Instructor: Karl Havlak
Office: Math 220A
Office Phone: (325) 486-5432
e-mail: Karl.Havlak@angelo.edu
Math Department Phone: (325) 942-2111

Office Hours: 10:00 – 11:00 a.m., MTWRF;
2:00 – 3:00 p.m., MTWRF;
or by appointment

Textbook/Ebook: Precalculus: Functions and Graphs (12th edition) by Swokowski and Cole. The bundle in the bookstore is the appropriate edition, but you are welcome to purchase a copy of the text or access to an ebook from wherever is convenient for you (just be certain you get the correct edition). You only need the text because we will not be using WebAssign that is included in the bundle at the bookstore. A copy of this textbook is on reserve in the library.

Blackboard: The Blackboard page that is associated with this course can be found at http://blackboard.angelo.edu.

Course Content: Selected sections from chapters 1 – 6 and chapter 10 will be studied.

Grading System: The final average will be determined according to the following weighting scale:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>September 21 (Thu)</td>
<td>20-25%</td>
</tr>
<tr>
<td>Exam II</td>
<td>October 19 (Thu)</td>
<td>20-25%</td>
</tr>
<tr>
<td>Exam III</td>
<td>November 16 (Thu)</td>
<td>20-25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>December 12 (Tue)</td>
<td>20-25%</td>
</tr>
<tr>
<td>Homework</td>
<td>Most Days</td>
<td>15%</td>
</tr>
</tbody>
</table>

Grading Policy: To determine the average needed to ensure that you obtain the grade that you want in this course, consult the table below:

| 89.5 and above | A  |
| 79.5 to 89.5   | B  |
| 69.5 to 79.5   | C  |
| 59.5 to 69.5   | D  |
| below 59.5     | F  |

Homework Policy: Homework sets will be assigned most days and will be due at the beginning of the next class day unless there is an exam on that day. In that case, the homework will be due the day following the exam. The lowest 2 homework grades will be dropped at the end of the semester when determining the homework average. I will accept up to 2 late assignments during the semester. No other late assignments will be accepted for any reason. If you have trouble completing a homework assignment, please see me for assistance.

Review Problems: A small set of homework review problems will be given regularly throughout the semester. Completing these problems will be optional; however, successful completion of these problems will help you prepare for exams and will be a means to earn bonus points on exams.

Quizzes: There will be regular short quizzes (5 minutes or less) at the beginning of class throughout the semester. The quizzes will be over graphs of functions and trigonometric identities and will begin sometime in September or October. The quizzes will begin at 8:00 a.m. and cannot be made up. Each quiz will count as a homework grade. I will drop the 2 lowest quizzes.

Exams: There will be four exams scheduled as shown above, which will account for 85% of your final grade. The highest of these exams will account for 25% of your final grade and the other three will each account for 20% of your final grade. The fourth exam will be held during final exam week on Tuesday, December 12, 8:00 am – 10:00 a.m. This exam will be over all sections of chapter 6 and 10 that are covered in the course.
Attendance: Attendance will be taken regularly. Please inform me of any absences prior to the absence whenever possible.

Student Responsibilities: The student is solely responsible for:

- Completing each assignment by the specified due date.
- Obtaining assignments and other materials for classes from which they are absent.
- Utilizing, as needed, all available study-aid options (including meeting with the instructor, referring to outside texts, etc.) to resolve any questions that they might have regarding homework, course material, etc.
- Realizing from the beginning of the course the grade that they may need or want to graduate, maintain a scholarship, stay in athletics, etc. … and give as much effort as it takes to obtain this grade.

Study Aids:

- The Math Lab offers to all students enrolled in mathematics courses through Calculus an opportunity to obtain free math help. The Math Lab is located on the 3rd floor of the library (C302), and its times are listed below. The Sunday sessions begin on September 10th.
  
  Monday – Thursday: 9:00 a.m. - 8:00 p.m.
  Friday: 9:00 a.m. - 12:00 p.m.
  Sunday: 4:00 pm - 8:00 p.m.

- The Department of Mathematics maintains a list of students who are interested in tutoring privately. Students who are interested in obtaining private tutoring or serving as private tutors should visit the department office for more information.
- Feel free to come by my office at any time for help. I will definitely be near my office during my office hours (or there will be a note telling you when I will be back). If my office hours are not convenient for you, meet with me to arrange for another time that is more convenient.

Notes:

- Student Disability Services
  ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.

  The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting:

  Dallas Swafford  
  Director of Student Disability Services  
  Office of Student Affairs  
  325-942-2047  
  dallas.swafford@angelo.edu

- Title IX
  Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

  Michelle Boone  
  Director of Title IX Compliance  
  325-486-6357  
  michelle.boone@angelo.edu

- Student Absence for Observance of Religious Holy Days: A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. (http://www.angelo.edu/opmanual/ -- OP 10.19)

- Incomplete Grade Policy: It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.
• **Student Absence for Observance of Religious Holy Days:** A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. (http://www.angelo.edu/opmanual/ -- OP 10.19)

• **Student Conduct Policies**

  **Academic Integrity**

  Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

  The College of Science and Engineering adheres to the Statement of Academic Integrity

  **Plagiarism**

  Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

  In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

  Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

  **Copyright Policy**

  Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

• **General Policies Related to this Course:** All students are required to follow the policies and procedures presented in these documents:
  - Angelo State University Student Handbook
  - Angelo State University Catalog

• In the event that the university is closed for a scheduled class time, whatever was scheduled for that day and/or whatever was due that day will be scheduled and/or due on the next scheduled class time.

• All electronic correspondence will be sent to your ASU e-mail account unless other arrangements are made.

• Good luck. I sincerely hope you do well in this course, and I strongly encourage you to use me as a resource outside of class to help you succeed.

All items contained in this syllabus are subject to change as the semester progresses. Students will be notified in advance of any changes.
Mathematics 1360 – Precalculus
Student Learning Outcomes

1. **The students will demonstrate an understanding of factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in precalculus pertaining to the real numbers; exponents and radicals; polynomials, factoring, and rational expressions; equations and inequalities; functions; polynomial and rational functions; inverse functions; exponential and logarithmic functions; graphs and their transformations; six trigonometric functions; types of angle measure and notation; parts of triangles and circles; parabolas, ellipses, and hyperbolas; and asymptotes.

2. **The students will describe the fundamental principles including the mathematical rules and theorems arising from the concepts covered in this course.** Students will identify and apply the laws and formulas that result directly from the definitions; for example, rules of exponents, exponential and logarithmic properties, the quadratic formula, slope and formulas for the equations of lines, the fundamental trigonometric identities, properties of angles and triangles, characteristics of the trigonometric functions and inverse trigonometric functions, formulas of the conic sections, translation of axes, and formulas relating polar and rectangular coordinates.

3. **The students will apply course material using techniques and procedures covered in this course to solve problems.** Students will utilize the facts, formulas, and the techniques learned in this course to simplify algebraic expressions; graph functions; solve equations; solve trigonometric equations; and recognize and graph trigonometric and inverse trigonometric functions, conic sections, and algebraic curves.

4. **The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.** Students will acquire a level of proficiency in the fundamental concepts and applications in precalculus necessary for success in calculus.

**Textbook**


**Course Content**

Content consists of the following topics, listed according to the corresponding chapters in the text. (See textbook “Contents.”)

1. **Topics from Algebra:** Exponents and Radicals, Algebraic Expressions, Inequalities.

2. **Graphs and Functions:** Rectangular Coordinate System, Graphs of Equations, Lines, Definition of Function, Graphs of Functions, Operations on Functions.

3. **Polynomials and Rational Functions:** Polynomial Functions of Degree Greater Than 2, Rational Functions.

4. **Inverse, Exponential, and Logarithmic Functions:** Inverse Functions, Exponential Functions, The Natural Exponential Function, Logarithmic Functions, Properties of Logarithms, Exponential and Logarithmic Equations.

5. **The Trigonometric Functions:** Angles, Trigonometric Functions of Angles, Trigonometric Functions of Real Numbers, Values of the Trigonometric Functions, Trigonometric Graphs, Additional Trigonometric Graphs.

6. **Analytic Trigonometry:** Trigonometric Equations, The Addition and Subtraction Formulas, Multiple-Angle Formulas, The Inverse Trigonometric Functions.

## Anticipated Daily Schedule

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<tr>
<th>Day</th>
<th>Activity</th>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-29</td>
<td>1.2</td>
<td>10-19</td>
<td>Exam II</td>
</tr>
<tr>
<td>8-31</td>
<td>1.3</td>
<td>10-24</td>
<td>4.6,5.1</td>
</tr>
<tr>
<td>9-5</td>
<td>1.3</td>
<td>10-26</td>
<td>5.2</td>
</tr>
<tr>
<td>9-7</td>
<td>1.4</td>
<td>10-31</td>
<td>5.4,5.3</td>
</tr>
<tr>
<td>9-12</td>
<td>1.4,1.6</td>
<td>11-2</td>
<td>5.3,5.5</td>
</tr>
<tr>
<td>9-14</td>
<td>1.6,2.2,2.3</td>
<td>11-7</td>
<td>5.5,5.6</td>
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<tr>
<td>9-19</td>
<td>2.3,2.4</td>
<td>11-9</td>
<td>6.1,6.2</td>
</tr>
<tr>
<td>9-21</td>
<td>Exam I</td>
<td>11-14</td>
<td>6.2,6.3</td>
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<tr>
<td>9-26</td>
<td>2.4,2.5</td>
<td>11-16</td>
<td>Exam III</td>
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<tr>
<td>9-28</td>
<td>2.5,2.7</td>
<td>11-21</td>
<td>6.4,6.6</td>
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<tr>
<td>10-3</td>
<td>2.6,3.1</td>
<td>11-23</td>
<td>Holiday</td>
</tr>
<tr>
<td>10-5</td>
<td>3.5</td>
<td>11-28</td>
<td>6.6</td>
</tr>
<tr>
<td>10-10</td>
<td>4.1,4.2</td>
<td>11-30</td>
<td>10.5</td>
</tr>
<tr>
<td>10-12</td>
<td>4.2,4.3,4.4</td>
<td>12-5</td>
<td>10.1,10.2</td>
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<tr>
<td>10-17</td>
<td>4.5,4.6</td>
<td>12-7</td>
<td>10.3,10.4</td>
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<table>
<thead>
<tr>
<th>12-12</th>
<th>Final Exam</th>
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<tbody>
<tr>
<td></td>
<td>8:00 – 10:00 a.m.</td>
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