

**Math 141: Plane Trigonometry****Course number: 30526****Section G****3 credit hours****Term:** Fall 2022 – 16 week session**Class meeting times:** M W 12:30 pm – 1:50 pm**Course modality:**

This class will be held remotely at the scheduled class time. Students should plan to participate in live (synchronous) Zoom class meetings and instructional activities during each scheduled class day at the times listed in the schedule. Students are expected to participate regularly in the course based on the requirements outlined in this syllabus.

Zoom link:

<https://cccedu.zoom.us/j/84886595371?pwd=QkF4ZC9FbldTVGo4dkszNnJxTDZyQT09>

Passcode: Math141

**Instructor:** Dr. Nedjla Ougouag**Contact:** nougouag@ccc.edu**Office Hours:** Via Zoom upon request by e-mail.Zoom link: <https://cccedu.zoom.us/j/81135171103?pwd=ei9OOER3KzFhZWl5WlcvWE55M1hsdz09>

Passcode: Office

Available times:

- Mondays & Wednesdays: 2:00 PM – 4:30 PM.
- Thursdays: 1:00 PM – 3:00 PM.

**Prerequisite: Grade of C or better in Math 140, or Consent of Department Chairperson****Additional course website:** <http://ougouag.com>**Changes to this Syllabus**

This syllabus is subject to change as necessary during the semester. If a major change occurs, it will be thoroughly addressed during class, posted under Announcements on the class website and on Brightspace and communicated via email.

### Catalog Description

In this course, students will develop an understanding of the trigonometric functions and apply trigonometry to the sciences. Topics include definitions, properties and graphical characteristics of trigonometric functions; radian measure; trigonometric identities and equations; Law of Sines and Law of Cosines; inverse trigonometric functions; DeMoivre's Theorem; and vectors. Technology and writing assignments will be used throughout the course as appropriate. Applications involving problem-solving skills will be emphasized throughout the course.

### Course Objectives

- Demonstrate an understanding of trigonometric functions and their behaviors.
- Apply trigonometric concepts to solve contextual (real-world) scenarios.
- Use technology to explore trigonometric concepts.

### Student Learning Outcomes

By the end of the semester, students will be able to:

1. Define the sine, cosine, secant, cosecant, tangent, and cotangent functions and their inverses, including the unit circle and right-triangle definitions of these functions.
2. Compute the exact values of trigonometric functions whose reference angle measures are  $0^\circ$ ,  $30^\circ$ ,  $45^\circ$ ,  $60^\circ$  and  $90^\circ$ .
3. Apply right-angle trigonometry to a contextual (real-world) scenario.
4. Apply circular motion to a contextual (real-world) scenario.
5. Graph a trigonometric function using its properties (e.g., periodicity, amplitude, phase shifts, etc.).
6. Verify trigonometric identities.
7. Solve trigonometric equations.
8. Apply the sum, difference, double-angle, and half-angle identities to calculating exact values of trigonometric functions, verifying identities, and solving equations.
9. Apply the Law of Sines and the Law of Cosines to a contextual (real-world) scenario.
10. Apply trigonometric functions to vectors and other basic concepts of physics (e.g., force, velocity, pendulum movement, basic current).
11. Determine roots and powers of complex numbers by applying DeMoivre's Theorem.

### Technical Assistance Help Desk

You can obtain technical and computer help desk assistance by contacting Online Learning:

[Online Technical Assistance site](#) Phone #: 312-553-2600

For loaner laptops and wifi hotspot: <https://apps.ccc.edu/LoanerLaptop/login>

### Course Ethics

It is my intent to present materials and activities in a manner respectful of diversity—gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture—and that students from all diverse backgrounds and perspectives be well-served by this course. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

### What you Need for this Course

**Scanning App: VERY IMPORTANT!** Download a **scanning App** of your choice as you may be turning in some of your quizzes/exams/assignments using this App.

- **For Android:** <https://beebom.com/best-camscanner-alternatives-android-ios/>
- **iPhones** have a scanner on the phone already. If you open your Notes application and click on the camera, there is an option that lets you scan documents and converts to pdf file. How to Scan Document on iPhone.

### Textbook:

The textbook is **recommended but not required**.

**Trigonometry**, 8<sup>th</sup> edition - ISBN 0-13-239279-8

Author: Michael Sullivan

WebAssign is NOT used in this class!

**A Graphing calculator** is strongly recommended: Preferably TI-83 or TI-84.

**My personal Website:** <http://ougouag.com>

I will be complementing your course material with a specific Math 209 Course Website. You will find on it:

- This syllabus
- **Homework assignment master file:** <http://ougouag.com/Homework141.htm>
- video tutorials (VERY USEFUL!)
- handouts
- cheat sheets
- links to text tutorials
- and MANY other helpful Calculus Tools from the web.

If this is your first time using Brightspace, familiarize yourself with this platform by taking the training sessions available when you first login.

On Brightspace you will find:

- Lecture Notes in PowerPoint format.
- Assignments you must complete, with due dates and times.
- Quizzes, with due dates and times.
- Discussion Assignments.
- Zoom Live Class Meetings links that you must attend in person (see below).
- Your Grades.
- Many other Resources.

### Guidelines for Participation in Virtual Class Meetings

1. Remote classes are live virtual classrooms. **Your attendance for the entirety of the class is required.** If your connection drops, please rejoin the class. If you need to join late or leave early, please reach out to me prior to the start of class.
2. **Active class participation is integral to the student learning experience.** Use your microphone, the chat feature, the reactions, answer poll questions, and/or share screen features to engage and participate.
3. **Please do not join any class if you are commuting, working out, are at work or otherwise distracted as active participation in the class is required.** If our class were in-person, it would be inappropriate to schedule appointments and/or work or run errands during class time. Treat remote classes as you would in-person classes. If you cannot adhere to the above protocol for participation in the virtual class meeting due to overlapping commitments, please do not register for courses with a virtual meeting component. Students enrolled in courses with virtual (Zoom) components must adhere to the same academic standards and are subject to the same disciplinary actions as students enrolled in fully in-person classes.
4. **During synchronous remote class sessions, please keep cameras on when possible.** I recognize that you may not always have the Internet bandwidth to use the camera. If this is the case, please post a picture of yourself or an avatar so that your classmates and I can connect with you. Here are a few websites on which you can make an avatar: <https://www.bitmoji.com/> <https://avatarmaker.com/> <https://avatoon.me/>
5. **I recommend attending our class on a desktop or laptop computer, or a large-screen (10 or more inches) tablet with a front-facing camera and a physical keyboard and mouse.** You may occasionally be asked to share your screen. No matter how you choose to attend, make sure that you have the necessary technology to fully participate in class.

You may borrow a laptop from the school for free. Clicking on the following link for more information

<https://www.ccc.edu/services/Pages/Borrow-a-Laptop.aspx>. You will need MSWord and a PDF reader (e.g. Adobe Acrobat). You have access to MSWord through your CCC email account. If you primarily use Google Docs, you can download MSWord files then upload them to your Google Drive and edit them in Google Docs. Be sure to convert them back to MSWord before submitting them. (Here's a tutorial on converting Google Docs files to MSWord <https://howdoi.daemen.edu/knowledge-base/how-to-save-a-google-doc-as-a-word-file/>).

## Grading Policy

### Readings

Each week, you are strongly encouraged to read the PowerPoint Lectures and read from the eBook or textbook (if you choose to acquire it) the sections related to the assignments before attempting any of the homework assignments. I STRONGLY recommend that you take notes during class, or while you read the text or watch videos. You should try to rework the sample problems from the lecture on your own. This is not a graded component of the course, but your success in the course depends on your understanding of the material.

**Orientation Quiz:** A one-time non-math quiz about course policies. Read this Syllabus! (10 points)

### Introduction Discussion Assignment

A Self-Introduction Discussion Assignment will be conducted on BrightSpace under Content/Discussions. This will take place during the first two weeks of class and will have a firm deadline. The goal of this assignment is to create a thoughtful dialogue and community in our classroom in this online environment. This assignment is worth 20 points provided you post a photo of yourself, enter substantial and relevant information about yourself, as well as read your classmates entries and reply to at least two classmates with more than a couple of sentences. **This assignment will be closed on Sunday September 18, 11:59PM.**

### Homework Assignments

Homework assignment problems from the textbook will be assigned at every class session. The problem pages are located on my website at:

<http://ougouag.com/Homework141.htm>

Doing the homework is the only real way to learn the material! I strongly recommend completion of the homework on time.

You can get up to a total of 220 points for all homework assignments. Once assigned in class, homework is usually due within a week.

### Quizzes

There will be 12 or 13 quizzes this semester, but only your best 10 scores will be counted. Each is worth 20 points. Possible extra credit will be included so you can in fact earn more than 20 points per quiz. Make sure all your answers are saved before you submit the quiz!

Quizzes will be given on Wednesdays, during the second half of the class session, and turned on BrightSpace.

### Exams

There will be 3 exams throughout the semester taken at class time remotely and **turned in on Brightspace by the due date and time as a single “pdf” file by using the Scan App of your choice.**

Exams are worth 150 points each and may include up to 10 extra credit points.

You will have the full class session to complete the Exam. The Exams will have a strict time limit!

### Extra credit

There will be no separate extra 'stand alone' credit Assignment, Quiz, or Exam in this course. There WILL BE extra credit points added to most of your Quizzes and Exams (for example, you can earn 22 out of 20 on a quiz! The 2 points are extra credit.)

### Attendance

I will be using Zoom reports and Navigate to take attendance in this class. If you are absent, Navigate will automatically send you an email in that regard, that may help you keep track of your attendance frequency. Your advisor should be listed in Navigate. If there is not an advisor listed, I recommend that you reach out to the Advising Office and ask that one be assigned. Advisors can be very helpful as you explore your academic path at CCC. Log in to Navigate using your CCC username and password. This is the same username and password you would use for Brightspace and ccc student email.

Your attendance total will be assessed at the end of the semester and is worth up to 100pts.

### Additional remarks about grading

A "curve" is not used in the class. Keep in mind that **incompletes** are not given unless there is a verifiable emergency. The possibility of getting a low grade does not count as a verifiable emergency. Count on getting your work done during the semester.

Extra credit work will be included in quizzes and exams only and throughout the whole semester. No EXTRA TIME will be allocated for extra credit at the end of the semester!

**Important note:** On Exams, Quizzes and Assignments, the work done to solve the problems must be completely and clearly shown. A correct answer, by itself, is not sufficient for full credit.

### Grading Criteria

Graded Items	Points	Percent
Introduction Discussion (+ photo, any age 🤪 !)	20	2%
Orientation Quiz	10	1%
<b>Homework Assignments:</b> Homework problems from the textbook (HW points will be assessed at the end of the semester and will represent the percentage of assigned HW that you have turned in on time)	220	22%
<b>Quizzes</b> (20 points each) + Extra credit (times 10)	200+	20%
<b>Exam 1 (October 5)</b> (150 points) + Extra credit	150+	15%

<b>Exam 2 (November 9)</b> (150 points) + Extra credit	<b>150+</b>	15%
<b>Exam 3 (December 12)</b> (150 points) + Extra credit	<b>150+</b>	15%
<b>Attendance:</b> Point value will be assessed at the end of the semester and will represent your frequency of presence during synchronous zoom class sessions and in person class sessions.	<b>100</b>	10%
<b>Total</b>	<b>1000</b>	100%

### Grading Scale

Your final grade is calculated by dividing your earned points by the total points, changing to a percent, and rounding to the nearest whole number:

- A= 100-90% (900 to 1000 points)
- B= 89-80% (800 to 899 points)
- C= 79-70% (700 to 799 points)
- D= 69-60% (600 to 699 points)
- F = 59% or below (0 to 599 points)

### Important dates

Last day for withdrawal with tuition refund	<b>Seven calendar days from start of class</b>
Labor Day holiday	<b>September 05</b>
Last day for student initiated withdrawal	<b>November 19</b>
Thanksgiving Holiday	<b>November 24-25</b>
Final week start	<b>December 12</b>
End of Fall 2022 term	<b>December 17</b>

### Course Policy

#### NSW – No-Show Withdrawal:

Students registered in the class who do not attend the first two (2) class sessions and not pursue pursuing academic activities on BrightSpace will be withdrawn from the class by the instructor and issued no-show withdrawal (NSW). Academic activities may include, but are not limited to, the

completion of assignments, exams and quizzes or participation in online discussions. Academic activities do not include merely logging onto the BrightSpace, or acknowledging that you have read the syllabus.

Students who have been issued an NSW by the instructor may, at the request of the instructor, be reinstated (RNS) into the class.

#### **ADW –Administrative Withdrawal:**

Students are required to attend class. A student may be awarded an administrative withdrawal (ADW) at midterm if the instructor determines that the student is not actively pursuing completion of the course, based upon the instructor’s active pursuit criteria. Active pursuit may be measured by class participation, taking required examinations, quizzes, submission of papers, work assignments, class attendance, etc.

Students who have been issued an ADW by the instructor may, at the request of the instructor, be reinstated (RNS) into the class.

Reinstatement Note:

Students may not be reinstated after the last date (available on my.ccc.edu) for student-initiated withdrawals (WTH).

A student who is reinstated (RNS) by the instructor after having received an administrative withdrawal (ADW) may not elect to withdraw (WTH) from the class at a later time.

#### **Active Pursuit Policy**

Students are meeting the criteria for active pursuit at the Midterm Date if they have completed at least 50% of assigned coursework, or if they have participated in at least 50% of class meetings/required Zoom sessions [or, in online courses: if they have accessed course materials in BrightSpace within the 3 weeks before the Midterm Date].

After the Midterm date, students are expected to continue participating in required class/zoom sessions and submitting required assignments. The last day that a student attends a class, submits an assignment, logs in to BrightSpace, or engages in email interaction with the instructor will be considered the last date of Active Pursuit.

#### **Late Assignments and Exams**

You are expected to post and/or complete each assignment by its due date and time. Permission to make up an assignment is subject to instructor’s discretion.

**Except in the case of documented personal or medical hardship, subject to instructor review or discretion, there is no make-up for exams and quizzes.**

Please note, this is not a self-paced course. The course is developed based on the idea that all students will do the work by the time indicated so they can progress to the next task.

#### **Course Discussion Board Policies**

Students who are disrespectful or offensive to the instructor or any member of the class will first be addressed by the instructor. If there are no improvements, students will be referred promptly for disciplinary action. Please consult your student policy manual on page 66 for additional



details.

### **Academic Dishonesty**

Academic dishonesty is a serious offense, which includes but is not limited to the following: cheating, complicity, fabrication and falsification, forgery, and plagiarism. Cheating involves copying another student's paper, exam, quiz, or use of technology devices to exchange information during class time and/or testing. It also involves the unauthorized use of notes, calculators, and other devices or study aids. In addition, it includes the unauthorized collaboration on academic work of any sort. Complicity, on the other hand, involves the attempt to assist another student to commit an act of academic dishonesty. Fabrication and falsification, respectively, involve the invention or alteration of any information (data, results, sources, identity, etc.) in academic work. Another example of academic dishonesty is forgery, which involves the duplication of a signature, in order to represent it as authentic. Lastly, plagiarism involves the failure to acknowledge sources (of ideas, facts, charges, illustrations, etc.) properly in academic work, thus falsely representing another's ideas as one's own. In individual cases of academic dishonesty, sanctions may range from a written warning to a failing grade for the course; the severity of the penalty is left to the discretion of the instructor. Please consult your student policy manual on page 65 or refer to the link below for additional details.

## **HWC Student Resources**

### Disability

The Disability Access Center serves as City Colleges of Chicago's point of contact and coordination for students with disabilities. The DAC provides a wide range of services, academic supports, and assistance to ensure you have full access to all programs to achieve your maximum potential. If you have a disability for which you may require accommodations, please contact the [Disability Access Center](#).

### Religious Observance

If you will require scheduling consideration due to a religious observance coinciding with a class session or due date, please inform me as soon as possible.

### Military Duty

If you will require special accommodations for military activity, such as drill schedules and calls to active duty, please inform me as soon as possible.

### Names and Pronouns

If you go by a name that differs from the one that appears on the roster, please inform me as soon as possible. You may also adjust your zoom profile with the name and pronouns you want us to see, so that your classmates and I can use your correct name and [pronouns](#) (they, ze, he, she, etc.). If a student does not use pronouns, they can simply request that people use their names in place of pronouns.

I expect us all to do our best to respectfully use these names and [pronouns](#) to address one another, as an essential part of our class values.

Additionally, if students would like to ensure that their name is changed in the CCC system, including on [Brightspace](#), you may follow this protocol:

Contact the [Registrar's Office](#) to complete a "preferred name change request"

When the name change is updated, the student portal then changes to the new name, which should then be reflected in Brightspace.

You will also still need to put in a [helpdesk ticket](#) with a copy of the change form attached so the "Active Directory" can be updated for your email to also reflect your name change.

(The "preferred name change" would not appear on the official transcript and the diploma because these are legal documents. If legal documentation of a name change is available, there is a separate form for a [Legal Name Change](#).)

### **Academic Advising**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Advising.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/j/864397065>

Advisors may assist students with registration, degree and transfer planning, and more.

### **Career Services**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Career-Services.aspx>

Make an appointment with a Career Advisor: email [rgarcia617@ccc.edu](mailto:rgarcia617@ccc.edu) or [jdobson4@ccc.edu](mailto:jdobson4@ccc.edu)

The Career Services team provides comprehensive services to help students make informed decisions about career pathways. The Career Services department offers one-on-one support, workforce readiness training, employment participation, and job development assistance.

### **Chicago Legal Clinic**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Chicago-Legal-Clinic.aspx>

The Chicago Legal Clinic works directly with students to identify their legal needs and provide community-based quality services. To initiate a legal inquiry during the summer semester, email attorney Brian Nix at [bnix@ccc.edu](mailto:bnix@ccc.edu) or call at (312) 553-3172.

### **Disability Access Center (DAC)**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Disability-Access-Center.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/j/3357381796>

The Disability Access Center serves as City Colleges of Chicago's point of contact and coordination for students with disabilities. The DAC provides a wide range of services and assistance to ensure students with disabilities are able to achieve their maximum potential.

### **Financial Resources**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Financial-Aid.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/my/hwcfinaid>

In arranging for the cost of tuition, or to address financial challenges in trying to pay for college, please visit the Financial Aid Office learn more about Financial Aid Guidelines, grants, loans and scholarships.

### **Library**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Library-System.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/my/hwclibrary>

Chat with a librarian: <http://hwclibrary.ccc.edu>

The Harold Washington College Library offers electronic, database, and print media to support the scholarly work of students, facu and staff as well as individual and group library and information literacy instruction.

### **Military Affiliated Student/ Veterans Services**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Veterans-Services.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/my/hwcveteran>

The Military Affiliated Student/Veterans Services Center is a centralized source of support and access to military affiliated/ veterans-specific information and resources.

### **Navigate**

Website: <https://ccc.edu/Navigate>

Navigate is a student support system that will be used by faculty, advisors and tutors to help students achieve success in their classes. Students can use Navigate to schedule tutoring or advising appointments, or to see communications about their course progress generated by their professors.

### **Registrar**

Website: <https://www.ccc.edu/colleges/washington/departments/Pages/Registrar.aspx>

Virtual Drop-in services via Zoom: <https://cccedu.zoom.us/j/3364257991#success>

The Office of the Registrar administers the enrollment of students, maintains student records, and works with faculty, administration and staff on academic matters.

### **Techology Support**

Website: <https://www.ccc.edu/colleges/washington/departments/Pages/Information-Technology.aspx>

The Information Technology Department assists with many technology-related needs including password reset, loaner laptops, and more. For a loaner laptop, visit <https://apps.ccc.edu/loanerlaptop> For all other questions, use the Online Help Request Form at:

[www.ccc.edu/help](http://www.ccc.edu/help)

**Transfer Center**

Website: <https://www.ccc.edu/colleges/washington/departments/Pages/Transfer-Resources.aspx>

The Transfer Center is designed to help students transfer from their original dream school (Harold Washington College) to wherever it is they want to go next. We provide resources, transfer workshops to support every step of the transfer process, one-on-one transfer advising, and many large-scale events that can help them get to their dream school.

**The Healthy Food Market**

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/j/3474348772>

The Healthy Market is a free service available to you as an HWC student. You can visit the virtual Wellness Center to receive help in locating food and nutrition resources in your neighborhood and community.

**Tutoring and Academic Support Services**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Tutoring.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/my/hwcvirtuالتutoring>

Tutors are available in a wide variety of subjects to assist students through individual and group tutoring sessions. Any student who utilize tutoring services to gain a deeper comprehension of course content and to enhance learning development.

**Wellness Center**

Website: <http://www.ccc.edu/colleges/washington/departments/Pages/Wellness-Center.aspx>

Virtual Drop-in Services via Zoom: <https://cccedu.zoom.us/j/3474348772>

The Harold Washington College Wellness Center provides mental health and other social services to support your personal wellness and academic success.

**TRIO Student Support Services (SSS)**

Website: <https://www.ccc.edu/colleges/washington/menu/Pages/TRIO-Program.aspx>

TRIO SSS is committed to providing you with a supportive environment to improve your academic success and assist with graduation and successful transfer to a 4-year institution. TRIO SSS will provide you with individualized holistic services around academic support, mentoring, financial guidance, transfer, and career and professional development. For an application, or to answer any of your questions, please email us at [hwc-trioss@ccc.edu](mailto:hwc-trioss@ccc.edu).

**Federal and State Statutes and Mandates:****Americans with Disabilities Act (ADA)**

Harold Washington College abides by the Americans with Disability Act and with Section 504 of the Rehabilitation Act of 1973 and will provide

reasonable accommodations to students with documented disabilities covered by these laws. If you have a disability for which you may require accommodations, please contact the Disability Access Center located in room 107 or call (312) 553-3050.

<http://www.ada.gov/pubs/adastatute08.htm>

### **Federal Family Educational Rights and Privacy Act (FERPA)**

Our college also abides by federal privacy laws on behalf of students and employees.

<http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

### **Section 504, Rehabilitation Act of 1973**

<https://www.dol.gov/agencies/oasam/civil-rights-center/statutes/section-504-rehabilitation-act-of-1973>

### **Title IX Rights**

Title IX represents the federal law designed to prevent sexual assault and harassment of students on college campuses and promote gender equity in education. Additionally, Title IX covers the rights of pregnant and parenting students, faculty and staff.

### Topical Course Outline

Week 1	Angles and their measure. Trigonometric Functions: Unit Circle Approach.
Week 2	Properties of the trigonometric functions. Graphs of the sine and cosine functions.
Week 3	Graphs of the tangent, cotangent, cosecant, and secant functions. Phase shift: sinusoidal curve fitting.
Week 4	The inverse sine, cosine, and tangent functions. The inverse trigonometric functions (continued).
Week 5	Trigonometric equations.
Week 6	Trigonometric Identities. Sum and difference formulas.
Week 7	Double-angle and half-angle formulas. Product-to-sum and sum-to-product formulas
Week 8	Right triangle trigonometry; applications.
Week 9	The Law of sines and applications involving the law of sines.
Week 10	The Law of cosines and applications involving the law of cosines.
Week 11	Area of a triangle. Simple Harmonic Motion (Optional).
Week 12	Polar coordinates. Polar equations and graphs.
Week 13	The complex plane; De Moivre's Theorem.
Week 14	Vectors. The dot product.
Week 15	Vectors in space. The cross product.
Week 16	REVIEW FINAL TEST