Anoka-Ramsey Community College
Course Syllabus
MATH 1201 - College Algebra II and Trigonometry
Fall 2016

Instructor: Bruce Bordwell
Time and Location: 10:00 – 11:40am T Th, Room B274
Office/Hours: Room H103, 8:00 – 8:50am MWF, 9:00-9:50am T R and by appointments
Phone/Voicemail: 763-433-1128
Instructor Web Page: http://webs.anokaramsey.edu/bordwell/home.htm

D2L: The class will be supported through D2L. Log on to D2L at https://anokaramsey.ims.mnscu.edu/. (D2L contains homework assignments, a course calendar, grade book and solutions to exams and other assignments. As a student, you are responsible for all the information on the course site. The information is constantly updated and changed. You will be expected to periodically check D2L for changes and adjustments.)

Course Prerequisites: Math 1200 (or equivalent course) with a grade C or better, a required score on math placement test

Course Description: Topics covered are trigonometric and circular functions; trigonometric identities and equation; inverse trigonometric functions; rational functions; introduction to matrices and determinants; conics; parametric equations; polar coordinates; and modeling

Learner Outcomes
1. Convert from degrees to radians and vice versa.
2. Define the six trigonometric functions and find values of them with and without a calculator.
3. Prove identities that make use of the eight fundamental identities, sum and difference formulas, and double and half angle formulas.
4. Solve application problems that involve solving triangles using right triangle trigonometry, the Law of Sines, Law of Cosines, and other application problems that might include finding the area of a triangle and harmonic motion.
5. Trigonometric equations, including those that involve factoring.
6. Demonstrate elementary properties of inverse trigonometric functions.
7. Add, subtract, multiply and divide complex numbers in rectangular form.
8. Graph a complex number and change it to trigonometric form and vice versa.
9. Multiply, divide, raise to a power, and find roots of complex numbers using trigonometric form.
10. Sketch and find a scalar multiple, sum, and difference of vectors.
11. Solve application problems that involve vectors.
12. Find the real, rational, and/or complex zeros of a polynomial function.
13. Find the determinant for a 2x2 or 3x3 matrix.
14. Identify, transform, and/or produce the graph for a given parabola, ellipse or a hyperbola.
15. Eliminate the parameter for a plane curve defined parametrically.
16. Sketch certain curves defined parametrically.
17. Sketch the graphs of equations given in polar coordinates.
18. Readily convert back and forth between Cartesian and polar coordinates and equations.
19. Create, analyze, and discuss the validity of a mathematical model for a set of data.
20. Solve a system of linear equations using row reduction.
21. Find any foci, vertices, and directrices for a given parabola, ellipse, or hyperbola.
22. Find the domain, intercepts and asymptotes (vertical, horizontal, and oblique) for a given rational function and graph the function.
23. Using a graphing utility, where applicable in the above outcomes, and interpret the results.
24. Graph the six trigonometric functions with emphasis on graphs of the form

\[ y = a \sin(bx + c) + d \] and \[ y = a \cos(bx + c) + d \].

Required Textbook: Algebra and Trigonometry, 6th Ed, Sullivan and Sullivan
A Graphing Calculator is required for this course. The use of a CAS calculator (TI-89, TI-92 or equivalent) is prohibited on all exams.

Tentative Course Schedule: We will cover all or parts of Ch 5, 7 - 12 in this textbook.
Attendance: It is important to attend each class session. You are responsible for any material missed while you are gone and all assignments which were due.

Last Day of Attendance (LDA): Due to attendance reporting policies, if you miss two consecutive weeks of classes without communicating regarding your absence I will enter a last day of attendance (LDA) into the student record system which will result in a Fail (F) grade being issued for the class. Once the LDA is entered you may request to be withdrawn by going to the Records Office before the withdrawal deadline. If you wish to be re-enrolled after the last day of attendance (LDA) is entered, you must submit an Exception to Policy petition.

Homework: Required Homework will be assigned daily and posted on the course calendar through D2L and/or WebAssign. Each homework problem will be completed neatly and organized in a homework notebook consisting of 1) the problem rewritten 2) all work shown step by step in a logical sequence 3) the answer circled. (Note: Word problems and graphs do not have to be rewritten in your homework notebook….unless you think it will help.) All required homework is to be completed by the next class period after the section has been covered. *The even problems assigned can be used as extra credit on homework checks explained below.

Homework Checks/Assignments: You will be responsible for the completion of in-class Homework Checks during the semester. There will be no late Homework Checks accepted and you must be in attendance with the completed Required Homework during class to receive credit. Also, other assignments/worksheets will be assigned and turned in throughout the semester and graded. **The lowest 3-4 homework checks and/or assignments will be dropped from your overall grade.

Examination Policy: There will be 4 exams. Exams might contain calculator, non-calculator and/or a take-home portion. Each exam will be worth 100 points. If you have to miss an exam, contact me before the test to make arrangements for a make-up exam. There are no make-up exams without prior arrangement. Missed exams should be made up in a timely manner, before the second class period after the exam was given. The Comprehensive Final Exam will be worth 200 points and will follow the final’s schedule.

Final Exam Date: Tuesday, December 13, 2016 – 7:30-9:30AM, Room TBD

Tutoring: Anyone interested in tutoring should see me during the first week of class.

Grading Policy: Grades are based on:

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Pass/Fail: If you wish to take this course on a pass/ fail basis, you must inform me in writing no later than November 23, 2016. P is 70% or better.

Withdraw: The last day to withdraw with a grade of “W” is November 23, 2016. Please see your Student Handbook for other important dates and deadlines.

Office for Students with Disabilities: Anoka-Ramsey Community College is committed to ensuring equal access to our facilities, services and academic programs for students with disabilities. The Office for Students with Disabilities provides information and resources to support an environment that is accessible and inclusive for all individuals. Within the first week of class, students with special needs that require accommodations should contact: Office for Students with Disabilities at 763-433-1350 or http://www.anokaramsey.edu/resources/disability-services/

Veterans Services Office: ARCC is dedicated to assisting veterans and eligible family members in achieving their educational goals. If you are a service member or veteran, please contact the Veterans Services Office at 763-433-1390 or http://www.anokaramsey.edu/resources/veterans-services/ for information regarding educational benefits and opportunities. For further information, refer to MnSCU Procedure 5.121.1 Military Service and Disabled Veterans at http://www.mnscu.edu/board/procedure/512p1.html.