

Submit original with signatures + 1 copy + electronic copy to UAF Governance.

See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

**TRIAL COURSE OR NEW COURSE PROPOSAL**

**SUBMITTED BY:**

Department	<b>Geology and Geophysics</b>	College/School	<b>CNSM</b>
Prepared by	<b>Michael Whalen</b>	Phone	<b>X5302</b>
Email Contact	<b>mtwhalen@alaska.edu</b>	Faculty Contact	<b>Michael Whalen</b>

<b>1. ACTION DESIRED (CHECK ONE):</b>	Trial Course	<input type="checkbox"/>	New Course	<input checked="" type="checkbox"/>
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<b>2. COURSE IDENTIFICATION:</b>	Dept	<b>GEOS</b>	Course #	<b>190</b>	No. of Credits	<b>2</b>
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Justify upper/lower division status & number of credits:	This is a lower division course in geoscience that concentrates on the relationship between geology, climate and their influence on viticulture. No geologic background is required so the course will be offered at the 100 level. The course is being organized a bit non-traditionally to facilitate a lab component but maintain a one night per week meeting time. The course will meet for 2.5 hrs for lectures and 3.5 hours for labs. Eight of these meetings will constitute the 1.5 credit lecture portion of the course (i.e. 8 x 2.5 hrs = 20 hrs). Six of these meetings will constitute the 0.5 credit (i.e. 1.5 hrs/week or 21 hrs total) lab portion of the course (6 x 3.5 hrs = 21 hrs).
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<b>3. PROPOSED COURSE TITLE:</b>	<b>The Geology of Wine</b>
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<b>4. To be CROSS LISTED? YES/NO</b>	<b>No</b>	If yes, Dept:	<input type="checkbox"/>	Course #	<input type="checkbox"/>
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(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)

<b>5. To be STACKED? YES/NO</b>	<b>No</b>	If yes, Dept.	<input type="checkbox"/>	Course #	<input type="checkbox"/>
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<b>6. FREQUENCY OF OFFERING:</b>	<b>Every Spring</b>
	Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) — or As Demand Warrants

<b>7. SEMESTER &amp; YEAR OF FIRST OFFERING (if approved)</b>	<b>Spring 2012</b>
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**8. 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. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

COURSE FORMAT: (check all that apply)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6 weeks to full semester
OTHER FORMAT (specify)						
Mode of delivery (specify lecture, field trips, labs, etc)	<b>Lecture, discussion, class projects/presentations, lab wine tastings.</b>					

<b>9. CONTACT HOURS PER WEEK:</b>	<b>1.5</b>	LECTURE hours/weeks	<b>0.9</b>	LAB hours /week	<b>5</b>	PRACTICUM hours /week
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Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See <http://www.uaf.edu/uafgov/faculty/cd/credits.html> for more information on number of credits.

OTHER HOURS (specify type)	<input type="text"/>
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**10. COMPLETE CATALOG DESCRIPTION including dept., number, title and credits (50 words or less, if possible):**

GEOS 290, The Geology of Wine, 3 credits. This course explores the relationship between geology, climate, and viticulture. Aspects of geology that influence landscape, soil development and climate are evaluated in reference to their effects on wine-growing regions. The geology, tectonic setting, soil and climate of individual wine-growing areas will be explored through lectures, discussions, class projects/presentation, and lab wine tastings.

**11. COURSE CLASSIFICATIONS:** (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

H = Humanities  S = Social Sciences

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

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

O = Oral Intensive, Format 6  W = Writing Intensive, Format 7  Natural Science, Format 8

**12. COURSE REPEATABILITY:**

Is this course repeatable for credit? YES  NO

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

**13. GRADING SYSTEM: Specify only one.**

LETTER:  PASS/FAIL:

**RESTRICTIONS ON ENROLLMENT (if any)**

**14. PREREQUISITES**

These will be required before the student is allowed to enroll in the course.

**15. SPECIAL RESTRICTIONS, CONDITIONS**

**16. PROPOSED COURSE FEES**

Has a memo been submitted through your dean to the Provost & VCAS for fee approval? Yes/No

**17. PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously? Yes/No

If yes, give semester, year, course #, etc.:

**18. ESTIMATED IMPACT**

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

The course should have little impact on the budget, facilities, or faculty in the department of Geology and Geophysics or UAF in general. The course will meet during the evenings to facilitate continuing education students and will not compete for space with normal daily course offerings. Space will also need to be allotted at Hutchinson Career Center where the tasting portion of the course will be conducted and I have consulted with Michael Roddey, chair CAH concerning use of Hutchison Career Center space.

**19. 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  Yes  9/13/11, I am working with Karen Jensen on recommended materials for the

**20. 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)

The Department of Geology and Geophysics (contacted) will be impacted as this is a new course in the department and is being designed to attract non-traditional students to the geosciences. If the course is successful it will become a regular part of my faculty workload (M.T. Whalen) and this has been discussed with the Department Chair. The Department of Culinary Arts and Hospitality will also be affected by this offering and I have discussed the impacts with CAH chair Michael Roddey. In the future we may decide to cross list the course with CAH but at this time it will remain a GEOS course only.

**21. POSITIVE AND NEGATIVE IMPACTS**

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

Positive impacts would include a more in depth look at the controls on the types, quality, and quantity of wines produced under different geologic and climatic conditions. The course will therefore serve as a good companion to courses the wine appreciation courses CAH F257 and F258 offered by Culinary Arts and Hospitality. There could be potential negative impacts associated with the consumption of alcohol during the lab portion of the course. Special care will be taken to make sure we adhere to the UAF Alcohol Beverage Policy 05.12.001. Wine served during lab sessions will be for tasting purposes (1-2 oz. servings of up to 6 wines) and light food will accompany all wine tastings. Culinary Arts and Hospitality has a well-established track record in this respect and the current instructor of CAH F257/258 has agreed to assist with the lab portion of the course.

**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. Use as much space as needed to fully justify the proposed course.

The geology, bedrock, and tectonic setting of an area have tremendous effects on climate, soil development, and the suitability for agriculture in general and viticulture in particular. Wine consumption in the US surpassed that of the former world leader France in 2010 and the US ranks 18<sup>th</sup> in per capita wine consumption. This course will tap into the growing interest in wines and will hopefully introduce some students to the science of geology who may never have thought to take a traditional geology course.

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**APPROVALS:**

<i>Sarah Fowler</i>	Date	9/26/11
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Signature, Chair, Program/Department of: Geology and Geophysics

<i>[Signature]</i>	Date	9/30/11
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Signature, Chair, College/School Curriculum Council for: CNSM

<i>[Signature]</i>	Date	Oct 3, 2011
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Signature, Dean, College/School of: CNSM

	Date	
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Signature of Provost (if applicable)

**Offerings above the level of approved programs must be approved in advance by the Provost.**

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

	Date	
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Signature, Chair, UAF Faculty Senate Curriculum Review Committee

**ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)**

	Date	
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Signature, Chair, Program/Department of:

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

	Date	
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Signature, Dean, College/School of:

**ATTACH COMPLETE SYLLABUS (as part of this application).**

Note: The guidelines are online: <http://www.uaf.edu/uafgov/faculty/cd/syllabus.html>

The department and campus wide 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 change will 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.)

**11. Support Services:**

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

**12. 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 (208

WHIT, 474-5655) to provide reasonable accommodation to students with disabilities.''

## **GEOS 190 – The Geology of Wine (2 credits) -- Spring 2012**

**Instructor:** Michael Whalen, Office: REIC 332, phone: 474-5302,

e-mail: mtwhalen@alaska.edu

**Lecture:** W 6:00-8:30, 233 REIC

**Lab:** W 6:00-9:30, xxx HUTCH

**Office hours:** TR 4:00 - 5:00 PM, or by appointment.

The geology of an area can have tremendous impacts on the climate, topography, and soils that develop at the Earth's surface. Plate tectonics and Earth surface processes are thus important controls on the agricultural potential of an area. This course explores the relationship between geology, climate, and viticulture. Aspects of geology that influence landscape, soil development and climate are evaluated in reference to their effects on wine-growing regions. The geology, tectonic setting, soil and climate of individual wine-growing areas will be explored through lectures, discussions, class projects/presentation, and lab wine tastings. Grape vines can survive for decades and are intimately tied to the land they occupy. This leads to the concept of "terroir," a French term that embodies all of the influences on grapes grown in a particular region. Changes in bedrock, topography, soils, and climate will have a tremendous impact on the flavor profile of any wine.

In this course we will explore the interrelationships between geology and wine. The first several weeks of the course will provide an introduction to the most important aspects of geology with reference to how it influences viticulture. With a basic background in geoscience we will then delve into the relationship between geology, climate and the soils that provided the growing medium for vineyards. Once the requisite background in geoscience is established we will explore the major viticultural regions of the world from the perspective of their geology and terroir.

There is no directly applicable textbook for the course so none is required. Required readings for the course will either be placed on reserve in the library or made available electronically.

### **Instructional Methods**

In the classroom you will be exposed to a combination of traditional lectures, quizzes, hands-on exercises, and student presentations. In lab you will have the opportunity to explore the relationship to geology and wine through a series of targeted wine tastings that will either juxtapose wines from very different regions or explore the complexities of the terroir of local areas.

### **Course Goals**

The general goal of the course is for students to develop a basic understanding of the physical structure of the Earth and Earth surface processes with reference to the effects on wine growing regions. Students will develop an appreciation of the influences on wine growing by tasting wines from specific regions.

## Student Learning Outcomes

Students will be required to develop a general understanding of geology including the basics of plate tectonics, rocks and minerals, the relationship between geology and climate, soil development, sedimentary environments and the influence of all on wine growing regions. In addition students will explore the geologic setting of specific regions as part of individual research in preparation for in-class presentations. The lab portion of the course is intended to assist students in developing an understanding of the influence of changing geology, climate, and soils on wine growing and thus the flavor profile of wines from specific regions.

## Schedule

Date	Topic	Required Reading
W Jan. 25	Introduction: Plate Tectonics, and Viticultural Regions	Monroe & Wicander, 2010, Ch. 2
W Feb. 1	Lab 1: Tasting the influence of geology on wine	Huggett, 2005
W Feb. 8	Rocks & Minerals	Monroe & Wicander, 2010, Ch. 3
W Feb. 15	Climate, Weathering, and Soils	Monroe & Wicander, 2010, Ch. 6 p. 132-147
	Lab 2: Tasting the Influence of geology and climate on Wine	Van Leeuwen et al., 2004
W Feb. 22	Sedimentary Environments and Vineyards	Wicander & Monroe, 2010, Ch. 6, p. 147-160 Swinchatt & Howell, 2004, p. 73-104
W Feb. 29	Geology and Climate: Fundamentals of Terroir	Swinchatt & Howell, 2004, p. 105-123
W Mar. 7	Spring Break	
	Lab 3: Classic varietals	
W Mar. 14	Old World Terroir: France, Germany	Wilson, 1998, p. 8-54, p. 64-163, MacNeil, 2001, p. 511-554
W Mar. 21	Lab 4: Tasting Terroir: Old World	
W Mar. 28	Old World Terroir: Italy, Spain	MacNeil, 2001, p. 315-478
W Apr. 4	New World Terroir: US & Canada	Swinchatt & Howell, 2004, p. 11-60 Gregutt, 2010, p. 3-12 MacNeil, 2001, p. 771-776
W Apr. 11	Lab 5: Tasting Terroir New World	
W Apr. 18	New World Terroir: Southern Hemisphere	MacNeil, 2001, p. 777-860.
W Apr. 25	Lab 6: Tasting Terroir: New vs Old World	
W May 2	Global Change and Wine	Bauer, 2007, Hertsgaard, 2010
W May 9	Final Exam	

Readings available through the UAF electronic reserve system (<http://eres.uaf.edu/>)



## **Course Policies**

Attendance is mandatory but absences with a reasonable medical or other excuse will be excused. Students should arrive on time and participate in class discussions. Students are required to adhere to the UAF Student Code of Conduct.

## **Evaluation**

Grading will be on a Pass-Fail basis. Evaluation will be based on student performance on quizzes (15%), class participation and in class exercises (25%), presentations (40%), and summaries of lab observations (20%) about specific wines. Grades will be based on absolute scores on the exercises described above. Grade equivalent of a “C” or better will be required to obtain a passing grade.

**Class Presentations:** All students will give two class presentations each of which will make up 20% of the final grade for the course. Each presentation will be 10-15 minutes in length and will explore both the geology and viticulture of specific wine growing regions. The goal of the presentations is to demonstrate the relationship of the geologic setting to landscape and soil development, microclimate, and the types of grapes that can be grown in a region.

**E-Reserves:** Course readings and other documents will be available through the UAF electronic reserve system (<http://eres.uaf.edu/>). Go to “Electronic Reserves and Course Materials”, enter the course number and instructor information...

## **Support Services**

UAF library system, on line wine and geology resources, US and State Geological Surveys

## **Disabilities Services**

UAF’s office of Disabilities Services implements the Americans with Disabilities Act and we will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655) to provide reasonable accommodation to students with disabilities.

## **Reading list**

Bauer, A., 2007, Grape Expectations, Salon.com, [http://www.salon.com/news/env/environment/index.html?story=/mwt/food/eat\\_drink/2007/08/28/globalwarming\\_wine](http://www.salon.com/news/env/environment/index.html?story=/mwt/food/eat_drink/2007/08/28/globalwarming_wine).

Gregutt, P., 2010, Washington Wines and Wineries, University of California Press, Berkeley, CA, 331 p.

Hertsgaard, M., 2010, Grapes of Wrath, Mother Jones, <http://motherjones.com/environment/2010/04/climate-desk-wine-climate-changemark-Hertsgaard>.

Huggett, J.M., 2005, *Geology and Wine: A Review*, Proceedings of the Geologists Association, v, 117, p. 239-247.

Monroe, J.S., and Wicander, R., 2009, *The Changing Earth: Exploring Geology and Evolution*, Brooks/Cole Cengage Learning, 720 p.

Swinchatt, J., and Howell, D.G., 2004, *The Wine Makers Dance: Exploring Terroir in the Napa Valley*, University of California Press, Berkeley, CA, 229 p.

van Leeuwen, C., Friant, P., Choné, X., Tregoat, O., Koundouras, S., and Dubourdieu, D., 2004, *Influence of Climate, Soil, and Cultivar on Terroir*, American Journal of Eonology and Viticulture, v. 55, p. 207-217.

MacNeil, K., 2001, *The Wine Bible*, Workman Publishing Company, New York, NY, 910 p.

Wilson, J.E., 1998, *Terroir: The Role of Geology, Climate, and Culture in the Making of Wine*, University of California Press, Berkeley, CA, 336 p.