



**Tech Prep Articulation Agreement  
Between  
University of Alaska Southeast (UAS)  
and  
Wrangell Public School District (WPSD)**

**Mathematics  
School Year 2015-2016**

**Purpose:**

In addition to the General Tech Prep Agreement, the purpose of this articulation agreement is to outline the mutual understanding as we have agreed to the following process and criteria with respect to the program of Mathematics.

**Course:**

The school district program will follow a curriculum coordinated with the administration and faculty of UAS pertaining to the following course:

**Mathematics – Trigonometry**

**MATH 152** A study of trigonometric functions including graphing, identities, inverse trigonometric functions, solving equations and polar coordinates; applications. **3 Credits (3+0)**

**Prerequisite:** MATH 151 with C (2.0) or higher; or placement test.

Although teaching methods may differ, this course will be subject to the instructional objectives and outcomes of the attached UAS syllabus.

**Administration:**

1. Students must have an overall 3.0 GPA to register for university credit.
2. It is recommended that course work be completed at a level of 3.0 GPA.
3. Students must successfully complete MATH 151 with a C (2.0) or higher; or placement test.
4. UAS – Sitka instructor and campus director shall review and approve all course syllabi and related curriculum documents to ensure they replicate the UAS course. This includes standardized course syllabi, course objectives, textbooks, and methods for evaluation.
5. To receive concurrent credit, the student will register for the Tech Prep course at the beginning of the term in which the competencies will be completed. Registration for yearlong courses will take place during the fall semester.
6. The UAS grade posted will be the UAS grade earned for the course and submitted by the district instructor.
7. Student grades will be submitted by 5:00 p.m. of the final day of the district semester at [uonline.alaska.edu](http://uonline.alaska.edu).
8. Any change in instructor requires suspension of this addendum.

Digitally signed by Joseph Liddle  
DN: cn=Joseph Liddle, o=ou, email=jbliddle@uas.alaska.edu, c=US  
Date: 2015.09.20 11:22:36 -08'00'

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Joe Liddle Date  
Associate Professor  
University of Alaska Southeast-Sitka

*Patricia Gilbert 9/18/15*  
\_\_\_\_\_  
Patricia Gilbert, Instructor Date  
Mathematics  
Wrangell High School

*Denise Blankenship 9/20/2015*  
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Denise Blankenship, Date  
Interim Director, Sitka  
University of Alaska Southeast

*Patrick Mayer 9/18/2015*  
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Patrick Mayer Date  
Superintendent  
Wrangell Public School District

# University of Alaska Southeast

MATH 152-J01

Trigonometry

Fall 2015

## Instructor Information:

Name: Brian Blitz

Telephone: (907) 796-6506

Email: [brian.blitz@uas.alaska.edu](mailto:brian.blitz@uas.alaska.edu)

Office: Soboleff Annex, Room 103

Office hours: MTWR 1:30-3:00 and by appointment.

**Course Prerequisite:** MATH 151 (was MATH 107) with a C or better or placement test. If you are unsure about satisfying the prerequisite, then please ask.

**Course Text:** *PreCalculus*, 7<sup>th</sup> Edition, by Cohen, Lee and Sklar. Brooks/Cole, 2012.

**Course Description:** A study of trigonometric functions including graphing, identities, inverse trigonometric functions, solving equations and polar coordinates; applications.

**Objective:** MATH 152 provides students with analytical and quantitative skills needed in a wide range of liberal arts, science, and educational careers. The course will help students gain an understanding of trigonometric relationships with their real world applications through symbolic, graphical, and numerical methods. The emphasis of the course will be on gaining perspective, understanding the mathematical concepts and principles, and the development of a variety of problem solving skills.

**Student Learning Outcomes:** Students successful in this course will be able to describe the properties and graphs of trigonometric functions; simplify trigonometric expressions to solve equations and verify identities; apply trigonometry to solve problems.

## Assessment of Competencies:

**Quantitative Skills** will be assessed by assignment of homework problems and test questions, which require a variety of mathematical concepts and techniques for their solution.

**Critical Thinking** will be assessed by assignment of homework problems and test questions that require mathematical problem solving.

**Communication** will be assessed by assignment of homework problems and test questions. In particular, writing clear solutions and basic proofs will be emphasized in this course.

**Procedure:** Each class will include review and discussion of assigned work and introduction of new material. Questions and discussions are strongly encouraged.

**Student Responsibilities:** Students are expected to read the text, attend all classes; take all tests at designated times; and complete homework assignments on time. Successful completion of homework assignments does not necessarily imply mastery of the material. Students may find it necessary to do more problems and seek assistance outside of class to ensure success in the course. Moreover, students should be ready to encounter and be tested on problems which extend ideas and synthesize multiple concepts covered in class and the text.

**Homework:** Homework problems will be assigned in class and will be due at the next class meeting. To receive full credit for homework it must be legible, complete, and correct. Credit will not be given without work that supports the results. Three randomly selected problems will be graded from each assigned problem set. The three lowest homework scores will be dropped. Late homework will not be accepted for credit. Students are encouraged to work together to complete homework.

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MATH 152-J01

Trigonometry

Fall 2015

**Examinations:** Four midterm tests will be given through the course of semester; times, dates, and locations will be announced in class and posted on the course web site. The final examination will be comprehensive.

All tests will consist of problems related, directly or indirectly, to topics covered in class or in the text. Work must be shown to receive full credit on test questions. Make-up tests will be given only under extraordinary circumstances.

**Grading:** The average of the lowest midterm test and the homework, plus the sum of the scores of the best three midterm tests will count toward 75% of the course grade. The final exam counts toward the remaining 25%.

Letter grades will be assigned based on the following percentage scale (+/-'s will be assigned as appropriate):

F: 0 – 59    D: 60 – 69    C: 70 – 79    B: 80 – 89    A: 90 – 100

**Incompletes:** An *incomplete (I)* is a temporary grade used to indicate that the student has *satisfactorily completed (C or better) the majority of the work in a course*, but for personal reasons beyond the student's control has not been able to complete the final requirements of the course.

*Simply doing poorly in the course is not a valid reason for obtaining an incomplete.* See the UAS Academic Catalog for more details.

**Tentative Exam Schedule:** A tentative schedule of the midterm tests is given below – exact dates will be given in class and posted on the course website.

*Chapter 6&7: Week 4    Chapter 8: Week 7    Chapter 9: Week 10    Chapter 10: Week 14*

**The final exam will be Wednesday, December 9<sup>th</sup> from 8:00-10:00 am.**

## Important Dates:

August 31	First day of class
September 7	Labor Day Holiday (no classes)
September 15	Last day to drop with 100% refund, change credit or audit status
November 20	Last day to withdraw from full-term classes
November 26 - 29	Thanksgiving Holiday (no classes)
December 9	Final exam (Wednesday, December 9, from 8:00 AM - 10:00 AM)

**Learning Center:** The Learning Center is located on the lower level of the Egan Library. Students may receive drop-in tutoring in math and other subjects. The Learning Center is an excellent place to get help or find classmates for group study sessions. Schedules for possible workshops, study sessions and operation hours for The Learning Center are listed on the Learning Center's Website at:

<http://www.uas.alaska.edu/juneau/tlc/>

**Student Ratings:** Students are encouraged to participate in the anonymous course evaluation which will occur during the last few weeks of class.

**Disabilities:** Students who experience a disability and would like information about accommodations should contact Disability Services, either in person (at the Student Resource Center in the Mourant building, Room 122), by phone (907-796-6000), or by e-mail ([dss@uas.alaska.edu](mailto:dss@uas.alaska.edu)).

Course Number: MATH ~~108~~ 152  
Course Title: Trigonometry  
Credits: 3 (University of Alaska Southeast)  
Prerequisites: MATH 107 with a "C" or better  
Course Description: Properties and applications of trigonometric functions.  
Course Length: One semester (18 weeks)  
Contact Hours: 65 hours  
Start/Stop Dates:  
Location: Wrangell High School  
Instructor: Patricia Gilbert  
Texts: *Trigonometry*  
Larson and Hostetler  
Fifth Edition  
Houghton Mifflin Publishing  
  
*Trigonometry and Its Applications*  
Goldstein  
Irwin Publishing

**Course Outline:**

**Introduction (week 1)**

Real number properties; operations with real numbers; laws of exponents; operations with polynomials; functions, relations and graphs; combination of functions; inverse functions

**Trigonometry (week 2 & 3)**

Radian and degree measure; the unit circle and trigonometric functions; right angle trigonometry; trigonometric functions of any angle; graphs of sine, cosine, tangent, cotangent, secant, and cosecant; inverse trigonometric functions, applications and models

**Analytic Trigonometry (week 4 & 5 & 6)**

Using fundamental identities; verifying trigonometric identities; solving trigonometric equations, sum and difference formulas, multiple-angle and product-to-sum formulas

**Additional Topics in Trigonometry (week 7 & 8)**

law of sines and cosines, vectors in the plane, vectors and dot products

**Complex Numbers (week 9 & 10 & 11)**

complex numbers, complex solutions of equations, trigonometric form of a complex number, DeMoivre's Theorem

**Exponential and Logarithmic Functions and Data (week 12 & 13 & 14)**

exponential functions and their graphs; logarithmic functions and their graphs; properties of logarithms; exponential and logarithmic equations; exponential and logarithmic models

**Topics in Analytic Geometry (week 15 & 16)**

lines, conics, parabolas, ellipses, hyperbolas, rotation of conics; polar coordinates; graphs of polar coordinates, polar equations of conics

**Final Exam Prep (week 17 & 18)**

**Grade Scale:**

A	100% - 90%
B	89% - 80%
C	79% - 70%
D	69% - 60%
F	59% - 0%

**Evaluation:**

50%	Chapter/Content Area Exams
25%	Mid Term Exam (Cumulative)
25%	Final Exam (Cumulative)

**Academic Honesty:**

Each student is expected to abide by the academic honesty policies as described in the WHS and UAS Student Code of Conduct.

[http://www.uas.alaska.edu/student\\_services/handbook.html](http://www.uas.alaska.edu/student_services/handbook.html)

Any work submitted by a student in this course for academic credit will be the student's own work. You are encouraged to study together and to discuss information and concepts. You can give "consulting" help to or receive "consulting help" from other students.

During examinations you must do your own work. Talking or discussion is not permitted during examinations nor may you compare papers, copy from others, collaborate in any way, access written notes or information via the internet or other electronic means (unless specifically permitted for that assignment). Any collaborative behavior or attempts to access external information (other than by means specifically allowed) will result in failure of the exam and may lead to failure in the course and University disciplinary action.

**Incomplete Grades:**

Incomplete grades may be negotiated by students in good standing who experience illness, family illness, or required travel for their jobs during the course period. Good standing implies regular "attendance" and consistent effort toward reaching course goals. Incomplete grades will not be given for non-attendance or for failure to communicate with the instructor. Students who are not current with assignments and have not withdrawn by the appropriate date will be given a grade of "NB" or an instructor's withdrawal. Incomplete grades are not routinely given and are reserved only for students who experience extreme difficulties over which they have no control. Students who miss a significant amount of time will be encouraged to re-register for the course at a later date rather than take an incomplete grade.

**Accommodations/Special Needs:**

Wrangell High School and the University of Alaska will provide a learning environment in which no student will be subjected to unlawful discrimination based on disability. No otherwise qualified individual will be denied reasonable access to, participation in, or the benefits of, any program or activity operated by Wrangell High School and the University of Alaska because of disability. Each qualified student with a disability will be eligible to receive appropriate academic adjustments and programmatic accommodations necessary for the student to access educational opportunities, programs, activities, or services in the most integrated setting possible.