Math 2312: Precalculus

Disclaimer
This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor.

Instructor Information
Dr. Dionne T. Bailey
Office: MCS 220G
Phone: 325-486-5425
Email: Dionne.Bailey@angelo.edu

Office Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>2:00-3:00 in Math Lab</td>
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<tr>
<td>Tuesday</td>
<td>2:00-3:00 in Math Lab</td>
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<tr>
<td>Wednesday</td>
<td>2:00-3:00 in Math Lab</td>
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<tr>
<td>Thursday</td>
<td>1:00-3:00 in Math Lab</td>
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Tests
We will have three tests and a cumulative final examination. The exact dates and coverage of these tests will be announced in class. However, as a planning guide, you may expect to take the first test during the fifth week of classes, the second test during the eighth week of classes, and the third test during the thirteenth week of classes. The final exam will be held as specified in the course schedule. I do not intend to give makeup tests. That means you need to be present and ready to do your best each day, but especially on test days.

Daily Work
Daily work will consist primarily of homework problems from the textbook, supplemented by some in-class quizzes. Late work, including in-class quizzes for which you were absent, is not accepted.

Grade Calculations
Your grade on the daily work will count for 10%, your test average will count for 60%, and the cumulative final examination will count for 30%; then the usual grades (90 and above ↔ A, 80-89 ↔ B, 70-79 ↔ C, 60-69 ↔ D, and less than 60 ↔ F).

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; and graphs and their transformations.

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 Intermediate Value Theorem, and the limit laws.

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; and solve equations and systems of equations.

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.

Required Texts and Readings


Subject Matter

1. **Fundamentals**: Exponents and Radicals; Algebraic Expressions; Rational Expressions; Equations; Inequalities; The Coordinate Plane; Graphs of Equations; Circles; Lines.
2. **Functions**: Functions; Graphs of Functions; Getting Information from the Graph of a Function; Average Rate of Change; Linear Functions; Transformation of Functions; Combining Functions; One-to-one Functions and Their Inverse.
3. **Polynomials and Rational Functions**: Quadratic Functions; Polynomial Functions; Dividing Polynomials; Rational Functions.
4. **Exponential, and Logarithmic Functions**: Exponential Functions; The Natural Exponential Function; Logarithmic Functions; Laws of Logarithms; Exponential and Logarithmic Equations.
10. **Systems of Equations and Inequalities**: Systems of Linear Equations in Two Variables; Systems of Linear Equations in Several Variables; Partial Fractions; Systems of Nonlinear Equations; Systems of Inequalities.
13. **Limits: A Preview of Calculus**: Finding Limits Numerically and Graphically; Finding Limits Algebraically; Limits at Infinity.

**Prerequisite**

Mathematics 1314 or a suitable score on a placement exam.
Course Schedule

The subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sections 1.2, 1.3, 1.4, 1.5, 1.8, 1.9, 1.10</td>
</tr>
<tr>
<td>2</td>
<td>Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, Exam 1</td>
</tr>
<tr>
<td>3</td>
<td>Sections 2.8, 3.1, 3.2, 3.3, 3.6, 4.1, 4.2, 4.3, Exam 2</td>
</tr>
<tr>
<td>4</td>
<td>Sections 4.4, 4.5, 10.1, 10.2, 13.1, 13.2, 13.4</td>
</tr>
<tr>
<td>5</td>
<td>Sections 10.8, 10.9, Exam3, Final Exam</td>
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</tbody>
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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 providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. Sex discrimination, sexual misconduct, public indecency, interpersonal violence, sexual assault, sexual exploitation, sexual harassment, and stalking are not tolerated at ASU. As a faculty member, I am a Responsible Employee meaning that I will report any allegations I am notified of to the Office of Title IX Compliance in order to connect students with resources and options in addressing the allegations reported. You are encouraged to report any incidents to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator. You may do so by contacting:

Michelle Boone, J.D.  
Director of Title IX Compliance/Title IX Coordinator  
Mayer Administration Building, Room 200  
325-942-2022
You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

The Office of Title IX Compliance also provides accommodations related to pregnancy (such as communicating with your professors regarding medically necessary absences, modifications required because of pregnancy, etc.). If you are pregnant and need assistance or accommodations, please contact the Office of Title IX Compliance utilizing the information above.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

**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. The full details can be found in ASU Operating Policy OP 10.19 Observance of Religious Holy Days

**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 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

References:

1. http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
2. http://www.angelo.edu/content/files/14197-op-1011-grading-procedures