Course Description
Mathematical models; solving equations; creating, interpreting and graphing functions. Particular focus is given to polynomial, exponential and logarithmic functions. Prerequisites: See General Course Prerequisites. For a more detailed course description, Student Learning Outcomes, and Exemplary Educational Objectives, go to http://www2.sfasu.edu/math/docs/syllabi/MTH138Syllabus.pdf

Course Prerequisites
A minimum math score of 250 on THEA, 21 on ACT, 500 on SAT or a C or better in MTH 099. The Department of Mathematics and Statistics strongly recommends a minimum math score of 270 on THEA, 21 on ACT, 500 on SAT or a C or better in MTH 099 before taking any credit-level mathematics course.

Course Time and Meeting Place
- MTH 138 Section 007 meets in Math 202 at 9:30–10:45 TuTh.

Instructor
- Thomas W. Judson, Associate Professor
  Department of Mathematics and Statistics
- Office: Math 316
- TEL: (936) 468–1704
- Email: judsontw@sfasu.edu

Spring 2019 Office Hours
- Monday: 12–1 PM (in Math 316); 5–6 PM (in the AARC)
- Wednesday: 12–1 PM (in Math 316); 5–6 PM (in the AARC)
- Friday: 10–11 AM (in Math 316)
- Additional office hours by appointment

Course Outline
- Making Mathematical Models [CO 1, 2, 3] (Amount of time spent: 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] (Amount of time spent: 20%)
  - Graphs of Quadratic Equations
  - Techniques for Solving and Optimizing Quadratic Equations
  - Applications of Quadratic Functions
- Functions [CO 1, 2, 3] (Amount of time spent: 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] (Amount of time spent: 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] (Amount of time spent: 10%)
  - Field Properties: Associativity, Commutativity, Identity, Inverses, Distributivity
College Algebra—Syllabus

The three in-class exams and a final exam.

Grading and Exams

- Grading and Exams
- drop your lowest two quizzes and your lowest three WeBWorK assignments.
- Make-up quizzes and WeBWorK assignments are not permitted.
- you have read the material covered in class before coming to class.

In addition to weekly WeBWorK assignments, you will also have regular quizzes. These quizzes are very short and can usually be completed in a few minutes.

Calculators

You will need a calculator for MTH 138. You may use your calculator on all homework assignments and exams unless calculator use is specifically prohibited. However, you should not rely on computers and calculators to such an extent that they keep you from developing your own skills. Technology should be used as an aid, but without a good understanding of the underlying mathematical concepts, the calculator will quite happily mislead you without your even knowing it. In general, technology is a good thing, but as with everything, sometimes too much of a good thing can lead to problems. You may not use your cellphone or your iPod or a calculator.

We will also make extensive use of Desmos (https://www.desmos.com). Desmos is free web-based graphing calculator. You will learn more about Desmos in class.

Calculators that include a solver such as the TI-89 or TI-Nspire and calculators that have a QWERTY keyboard will not be allowed on exams.

Homework and Quizzes

Homework assignments from the textbook can be found on the calendar page (http://faculty.sfasu.edu/judsontw/math138/calendar.html). The vast majority of your homework will be submitted through WeBWorK, the MTH 138 online homework system (https://webwork.sfasu.edu/webwork2/MTH138-Spring18/). Your daily average is based on your grades from WeBWorK homework and any other daily quizzes or homework that are assigned for a grade.

In addition to weekly WeBWorK assignments, you will also have regular quizzes. These quizzes are very short and can usually be completed in a few minutes, provided you have read the material that you will be covering in the class the day of the quiz. You will need to read the material covered in class before coming to class.

Make-up quizzes and WeBWorK assignments are not permitted. However, we know that life sometimes get in the way. For this reason we will drop your lowest two quizzes and your lowest three WeBWorK assignments.

Grading and Exams

The will be three in-class exams and a final exam. Your course grade will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Date</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>WeBWorK assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Daily Assignments</td>
<td>Daily assignments and quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Attendance and</td>
<td>Regular attendance is expected. More than two unexcused absences will result in a lower attendance grade. You are</td>
<td>5%</td>
</tr>
</tbody>
</table>
Participation

also required to meet with the instructor during the first three weeks of class.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date Details</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>Exam dates are on the MTH 138 Calendar.</td>
<td>15%</td>
</tr>
<tr>
<td>Exam II</td>
<td>Exam dates are on the MTH 138 Calendar.</td>
<td>15%</td>
</tr>
<tr>
<td>Exam III</td>
<td>Exam dates are on the MTH 138 Calendar.</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Thursday, May 16 at 8–10 a.m.</td>
<td>20%</td>
</tr>
</tbody>
</table>

Semester numerical scores will be converted into letter grades according to the following method.

<table>
<thead>
<tr>
<th>Range of numerical values</th>
<th>Corresponding Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>90–100</td>
<td>A</td>
</tr>
<tr>
<td>80–89</td>
<td>B</td>
</tr>
<tr>
<td>70–79</td>
<td>C</td>
</tr>
<tr>
<td>60–69</td>
<td>D</td>
</tr>
<tr>
<td>0–59</td>
<td>E</td>
</tr>
</tbody>
</table>

When we calculate your final grade at the end of the course, we will calculate a score on a 0–100 point scale using the scores that you have obtained during the course, and using the grade breakdown given above. Your course grade will then be obtained using this table. In the event of a fractional score, we will always round up to the nearest integer. There is no provision for extra credit in this course.

Ressurection Policy. If you score better on the final exam than your lowest midterm exam, we will replace your midterm grade with your final exam grade. The ressurection policy does not apply to your homework grade.

Exam Policy

You must bring and display either your SFASU Student ID or a valid driver’s license before you will be permitted to take each test and the final exam.

Exams are scheduled far in advance, and it is impossible to move the time or date. However, in rare cases where it is impossible for an individual to take the exam at the scheduled time, we will work with you to make other arrangements. Exceptions for taking the exam out of sequence are the following:

1. A medical excuse. Please provide proper documentation according to university rules.
2. A University sponsored event such as an athletic tournament, a play, or a musical performance. Your coach or director must contact us in advance. Athletic practices and rehearsals do not fall into this category.
3. A religious holiday. Please send a short email explaining the situation.
4. Extreme hardship such as a family emergency. Please have the proper university office us.

The above are the only allowable excuses for taking the exam before the scheduled time. Under no circumstances do we give late exams. Since we can only accomodate a limited number of students taking the exam at an earlier time, please make sure that you fall into one of the above categories before you contact us. If you miss an exam due to illness or a family emergency, you will not be penalized. We will assign you a grade based on the rest of your coursework. If you have a conflict with the final exam, you must contact the Registrar. Only the Registrar can schedule an out-of-sequence final exam.

Cell phone use is not permitted in or out of the classroom during all exams. If you bring your cell phone to the exam venue, please remember to turn it off. Violation of this policy will be considered as academic dishonesty and dealt with accordingly. You will not be permitted to use your cell phone as a calculator, so plan ahead.

General Education Core Curriculum

The Texas Higher Education Coordinating Board has identified six core learning objectives: 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.

By enrolling in MTH 138 you are also enrolling in a Core Curriculum Course that fulfills the Empirical and Qualitative Skills requirement. You will see this course on your D2L list. At one point during the semester, you will receive an assignment that fulfills both the requirements of this course and the needs of Stephen F. Austin State University’s Core Curriculum Assessment Plan with the Texas Higher Education Coordinating Board. When you complete this one assignment, you need to upload the assignment to both your standard course dropbox determined by your Instructor and the “Core Curriculum” dropbox. The Core Curriculum dropbox will be identified by the Objective for which work is being collected. (Examples: Critical Thinking, Teamwork, Social Responsibility Empirical & Quantitative Skills, Personal Responsibility, Communication Skills-Written, Communication Skills-Written & Visual, and Communication Skills- Oral & Visual.) Please note that this only applies to the approved assignment. All other assignments should be submitted according to regular class operations. If you have
When you complete the assignment mentioned above, you will upload the assignment to both the MTH 138 dropbox and the Empirical and Qualitative Skills dropbox.

Please note that this only applies to the specific assignment listed in the matrix below. All other assignments should be submitted according to regular class operations.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to the D2L Empirical and Qualitative Skills dropbox this semester, and the date the assignment(s) should be uploaded to the D2L Empirical and Qualitative Skills dropbox. Not every assignment will be submitted for core assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in the D2L Empirical and Qualitative Skills dropbox.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in D2L</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>NA</td>
<td>NA</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>NA</td>
<td>NA</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>MTH 138, Exponential/Log Models: Radioactivity</td>
<td>Monday, April 15, 2019</td>
</tr>
</tbody>
</table>

**The Classroom**

Any questions you ask in class will likely be ones that other students will want answered as well, so get over any hesitation you might have and ask questions as the material is presented. You will not be penalized for doing this, no matter how trivial or simple you think your questions might seem. Remember, the class is being held for you to learn the material, not just to give you a time to copy notes off of a blackboard, so be sure to get help when you need it and stay involved in your class.

**Getting Help with MTH 138**

- Free tutoring is available from the AARC. They offer Learning Teams, one-on-one tutoring, and the Math Walk-in Table. The hours for the Walk-in Table will be 1 PM to 8 PM Monday, Tuesday, Wednesday, and Thursday as well as 4 PM to 8 PM on Sundays. Sign-ups for Learning Teams begin soon. If you need help signing up, the AARC staff (first floor of library, right-hand side) will be happy to assist. You can find more information on the AARC website, [http://www.sfasu.edu/aarc](http://www.sfasu.edu/aarc).
- Remember to take advantage of office hours.

**Credit Hours**

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.

See [http://www.sfasu.edu/policies/5.4-credit-and-contact-hours.pdf](http://www.sfasu.edu/policies/5.4-credit-and-contact-hours.pdf).

**Add/Drop Policy**


**Attendance Policy**

Regular attendance is expected in MTH 337 and is 5% of your course grade. You are allowed two unexcused absences in MTH 337. Additional unexcused absences will result in a one percent deduction in your attendance grade. Attendance and Excused Absences Policy can be found at [http://www.sfasu.edu/policies/class-attendance-6.7.pdf](http://www.sfasu.edu/policies/class-attendance-6.7.pdf).

**Withheld Grades Semester Grades Policy (A-54)**

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/

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 D-34.1). 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.

You are off the grid in MTH 337. You may use your tablet or notebook computer to access the textbook or CoCalc in class; otherwise, consider yourself off the grid when you are in MTH 337. Please be respectful of your fellow students and your instructor. Cell phone use and texting are not allowed in class. Remember to turn your cell phone off and place it in your bag or backpack before entering the classroom. Any cell phone that is visible will be collected and returned to you at the end of class. Exceptions to this rule include volunteer firemen, physicians on-call, those who are on the shortlist to receive an organ transplant, etc.

Academic Integrity (A-9.1)

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.

Definition of Academic Dishonesty. Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use 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; and/or (3) 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 your 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.

Any acts of academic dishonesty will be dealt with according to University policy. Penalties for academic dishonesty may result in a failing grade for the assignment, failing the course, or even dismissal from the university.

Please read the complete Student Academic Dishonesty policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf

Last modified: January 23, 2019
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment</th>
</tr>
</thead>
</table>
| 1    | Tuesday 1/22/19 | Course Orientation  
Introduction to Desmos  
Introduction to WeBWorK  
§1.1, Linear Models  
Linear Models Worksheet |                                                    |
|      | Thursday 1/24/19 | §1.2, Functions  
Functions Worksheet | WeBWorK Orientation Assignment Due  
Instructions for WeBWorK |
| 2    | Tuesday 1/29/19 | §1.3, Graphs of Functions  
Graphs of Functions Worksheet  
§1.4, Slope and Rate of Change  
Slope and Rate of Change Worksheet | WeBWorK Sections 1.1, 1.2 Due |
|      | Thursday 1/31/19 | §1.5, Linear Functions  
Linear Functions Worksheet | WeBWorK Sections 1.3, 1.4 Due |
| 3    | Tuesday 2/5/19 | §2.1, Nonlinear Models  
Nonlinear Models Worksheet  
§2.2, Some Basic Functions  
Some Basic Functions Worksheet | WeBWorK Section 1.5 Due |
|      | Thursday 2/7/19 | §2.3, Transformations of Graphs  
Transformations of Graphs Worksheet | WeBWorK Sections 2.1, 2.2 Due |
| 4    | Tuesday 2/12/19 | Exam I Review Guide | WeBWorK Section 2.3 Due |
|      | Thursday 2/14/19 | Exam I |                                                    |
| 5    | Tuesday 2/19/19 | §2.4, Functions as Mathematical Models  
Functions as Mathematical Models Worksheet  
§2.5, The Absolute Value Function  
Absolute Value Worksheet |                                                    |
|      | Thursday 2/21/19 | §2.6, Domain and Range  
Domain and Range Worksheet | WeBWorK Sections 2.4, 2.5 Due |
| 6    | Tuesday 2/26/19 | §3.1, Variation  
Variation Worksheet  
§3.2, Integer Exponents  
Integer Exponents Worksheet | WeBWorK Section 2.6 Due |
|      | Thursday 2/28/19 | §3.3, Roots and Radicals  
Roots and Radicals Worksheet  
§3.4, Rational Exponents  
Rational Exponents Worksheet | WeBWorK Sections 3.1, 3.2 Due |
| 7    | Tuesday 3/5/19 | §4.1, Exponential Growth and Decay  
Exponential Growth and Decay Worksheet  
§4.2, Exponential Functions  
Exponential Functions Worksheet | WeBWorK Sections 3.3, 3.4 Due |
<p>|      | Thursday     | §4.3, Logarithms |                                                    |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/7/19</td>
<td>Logarithms Worksheet</td>
<td>WebWork Sections 4.1, 4.2 Due</td>
</tr>
<tr>
<td>3/12/19</td>
<td>Review</td>
<td>WebWork Section 4.3 Due</td>
</tr>
<tr>
<td>3/14/19</td>
<td>Exam II</td>
<td></td>
</tr>
<tr>
<td>3/19/19</td>
<td>Spring Recess—No classes.</td>
<td></td>
</tr>
<tr>
<td>3/21/19</td>
<td>Spring Recess—No classes.</td>
<td></td>
</tr>
<tr>
<td>3/28/19</td>
<td>§5.1. Inverse Functions, Inverse Functions Worksheet</td>
<td>WebWork Sections 4.4, 4.5 Due</td>
</tr>
<tr>
<td>4/2/19</td>
<td>§5.2. Logarithmic Functions, Logarithmic Functions Worksheet</td>
<td>§5.3. The Natural Base, The Natural Base Worksheet</td>
</tr>
<tr>
<td>4/4/19</td>
<td>§6.1. Factors and x-intercepts, Factors and x-intercepts Worksheet</td>
<td>WebWork Sections 5.2, 5.3 Due</td>
</tr>
<tr>
<td>4/11/19</td>
<td>Review</td>
<td>WebWork Sections 6.2, 6.3 Due</td>
</tr>
<tr>
<td>4/16/19</td>
<td>Exam III</td>
<td>Exponential/Log Models: Radioactivity</td>
</tr>
<tr>
<td>4/18/19</td>
<td>Easter Recess—No classes.</td>
<td>Core assessment assignment due Monday, April 15, 2019.</td>
</tr>
<tr>
<td>4/25/19</td>
<td>§7.2. Graphing Polynomial Functions, Graphing Polynomial Functions Worksheet</td>
<td>WebWork Sections 6.4, 7.1 Due</td>
</tr>
<tr>
<td>4/30/19</td>
<td>§7.4. Graphing Rational Functions, Graphing Rational Functions Worksheet</td>
<td>§7.5. Equations that Include Algebraic Fractions, Equations that Include Algebraic Fractions Worksheet</td>
</tr>
<tr>
<td>5/2/19</td>
<td>§8.1. Systems of Linear Equations in Two Variables, Systems of Linear Equations in Two Variables Worksheet</td>
<td>WebWork Sections 7.4, 7.5 Due</td>
</tr>
<tr>
<td>5/7/19</td>
<td>§8.2. Systems of Linear Equations in Three Variables, Systems of Linear Equations in Three Variables Worksheet</td>
<td>WebWork Section 8.1 Due</td>
</tr>
<tr>
<td>5/9/19</td>
<td>Review</td>
<td>WebWork Section 8.2 Due</td>
</tr>
<tr>
<td>5/16/19</td>
<td>Final Exam at 8–10</td>
<td></td>
</tr>
</tbody>
</table>

Last modified: January 21, 2019
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.

The chart below indicates the core objectives identified by SFA to be assessed in this course. The instructor of each section of the course will provide the assignment(s) that will be used to assess the objectives as well as the date(s) by which the assignments must be completed and uploaded in D2L.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in D2L</th>
</tr>
</thead>
<tbody>
<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>The instructor of each section will determine the assignment for this assessment.</td>
<td>Only assessed in spring of odd years. (See instructor for due date(s).)</td>
</tr>
</tbody>
</table>
Math 138 – College Algebra
Syllabus Continuation

Course outline:  

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

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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.

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: 01/11/2019