FORMAT 2

Submit original (including all keys) and one copy by and electronic copy to the

Prepared by

Email Contact

Faculty Contact

COURSE TITLE

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

CREDITS (including credit distribution)

(3-1-3)

COURSE CLASSIFICATION

ADD A STACKED LEVEL

Furthermore, any

P 1 9 2014

an's Office

al Science & Mathematics

College of Natu

Governance

4. COURSE CLASSIFICATIONS:

manual. If justification is ne

Will this course be used to fulfill a

for th

YES NO X

Is this course repeatable for credit? YES NO

credits

Comparative Aboriginal Indigenous Rights and Policies (s)

GEOS F63

or permission of instructor. (3+03)

MATH F2023 MATH F314,

propagation algorithms and real seismic data. Cove

ogy, as well as the b

waves), earthquake moment ten s, earthqu

8. GRADING SYSTEM: Specify only one

LETTER PASS/FAIL

WHAT IMPACT, IF ANY, WILL THIS HAVE ON RESOURCES, FACILITIES, SPACE

at Applied Seismology (GEOS 626) will require

though there could be some impact on

proposed action

student

applications to make sure that the

change in # of credits, explain

performance

required as part of students earning credit

graduate students) and in 2014 (7 graduate students). Based on the

Applied Seismology in 2017

associated with

prepare computational

http://www.gisels.arc.nasa.gov/tutorials/gis/gis.html

UNIVERSITY OF ALASKA FAIRBANKS

***QUICK REFERENCE:** Section 8 contains the calendar of topics and deadlines.*

Last compiled: April 4, 2014

1. **Course information.**

GEOS 626	**Applied Seismology**, 4 credits (3+3), Spring 2016
Lecture times:	Tuesday and Thursday, 9:45–11:15
Lab time	Tuesday, 11:30–14:30
Meeting location:	TBA

[redacted]

GEOS 604 (Seismology) is a recommended prerequisite

2. **Instructor information.**

Instructor:	**Carl Tape**
Office:	413D Elvey (Geophysical Institute)

[redacted]

5. **Course goals.**

We will explore the study of earthquakes and Earth's interior structure using seismological theories

time-dependent, space-dependent elastic waves that originate at an earthquake source (for example, a fault slips) and propagate though the heterogeneous Earth structure, then are finally recorded as time series at seismometers on Earth's surface. Students will examine real seismic data and use computational models to estimate properties about earthquake source and Earth structure. Students will acquire practical, advanced seismological training that will prepare them for seismological

8. **Course calendar (tentative).**

	Day	Date	Topic	Reading Due†	Homework Due	Homework Assigned
1	Thurs		Seismology in 1916, 2016, and 2116	SW1, S1	—	HW-1
2	Tues		Introduction to Seismology	SW1, S1		
	Tues		LAB: Linux and Matlab			
3	Thurs		Linear algebra and vectors	SW-A, S-B	HW-1	HW-2
4	Tues		Linear algebra and vectors	SW-A, S-B		
	Tues		LAB: linear algebra			

Some Important Dates:

First class:	Thursday	January XX
Last day to add class:	Friday	January XX
Last day to drop class:	Friday	January XX
Last day for student- or faculty-initiated withdraw:	Friday	March XX
Last class:	Thursday	May XX

(b) Overall course grades are based on the following criteria:

A	$x \geq 93$	excellent performance:
A–	$90 \leq x < 93$	student demonstrates deep understanding of the subject

[10] T. Lay, H. Kanamori, C. J. Ammon, M. Nettles, S. N. Ward, R. C. Aster, S. L. Beck, S. L. Bilek, M. R. Brudzinski, R. Butler, H. R. DeSchon, G. Ekström, K. Satake, and S. Sipkin, "The great Sumatra-Andaman earthquake of 26 December 2004," *Science*, vol. 308, pp. 1127–1133, 2005.

[11] C. J. Ammon, C. Ji, H.-K. Thio, D. Robinson, S. Ni, V. Hjorleifsdottir, H. Kanamori, T. Lay, S. Das, D. Helmberger, G. Ichinose, J. Polet, and D. Wald, "Rupture process of the 2004 Sumatra-Andaman earthquake," *Science*, vol. 308, pp. 1133–1139, 2005.

[12] J. Park, T. R. A. Song, J. Tromp, E. Okal, S. Stein, G. Roult, E. Clevede, G. Laske,

H. Kanamori, P. Davis, J. Berger, C. Braitenberg, M. V. Camp, X. Lei, H. Sun, H. Xu, and