FORMAT 5A
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MINOR PROGRAM CHANGE: CATALOG DESCRIPTION ONLY

SUBMITTED BY:

Department	**Geosciences**	**College/School**	**CNSM**
Prepared by	**Paul J. McCarthy**	**Phone**	**6894**
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See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION: [Note: Program Name changes are MAJOR changes.]

DEGREE PROGRAM	**Geoscience**
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	**B.S.**

2. REASON FOR CHANGE: Indicate what is changing with an "X" or checkmark:

TO CORRECT THE TEXT		Example: Correct Catalog production errors such as typos to course numbers or problems with layout.
TO UPDATE THE TEXT		Example: Add a new elective course that was approved the prior year but missed the March 1 catalog deadline. Program description updates **must not** affect degree requirements – otherwise use a Format 5 program change form.

Other reason (specify):	**To update the O and W requirements for the BS Geoscience Degree**

A. CHANGES: (Brief statement of scope, or a list, of requested changes)

(1) Under #3 Complete one of the following concentrations:
Geology
To update the O and W requirements for this concentration for c.

Geospatial Sciences
To update the O and W requirements for this concentration for e.

Geophysics
To update the O and W requirements for this concentration for d.

In addition to underlining the changes, we have bolded the changes.

B. CURRENT DESCRIPTION AS IT APPEARS IN THE CATALOG:

Concentrations

Geology

Course List

Code	**Title**	**Credits**

Program Requirements		
CHEM F106X	General Chemistry II	4
PHYS F103X	College Physics I	4
PHYS F104X	College Physics II	4
GEOS F213	Mineralogy	4
GEOS F214	Petrology and Petrography	4
GEOS F225	Field and Computer Methods in Geology	2
GEOS F304	Geomorphology	3
GEOS F314	Structural Geology	4
GEOS F315	Paleobiology and Paleontology	4
GEOS F322	Stratigraphy and Sedimentation	4
GEOS F351	Field Geology [1,2]	8
GEOS F430	Statistics and Data Analysis in Geology	3
STAT F200X	Elementary Probability and Statistics	3
or STAT F300	Statistics	
Complete 12 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor		12
including one O (oral-intensive) course from any department		
Total Credits		63

Geospatial Sciences

Course List

Code	Title	Credits
Program Requirements		
CHEM F106X	General Chemistry II	4
PHYS F103X	College Physics I	4
PHYS F104X	College Physics II	4
GEOS F213	Mineralogy	4
GEOS F214	Petrology and Petrography	4
GEOS/GEOG F222	Fundamentals of Geospatial Science	3
GEOS F225	Field and Computer Methods in Geology	2
GEOS F304	Geomorphology	3
GEOS F314	Structural Geology	4
GEOS F322	Stratigraphy and Sedimentation	4
GEOS F351	Field Geology [1,2]	8
GEOS F430	Statistics and Data Analysis in Geology	3
STAT F200X	Elementary Probability and Statistics	3
or STAT F300	Statistics	
Electives		
Remote sensing electives		
Select at least two of the following:		4-7
GEOS F408	Photogeology	
GEOS F422	Geoscience Applications of Remote Sensing	
GEOS F488	Undergraduate Research	
NRM F641	Natural Resource Applications of Remote Sensing	
GIS electives		
Select at least two of the following:		6-7
GEOG F309	Digital Cartography and Geo-Visualization	
GEOG F435	GIS Analysis	

GEOS F458	Applications of GPS and GIS in Geophysics	
NRM F338	Introduction to Geographic Information Systems	
Complete 9 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor		9
including one O (oral-intensive) course and one additional W (writing-intensive) course from any department-		
Total Credits		69-73

[1]

GEOS F351 is offered at UAF during the summer of odd-numbered years. Students may substitute a 6-credit field geology class at another institution. The geology and geophysics undergraduate advisor will assist students in placement in an approved field geology class.

[2]

Fulfills the baccalaureate capstone requirement.

Geophysics

Course List

Code	Title	Credits
Program Requirements		
GEOS F262	Rocks and Minerals	3
GEOS F406	Volcanology	3
GEOS F419	Solid Earth Geophysics	3
GEOS F431	Foundations of Geophysics	4
GEOS F475	Presentation Techniques in the Geosciences	2
GEOS F477	Ice in the Climate System	3
GEOS F488	Undergraduate Research [1]	2
MATH F252X	Calculus II	4
MATH F253X	Calculus III	4
MATH F302	Differential Equations	3
MATH F314	Linear Algebra	3
PHYS F211X and PHYS F212X	General Physics I and General Physics II	8
PHYS F213X	Elementary Modern Physics	4
PHYS F220	Introduction to Computational Physics	4
Select at least three of the following science and engineering electives:		9-12
ES F331	Mechanics of Materials	
ES F341	Fluid Mechanics	
GEOS F314	Structural Geology	
GEOS F322	Stratigraphy and Sedimentation	
GEOS F422	Geoscience Applications of Remote Sensing	
ME F441	Heat and Mass Transfer	
PHYS F301	Introduction to Mathematical Physics	
PHYS F341	Classical Physics I: Particle Mechanics	
Additional upper-division GEOS credits or other upper-division courses as approved by the undergraduate advisor		3
Complete one W (writing-intensive) course approved by the undergraduate **advisor**		

C. CORRECTED DESCRIPTION AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:

Concentrations

Geology

Course List

Code	Title	Credits
Program Requirements		
CHEM F106X	General Chemistry II	4
PHYS F103X	College Physics I	4
PHYS F104X	College Physics II	4
GEOS F213	Mineralogy	4
GEOS F214	Petrology and Petrography	4
GEOS F225	Field and Computer Methods in Geology	2
GEOS F304	Geomorphology	3
GEOS F314	Structural Geology	4
GEOS F315	Paleobiology and Paleontology	4
GEOS F322	Stratigraphy and Sedimentation	4
GEOS F351	Field Geology [1,2]	8
GEOS F430	Statistics and Data Analysis in Geology	3
STAT F200X	Elementary Probability and Statistics	3
or STAT F300	Statistics	
Complete 12 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor		12
including one ~~O (~~oral-intensive~~)~~ course from ~~any department~~ **the following list: GEOS F317, GEOS F375, GEOG 420, GEOG F427,GEOG F483, GEOG F490, GEOG F493**		
Total Credits		63

Geospatial Sciences

Course List

Code	Title	Credits
Program Requirements		
CHEM F106X	General Chemistry II	4
PHYS F103X	College Physics I	4
PHYS F104X	College Physics II	4
GEOS F213	Mineralogy	4
GEOS F214	Petrology and Petrography	4
GEOS/GEOG F222	Fundamentals of Geospatial Science **or equivalent course approved by undergraduate advisor**	3
GEOS F225	Field and Computer Methods in Geology	2
GEOS F304	Geomorphology	3
GEOS F314	Structural Geology	4
GEOS F322	Stratigraphy and Sedimentation	4
GEOS F351	Field Geology [1,2]	8
GEOS F430	Statistics and Data Analysis in Geology	3
STAT F200X	Elementary Probability and Statistics	3
or STAT F300	Statistics	
Electives		
Remote sensing electives		

Select at least two of the following:		4-7
GEOS F408	Photogeology	
GEOS F422	Geoscience Applications of Remote Sensing	
GEOS F488	Undergraduate Research	
NRM F641	Natural Resource Applications of Remote Sensing	
GIS electives		
Select at least two of the following:		6-7
GEOG F309	Digital Cartography and Geo-Visualization	
GEOG F435	GIS Analysis	
GEOS F458	Applications of GPS and GIS in Geophysics	
NRM F338	Introduction to Geographic Information Systems	
Complete 9 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor including one ~~O (~~oral-intensive~~)~~ course **from the following list: GEOS F317, GEOS F375, GEOG 420, GEOG F427GEOG F483, GEOG F490, GEOG F493** and one additional ~~W (~~writing-intensive~~)~~ course from ~~any department~~ **the following list: GEOS F309, GEOS F315, GEOG F483**		9
Total Credits		69-73

[1] GEOS F351 is offered at UAF during the summer of odd-numbered years. Students may substitute a 6-credit field geology class at another institution. The geology and geophysics undergraduate advisor will assist students in placement in an approved field geology class.

[2] Fulfills the baccalaureate capstone requirement.

Geophysics

Course List

Code	Title	Credits
Program Requirements		
GEOS F262	Rocks and Minerals	3
GEOS F375	**Oral Communication Skills for Geoscientists**	**1**
GEOS F406	Volcanology	3
GEOS F419	Solid Earth Geophysics	3
GEOS F431	Foundations of Geophysics	4
~~GEOS F475~~	~~Presentation Techniques in the Geosciences~~	~~2~~
GEOS F375	Oral Communication Skills for Geoscientists	1
GEOG F483	**Research Design**	**2**
GEOS F477	Ice in the Climate System	3
GEOS F488	Undergraduate Research [1]	2
MATH F252X	Calculus II	4
MATH F253X	Calculus III	4
MATH F302	Differential Equations	3
MATH F314	Linear Algebra	3
PHYS F211X and PHYS F212X	General Physics I and General Physics II	8
PHYS F213X	Elementary Modern Physics	4
PHYS F220	Introduction to Computational Physics	4
Select ~~at least three~~ **two** of the following science and engineering electives (or approved substitute by undergraduate advisor):		6
ES F331	Mechanics of Materials	

ES F341	Fluid Mechanics	
GEOS F314	Structural Geology	
GEOS F322	Stratigraphy and Sedimentation	
GEOS F422	Geoscience Applications of Remote Sensing	
ME F441	Heat and Mass Transfer	
PHYS F301	Introduction to Mathematical Physics	
PHYS F341	Classical Physics I: Particle Mechanics	
Complete 6 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor. ~~Additional upper-division GEOS credits or other upper-division courses as approved by the undergraduate advisor~~		~~36~~
~~Complete two W (writing-intensive) courses approved by the undergraduate **from the following list: GEOS F309, GEOS F315, GEOG F483, GEOG F490.**~~		

APPROVALS:

Your approval indicates that NO DEGREE REQUIREMENTS are being changed by the minor changes to this program, and no program name is being changed. Only catalog updates and corrections are being accomplished by means of this form.

Signature, Chair, Program/Department of: **Geosciences**	Date	2/10/17
DocuSigned by: Patricia Doak 950FF76CE5A7486... Signature, Chair, College/School Curriculum Council for: **CNSM**	Date	February 14, 2017
DocuSigned by: E807E68EC7FD4B8... Signature, Dean, College/School of: **CNSM**	Date	February 14, 2017

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE REGISTRAR'S OFFICE

Received Registrar's Office	Date	