Course Meetings

Course Modality
Face to face

Meeting Days
Monday thru Friday

Meeting Times
10:00 AM-11:45 AM

Meeting Location
Spring Branch Campus Rm 321

Welcome and Instructor Information

Instructor: Mr. Phil Unruh
Email: phil.unruh@hccs.edu
Phone: 7137185874

What's Exciting About This Course
Trigonometry is a branch of mathematics that studies relationships between the sides and angles of triangles. This course is designed to provide the skills necessary to succeed in Precalculus and Calculus.

My Personal Welcome
Welcome to Trigonometry—I’m delighted that you have chosen this course! One of my passions is to know as much as I can about trig, and I can hardly wait to pass that on. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life. As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. My goal is for you to walk out of the course with a better understanding of trig. So please visit me or contact me by email whenever you have a question.

Preferred Method of Contact
I prefer that you contact me at my HCC email through Canvas. If you email me from outside of the Canvas email then please include your name, class name, and class time.

phil.unruh@hccs.edu
Course Overview

Course Description
MATH 1316 - Plane Trigonometry Credits: 3 (3 lecture). This course is intended for students whose curriculum requires trigonometry as a prerequisite for higher mathematics courses or as a first course in trigonometry or as a review course. Topics include solutions of triangles, Euler identity, graphing of trigonometric and inverse trigonometric functions, identities, trigonometric equations and an introduction to vector analysis. Core Curriculum Course.

Prerequisites
Math 1314; must be placed into college-level mathematics. A grade of C or better in Math 1314 or its equivalent. (Plane Geometry is recommended).

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 1316, the student will be able to:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
Learning Objectives

Upon completion of MATH 1316, the student will be able to:

1. Recognize the graphs of the six basic trigonometric functions.
2. Know the amplitude, period, and phase shift for sine and cosine functions.
3. Sketch functions exhibiting the above properties.
4. Solve problems dealing with vectors.
5. Recognize polar graphs.
6. Solve right triangles.
7. Convert degrees to radians and vice-versa.
8. Solve problems dealing with the application of radian measures.
9. Solve problems relating to linear and angular velocities.
10. Recognize identities including sum and difference angle formula, double angle formula, and half angle formulas.
11. Prove trigonometric identities using the formulas given above.
12. Solve trigonometric equations and inverse trigonometric equations.
13. Solve triangles using the sine and cosine laws.
14. Find areas of triangles.
15. Recognize the six basic trigonometric functions and understand the relationships between them.
16. Evaluate the trigonometric functions of special angles.
17. Find reference or related angles and coterminal angles.
18. Use a calculator or a table (not on exams) to find trigonometric function values of any angle.
19. Rewrite a complex number in polar form.
20. Use DeMoivre’s Theorem to simplify a complex number raised to a whole number exponent.
21. Find the nth root of a complex number.

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.

- The textbook listed below is required for this course.
- Trigonometry, 12th edition;
- Print ISBN: 9780135924136, 0135924138
- e-text ISBN: 9780135924792, 0135924790

By Margaret L. Lial, John Hornsby, David I. Schneider, Callie J. Daniel.

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 the e-book through MyMathLab.
Temporary Free Access to E-Book

For temporary free access to MyMathLab and the online eBook, go to Canvas and register by clicking on MyLab and Mastering in the Dashboard.

Other Instructional Resources

Courseware

MyMathLab and the online eBook will be used for homework and quizzes.

Trigonometry

Author: Margaret L. Lial, John Hornsby, David I. Schneider, Callie J. Daniel
Publisher: Pearson
Edition: 12th

✔ Course Requirements

Assignments, Exams, and Activities

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Topic</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
<td>There will be a MyMathLab assignment for each section that we cover.</td>
<td></td>
</tr>
<tr>
<td>Exams/Quizzes</td>
<td>50%</td>
<td>There will be 4 in class chapter exams. I will drop the lowest score.</td>
<td></td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
<td>Comprehensive final exam held in class on Thursday, July 7, 2022.</td>
<td></td>
</tr>
<tr>
<td>Extra Credit</td>
<td></td>
<td>Describe the assignment here.</td>
<td></td>
</tr>
</tbody>
</table>

Grading Formula

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>80 - 89</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>70 - 79</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>60 - 69</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60%</td>
<td></td>
</tr>
</tbody>
</table>

∗ 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.

Missed Assignments/Make-Up Policy

No make-up exams will be given for any reason. One of the four major test grades (the lowest grade) will be dropped.

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/studentprocedures](https://www.hccs.edu/studentprocedures)

**Attendance Procedures**

Class Attendance - It is important that you come to class! Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to be on time at the beginning of each class period. For complete information regarding Houston Community College’s policies on attendance, please refer to the Student Handbook. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, students may be dropped from a course after accumulating absences in excess of six (6) hours of instruction. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early. You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have “lost” the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in your work if you unavoidably miss a class. If a student is absent from class it still remains the student’s responsibility to secure the notes from one of the other members of the class and to submit any required assignments.

The last day to withdraw June 27, 2022.

**Student Conduct**

Students should not engage in disruptive activities while in the classroom or online. Any conduct that is deemed unprofessional to the academic atmosphere, such as cell phone use or consistent talking during instructional delivery, will not be tolerated. Any student found guilty of such conduct will be asked to leave the classroom.

**Instructor’s Course-Specific Information**

This course is designed to give STEM majors a good foundation in Trigonometry. You should plan on doing homework each night. Homework has very specific due dates.

**Devices**

A scientific calculator will be required for certain content of this course to successfully complete the homework and test reviews. An understanding of calculus is imperative for engineering, science, and mathematics disciplines. The material in this course will be supported by the use of a graphing calculator and appropriate mathematical software. No symbolic calculators will be allowed on exams. These include, but are not limited to, TI-89, TI-92, HP-48, TI-CAS, CE, CX. No cell phones or equivalent will be used during exams.

All personal communication devices (any device with communication capabilities including but not limited to cell phones, blackberries, pagers, cameras, palmtop computers, laptops, PDA’s, radios, headsets, portable fax machines, recorders, organizers, databanks, and electronic dictionaries or translators) must be muted or turned off during class. Such activity during class time is deemed to be disruptive to the academic process. Personal communication devices are to not be on the student desk during examinations. Usage of such devices during exams is expressly prohibited during examinations and will be considered cheating.

**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

5 of 14
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
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 description, 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:

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

### Link to Policies in Catalog and Student Handbook

Here's the link to the HCC Catalog and Student Handbook: [https://catalog.hccs.edu/](https://catalog.hccs.edu/)

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/student-conduct](https://www.hccs.edu/student-conduct) (scroll down to subsections)

### Campus Carry Link

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

[https://www.hccs.edu/campuscarry](https://www.hccs.edu/campuscarry)

### 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/email) and activate it now. You may also use Canvas Inbox to communicate.

### Office of Institutional Equity
Use the following link to access the HCC Office of Institutional Equity, Inclusion, and Engagement: https://www.hccs.edu/eeo

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/accessibility

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sexual 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

https://www.hccs.edu/titleix

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.


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
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/](https://eagleonline.hccs.edu/)

**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/studenthandbook)

**EGLS3**

The EGLS3 ([Evaluation for Greater Learning Student Survey System](https://www.hccs.edu/egls3)) 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. EGLS3 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/egls3](https://www.hccs.edu/egls3)

**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 and convenient academic support, in a large variety of subjects, to HCC students in both an online environment and in-person on campus. Tutoring is provided by HCC personnel in order to ensure that it is appropriate. Visit the HCC Tutoring Services website for more information at [https://hccs.edu/tutoring](https://hccs.edu/tutoring).

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/supplemental-instruction](https://www.hccs.edu/supplemental-instruction).

Resources for Students:
[https://www.hccs.edu/covid19students](https://www.hccs.edu/covid19students)

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://www.hccs.edu/basicneeds](https://www.hccs.edu/basicneeds)

COVID-19
Here’s the link to the HCC information about COVID-19:
[https://www.hccs.edu/covid-19](https://www.hccs.edu/covid-19)

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)**
Copyright Statement

In order to uphold the integrity of the academic environment and protect and foster a cohesive learning environment for all, HCC prohibits unauthorized use of course materials. Materials shared in this course are based on my professional knowledge and experience and are presented in an educational context for the students in the course. Authorized use of course materials is limited to personal study or educational uses. Material should not be shared, distributed, or sold outside the course without permission. Students are also explicitly forbidden in all circumstances from plagiarizing or appropriating course materials. This includes but is not limited to publically posting quizzes, essays, or other materials. This prohibition extends not only during this course, but after. Sharing of the materials in any context will be a violation of the HCC Student Code of Conduct and may subject the student to discipline, as well as any applicable civil or criminal liability. Consequences for unauthorized sharing, plagiarizing, or other methods of academic dishonesty may range from a 0 on the specified assignment and/or up to expulsion from Houston Community College. Questions about this policy may be directed to me or to the Manager of Student Conduct and Academic Integrity.

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.

Tentative Instructional Outline:

<table>
<thead>
<tr>
<th>Approx. Day</th>
<th>Reading Assignment</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1.1 Angles</td>
<td>CHAPTER 1</td>
</tr>
<tr>
<td>6</td>
<td>1.2 Angle relationships and Similar Triangles (omit)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.3 Trigonometric Functions</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1.4 Using the Definitions of the Trigonometric Functions</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2.1 Trigonometric Functions of Acute Angles</td>
<td>CHAPTER 2</td>
</tr>
<tr>
<td>7</td>
<td>2.2 Trigonometric Functions of Non-Acute Angles</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2.3 Finding Trigonometric Function values Using a Calculator</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2.4 Solving Right Triangles</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2.5 Further Applications of Right Triangles.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Review and Test 1 June 9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3.1 Radian Measure</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>10</td>
<td>3.2 Applications of Radian Measure</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Section</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3.3 The Unit Circle and Circular Functions</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3.4 Linear and Angular Speed</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>4.1 Graphs of the Sine and Cosine Functions</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>4.2 Translations of the Graphs of the Sine and Cosine Functions</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>4.3 Graphs of the Tangent and Cotangent Functions</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>4.4 Graphs of the Secant and Cosecant Functions</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Review and Test 2 June 16</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>5.1 Fundamental Identities</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>5.2 Verifying Trigonometric Identities</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>5.3 Sum and Difference Identities for Cosine</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>5.4 Sum and Difference Identities for Sine and Tangent</td>
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<td>21</td>
<td>5.5 Double-Angle Identities</td>
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<td>5.6 Half-Angle Identities</td>
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<td>6.1 Inverse Circular Functions</td>
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<td>22</td>
<td>6.2 Trigonometric Equations I</td>
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<td>6.4 Equations Involving Inverse Trigonometric Functions</td>
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<td>27</td>
<td>7.1 Oblique Triangles and the Law of Sines</td>
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<td>7.2 The Ambiguous Case of the Law of Sines</td>
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<td>7.3 The Law of Cosines</td>
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<td>7.4 Vectors, Operations, and the Dot Product</td>
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<td>29</td>
<td>8.2 Trigonometric (Polar) Form of Complex Numbers</td>
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<td>8.3 The Product and Quotient Theorems</td>
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<td>8.4 DeMoivre's Theorem; Powers and Roots</td>
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<td>8.5 Polar equations and Graphs</td>
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<td>Review and Test 4  July 1</td>
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<td>7</td>
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### Additional Information

#### Departmental/Program Information

Program Information for Majors: [https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/mathematics/](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/mathematics/)


#### 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

<table>
<thead>
<tr>
<th>Chair of Math</th>
<th>Mahmoud Basharat</th>
<th>SW Campus</th>
<th>713-718-2438</th>
<th>Stafford Scarcella, N108</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Admin. Assistant</td>
<td>Tiffany Pham</td>
<td>SW Campus</td>
<td>713-718-7770</td>
<td>Stafford Scarcella, N108</td>
</tr>
<tr>
<td>- Admin. Assistant</td>
<td>Christopher Cochran</td>
<td>SW Campus</td>
<td>713-718-2477</td>
<td>Stafford Scarcella, N108</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Jaime Hernandez</td>
<td>CE Campus</td>
<td>713-718-7772</td>
<td>San Jacinto Building, Rm 369</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Susan Fife</td>
<td>NW Campus</td>
<td>713-718-7241</td>
<td>Katy Campus Building, Rm 112</td>
</tr>
<tr>
<td>Math Assoc. Chair</td>
<td>Hien Nguyen</td>
<td>NE Campus</td>
<td>713-718-2440</td>
<td>Northline, Rm 324</td>
</tr>
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#### Developmental Mathematics Courses

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