Pre-Calculus
MATH 2412
Internet course

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E-mails will be responded to within 24 hrs. if sent during the week. E-mails sent during the weekend may not be responded to as often.
Textbook: PreCalculus (customized for Temple College)
ISBN: 0-536-47500-8
Course Content is located at www.coursecompass.com or by logging in to D2L.

Prerequisites:
College Algebra or equivalent.

Required or Recommended Textbooks/Tools:

- PreCalculus by Mark Dugopolski. You can purchase this through Temple College Bookstore. Make sure you purchase a book that includes access to Course Compass website.
- Graphing calculator
- Internet access
- E-mail address

Course Description:
This course emphasizes on topics from algebra and trigonometry to analytic geometry, including parametric equations and polar coordinates, which are essential in your future success in Calculus.

Course Objectives:

A. Trigonometric Functions and Right Triangle Trigonometry
The student should be able to:

1. Measure two complementary angles,
2. Convert angles in degree-minute-second form to decimal form and convert angles in decimal form to degree-minute-second form,
3. Change degree measures to radians and change radian measures to degrees,
4. Find the length of the arc intercepted by a central angle,
5. Find the trigonometric values for angles in standard position given a point on the terminal side of the angle,
6. Find the exact trigonometric values,
7. Determine what quadrant contains the terminal side of an angle and find trigonometric values given information including the quadrant,

8. Graph trigonometric functions and five the period, amplitude, and phase shift,
9. Find exact values of trigonometric functions of inverse trigonometric values and solve equations that involve inverse trigonometric values,
10. Use a calculator to find approximate solutions,
11. Find exact values for trigonometric functions of sums or differences, multiples, and halves of angles,
12. Solve equations,
13. Verify identities,
14. Solve application problems by use of Right Triangles, Law of Cosines, and Law of Sines,
15. Solve application problems by use of vectors,
16. Plot complex numbers and find absolute values,
17. Change complex numbers in a + b*i* form to trigonometric form and change complex numbers in trigonometric form to a + b*i*, and
18. Use DeMoivre's Theorem to find indicated powers and roots.

B. Analytic Geometry and Conic Sections

The student should be able to:

1. Sketch a vector and find its magnitude,
2. Perform indicated operations on vectors,
3. Find the angle of intersection of two vectors,
4. Sketch the graph of polar equations,
5. Change an equation in rectangular form to polar form and change an equation in polar form to rectangular form,
6. Graph a curve represented by parametric equations,
7. Identify a conic section and if it is a parabola, find its vertex, focus, and directrix; if it is an ellipse, find its vertices, endpoints of minor axis, and foci; if it is a hyperbola, find its vertices, endpoints of conjugate axis, foci, and asymptotes, and sketch each curve,
8. Find the equation of an indicated conic section satisfying given conditions,
9. Rotate the coordinate axes to remove the xy-term and sketch the graph of a curve,
10. Find the xy-coordinates of a point if the xy-axes are rotated through a given angle,
11. Sketch the graph of a polar equation, and
12. Find the polar equation of conic satisfying given conditions.

C. Sequences and Series.

The student should be able to:

1. Find the indicated term and the general term for a sequence,
2. Find the common difference of an arithmetic sequence and the common ratio of a geometric sequence,
3. Find the sum of a sequence,
4. Change a repeating decimal to reduced a/b form,
5. Solve application problems,
6. Show a mathematical induction proof,
7. Find a binomial expansion, and
8. Find the indicated combination or permutation for a given situation.

Grading Procedure:
There will be 4 exams throughout the semester, along with a final exam at the end of the semester administered on Temple College campus. These exams are taken on campus at the Testing Center located in One College Centre. VCT students will take their exams at their college testing center. There will also be on-line quizzes, as well as homework problems to do on-line. Homework, quizzes, and exams will have deadlines.

Exams (4): 60%
Final (1): 25%
Homework/Quizzes: 10%
Attendance: 5%

Distribution of Grades is as follows:

90% and above	A
80%-89%	B
70%-79%	C
60%-69%	D
59% and below	F

Math Lab Hours:
Temple College has a Math Tutoring Lab (MTL) designed to help students with courses in mathematics. The hours of the lab will be posted on the MTL website. The MTL is located in MBS 1117.

Assignments:
All on-line assignments will be submitted electronically on MML with official deadlines tied to each assignment.

Attendance:
Attendance will be submitted weekly via e-mail, beginning Sunday and ending Saturday. You will be able to make up an attendance by coming to see me during my office hours or tutoring hours, which will be e-mailed to you at the start of the semester. VCT students can make up an attendance by calling me by phone during my office hours, which will be e-mailed to you at the start of the semester.