UAS

University of Alaska Southeast
School of Career Education

**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 – Calculus I
> MATH 251 A first course in single-variable calculus. Topics include limits; continuity and differentiation of functions; applications of the derivative to graphing, optimization, and rates of change; definite and indefinite integration; and the Fundamental Theorem of Calculus. **4 Credits (4+0)**
> **Prerequisite: MATH 151 and MATH 152 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 and Math 152 with a C (2.0) or higher.
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 uaonline.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 11:24:37 -08'00'

_____   _____
Joe Liddle   Date
Associate Professor
University of Alaska Southeast-Sitka

Patricia Gilbert 9/8/15
_____   _____
Patricia Gilbert, Instructor   Date
Mathematics
Wrangell High School

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

Patrick Mayer 9/8/2015
_____   _____
Patrick Mayer   Date
Superintendent
Wrangell Public School District

University of Alaska Southeast

Math 251   Calculus I   Fall 2015

Location, Time and Days of Week: EG 219; 12:00 – 1:00 p.m.; Mon – Tue – Thu – Fri

Instructor information:

Name: Christopher Hay-Jahans

Telephone: (907) 796-6408

Email: christopher.hayjahans@uas.alaska.edu

Webpage: http://uashome.alaska.edu/~cnhayjahans/

Office: Soboleff Annex, Room 105

Office Hours: See schedule on my webpage

Course Prerequisite: A satisfactory score on the UAS Placement Exam **OR** a grade of C (3.0 GPA) in both Math S151 (formerly MATH 107) and Math S152 (formerly MATH 108), **OR** an approved pre-calculus transfer course.

Note that this is a fast paced and problem solving intensive course; even if you have met any one of these prerequisites, but not within the last 1 year you should take the UAS placement exam to ensure you are ready to take this course.

Course Text: *Calculus, Early Transcendentals*, by James Stewart, 7th Edition.

Technology: Graphing calculators will be needed in this course, preferably the TI-83, TI-83 Plus or TI-84 Plus. If you choose to use another type of calculator you will be on your own when it comes to operating instructions. The use of Maple software will be introduced in this course. Maple is installed on the UAS computer network and some notes will be posted on the course website when the time comes.

Course Description: After a very quick review (Aug 31 – Sept 4) of material in chapter 1 we will cover most of chapters 2 through 6. A brief description of the course content is: Limits, continuity, and differentiation of functions, analysis of functions and their graphs, applications of the derivative, introduction to integration, the fundamental theorem of calculus and some other important theorems.

Course Website: UAS Online at MATH251-J01. The Student Learning Outcomes for the course, all assignments, tentative schedules, resources and other course relevant material will be posted on this site.

Assessment of Competencies: Students will be assessed for written (mathematical) communication, quantitative skills, technology usage, problem solving and analysis abilities. These assessments (formal or informal) will be performed by way of homework, classroom activities and discussions, and examination questions. Students should expect to be required to solve problems using appropriate concepts and techniques introduced in this course; take advantage of and effectively use technology where appropriate; and develop their problem solving and analysis skills.

Procedure: Each class will include a review and discussion of past and/or assigned work, and the introduction of new material. Questions and discussion are strongly encouraged.

Student Responsibilities: Students are expected to study the text and any handouts provided through the course of the semester; be prepared for class each day; attend all classes; take examinations at the designated times and on the designated dates; and complete homework assignments on time. A student who misses class is responsible for material covered in class during his/her absence. Be aware that homework and test questions may extend ideas presented in class or even cover topics not discussed in class. The best way to avoid running into trouble with such questions is to supplement class lectures/discussions with a careful reading of the text and plenty of practice on assigned practice and other problems.

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Reading Assignments and Practice Problems: Recommended practice exercises and reading assignments for the course will be posted on the course website. Reading assignments are meant to prepare you for class discussions/lectures. The exercises are meant for further practice on problems similar to those assigned for homework and others that may be on tests. Be aware, however, that test questions will not necessarily mimic homework and practice problems; they will be geared toward testing your understanding of not only the mechanics but also the concepts. Solutions for practice problems should not be handed in for grading, but may be discussed with me during any of my many office hours. The reading assignments are intended to supplement material discussed/covered in class.

Homework: There will be daily homework assignments; typically due the next day of class after they are assigned. These will be announced in class and posted on the course website. The overall homework average score will count toward 20 % of the course grade. See the course website for homework policy and assignments.

Semester Tests: There will be four tests during the course of the semester. The overall average test score will count toward 60 % of the course grade. Remember that test questions will not necessarily mimic homework and practice problems; they will be geared toward testing your understanding of not only the mechanics but also the concepts. All tests consist of problems related to the topics covered in class or assigned from the text or notes through problem solving and reading assignments. Make-up tests will be given only under extraordinary circumstances. Exact test dates and further details on format will be announced in class and/or by email and posted on the course website.

Final Examination: The (comprehensive) Final Exam score will count toward 20 % of the course grade.

Grades: Letter grades will be assigned approximately as follows (with +/- assigned as appropriate):

F < 60	60 ≤ D < 70	70 ≤ C < 80	80 ≤ B < 90	A ≥ 90

As stated in the UAS Academic Catalog, 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.

Learning Center: The Learning Center is located on the lower level of the Egan Library. This is an excellent place to find classmates for group study sessions or find staff/faculty that might provide you with helpful hints for homework assignments. Hours for TLC are posted on http://www.uas.alaska.edu/TLC/. **An Employment Opportunity!** If you enjoy math, like helping others in math, and want a part time job doing what you enjoy doing, talk to Auguste in the Learning Center.

Important Dates:
Aug. 31	_____	Classes begin
Sept. 7	_____	No Class (Labor Day)
Sept. 15	_____	Last day to drop or change credit or audit status
Nov. 20	_____	Last day to withdraw
Nov. 26 – Nov. 29	_____	Thanksgiving break
Dec. 7 – 12	_____	Finals week

Disabilities: Students who have, or believe they have any form of disability that would adversely affect their performance in this course should discuss this matter with the instructor _and_ the UAS Disabilities Coordinator in the Student Resource Center, at 796-6000 (or dss@uas.alaska.edu) within the first week of classes.

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

Course Number:	MATH ~~200~~ 251
Course Title:	Calculus I
Credits:	4 (University of Alaska Southeast)
Prerequisites:	MATH 107 and MATH 108 with a "C" or better/Placement on ASSET Exam
Course Description:	Limits, continuity and differentiation of functions, analysis of functions and their graphs, applications of the derivative, introduction to integration, fundamental theorem of calculus.
Course Length:	One semester (18 weeks)
Contact Hours:	65 hours
Start/Stop Dates:	01/20/14 to 05/22/14
Location:	Wrangell High School
Instructor:	Patricia Gilbert
Text:	*Calculus*
	Larson, Hostetler and Edwards
	Seventh Edition
	Houghton Mifflin Publishing

Course Outline:

Introduction and Preparation for Calculus (week 1 & 2)
Graphs and models, linear models and rates of change, functions and their graphs, fitting models to data

Limits and Their Properties (week 3 & 4)
Calculus preview, finding limits graphically and numerically, evaluating limits analytically, continuity and one-sided limits, and infinite limits

Differentiation (week 5 & 6 & 7)
The derivative and the tangent line problem, basic differentiation rules and rates of change, the product and quotient rules and higher order derivatives, the chain rule, and implicit differentiation

Applications of Differentiation (week 8 & 9 & 10)
Extrema on an interval, Rolle's Theorem and the Mean Value Theorem, increasing and decreasing functions and the first derivative test, concavity and the second derivative test, limits at infinity, curve sketching, optimization problems, Newton's Method, and differentials

Integration (week 11 & 12 & 13)
Antiderivatives and indefinite integration, area with integration, Reimann Sums and definite integrals, the Fundamental Theorem of Calculus, integration by substitution, and numerical integration

Exponential, Logarithmic, and other Transcendental Functions (weeks 14,15 & 16)
The natural logarithmic functions: Differentiation, The natural logarithmic functions: Integration, inverse functions, exponential functions: Differentiation and Integration, bases other than e and applications

Preparation for Final Exam (week 17 & 18)

Final Exam (week 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

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.