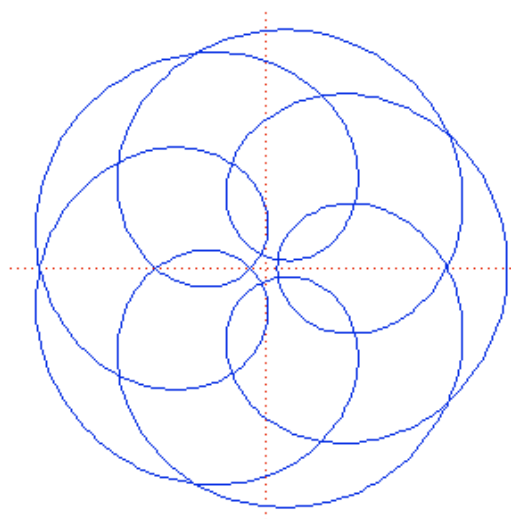


Math 155: Calculus and Analytic Geometry II
Section # 2932
Online
Spring 2017

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 155 is completion of Math 150 with a grade of “C” or better, or an approved equivalent.

Course Description: This course is the second in a three-semester calculus sequence designed for mathematics, science, and engineering majors. Topics include advanced integration techniques, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates.

Course Objectives: At the end of this course you should be able to (1) Determine an appropriate integration technique and use it to evaluate a given integral; (2) Determine the convergence or divergence of a given infinite series; (3) Find a power series representation for a given function and determine its interval of convergence; (4) Use a power series representation of a function to obtain an approximation for the function at a given value, or to obtain an approximation of the definite integral of the function; (5) Sketch graphs of parametric and polar equations; (6) Find derivatives when x and y are functions of a parameter; (7) Find arc length of a curve when its equation is given in parametric form; (8) Find area and arc length when equations are given in polar form; (9) Graph the conic sections and find the equation for a given conic section having been given adequate information about the graph; and (10) Use appropriate technology to solve problems from the course topics.

Student Learning Outcomes: (1) Given a function, students will be able to apply the advanced technique(s) to find the integral of the function. (2) Given an infinite series, students will be able to analyze convergence. (3) Students will be able to apply the concepts of differential and integral calculus to polar and parametric functions.

Required Materials: *WebAssign* (Student Access Kit). This kit contains the *WebAssign* software as well as an electronic version of our textbook. You may enroll in our course online at [https://www.webassign.net/v4cgi/selfenroll/classkey.html? ga=1.173010979.165249067.1471827862](https://www.webassign.net/v4cgi/selfenroll/classkey.html?ga=1.173010979.165249067.1471827862) using a credit card, or purchase an access code from the College Bookstore and then log on using the access code. Detailed instructions about logging onto *WebAssign* will be sent to you via email.

Use the CLASS KEY to enroll in our section: **miracosta 3029 7913**

Optional Hard Copy Textbook: Larson, Hostetler, Edwards, *Calculus, 10th ed.*, Brooks/Cole, 2010. Prepare for each class by reading those sections of the text that will be covered in class. *You will have access to this textbook via WebAssign.*

Calculators: On each test, the use of a graphing calculator is required. In general, the Math Department recommends the use of one of the various versions of the TI-83, or TI-84.

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

Chapter/Test Reviews	20 pts	A = 895 - 1000
Homework	120 pts	B = 790 - 894
Course Engagement Binder	60 pts	C = 700 - 789
Tests	600 pts	D = 550 - 699
Final Exam	200 pts	F = below 549

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

*Except for the Final Exam, all graded tests must be picked up at the Math Learning Center, within ten days of notification. If you make mistakes on a test, it is likely that you will be asked to submit test corrections. If you fail to submit your test corrections, a **zero** will be posted for your test score. Usually, you will have two weeks to submit your test corrections.*

Exams are given at the [Academic Proctoring Center](#) (APC) on the Oceanside and San Elijo Campuses. It is your responsibility to schedule your exams with the APC during the stated testing windows. The testing windows for the three exams and final exam for Math 155 are:

Exam 1 (Ch.8, omit section 8.6)	Tuesday, 2/28/17~ Thursday, 3/02/17
Exam 2 (Ch.9, omit section 9.10)	Wednesday, 4/12/17 ~ Friday, 4/14/17
Exam 3 (Ch.10.1-10.5)	Wednesday, 5/10/17 ~ Friday, 5/12/17
Final Exam (Ch.8, Ch.9, & Ch.10)	Tuesday, 5/23/17 ~ Thursday, 5/25/17

In this class we will be learning how to do problems algebraically in a 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 a problem. **To earn full credit for a problem, you must show all steps, use correct algebra and calculus notation, and arrive at the correct answer.**

School Holidays: February 17th– 20th, and March 20th – 25th (Spring Break).

Course Engagement Binder: You will be asked to maintain and submit a **Course Engagement Binder** with *Lecture Notes*. This binder needs to be submitted my office, T-315, or to the Mathematics Department Secretary in the 3600 building during the relevant testing window, between 9am-4pm. (You might find it more convenient to make a quick phone video of your CEB work and submit to me via email, or another online system.) You will need to download and print the *Lecture Notes* for each chapter from the following web address:

www.miracosta.edu/home/dbonds/Math155lectureresources17.html

In addition to watching course videos, you should read and attempt the problems in the *Lecture Notes* for each section. These materials are an introduction to the topics you we will study in this class. The main purpose of this **Course Engagement Binder** is to help you learn to write in required formats, use appropriate notation, promote communication, and to help us identify any topics where

assistance/intervention might be needed. Furthermore, the definitions, activities, and problems that you encounter in the *Lecture Notes* will be directly related to test questions.

6% of your total course grade will be based on the **Course Engagement Binder** contents. Each time you submit your binder for a **chapter** check, you will receive a score out of ten points. These points will be based on your mathematical progress towards **completion** of the *Lecture Notes*. Before you submit your **Course Engagement Binder**, please use my version of completed *Lecture Notes* to assist you with your efforts. Completing a *Chapter Review/practice test* should help you prepare to take a test. You can find each *Chapter Review/practice test* and each corresponding solution set at my Math 155 Lecture Resource page.

Homework & Chapter/Test Reviews: Homework assignments will be submitted via *WebAssign* software. PLEASE NOTE: 12% of your final grade is based on your homework scores and 2% of your final grade is based on submitting completed my posted *Chapter/Test Reviews*. In *WebAssign*, you will have multiple submission opportunities for homework problems. Hopefully, this will allow you to improve your course grade. Late work will not be accepted.

Success in this Course: Mathematics is a "learn by doing" subject. A good rule is to set aside eight to twelve hours per week 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. I recommend that you review the sections and homework, and then complete the appropriate *Chapter/Test Review* (these will be posted on my website) with your book closed, showing your steps, and using correct calculus and algebraic algorithms. 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.

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:

Tuesdays & Thursdays: 11:00-11:30am & 1:30-2:00pm

Facilitates Learning Sessions/Extra-Credit: Associated with this course is a Facilitated Learning Session (FLS) composed of students in this class. Your Facilitated Learning Session 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 Facilitated Learning Session meetings, you may receive a 4 percentage-point extra credit per test. Prior to each test, if you participate in one Facilitated Learning Session 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 (70.0%), 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 Standards of Student Conduct: This class will be conducted in accordance with widely accepted standards of academic honesty, as well as standards of student conduct supported by MiraCosta College's *Academic Standards & Policies* that are stated in the course catalog. In addition to disruptive behavior, harassment, or willful disobedience, cheating, plagiarism, or other forms of academic dishonesty are not acceptable and will not be tolerated. Students are expected to conduct themselves in an ethical manner that promotes a safe and harmonious learning environment

while 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.

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 4th and April 27th. If I drop you and you want to be reinstated, see me right away.

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



How to Study Math in This Online Course:

Q: Are you up-to-date on the prerequisite material?

A: The prerequisite for our class is Math 150, **Calculus and Analytic Geometry I**. If it has been more than one semester since you have had **Calculus I**, you may find that you have forgotten some of the material. Review the material in Chapter 4, 5, and 7, and if you feel unprepared for this course, please email me and we can discuss your preparation and possible options.

Q: Are you prepared to learn in an online environment?

A: Learning in an online environment can be challenging. Discipline and dedication are required. It is easy to get carried away by other life events and postpone your online assignments, or to feel “disconnected” from the class and lose your motivation. Make it a priority to stay caught up in the course and to interact with me and with the other students in the class. Consider participating in our Facilitated Learning Sessions, or attend my review sessions (I will offer several.)

Q: How often do I need to log on?

A: In order to succeed in this class, most students need to work daily. The due dates are posted under the "Calendar" in *WebAssign* and Blackboard. Each assignment is due on evenings at 11:59pm. If you are working regularly and making progress, I will usually allow homework extensions until the last day of the testing window. In order to learn the material properly, it is important to spread out the work during the week. Your goal should be to make at least 90% on all homework assignments, as this will give you the maximum score towards your final grade. *You must log on at least three times a week in order to remain in the class. If more than three or four days elapse without you logging on, you may be dropped from the class.*

Q: What should I do to prepare for exams?

A: Here are some suggestions for test preparation:

- You should complete every part of each lesson. In the textbook, thoroughly read the section, making note of definitions and examples. Read and complete the *Lecture Notes* for that section. You might choose to watch videos I have organized in Blackboard related to that section. Complete the homework assignment for that section, and redo if needed to obtain a score of 90%, or better.
- Review before each test. Complete the posted *Chapter/Test Review* (these are paper-and-pencil materials) that cover the types of problems you will see on the test. I believe that sample tests and chapter reviews provide a necessary "holistic" view of the material.
- Watch the videos of instruction in *WebAssign*, and watch the videos I posted for you in Blackboard.

Q: How do I find out due dates, testing windows, where to take tests, and other crucial information about this online course?

A: You will find this information in the syllabus and announcements. It is your responsibility to read the syllabus and check announcements daily to stay connected with what is going on in the class. Email me at dbonds@miracosta.edu whenever you have any questions.

Q: What resources are available to me to help me succeed in this online class?

A: Here are some of the resources available:

- **Blackboard:** At our Blackboard site, I have organized materials and videos that are relevant to our class, and you can check your course grades. For each section that we study, I created links to YouTube-based videos that introduce, or address concepts, or examples from topics in our class. Although it is not required, I strongly recommend that you make time to watch at least two different videos for each section that we cover.
- **Lecture Notes/Examples:** *Lecture Notes* and examples will be posted [at my Math 155 Lecture Resource page](#). These notes show that steps, notation, and techniques that you are expected to demonstrate on exams.
- **Facilitates Learning Sessions/Extra-Credit:** Prior to each test, if you participate in two Facilitated Learning Session meetings, you may receive a 4 percentage-point extra credit per test. At these group tutoring sessions, you might find that tutor-created practice tests that are passed out can be very helpful for studying for tests. *PLEASE NOTE: Extra-Credit points can only be applied to test grades of C (70.0%), or better.*

- **Math Learning Center (MLC) Assistance:** Instructional aides and tutors in the MLC are available to help answer homework questions that you may have. Find the locations and hours at the [MLC](#) website.
- **Tutoring:** Free tutoring is available in the Tutoring and Academic Support Center (TASC) located in the Library and Information Hub. Find the hours and locations at the [TASC](#) website.
- **Email Communication:** I also check and respond to emails on at dbonds@miracosta.edu at least once a day during the weekdays. I usually check email on weekends, however, occasionally I do not.

Tests:

Q: Where are the tests given?

A: You will take all of the exams at the [Academic Proctoring Center](#) (APC) on the Oceanside, or San Elijo campus during the testing window.

Q: What if I fail to take the exam during the testing window?

A: You will get a score of 'zero' on that exam.

Q: What if I don't try to take an exam?

A: Students who don't take an exam during the testing window will earn a zero on the exam and may be dropped from the class.

CLASS KEY: miracosta 3029 7913

WebAssign.

STUDENT

QUICK START GUIDE

This Quick Start Guide provides information to help you start using WebAssign.

ENROLL

Either your instructor enrolled you in a class and created a WebAssign account for you, or she gave you a class key to enroll yourself and create your own account, if needed.

I have a class key

1. Go to webassign.net/login.html and click **I Have a Class Key**.
2. Enter the class key your instructor gave you and click **Submit**.
3. If the correct class and section is listed, click **Yes, this is my class**.
4. Either provide your existing WebAssign account information or create a new account.
 - Select **I already have a WebAssign account**, enter your account information, and click **Continue**.
 - Select **I need to create a WebAssign account**, enter the requested information, and click **Create My Account**.

I do not have a class key

You are already enrolled and can log in with your WebAssign account.

LOG IN

These instructions apply for most schools. Some schools use alternative login sites.

1. Go to webassign.net/login.html.
2. Type your **Username**, **Institution** code, and **Password**.
If you did not receive a password, click **Forgot your password** and create a password.
3. Click **Log In**.
4. If you are enrolled in more than one class, select a class from the **My Classes** menu.

NOTE: The first time you log in, change your password.

PURCHASE ACCESS

WebAssign gives you free access for two weeks after the start of class. To continue using WebAssign after that, either enter an access code or purchase access online.

NOTE: An Access Code included with some textbooks verifies that you have already purchased WebAssign access.

I have an access code

If you purchased an access code card, do not reveal the access code until you verify that the access code prefix is valid for your class at webassign.net/user_support/student/cards.html.

1. Log in to WebAssign.
2. Select **enter an access code**.
3. Select your access code prefix.
4. Enter your access code and click **Continue**.

I do not have an access code

1. Log in to WebAssign.
2. Select **purchase access online** and click **Continue**.
3. Select items to purchase, confirm any license agreements, and click **Enter payment information**.
4. Provide your payment and contact information to PayPal and click **Continue**.
5. Review your order and click **Complete purchase**.
6. Close your receipt and start working in WebAssign.

LEARN

Your current assignments are listed on the **Home** page for each class.

1. Click the assignment name.
2. Answer the assignment questions.
WebAssign supports many different question types. Some questions display a tools palette or open in a new window.
3. Submit your answers.
4. Review your marks and feedback.
Usually you will see **✓** or **✗** for each answer.
5. Change your incorrect answers and submit again.
6. When you are done, always click **Log out**.

SYSTEM REQUIREMENTS

WebAssign is tested and supported for the following Web browsers:


Mozilla® Firefox® (38+)
Windows®, Mac® OS X, Linux®
Internet Explorer® / Microsoft® Edge (11+)
Windows
Google® Chrome™ (44+)
Windows, Mac OS X
Apple® Safari® (8+)
Mac OS X, iOS 8 or later on iPad®

BROWSER SETTINGS

Configure the following settings in your Web browser.

- Allow cookies and pop-up windows from webassign.net.
- If you are accessing WebAssign from Blackboard®, accept third-party cookies.
- Do not allow your browser to store your WebAssign password.

CUSTOMER SUPPORT

HELP: From the application, click 

ONLINE: webassign.com/support-request

CALL: (800) 955-8275

The WebAssign Customer Support staff **CANNOT**:

- change your username or password
- give extensions
- change your score
- give you extra submissions
- help you with the content of assignments
- resolve problems with PayPal payments

PAYPAL SUPPORT

ONLINE: paypal.com

CALL: (402) 935-2050

MORE INFORMATION

Search the online help for answers to most questions:
webassign.net/manual/student_guide/