MATH 2412
Course Document – Revised Fall 2009

1. **Course Title:** Precalculus

2. **Prerequisite:** Four years of high school mathematics, including trigonometry or College Algebra (Math 1314) and Trigonometry (Math 1316) Engl 0305 or 0316 (developmental reading) or placement by testing

**Corequisite:** Engl 0307 or 0326 (developmental writing) or placement by testing

3. **Credit:** Four (4) semester hours

4. **Materials Needed:**

   4.1 Textbook: *Precalculus*, 8th ed., by Sullivan

   4.2 Calculator: Scientific model or graphics model

5. **Purpose:**

   You should develop skills and reasoning abilities that will contribute significantly to your success in problem solving.

   You should develop the ability to formulate problems mathematically and use mathematical methods in deriving new conclusions. By applying mathematics to problems, you should increase your awareness of and appreciation for the usefulness of mathematics.

6. **Major Course Objectives:**

   Upon the successful completion of this course, you should be able to:

   6.1 Add, subtract, multiply, divide and compose two given functions

   6.2 Use translation to sketch graphs

   6.3 Apply quadratic functions in solving real world problems

   6.4 Set up functions to describe maximum and minimum problems

   6.5 Graph polynomial, rational, exponential and logarithmic functions

   6.6 Apply the properties of exponential and logarithmic functions in solving real world problems

   6.7 Solve trigonometric equations

   6.8 Review the graphs of trigonometric functions

   6.9 Write the partial fraction decomposition for a rational expression

   6.10 Apply the Binomial Theorem and prove statements using mathematical induction

   6.11 Graph conic sections by translating and rotating the axes

   6.12 Graph polar equations

   6.13 Find the nth term and sum of an arithmetic, geometric, and infinite geometric sequence

   6.14 Perform basic operations using vector algebra
7. **General Course Outline:**

   Textbook chapters/sections 1.4, 2.1, 2.3, 2.4, 3.4, 4.2, 4.3, 5.1-5.6, 5.8, 6.4-6.6, 7.7, 7.8, 9.1-9.5, 10.1-10.5, 10.7, 11.5, 12.1-12.5 Optional Sections: 9.6, 9.7, 10.6, 14.1-14.3

8. **MyRecords:**

   MyRecords gives students, staff, and the community access to our databases. It allows a student to register online, look up a course schedule, get information regarding financial aid status, view unofficial transcripts, search for classes and get final semester grades for a specific term. Faculty use MyRecords for Mid-term and Final Grading. Go to [http://www.lonestar.edu/northharris](http://www.lonestar.edu/northharris) or [http://www.lonestar.edu/myrecords.htm](http://www.lonestar.edu/myrecords.htm) from your internet browser. Click on MyRecords in the center box. Follow the instructions for securing your user name and password. Call 281-618-5486 or 832-813-6600 or email [NorthHarris.HelpDesk@lonestar.edu](mailto:NorthHarris.HelpDesk@lonestar.edu) or [District.HelpDesk@lonestar.edu](mailto:District.HelpDesk@lonestar.edu) for further assistance.

9. **Withdrawal Policy/Student Drop Limit:**

   Students who enrolled in Texas public institutions of higher education as first-time college students during the Fall 2007 term or later are subject to section 51.907 of the Texas Education Code, which states that an institution of higher education may not permit a student to drop (withdraw with a grade of “W”) from more than six courses. This six-course limit includes courses that a transfer student has previously dropped at other Texas public institutions of higher education if they fall under the law.

   Students should be sure they fully understand this drop limit before they drop a course.
   Please visit the admissions office or counseling/advising center for additional information and assistance.

10. **Academic Integrity:**

    Lone Star College System is committed to a high standard of academic integrity in the academic community. In becoming a part of the academic community, students are responsible for honesty and independent effort. Failure to uphold these standards includes, but is not limited to, the following: plagiarizing written work or projects, cheating on exams or assignments, collusion on an exam or project, and misrepresentation of credentials or prerequisites when registering for a course. Cheating includes looking at or copying from another student’s exam, orally communicating or receiving answers during an exam, having another person take an exam or complete a project or assignment, using unauthorized notes, texts, or other materials for an exam, and obtaining or distributing an unauthorized copy of an exam or any part of an exam. Plagiarism means passing off as one's own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism includes submitting a paper, report or project that someone else has prepared, in whole or in part. Collusion is inappropriately collaborating on assignments designed to be completed independently. These definitions are not exhaustive. When there is clear evidence of
cheating, plagiarism, collusion or misrepresentation, a faculty member will take disciplinary action including but not limited to: requiring the student to retake or resubmit an exam or assignment, assigning a grade of zero or “F” for an exam or assignment, or assigning a grade of “F” for the course. Additional sanctions including being withdrawn from the course/program or being expelled from school may be imposed on a student who violates the standards of academic integrity.

11. Division Counselor:

Rhonda Cannon, Counselor for Math and Natural Sciences, is available in Winship 115G to assist you in meeting your academic, career, and personal goals. Confidential counseling services are available by appointment to help you overcome academic challenges, make a career choice, plan your transfer, and to gain self-understanding. To schedule an appointment call 281-618-5480 or email rhonda.cannon@lonestar.edu or stop by Winship 115G.

* It is the responsibility of the student to drop a class by “W” day if he/she desires.

* Students with disabilities, who wish to request accommodations in this class, must notify the Disability Services Office as soon as possible so that the appropriate arrangements may be made. Students requesting accommodations must provide documentation of his/her disability to a Disability Services counselor. For more information, call or visit the Disability Services Office at A 104, (281) 618-5481.