and location will be announced.

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.

Cheating:
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work. Violations are tracked by the dean’s office.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using, or attempting to use, or having in possession unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; (3) possession of current keys/exams prior to test time; (4) alteration of records; and (5) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit (copying from another’s paper).

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.

Please read the complete policy at Academic Dishonesty Policy 4.1.

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

Extended Syllabus:
See http://www3.sfasu.edu/math/docs/syllabi/MATH1314Syllabus.pdf for elements common to all sections.
Asynchronous Minutes:

All 3-hour classes at SFA this semester include 150 minutes of asynchronous instruction. That means instruction you will receive outside the usual class time. In this course that will consist of a portion of your ALEKS pie work that will fall during the week of Thanksgiving, according to the class calendar. You do NOT have to work during that week if you get ahead a bit throughout the semester. You may choose to do those topics during Thanksgiving week, or plan ahead to avoid that need. It’s up to you.

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 (essentially four weeks of work on the calendar), let me know, and I’ll schedule you a personal pre-exam Knowledge Check (KC). This KC will be part of your daily (HW) grade. More importantly, 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 a higher HW grade. 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.

- All students must take the exams no later than the date indicated below, but you may take the exam 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: Part of your homework grade will be determined by how well you keep a notebook of your ALEKS pie work. All your pie work this semester needs to be recorded 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, one of your helpers 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 and click the “Sign Up/New Student?” link. Do NOT click the “Free Trial” link! Then enter the ALEKS class code (NTKGD-UPTMW) and continue to register using your SFA email.
Course Schedule:
This is a tentative schedule only! I’ll notify you of any changes that must be made.

<table>
<thead>
<tr>
<th>Week Starting:</th>
<th>Material Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 8/23</td>
<td>ALEKS Pie Week 1 Material 47 topics or fewer</td>
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<tr>
<td>Week 2 8/30</td>
<td>ALEKS Pie Week 2 Material 44 topics or fewer</td>
</tr>
<tr>
<td>Week 3 9/6</td>
<td>ALEKS Pie Week 3 Material 43 topics or fewer</td>
</tr>
<tr>
<td>Week 4 9/13</td>
<td>ALEKS Pie Week 4 Material 36 topics or fewer</td>
</tr>
<tr>
<td>Week 5 9/20</td>
<td>ALEKS Pie Week 5 Material 19 topics or fewer Exam 1 Knowledge Check 9/20 and/or 9/21</td>
</tr>
<tr>
<td>Week 6 9/27</td>
<td>ALEKS Pie Week 6 Material ~30 topics</td>
</tr>
<tr>
<td>Week 7 10/4</td>
<td>ALEKS Pie Week 7 Material ~31 topics</td>
</tr>
<tr>
<td>Week 8 10/11</td>
<td>ALEKS Pie Week 8 Material ~31 topics</td>
</tr>
<tr>
<td>Week 9 10/18</td>
<td>ALEKS Pie Week 9 Material ~12 topics Exam 2 Knowledge Check 10/18 and/or 10/19</td>
</tr>
<tr>
<td>Week 10 10/25</td>
<td>ALEKS Pie Week 10 Material ~29 topics</td>
</tr>
<tr>
<td>Week 11 11/1</td>
<td>ALEKS Pie Week 11 Material ~27 topics</td>
</tr>
<tr>
<td>Week 12 11/8</td>
<td>ALEKS Pie Week 12 Material ~29 topics</td>
</tr>
<tr>
<td>Week 13 11/15</td>
<td>ALEKS Pie Week 13 Material ~12 topics Exam 3 Knowledge Check 11/15 and/or 11/16</td>
</tr>
<tr>
<td>Week 14 Thanksgiving Break</td>
<td>ALEKS Pie Week 14 Material 150 Asynchronous Minutes ~22 topics</td>
</tr>
<tr>
<td>Week 15 11/29</td>
<td>ALEKS Pie Week 15 Material ~22 topics</td>
</tr>
<tr>
<td>Week 16 Final Exam Week 12/6</td>
<td>Final Exam Knowledge Check 12/6 and/or 12/7 Final Exam: Wednesday, Dec. 8th 8:00 - 10:00</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.

5%

Academic Integrity

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work.

Definition of Academic Dishonesty (SFA policy 4.1):

Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:
- using or attempting to use unauthorized materials on any class assignment or exam;
- falsifying or inventing of any information, including citations, on an assignment;
- helping or attempting to help other student(s) in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:
- submitting an assignment as one’s own work when it is at least partly the work of another person;
- submitting a work that has been purchased or otherwise obtained from the Internet or another source;
- incorporating the words or ideas of an author into one's paper or presentation without giving the author credit.

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.

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.

SFASU Mental Health Statement: SFASU values students’ mental health and the role it plays in academic and overall student success. 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:
SFASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
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. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

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.

Date of document: 08/09/2021