

**SYLLABUS**  
**Arctic Climate Modeling Program Course for Educators**

**Course Information:**

**Number:** ED 593

**Credits:** 1 or 2

**Prerequisites:** None

**Dates:** October 22 – May 8

**Location:** This course will use a mix of in-person, videoconference, and correspondence methods. The first meeting will take place October 22-23 in Unalakleet at the Bering Strait School District inservice. Students wishing to take the course, but unable to attend this meeting should contact ACMP program staff at [acmp@gi.alaska.edu](mailto:acmp@gi.alaska.edu).

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**Course Readings/Materials:**

None.

**Course Description and Goals:**

Designed to provide teachers with the skills and knowledge to lead their students through scientific guided inquiry related to climate change, and specifically permafrost. Introduces data collection methods, basic permafrost physics, and classroom activities related to permafrost and climate change.

**Instructional methods:**

The course will consist of one 2-day workshop, live lecture video conference, prerecorded lectures, discussion, practicum, and fieldwork.

### **Tentative Course Details:**

This course is offered for 1 or 2 credits. The number of credits is chosen at time of registration.

*For 1 credit*, students must complete all fieldwork and participate in the first lecture (tentative date of November 10). The lecture can also be viewed at the later date if students cannot attend on November 10.

*For 2 credits*, students must complete all aspects of the course, as listed below.

#### *Workshop:*

October 22-23: Agenda to be provided at the workshop

The workshop will consist of 2, 5-hour sessions and cover permafrost science, permafrost data collection and analysis methodology, and permafrost curriculum for the classroom.

If you cannot attend this workshop, you may alternatively watch 5, 2-hour mentor lectures from the 2005-06, 2006-07, or 2007-08 course. Please contact ACMP staff at [acmp@gi.alaska.edu](mailto:acmp@gi.alaska.edu) if you would like further information on this option.

#### *Lectures:*

Lectures will occur through videoconference on BSSD's videoconference system. Each lecture will occur at 2 PM and consist of approximately one hour of lecture and one hour for Q&A. **Tentative Dates** are as follows: November 10, December 8, and January 12.

If you cannot attend the live lectures, you may watch them on DVD or on the ACMP website. Please let ACMP staff know in advance if you will be unable to attend a lecture.

A lecture review form must be completed for each of the three lectures. Lecture review forms should be returned to ACMP by the end of the course.

#### *Fieldwork:*

Frost depth measurements should be taken weekly and recorded on the Student Network for Observing Weather on the ACMP website. More information will be provided during the workshop (or separately). The anticipated time to complete this portion of the course is 45-60 minutes per week, including measuring, reporting the measurements, and analyzing the data.

*Practicum:*

For course completion, you must teach 6 permafrost lessons in the classroom. A lesson review form must be completed for each lesson. Lesson review forms and student worksheets for each lesson should be postmarked by the dates listed below. Pre-paid mailers will be provided to each school, along with lessons and supplies. Materials will be sent in two batches. One, which should have arrived at schools in August 2008, and a second to arrive at schools in January 2009. See the ACMP lead teacher at your school for supplies. Lessons and course materials can also be downloaded from the ACMP website at [www.ArcticClimateModeling.org](http://www.ArcticClimateModeling.org).

Lessons can be taught in any order at any time prior to these dates. **However, please complete the pretest prior to introducing any classroom lessons.** Please refer to the appropriate column for your student's science level.

Level I-II	Level III-IV	Level V-VI	Date Due
Pretest	Pretest	Pretest	November 7
Touch and Discover	Layering the Soil	Introduction to Permafrost	November 21
Melt Away	Permafrost	Uses of Permafrost	December 5
Permafrost: Permanently Frozen Ground	Keep It Cool	Frost Depth Measurements	December 19
Frost Depth	Keep It Active		January 16
	Frost Depth Study		January 30
	Collecting Compost		
	Solar Box Cooker	Features of the Frozen Earth	March 27
	Tour of the Frozen Ground	Growing Plants in a Variety of Soil Conditions	April 10
Walking on Frozen Ground	Polygons, Pingos, and Thermokarst! Oh My!	Modeling Climate Change	April 24
Worming Through the Soil	Soil Permeability	Create a Model	May 8

**Course policies:**

Participation in all aspects of the class (based on registered credits) is required. Review forms should be turned in on the due date; fieldwork should be completed weekly (with the exception of school holidays). If you cannot complete an assignment on time, or must miss a week of fieldwork, please contact ACMP program staff at [acmp@gi.alaska.edu](mailto:acmp@gi.alaska.edu).

**Evaluation:**

*For 1 credit*, the course grade is broken down as follows:

80% Fieldwork

20% Lecture attendance, participation, and review form

*For 2 credits*, the course grade is broken down as follows:

50% Field-work

20% Practicum

20% Workshop attendance and participation (see workshop subheading above)

10% Lecture attendance, participation, and review forms

**Support Services:**

Because of the distance nature of this course, student support is minimal. However, ACMP staff are happy to assist in any way feasible. Please contact ACMP staff or the instructor if any support is needed.

**Disabilities Services:**

The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. State that you will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.”