Syllabus for PreCalculus

MTH 144 Section 005  Fall 2015
Instructor: Byron Hunter  M/W 4:30 – 6:50
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Email: bhunter@clcillinois.edu
Web Address: http://home.clcillinois.edu/eng504
Office: L137

Hours:

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Required Material: A TI-84 graphing calculator is required and the text is required.

Prerequisite: Completion of MTH 108 (or MTH 107) with a grade of “B” or above or an appropriate placement score and 1 year of High School Geometry or MTH 104.

Course Description: This course is designed primarily for students who intend to take calculus. Credit will not be awarded for MTH 144 and MTH 122 or MTH 144 and MTH 123. Topics include problem solving with equations, functions, polynomials, exponential functions, logarithmic functions, trigonometric functions, law of sines, law of cosines, trigonometric identities and equations, systems of equations and inequalities, parabolas, ellipses, hyperbolas, sequences and series, mathematical induction, and the binomial theorem.

Instructional Delivery: Lecture, discussion, and demonstrations will be used frequently, with several opportunities for students to apply the content through written assignments, group work, etc.

Student Responsibility: Attendance is required. It is the responsibility of the student to acquire any material missed as a result of an absence. It is recommended that every student seek to find a partner or group to study with and use as a resource when an absence occurs. A common standard used to figure out how much time per week to set aside for class preparation is to multiply the number of credit hours enrolled in by 2. A student enrolled in one 5 credit hour class should set aside 10 hours a week for class preparation, 5*2=10. This class requires 15 hours per week! Students enrolled in 15 credit hours need to set aside 45 hours each week, 15 hours for class meetings and 30 hours to study and prepare. Having a full-time student is a full-time job. When a student has difficulties in a mathematics course, the most common reason for their performance is a lack of time committed to the class.
Course Objectives: Upon completion of this course, the student should be able to:

1. Create graphs using linear transformations.
2. Create graphs of non-linear functions.
4. Analyze polynomial and rational functions.
5. Solve exponential and logarithmic equations.
6. Construct and solve exponential and logarithmic application problems.
7. Evaluate trigonometric values at all special angles and their multiples without a calculator.
9. Examine inverse trigonometric functions including their domain and range.
10. Solve right triangles using the definitions of trigonometric functions.
12. Establish trigonometric identities.
13. Solve trigonometric equations.
15. Analyze and graph polar equations.
16. Analyze and graph parametric equations.
17. Solve non-linear systems of equations and inequalities.
18. Perform operations on matrices using matrix algebra.
19. Investigate conic sections.
20. Examine sequences and series.

Grading policy: There will be four chapter tests throughout the semester, many quizzes and a comprehensive final exam. The lowest of the four chapter test scores may be replaced with the final exam score. Your final grade will be based on your level of achievement on collected assignments, quizzes and exams as well as preparation, participation and group work. Homework will be assigned daily and collected occasionally.

Chapter tests: 10% each * 4 = 40% 90-100% A
Quizzes and Groupwork: 30% total 80-89.9% B
Other: 5% 70-79.9% C
Final: 25% 60-69.9% D
100% Below 60% F

Make-up Test Policy: You are expected to take tests at the scheduled time. Since the final exam score may replace the lowest test score, a missed test will go as a 0, then be replaced by the final exam (making the final worth 35%). However, if you do miss an exam please make the reason that the exam was missed known.

Quizzes: Cognitive research shows that repeated quizzing is the best way to keep material in long-term memory. Therefore, many quizzes will be given during the semester. These quizzes will take many forms. Some will be short, some long, some will cover exercises and some will cover the readings. Also, under no circumstances will make-up quizzes be given.

Technology: The use of technology in the classroom should be restricted to the required calculator and any required computer work. If a phone must be left on, it should be inaudible to those around and any emergency phone calls/texts should be received outside of the classroom.

Students with Special Needs: If you have a documented disability that requires academic accommodations, please discuss this with me as soon as possible and contact the Office for Students with Disabilities in room L112 to arrange for all necessary services. To request academic accommodations due to a disability, please contact the Office for Students with Disabilities (847) 543-2474 in Room L112. If you have an Instructor Notification Form, please make an appointment with me so we can discuss the accommodations that you might need in this class.
Academic Honesty: The College of Lake County has adopted the Student Rights and Responsibilities Policy (#403) and a Statement of Student Academic Integrity. These may be found in the Student Handbook. Among the violations of academic integrity listed and defined are: cheating, plagiarism, falsification and fabrication, unauthorized complicity, abuse of academic materials, complicity in academic dishonesty, falsification of records and official documents, personal misrepresentation and proxy, and bribes, favors, and threats. It is the student’s responsibility to be aware of behaviors that constitute academic dishonesty. Pursuant to the due process guarantees contained in the Student Rights and Responsibilities Policy and Procedures on Student Academic Integrity, the minimum punishment for the first offense for a student found in violation of the standards of academic integrity is failure in the assignment. In addition, a disciplinary record will be established and kept on file in the office of the Vice President for Student Development.

CLC Math Center: The secret of success is knowing when to seek help. If you are enrolled in a math or math-related course and need assistance, the Math Center provides tutoring by trained professionals as well as by fellow students. Please visit the CLC Math Center(s) for support. Come prepared for tutoring by having specific questions on problems that you have tried and on which you have had trouble. While Math Center tutors are happy to help you with homework they cannot do it for you. The Math Center does not provide help on take home exams and assignments or extra credit assignments.

From the CLC Counseling Office: The College of Lake County Counseling Office offers professional counseling for students who are in crisis or are having personal problems which as a result may affect their academic and career goals. The services of professional counselors are available at three locations on an appointment or drop-in basis: Grayslake Campus, C110, (847) 543-2060; Lakeshore Campus in Waukegan, N211, (847) 543-2186; Southlake Center in Vernon Hills, V130, (847) 543-6501

Emergency Procedures: The College of Lake County works to ensure that the students, staff, and faculty are provided a safe environment for learning. To ensure this, emergency procedures have been developed. Emergency instructions are posted in each classroom. Please acquaint yourself with them. In the event of an emergency, please stay with the instructor or your fellow classmates. For the events listed below, the following procedures will be used:

Fire Alarm or Fire Event: Upon activation of the fire alarm, exit the room and remain together once outside the building. Remain outside, at least 100 feet from the building, until officially advised to re-enter.

Tornado: The College of Lake County designates safe zones in the event of a tornado. Our room is a safe zone, we will not need to move.

Life Threatening Emergency: Based on the most current information, the college will advise all campus stakeholders of the identified threat. Options to address the threat may include, exiting the building or sheltering in place. Please follow the instructions provided and move quickly. Should the decision be made to shelter in the classroom, members of the classroom will immediately secure the classroom door and move to an area not visible from the windows or door. You will silence all cell phones and remain quiet through this time.

Earthquake: Should an earthquake occur (for the first time in any of our lifetimes), the procedure will be to shelter in the room seeking cover under tables or desks until the tremors stop. You will then exit the building and remain at least 100 feet from the building.
How to succeed: It is a goal of this course that students understand that mathematics should become more than a set of steps and rules to memorize. Therefore, every student is responsible for thoughtful contribution to all class discussions. The following suggestions should help reach this goal.

1. Come to every class prepared.
2. Do all assigned homework and reading assignments.
3. Expect to struggle at times and arrive at incorrect answers. It is when a subject becomes difficult when the greatest amount of learning is achieved.
4. Spend a minimum of 1 – 2 hours of studying/reading/homework for each hour in class.
5. Get extra help from me or from the math center located in the library.
6. Find a classmate or two to work together with and to get notes from if you miss class.
7. Study for tests by using an environment similar to a test environment.
8. If you begin to fall behind be sure to seek help immediately!

Schedule

1  Review, Solving Equations, Graphs – Chapter 1
2  Functions and Their Graphs – Chapter 2
2 – 4  Polynomial and Rational Functions – Chapter 4
Test over Chapter 1, 2, and 4 material
5 – 7  Exponential and Logarithmic Functions – Chapter 5
Test over Chapter 5 material
8  Trigonometric Functions – Chapter 6
9 – 11  Analytic Trigonometry – Chapter 7
Test over Chapter 6 and 7 material
11 – 12  Applications of Trigonometric Functions – Chapter 8
12 – 13  Analytic Geometry – Chapter 10
14 – 15  Systems of Equations and Inequalities – Chapter 11
Test over Chapter 8, 10, and 11 material
15 – 16  Sequences and Induction – Chapter 12
16  Comprehensive Final Exam

Important Dates: Monday, September 7th and Tuesday September 8th – No classes Labor Day Holiday
Wednesday, September 9th – Last date to withdraw without a “W” on transcript
Wednesday, November 18th – Last day to withdraw
Wednesday – Friday, November 25th – 27th – No classes Thanksgiving Holiday

Note: If you plan to discontinue attending your class anytime during the semester, it is strongly recommended that you take responsibility for withdrawing from the class before the last day to withdraw.