

Submit originals and one copy and electronic copy to Governance/Faculty Senate Office
 See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL

SUBMITTED BY:

Department	Geoscience (Geology and Geophysics)	College/School	Natural Science and Mathematics
Prepared by	Douglas Christensen	Phone	907-474-7426
Email Contact	doug@giseis.alaska.edu	Faculty Contact	Douglas Christensen

1. COURSE IDENTIFICATION:

Dept Course # No. of Credits

COURSE TITLE

2. ACTION DESIRED:

Change Course If Change, indicate below what change. Drop Course

NUMBER	<input checked="" type="checkbox"/>	TITLE	<input checked="" type="checkbox"/>	DESCRIPTION	<input checked="" type="checkbox"/>
PREQUISITES	<input type="checkbox"/>			FREQUENCY OF OFFERING	<input checked="" type="checkbox"/>
CREDITS (including credit distribution)	<input type="checkbox"/>			COURSE CLASSIFICATION	<input type="checkbox"/>
CROSS-LISTED	<input type="checkbox"/>	Dept.	<input type="checkbox"/>	(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)	
STACKED (400/600) Include syllabi.	<input type="checkbox"/>	Dept.	<input type="checkbox"/>	Course #	<input type="text"/>
OTHER (please specify)	<input type="text"/>				

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. 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 6 weeks to full semester

OTHER FORMAT (specify all that apply)

Mode of delivery (specify lecture, field trips, labs, etc)

4. 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 also submitted W = Writing Intensive, Format 7 submitted Natural Science, Format 8 submitted

5. 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

RECEIVED

OCT - 6 2011

Dean's Office
 College of Natural Science & Mathematics

Governance

10/7/11 KQ

revised

6. CURRENT CATALOG DESCRIPTION AS IT APPEARS IN THE CATALOG: including dept., number, title and credits

GEOS F418 Basic Geophysics
3 Credits Offered Fall
Concepts and techniques of geophysics including origin of the Earth, its structure, and large scale dynamic processes responsible for its surface features. Geophysical techniques including seismology, gravity, magnetometry and electrical methods discussed along with measurements of the earth's thermal structure, rotation rates, and tide effects. Prerequisites: MATH F200X, PHYS F104X, or permission of instructor. (3+0)

7. COMPLETE CATALOG DESCRIPTION AS IT WILL APPEAR WITH THESE CHANGES: (Underline new wording strike through old wording and use complete catalog format including dept., number, title, credits and cross-listed and stacked.) PLEASE SUBMIT NEW COURSE SYLLABUS. For stacked courses the syllabus must clearly indicate differences in required work and evaluation for students at different levels.

GEOS F4318 ~~Basic~~ Basic-Solid Earth Geophysics
3 Credits Offered Alternate Fall
Concepts and techniques of geophysics including origin of the Earth, its structure, and large scale dynamic processes responsible for its surface features. Geophysical techniques including seismology, gravity ~~magnetometry and electrical methods~~ and magnetic methods are discussed along with measurements of the earth's thermal structure, rotation rates, and tidal effects. Prerequisites: MATH F200X, PHYS F104X, or permission of instructor. (3+0)

8. IS THIS COURSE CURRENTLY CROSS-LISTED?

YES/NO No If Yes, DEPT NUMBER

(Requires written notification of each department and dean involved. Attach a copy of written notification.)

9. GRADING SYSTEM: Specify only one

LETTER: X PASS/FAIL:

10. ESTIMATED IMPACT

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

This should have no impact with budget, facilities, or faculty

11. 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 No Yes There are no special library collections required

12. 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)

Department of Geosciences (Geology and Geophysics). This was discussed in faculty meeting and agreed to by the faculty and chair person.

13. POSITIVE AND NEGATIVE IMPACTS

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

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.

Title Change: Changing the title from "Basic Geophysics" to "Solid Earth Geophysics" is requested in order to make the title more descriptive of the course content and to keep confusion between this course and a new course being proposed by the Geophysics group called "Foundations of Geophysics" (GEOS F631/F431) to a minimum. Having two courses called Basic Geophysics and Fundamentals of Geophysics would be confusing for the students.

Course number change: Solid Earth Geophysics will be a prerequisite for the new course "Foundations of Geophysics" (GEOS 631/431). We think that keeping the course as GEOS-418 may confuse students and as a prerequisite for GEOS 631/431 it would be better for the course number to be changed to GEOS-318. The content would be essentially the same. However, minor changes to the description have been made to better reflect what is actually taught in the course.

We request that the frequency of offering be changed from every fall to alternate falls. Over the past 5 or 6 years we have discovered that we have only had enough students registered to teach the class every other year. This number has varied from 1-3 registered students on off years to 8-12 students in alternate years. We think that it is best to use this experience to make the class an alternate year class.

APPROVALS:

Date
Signature, Chair, Program/Department of:

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

Date
Signature, Dean, College/School of:

Date
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
Signature, Chair, UAF Faculty Senate Curriculum Review Committee

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.

Title Change: Changing the title from "Basic Geophysics" to "Solid Earth Geophysics" is requested in order to make the title more descriptive of the course content and to keep confusion between this course and a new course being proposed by the Geophysics group called "Fundamentals of Geophysics" (GEOS F609/F409) to a minimum. Having two courses called Basic Geophysics and Fundamentals of Geophysics would be confusing for the students. *431/631*

Course number change: Solid Earth Geophysics will be a prerequisite for the new course "Fundamentals of Geophysics (GEOS 609/409). We think that keeping the course as GEOS-418 may confuse students and as a prerequisite for GEOS 609/409 it would be better for the course number to be changed to GEOS-318. The content would be essentially the same. However, minor changes to the description have been made to better reflect the what is actually taught in the course.

We request that the frequency of offering be changed from every fall to alternate falls. Over the past 5 or 6 years we have discovered that we have only had enough students registered to teach the class every other year. This number has varied from 1-3 registered students on off years to 8-12 students in alternate years. We think that it is best to use this experience to make the class an alternate year class.

APPROVALS:

Sandy Powell Date *9/26/11*
Signature, Chair, Program/Department of: *Geology + Geophysics*

he Date *10/3/11*
Signature, Chair, College/School Curriculum Council for: *CNSM*

Paul W. Long Date *Oct 7, 2011*
Signature, Dean, College/School of: *CNSM*

Signature of Provost (if applicable) Date

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.

Signature, Chair, UAF Faculty Senate Curriculum Review Committee Date

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

	Date	
Signature, Chair, Program/Department of:		

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

	Date	
Signature, Dean, College/School of:		

GEOS 418

Dr. Doug Christensen <doug@giseis.alaska.edu>
Reply-To: "Dr. Doug Christensen" <doug@giseis.alaska.edu>
To: diane.wagner@alaska.edu

Mon, Oct 3, 2011 at 12:44 PM

From: Diane Wagner <diane.wagner@alaska.edu>
> Date: September 30, 2011 5:12:49 PM GMT-08:00
> To: doug@giseis.alaska.edu

Diane, it would be great if you could make the change that you suggested below to Offered Fall Odd-numbered Years. Thanks Doug Christensen

> Cc: Sarah Fowell <sjfowell@alaska.edu>
> Subject: GEOS 418
>
> Hi Doug,
> I chair the CNSM Curriculum Council, and we reviewed your course
> proposal for Solid Earth Geophysics today. Sounds like a good
> course. We have one small request, which is that the catalog
> indicate not only that the course is offered alternate years, but
> which years it will be offered (e.g. Offered Fall Odd-numbered
> Years). If you want, you can direct me to edit the form in pen.
> Otherwise, I'll need you to send me a revised format 2. (No need to
> re-send the syllabus.)
> thanks,
> Diane
>
> CNSM Curriculum Council:
> Leah Berman
> Tom Green
> Channon Price
> Diane Wagner
>
> --
> Diane Wagner
> Associate Professor of Biology
> Institute of Arctic Biology
> Department of Biology & Wildlife
> University of Alaska
> Fairbanks, AK 99775-7000
> [\(907\) 474-5227](tel:(907)474-5227)

GEOS 318 SYLLABUS

1. Course Information.

GEOS F318 Solid Earth Geophysics, 3 credits, Fall 2013

Meeting times: MWF, 10:30-11:30

Meeting location: TBA

Prerequisites: MATH F200X, PHYS F104X, or permission of instructor

2. Instructor Information.

Instructor: Douglas Christensen

Office: 413C Elvey (Geophysical Institute)

Email: doug@giseis.alaska.edu

Phone: (907) 474-7426

Office Hours: MWF, 9:00-10:00 or by appointment

3. Course Materials.

Notes will be handed out during class

Textbook, recommended but not required,

Fundamentals of Geophysics, William Lowrie, 2nd ed., 2007, Cambridge

4. Course description.

Concepts and techniques of geophysics including origin of the Earth, its structure, and large scale dynamic processes responsible for its surface features. Geophysical techniques including seismology, gravity and magnetic methods are discussed along with measurements of the earth's thermal structure, rotation rates, and tidal effects.

5. Course Goals.

We will explore how various fields of geophysics have been used to help us uncover the nature of the earth and its interior.

6. Student learning outcomes.

Upon completion of this course, students should be able to:

Understand how geophysical methods have added to our understanding of the planet Earth. The students will get experience working with gravity, magnetic, seismic and heat flow data. How they are measured and interpreted.

7. Instructional methods.

Lectures will be the primary mode of instruction.

8. Course calendar (tentative).

First Day	Introduction	
Week 1	The Earth as a planet The Solar System	Homework Set 1

	The Dynamic Earth	
Week 2	Gravity and the figure of the Earth The Earth's size and shape	Homework Set 2
Week 3	Gravitation	Homework Set 3
Week 4	Earth's rotation The Earth's figure and gravity	Homework Set 4
Week 5	Gravity anomalies Isostasy	Homework Set 5
Week 6	Interpretation of gravity anomalies Mid Term	
Week 7	Seismology and the internal structure of the Earth Elasticity theory	Homework Set 6
Week 8	Seismic waves The seismograph	Homework Set 7
Week 9	Earthquake seismology Seismic wave propagation Internal structure of the Earth	Homework Set 8
Week 10	Geomagnetism and paleomagnetism Historical introduction	Homework Set 9
Week 11	The physics of magnetism Rock magnetism	Homework Set 10
Week 12	Geomagnetism Magnetic surveying	Homework Set 11
Week 13	Paleomagnetism Geomagnetic polarity	Homework Set 12
Week 14	Thermal properties and heat flow The Earth's heat	Homework Set 13
Finals Week	Final	

9. Course policies

(a) Attendance: All students are expected to attend and participate in class

(b) Assignments: All assignments are due at the start of class on the due date noted on the problem set. Late assignments will be accepted with a 10% penalty per each class day late.

10. Evaluation.

Grading is based on:

Mid Term, ~October 14, 2013 (30%)

Final, December 16, 2013 (30%)

Problem Sets (~Weekly Sets, 40%)

11. Support Services.

The instructor is available by appointment for additional assistance outside session hours.

12. Disabilities Services.

The Office of Disability Services implements the Americans with Disabilities Act (ADA), and it ensures that UAF students have equal access to the campus and course materials. The Geophysics Program will work with the Office of Disability Services (208 WHIT, 474-5655) to provide reasonable accommodation to students with disabilities.