

Math 155: Calculus and Analytic Geometry II
Section # 3246
MW 11am-12:50pm, Zoom Meetings
Fall 2020

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

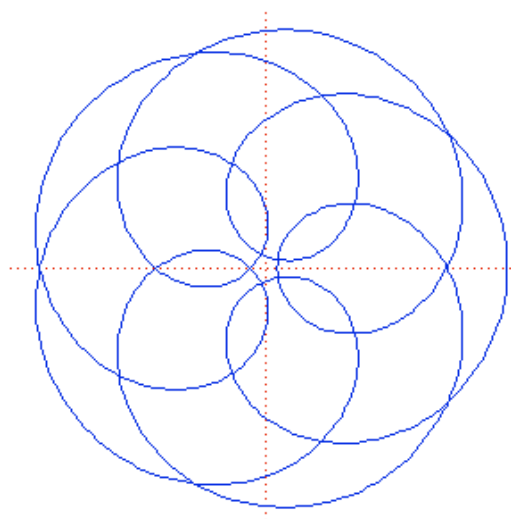
Office: T-315
Office telephone: 760-757-2121, x6497 + voice mail
E-mail: dbonds@miracosta.edu

Parametric Cartesian equation:

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

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

Hypotrochoid



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 second course in a three-semester calculus sequence covers advanced integration techniques, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates. The course is designed for mathematics, science, and engineering majors.

Performance Objectives: Upon successful completion of this course, students will be able to do the following: (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; and (9) Graph the conic sections and find the equation for a given conic section having been given adequate information about the graph.

Student Learning Outcomes: For a given set of problems the student will demonstrate quantitative reasoning by developing a problem-solving strategy, performing appropriate analysis and computation, and critically assessing the meaning of the conclusion or outcome.

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 <http://www.webassign.net/wa-auth/class-key/enroll>, 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 6638 7139**

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:

Zoom Meetings/Participation	30 pts	
Homework in WebAssign	110 pts	A = 895 - 1000
Quizzes in WebAssign	40 pts	B = 790 - 894
Practice Tests/Prep-Reviews	40 pts	C = 700 - 789
Lecture Notes/CEB	40 pts	D = 550 - 699
Tests	500 pts	F = below 549
Final Exam	240 pts	

In addition to homework and quizzes, there will be 2-3 tests, and a Final Exam. **THERE ARE NO DROPPED TEST/EXAM/HOMEWORK SCORES** in this course.

If you make mistakes on a test, it is likely that you will be asked to submit test corrections. That is, you will be asked to use a test key to re-work problems where you did incorrect work. 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.

All exams will be proctored via Zoom. Each test will be sent you via Canvas as a pdf file. You will need to print each test (9-11 pages, single sided) and show your work to receive credit. After you complete each test, you will need to scan each page of the test to create a pdf file that you can upload to Canvas as a submitted assignment. We will do our best to follow our course calendar, but please be aware that changes could occur. If we make any changes, I will notify you via Canvas. I have posted tentative testing dates below:

Exam 1 (Ch.8, omit section 8.6)	Wednesday, 9/30/20
Exam 2 (Ch.9, omit section 9.10)	Monday, 11/09/20
Final Exam (Ch.10.1-10.5)	Wednesday, 12/16/20

If you encounter issues with printing your tests, or have a scheduling conflict with a proctoring date, please communicate via Canvas with me as soon as possible to address your needs. If for ANY reason, you need to reschedule a proctoring appointment, you MUST make arrangements with me IN ADVANCE. It is your responsibility to make the necessary arrangements **beforehand**. Make-up tests *may not* be given for full credit.

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: September 7th, November 11th, and November 26th – 28th (Thanksgiving Break).

Course Engagement Binder: You will be asked to maintain and submit a **Course Engagement Binder** with *Lecture Notes*. The binder contents need to be submitted via Canvas **You might find it convenient to make a quick phone video (2 seconds per page on a medium resolution setting) of your CEB work**

and submit to me via Canvas.) You will need to download and print the *Lecture Notes* for each chapter from the following web address:

<http://www.miracosta.edu/home/dbonds/Math155lectureresources20.html>

In Canvas, I have posted a link at our course home page to recorded "Zoom Meetings," and during these meetings I go over each example in our *Lecture Notes* in detail. Furthermore, in the Modules in Canvas, I have posted several YouTube based videos that demonstrate topics and problem solving techniques related to each chapter section we cover in course. In addition to watching these videos, you should read and attempt the problems in the *Lecture Notes* for each section. These materials are an introduction to the topics you 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.

8% 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 *practice test*, or *Prep/Review* should help you prepare to take a test. You can find each *practice test*, or *Prep/Review*, as well as each corresponding solution set at my Math 155 Lecture Resource page.

Zoom Meetings and Instructional Videos: In Canvas, at our course home page, I have posted links to recorded Zoom Meetings from the last few semesters, so you can access my instruction at your own pace. However, each week I will hold two online class sessions via Zoom, where we can discuss course topics and I can show you problem solving techniques. I expect you to attend each class session and participate as if we were holding a traditional on-ground class session. Each week, I will send out email announcements in Canvas that will contain the relevant meeting times and URL links. If your schedule does not allow you to participate in a particular class session, you can watch the recorded meeting at a later time. The link to a given Zoom Meeting recording will be posted in the original Canvas announcement for that meeting, and at a page linked to our course home page. **3% of your grade is related to your participation in these meetings.**

In the recorded Zoom Meetings from the previous three semesters, I go over **every example in our *Lecture Notes* and each problem in the test preparation documents.** During these meetings I also demonstrate the **graphing calculator techniques and procedures that you will be required to show on each exam.** Furthermore, in Canvas, I have set up Modules for each section we cover, and I have posted links to relevant videos that are hosted by YouTube. **In particular, you should watch the videos presented by Professor Beth Powell in which goes over each example in our *Lecture Notes*.**

Homework & Chapter/Test Reviews: Homework assignments will be submitted via *WebAssign* software. PLEASE NOTE: **11% of your final grade is based on your homework scores in *WebAssign*, and 4% of your final grade is based on submitting your completed version of the relevant posted *practice test*, or *Prep/Review*.** In *WebAssign*, you will have multiple submission opportunities for homework problems. Hopefully, this will allow you to improve your course grade. If you have trouble completing an assignment, please let me know ASAP and I will try to post an extension, within reason. If you have not been engaging in the course materials and you have not been

attempting homework problems in WebAssign, it is likely that I will NOT post an extension. I need to see your good faith effort.

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 tutors in the [Math Learning Center \(MLC\)](#). 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 *practice test*, or *Prep/Review* (these documents are posted on my website and I go over these materials in the recorded Zoom Meetings) 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. 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, while working under an appropriate time constraint (120 minutes).

Office Hours: My office hours are meant for you. If your schedule conflicts with mine, connect with me in Canvas, or during a Zoom Meeting to make an appointment. I will hold the following scheduled office hours via Zoom:

Mondays & Wednesdays: 3:30-4:30pm

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: *You must log into WebAssign at least two times per week in order to remain in the class. If more than seven days elapse without you completing work in WebAssign, you may be dropped from the class.* 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 September 7th and November 20th. 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. Please review the material in Chapter 4, 5, and 7, and if you feel unprepared for this course, and email me so 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. Please make it a priority to stay on pace in the course, interact with us, and ask questions. Feel free to post questions in the “Discussions” area in Canvas. I will monitor this area weekly and I encourage you to do the same. Consider participating in my Zoom Review Sessions. (I will offer several throughout the semester that are announced via email in Canvas.)

Q: How often do I need to log on?

A: In order to succeed in this class, most students need to work math problems everyday. All assignment due dates are posted in the “[Assignment/Pacing Calendar for Math 155-#3246](#)” on my main MiraCosta webpage and on our Canvas home page. Each assignment is due 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 into WebAssign at least two times per week in order to remain in the class. If more than seven days elapse without you completing work in WebAssign, 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 Canvas (Zoom Meetings and lessons in the Modules) related to that section.** Complete the homework assignment for that section, and redo if needed to obtain a score of 90%, or better.
- **Watch the instructional videos and engage in the interactive lessons in WebAssign that are embedded in the eBook.**
- Make 100% on every quiz in *WebAssign*. For each quiz, complete and redo it as many times as needed to obtain a 100%. (You can only redo a quiz before the due date). In between attempts, review or get assistance, if needed.
- Review before each test. Complete the posted *practice test*, or *Prep/Review* (these are paper-and-pencil materials) that covers 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.

- The successful completion of all homework assignments, quizzes, and review materials is necessary to properly prepare for a test.

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, [Assignment/Pacing Calendar for Math 155-#3246](#), and in Canvas email 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 through [Canvas](#) 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:

- **Canvas:** At our Canvas 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 posted links to YouTube-based videos that introduce, or address concepts, or examples from for every topic in our class. I strongly recommend that you make time to watch at least two different instructional videos in the Modules for each section that we cover.
- **Zoom Meetings:** Please make it a priority to engage with our Zoom Meetings. If you cannot participate at the posted times, please use the recorded meetings to facilitate your learning.
- **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.
- **Math Learning Center (MLC) Assistance:** Instructional aides and tutors in the MLC are available to help answer homework questions that you may have. You can find the locations and hours at the [MLC website](#).
- **Email Communication:** I also check and respond to emails on [Canvas](#) at least once a day during the week. When you run into difficulty, take a picture of your work with your phone send it to me in a Canvas message as an attachment with your question. I will try to check Canvas messages on weekends, however, there might be times I cannot.

Information about Homework Assignments, Quizzes, and Exams:

Give yourself plenty of time before the due date to redo/ resubmit all homework assignments and quizzes.

Homework: You should try to score 100% on all homework assignments.

- Use the “Read It” button to jump to the section in the eBook that relates to the homework question.

- Use the “Watch It” button to watch an instructional video that relates to the homework question.
- Use the “Master It” button to engage in an interactive script that helps you work through a similar homework question.
- Use our “[CalcChat](#)” link on our Math 155 Lecture Resource page to view the sketch of a solution to a similar homework question. You might find it helpful to use the “Differentiation Calculator,” or the “Integration Calculator” that I posted links to at our course home page. Most of the time, these internet based calculators will show you relevant steps that can be enlightening. That said, please do not “abuse” these resources and just copy the answers.
- Review **my** completed Lecture Notes to follow my examples that are similar to the homework questions.
- Post a question to class in the Discussions area in Canvas. Look to offer assistance to classmates who post questions in the Discussions area.
- Email me with a phone picture of your work, so I can see issues that are causing the difficulty.

Quizzes: Each chapter we cover in *WebAssign* contains one quiz that covers several sections.

Q: Where do I find the quizzes?

A: Quizzes are online and completed through *WebAssign*. All quizzes must be completed and submitted online.

Q: What are the due dates for the quizzes?

A: All assignment due dates are posted in the [Assignment/Pacing Calendar for Math 155-#3246](#) on my main webpage and on our Canvas homepage. You will also see the most current assignment due dates listed in the *WebAssign* menu listing.

Q: What time on the due date is the quiz due?

A: Quizzes are due at 11:59pm on the due date.

Q: Are quizzes closed book?

A: You may use the textbook, *Lecture Notes*, and other references when you are taking quizzes. If you need to look at your notes to complete a problem, then be sure to redo that problem later without looking at your notes. You won't have your notes on an exam!

Q: How many times can I take a quiz?

A: Before the due date for a quiz, you may take and retake a quiz as many times as you would like. Each time you try the quiz again, you get a version with slightly different numbers, but the same types of problems. Your highest score out of all your attempts is the one that I will post for grade in Canvas. In between attempts, you can look at your results to see what you missed. You should redo each quiz as many times as needed before the due date to score a 100% on the quiz.

Q: How should I complete these online quizzes?

A: For each quiz, write-out each question, work the problem out completely, showing all steps, and then enter the correct answer in *WebAssign*.

Exams: We will have a test for each chapter we cover in *WebAssign*.

Q: Where will I find information about exams?

A: The week before we have an exam, I will send you an email in Canvas to let you know the relevant information about the particular exam. Usually, I will tell you the number of problems and the number of pages on the exam. I will give you a general idea of the sections that will contribute a given number of problems for a test, and the types of graphing calculator skills I'm expecting you to show. I will also tell you about general grading issues that I consider important for you to address.

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

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

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

ENROLL WITH A CLASS KEY

Your instructor might give you a class key like **MYSCHOOL 1234 5678** to enroll in your class. A class key does not verify payment.

Enroll yourself in each class section only once.

1. Go to <https://webassign.net/login.html> and click **Enroll with Class Key**.
2. Enter your class key and click **Enroll**.
3. If the correct class and section is listed, click **Yes, this is my class**.
4. Sign in or create your account.

I Have a Cengage Account

1. Type your Cengage username and password.
2. Click **Sign In**.
3. If prompted, enter your student ID and click **Submit**.
4. If prompted, either sign in to your existing WebAssign account or create a new WebAssign account.

I Have a WebAssign Account

1. Click **Link Your WebAssign Account**.
2. Type your WebAssign username, institution code, and password.
3. Click **Continue**.
4. If prompted, [link your WebAssign account to a Cengage account](#).

I Don't Have an Account

1. Click **Create Account**.
2. Type the details for your new Cengage account.
3. Read and acknowledge your acceptance of the Cengage service agreement.
4. Click **Create Account**.

You are signed in to WebAssign with your new account and enrolled in your class.

I DON'T HAVE A CLASS KEY

You don't need to enroll yourself or create your WebAssign account.

SIGN IN

1. Go to <https://webassign.net/login.html>.
2. Type your Cengage username and password.
3. Click **Sign In**.

Reset Your Password

You can reset your Cengage or WebAssign password if your account has an email address.

1. On the sign-in page, click **Forget** for the password you need to reset.
2. Provide the requested information.
If the information matches your account, you should receive a password reset email.
3. Open the password reset email and click the [reset link or button](#).

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

1. Verify your access code at webassign.net/user_support/student/cards.html.
2. Sign in to WebAssign.
3. Click **Verify Payment**.
4. Enter your access code and click **Redeem**.

I do not have an access code

1. Sign in to WebAssign.
2. Click **Verify Payment**.
3. Select the items you want to purchase and click **Continue**.
4. Review the items in your cart and click **Start Secure Checkout**.
5. Enter your billing contact information and click **Continue**.
6. Select your payment method and enter your payment information.

NOTE:

- If you need to contact Customer Support regarding this transaction, provide the transaction ID from your receipt.
- If you drop a class, you can request a refund within 14 days of the purchase date.

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 **sign out**.

SYSTEM REQUIREMENTS

WebAssign is tested and supported for the following web browsers:

Mozilla® Firefox® (38+)
Windows®, macOS®, Linux®
Internet Explorer® / Microsoft® Edge (11+)
Windows
Google® Chrome™ (44+)
Windows, macOS
Apple® Safari® (8+)
macOS, 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.
- Accept third-party cookies when accessing WebAssign from Blackboard®.
- Do not allow your browser to store your password.
- Enable Adobe® Flash® Player.

CUSTOMER SUPPORT

ONLINE: webassign.com/support/student-support
CALL: 800.354.9706

The Customer Support staff can **NOT**:

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

Contact your instructor for help with your grade or coursework.

MORE INFORMATION

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