

## Basic Course Information

Semester:	<b>Winter 2026</b>	Instructor Name:	<b>Jeffrey Burt</b>
Course Title & #:	<b>Math 140 Trigonometry</b>	Email:	<b>jeff.burt@imperial.edu</b>
CRN #:	<b>15282</b>	Webpage (optional):	<b>N/A</b>
Classroom:	<b>2722</b>	Office #:	<b>2765</b>
Class Dates:	<b>1/5-2/4</b>	Office Hours:	<b>TBD</b>
Class Days:	<b>MTWRF</b>	Office Phone #:	<b>7603556489</b>
Class Times:	<b>12:30pm-2:45pm</b>	Emergency Contact:	<b>email</b>
Units:	<b>3</b>	Class Format/Modality:	<b>In Person</b>

## Course Description

The study of trigonometric functions, their inverses and their graphs, trigonometric identities and proofs related to trigonometric expressions, trigonometric equations, solving right triangles, solving triangles using Law of Cosines and the Law of Sines, and polar coordinates. (CSU)

## Course Prerequisite(s) and/or Corequisite(s)

**PREREQUISITES:** - Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.

## Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Demonstrate problem solving strategies by identifying an appropriate method to solve a given problem, correctly set up the problem, perform the appropriate analysis and computation, and share their interpretation of the conclusion or the outcome, using correct grammar or in an oral presentation. This outcome will be assessed through selected exercises on exams throughout the semester.

## Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Define the six trigonometric functions using right triangle, the coordinate system and unit circle definitions.
2. Evaluate the trigonometric function of an angle in degree and radian measure
3. Manipulate and simplify trigonometric expressions.
4. Graph trigonometric functions, including those involving vertical and horizontal translations.
5. Evaluate and graph inverse trigonometric functions.
6. Solve triangles using the Law of Sines and Law of Cosines, including ambiguous cases.
7. Verify trigonometric identities, including sum and difference formulas, half-angle and power-reducing formulas and prove trigonometric identities.
8. Solve trigonometric equations, triangles and applications.
9. Graph polar equations.
10. Convert between polar and rectangular coordinates and equations.
11. Calculate powers and roots of complex numbers using DeMoivre's Theorem
12. Represent a vector in the form  $a_i + b_j$
13. Solve application problems.



## Textbooks & Other Resources or Links

Lial, Hornsby, Schneider, Daniels. 2020. *Trigonometry*. 12th Pearson. ISBN: 978-0136552161.

## Course Requirements and Instructional Methods

**Homework:** Homework will be assigned at each class meeting. It is due everyday and must be turned in as a pdf on Canvas. The pdf must be in the correct order to count for credit.

**Quiz:** A quiz may be given at any time during any class period. It may not be announced. The number of quizzes or group work in the semester will be instructor's discretion. The purpose is to provide a feedback on your learning. The lowest 2 scores will be dropped.

**Tests:** There will be three tests. The purpose of these tests is to check your understanding of the concepts covered in the course. Most of the questions on these tests will require showing a significant amount of work. A correct answer with insufficient work will receive partial credit or no credit.

**Final Exam:** At the end of the semester, a COMPREHENSIVE/CUMULATIVE Final Exam will be given. If you miss the final, it will be recorded as a zero.

**Out of Class Assignments:** The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

## Course Grading Based on Course Objectives

There will be 3 in class exams, worth 100 points each. The final is comprehensive and is worth 150 points. There are no make-ups for the exams or final. Plan to be here for the exam dates in the schedule, but also note that those dates can change, so make sure you are paying attention and staying up to date. Any missed exam will result in the grade of a '0'. To receive a passing grade in the class you need to have at least a 70% average on your exams.

There will be quizzes on an almost daily basis. The average of your quizzes at the end of the semester is worth 8%. Your lowest two quizzes will be dropped. There are no make up quizzes.

Homework is worth 8% of your grade. Each exam is worth 20% and the final is worth 25%

Grading:

Quizzes	7%
Homework	8%
Exams	60%
<u>Final</u>	<u>25%</u>
Total	100%

The grade categories are as follows: A 100%-90%, B 89.9%-80%, C 79.9%-70%, D 69.9%-60%, F 59.9%-0%

Attendance, class participation and a subjective instructor's interpretation of work may be used in assigning a final grade to borderline cases.



## Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

## Course Policies

The goal of this course is for you to gain the necessary skills and knowledge to do well, and improve your mathematical abilities, so you are able to succeed in future courses. My responsibility is to help you in any way I can to accomplish these goals, however it is your responsibility to be committed to your own success and keep up with the pace of the class. To do so you need to complete assignments on time and please ask questions when you have them.

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### Course Rules:

- 1) Late work is not accepted. If you are going to be gone, contact me before the absence to make arrangements.
- 2) There are no make up tests.
- 3) It is your responsibility to drop or withdraw the class. Failure to do so will result in a regular grade (most probably an F).
- 4) Regular attendance is recommended and expected. The instructor can drop you from the class if you have more than the allowed number of absences.
- 5) You need to ask questions whenever you have them. If not in class, please come to my office during office hours, call me, email me, go to the math lab, google it, YouTube it, etc.
- 6) It is your responsibility to make up the work you missed if you are absent. I highly recommend finding someone else to copy notes and material from that were covered in your absence.
- 7) Any cheating on an exam will result in an automatic 0. This includes using your phone during an exam for any reason.

## IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.

## Anticipated Class Schedule/Calendar

Week	Monday	Tuesday	Wednesday	Thursday	Friday
<b>1</b>	<b>Jan 5</b>	<b>Jan 6</b>	<b>Jan 7</b>	<b>Jan 8</b>	<b>Jan 9</b>
	Syllabus; 1.1	1.3, 1.4	2.1, 2.2	2.3, 2.4	3.1, 3.3
<b>2</b>	<b>Jan 12</b>	<b>Jan 13</b>	<b>Jan 14</b>	<b>Jan 15</b>	<b>Jan 16</b>
	4.1, 4.2	4.3 – 4.4	5.1 – 5.2	<b>5.3 – 5.4</b>	<b>EXAM 1</b>
<b>3</b>	<b>Jan 19</b>	<b>Jan 20</b>	<b>Jan 21</b>	<b>Jan 22</b>	<b>Jan 23</b>
	<b>HOLIDAY</b>	5.5 – 5.6	6.1 – 6.2	6.2 – 6.3	<b>EXAM 2</b>
<b>4</b>	<b>Jan 26</b>	<b>Jan 27</b>	<b>Jan 28</b>	<b>Jan 29</b>	<b>Jan 30</b>
	7.1 – 7.2	7.2, 7.3	8.1, 8.2	8.2, 8.3	<b>EXAM 3</b>
<b>5</b>	<b>Feb 2</b>	<b>Feb 3</b>	<b>Feb 4</b>		
	8.3; Review	<b>MAKE-UP EXAM</b>	<b>FINAL EXAM</b>		

**\*\*\*Subject to change without prior notice\*\*\***