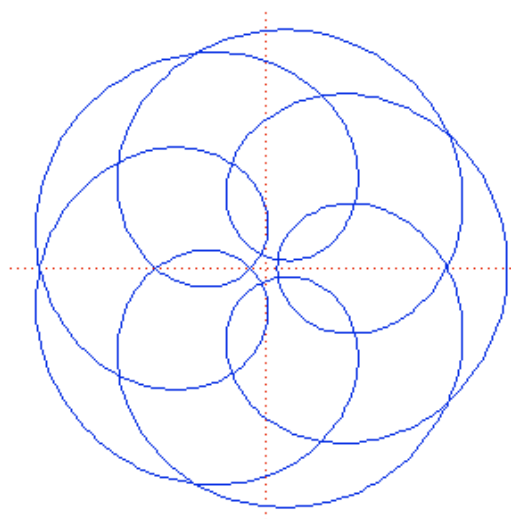


Math 150: Calculus and Analytic Geometry I
Section #1516
TTh 1:00am-3:15pm, OC3509
Spring 2011

Hypotrochoid



David Wesley Bonds
Math Department, MiraCosta College
One Barnard Drive
Oceanside, CA 92056-3899

Office: T-315
Office telephone: 760-757-2121, x6497 + voice mail
E-mail: dbonds@miracosta.edu

Parametric Cartesian equation:

$$x = (a - b) \cos(t) + c \cos((a/b - 1)t),$$

$$y = (a - b) \sin(t) - c \sin((a/b - 1)t)$$

Prerequisite: The prerequisite for Math 150 is completion of Math 130 and Math 135 with a grade of "C" or better, or a qualifying score on the Math Competency Exam (MCE).

Course Description: This course is the first in a three-semester calculus sequence designed for mathematics, science, and engineering majors. Topics include limits and continuity; differentiation of algebraic, trigonometric and exponential functions and their inverses; integration and the Fundamental Theorem of Calculus; and applications of differentiation and integration.

Course Objectives: At the end of this course you should be able to (1) Know and be able to apply the definition of "limit", both finite and infinite and compute limits of functions; (2) Given a list of algebraic and transcendental functions, compute, with no references, the derivative or indefinite integral of each; (3) Solve problems involving tangent lines, extrema, or velocity; (4) Solve related rate and optimization problems; (5) Sketch and describe the behavior of a curve using calculus techniques; (6) Solve application problems involving integrals; and (7) Make judicious use of appropriate technology to solve problems from the course topics.

Student Learning Outcomes: (1) Given a function, students will be able to apply the appropriate technique(s) to find the derivative of the function. (2) Given a function, students will be able to apply the appropriate technique(s) to find the integral of the function. (3) Given an applied problem from differential or integral calculus, students will be able to apply an appropriate technique to solve the problem.

Textbook: Larson, Hostetler, Edwards, *Calculus, 9th ed.*, Brooks/Cole, 2010. Prepare for each class by reading those sections of the text that will be covered in class. ***Bring your text to each class meeting.***

Calculators: Although calculators will **not** be allowed on some tests, the use of a graphing calculator is required. In general, the Math Department recommends the TI-83, or TI-83 Plus.

Course Evaluation and Grading: Your course grade will be based on the following:

Participation and Attendance	60 pts	A = 895 - 1000
Homework	130 pts	B = 790 - 894
Tests	600 pts	C = 685 - 789
Final Exam	210 pts	D = 550 - 684
		F = below 549

In addition to homework, there will be 3-6 tests, and a Final Exam. **THERE ARE NO DROPPED TEST/EXAM/HOMEWORK SCORES** in this course.

If for ANY reason, you must miss class on the day of a test or exam, you **MUST** make arrangements with me **IN ADVANCE** for taking the test at some other time. It is your responsibility to make the necessary arrangements **beforehand**. Make-up tests *may not* be given for full credit.

*******The final exam date is Thursday, May 26th, starting at 1:00pm.*******

In this class we will be learning how use calculus, algebra, and geometry to do problems in a clear, step-by-step fashion. For all tests, points are assigned to steps and notation, as well as to the final answer. Getting the correct answer is only worth a small portion of the total points for the problem. To earn full credit for a problem, you must show all steps, use correct analysis, clear algebra, and proper notation, and arrive at the correct answer.

Participation and Attendance: In order to get the most out of this course, plan to attend each class regularly, arrive on time, and stay for the entire period. Since attendance is mandatory, you will be dropped after the fourth absence. Re-enrollment (*which may occur once*) is possible, but you must discuss it with me first. Again, attendance is your responsibility as are its consequences.

It is your obligation, as well as your responsibility, to participate in class discussions and in-class assignments. I encourage everyone to be active learners; this means you ask questions in class whenever you do not understand something. In addition, I am available for individual assistance during my scheduled office hours, or by appointment. I advise you to get to know your classmates and to work in groups, if possible. PLEASE NOTE: 6% of the final grade is determined by class participation and attendance. I will take the following issues into consideration:

- Your ability to answer questions on assigned readings
- Your ability to focus on mathematics while in class, —saving personal conversations for outside the classroom
- Your ability to successfully work in small groups
- Your ability to offer insight to questions asked by fellow classmates
- Your ability to be on time to class
- Your ability to leave food or drinks outside the classroom
- Your ability to turn in assignments on time
- Your ability to refrain from talking to your neighbors when I am lecturing, —for some students the noise is distracting and disruptive
- Your ability to maintain a positive and supportive attitude, —being sensitive to the feelings of others, and avoiding criticism, teasing, or joking that might be hurtful

School Holidays: February 18th– 21st, and March 21st – 26th (Spring Break).

Homework: Homework assignments will be given in class and will be checked/graded regularly. I expect assignments to be legible, neatly organized, and worked using 3 colors. (I will explain this in class). Some homework problems will be discussed during class, especially those that may have caused you particular difficulty. PLEASE NOTE: 13% of your final grade is based on your homework scores. Late homework will not be accepted.

Success in this Course: Mathematics is a "learn by doing" subject. A good rule is to set aside ten to fifteen hours per week outside of class to do your homework assignments and to complete other study and learning tasks. These tasks include: completing homework, reading the text, doing examples from the text, making outlines or 3x5 cards, memorizing formulas, rules or processes,

viewing videos or getting help from your instructor or from peers in the Math Learning Center (MLC), or the Tutoring & Academic Support Center (TASC). Do not allow yourself to fall behind in your work. Catching up before a test is an extremely difficult task.

In preparation for a given test, at a minimum, you should complete all homework and any review or supplementary handouts. If you need to refer to the text when completing a problem, redo it until you can complete it correctly without reference. Then, redo it again at a later date to be sure that you remember it. In order to assure that you are properly prepared for a test, you should practice in an environment as close as possible to the testing environment: using no references, write out all problems and solve them showing all steps, and work under an appropriate time constraint.

Office Hours: My office hours are meant for you. If your schedule conflicts with mine, see me in class to make an appointment. I will hold the following scheduled office hours:

Mondays: 3:00-3:30pm, Tuesdays: 3:30-4:00pm
Wednesdays & Thursdays: 10:30-11:00am

Learning Community/Extra-Credit: Associated with this course is a learning community composed of students in this class. Your learning community will be lead by a student who is outstanding in teaching ability and knowledge of this course. Prior to each test, if you participate in two learning community meetings, you may receive a 4 percentage-point extra credit per test. Prior to each test, if you participate in one learning community meeting, you may receive a 2 percentage-point extra credit per test. PLEASE NOTE: Extra-Credit points can only be applied to test grades of C (68.5%), or better.

Accommodation of Disability: Students with verified disabilities who need academic accommodations should discuss options with me during the first two weeks of class. Please contact me and/or the Disabled Students Program and Services (DSP&S) Office for further information.

Academic Integrity and Classroom Behavior: This class will be conducted in accordance with basic standards of academic honesty supported by MiraCosta College's *Academic Policies*, stated in the course catalog, pages 267-275. Cheating, plagiarism, or other forms of academic dishonesty are not acceptable and will not be tolerated. MiraCosta College's policies covering the *Rights and Responsibilities of Students* are stated in the course catalog, pages 276-286. Students are expected to respect and obey these standards of student conduct while in class, or on the campus. Charges of misconduct and disciplinary sanctions may be imposed upon those who violate these standards of conduct, or provisions of college regulations.

***** Mobile Phone and Personal Electronics Use Policy ***:**

- If you carry a mobile phone and/ or personal electronics, turn it/them **OFF**, or set it/them to "Vibrating Mode" while in class.
- Disrupting the learning environment with use of mobile phone and/or personal electronics can lead to being dropped from the class.

Drops: If you decide to drop the course, use SURF to drop yourself. Don't wait for me to drop you automatically. Withdraw W's will be issued between February 5th and April 28th. If I drop you and you want to be reinstated, see me quickly.

**I look forward to getting to know each of you. Good luck,
enjoy the course, and have a great semester!**