Submit originals (including syllabus) and one copy and electronic copy to the **Faculty Senate Office**
See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules
governing curriculum & course changes.

CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL
Attach a syllabus, except if dropping a course.

SUBMITTED BY:

Department	Mathemaics and Statistics	College/School	CNSM
Prepared by	Latrice Bowman	Phone	474-5427
Email Contact	lnbowman@alaska.edu	Faculty Contact	Latrice Bowman

1. COURSE IDENTIFICATION: *As the course now exists.* F108 is current Catalog number.

Dept	MATH	Course #	152	No. of Credits	2-3

COURSE TITLE	Trigonometry

2. ACTION DESIRED: √ *Check the changes to be made to the existing course.*

Change Course	X	If Change, indicate below what is changing.		Drop Course	

NUMBER		TITLE		DESCRIPTION	
PREREQUISITES*				FREQUENCY OF OFFERING	

*Prerequisites will be *required* before a student is allowed to enroll in the course.

CREDITS (including credit distribution)				COURSE CLASSIFICATION	X
ADD A STACKED LEVEL (400/600) Include syllabi.		Dept.		Course #	

How will the two course levels differ from each other? How will each be taught at the appropriate level?:	

Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi—undergraduate and graduate versions—will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online – see URL at top of this page.

ADD NEW CROSS-LISTING		Dept. & No.		Requires approval of both departments and deans involved. Add lines at end of form for additional signatures.
STOP EXISTING CROSS-LISTING		Dept. & No.		Requires notification of other department(s) and mutual agreement. Attach copy of email or memo.
OTHER (specify)		CHANGE COURSE NUMBER AND ADD "X" DESIGNATION.		

3. COURSE FORMAT

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council and the appropriate Faculty Senate curriculum committee. Furthermore, any core course compressed to less than six weeks must be approved by the Core Review Committee.

COURSE FORMAT: (check all that apply)		1		2		3		4		5	X	6 weeks to full semester
OTHER FORMAT (specify all that apply)												
Mode of delivery (specify lecture, field trips, labs, etc.)	Lecture											

4. COURSE CLASSIFICATIONS: (undergraduate courses only. Use approved criteria found in Chapter 12 of the curriculum manual. If justification is needed, attach separate sheet.)

H = Humanities		S = Social Sciences	

Will this course be used to fulfill a requirement for the baccalaureate core?	YES	X	NO	

IF YES*, check which core requirements it could be used to fulfill:

O = Oral Intensive, *Format 6 also submitted		W = Writing Intensive, *Format 7 submitted		X = Baccalaureate Core	X

4.A *Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.*

YES		NO	X

5. COURSE REPEATABILITY:

Is this course repeatable for credit?	YES		NO	X

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).	

How many times may the course be repeated for credit?		TIMES

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?		CREDITS

6. *COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking, clearly showing the changes you want made. (Underline new wording strike-through old wording and use complete catalog format including dept., number, title, credits and cross-listed and stacked.)*
Example of a complete description:

PS F450 Comparative ~~Aboriginal~~ Indigenous Rights and Policies (s)
3 Credits
Offered As Demand Warrants ·
~~Case-study~~ Comparative approach ~~in assessing Aboriginal~~ to analyzing Indigenous rights and policies in different nation-state systems. ~~Seven Aboriginal situations~~ Multiple countries and specific policy developments examined for factors promoting or limiting self-determination. Prerequisites: Upper division standing or permission of instructor. (Cross-listed with ANS F450.) (3+0)

MATH F152 Trigonometry (m) 2-3 Credits	(F108 is Current Catalog number.)

A study of the trigonometric functions including graphing, identities, inverse trigonometric functions, solving equations and polar coordinates; applications. Prerequisites: F151X or concurrent enrollment in MATH F151X, or placement. (2-3+0)

7. *COMPLETE CATALOG DESCRIPTION AS IT SHOULD APPEAR AFTER ALL CHANGES ARE MADE:*

MATH F152X Trigonometry (m)
2-3 Credits

A study of the trigonometric functions including graphing, identities, inverse trigonometric functions, solving equations and polar coordinates; applications. Prerequisites: F151X or concurrent enrollment in MATH F151X, or placement. (2-3+0)

8. GRADING SYSTEM: *Specify only one.*

LETTER:	X	PASS/FAIL:	

9. ESTIMATED IMPACT
WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None

10. LIBRARY COLLECTIONS
Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No	X	Yes			N/A	

11. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?

Include information on the Programs/Departments contacted (e.g., email, memo)

> None for programs or departments that already used this course.

12. POSITIVE AND NEGATIVE IMPACTS

*Please specify **positive** and **negative** impacts on other courses, programs and departments resulting from the proposed action.*

> This course will provide students with another core math option.

13. JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you ask for a change in # of credits, explain why; are you increasing the amount of material covered in the class? If you drop a prerequisite, is it because the material is covered elsewhere? If course is changing to stacked (400/600), explain higher level of effort and performance required on part of students earning graduate credit. Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the course is not compromised as a result.

> This changes is at the request of the BOR to general education mathematics courses at UAF, UAA, UAS.

APPROVALS: *(Forms with missing signatures will be returned. Additional signature blocks may be added as necessary.)*

	Date	2/10/15
Signature, Chair, Program/Department of: Mathematics + Statistics		

	Date	3/16/15
Signature, Chair, College/School Curriculum Council for: CNSM		

	Date	3/16/15
Signature, Dean, College/School of: CNSM		

Offerings above the level of approved programs must be approved in advance by the Provost (e.g., non-graduate level program offering of a 600-level course):

	Date	
Signature of Provost (if applicable)		

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE.

	Date	

Signature, Chair
Faculty Senate Review Committee: ___Curriculum Review   ___GAAC

___Core Review   ___SADAC

ADDITIONAL SIGNATURES: *(As needed for cross-listing and/or stacking; add more blocks as necessary.)*

	Date	
Signature, Chair, Program/Department of:		

	Date	
Signature, Chair, College/School Curriculum Council for:		

	Date	
Signature, Dean, College/School of:		

Note: If <u>removing</u> a cross-listing, you may attach copy of email or memo to indicate mutual agreement of this action by the affected department(s).

If degree programs are affected, a Format 5 program change form must also be submitted.

ATTACH COMPLETE SYLLABUS (as part of this application). This list is online at:
http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/
The Faculty Senate curriculum committees will review the syllabus to ensure that each of
the items listed below are included. If items are missing or unclear, the proposed course
(or changes to it) may be denied.

SYLLABUS CHECKLIST FOR ALL UAF COURSES
During the first week of class, instructors will distribute a course syllabus. Although modifications may be made
throughout the semester, this document will contain the following information (as applicable to the discipline):

1. Course information:
    ❏Title, ❏ number, ❏credits, ❏prerequisites, ❏ location, ❏ meeting time
(make sure that contact hours are in line with credits).

2. Instructor (and if applicable, Teaching Assistant) information:
    ❏ Name, ❏ office location, ❏ office hours, ❏ telephone, ❏ email address.

3. Course readings/materials:
    ❏ Course textbook title, ❏ author, ❏ edition/publisher.
    ❏ Supplementary readings (indicate whether ❏ required or ❏ recommended) and
    ❏ any supplies required.

4. Course description:
    ❏ Content of the course and how it fits into the broader curriculum;
    ❏ Expected proficiencies required to undertake the course, if applicable.
    ❏ Inclusion of catalog description is *strongly* recommended, and
    ❏ Description in syllabus must be consistent with catalog course description.

5. ❏ Course Goals (general), and (see #6)

6. ❏ Student Learning Outcomes (more specific)

7. Instructional methods:
    ❏ Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio
instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

8. Course calendar:
    ❏ A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has
thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a
title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during
the semester.

9. Course policies:
    ❏ Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and
plagiarism/academic integrity.

10. Evaluation:
    ❏ Specify how students will be evaluated, ❏ what factors will be included, ❏ their relative value, and ❏ how they
will be tabulated into grades (on a curve, absolute scores, etc.) ❏ Publicize UAF regulations with regard to the grades of
"C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link
to PDF summary of grading policy for "C":
http://www.uaf.edu/files/uafgov/Info-to-Publicize-C_Grading-Policy-UPDATED-May-2013.pdf

11. Support Services:
    ❏ Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

12. Disabilities Services: Note that the phone# and location have been **updated.** http://www.uaf.edu/disability/ The
Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have
equal access to the campus and course materials.
        ❏ State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655)to
provide reasonable accommodation to students with disabilities.

                                                                                            5/21/2013

TRIGONOMETRY
MATH F108-F02, SPRING 2015 - CRN: 35454, 3 CREDITS
DURATION: 1/15/2015-5/8/2015
MWF 2:15-3:15 PM, GRUE 409

Instructor information

Name:	Odile Bastille	**Phone:**	474-7273
Office:	Chapman 107	**e-mail:**	orbastille@alaska.edu
Office Hours:	MWF 3:30 pm - 4:30 pm or by appointment		

Course materials

- Open-source textbook: *Trigonometry* by Carl Stitz & Jeff Zeager; available on Blackboard in the Course Materials section;

- a scientific calculator: it needs to have keys for π, sin, cos, tan, and their inverses; the option to switch between degrees and radians.

Course Description

After a review of fundamentals in graphing and functions, the course will cover topics in the study of trigonometry based on a unit circle approach: angles and their measures, the six basic trigonometric functions and their graphs, inverse trigonometric functions, trigonometric identities and formulas, how to solve trigonometric equations and inequalities, and applications of trigonometry including right triangles, laws of sines and cosines, and polar coordinates. This course is designed to provide students with a good understanding of concepts that will be used in 200-level and above math, science, and engineering courses. In particular, its primary purpose (in conjunction with MATH107X) is to prepare students for the content and rigor of the Calculus sequence.

Prerequisites

Any one of the following:

- C- or better in MATH F107X

- concurrent enrollment in MATH107X

- 65 or higher on the ALEKS Overall Test (1, 2, 3, 4, or 5)

Course goals & Instructional methods

The main learning outcomes for students of this course are the following (including applications for each).

- Students will recognize and manipulate angles in the unit circle and in triangles.

- Students will understand the nature of trigonometric functions and their graphs.

- Students will master the use of trigonometric identities.

- Students will learn to solve trigonometric equations and inequalities.

- Students will become familiar with the use of polar coordinates.

This course will be primarily lecture-based with some in-class group work.

Evaluation

Grading: Student grades will be dependent upon the following components:

- Homework 15%
- Quizzes 15%
- Exams (3) 45%
- Final 25%

Students need to score at least 60% on the final exam in order to pass the class regardless of the grade entering the final.

The grading scale used will be the normal letter grades with plus/minus, but I reserve the right to lower the threshold in case of outstanding progress over the course of the semester:

A+	97-100%	B+	87-89%	C+	77-79%	D+	67-69%	F	Below 60%
A	93-96%	B	83-86%	C	73-76%	D	63-66%		
A-	90-92%	B-	80-82%	C-	70-72%	D-	60-62%		

Per DMS policy, Incomplete (I) will only be given in cases where the student has completed the majority (normally all but the last three weeks) of a course with a grade of C or better, but for personal reasons beyond his/her control has been unable to complete the course during the regular term. Negligence or indifference are not acceptable reasons for granting an incomplete grade.

Students that have not participated substantially in the course will be dropped. This includes failure to complete three assignments/assessments in a row (for example two homework and a quiz). After the *drop* date, students who do not wish to continue with the course will be responsible for withdrawing themselves. Failure to withdraw by the withdraw date will result in a grade of **F**.

You need a minimum grade of C- in MATH108 to proceed to MATH200X, or MATH272X.

Course policies

Attendance: You are expected to attend every class meeting. In case you miss class, you will still be responsible to catch up on any material covered. **Homework will be due regardless of attendance.** Please be respectful of your fellow students by turning off your cellphones before class starts and by addressing questions directly to me.

Homework: Homework will be assigned after each class meeting and due on **Fridays** at the beginning of class. **Late homework carry a 2-point penalty per day overdue.** This includes weekends. Any questions about assignments should be addressed before the due date. A few guidelines about written homework:

1. Your handwriting should be legible. That is, **any illegible homework will be returned ungraded and you will not get any credit for it.** Solutions should be written in pencil. Crossing out is not acceptable.

2. Homework should be turned in on 8.5" by 11" paper; please do trim fringes if you use spiral notebooks. For graphs, use graphing paper and clearly label axes. **Homework on several pages must be stapled in the top left corner.** In the top right corner you should write MATH108-F02-Bastille, your name and the due date of the homework.

3. Problems should be clearly labeled and numbered on the left side of the page. There should also be a visible separation between problems. Solutions should read as mathematical sentences where notation and progression are unequivocally clear. **Always show all relevant work.**

4. You are encouraged to work together on written assignments, but you should write up your own solution to each exercise. **Copying someone else's work is not allowed and will result in an F for the course for all parties involved.**

There is free tutoring available at the Math&Stats Lab to help you with your homework. **The Math&Stats Lab is located in Chapman 305.** Info about the lab (schedule, tutors, etc.) is on the DMS website and the direct link is the following:

http://www.uaf.edu/dms/mathlab

Quizzes: Quizzes will be given roughly every **Monday** over the course of the semester. Quizzes are closed book and closed notes. Material from quizzes will come from examples done in class and homework assignments. No make-up quizzes will be offered but the lowest quiz grade will be dropped.

Exams: There will be three midterm exams and one comprehensive final exam. You will have 60 minutes to complete each midterm and 120 minutes to complete the final exam. Dates for the midterms are tentative and currently scheduled for **Friday, February 20, Wednesday, April 1st, and Monday, April 27.** The final exam will take place on **Thursday, May 7th, 1-3 pm.**

If you miss an exam, there will not be a make-up unless there is an extreme circumstance (hospitalization due to birth, surgery or death) and you have written documentation. In such instances, prior arrangements need to be made in order to makeup the exam. The final exam will be given as scheduled. **Absolutely no finals will be given early under any circumstances.**

Course calendar: Here is a list of topics and *tentative schedule* of the lectures:

	Monday	Wednesday	Friday
January			16 First day of class Graphs of equations
	19 Alaska Civil Rights Day *no classes*	21 Introduction to functions	23 More on functions HW 1
	26 Angles & Measures Quiz 1	28 Angles & Measures	30 Unit circle: sine and cosine HW 2
February	2 Unit circle: sine and cosine Quiz 2	4 Basic trigonometric functions	6 Basic trigonometric functions HW 3
	9 Properties of trig functions Quiz 3	11 Graphs of trig functions	13 Graphs of trig functions HW 4
			Continued on next page

Table 1 – continued from previous page

	Monday	Wednesday	Friday
	16 Phase shift Quiz 4	18 Catch-up / Review	20 Midterm Exam #1 HW 5
	23 Inverse trig functions	25 Inverse trig functions	27 Trigonometric identities HW 6
March	2 Trigonometric identities Quiz 5	4 Sum & difference formulas	6 Double & half angle formulas HW 7
	9 Product and sum formulas Quiz 6	11 Trigonometric equations	13 Trigonometric equations HW 8
	16	18 Spring break *no classes*	20
	23 Trigonometric equations Quiz 7	25 Trigonometric inequalities	27 Trigonometric inequalities HW 9
April	30 Catch-up / Review Quiz 8	1 Midterm Exam #2	3 Right angle triangle HW 10
	6 Right angle triangle Quiz 9	8 Laws of sines	10 Laws of cosines HW 11
	13 Area of a triangle Quiz 10	15 Polar coordinates	17 Polar coordinates HW 12
	20 Polar equations and graphs Quiz 11	22 Catch-up / Review HW 13	24 Spring Fest *no classes*
May	27 Midterm Exam #3	29 Special topic / Review	1 Special topic / Review
	4 Last day of instruction	7 Final exam Thursday, May 7, 1-3 pm	

Table 1: Schedule of classes

Support services: There are many opportunities for students to obtain extra help with their math classes. There is a _free_ Math Lab located in Chapman 305. Student Support Services offers _free_ tutoring (in many subjects) to students that qualify for their program. ASUAF offers private tutoring for a _small fee_ (based on student income). Also, students are always welcome to stop by during my office hours (or make an appointment) to ask questions.

Disability Services: The Office of Disability Services implements the Americans with Disabilities Act, and insures that UAF students have equal access to the campus and course materials. I will work with that office (208 Whit, 474-5655) to provide reasonable accommodation to students with disabilities.