DOCUMENTS OF THE GENERAL FACULTY

PROPOSED CHANGES TO THE BACHELOR OF SCIENCE IN GEOLOGICAL SCIENCES, OPTION II: GEOPHYSICS IN THE JACKSON SCHOOL OF GEOSCIENCES CHAPTER IN THE UNDERGRADUATE CATALOG 2016-2018

Dean Sharon Mosher in the Jackson School of Geosciences has filed with the secretary of the Faculty Council the following changes to the *Undergraduate Catalog*, 2016-2018. The secretary has classified this proposal as legislation of *exclusive* interest to only one college or school.

The Committee on Undergraduate Degree Program Review recommended approval of the changes on January 6, 2016, and forwarded the proposal to the Office of the General Faculty. The Faculty Council has the authority to approve this legislation on behalf of the General Faculty. The authority to grant final approval on this legislation resides with UT System.

If no objection is filed with the Office of the General Faculty by the date specified below, the legislation will be held to have been approved by the Faculty Council. If an objection is filed within the prescribed period, the legislation will be presented to the Faculty Council at its next meeting. The objection, with reasons, must be signed by a member of the Faculty Council.

To be counted, a protest must be received in the Office of the General Faculty by January 20, 2016.

Hillary Hart, Secretary

General Faculty and Faculty Council

PROPOSED CHANGES TO THE BACHELOR OF SCIENCE IN GEOLOGICAL SCIENCES, OPTION II: GEOPHYSICS IN THE JACKSON SCHOOL OF GEOSCIENCES CHAPTER IN THE UNDERGRADUATE CATALOG 2016-2018

Гуре of Change	✓ Academic Chan ✓ Degree Program	C	form required)		
Proposed classificat	on 🛭 Exclusive	☐ General	☐ Major		
		RECTOR OF AC	CREDITATION	IS YES, THE COL N AND ASSESSME	
 Is this a new 	degree program?			Yes 🗌 No 🖂	
 Does the pro 	gram offer courses t	hat will be taught of	off campus?	Yes 🗌 No 🖂	
 Will courses 	in this program be o	delivered electronic	ally?	Yes 🗌 No 🖂	

2. EXPLAIN CHANGE TO DEGREE PROGRAM AND GIVE A DETAILED RATIONALE FOR EACH INDIVIDUAL CHANGE:

The following proposed changes to the BS Geological Sciences, Option II: Geophysics degree plan are an effort to facilitate students' progress through the University in a four-year STEM field major. It is the opinion of the Geological Sciences faculty that this goal can be addressed by better aligning course sequences across the GeoSci degree plans and increasing flexibility of technical electives requirements so that they would more easily allow students to declare a transcript-recognized minor or build a course concentration within the GeoSci major to prepare them for post-graduate study. Additionally, the proposed changes include revisions to foreign language requirements and unofficial minors to align the GeoSci degree plans with University policies.

Revised Presentation of BS GeoSci, Option II Degree Requirements

Common requirements for all geological sciences degrees are presented earlier in this section. Each degree plan is outlined through a progression of requirements from common to degree-specific.

Replace M 427K with M 427J

In fall 2015, Mathematics 427K *Differential Equations* was replaced by Mathematics 427J *Differential Equations & Linear Algebra*. The BS Geological Sciences, Option II: Geophysics and Option III: Hydrogeology major requirements have been revised to account for this change.

<u>Update Field Experience Course Options</u>

In response to enrollment demand and to diversify field experience courses available to GeoSci students pursuing the degree options in geophysics and hydrogeology, the Jackson School of Geosciences, Department of Geological Sciences has expanded the number of courses that provide for and will satisfy the field experience requirement of a geological sciences degree. Additionally, growth in related degree programs such as the BS, Environmental Science (JSG, CNS, CLA) and BS, Geosystems Engineering and Hydrogeology (JSG+ENGR) have further increased demand for introductory and summer field courses. These courses have been made available to students to satisfy field experience requirements by petition for a few years and therefore are being proposed for addition to the 2016-18 catalog.

Foreign Language Requirement

The current foreign language requirement for the BS GeoSci Option I, II and III degree plans has been incorporated into the degrees new Language or Culture Electives requirement. This new requirement requires 6 semester hours of coursework in a single foreign language or in coursework recognized as a study of cultures on a domestic or global scale. It is the opinion of the Jackson School faculty that the proposed changes address the need for increased flexibility in the degree plan while maintaining an inclusive curriculum.

Standardize Technical Elective Requirement

To increase flexibility within the degree plan in order to accommodate the increasing depth and breadth of geoscience disciplines available to undergraduates and to encourage students to identify a 15-18 hour minor in a field of study outside of the geosciences. The revised BS Technical Elective requirement for BS GeoSci Option I, II and III will now require a) four courses (12 semester hours) from an approved list with no more than two lower-division courses outside of geological sciences. This list will be supplemented by recommended concentrations of geological sciences courses that, together with four recommended technical electives, will guide students who wish to pursue a specific study areas in geological sciences. Course concentrations are expected to better prepare students for independent research opportunities while undergraduates, and to provide improved preparation for graduate study in specific areas of the geological sciences

Example Course Concentration

Area: Marine Geosciences

- Technical Elective courses (4 total, 2 lower-division (maximum))
 - BIO 311C and BIO 311D
 - MNS 352 and MNS 367K
 - Other course options include: upper-division biology, marine science, physics and chemistry
- Concentration Courses (4-6 total; determined by each discipline faculty)
 - GEO 338C Marine Geology
 - GEO 338T Marine Tectonics (writing flag)
 - 348K Marine Field Cruise

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3.	THI	S PROPOSAL INVOLVES (P Courses in other colleges	lease	Courses in proposer's college that are frequently taken by		Flags	
		Course in the core curriculum Change in admission requirements (external or		change in course sequencing for an existing program Requirements not explicit in the catalog language (e.g., lists of	\boxtimes	Courses that have to be added to the inventory	
		internal)		acceptable courses maintained by department office)			
4.	SCC	OPE OF PROPOSED CHANG	E				
		Does this proposal impact other colleges/schools? If yes, then how?				Yes 🗌 No 🖂	
	b.	b. Do you anticipate a net change in the number of students in your college? Yes \subseteq No \subseteq If yes, how many more (or fewer) students do you expect?					
	taking classes in your college? Yes No 🖂				Yes 🗌 No 🖂		
	If yes, please indicate the number of students and/or class seats involved.						
	d. Do you anticipate a net increase (or decrease) in the number of <u>students from your college</u> taking courses in other colleges? Yes \sum No \sum					your college taking Yes □ No ⊠	
		_	r of	students and/or class seats involved.			
If 4 a, b, c, or d was answered with yes, please answer the following questions. If the proposal has potential budgetary impacts for another college/school, such as requiring new sections or a non-							

negligible increase in the number of seats offered, at least one contact must be at the college-level.

How many students do you expect to be impacted?

Impacted schools must be contacted and their response(s) included:

Person communicated with:

Date of communication:

Response: Pending

e. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain:

If yes, undergraduate studies must be informed of the proposed changes and their response included:

Person communicated with:

Date of communication:

Response:

f. Will this proposal change the number of hours required for degree completion? If yes, explain:

5. COLLEGE/SCHOOL APPROVAL PROCESS

Program approval date: May 6, 2015

Dean's Scholars approval date (for changes to Option II): N/A

College approval date: May 6, 2015

PROPOSED NEW CATALOG TEXT:

Option II: Geophysics

- 1. Mathematics 408C and 408D, or 408K, 408L, and 408M; 427K; and 427L. Mathematics 408C or 408K also meets the mathematics requirement of the core curriculum. Algebra courses at the level of Mathematics 301 or the equivalent may not be counted toward the total number of semester hours required for the degree.
- 2.—Physics 301, 101L, 315, 115L, 316, and 116L.
- 3. Chemistry 301 and 302. Together, the courses that meet requirements 2 and 3 also meet parts I and II of the science and technology requirement of the core curriculum.
- 4. Geological Sciences 401 or 303, 416K, 416M, 420K, 325J, 325K, 428, 354, 365P, 465K, 366M, and three additional hours of approved upper division coursework in geological sciences.
- 5. Six semester hours in approved field/research courses. This requirement may be met by several courses, including Geological Sciences 348K, 660, 661, 376L, 679G, and approved off campus geophysics field courses.
- 6. Six semester hours of technical electives chosen from a list of approved coursework in mathematics, physics, computer science, engineering, and related fields. A list of approved courses is available in the Jackson School of Geoscience Student Services Office. Technical elective credit for courses not on the approved list may be requested by petition. These courses will be added to the list after geophysics faculty review and approval.
- 7. Enough additional coursework to make a total of 126 semester hours.
- 1. Mathematics 427J and 427L.
- 2. Physics 315 and 115L.
- 3. Geological Sciences 325J, 325K, 354, 365P, 465K, 366M.
- 4. <u>Six semester hours of approved field and/or research coursework. This requirement may be met by Geological Sciences 348K, 660A/B, 661A/B, 376L, 679G, or an approved off-campus geophysics field or research course. Field/research requirement courses should be completed during the same summer semester.</u>
- 5. Three additional hours of approved upper division coursework in geological sciences.

Suggested Arrangement of Courses

BS Geological Sciences, Option II: Geophysics

First Year			
First Term	Hours	Second Term	Hours
GEO 303	<u>3</u>	PHY 301	<u>3</u>
<u>M 408C</u>	<u>4</u>	PHY 101L	<u>1</u>
<u>CH 301</u>	<u>3</u>	<u>M 408D</u>	<u>4</u>
UGS 302 or 303	<u>3</u>	<u>CH 302</u>	<u>3</u>

RHE 306 Second Year	3 16	E 316 L, M, N or P	3 14
First Term	Hours	Second Term	Hours
GEO 416K		GEO 420K	
GEO 416M	$\frac{4}{4}$ $\frac{3}{1}$ $\frac{1}{4}$	GEO 325J	$\frac{\frac{4}{3}}{\frac{3}{3}}$ $\frac{1}{4}$
PHY 316	<u> </u>	PHY 315	<u>3</u>
PHY 116L	<u>5</u> 1	PHY 115L	<u>5</u> 1
M 427J	$\frac{1}{\Lambda}$	M 427L	$\frac{1}{4}$
<u>IVI 4273</u>	<u> </u>	<u>WI 427L</u>	<u> </u>
Third Year	10		15
First Term	Hours	Second Term	Hours
GEO 325K		GEO 365P	· · · · · · · · · · · · · · · · · · ·
GEO 465K	<u>5</u> 4	Visual/Perform Arts	<u>3</u>
GEO 428	$\begin{array}{r} \frac{3}{4} \\ \frac{4}{3} \end{array}$	Social/Behavioral Sci.	<u>3</u>
Tech Elective	3	Tech Elective	<u>3</u>
Teen Elective	<u>5</u>	Language or Culture	<u>3</u>
	14	<u>Language of Culture</u>	3 3 3 3 3 15
Summer	**		<u> 10</u>
Field/Research Course	6		
TIOTAL TIOSCAL OIL COMPSO	<u>6</u> 6		
Fourth Year	<u>~</u>		
First Term	Hours	Second Term	Hours
GEO 366M		GEO 354	
Language or Culture	3	GEO UDE	$\frac{\overline{3}}{3}$
Tech Elective UD	3	Tech Elective UD	$\frac{\overline{3}}{3}$
GOV 310L	$\frac{3}{3}$ $\frac{3}{3}$ $\frac{3}{3}$	GOV 312L	3 3 3 3 3 15
HIS 315K/L	$\overline{\overline{3}}$	HIS 315K/L	$\overline{3}$
	<u>15</u>		<u>15</u>
Total Credit Hours	126		