Instructional Services · Mathematics · Mathematics

Precalculus-23046

MATH-2412

RT 2022 Section 522 4 Credits 08/23/2021 to 12/12/2021 Modified 08/23/2021

Course Meetings

Course Modality

This is scheduled as a face-to-face lecture course.

Meeting Days

Mon - Wed.

Meeting Times

2:00 pm - 3:50 pm

Meeting Location

Felix Fraga Campus. South East Campus

Room 102 Stem Bldg.

Welcome and Instructor Information

I welcome you to our class! Hope for a great semester

Professor: Dr. Mohammad Ali Ravandi

Email: mohammad.ravandi@hccs.edu
Phone: 713 718 2000

What's Exciting About This Course

It is a great math course that enable students to 'patch up' and strengthen their algebra background preparing for more advanced and applied mathematics courses in the future.

My Personal Welcome

Welcome to the course!

Preferred Method of Contact

for fastest contact I ask that you **contact me via canvas mail (inbox)**. You could email me thru the official HCC site but your email is mixed in with hundreds of email sent by all HCC employees:

mohammad.ravandi@hccs.edu

Office Hours

Monday, Wednesday, 1:00 PM to 2:00 AM, Felix Fraga Bldg. (before class time)

Course Overview

Course Description

MATH 2412 - Pre-Calculus Math Credits: 4 (4 lecture). Precalculus is intended primarily to prepare students for calculus. It can also be used for general mathematics credit. This course is an In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Topics include elementary theory of functions and equations, analytic geometry, vectors, mathematical induction, sequences and finite series, and an introduction limits. Core Curriculum Course.

Prerequisites

MATH 1314 and MATH 1316. A grade of C or better in Math 1314 AND a grade of C or better in Math 1316.

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 2412, the student will be able to:

1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.
7. Evaluate limits analytically.

Learning Objectives

Upon Completion of Math 2412, the students will be able to:

1. Develop and use various problem-solving techniques.
2. Recognize functions as ordered pairs.
3. Determine the graph of an algebraic equation or function.
4. Understand synthetic division.
5. Develop partial fraction decomposition.
6. Find the zeros of real functions.
7. Solve polynomial equations.
8. Utilize the six basic trigonometric functions.
9. Apply the Law of sines and the Law of cosines for various types of situations.
10. Verify various trigonometric identities.
11. Find the powers and roots of complex numbers using DeMoivre's Theorem.
12. Understand basic vectors (2 dimensional).
13. Convert points in a rectangular coordinate system to polar coordinates.
14. Recognize algebraic formulas relating to circles, parabolas, ellipses, and hyperbolas.
15. Use translation of axes, rotation of axes, and polar equations of conics.
16. Recognize the use of arithmetic and geometric sequences.
17. Use summation notation to represent a series.
18. Understand and use the Binomial theorem.
19. Understand mathematical induction.
20. Understand the basic concepts of limits.

Departmental Practices and Procedures

The Mathematics Department has specific expectations for calculators, proctored exams and grading policies. Refer to the Course Requirements and Devices sections below.

Instructional Materials and Resources

Instructional Materials

The HCC Online Bookstore (https://hccs.bncollege.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.

Although a textbook is required (as a study source), I recommend that you use the e-book that is provided and paid for by you, when you purchase the MML software. It is a lot cheaper and contains numerous good videos and samples tests and practices. You will have to do all the homework and some quizzes on MML anyway.

If money is a concern, I usually recommend students to purchase(if they choose) a used book or an older edition than the new 6th. ed. Just a suggestion.

Textbook Information

	The textbook listed below is ***required*** for this course. ***"Precalculus"*** **(6th edition)**; By Robert Blitzer (Pearson). ISBN: 978 0134765488 (textbook and access code) ISBN: (access code with e-book) It is included in a package that contains the text as well as an access code and are found at the HCC Bookstore. You may either use a hard copy of the book, or rent the e-book from Pearson. Order your book here: HCC Bookstore

Temporary Free Access to E-Book

For temporary free access to MathLab and the online eBook, go to www.Coursecompass.com and register using the

MathLab Course ID: ravandi33296

MML registered, access to calculator, computer and textbook (e-text) plus a positive attitude toward learning!

Other Instructional Resources

Courseware

We are scheduled to be fully online for the first month of the semester. So, you should have access to a computer, with some camera (webcam?) and sound capabilities along with reliable internet. Issues with connection and/or equipment is really your responsibility.

For the course, I think a calculator, preferably graphing, but at least a scientific is required even though we may not allow you to use a graphing tool on some or all test.

✔ Course Requirements

Assignments, Exams, and Activities

Type	Weight	Topic	Notes
Quizzes	10%	section quizzes	Quizzes on MML and in class.
4 regular Exams	45%		please see syllabus for dates and contents
In-Class Activities	5%	attitude, attendance, and staying on time with class and assignments	Series of activities and group work
Final Exam	25%	Comprehensive Final Exam	exam over most or all topics
Homework	15%	sections hw	Homework for all sections is assigned and done on MML

Grading Formula

Bonus!

1. A final Exam score can replace a low regular exam score

2. Up to 2% bonus may be added to the final grade for good attendance, participation and coursework timeliness and persistence at my discretion.

Grade	Range	Notes
A	89.5+	
B	79.5 - 89.4	
C	69.5 - 79.4	
D	58 - 69.4	
F	below 58	

Instructor's Practices and Procedures

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.

Extenuating circumstances will be considered.

Missed Assignments/Make-Up Policy

Missed assignments and exams, but not quizzes, may be allowed to be made up, provided the student have justifiable excuses. If possible, inform me ahead of time if you know you will be absent.

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

Regular attendance is required and monitored and excessive absences DO impact your grade.

Student Conduct

Classroom Behavior
Please treat others the way you like to be treated. Use of cell phone in class is a distraction to you and your classmates. Absolutely no cell ringing in class at any time. If you are looking at your cell phone that means you are not paying attention to your instructor and class. You may put your phone in no ring mode of your choice.

Remember: Our primary purpose for being in school is learning. Don't get distracted!

Instructor's Course-Specific Information

This item has been addressed in this syllabus

All HOMEWORK assignments are done in MML and graded as finished,

Devices

Add Content Here

Faculty Statement about 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.

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.

Social Justice Statement

Add Content Here

🏛 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

Grade	Grade Interpretation	Grade Points
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/) 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)

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: https://www.hccs.edu/online/ (https://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 (https://www.hccs.edu/resources-for/current-students/student-handbook/)

EGLS3

The EGLS^3 (Evaluation for Greater Learning Student Survey System (https://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^3 surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/ (https://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 (https://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 https://library.hccs.edu (https://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 https://www.hccs.edu/resources-for/current-students/supplemental-instruction/ (https://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)

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.

Instructional Modalities

In-Person (P)

Safe, face-to-face course with scheduled dates and times

Online on a Schedule (WS)

Fully online course with virtual meetings at scheduled dates and times

Online Anytime (WW)

Traditional online course without scheduled meetings

Hybrid (H)

Course that meets safely 50% face-to-face and 50% virtually

Hybrid Lab (HL)

Lab class that meets safely 50% face-to-face and 50% virtually

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.

Fall 2021 Math 2412, Precalculus , Course Outline. HCC. M. Ravandi

Prcalculus. Blitzer. 6th. ed. Pearson

Date	Day	Week #	Section(s)/ Contents
Aug. 23	Mon	1	Preview and Review chapter 1
Aug. 30	Mon	2	7.3, 4.2
Sep. 06	Mon	3	4.5, 4.7. { 9/6 Labor Day }
Sep. 13	**Mon**	**4**	**Review + EXAM I { Wed. 9/8 }**
20	Mon	5	5.1, 5.2, 5.3
27	Mon	6	5.4, 5.5, 6.1
Oct. 04	Mon	7	6.2, 6.3, 6.4
11	Mon	8	6.5, 6.6, 6.7
Oct. 18	**Mon**	**9**	**Review + Exam II { Wed. 10/20 }**
25	Mon	10	9.1, 9.2
Nov. 01	Mon	11	9.3, 9.4, 9.5
Nov. 08	**Mon**	**12**	**Review + Exam III { 11/10 |**
15	Mon	13	10.1, 10.2

	22	Mon 14	10.4, 10.5
Nov.	**29**	**Mon 15**	**{11.1}, Review + Exam IV { 12/1 }**
Dec.	06	Mon 16	Review for the final
Dec.	**08**	**Wed.**	**FINAL EXAM**

Reminder: W-Day is Friday, Oct. 29. { 10/29 }

Monday Sept. 6 is Labor day Holiday. No classes

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

If you have concerns about any aspect of this course, please reach out to your instructor for assistance first. If your instructor is not able to assist you, then you may wish to contact the Department Chair.

Mathematics Courses

Chair of Math	Mahmoud Basharat	SW Campus	713-718-2438	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	Susan Fife	NW Campus	713-718-7241	Katy Campus Building, Rm 112
Math Assoc. Chair	Hien Nguyen	NE Campus	713-718-2440	Northline, Rm 324

Developmental Mathematics Courses

Chair of Dev. Math	Dorothy A. Muhammad	SE Campus	713-718-5846	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	SE Campus	713-718-2434	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Adnan Ulhaque	SW Campus	713-718-5463	Felix Morales Building, Rm 124/ Stafford Scarcella, N108