MINOR PROGRAM CHANGE: CATALOG DESCRIPTION ONLY

SUBMITTED BY:

Department	Geosciences	College/School	CNSM
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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	Geoscience					
PROGRAM						
Degree Level: (i.e., Ce	rtificate, A.A., A.A.S., B.A., B.S., M.A., M.S.,	B.S.				
<i>Ph.D.</i>)						

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

TO CORRECT THE	Example: Correct Catalog production errors such as typos to course numbers
TEXT	or problems with layout.
	Example: Add a new elective course that was approved the prior year but
TO UPDATE THE TEXT	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
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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:

Concentratio	ons	
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 cre approved by the undergrad	edits of upper-division GEOS courses or other upper-division courses uate advisor	12
including one O (oral-inter	nsive) course from any department	
Total Credits		63
Geospatial Sc	iences	
·	Course List	
Code	Title	Credits
Program Requirements	Titte	Credits
CHEM F106X	General Chemistry II	4
PHYS F103X	•	
PHYS F103X PHYS F104X	College Physics I	4
	College Physics II	4
GEOS F214	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 fo	•	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 fo	_	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 cred approved by the undergrad	lits of upper-division GEOS courses or other upper-division courses uate advisor	9
including one O (oral-inter	nsive) 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 foll	owing 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 GE undergraduate advisor	OS credits or other upper-division courses as approved by the	3
Complete one W (writing-inte	ensive) course approved by the undergraduate <u>advisor</u>	

C. CORRECTED DESCRIPTION AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES: (<u>Underline new wording strike through old wording</u> and use complete catalog format)

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	
approved by the undergrad		12
	nsive) course from any department the following list: GEOS F317, GEOS	<u>S</u>
	<u>G F427,GEOG F483, GEOG F490, GEOG F493</u>	60
Total Credits		63
Geospatial Sc	ciences	
	Course List	
Code	Title	Credits
Program Requirements	Title	
Program Requirements CHEM F106X	Title General Chemistry II	Credits
Program Requirements CHEM F106X PHYS F103X	Title General Chemistry II College Physics I	
Program Requirements CHEM F106X PHYS F103X PHYS F104X	Title General Chemistry II College Physics I College Physics II	4 4 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213	Title General Chemistry II College Physics I College Physics II Mineralogy	4
Program Requirements CHEM F106X PHYS F103X PHYS F104X	Title General Chemistry II College Physics I College Physics II	4 4 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213	Title General Chemistry II College Physics I College Physics II Mineralogy	4 4 4 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214	Title General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by	4 4 4 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor	4 4 4 4 4 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology	4 4 4 4 4 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology	4 4 4 4 4 3 2 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology	4 4 4 4 4 3 2 3 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F322	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Stratigraphy and Sedimentation	4 4 4 4 3 2 3 4 4
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F322 GEOS F351	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Stratigraphy and Sedimentation Field Geology 1,2	4 4 4 4 3 2 3 4 4 8
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F312 GEOS F351 GEOS F430	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Stratigraphy and Sedimentation Field Geology Statistics and Data Analysis in Geology	4 4 4 4 3 2 3 4 4 8 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F322 GEOS F351 GEOS F430 STAT F200X	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Stratigraphy and Sedimentation Field Geology Statistics and Data Analysis in Geology Elementary Probability and Statistics	4 4 4 4 3 2 3 4 4 8 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F322 GEOS F351 GEOS F430 STAT F200X or STAT F300	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Stratigraphy and Sedimentation Field Geology Statistics and Data Analysis in Geology Elementary Probability and Statistics	4 4 4 4 3 2 3 4 4 8 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F312 GEOS F351 GEOS F430 STAT F200X or STAT F300 Electives	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Structural Geology Stratigraphy and Sedimentation Field Geology I.2 Statistics and Data Analysis in Geology Elementary Probability and Statistics Statistics	4 4 4 4 3 2 3 4 4 8 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F322 GEOS F351 GEOS F430 STAT F200X or STAT F300 Electives Remote sensing electives	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Structural Geology Stratigraphy and Sedimentation Field Geology I.2 Statistics and Data Analysis in Geology Elementary Probability and Statistics Statistics	4 4 4 4 3 2 3 4 4 8 3 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F314 GEOS F351 GEOS F351 GEOS F430 STAT F200X or STAT F300 Electives Remote sensing electives Select at least two of the form	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Structural Geology Stratigraphy and Sedimentation Field Geology I,2 Statistics and Data Analysis in Geology Elementary Probability and Statistics Statistics	4 4 4 4 4 3 2 3 4 4 8 3 3
Program Requirements CHEM F106X PHYS F103X PHYS F104X GEOS F213 GEOS F214 GEOS/GEOG F222 GEOS F225 GEOS F304 GEOS F314 GEOS F314 GEOS F351 GEOS F430 STAT F200X or STAT F300 Electives Remote sensing electives Select at least two of the for	General Chemistry II College Physics I College Physics II Mineralogy Petrology and Petrography Fundamentals of Geospatial Science or equivalent course approved by undergraduate advisor Field and Computer Methods in Geology Geomorphology Structural Geology Structural Geology Stratigraphy and Sedimentation Field Geology I,2 Statistics and Data Analysis in Geology Elementary Probability and Statistics Statistics	4 4 4 4 4 3 2 3 4 4 8 3 3

NRM F641	Natural Resource Applications of Remote Sensing	
GIS electives		
Select at least two of the fol	llowing:	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 credi approved by the undergradu	its of upper-division GEOS courses or other upper-division courses nate advisor	9
Č ,	sive) course from the following list: GEOS F317, GEOS F375, GEOG	
	F483, GEOG F490, GEOG F493 and one additional W (writing-intensive)	
course from any departmen	the following list: GEOS F309, GEOS F315, GEOG F483	
Total Credits		69-73
1		
CEOS E251 is offered at I	UAE during the summer of odd numbered years. Students may substitute a	6 gradit

<u>GEOS F351</u> 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 GEOS F375	Rocks and Minerals Oral Communication Skills for Geoscientists	3 <u>1</u>
GEOS F406	Volcanology	3
GEOS F419	Solid Earth Geophysics	3
GEOS F431	Foundations of Geophysics	4
GEOS F475	Presentation Techniques in the Geosciences	2
<u>GEOG F483</u>	Research Design	<u>2</u>
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
	ollowing science and engineering electives (or approved substitute by	<u>6-8</u>
<u>undergraduate advisor)</u> :		<u>0-0</u>
ES F331	Mechanics of Materials	
ES F341	Fluid Mechanics	
GEOS F314	Structural Geology	
GEOS F322	Stratigraphy and Sedimentation	

	GEOS F422	Geoscien	nce Applications	s of Remote Ser	nsing			
N	ME F441	Heat and	Mass Transfer					
P	PHYS F301	Introduct	tion to Mathema	atical Physics				
P	PHYS F341	Classical	l Physics I: Parti	icle Mechanics				
	Complete 6 additional credits of							<u> </u>
	approved by the undergraduat			er division GEC	OS credits	or other	upper	<u> 36</u>
	livision courses as approved by	the undergr	aduate advisor					
Γ	Total Credits							63-65
	approval indicates that NO DE	GREE REC	OHIDEMENTS	, , , ,	7 7	L a	chana	an to thin
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Sig	gnature, Chair, College/School C	eing change	Geosciences Council for:	g updates and o	Date Date			
Sig Sig	gnature, Chair, College/School C	nent of:	Geosciences Council for:	S CNSM	Date Date Date	as are bei	ng acco	omplished
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Received Registrar's Office

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
approved by the un division courses as a	nal credits of upper-division GEOS courses or other upper-division courses dergraduate advisor. Additional upper-division GEOS credits or other upper- pproved by the undergraduate advisor citing intensive) courses approved by the undergraduate from the following list:
	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.

neans of this form.		
AllEgither	Date	2/10/17
Signature, Chair, Program/Department of: Geosciences		
DocuSigned by:	_	
Patricia Doak	Date	February 14, 2017
Signature Chair College/School Curriculum Council for: CN CNSM		
DocuSigned by:		
Laste Layer	Date	February 14, 2017
Signatures Dean College/School of: CNSM		
ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE REGISTRAR'S OFFICE		
ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE REGISTRAR'S OFFICE		
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Received Registrar's Office		