



College Now: Math 135
Precalculus Syllabus
2016 – 2017

Course:	Precalculus (Full year Course)
High School Teacher:	Mr. Robert Remme
High School:	Adrian High School
Classroom:	Room #407
Course Instruction:	Period 7
Phone:	(507) 483 - 2232 Ext. 510
E-Mail:	r.remme@isd511.net
SMSU Faculty Mentor:	Dr. Mu-wan Huang
College Credits:	5

Available Help Times:

Office Hours:

- Before and after school: 7:30 – 7:50 a.m. and 3:20 – 4:00 p.m.
- Prep Period: 1st hour

Textbook: Ron Larson, (2014), *Precalculus*, 9th Edition, Brooks and Cole.

Online Textbook Resource: www.larsonprecalculus.com

COURSE DESCRIPTION:

A detailed study of the mathematics needed for Calculus. Concepts are presented and explored from symbolic, graphical, and numerical perspectives. Basic concepts covered include polynomial, rational, exponential, logarithmic and trigonometric functions, complex numbers, linear systems, numerical patterns, sequences and series. The required preparation is Math 110 or three years of high school mathematics, including two years of algebra.

LEARNING OUTCOMES:

Upon completion of this course students will:

1. Be able to set up and solve algebraic, logarithmic, exponential, and trigonometric equations.
2. Be able to graph algebraic, logarithmic, exponential and trigonometric functions and interpret said graphs.
3. Be able to prove algebraic and trigonometric identities and read said proofs.
4. Be able to solve linear and nonlinear systems.
5. Be able to read understand and work with sequences and series.

Minnesota Transfer Curriculum Goal 04 - Mathematical/Logical Reasoning:

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument (proof).
4. Apply higher-order problem solving and/or modeling strategies.

Liberal Education Student Learning Outcomes:

Upon completion of the Liberal Education Program at SMSU, students will:

- Understand the techniques and habits of thought in a variety of liberal arts disciplines, having attained an adequate foundation of knowledge in those disciplines.
- Communicate effectively.
- Be creative thinkers able to identify, formulate, and solve problems using interdisciplinary perspectives.
- Be critical thinkers who evaluate information wisely and examine how assumptions and positions are shaped.
- Understand both physical and social aspects of the world and their place in it.
- Embrace the similarities among peoples and appreciate the diversity that enriches the human experience.
- Analyze moral judgments and engage in moral discourse.
- Practice responsible citizenship in their local and global communities.
- Continue life-long learning.
- Integrate mind, body, and spirit, the essential elements of a flourishing life.

COLLEGE NOW STATEMENT:

College Now is SMSU's concurrent enrollment program. Concurrent enrollment allows qualified high school students to earn college credit in their high school, during their regular school day. College Now classes are taught by qualified high school teachers and are supervised by SMSU faculty members. These classes are actual SMSU courses where students earn actual SMSU credit. There is no cost to the student for these courses, providing an outstanding opportunity for students to earn college credit and jumpstarting their college careers without incurring additional debt.

ACADEMIC HONESTY:

The aim of the academic honesty policy is to maintain the academic integrity of Southwest Minnesota State University and promote an intellectual climate of honesty and integrity. To maintain an environment of academic integrity all students are required to accept personal responsibility for their work at Southwest Minnesota State University. Any offense against the academic honesty policy compromises the educational integrity of Southwest Minnesota State University and will be considered a grave offense. Offenses against academic honesty are acts which unjustly advance one's academic standing at Southwest Minnesota State University and include knowingly permitting or knowingly aiding a person in an offense against the academic policy.

PLAGIARISM:

Presenting someone else's work or ideas as your own. Plagiarism will include, but not be limited to:

1. Submitting someone else's work or ideas as your own, including but not limited to homework assignments, term papers, research reports, lab reports, group projects, artistic works, tests, or class presentations.
2. Submitting someone else's electronic work as your own, including but not limited to video clips, audio clips, electronic files, electronic programs, and any other copied electronic page, document, article, review, etc.
3. Submitting someone else's work as your own with minor alterations. Paraphrasing without proper citation is also plagiarism.
4. Submitting someone else's work without appropriate use of quotations, paraphrases, footnotes, or references.

ONLINE TEXTBOOK HELP: www.larsonprecalculus.com

The following link will take you to a site specific to our textbook. It had additional examples worked out, instructional videos, worked out solutions of odd problems, printable graphs, pre and post tests and a success organizer.

PREREQUISITES:

In order to be ready for the content of this course, students should have previously covered the following topics.

Real Numbers

Polynomials and Factoring

Coordinate Systems

Exponents and Radicals

Rational Expressions

MAJOR CONTENT AREAS:

1. FUNCTIONS AND THEIR GRAPHS	
Rectangular Coordinates Graphs of Equations Linear Equations in One Variable Functions Analyzing Graphs of Functions	A Library of Parent Functions Transformations of Functions Combinations of Functions: Composite Inverse Functions Mathematical Modeling and Variation
2. POLYNOMIAL AND RATIONAL FUNCTIONS	
Quadratic Functions and Models Polynomial Functions of Higher Degree Polynomial and Synthetic Division Complex Numbers	Zeros of Polynomial Functions Rational Functions Nonlinear Inequalities
3. EXPONENTIAL AND LOGARITHMIC FUNCTIONS	
Exponential Functions and Their Graphs Logarithmic Functions and Their Graphs Properties of Logarithms	Exponential and Logarithmic Equations Exponential and Logarithmic Models
4. TRIGONOMETRY	
Radian and Degree Measure Trigonometric Functions: Unit Circle Right Triangle Trigonometry Trigonometric Functions of Any Angle	Graphs of Sine and Cosine Functions Graphs of Other Trigonometric Functions Inverse Trigonometric Functions Applications and Models
5. ANALYTIC TRIGONOMETRY	
Using Fundamental Identities Verifying Trigonometric Identities	Sum and Difference Formulas Multiple-Angle and Product-to-Sum Formulas
6. ADDITIONAL TOPICS IN TRIGONOMETRY	
Law of Sines	Law of Cosines
7. SYSTEMS OF EQUATIONS AND INEQUALITIES	
Linear and Nonlinear Systems of Equations Two-Variable Linear Systems	Multivariable Linear Systems

8. MATRICES AND DETERMINANTS	
Matrices and Systems of Equations Inverse of Square Matrix	Operations with Matrices Determinants of Matrices
9. SEQUENCES, SERIES AND PROBABILITY	
Sequences and Series Arithmetic Sequences and Partial Sums	Geometric Sequences and Series Probability

EXAMINATIONS:

- There will be 9 Chapter Tests – one for each unit. A review sheet will be provided for each Chapter Test.
- There will be about 30 quizzes throughout the year – 2 to 3 per chapter.
- A Final Exam will be given at the end of the year.

The tests and quizzes will be all mostly free response. The final is comprehensive, covering all material from the course. Exam questions will be similar to the homework problems completed in class.

QUIZ AND EXAM POLICY (Tentative Schedule given out at the beginning of each Unit):

- During exams, you may not consult books, notes or any person except the instructor. Doing so, including looking at another person's test during a quiz or exam constitutes academic dishonesty and will be treated as such.
- You will be allowed 60 minutes for exams and 30 minutes for quizzes. Tests and quizzes will be turned once the time expires.
- **Students are expected to take the quizzes/exams when scheduled.** If a student has a legitimate, verifiable excuse, he or she should make arrangements before the quiz or exam (if known) or within 24 hours after the exam (if not possible before). Failure to adhere to this requirement will result in the student forfeiting his/her opportunity to take the test. You know these dates ahead of time. You should not be absent. Do not plan vacations, etc. at these times.

ATTENDANCE is required for this course. You are responsible for all work missed.

HOMEWORK: (A sheet will be given at the beginning of each chapter of the recommended homework problems.) You are responsible for the assigned problems at the end of the sections. There also may be additional worksheets assigned. Homework will not be always collected. Some problems may be collected at various times throughout the year. Mainly, the homework is to help you learn the material and will prepare you for the quizzes and tests. The problems assigned are suggested problems to look at. Homework problems will be discussed at the request of the students.

GRADING:

Final grades will be based on the following percentages.

Homework	15% of your grade
Quizzes, Tests, and Final Exam	85% of your grade

Chapter Tests will be worth 100 points.

Final Exam will be worth 200 - 300 points.

Quizzes and homework assignments will vary with point value.

Adrian High School Grading Scale

LETTER GRADE	PERCENTAGE
A	94 – 100
A-	91 – 93.9
B+	89 – 90.9
B	86 – 88.9
B-	83 – 85.9
C+	80 – 82.9
C	77 – 79.9
C-	74 – 76.9
D+	71 – 73.9
D	68 – 70.9
D-	65 – 67.9
F	0 – 64.9

Note that the final grade is calculated from the total points for each semester and will be an average of the grades from two quarters. The Adrian High School Grading scale will be used. You will receive a high school grade (from me) and a College grade from SMSU (plus 5 college credits).

Mathematics requires daily practice. Please, if you need help, don't wait till the last minute to ask for it. Please stop by for help or clarification no matter how "small" a problem you think it is. My door is always open! Also, don't be afraid to ask questions in class.

I look forward to working with you this year! Let's have a GREAT YEAR!

Mr. Remme