

# Calculus II-13357 MATH-2414

S1 2021 Section 622 4 Credits 06/07/2021 to 07/11/2021 Modified 06/05/2021

## Course Meetings

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### Meeting Days

Monday -Friday

### Meeting Times

1:00pm to 3:23pm

### Meeting Location

Online in Webex

## Welcome and Instructor Information

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Eunice Kallarackal

713 718 5578

[eunice.kallarackal@hccs.edu](mailto:eunice.kallarackal@hccs.edu)

### Professor: Prof. Eunice Kallarackal

Email: [eunice.kallarackal@hccs.edu](mailto:eunice.kallarackal@hccs.edu)

### What's Exciting About This Course

Calculus is dynamic in nature. You have already experienced that in Calculus1. Calculus 2 is even more exciting. It is very rigorous. There will never be a dull moment in this class. You will learn almost all techniques of integration. You will also be learning how to approximate transcendental functions and trigonometric functions using polynomials and even represent them as series.

### My Personal Welcome

It is my pleasure to welcome you to Calculus 2 class. This is my favorite class to teach and I look forward to meeting you and taking you to a higher realm of mathematics. My goal is to make you more interested in the subject and want you to know that I am here to support you

### Preferred Method of Contact

You may contact me via my HCC email. Please use your school email to do so. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings. You may make appointment with me in webex during my office hours. The appointment should be made at least 24 hours ahead of the time you need

### Office Hours

Tuesday, Wednesday, Thursday, 12:30 PM to 1:00 PM, Online by appointment

Online by appointment

Tuesday -Friday 12:30pm to 1pm

## Course Overview

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### Course Description

MATH 2414 - Calculus II Credits: 4 (4 lecture). This course provides a detailed study of the logarithmic, exponential, and other transcendental functions, integration techniques with applications, L'Hopital's rule, an introduction to infinite series and power series, as well as Taylor polynomials and approximations, plane curves, parametric equations, and polar coordinates. Core Curriculum Course.

## Prerequisites

Math 2413: Pass with a "C" or better.

## Department Website

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/mathematics/>

## 🎯 Core Curriculum Objectives (CCOs)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

- **Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- **Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- **Quantitative and Empirical Literacy:** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

## 📊 Student Learning Outcomes and Objectives

### Program Student Learning Outcomes (PSLOs)

Students in the Mathematics Program will:

1. Engage in problem solving strategies, such as organizing information, drawing diagrams and modeling.
2. Use symbolic representations to solve problems. This includes manipulating formulas, solving equations, and graphing lines.
3. Build the foundational mathematical skills that will enable a student to successfully complete a college level mathematics course.

### Course Student Learning Outcomes (CSLOs)

Upon completion of MATH 2414, the student will be able to:

1. Explain and model the arithmetic operations for whole numbers and integers.
2. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
3. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals.
4. Define an improper integral.
5. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.
6. Demonstrate the correct use of L'Hopital's rule and various techniques for solving improper integrals
7. Determine convergence or divergence of sequences and series.
8. Use Taylor and MacLaurin series to represent functions.
9. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.
10. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.

### Learning Objectives

Upon completion of MATH 2414, the student will be able to:

1. Define and use transcendental functions including logarithmic and exponential functions.
2. Compute derivatives and antiderivatives involving transcendental functions.
3. Apply integration to various applications.
4. Show various integration techniques.
5. Show correct usage of L'Hôpital's rule.
6. Describe and solve improper integrals.
7. Recognize and use infinite series.
8. Recognize and apply Taylor series to various problems.

9. Demonstrate knowledge of plane curves and polar coordinates.

## ☰ Departmental Practices and Procedures

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The Math Department requires that at least **45%** of your course grade will consist of scores from *at least two in-person proctored exams in the Testing Center (presently substituted with Lockdown Browser and Monitor)*.

### Department Specific Instructor and Student Responsibilities

### Program-Specific Student Success Information

## ☰ Instructional Materials and Resources

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### Instructional Materials

The [HCC Online Bookstore \(https://hccs.bnccollege.com/shop/hccs-central/page/find-textbooks\)](https://hccs.bnccollege.com/shop/hccs-central/page/find-textbooks) provides searchable information on textbooks for all courses. Check with your instructor before purchasing textbooks because the book might be included in your course fees.

Add Instructional Materials Here

### Other Instructional Resources

[CalcView \(https://www.calcview.com/calculus-11e/P/1/#CVV\\_NJtWMN2d6ck\)](https://www.calcview.com/calculus-11e/P/1/#CVV_NJtWMN2d6ck) (where you can get videos from the text and homework)

[CalcChat \(where you can get videos from the text and homework\) \(https://www.calcchat.com/book/Calculus-11e/\)](https://www.calcchat.com/book/Calculus-11e/)

## ✓ Course Requirements

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### Assignments, Exams, and Activities

There will be three exams, six quizzes, homework and the comprehensive final exam.

Quizzes may be on webassign or on canvas.

Type	Weight	Topic	Notes
Exams	45%		There will be three exams each worth 15% of the course grade.
Quizzes?In-Class Activities	15%		There will be six quizzes, each worth 20 points. One quiz grade will be dropped. You will have to do the problems and upload the file. it will be during the class time. You will have to come on camera when you take the quiz
Final Exam	25%		Final exam is comprehensive.
Extra Credit		Exam reviews	Before each exam, I will post a review under discussion. You will get extra credit for posting answers showing all steps. You can do a maximum of two problem.
Homework	15%		Homework is assigned in webassign. Once closed they won't be reopened.

### Grading Formula

Grade	Range	Notes
A	89.5 to 100	
B	79.5 to 89.4	
C	69.5 to 79.4	
D	59.5 to 69.4	
F	less than 59.5	

# \* Instructor's Practices and Procedures

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## Incomplete Policy

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

## Missed Assignments/Make-Up Policy

There is no make up exam. I will drop one quiz grade. If you miss an exam, grade for that exam will be 0. If you missed the exam for reasons beyond your control ( very rare) , please contact me to find out what can be done .

## Academic Integrity

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/> (<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>)

## Attendance Procedures

Attendance is required for this class. You are to attend the webex meetings regularly from 1pm to 3:23pm. Attendance will be taken every day and if you miss mre than two class days you will be dropped from class

## Student Conduct

It is our shared responsibility to develop and maintain a positive learning environment for everyone. As your instructor, I take this responsibility very seriously and will not let disruptive behavior . As a fellow learner, you are to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

## Instructor's Course-Specific Information

I expect my students to be in class on time. I understand that there may be days when there are some issues which will prevent you from attending class on time. Please come on camera when I take the attendance.

Your exams and quizzes are timed. For file upload quizzes, I will not be accepting answers via email.

## Devices

Students are allowed to use only a non-graphing, non-programmable scientific calculator when working on this course. Any student caught using any of those forbidden types of calculators, or any other unauthorized electronic equipment while taking a proctored exam will be charged with academic dishonesty and automatically fail the course.

The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for the purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor.

## Faculty Statement about Student Success

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## Faculty-Specific Information Regarding Canvas

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement in-class assignments, exams, and activities.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## Instructional Modalities

This class is Online on a Schedule (WS)

## Social Justice Statement

Houston Community College is committed to furthering the cause of social justice in our community and beyond. HCC does not discriminate on the basis of race, color, religion, sex, gender identity and expression, national origin, age, disability, sexual orientation, or veteran status. I fully support that commitment and, as such, will work to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. In this course, we share in the creation and maintenance of a positive and safe learning environment. Part of this process includes acknowledging and embracing the differences among us in order to establish and reinforce that each one of us matters. I appreciate your suggestions about how to best maintain this environment of respect. If you experience any type of discrimination, please contact me and/or the Office of Institutional Equity at 713-718-8271.

## HCC Policies and Information

### HCC Grading System

HCC uses the following standard grading system:

Grade	Grade Interpretation	Grade Points
A	Excellent (90-100)	4
B	Good (80-89)	3
C	Fair (70-79)	2
D	Passing (60-69), except in developmental courses.	1
F	Failing (59 and below)	0
FX	Failing due to non-attendance	0
W	Withdrawn	0
I	Incomplete	0
AUD	Audit	0
IP	In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit.	0
COM	Completed. Given in non-credit and continuing education courses.	0

### Link to Policies in Student Handbook

Here's the link to the HCC Student Handbook <https://www.hccs.edu/resources-for/current-students/student-handbook/> (<https://www.hccs.edu/resources-for/current-students/student-handbook/>). In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)

- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

## Link to HCC Academic Integrity Statement

<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/> (<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/>).

## Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<https://www.hccs.edu/departments/police/campus-carry/> (<https://www.hccs.edu/departments/police/campus-carry/>).

## HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go [to HCC Eagle ID](https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/) (<https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/>), and activate it now. You may also use Canvas Inbox to communicate.

## Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<https://www.hccs.edu/departments/institutional-equity/>) (<https://www.hccs.edu/departments/institutional-equity/>).

### Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <https://www.hccs.edu/support-services/ability-services/> (<https://www.hccs.edu/support-services/ability-services/>).

### Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
 Director EEO/Compliance  
 Office of Institutional Equity & Diversity  
 3100 Main  
 (713) 718-8271  
 Houston, TX 77266-7517 or [Institutional.Equity@hccs.edu](mailto:Institutional.Equity@hccs.edu) (<mailto:Institutional.Equity@hccs.edu>)

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/> (<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>).

## Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>  
(<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>)

## Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

## Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: <http://www.hccs.edu/online/> (<http://www.hccs.edu/online/>)

## Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap> (<https://eagleonline.hccs.edu/login/ldap>)

## Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](http://www.hccs.edu/resources-for/current-students/student-handbook/) (<http://www.hccs.edu/resources-for/current-students/student-handbook/>)



The EGLS<sup>3</sup> ([Evaluation for Greater Learning Student Survey System \(http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/\)](http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/> (<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>).

## Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

## Student Resources

### Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services \(http://www.hccs.edu/resources-for/current-students/tutoring/\)](http://www.hccs.edu/resources-for/current-students/tutoring/) website for services provided.

### Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu/> (<http://library.hccs.edu/>).

### Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/> (<http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>).

### Resources for Students:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/> (<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>)

### Basic Needs Resources:

<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/> (<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/>).

### Student Basic Needs Application:

[https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH) ([https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH)).

## COVID-19

Here's the link to the HCC information about COVID-19:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/> (<https://www.hccs.edu/resources-for/current-students/communicable-diseases/>).

## Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

## Course Calendar

## Syllabus Modifications



The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

When	Topic	Notes
<b>Introduction and review of calculus1</b> 6/7/21	sec5.1-5.4	
6/8/21	Sec5.5,5,6	
6/9/21	sec5.7,5,8	
6/10/21	5.9,7.1	
6/11/21	sec8.1 Review for Exam1	
<b>Exam1</b> 6/14/21 Canvas	Chapter5,,7.1,& 8.1	
6/15/21	8.2,8.3	
6/16/21	8.4,8.5	
6/17/21	8.6,8,8,7.2	
6/18	7.3,7.4	
6/21/21	Exam2 Review	
<b>Exam 2</b> 6/22/21	chapter 8& sec 7.2-7.4	
6/23/21	Sec9.1	
6//24	sec9.2,9.3	
6/25/21	sec9.4,9.5	
6/28/21	sec 9.6,9.7	
6/29/21	sec9.8,9.9	
6/30/21	sec9.10,10.2	
7/1/21	sec10.3,Review for exam3	
7/2/21	Exam3	
7/5/21	No School	
7/6/21	sec10.4,10.5	
7/7/21	Final Exam Review	
7/8/21	Final Exam	

## Additional Information

### Departmental/Program Information

Program Information for Majors: <https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/mathematics/>

HCC Math Student Organization: Mu Alpha Theta: Application: <https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/stem-clubs/mu-alpha-theta-application/>

### Process for Expressing Concerns about the Course

For issues related to your class, please first contact your instructor. If you need to contact departmental administration, then contact the appropriate Associate Chair. If further administrative contact is necessary, then contact the appropriate Department Chair.

**College - Level Math Courses**

Chair of Math	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	San Jacinto Building, Rm 369
Math Assoc. Chair	Mahmoud Basharat	NW Campus	713-718-2438	Katy Campus Building, Rm 112
Math Assoc. Chair	Emmanuel Usen	NE Campus	713-718-8062	Northline, Rm 324

**Developmental Math Courses**

Chair of Dev. Math	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	SW Campus	713-718-2434	Stafford, Learning Hub, Room 208