

Department Geography, Geolo	gy and Planning	Date	March 3, 2015	
Title of Program Affected	B.S., Geology (Compreh	ensive)		
Type of Program: Major Compre Academic Rules	hensive Major <u>X</u> O Other	ption Minor	Certificate	Certification
Revised Catalog Description (cut and panew information)	aste present description fro	om online catalog, st	rikethrough all deletio	ns, and insert and bold
See Attachment A				
Complete New Catalog Description				
See Attachment B				
Total Hours	from current requireme	ent)		
What is changing? Check all boxes that Title change X Course changes of under 18 hours Course changes of 18 hours or more	t apply. From option to pr From program (managem) Program or option	ajor) to option	Other	
Reason for Proposed Change			•	
Results from the nationally normed Area geology majors are achieving below the resedimentary petrology, classical stratigra Sedimentary Geology to the requirement	national average in some o phy). Consequently, we ar	f the traditional area	s of sedimentary geolo	ngy (sedimentology
To offset the credit hours in the major resedimentary petrology (approximately or consequently reducing the credit hours for classical stratigraphy (approximately one consequently reducing the credit hours for Comprehensive B.S. program from 9 to 8.	e fourth of that course) an or GLG 333 from 4 to 3. Lik fourth of that course) and or GLG 570 from 4 to 3 as w	d moving that mate ewise, we are remo moving that materia	rial to the new Sedime ving the portion of GLO al to the new Sediment	entary Geology course; we G 570 previously devoted t
The change to the wording of the MTH re for this degree program is "pass a Calc I cl that requirement clearly in the Degree Au	quirement is intended just ass and pass a Calc II class.	for clarity. What we " The proposed cha	e have always intended nge in wording is inter	f for the math requiremen nded to make it easier to li
DEPARTMENT: Route according to ART VI, one of the following (please check all that a than one committee/council, forward one	apply and send to first cou	ncil/committee mar	ked), if the program r	originally signed forms to needs to go through more
X College Council	(Send all undergraduate peither to PEC, CGEIP, or d	program changes throu irectly to Faculty Sena	ugh College Council as fir: te)	st step before forwarding
Professional Education Committee	(Considers all program ch	anges affecting BS and	MS in Education and Ed	ucational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all general edu	ication and multi-colle	ge program changes)	
Graduate Council	Considers all graduate-le	vel program changes)	· · · · · · · · · · · · · · · · · · ·	
signature Than and S	of -	Date 3/3	3/2015	
Department Head	(Routing on Reverse Side) //	FS Proc	gram Change - 10/8/2013

Attachment A -- Revised Catalog Description

(deletions in strike-through; additions in bold)

Geology (Comprehensive)

Bachelor of Science

This degree program is designed for those who wish to seek admission to graduate school in geology or related fields.

- A. General Education Requirements see General Education Program and Requirements section of catalog.
- B. Major Requirements (79-87 hours)
 - 1. GLG 110(4) or both GLG 171(3) and GLG 172(1); GLG 314(4), 332(4), 333(4 3), 334(3), 340(4), 358(3), 412(4), 413(6) or equivalent Field Geology course, 570(4 3)
 - GLG 415(4) or 580(3) or GRY 348(3)
 - 3. GLG 572(3) or 573(3) or 590(3)
 - 4. Select a minimum of 9 8 additional hours of GLG courses numbered 318 or higher, but not to include more than 4 hours of GLG 360
 - 5. Related Requirements (27-33 hours): GRY 363(4); CHM 160(4), 161(1), 170(3), 171(1); MTH 261(5) and 280(5), or MTH 287(3) and 288(3); MTH 261(5) or 287(3); MTH 280(5) or 288(3); PHY 123(4) and 124(4), or PHY 203(5) and 204(5)
 - 6. Public Affairs Capstone Experience will be fulfilled by completion of GLG 358(3).
- C. General Baccalaureate Degree Requirements see General Baccalaureate Degree Requirements section of catalog.

Attachment B – Complete New Catalog Description

Geology (Comprehensive)

Bachelor of Science

This degree program is designed for those who wish to seek admission to graduate school in geology or related fields.

- A. General Education Requirements see General Education Program and Requirements section of catalog.
- B. Major Requirements (79-87 hours)
 - 1. GLG 110(4) or both GLG 171(3) and GLG 172(1); GLG 314(4), 332(4), 333(3), 334(3), 340(4), 358(3), 412(4), 413(6) or equivalent Field Geology course, 570(3)
 - 2. GLG 415(4) or 580(3) or GRY 348(3)
 - 3. GLG 572(3) or 573(3) or 590(3)
 - 4. Select a minimum of 8 additional hours of GLG courses numbered 318 or higher, but not to include more than 4 hours of GLG 360
 - 5. Related Requirements (27-33 hours): GRY 363(4); CHM 160(4), 161(1), 170(3), 171(1); MTH 261(5) or 287(3); MTH 280(5) or 288(3); PHY 123(4) and 124(4), or PHY 203(5) and 204(5)
 - 6. Public Affairs Capstone Experience will be fulfilled by completion of GLG 358(3).
- C. General Baccalaureate Degree Requirements see General Baccalaureate Degree Requirements section of catalog.



FS Program Change - 10/8/2013

DepartmentGe	ography, Geolog	y and Planning		Date	March 3, 2015	
Title of Program Affect	ed	3.S., Geology (Non-	Compreher	nsive)		
Type of Program: Majo Acaden	rX Compre	hensive Major ther	_ Option	Minor_	Certificate	_ Certification
Revised Catalog Descripinew information)	otion (cut and pas	te present descriptio	n from onlir	ne catalog, str	ikethrough all deletic	ns, and insert and bold
See Attachment A	-					
Complete New Catalog	Description					
See Attachment B						
Total Hours <u>49-54 ho</u>	ours (no change t	from current requi	rement)			
What is changing? Chec Title change X Course changes of un Course changes of 18	der 18 hours	From option f	n (major) to	option	Other	· · · · · · · · · · · · · · · · · · ·
Reason for Proposed Ch	nange					
Results from the national geology majors are achie sedimentary petrology, Sedimentary Geology to	eving below the na classical stratigrap	tional average in sor hy). Consequently, v	ne of the tra ve are propo	ditional areas	of sedimentary geol	chat our graduating senior ogy (sedimentology, -contact-hour) course in
consequently reducing the	approximately one ne credit hours for proximately one for ne credit hours for	fourth of that cours GLG 333 from 4 to 3 purth of that course) GLG 570 from 4 to 3	e) and movir B. Likewise, v and moving	ng that mater we are remov that material	ial to the new Sedime ing the portion of GL to the new Sedimen	entary Geology course; we G 570 previously devoted t tary Geology course: we a
DEPARTMENT: Route acco one of the following (pleas than one committee/coun	e check all that ap	oply and send to firs	t council/cor	mmittee marl	ked). If the program	originally signed forms to needs to go through more
X College Council	·	(Send all undergrad either to PEC, CGEIF	uate program , or directly to	changes through	gh College Council as fir e)	st step before forwarding
Professional Education	n Committee	(Considers all progra	am changes af	ffecting BS and	MS in Education and Ed	lucational Specialist degrees)
Committee on Genera Intercollegiate Progra		(Considers all gener	al education a	ind multi-colleg	ge program changes)	
Graduate Council		(Considers all gradu	ate-level prog	ram changes)		
ignature Man	and St	I L	Dot	5/2	1/2015	
	Pepartment Head	(Routing on Revers	Dat se Side)	//	FS Pro	gram Change - 10/8/2013

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Attachment A -- Revised Catalog Description

(deletions in strike-through; additions in bold)

Geology (Non-Comprehensive)

Bachelor of Science

- A. General Education Requirements see General Education Program and Requirements section of catalog
- B. Major Requirements (49-54 hours)
 - 1. GLG 110(4) or both GLG 171(3) and GLG 172(1); GLG 314(4), 332(4), 333(4 3), 334(3), 340(4), 358(3), 570(4 3)
 - 2. GLG 412(4) or 413(6) or equivalent Field Geology course
 - 3. CHM 160(4)
 - 4. MTH 138(5) or 181(3)
 - 5. GRY 363(4)
 - 6. Complete **76** hours selected from:
 - a. CHM 161(1), 170(3), 171(1)
 - b. GLG courses numbered 318 or higher, but not to include more than 4 hours of GLG 360
 - c. GRY 348(3)
 - 7. Public Affairs Capstone Experience will be fulfilled by completion of GLG 358(3).
- C. Minor Required (or second major). Geology majors wishing to emphasize paleontology should minor in biology.
- D. General Baccalaureate Degree Requirements see General Baccalaureate Degree Requirements section of catalog

Attachment B – Complete New Catalog Description

Geology (Non-Comprehensive)

Bachelor of Science

- A. General Education Requirements see General Education Program and Requirements section of catalog
- B. Major Requirements (49-54 hours)
 - 1. GLG 110(4) or both GLG 171(3) and GLG 172(1); GLG 314(4), 332(4), 333(3), 334(3), 340(4), 358(3), 570(3)
 - 2. GLG 412(4) or 413(6) or equivalent Field Geology course
 - 3. CHM 160(4)
 - 4. MTH 138(5) or 181(3)
 - 5. GRY 363(4)
 - 6. Complete 6 hours selected from:
 - a. CHM 161(1), 170(3), 171(1)
 - b. GLG courses numbered 318 or higher, but not to include more than 4 hours of GLG 360
 - c. GRY 348(3)
 - 7. Public Affairs Capstone Experience will be fulfilled by completion of GLG 358(3).
- C. Minor Required (or second major). Geology majors wishing to emphasize paleontology should minor in biology.
- D. General Baccalaureate Degree Requirements see General Baccalaureate Degree Requirements section of catalog



Department Geography, Geology	/ and Planning	DateN	March 3, 2015	
Title of Program Affected M	laster of Science, Geospatial	Sciences in Geo	ography and Geo	logy
Type of Program: Major Compreh Academic Rules O	ensive Major Option_ other <u>X (M.S. program)</u>	Minor	_ Certificate	Certification
Revised Catalog Description (cut and pas new information)	ste present description from on	line catalog, strik	ethrough all deleti	ons, and insert and bold
See Attachment A			,	•
			·	
Complete New Catalog Description				
See Attachment B			•	
Total Hours <u>33 hrs with thesis; 36 hrs</u>	s for the non-thesis option (r	o change from	current requiren	nent)
What is changing? Check all boxes that a X Title change X Course changes of under 18 hours Course changes of 18 hours or more	From option to program	o option	Other	
Reason for Proposed Change	-9			
Change to program title: To make clear to represented within the department are also	so available as options for gradi	i prospective gra	duate students that department's grad	it all academic disciplines luate program.
Additional courses in "one of the following To increase flexibility for students in the pastudents.	g" list in the core and in the "Ph rogram and to increase attracti	ysical Geography veness of prograi	" and "Geology" re m to a wider audie	esearch concentrations: nce of prospective
DEPARTMENT: Route according to ART VI, Some of the following (please check all that a han one committee/council, forward one a	pply and send to first council/o	committee marke	ed). If the program	
X* College Council *For information only	(Send all undergraduate progra either to PEC, CGEIP, or directly			first step before forwarding
Professional Education Committee	(Considers all program changes	affecting BS and N	/IS in Education and I	Educational Specialist degrees
Committee on General Education and Intercollegiate Programs	(Considers all general education	n and multi-college	e program changes)	
X Graduate Council	(Considers all graduate-level pr	ogram changes)	· · · · · · · · · · · · · · · · · · ·	
ignature Thomas A		Date 3/3	/2015	
Department Head	(Routing on Reverse Side)	11	FS PI	rogram Change - 10/8/2013



Attachment A -- Revised Catalog Description (deletions in strike-through; additions in bold)

Geospatial Sciences in Geography and Geology , Geology and Planning

Graduate programs

Master of Science, Geospatial Sciences in Geography and Geology , Geology and Planning Doug Gouzie, Graduate Director Temple Hall, Room 375; Phone 417-836-5228 DouglasGouzie@missouristate.edu

Program description

The program of study is designed to provide professional training and develop scholarly analytical skills in Geospatial Science with applications in one of three areas: 1) Physical Geography; 2) Human Geography and/or Planning; or 3) Geology. This program emphasizes the integration of the theoretical frameworks of Geography and Geology and Geospatial Science principles. By combining these areas, students will be able to address research problems regarding environmental issues and resource management.

The core curriculum consists of course work in Geographic Information Science (GIS), Remote Sensing, research methods and research presentations, both written and oral. Students are encouraged to develop, with their advisors, a program that fits their individual talents and goals. The department recommends that students choose a research concentration in Physical Geography, Human Geography and/or Planning, or Geology. If a student intends to pursue research outside these concentration areas, he/she should contact the program director and prospective advisor, if possible, before applying to the program. Admission is granted to students with demonstrated academic competences who are interested in a professional career in geography or geology.

Funding for graduate students in Geospatial Sciences is available through application for competitive graduate assistantships which carry both a stipend and fee waiver. Applications for graduate assistantships should be submitted directly to the Graduate Program Director in the Department of Geography, Geology and Planning. Additional graduate assistantships may also be available through listings by other departments and offices.

Admission requirements

The Department's Graduate Admissions Committee requests the following materials from each applicant:

- 1. An application for admission to the Graduate School;
- Official transcripts from all previously attended institutions of higher education;
- 3. Graduate Record Examination scores;
- Three letters of recommendation from persons familiar with the candidate's academic abilities and professional potential sent to the MS Program Director.
- 5. Separate application to the MS Program Director for a graduate assistantship, if desired. The application for graduate assistantship is available at the Graduate College website.

Since no specific undergraduate major is required, some students may be admitted on a conditional basis if they lack sufficient academic experience to take the required core courses. In these cases, specific undergraduate courses may be required before full admission is granted. Undergraduates interested in this program are encouraged to include courses in cartography, aerial photography interpretation, statistics, chemistry, biology and environmental science. Calculus and physics may be required for studies in some areas of geology.

Advisement

- 1. Each student should consult with the department's general graduate advisor before registering for the first semester of classes.
- Each student is also encouraged to identify a general thesis topic as soon as possible. This will permit the selection of an appropriate
 faculty advisor who, in consultation with the student, will help to identify a second member of the student's advisory committee. The
 third member of this committee will be assigned by the department.
- 3. Once the membership of the advisory committee has been established, the student should rely upon its members, but especially the chairperson, for assistance in the selection of his/her elective courses, and for advice and direction in the thesis research.
- Until such time as the advisory committee has been formed, the student should continue to consult with the department's graduate advisor.



Degree requirements

A minimum of 33 hrs with thesis; a minimum of 36 hours for the non-thesis option

1. Required Geospatial Sciences Core (Total 15 hours)

Course Code	Course Title	Credit Hours
<u>GEO 700</u>	Introduction to Graduate Study in Geospatial Sciences Geography, Geology and Planning	3 hrs
GEO 701	Graduate Research Methods in Geospatial Sciences Geography, Geology and Planning	3 hrs
<u>GEO 651</u>	Remote Sensing	3 hrs
<u>GEO 661</u>	Intermediate Geographic Information Science	3 hrs
	One of the following:	3 hrs
GEO 662	Internet Geospatial Science	
<u>GEO 666</u>	Advanced Geographic Information Science	
<u>GEO 668</u>	Thematic Cartography	
GEO 672	Introduction to Photogrammetry and LiDAR Technology	
<u>GEO 673</u>	Geographic Information Science Programming	
<u>GEO 675</u>	GPS Surveying and Mapping	
GEO 678	Remote Sensing Digital Image Processing	
GEO 755	Applications of Digital Cartography, Analytical Photogrammetry, and Remote Sensing	

Students who do not have adequate background in statistical analysis from their undergraduate course work are strongly encouraged to take at least one of the following (3 hours):

MTH 645 Applied Statistics

MTH 646 Analysis of Variance and Design of Experiments

MTH 647 Applied Regression Analysis

MTH 648 Applied Time Series Analysis

Research Requirement (complete one).

a. *Thesis Option.* A student can take up to 3 hours of <u>GRY 779</u> or <u>GLG 779</u> plus up to 6 hours of <u>GRY 799</u> or <u>GLG 799</u>. Successful completion of a thesis and thesis defense is required.

- b. **Non-Thesis Option**. Students choosing the non-thesis option must complete 3 hours of <u>GRY 779</u> or <u>GLG 779</u> plus 3 hours of <u>GEO 780</u>. Successful completion of a research project and scholarly report is required. The results of the research project must be presented orally at a departmental seminar or at a professional meeting and the student's advisor and the departmental Graduate Program Director must approve the written report on the research project. Students in the non-thesis option are not allowed to count thesis hours toward the 36 hour degree requirement.
- 3. Additional Course Requirements. Students in the thesis option must complete an additional 18 hours of graduate course work beyond the required 15-hour core. Students choosing to complete a thesis may count up to 3 credit hours of GRY 779 or GLG 779 and up to 6 credit hours of GRY 799 or GLG 799 toward this 18 hour requirement. Students in the non-thesis option must complete an additional 21 hours of graduate course work beyond the required 15 hour core. Students choosing the non-thesis option may count 3 credit hours of GRY 779 or GLG 779 and 3 credit hours of GEO 780 toward this 21 hour requirement. Students in the thesis option must complete at least 17 credit hours of course work at the 700 level; students in the non-thesis option must complete at least 18 credit hours of course work at the 700 level. Students must complete a program of study worksheet by the end of their first academic semester. Before enrolling in the 12th hour of graduate credit, the student, an academic advisor, and the Graduate Program Director must agree upon and sign an Advisor Approved Program of Study.

Students whose undergraduate background does not include the prerequisite material for <u>GEO 651</u> and/or GEO 561 are required to take Introduction to Geographic Information Science for <u>GRY 697</u> credit. This credit does not count toward the additional 18 hours of graduate course work required for the thesis option or toward the additional 21 hours of graduate course work required for the non-thesis option.

4. Comprehensive Examination. A written comprehensive examination must be taken before the end of the third semester of full-time enrollment in the program. Students will be provided reading lists and/or study guides specific to their individual program of study. For students in the thesis option, the examination questions will be provided by the student's advisor and at least two other



members of the student's thesis committee; for students in the non-thesis option, the examination questions will be provided by the student's advisor and two other members of the faculty selected by the departmental Graduate Director. A student may repeat the examination, or section of the examination, upon recommendation of the Graduate Program Director and approval of the Department Head. Students who have not passed the comprehensive examination upon completion of three academic semesters of full-time study will not be permitted to continue in the program. If a student opts to change tracks after completing the comprehensive examination, the student must take and pass the examination specific to the new selected track before a degree will be awarded.

The faculty members writing the examination questions shall determine what constitutes a passing mark for the exam.

Research Concentrations. The Department of Geography, Geology and Planning has identified three areas of research
concentration for prospective students. Students are strongly encouraged to select a research topic in one of these concentration
areas.

Physical Geography

Students interested in physical geography can select a research topic in fluvial geomorphology, water quality and watershed management, or climatology. Students should integrate geospatial science with physical geography when doing either a thesis or non-thesis a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GRY 625 Environmental Hazards
- GRY 635 Global Climate and Weather Cycles
- GRY 645 Global Environmental Change
- GRY 650 Fluvial Geomorphology
- GRY 731 Environmental Assessment
- GRY 751 Topics in Advanced Physical Geography
- GLG 647 Water Resources
- GLG 782 Contaminant Geochemistry
- GEO 770 Advanced Field and Laboratory Methods

Human Geography and/or Planning

Students interested in human geography and/or planning can select a research topic in land use assessment, urban design, community and regional planning, neighborhood planning, transportation planning, or tourism planning and development. Students should integrate geospatial science with human geography and/or planning when doing either a thesis or non-thesis a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GRY 610 Applications in Sustainable Geotourism
- GRY 625 Environmental Hazards
- GRY 645 Global Environmental Change
- GRY 731 Environmental Assessment
- PLN 605 Social Planning
- PLN 670 Planning Law
- PLN 671 Land Use Planning
- PLN 673 Urban Design and Preservation
- PLN 674 Open Space Planning

Geology

Students interested in geology can select a research topic in environmental geochemistry, geohydrology, karst systems, stratigraphy, or geophysics. Students should integrate geospatial science with geology when doing either a thesis or non-thesis a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GLG 630 Optical Mineralogy
- GLG 647 Water Resources
- GLG 670 Principles of Stratigraphy
- GLG 672 Geohydrology
- GLG 673 Engineering Geology
- GLG 674 Petroleum Geology
- GLG 680 Geochemistry
- GLG 681 Geochemical Techniques
- GLG 690 Applied Geophysics
- GLG 694 Global Tectonics
- GLG 782 Contaminant Geochemistry

Students interested in research topics outside of these three concentrations should consult with the Graduate Program Director and a possible advisor before beginning the program.



Attachment B - Complete New Catalog Description

Geospatial Sciences in Geography, Geology and Planning

Graduate programs

Master of Science, Geospatial Sciences in Geography, Geology and Planning Doug Gouzie, Graduate Director Temple Hall, Room 375; Phone 417-836-5228 DouglasGouzie@missouristate.edu

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Advisement

- 5. Each student should consult with the department's general graduate advisor before registering for the first semester of classes.
- 6. Each student is also encouraged to identify a general thesis topic as soon as possible. This will permit the selection of an appropriate faculty advisor who, in consultation with the student, will help to identify a second member of the student's advisory committee. The third member of this committee will be assigned by the department.
- 7. Once the membership of the advisory committee has been established, the student should rely upon its members, but especially the chairperson, for assistance in the selection of his/her elective courses, and for advice and direction in the thesis research.
- 8. Until such time as the advisory committee has been formed, the student should continue to consult with the department's graduate advisor.

(3)

Degree requirements

A minimum of 33 hrs with thesis; a minimum of 36 hours for the non-thesis option

2. Required Geospatial Sciences Core (Total 15 hours)

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<u>GEO 701</u>	Graduate Research Methods in Geography, Geology and Planning	3 hrs
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GEO 661	Intermediate Geographic Information Science	3 hrs
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<u>GEO 755</u>	Applications of Digital Cartography, Analytical Photogrammetry, and Remote Sensing	

Students who do not have adequate background in statistical analysis from their undergraduate course work are strongly encouraged to take at least one of the following (3 hours):

MTH 645 Applied Statistics

MTH 646 Analysis of Variance and Design of Experiments

MTH 647 Applied Regression Analysis

MTH 648 Applied Time Series Analysis

3. Research Requirement (complete one).

a. Thesis Option. A student can take up to 3 hours of <u>GRY 779</u> or <u>GLG 779</u> plus up to 6 hours of <u>GRY 799</u> or <u>GLG 799</u>. Successful completion of a thesis and thesis defense is required.

- b. **Non-Thesis Option**. Students choosing the non-thesis option must complete 3 hours of <u>GRY 779</u> or <u>GLG 779</u> plus 3 hours of <u>GEO 780</u>. Successful completion of a research project and scholarly report is required. The results of the research project must be presented orally at a departmental seminar or at a professional meeting and the student's advisor and the departmental Graduate Program Director must approve the written report on the research project. Students in the non-thesis option are not allowed to count thesis hours toward the 36 hour degree requirement.
- 6. Additional Course Requirements. Students in the thesis option must complete an additional 18 hours of graduate course work beyond the required 15-hour core. Students choosing to complete a thesis may count up to 3 credit hours of <u>GRY 779</u> or <u>GLG 779</u> and up to 6 credit hours of <u>GRY 799</u> or <u>GLG 799</u> toward this 18 hour requirement. Students in the non-thesis option must complete an additional 21 hours of graduate course work beyond the required 15 hour core. Students choosing the non-thesis option may count 3 credit hours of <u>GRY 779</u> or <u>GLG 779</u> and 3 credit hours of <u>GEO 780</u> toward this 21 hour requirement. Students in the thesis option must complete at least 17 credit hours of course work at the 700 level; students in the non-thesis option must complete at least 18 credit hours of course work at the 700 level. Students must complete a program of study worksheet by the end of their first academic semester. Before enrolling in the 12th hour of graduate credit, the student, an academic advisor, and the Graduate Program Director must agree upon and sign an Advisor Approved Program of Study.

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members of the student's thesis committee; for students in the non-thesis option, the examination questions will be provided by the student's advisor and two other members of the faculty selected by the departmental Graduate Director. A student may repeat the examination, or section of the examination, upon recommendation of the Graduate Program Director and approval of the Department Head. Students who have not passed the comprehensive examination upon completion of three academic semesters of full-time study will not be permitted to continue in the program. If a student opts to change tracks after completing the comprehensive examination, the student must take and pass the examination specific to the new selected track before a degree will be awarded.

The faculty members writing the examination questions shall determine what constitutes a passing mark for the exam.

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Physical Geography

Students interested in physical geography can select a research topic in fluvial geomorphology, water quality and watershed management, or climatology. Students should integrate geospatial science with physical geography when doing a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GRY 625 Environmental Hazards
- GRY 635 Global Climate and Weather Cycles
- GRY 645 Global Environmental Change
- <u>GRY 650</u> Fluvial Geomorphology
- GRY 731 Environmental Assessment
- GRY 751 Topics in Advanced Physical Geography
- GLG 647 Water Resources
- GLG 782 Contaminant Geochemistry
- GEO 770 Advanced Field and Laboratory Methods

Human Geography and/or Planning

Students interested in human geography and/or planning can select a research topic in land use assessment, urban design, community and regional planning, neighborhood planning, transportation planning, or tourism planning and development. Students should integrate geospatial science with human geography and/or planning when doing a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GRY 610 Applications in Sustainable Geotourism
- GRY 625 Environmental Hazards
- GRY 645 Global Environmental Change
- GRY 731 Environmental Assessment
- PLN 605 Social Planning
- PLN 670 Planning Law
- PLN 671 Land Use Planning
- PLN 673 Urban Design and Preservation
- PLN 674 Open Space Planning

Geology

Students interested in geology can select a research topic in environmental geochemistry, geohydrology, karst systems, stratigraphy, or geophysics. Students should integrate geospatial science with geology when doing a graduate research project. Students selecting this concentration would normally take at least two of the following courses:

- GLG 630 Optical Mineralogy
- GLG 647 Water Resources
- GLG 670 Principles of Stratigraphy
- GLG 672 Geohydrology
- GLG 673 Engineering Geology
- GLG 674 Petroleum Geology
- GLG 680 Geochemistry
- GLG 681 Geochemical Techniques
- GLG 690 Applied Geophysics
- GLG 694 Global Tectonics
- GLG 782 Contaminant Geochemistry

Students interested in research topics outside of these three concentrations should consult with the Graduate Program Director and a possible advisor before beginning the program.



FS Program Change - 10/8/2013

Missouri State University Curricular Proposal Program Change or Deletion

Department <u>Geography, Geology</u>	and Planning		Date	March 3, 2015	5	<u></u>
Title of Program Affected G	raduate Certificat	<u>te, Geospatia</u>	<u>l Informatio</u>	n Sciences		_
Type of Program: Major Comprehe Academic Rules Ot	ensive Major her	Option	_ Minor	Certificate_	<u> </u>	Certification
Revised Catalog Description (cut and past new information)	e present description	on from onlin	e catalog, stri	kethrough all de	letions,	and insert and bold
See Attachment A						
Complete New Catalog Description						
See Attachment B Total Hours 12 hours (no change from	n current requiren	nent)				
What is changing? Check all boxes that a Title change X Course changes of under 18 hours Course changes of 18 hours or more	From option	m (major) to d	ption	Other		
Reason for Proposed Change	•					
This graduate certificate program was originally and the Missouri University of Soprogram have now left MS&T, and that inst CNAS Dean Jahnke, included as Attachment certificate is now a stand-alone program avacience courses to the list of available cours originally available.	cience & Technolog itution no longer of C.) The proposed ailable from MSU.	y (MS&T). The ffers the certif changes to the The proposed	e MS&T faculi ficate. (See e e catalog des laddition of t	ty involved in the -mail message fr cription are inter hree more MSU	e develom MS nded to gradua	opment of this &T Provost to MSU make clear that this te-level geospatial
DEPARTMENT: Route according to ART VI, SI one of the following (please check all that ap than one committee/council, forward one ac	ply and send to firs	st council/con	nmittee mark	ed). If the progr	am ne	ginally signed forms to eds to go through more
X* College Council *For information only	(Send all undergradeither to PEC, CGEI	duate program IP, or directly to	changes throug Faculty Senate	gh College Council e)	as first :	step before forwarding
Professional Education Committee	(Considers all progr	ram changes af	fecting BS and	MS in Education a	nd Educ	ational Specialist degrees)
Committee on General Education and Intercollegiate Programs	(Considers all gene	ral education a	nd multi-colleg	e program change	s)	
X Graduate Council	(Considers all gradu	uate-level progi	am changes)	ı		
Signature Manual	gife_	Dat	e <u> 3/</u>	3/2015		·

(Routing on Reverse Side)



Attachment A -- Revised Catalog Description (deletions in strike-through; additions in bold)

Geospatial Information Sciences Graduate Certificate

Program description

This certificate program is designed to provide graduate-level education in Geospatial Sciences including such focus areas as Geographic Information Systems, Internet Mapping, Military and Intelligence Applications, and Remote Sensing. It is anticipated that this program would be attractive to students in other MSU graduate programs such as Anthropology, Biology, and Criminology as well as to working professionals in such organizations as the United States Geological Survey, the National Geospatial-Intelligence Agency, and the United States Army and Army Corps of Engineers, the US Forest Service, the US Fish and Wildlife Service, the National Park Service and numerous other federal, state and local agencies involved in the management of natural, cultural and historical resources. This certificate is being offered jointly by the Geological Engineering degree program in the Department of Geological Sciences and Engineering within the School of Materials, Energy and Earth Resources at the Missouri University of Science and Technology (MS&T) and the Department of Geography, Geology and Planning at Missouri State University. Faculty members from MS&T and Missouri State will jointly organize, administer and offer the graduate certificate as described below.

This certificate uniquely utilizes the complementary expertise at the MS&T and Missouri State to provide a wide range of courses and topic areas so that students can customize their program of study and focus on particular interests.

Completion requirements

Students must have an overall grade point average of 3.00 for completion of the certificate program.

Curriculum (12 hours total)

It is anticipated that a student will typically complete two courses from those offered by MS&T and two courses from those offered by Missouri State. Courses will be offered both at off-campus locations (such as at a USGS or NGA facility) and at the respective campuses. Some courses will be available as on line distance offerings in the future. Each university has appointed a program technical coordinator who will serve as primary academic advisor and liaison for student in the program. Courses should be selected, in In consultation with and approved by these the program coordinators to insure proper prerequisites are satisfied and that duplication is avoided. A summary of courses tentatively planned to be offered is listed below-, the student should select four of the following three-credit-hour courses, for a total of twelve credit hours.

MS&T-courses:

- GE 315 Statistical Methods in Environmental Geology and Engineering
- GE 342 Military Geology
- GE 344 Remote Sensing Technology
- GE 346 Applications of Geographic Information Systems
- GE 446 Advanced Remote Sensing and Image Processing

Missouri State courses:

- GEO 651 Remote Sensing
- GEO 661 Intermediate Geographic Information Science
- GEO 662 Internet Geospatial Science
- GEO 666 Advanced Geographic Information Sciences
- GEO 668 Thematic Cartography
- GEO 672 Introduction to Photogrammetry and LiDAR Technology



- <u>GEO 673</u> Geographic Information Science Programming
- GEO 675 GPS Surveying and Mapping
- <u>GEO 678</u> Remote Sensing Digital Image Processing

Other courses approved by the MS&T and Missouri State faculty program coordinator may be substituted for any of the above listed courses on a case-by-case basis. The certificate program technical coordinators must approve the substitution prior to enrolling in any course.

Admission criteria

The Geospatial Information Sciences Certificate program is open to all persons holding a BS, BA, MS, or PhD degree. Students must, of course, satisfy all prerequisites for any courses they take in the program; or they must obtain instructor approval to waive any specific prerequisites. Once admitted to the program, the student must take a minimum of four courses as designated and approved by the program director coordinator and must have an average cumulative grade point average of 3.00 or better to receive the certificate.

Students who complete the four-course requirements for the certificate with a grade of B or better in each course may be admitted directly to the respective MS program in each institution Geospatial Sciences if they so choose. This admission does not waive the necessity for students to take required prerequisites for other required courses that are part of the MS program. The certificate credits taken will count toward the requirement for their MS degree.



Attachment B - Complete New Catalog Description

Geospatial Information Sciences Graduate Certificate

Program description

This certificate program is designed to provide graduate-level education in Geospatial Sciences including such focus areas as Geographic Information Systems, Internet Mapping, and Remote Sensing. It is anticipated that this program would be attractive to students in other MSU graduate programs such as Anthropology, Biology, and Criminology, as well as to working professionals in such organizations as the United States Geological Survey, the National Geospatial-Intelligence Agency, the United States Army Corps of Engineers, the US Forest Service, the US Fish and Wildlife Service, the National Park Service and numerous other federal, state and local agencies involved in the management of natural, cultural and historical resources.

Completion requirements

Students must have an overall grade point average of 3.00 for completion of the certificate program.

Curriculum (12 hours total)

In consultation with the program coordinator, the student should select four of the following three-credit-hour courses, for a total of twelve credit hours.

- GEO 651 Remote Sensing
- <u>GEO 661</u> Intermediate Geographic Information Science
- GEO 662 Internet Geospatial Science
- GEO 666 Advanced Geographic Information Sciences
- GEO 668 Thematic Cartography
- GEO 672 Introduction to Photogrammetry and LiDAR Technology
- GEO 673 Geographic Information Science Programming
- GEO 675 GPS Surveying and Mapping
- <u>GEO 678</u> Remote Sensing Digital Image Processing

Other courses approved by the program coordinator may be substituted for any of the above listed courses on a case-by-case basis. The certificate program coordinators must approve the substitution prior to enrolling in any course.

Admission criteria

The Geospatial Information Sciences Certificate program is open to all persons holding a BS, BA, MS, or PhD degree. Students must, of course, satisfy all prerequisites for any courses they take in the program; or they must obtain instructor approval to waive specific prerequisites. Once admitted to the program, the student must take a minimum of four courses as designated and approved by the program coordinator and must have an average cumulative grade point average of 3.00 or better to receive the certificate.

Students who complete the four-course requirements for the certificate with a grade of B or better in each course may be admitted directly to the MS program in Geospatial Sciences if they so choose. This admission does not waive the necessity for students to take required prerequisites for other required courses that are part of the MS program. The certificate credits taken will count toward the requirement for their MS degree.



Attachment C – E-mail Exchange between CNAS Dean Tammy Jahnke and MS&T Provost Warren Wray

From: Jahnke, Tamera S

Sent: Tuesday, December 10, 2013 8:43 AM To: Gouzie, Douglas R; Plymate, Thomas G

Cc: Einhellig, Frank A

Subject: FW: Missouri State University

Doug and Tom,

I believe that this is enough to remove anything cooperative from our catalog. Let's make it ours and do the right thing for MSU.

Tammy

Dr. Tammy Jahnke

Dean

College of Natural and Applied Sciences

Missouri State University
901 S. National Ave.
Springfield, MO 65897
phone 417-836-5249 | fax 417-836-6934
TameraJahnke@missouristate.edu<mailto:TameraJahnke@missouristate.edu> |
www.missouristate.edu<http://www.missouristate.edu>

[cid:image001.jpg@01CEC381.6AD2A3F0]<http://www.missouristate.edu/about/>

From: Wray, Warren K. [mailto:wkwray@mst.edu]

Sent: Monday, October 07, 2013 5:20 PM

To: Jahnke, Tamera S

Subject: RE: Missouri State University

http://www.cnas.missouristate.edu/

We currently don't offer that certificate. I will follow up and see where it was offered and get back to you.

Warren K. Wray, Ph.D., P.E.

Provost and Executive Vice Chancellor

For Academic Affairs

Missouri University of Science and Technology (Missouri S&T)

204 Parker Hall

300 West 13th Street

Rolla, MO 65409-0910

Phone: 573.341.4138

FAX: 573.341.6777

wkwray@mst.edu<mailto:wkwray@mst.edu>

From: Jahnke, Tamera S [mailto:TameraJahnke@MissouriState.edu]

Sent: Monday, October 07, 2013 4:59 PM

To: Wray, Warren K.

Subject: Missouri State University

(y)

Provost Wray -

I promised to get back with you on commencement information but I have one other issue that we need to talk about (or you can refer me to the appropriate person).

Fall Commencement for the engineers is at 12:30 PM on Friday, December 13. We would love to have you join us. Let me know!

The second topic – MSU and Missouri S&T have a joint graduate certificate in GIS that was approved many years ago. I don't know if S&T is using the certificate but MSU is using it. The MSU students are earning the certificate credit by taking all MSU classes as we have lost any contact we once had at Missouri S&T. As we were trying to clean up our own catalog we couldn't find a contact on the S&T website nor any reference to the certificate program. We think it was listed in you geological engineering department at one point. The basic question is if anyone at S&T or your students are interested in working on this joint certificate program any longer or if we just claim it as our own and change our catalog.

I would be happy to talk with anyone on your campus about the second topic so we can find a solution that works for both of us.

Tammy

Dr. Tammy Jahnke
Dean
College of Natural and Applied Sciences

Missouri State University
901 S. National Ave.
Springfield, MO 65897
phone 417-836-5249 | fax 417-836-6934
TameraJahnke@missouristate.edu<mailto:TameraJahnke@missouristate.edu> |
www.missouristate.edu<http://www.missouristate.edu> |
http://www.cnas.missouristate.edu/



NEW COURSE (or new REGULAR SECTION of an existing variable content course)

Department Geography	, Geology & Pla	anning	Date	e <u>March 3</u>	, 2015		
Check one: <u>X</u> New COURSE _ section of an existing variable topics	New REGU s course, to wi	JLAR (i.e. permar hat existing cours	ent) SECTION o e is it to be atta	of an existing value	ariable conter	nt course. If a n	ew regular
Course Code <u>GLG</u> Course Nur	mber <u>334</u>	Course Title	Sedimentar	ry Geology		-	
PROPOSED CATALOG DESCRIPTION							
GLG 334 Sedimentary Geology Prerequisites: GLG 314, GLG 332. lithofacies and biofacies; recognition Credit hours: 3; Lecture contact ho Typically offered: Spring	n of ancient de	positional environ					control of
PURPOSE OF COURSE							
Results from the nationally normer geology majors are achieving below sedimentary petrology, classical st Sedimentary Geology to the requir are removing the portion of GLG 3 that material to the new Sediment we are removing the portion of GL that material to the new Sediment	w the national ratigraphy). Crements for ou 33 previously cary Geology co	average in some consequently, we a consequently, we a condevoted to sediments; we are consly devoted to cla	of the traditions are proposing to To partially offs entary petrology sequently reduc ssical stratigrap	al areas of sedi o add this new is set the increase y (approximate sing the credit l hy (approximate	mentary geolo 3-credit-hour (e in required c ly one fourth (nours for GLG tely one fourth	ogy (sedimentol (5-contact-hour redit hours in the of that course) 333 from 4 to 3 n of that course	ogy, ') course in he major, we and moving B. Likewise, e) and moving
Specific purpose for GLG 334: To p mechanisms and depositional envi interpretation and analysis of sedin	ronments base	ed on texture, sed					
RELATIONSHIP TO OTHER DEPARTM	ENTS						
This course is intended to serve ex departments.	clusively stude	ents in our Geolog	y major and mi	nor. We do no	t anticipate ar	ny impact on an	y other
DEPARTMENT: Route according to A 300a/05) and forward three typed, o council/committee marked). If the o additional council/committee marke	originally signe course needs t	ed forms to one o	f the following ((please check a	all that apply a	and send to firs	t
X College Council	forward appr	se proposals number opriate number of co oproval is needed.)					
Professional Education Committee	(Considers all	new courses affecti	ng BS and MS in Ed	lucation and Educ	ational Specialis	t degrees)	
Committee on General Education and Intercollegiate Programs	(Considers all	general education a	nd multi-college ne	ew course propos	als)		
Graduate Council	(Considers all	600-, 700-, and 800-	level new courses))	•		•
If the course needs to go through more that	an one council/go	ommittee, forward o	ne additional form	for each addition	al council/comm	nittee marked.	

(Routing on Reverse Side)

FS New Course - 4/10/2014



NEW COURSE RESOURCE INFORMATION

Department Geog	raphy, Geology & Planning	Date March 3, 201	5
Course Number and Title	GLG 334 - Sedimentary	Geology	
Anticipated Average Enrollmen	20	Maximum Enrollment Limit	30
Faculty Load Assignment	5 Equated Ho	purs	
1 Is another course being delete	ed? If so, give course number and title.		
No. However, two existing corequired for this new course.	urses are being reduced from 4 credit ho	ours to 3 credit hours each to partially offse	et the credit hours
geology majors are achieving sedimentary petrology, classic Sedimentary Geology to the rare removing the portion of G that material to the new Sedimentary are removing the portion of G	below the national average in some of the cal stratigraphy). Consequently, we are pequirements for our Geology major. To peilG 333 previously devoted to sedimental mentary Geology course; we are consequent GLG 570 previously devoted to classica	Test over the past three years indicate that the traditional areas of sedimentary geology proposing to add this new 3-credit-hour (5-coartially offset the increase in required creary petrology (approximately one fourth of tently reducing the credit hours for GLG 33 all stratigraphy (approximately one fourth of tently reducing the credit hours for GLG 57 tently reducing the credit hours for GLG 57	r (sedimentology, contact-hour) course in dit hours in the major, we that course) and moving 3 from 4 to 3. Likewise, f that course) and moving
2 What will this course require	in the way of:		
Additional library holding	ngs? None		
Additional computer res	ources? None		
Additional or remodeled	facilities? None		
Additional equipment or	supplies? None		
Additional travel funds?	None		
Additional facultygene	ral vs specialized? None		
Other additional expense	s? None		
3 If additional faculty are not re	quired, how will faculty be made availabl	e to teach this course?	
This course will be taught by	present faculty.		
List names of current faculty	qualified to teach this course: Dr. Charl	les Rovey, Dr. Kevin Evans, Dr. Melida G	utierrez
		nin the department, will students be taking turses in other departments would most likely	
This course is intended to servide departments.	ve exclusively students in our Geology ma	ajor and minor. We do not anticipate any i	mpact on any other

5 Other comments:

POLICY STATEMENT



GLG-334 - Sedimentary Geology

Spring 20xx

Dr. Charles Rovey

charlesrovey@missouristate.edu

OFFICE HOURS: ????

Temple 302, 376; 836-6890

CATALOG DESCRIPTION: GLG 334 Sedimentary Geology 3 (1-4)

Principles underlying the production, weathering and deposition of sediments; environmental control of lithofacies and biofacies; recognition of ancient depositional environments by key indicators and modern anlalogs. Prerequisites: GLG 314, GLG 332

TEXTBOOK:

Sedimentary Geology: An Introduction to Sedimentary Rocks and Stratigraphy (3rd ed.) by Prothero and Schwab is required. It is important for you to complete the assigned readings. They are intended to compliment lectures, not to be identical with them. I strongly suggest that you have your textbook with you each class session, since I will refer to figures in the text during both lecture and lab.

Sometimes lectures will present a general overview; in these instances it's important for you to read the complimentary material in the text to explain premises and add detail. At other times I'll use lectures to add details that aren't in the text. Then, you need to consult the text for a broader overview.

COURSE OBJECTIVES:

Our main objectives are to:

- 1. Classify detrital and carbonate sedimentary rocks based on hand-sample and thin-section observations;
- 2. Interpret depositional mechanisms and environments on the basis of sedimentary structures and lithologies;
- 3. Integrate lateral and vertical changes in lithology into sedimentary sequences.

COURSE FORMAT:

The course is divided into a lecture session on Mondays and a lab session on Wednesdays. In practice, however, the two different formats will overlap.

ATTENDANCE:

At the 300 level I assume a high level of maturity and self motivation. Therefore, if you miss class, for whatever reason, it is your responsibility to obtain missed material from your classmates. "Make-up lectures" cannot be given for any reason.

GRADING:

Assignments turned in late will be penalized 10% per day. Your grade will be based on the following:

Midterm Exams: 2 exams @ 15% each:	30%
Labs	30%
Miscellaneous	5%
Final Exam	25%
Quizzes	10%

Final letter grades will be assigned as follows:

A 100% - 92.5%	C+ 79.9% - 77.5%	
A- 92.4% - 90.0%	C 77.4% - 72.5%	
B+ 89.9% - 87.5%	C- 72.4% - 70.0%	
B 87.4% - 82.5%	D+ 69.9% - 67.5%	
B- 82.4% - 80.0%	D 67.4% - 60.0%	F < 60.0%



STUDENT RESPOSIBILITIES:

Academic Honesty: You are responsible for knowing and following MSU's student honor code, *Student Academic Integrity Policies and Procedures*. MSU faculty expect that each student will be honest in submitting work for grading. Among other things, this means that work submitted for grades will be the work of the student whose name is on the paper. "Academic honesty" also implies that students will not utilize unauthorized help on exams. Upon an individual's first offense against academic honesty a grade of zero will be given for that assignment, or portion of the assignment, depending on the professor's discretion. Upon an individual's 2nd offense, both instances will be documented for the Department Head and forwarded to the Chair of the Academic Integrity Council for assignment of an XF grade, failure due to academic dishonesty.

<u>Seeking Extra Help:</u> It is your responsibility to seek additional help in understanding the course materials before irreparable damage occurs. Obviously you cannot do this unless you keep up with readings and assignments. I will gladly provide extra assistance during my office hours or any other mutually acceptable time. Nevertheless, you should first prepare as best you can by thoroughly reading the assigned material, carefully reviewing class notes, and patiently comparing the two so that you can communicate in a coherent fashion and ask specific questions on the material which has not been understood.

Integration of Course Materials: It is essential that you review and integrate the various concepts between classes. You should (1) Carefully review your notes within 24 hours of each session; (2) Compare your notes with the corresponding reading assignment; and (3) Review your entire sequence of notes at least every other week. To this end, I will give review questions covering terms and ideas for most lecture and reading topics. You are not required to turn these in, except for those pertaining to certain readings. However if you complete and return the review sheets within one week you may receive up to one bonus point per review, which will be credited to your next exam.

LABS

Please work independently of others except when specifically placed into groups. First attempt to solve the problem yourself, and then if necessary, ask me for assistance. If you do not utilize the time provided to complete the labs but still turn in a completed lab, I will have to assume that you are copying your answers.

MISCELLANIA:

<u>Class Environment:</u> This is a relatively small class so feel free to speak up and ask questions whenever you feel you might have missed something. However, please be polite in your questions, that is, don't speak out <u>solely</u> to be argumentative/disruptive, and try not to monopolize discussions. Please be courteous to the instructor and fellow students. Don't disrupt their concentrations by incessant talking, snoring, etc. I do not tolerate swearing or abusive language in class!

<u>Drop Policy:</u> The University's deadline for a no-penalty withdrawal is Nov. ??.

Prerequisites: GLG 314 (Historical Geology) and GLG 332 (Mineralogy).

<u>Cell Phones:</u> The use by students of cell phones, pagers, or similar communication devices during scheduled classes is prohibited. All such devices must be turned off or put in a silent (vibrate) mode and **should not be taken out during class!**

"To request academic accommodations for a disability, contact the Director of Disability Services, Plaster Student Union, Suite 405, (417)836-4192 or (417) 836-6792 (TTY). Students are required to provide documentation of disability to Disability Services prior to receiving accommodations. Disability Services refers some types of accommodation requests to the Learning Diagnostic Clinic, which also provides diagnostic testing for learning and Psychological disabilities. For information about testing, contact the Director of the Learning Diagnostic Clinic, (417) 8360478."

"Missouri State University is an equal opportunity/affirmative action institution, and maintains a grievance procedure available to any person who believes he or she has been discriminated against. At all times, it is your right to address inquiries or concerns about possible discrimination to the Office for Equity and Diversity".

GLG 570 COURSE SYLLABUS, SPRING 20xx

1	
	<i>></i> /

Week	Lecture	Lab	Reading
1	Intro. to sedimentary rocks Basic sedimentologic model	Sorting, rounding & maturity	Ch. 1
2	Weathering & soil formation	Weathering sequences & source areas	Ch. 2
3	Sediment transport	Sediment transport	Ch. 3, & 5 (86-94)
4	Sediment Transport	Pipette analysis	
5	Sed. structures & Trace Fossils	Sedimentary Structures	Ch. 4
6	Sandstones & conglomerates	Conglomerates	Ch. 5 & 6 (p. 112)
7	EXAM 1	Textural analysis & depositional environments	
8	Limestone & dolomite	Sandstone classification	Ch. 11
9	Carbonate environments	Wilson cycle & sedimentation	Ch.12 &19 (196-209)
10	Terrestrial environments	Sandstone maturity & depositional environments	Ch. 8
11	Fluvial & coastal environments	Carbonate classification	Ch. 9
12	Deltaic seds. & foreland basins environments	Carbonate depositional	
13	EXAM 2	General facies model	
14	Misc. detrital sediments	Sedimentation and tectonics	Ch. 17
15	Well logging & Missouri's Cambrian	strata	
16	Continued		

FINAL EXAM: ???



Department <u>Geography, Geolog</u>	y & Planning	Date	March 3, 2015	
Check one: This is a change to X	an existing COURSE an existing REGULAR (i.e	. permanent) S	SECTION of a va	riable content course
Present Course Code and Number	GEO 562 Course	Fitle <u>Int</u>	ernet Geospatia	al Science
Revised Catalog Description (Copy/paste	present description from onlin	e catalog, striketh	rough all deletions,	and insert/bold new information.)
GEO 562 Internet Geospatial Scient Prerequisite: GEO 561. Basic understanding of the contemt Students will develop and implement server, design maps, and publish nesign for geospatial data in both a utilize the published WebGIS servi 662 and GEO 562. Credit hours: 3 Lecture contact here?	porary standards for using that both single or multiple naps to the WebGIS serve wired and wireless environce ces. May be taught concu	source geospa er. A major par onment the dev urrently with Gl	tial portals set unit of the course welopment of W EO 662. Cannot	up and maintain a WebGIS will examine user interaction /ebGIS applications that
Complete New Catalog Information				
GEO 562 Internet Geospatial Scien Prerequisite: GEO 561. Basic understanding of the contem Students will set up and maintain a the course will examine the develop taught concurrently with GEO 662. Credit hours: 3 Lecture contact here	porary standards for using WebGIS server, design m pment of WebGIS applicat Cannot receive credit for	aps, and publis tions that utilize both GEO 662 a	h maps to the We the published and GEO 562.	VebGIS server. A major part of
What is changing? Check all boxes that app	oly.			
☐ Course Deletion ☐ Cours☐ Credit Hours/Contact Hours	se Code	Number icity	□ TitleX Description	□ Prerequisite
Reason for Proposed Change or Deletion		•	•	
To make catalog description a more	e accurate representation	of current cour	rse content.	
How Did You Determine the Need For This	·			
See above.				
Check if this is a non-substantive change. E Senate; 600- through 900-level courses: three original	Distribution for non-substantive cha y-signed copies to Graduate Counci	nges of 100- through I. Graduate Council v	n 500-level courses: tw will give two copies to	vo originally-signed copies to Faculty Faculty Senate after approval.
Substantive Change: Department routes according to check all that apply and send to first council/committee additional council/committee marked. See Senate Acti	e marked). If proposal needs to go :	through more than o	one council/committee	orms to <u>one</u> of the following (please e, forward one additional form for each
X College Council Professional Education Committee Committee on General Education and Intercollegiate Programs	directly to the Faculty Senate is committee/council will forward	orward appropriat f no further comm d two originally sig se changes for Pro	te number of copies sittee approval is ne gned copies to the F ofessional Education	s to the next committee/council or eded. The last level of faculty Senate.) n courses and Teaching Methods
Graduate Council Signature Department Head	(Considers all 600-900 level confiders all 600-900 level c	urse changes.) Date	3/3/2015	FS Program Change - 10/8/2013



Guil	realar i roposar co	our se change	or Detection	
Department Geography, Geolog	gy & Planning	_ Date	March 3, 2015	
Check one: This is a change to X		(i.e. permanent)	SECTION of a va	riable content course
Present Course Code and Number	GEO 662 Cour	se Title In	ternet Geospatia	al Science
Revised Catalog Description (Copy/past				
GEO 662 Internet Geospatial Scie Recommended Prerequisite: GEO Basic understanding of the conten Students will develop and implem server, design maps, and publish design for geospatial data in both utilize the published WebGIS serv 562 and GEO 662. Credit hours: 3 Lecture contact	nce 561 or GEO 661. Inporary standards for usent both single or multimaps to the WebGIS sea wired and wireless en vices. May be taught co	sing the Internet ple source geosp erver. A major pa vironment the de ncurrently with G	to distribute and atial portals set u rt of the course w evelopment of W GEO 562. Cannot	utilize geospatial data. up and maintain a WebGIS will examine user interaction /ebGIS applications that
Complete New Catalog Information		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	
GEO 662 Internet Geospatial Scient Recommended Prerequisite: GEO 5 Basic understanding of the content Students will set up and maintain the course will examine the development to the development of the course will examine the development of the concurrently with GEO 562 Credit hours: 3 Lecture contact 1	561 or GEO 661. nporary standards for us a WebGIS server, desigr opment of WebGIS appl . Cannot receive credit f	n maps, and publi ications that utili for both GEO 562	sh maps to the V ze the published and GEO 662.	VebGIS server. A major part of
What is changing? Check all boxes that ap □ Course Deletion □ Cou □ Credit Hours/Contact Hours	rse Code □ Cou	urse Number iodicity	□ Title X Description	□ Prerequisite
Reason for Proposed Change or Deletion		louicity	A Description	
To make catalog description a mor	re accurate renresentati	on of current cou	irse content	
How Did You Determine the Need For Thi	·	on or current cou	arse content.	
See above.				
Check if this is a non-substantive change. Senate; 600- through 900-level courses: three original	Distribution for non-substantive ally-signed copies to Graduate Co	changes of 100- throug ouncil. Graduate Council	gh 500-level courses: tv I will give two copies to	vo originally-signed copies to Faculty Faculty Senate after approval,
Substantive Change: Department routes according to check all that apply and send to first council/committe additional council/committee marked. See Senate Ac	tee marked). If proposal needs to	go through more than	one council/committee	orms to <u>one</u> of the following (please e, forward one additional form for each
X* College Council				n College Council first. After s to the next committee/council or
*for information only	directly to the Faculty Sena	ate if no further comr	mittee approval is ne	eded. The last level of
Professional Education Committee	committee/council will for (Considers all substantive courses.)			racuity Senate.) In courses and Teaching Methods
Committee on General Education and Intercollegiate Programs	(Considers all substantive oproposals.)	course changes for Ge	eneral Education and	f Intercollegiate Program
X Graduate Council	(Considers all 600-900 leve	l course changes.)	-/-/	
Signature Department Head	Ky te	ر ر /	3/3/2015	
	(Routing on Reverse S	ide) '	1	FS Program Change - 10/8/2013

Department	Geography, Geolog	y & Planning	D	ate	March 3, 2015	
Check one: This is	s a change to X			nanent) S	SECTION of a vai	iable content course
Present Course Co	ode and Number	GEO 566	Course Title _	Advan	ced Geographic	Information Science
Revised Catalog D	escription (Copy/paste	e present description	from online catalo	og, striketh	rough all deletions,	and insert/bold new information.)
GEO 566 Advanced Geographic Information Science Prerequisite: GEO 561. A theoretical and practical examination of analytical methods use used in GIS, including vector and raster models, spatial overlay, incorporation of field data, analysis of surfaces, interpolation, TINs and network analysis point pattern/clustering analysis, global and local spatial autocorrelation, analysis of fields, spatial interpolation, map overlay and cartographic modeling, and new approaches to spatial analysis. May be taught concurrently with GEO 666. Cannot receive credit for both GEO 666 and GEO 566. Credit hours: 3 Lecture contact hours: 2 Lab contact hours: 2 Typically offered: Fall						
Complete New Cata	log Information					
Prerequisite: G A theoretical a global and loca and new appro	and practical examina al spatial autocorrela paches to spatial ana	ation of analytica Ition, analysis of Ilysis. May be tai	Il methods used fields, spatial in ught concurrent	terpolati ly with G	on, map overlay GEO 666. Cannot	attern/clustering analysis, and cartographic modeling, receive credit for both GEO
What is changing? C	heck all boxes that ap	ply.				
□ Course Dele □ Credit Hours	tion □ Cour s/Contact Hours	rse Code	□ Course Num□ Periodicity	ber	□ TitleX Description	□ Prerequisite
Reason for Proposed	d Change or Deletion					
To make catalo	og description a mor	e accurate repres	sentation of cur	rent cou	rse content.	
How Did You Detern	nine the Need For This	s Change or Deleti	on?			
See above.						
						o originally-signed copies to Faculty Faculty Senate after approval.
check all that apply and se	artment routes according to end to first council/committ ttee marked. See Senate Act	ee marked). If proposal	l needs to go through	more than	one council/committee	orms to <u>one</u> of the following (please e, forward one additional form for each
X College Council			_			College Council first. After
Professional Educ	ation Committee	directly to the Fact committee/council (Considers all subs	ılty Senate if no fur I will forward two c	rther comn originally si	nittee approval is ne gned copies to the F	s to the next committee/council or eded. The last level of aculty Senate.) a courses and Teaching Methods
Committee on Ge and Intercollegiat		courses.) (Considers all subsi proposals.)	tantive course char	nges for Ge	neral Education and	l Intercollegiate Program
Graduate Council	1-10	Considers all 600-	900 level course ch	anges.)	//	
Signature	them as 4 St.	refe	Dat	te	3/3/2015	
	Department Head	(Routing on	Reverse Side)		//	FS Program Change - 10/8/2013



Department Geography, Geology	& Planning	Da	ate	March 3, 2015	
Check one: This is a change toX	_		nanent) S	ECTION of a vai	riable content course
Present Course Code and Number	GEO 666	Course Title _	Advanc	ed Geographic	Information Science
Revised Catalog Description (Copy/paste	present description	from online catalo	g, strikethr	ough all deletions,	and insert/bold new information.)
GEO 666 Advanced Geographic Info Recommended Prerequisite: GEO 56 A theoretical and practical examinat overlay, incorporation of field data, pattern/clustering analysis, global a overlay and cartographic modeling Cannot receive credit for both GEO Credit hours: 3 Lecture contact ho	51 or GEO 661. tion of analytical analysis of surfa and local spatial , and new appro 566 and GEO 66	methods use uses uses interpolation autocorrelation aches to spatia	ion, TINS i on, analys al analysi	and network an sis of fields, spa s. May be taug	alysis point tial interpolation, map
Complete New Catalog Information					
GEO 666 Advanced Geographic Info Recommended Prerequisite: GEO 56 A theoretical and practical examinat global and local spatial autocorrelat and new approaches to spatial analy 566 and GEO 666. Credit hours: 3 Lecture contact ho	51 or GEO 661. tion of analytical tion, analysis of f ysis. May be tau	methods used ields, spatial in ght concurrent	terpolation ly with G	on, map overlay EO 566. Cannot	and cartographic modeling
What is changing? Check all boxes that app	oly.				
☐ Course Deletion ☐ Cours	-	□ Course Num□ Periodicity	ber	☐ Title X Description	□ Prerequisite
Reason for Proposed Change or Deletion					
To make catalog description a more	accurate repres	entation of cur	rent cour	rse content.	
How Did You Determine the Need For This	Change or Deletic	on?			
See above.					
Check if this is a non-substantive change. D Senate; 600- through 900-level courses: three originally Substantive Change: Department routes according to A check all that apply and send to first council/committee additional council/committee marked. See Senate Active	y-signed copies to Grad ART VI, SEC 3B(1-4) of I e marked). If proposal	duate Council. Gradu Bylaws of the Faculty needs to go through	ate Council v r. Forward <u>th</u> more than o	will give two copies to rree originally signed f one council/committe	Faculty Senate after approval. Forms to <u>one</u> of the following (please
X* College Council					h College Council first. After
*for information only Professional Education Committee	approval, College C directly to the Facu committee/council	ouncil will forward Ity Senate if no fur will forward two d	l appropriat ther comm originally sig	te number of copie littee approval is ne gned copies to the I	s to the next committee/council o eeded. The last level of
Committee on General Education and Intercollegiate Programs	courses.)				d Intercollegiate Program
Signature Department Head	(Considers all 600-9	Da	-	3/3/2015	FS Program Change - 10/8/2013



Department Geography, Geolog	y & Planning	Date	March 3, 2015	
Check one: This is a change to X	an existing COURSE an existing REGULAR (i.e	e. permanent)	SECTION of a vari	able content course
Present Course Code and Number <u>G</u>	GEO 700 Course Title	Introduction	to Graduate Stud	y in Geospatial Science
Revised Catalog Description (Copy/pasted GEO 700 Introduction to Graduate Orientation to graduate study in good foundation for students pursing a semester graduate students are in effective strategies for conducting proposal. Credit hours: 3 Lecture 100 Lect	Study in Geospatial Scien cospatial sciences and dev graduate degree in the D stroduced to the research	ce Geography, velopment of a department of hinterests of the are mentored in	Geology and Pla research proposa Geography, Geolo ne department's f n the effective de	nning H. This course serves as a pogy and Planning. First-aculty, are guided in velopment of a research
Complete New Catalog Information GEO 700 Introduction to Graduate This course serves as a foundation and Planning. First-semester graduate are guided in effective strategies for a research proposal. Credit hours	for students pursing a gra uate students are introduc or conducting a literature	eduate degree ced to the rese search and are	in the Departmen arch interests of t mentored in the	he department's faculty, effective development of
What is changing? Check all boxes that ap	ply.			
□ Course Deletion □ Course Code □ Credit Hours/Contact Hours	□ Course Numb□ Periodicity		□ Prere cription	quisite
Reason for Proposed Change or Deletion				
New title: To make clear to all department represented within the department are a	also available as options for	graduate study i	n the department's	graduate program.
New course description: To clarify the co		role within the	department's gradu	ate program.
How Did You Determine the Need For This	Change or Deletion?	•	•	
Some departmental faculty have indicate because it was not clear to prospective s some students in other MSU graduate pr geospatial software. We introduce the u 363), and we expect all students entering	tudents that their specific su rograms have signed up for t ise of geospatial software in	ub-discipline of t this course mista our undergradu	he geosciences was kenly expecting an ate <i>Introduction to</i>	included. Furthermore, introduction to the use of Geospatial Science (GRY
Check if this is a non-substantive change. Senate; 600- through 900-level courses: three original				
Substantive Change: Department routes according to check all that apply and send to first council/committee additional council/committee marked. See Senate Act	ee marked). If proposal needs to go	through more than	one council/committee,	
X* College Council	(All substantive course change			-
*for information only	approval, College Council will directly to the Faculty Senate		•	to the next committee/council or ded. The last level of
Professional Education Committee	committee/council will forwa (Considers all substantive cou courses.)		_	culty Senate.) courses and Teaching Methods
Committee on General Education and Intercollegiate Programs	(Considers all substantive cou proposals.)	irse changes for G	eneral Education and	Intercollegiate Program
X Graduate Council	(Considers all 600-900 level co	ourse changes.)	//	
Signature // Com of Compartment Head	~ *	Date	<u>3/3/2015</u>	



Department Geography, Geology	& Planning	Date <u>March</u>	n 3, 2015
Check one: This is a change to X a	n existing COURSE		
a	n existing REGULAR (i.e. per	manent) SECTIOI	N of a variable content course
Present Course Code and NumberGE	O 701 Course Title Res	earch Methods in	Geospatial Science
Revised Catalog Description (Copy/paste p GEO 701 Graduate Research Method Prerequisite: GEO 700. Methods of o Science geography, geology and plan techniques and other quantitative te problems in geography, geology and Typically offered: Spring	ds in Geospatial Science Geog collecting, organizing, and and nning. Emphasis will be on the chniques pertinent to mathe	graphy, Geology a alyzing data perting the application of the matically and state	and Planning nent to graduate study in Geospatial univariate and multivariate statistical tistically modeling geospatial
Complete New Catalog Information GEO 701 Graduate Research Method Prerequisite: GEO 700. Methods of c geology and planning. Emphasis will quantitative techniques pertinent to planning. Credit hours: 3 Lecture	collecting, organizing, and and be on the application of university mathematically and statistics	alyzing data pertion Pariate and multionally ally modeling pro	variate statistical techniques and other blems in geography, geology and
What is changing? Check all boxes that a	apply.		
□ Course Deletion □ Course Code	□ Course Number	X Title	□ Prerequisite
☐ Credit Hours/Contact Hours	□ Periodicity	X Description	
Reason for Proposed Change or Deletion	1		
To make clear to all departmental faculty a the department are also available as option this course offers a more advanced treatment of Geography and Planning (GRY 367).	ns for graduate study in the dep	artment's graduate	program. Also to make clear that
How Did You Determine the Need For Th	nis Change or Deletion?		
Some departmental faculty have indicated because it was not clear to prospective sturn some incoming graduate students have tried GRY 367 or an equivalent course at the uncourse at the uncou	dents that their specific sub-disc ed to argue that they should not	cipline of the geosc	iences was included. Furthermore,
Check if this is a non-substantive change. Disconate; 600- through 900-level courses: three originally-stantive.	tribution for non-substantive changes o signed copies to Graduate Council. Grac	f 100- through 500-leve luate Council will give tv	l courses: two originally-signed copies to Faculty wo copies to Faculty Senate after approval.
Substantive Change: Department routes according to AR check all that apply and send to first council/committee additional council/committee marked. See Senate Action	marked). If proposal needs to go throug	h more than one counci	il/committee, forward one additional form for each
			go through College Council first. After
	pproval, College Council will forwar lirectly to the Faculty Senate if no fu		er of copies to the next committee/council or
Professional Education Committee (ommittee/council will forward two	originally signed copi	
Committee on General Education (0	•	anges for General Edu	ication and Intercollegiate Program
X Graduate Council	Considers all 600-900 level course c	hanges.)	
Signature Department Heard	Da (Danting of Da)	nte 3/3	/2015



Department Geography, Geological	pgy & Planning Date March 3, 2015	
Check one: This is a change to X	an existing COURSE an existing REGULAR (i.e. permanent) SECTION of a variable content course	
Present Course Code and Number	GLG 333 Course Title Petrology	
Revised Catalog Description (Copy/past	ste present description from online catalog, strikethrough all deletions, and insert/bold new information	ո.)
"C" or better is required in this cou	nic Petrology sification, and identification of common <u>igneous and metamorphic</u> rocks. A grade o urse in order to take GLG 413. Cannot be taken Pass/Not Pass. hours: 21 Lab contact hours: 4 Typically offered: Spring	_' f
Complete New Catalog Information		
or better is required in this course	ic Petrology sification, and identification of common igneous and metamorphic rocks. A grade of in order to take GLG 413. Cannot be taken Pass/Not Pass. ours: 1 Lab contact hours: 4 Typically offered: Spring	F "C"
What is changing? Check all boxes that application ☐ Course Code X Credit Hours/Contact Hours	•••	
Reason for Proposed Change or Deletion	·	
geology majors are achieving below the	ea Concentration Achievement Test over the past three years indicate that our graduating ser e national average in some of the traditional areas of sedimentary geology (sedimentology, graphy). Consequently, we are proposing to add a new 3-credit-hour (5-contact-hour) course ents for our Geology major.	
sedimentary petrology (approximately o	red credit hours in the major, we are removing the portion of GLG 333 previously devoted to one fourth of that course) and moving that material to the new Sedimentary Geology course. figneous and metamorphic rocks in GLG 333 while reducing the total credit hours from 4 to 3	
How Did You Determine the Need For Th		
See above.		
Check if this is a non-substantive change. Senate; 600-through 900-level courses: three original	e. Distribution for non-substantive changes of 100- through 500-level courses: two originally-signed copies to Faculty ally-signed copies to Graduate Council. Graduate Council will give two copies to Faculty Senate after approval.	
check all that apply and send to first council/commit	to ART VI, SEC 3B(1-4) of Bylaws of the Faculty. Forward <u>three</u> originally signed forms to <u>one</u> of the following (please ttee marked). If proposal needs to go through more than one council/committee, forward one additional form for eaction 11-93/94 for definitions of substantive/non-substantive changes.	ach
X College Council Professional Education Committee	(All substantive course changes numbered 100-599 must go through College Council first. After approval, College Council will forward appropriate number of copies to the next committee/council directly to the Faculty Senate if no further committee approval is needed. The last level of committee/council will forward two originally signed copies to the Faculty Senate.) (Considers all substantive course changes for Professional Education courses and Teaching Methods courses.)	
Committee on General Education and Intercollegiate Programs	(Considers all substantive course changes for General Education and Intercollegiate Program proposals.)	
Graduate Council Signature Department Head	(Considers all 600-900 level course changes.) Date 3/3/20/5	
	(Routing on Reverse Side) FS Program Change - 10/8/2013	



FS Program Change - 10/8/2013

	-	osai Course Chang	•	
Department <u>Geogra</u>	phy, Geology & Planning	Date	March 3, 2015	
Check one: This is a chang	ge to <u>X</u> an existing CC	URSE		
	an existing RE	GULAR (i.e. permaner	it) SECTION of a vai	riable content course
Present Course Code and I	Number <u>GLG 570</u>	Course Title	Principles of Strat	igraphy
Revised Catalog Description	on (Copy/paste present description	on from online catalog, strik	ethrough all deletions,	and insert/bold new information.)
ancient depositional en study of sedimentary s basin evolution; applic depositional environm concurrently with GLG	and GLG 333 334 . he deposition of sediments hvironments by key indicato	ors and modern analog forcing, cyclicity, eusta Code, practical field m graphic interpretations for both GLG 670 and	gs. Principles and p usy, and tectonic co ethods, observatio s; field trips require GLG 570.	rocedures applied to the introls on stratification and ins and interpretation of id. May be taught
Complete New Catalog Inform	mation			
tectonic controls on str observations and inter required. May be taug	and GLG 334.	tion; application of the nvironments, and sequ 70. Cannot receive cre	Stratigraphic Code ence stratigraphic i dit for both GLG 67	nterpretations; field trips
What is changing? Check all b	oxes that apply.			
□ Course Deletion	□ Course Code	□ Course Number	□ Title	X Prerequisite
X Credit Hours/Contact	t Hours	□ Periodicity	X Description	•
Reason for Proposed Change	or Deletion			
geology majors are achievir sedimentary petrology, clas	ng below the national average	in some of the traditionantly, we are proposing to	al areas of sedimenta	dicate that our graduating senior ry geology (sedimentology, nour (5-contact-hour) course in
classical stratigraphy (appro	eximately one fourth of that c	ourse) and moving that n	naterial to the new Se	G 570/670 previously devoted to edimentary Geology course. This e reducing the total credit hours
How Did You Determine the I	Need For This Change or Dele	tion? See above.		
Check if this is a non-substa Senate; 600- through 900-level course	ntive change. Distribution for non- es: three originally-signed copies to G	substantive changes of 100- thi iraduate Council. Graduate Cou	rough 500-level courses: tv incil will give two copies to	vo originally-signed copies to Faculty Faculty Senate after approval.
Substantive Change: Department rou check all that apply and send to first of additional council/committee market	ouncil/committee marked). If propos	sal needs to go through more ti	nan one council/committe	orms to <u>one</u> of the following (please e, forward one additional form for each
X College Council	College Council will forw Faculty Senate if no furt originally signed copies t	vard appropriate number of her committee approval is r to the Faculty Senate.)	copies to the next com needed. The last level of	e Council first. After approval, mittee/council or directly to the committee/council will forward two
Professional Education Com Committee on General Educ				es and Teaching Methods courses.) ollegiate Program proposals.)
and Intercollegiate Program	•	- 134102 GIGINGES FOR GENER	aaaaaaan ana mitero	and place is to brain brokes and
Graduate Council	(Considers all 600-900 le	vel course changes.)	f	
Signature	1/2 Mate	Date	3/3/20	15
Signature Dep	artment Head			

(Routing on Reverse Side)



FS Program Change - 10/8/2013

Department	Geography,	Geology & Planning	Date _	March 3, 2015	
Check one: This	is a change to	X an existing CO	URSE		
				ent) SECTION of a va	riable content course
Present Course C	ode and Num	ber GLG 670		Principles of Strat	ž.
					and insert/bold new information.)
GLG 670 Prin Recommende Principles un- ancient depo study of sedi basin evoluti depositional concurrently	ciples of Stratical Prerequisited derlying the desitional environmentary successor; application environments with GLG 570.	igraphy : GLG 314 and GLG 33. eposition of sediments; nments by key indicate essions; astronomical for the Stratigraphic Common and sequence stratigraphot common common and sequence credit	3 334environmental cont- ors and modern analogoring, cyclicity, eusi Code, practical field reprication	rol of lithofacies and pogs. Principles and potasy, and tectonic contentions, observations; field trips required GLG 670.	biofacies; recognition of procedures applied to the portrols on stratification and ons and interpretation of ed. May be taught
Credit hours: Complete New Cat		contact hours: 3 2 La	ab contact hours: 2	Typically offered: Fa	all
	ciples of Strati				•
Prerequisite: Principles and tectonic cont observations required. Ma	GLG 314 and G I procedures a rols on stratific and interpreta by be taught co	GLG 334. pplied to the study of scation and basin evolut	cion; application of th ovironments, and seq 70. Cannot receive cr	ie Stratigraphic Code uence stratigraphic i edit for both GLG 57	ercing, cyclicity, eustasy, and e, practical field methods, interpretations; field trips 10 and GLG 670.
What is changing?	Check all boxes	that apply.	• • • • • • • • • • • • • • • • • • • •	•	
□ Course Dele	etion	□ Course Code	☐ Course Number	□ Title	X Prerequisite
X Credit Hour	s/Contact Hou		□ Periodicity	X Description	
Reason for Propos	ed Change or De	eletion			
Results from the geology majors a sedimentary peti	nationally norm re achieving bel ology, classical	ed Area Concentration A ow the national average	in some of the tradition of the tradition	nal areas of sedimenta	dicate that our graduating senior ry geology (sedimentology, hour (5-contact-hour) course in
To partially offse classical stratigra	t the increase in phy (approxima	required credit hours in tely one fourth of that co	the major, we are remourse) and moving that	material to the new So	LG 570/670 previously devoted to edimentary Geology course. This le reducing the total credit hours
How Did You Deter	mine the Need	For This Change or Delet	tion? See above.		
					wo originally-signed copies to Faculty Faculty Senate after approval.
check all that apply and	send to first council		al needs to go through more	than one council/committe	forms to <u>one</u> of the following (please e, forward one additional form for each
X* College Counc	il .	(All substantive course cl	hanges numbered 100-59	9 must go through Colleg	ge Council first. After approval,
		=	ard appropriate number of	•	
*for informati	on only	·	nate if no further commit ly signed copies to the Fac		The last level of committee/council
Professional Edu	cation Committe				es and Teaching Methods courses.)
	eneral Education		_		ollegiate Program proposals.)
and Intercollegia	te Programs				
X_Graduate Coun	cil	(Considers all 600-900 le	vel course changes.)		
Signature	Thomas !	Ch H	Date	3/3/2015	
signature <u>y</u>	Departme	ent Head	Date	11 - 15	· · · · · · · · · · · · · · · · · · ·

(Routing on Reverse Side)



latti gartini kan da					
Department <u>Geography, Geol</u>	ogy & Planning	Dat	e <u>Mar</u>	ch 3, 2015	
Check one: This is a change to X			nent) SECTIO	ON of a variable content	course
Present Course Code and Number _	GRY 300	Course Title	Geogra	ohy of the United States	
Revised Catalog Description (Copy/pa	ste present description f	from online catalog,	strikethrough a	all deletions, and insert/bold no	ew information.
GRY 300 Geography of the Unite Physical and cultural regions of t landforms, climates, natural reso Credit hours: 3 Lecture contac	he United States, inc ources, economic act	tivities, and cultu	iral and poli	tical patterns.	opics include
Complete New Catalog Information					
GRY 300 Geography of the Unite Physical and cultural regions of t landforms, climates, natural reso Credit hours: 3 Lecture contact	he United States, inc ources, economic act	tivities, and cultu	iral and polit	tical patterns.	opics include
What is changing? Check all boxes that	apply.				
□ Course Deletion □ Course Course	de 🗆 Course	e Number 🕠	□ Title	□ Prerequisite	
□ Credit Hours/Contact Hours	X Period	licity	□ Descriptio	n	
Reason for Proposed Change or Deletion	n				
GRY is no longer required in any of it on an "upon demand" only basis	the options in eithe	er the B.A. or B.S.	program in	Geography. Therefore, w	ve are offerir
How Did You Determine the Need For T	nis Change or Deletion	n?			
See above.					
Check if this is a non-substantive change Senate; 600- through 900-level courses: three origin	e. Distribution for non-subs nally-signed copies to Gradi	stantive changes of 100 uate Council. Graduate)- through 500-le Council will give	vel courses: two originally-signed of two copies to Faculty Senate after	copies to Faculty r approval.
Substantive Change: Department routes according check all that apply and send to first council/comm additional council/committee marked. See Senate A	ittee marked). If proposal n	eeds to go through mo	re than one coul	ncil/committee, forward one addit	ollowing (please ional form for eac
X College Council Professional Education Committee	approval, College Co directly to the Facult committee/council w	uncil will forward ap ry Senate if no furthe vill forward two orig	propriate numer committee a inally signed co	st go through College Council f ber of copies to the next comn pproval is needed. The last leve opies to the Faculty Senate.) hal Education courses and Teac	nittee/council o el of
Committee on General Education and Intercollegiate Programs	*	ntive course change	s for General E	ducation and Intercollegiate Pr	ogram
Graduate Council Signature Department Hea	(Considers all 600-90	00 level course chang Date_	ges.) 3/3/	/2015	_
Department Hea	gar (Routing on Re	verse Side)		FS Program Chang	ge - 10/8/2013



Department G	ieography, Geolog	y & Planning	Date	March 3, 20	015
Check one: This is a	change to X	-	i.e. permanent)	SECTION of a	variable content course
Present Course Code	e and Number	iRY 367 Course Title	Research Mo	ethods in Geo	graphy and Planning
Revised Catalog Des	cription (Copy/paste	present description from or	nline catalog, striket	hrough all deleti	ons, and insert/bold new information.)
Prerequisite: MT With emphasis o procedures, colle This course will a	H 340 or AGR 330 in applications of cecting, organizing, also include compu		or REC 328 or SC ial statistics this ing data related ot receive credit	C 302. course will int to geography for both GRY	
Complete New Catalog	g Information				
Prerequisite: MT With emphasis o procedures, colle course will also in	H 340 or AGR 330 n applications of cecting, organizing, nclude computer a	•	or REC 328 or SC ial statistics this ing data related ceive credit for b	course will int to geography oth GRY 367	
What is changing? Che □ Course Deletion □ Credit Hours/Conta	□ Course Code	-		e 🗆 P cription	rerequisite
Reason for Proposed C	hange or Deletion				
methods and planr as separate course course title and cat	ning research meth s, tailored separat calog description fo	nods, we now have the ely for their respective	personnel to tea intended audien	ch GRY 367 a ces. We have	ooth geographic research nd PLN 367 (Planning Methods) already made a change to the d to make the corresponding
How Did You Determin	e the Need For This	Change or Deletion?			
See above.					
					es: two originally-signed copies to Faculty es to Faculty Senate after approval.
check all that apply and send	to first council/committe		go through more than	one council/comr	ned forms to <u>one</u> of the following (please nittee, forward one additional form for each
X College Council			vill forward appropri te if no further com	ate number of c mittee approval	
Professional Education		(Considers all substantive courses.)	ourse changes for P	rofessional Educ	ation courses and Teaching Methods
Committee on Gener and Intercollegiate P		proposals.)	-	eneral Education	and Intercollegiate Program
Graduate Council	1-1/	(Considers all 600-900 leve	l course changes.)	-1-1-	
Signature	Department Head	(Routing on Reverse S	Date	3/3/20/	FS Program Change - 10/8/2013



Department Geography, Geol	ogy & Planning	Date	March 2, 2015	5
Check one: This is a change to X			nt) SECTION of a va	ariable content course
Present Course Code and Number _	GRY 525	Course Title	Environmental Ha	zards
Revised Catalog Description (Copy/pa	ste present descriptio	on from online catalog, strik	ethrough all deletions	, and insert/bold new information.
GRY 525 Environmental Hazards Prerequisite: GRY 142 or both GR Identification, recognition, and in MDCs. Disaster trends and patte database. Statistical methods use Tectonic, mass movement, atmo and mitigation. May be taught of Credit hours: 3 Lecture contact	RY 135 and GLG 11 mpact of hazards. rns. Behavioral ared in risk assessman spheric, hydrologioncurrently with 6	Physical exposure to nd structural paradigm ents. Risk perception, ical, biophysical, and t GRY 625. Cannot recei	ns of hazards. EM-l communication, a echnological hazar ve credit for both (DAT: international disaster and disaster management. ds: analysis, preparedness, GRY 625 and GRY 525.
Complete New Catalog Information				
GRY 525 Environmental Hazards Prerequisite: GRY 142 or both GR Identification, recognition, and in MDCs. Disaster trends and patter database. Statistical methods use Tectonic, mass movement, atmo- and mitigation. May be taught of Credit hours: 3 Lecture contact	Y 135 and GLG 11 appact of hazards. rns. Behavioral ared in risk assessments, hydrologioncurrently with 0	Physical exposure to nd structural paradigm ents. Risk perception, ical, biophysical, and to GRY 625. Cannot recei	ns of hazards. EM-E communication, a echnological hazar ve credit for both (DAT: international disaster and disaster management. ds: analysis, preparedness, GRY 625 and GRY 525.
What is changing? Check all boxes that a	apply.			
☐ Course Deletion ☐ Co☐ Credit Hours/Contact Hours	urse Code	□ Course Number X Periodicity	☐ Title☐ Description	□ Prerequisite
Reason for Proposed Change or Deletion	1		•	
We do not currently have the sta	ff necessary to of	fer this course on a re	gular basis.	
How Did You Determine the Need For T			•	
See above.				
Check if this is a non-substantive change Senate; 600-through 900-level courses: three origin	e. Distribution for non-s nally-signed copies to Gr	ubstantive changes of 100- thr raduate Council. Graduate Cou	rough 500-level courses: t ancil will give two copies t	wo originally-signed copies to Faculty o Faculty Senate after approval.
Substantive Change: Department routes according check all that apply and send to first council/commadditional council/committee marked. See Senate A	ittee marked). If proposi	al needs to go through more th	nan one council/committe	forms to <u>one</u> of the following (please ee, forward one additional form for eac
X College Council				h College Council first. After
	directly to the Fac	Council will forward appro culty Senate if no further co cil will forward two originali	mmittee approval is n	
Professional Education Committee	(Considers all sub			n courses and Teaching Methods
Committee on General Education and Intercollegiate Programs	courses.) (Considers all sub proposals.)	stantive course changes fo	r General Education an	d Intercollegiate Program
Graduate Council	(Considers all 600	-900 level course changes.)	1/	
Signature Department Hea	May te	Date	3/3/20,	15
Department Hea	,	n Réverse Side)	/ /	FS Program Change - 10/8/2013



Department Geography, Geolo	_	Date	March 3, 201	
Check one: This is a change to X	an existing C	OURSE		
and the first term of the control of	_		nent) SECTION of a v	variable content course
Present Course Code and Number	GRY 625	Course Title	<u>Environme</u> ntal H	azards
Revised Catalog Description (Copy/pas	te present descript	ion from online catalog, s	trikethrough all deletior	ns, and insert/bold new information
GRY 625 Environmental Hazards Recommended Prerequisite: GRY Identification, recognition, and im MDCs. Disaster trends and patter database. Statistical methods use Tectonic, mass movement, atmos and mitigation. May be taught co	npact of hazards ns. Behavioral a d in risk assessn pheric, hydrolog ncurrently with	. Physical exposure and structural paradinents. Risk perception gical, biophysical, and GRY 525. Cannot rec	gms of hazards. EMon, communication, diechnological hazaceive credit for both	-DAT: international disaster and disaster management. ards: analysis, preparedness, GRY 525 and GRY 625.
Complete New Catalog Information			, , , , , , , , , , , , , , , , , , , ,	o port domaine
GRY 625 Environmental Hazards Recommended Prerequisite: GRY Identification, recognition, and im MDCs. Disaster trends and patters database. Statistical methods used Tectonic, mass movement, atmos and mitigation. May be taught co Credit hours: 3 Lecture contact	pact of hazards ns. Behavioral a d in risk assessm pheric, hydrolog ncurrently with	. Physical exposure to and structural paradiquents. Risk perception gical, biophysical, and GRY 525. Cannot rec	gms of hazards. EMon, communication, d technological haza ceive credit for both	DAT: international disaster and disaster management. rds: analysis, preparedness, GRY 525 and GRY 625.
What is changing? Check all boxes that a				
☐ Course Deletion ☐ Cou ☐ Credit Hours/Contact Hours	rse Code	□ Course NumberX Periodicity	· □ Title □ Descriptior	□ Prerequisite
Reason for Proposed Change or Deletion				
We do not currently have the staff	f necessary to o	ffer this course on a	regular basis.	
How Did You Determine the Need For Th	is Change or Dele	tion?		
See above.				
Check if this is a non-substantive change. Senate; 600-through 900-level courses: three original	Distribution for non- ally-signed copies to G	substantive changes of 100- iraduate Council. Graduate (through 500-level courses: Council will give two copies	two originally-signed copies to Faculty to Faculty Senate after approval.
Substantive Change: Department routes according to check all that apply and send to first council/committed marked. See Senate According to the council/committed marked.	tee marked). If propo:	sal needs to go through mor	e than one council/commit	d forms to <u>one</u> of the following (please tee, forward one additional form for ea
X* College Council				gh College Council first. After
*For information only	approval, College Council will forward appropriate number of copies to the next committee/council of directly to the Faculty Senate if no further committee approval is needed. The last level of committee/council will forward two originally signed copies to the Faculty Senate.)			
Professional Education Committee	(Considers all sul			on courses and Teaching Methods
Committee on General Education and Intercollegiate Programs	courses.) (Considers all sub proposals.)	ostantive course changes	for General Education a	nd Intercollegiate Program
X Graduate Council	(Considers all 600	0-900 level course change		_
Signature / homes (4)	Vyn Je	Date	3/3/2015	
Department Head		n Reverse Side)	/ /	FS Program Change - 10/8/2013