2010 ~ 2011 PRE CALCULUS SYLLABUS

Teacher: Mr. Leckie
Room 508
Course: Pre Calculus
Textbook: *PreCalculus: Graphical, Numerical, Algebraic, 6th edition*

COURSE CONTENT: Pre-Calculus builds upon topics covered in Algebra 2 and FST. Additional topics include analytical geometry, vectors, polar coordinates, and introductory calculus. Problems are linked to real-world applications with an emphasis on graphing, vocabulary, and technical writing. This course is designed to prepare students for calculus and college mathematics.

1st Semester (1 block = 90 min) … Schedule is tentative due to Snow/Late Start Days, Testing (CSAP, ACT, SCANTRON, & AP), etc.

Chapter P: Prerequisite Chapter
- §P.3: Linear Equations and Inequalities (1/2 block)
- §P.1: Interval Notation, Algebraic Properties, Exponent Rules (1/2 block)
- §P.2: Cartesian Coordinate System (1/2 block)
- §P.4: Linear Functions (1/2 block)
- Factoring Review (1/2 block)
- §P.5: Solving Equations Graphically, Numerically, and Algebraically (1 block)
- §P.6: Solving Inequalities Graphically and Algebraically (1 block)
- §2.8: Rational Equations (1 block)
- REVIEW (1 block)
- TEST Chapter P (1 block) … (7.5 blocks total)

Chapter 1: Functions and Graphs
- §1.2: Functions and their properties (2 blocks)
- §1.3: Twelve Basic Functions (1 block)
- §1.5: Graphical Transformations (1 block)
- §1.4: Building Functions from other Functions (Compositions and Inverses) (1 block)
- §1.6: Modeling with Functions (1 block)
- REVIEW (1 block)
- TEST Chapter 1 (1 block) … (8 blocks total)

Chapter 2: Polynomial, Power, and Rational Functions
- §2.1: Linear and Quadratic Functions and Modeling (1 block)
- §2.2: Power Functions with Modeling (1 block)
- §2.3: Polynomial Functions of Higher Degree with Modeling (1 block)
- §2.4: Real Zeros of Polynomial Functions. (1 block)
- REVIEW (1 block)
- TEST Chapter 2a (1 block) … (6 blocks total)

- §2.5: Complex Numbers (1 block)
- §2.6: Complex Zeros and the Fundamental Theorem of Algebra (1 block)
- §2.7: Graphs of Rational Functions (1 block)
- §2.9: Solving Inequalities in one variable (1 block)
- REVIEW (1 block)
- TEST Chapter 2b (1 block) … (6 blocks total)

Chapter 3: Exponential, Logistic, and Logarithmic Functions
- §3.1: Exponential and Logistic Functions (1/2 block)
- §3.2: Exponential and Logistic Modeling (1/2 block)
- §3.3: Logarithmic Functions and their graphs (1 block)
- §3.4: Properties of Logarithmic Functions (1 block)
- §3.5: Equation Solving and Modeling (1 block)\
- §3.6: Mathematics of Finance (1 block)
- REVIEW (1 block)
- TEST Chapter 3 (1 block) … (7 blocks total)

FINAL REVIEW (2 blocks)
1st SEMESTER FINAL EXAM (1 block)

2nd Semester

Chapter 9: Discrete Mathematics
§9.1: Basic Combinatorics (1 block)
§9.2: The Binomial Theorem (1 block)
§9.3: Probability (1 block)
§9.4: Sequences and Series (2 blocks)
REVIEW (1 block)
TEST Chapter 9 (1 block) … (7 blocks total)

Chapter 4: Trigonometric Functions
§4.1: Angles and their Measures (1 block)
§4.2: Trigonometric Functions and Acute Angles (1 block)
§4.3: Trigonometry Extended: The Circular Functions (1 block)
REVIEW (1 block)
TEST Chapter 4a (1 block) … (5 blocks total)

Graphing Trigonometric Functions – Scale Changes (1 block)
Graphing Trigonometric Functions – Translations and Scale Changes (1 block)
§4.7: Inverse Trig Functions (2 blocks)
§4.8: Solving Problems with Trigonometry (1 block)
REVIEW (1 block)
TEST Chapter 4 (1 block) … (7 blocks total)

Chapter 5: Analytic Trigonometry
§5.1: Fundamental Indentities (1 block)
§5.2: Proving Trigonometric Identities (1 block)
§5.3: Sum and Difference Identitites (1 block)
§5.4: Multiple-Angle Identities (1 block)
Solving Trigonometric Equations (1 block)
§5.5: The Law of Sines (1 block)
§5.6: The Law of Cosines w/area of a triangle (1 block)
REVIEW (1 block)
TEST Chapter 5 (1 block) … (9 blocks total)

Chapter 6: Vectors, Parametric Equations, and Polar Equations
§6.1: Vectors in the Plane (1 block)
§6.2: Dot Product of Vectors (1 block)
§6.3: Parametric Equations and Motion (1 block)
§6.4: Polar Coordinates (1 block)
§6.5: Graphs of Polar Equations (1 block)
REVIEW (1 block)
TEST Chapter 6 (1 block) … (7 blocks total)

FINAL EXAM REVIEW (2 blocks)
2nd SEMESTER FINAL EXAM (1 block)

STUDENT EVALUATION

Both formative and summative evaluations are used during this course. There will be quizzes every 2 days of instruction. Each student must earn 70% or higher, or must retake the quiz during academy/interventions. All quizzes must be retaken before the chapter exam. ONE chapter exam from each semester may be retaken. In the event of a retake, the score on the retake is recorded and the original is dropped.

Grading: Your 18 – week grade will be weighted with the following percentages:

- Assignments: 5%
- Quizzes: 20%
- Tests: 75%

Final:

- The Final exam will be cumulative and worth 25% of your semester grade.
  In other words: 0.75*(18-week grade) + 0.25(Final Exam grade) = Semester Grade
- *The Second Semester Final Exam is **cumulative for the entire year.***

SCALE: Grades will be posted on Infinite Campus as often as possible.

- 89.50 – 100% A
- 79.50 – 89.49% B
- 69.50 – 79.59% C
- 59.50 – 69.49% D

Assignments:

- Assignments will be given daily. Whether the assignments are intended to be completed in class, at home, individually or in a group will depend on the assignment.
- There will be assignments assigned for EVERY section. If you do not practice the concepts outside of class you are only hurting yourself.
- Assignments will be corrected based on completeness only, but it is only beneficial if you correct it. Solutions guides may be available for purchase.
- Assignments should be completed every day, but will be collected on the days of a quiz or a test. (about every 2 days)
- Homework will be recorded as a cumulative score. Each time homework grades are recorded, you will be given a score that reflects the percentage of homework you have completed for the semester up to that day.
- The ABSOLUTE LAST day for late homework is the week before final exams.

Quizzes:

- Quizzes will be given every 2 two days of instruction.
- Quizzes will be retaken until a student earns a 70% or higher.
- Quizzes may be retaken regardless of the score.
- Retakes of all quizzes MUST be completed before the chapter exam.
- You must correct your original quiz before taking the retake.
- If you are not here the day the quiz is given, you may have an original quiz, but you must take the retake quiz.

Tests:

- Tests will usually be given after the completion of each chapter, but usually contain review questions from previous chapters.
- A review sheet/problem set will typically be given for each test, and you should understand ALL topics listed.
- Tests usually will be given in two parts (with and without a calculator).
- Each chapter test will be weighted the same.
- Make up tests are usually different than the original exam.
- ONE retake of chapter exams will be allowed each semester.
    - Corrections to original test must be done in class prior to retake
    - Retakes may have fewer questions than the original, meaning each question is worth more.

***CLASSROOM EXPECTATIONS*:**

#1: You are expected to be ON TIME. There are no bells, but the clocks are set to the exact time. Be here early, so you are ready to start at the right time.

#2: You are expected to treat EVERYONE in the class with the same attitude of respect you expect to treated. This includes the language you use, the attitude you bring to class, and the way you respond when asked to do something in class.

Consequences: Failure to follow the above expectations will result in any of the following:

1. Warning … Student – Teacher conference … In the case of tardies, you will receive 3 warnings.
2. Parent phone call and/or Academy Detention
3. Referral to an Administrator

ABSENCES:

- It is ***YOUR*** responsibility to find out what you missed!!!!!!!!!
- You will be given a list of assignments for every chapter. If you lose yours, print out another one online.
- The Academy/Interventions period is time set aside for you to get and complete your make up work. It may take more than one academy period for you to get caught up.
- No make-up tests/quizzes will be given during class time. It is YOUR responsibility to make an appointment during Academy/Interventions or after school.

SUPPLIES:

The following is a list of supplies (other than your ***book***) that will be needed throughout the course of the year.

- A notebook or a section of a notebook dedicated to this class for notes and handouts. (I will not collect this)
- An approved graphing calculator … We will use a TI-83+ or a TI-84+ in class.
- Pencils (I will not be providing pencils at any time)
- Graph Paper … especially second semester.
- ID CARD --- used to check out any supplies that we might use in class.

RESOURCES AVAILABLE:

Mr. Leckie's website: http://www.chaoticgolf.com

Daily Assignments
Review Sheets with Solutions
Extra Credit (when available)
Graph paper available to be printed
Syllabus may be read online
Contact Mr. Leckie through an email form
Limited links to other Math sites on the Internet

Academy/Interventions … Monday, Tuesday, and Thursday

Tuesday of every week has been designated for math interventions. You may attend voluntarily whenever you feel like you need help. You may also be required to attend for various reasons …

1. Not turning in all your homework,
2. Falling behind in work due to absences or other reasons,
3. Having a D or F,
4. Earning less than a 70% on any quiz.

Failure to show when required may result in an academy detention, referral to assistant principal, or loss of privileges (off campus, partials, extracurricular or athletic activities).

Complete Solutions Manual to accompany Pre Calculus Text. Cost is approximately $35 but will be determined when we call the publisher. I have a few of them that will stay in class, but it is recommended that you get your own. You may purchase one through AAHS (details will be given in class) or find a student who has one from last year.

DUAL CREDIT OPTION:

It is possible to receive dual credit for this course at UCCS through the "CU Succeed" Program. You will enroll in Math 105 at UCCS for their second semester and receive 1 semester of college math credit on a UCCS transcript. The grade you receive on the UCCS transcript will be a cumulative total of your first and second semester grades for PreCalculus. You DO NOT have to attend UCCS in the future to receive credit as long as the college you attend accepts transfer credits from UCCS.

There is NOTHING extra you must do to earn the dual credit other than complete the required paperwork and pay the fees.

The cost will be determined by UCCS but has been around $40 per unit for a 4 unit course (or $160). Details and more information will be passed out in class later in the year (December or January).