Campus Curricula Committee Meeting Agenda

February 25, 2025
8:15am - 9:30am, Parker Hall 203
(For Faculty Senate Meeting of March 20th, 2025)

Review of submitted Course Change forms:

File: 4375 COMP SCI 5602 : Introduction to Cryptography
File: 6176 ELEC ENG 4010 : Senior Seminar
File: 471 MIN ENG 6522 : Mining Property Feasibility Studies And Evaluation Procedure

Review of submitted Program Change forms:

File: 64 GL&GPH-BS : Geology and Geophysics BS
File: 388 INTRCU-CTU : Intercultural Studies CTU
File: 417 PROPOSED : Computational Earth Sciences Minor

New Business:

Voting on General Education Program

Course Change Request

Date Submitted: 12/13/24 2:01 pm

Viewing: COMP SCI 5602 : Introduction to Cryptography

Also listed as: **MATH 5102**

Last approved: 11/20/17 3:28 am

Last edit: 12/13/24 2:01 pm

Changes proposed by: Patrick Taylor (taylorpat)

Programs referencing this course

COMP SCI 5602:

CYBERSE-CT: Cyber Security CT

Requested Effective Date	Fall 2025
Department	Computer Science (RCOMPSCI)
Discipline	Computer Science (COMP SCI)
Course Number	5602
Title	Introduction to Cryptography
Abbreviated Course Title	Intro to Cryptography
Co-Listed Course	MATH 5102
Department	Mathematics & Statistics (RMATHEMA)

Catalog Description

In Workflow

1. **RCOMPSCI Chair**
2. **RMATHEMA Chair**
3. **CCC Secretary**
4. **Engineering DSCC Chair**
5. **Sciences DSCC Chair**
6. **Pending CCC Agenda post**
7. **CCC Meeting Agenda**
8. Campus Curricula Committee Chair
9. FS Meeting Agenda
10. Faculty Senate Chair
11. Registrar
12. CAT entry
13. Peoplesoft

Approval Path

1. 12/13/24 2:02 pm Seung-Jong Park (spxzb): Approved for RCOMPSCI Chair
2. 12/31/24 2:06 pm John Singler (singlerj): Approved for RMATHEMA Chair
3. 01/02/25 8:24 am Jade McCain (jm558v): Approved for CCC Secretary
4. 01/10/25 3:07 pm Kelly Liu (liukh):

Approved for Engineering DSCC Chair
5. 02/03/25 4:16 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
6. 02/10/25 8:41 am Jade McCain (jm558v): Approved for Pending CCC Agenda post

History

1. Nov 20, 2017 by tauritzd

Introduces fundamentals of modern cryptography. Topics include basic number theory, public & private key encryption schemes, cryptographic hash functions, message authentication codes, elliptic curve cryptography, Diffie-Hellman key agreements, digital signatures, PUFs, quantum cryptography, and generation of prime numbers and pseudo-random sequences.

Prerequisite(s):

A grade of "C" or better in COMP SCI 4610, ~~5200~~ or a grade of "C" ~~"B"~~ or better in Math 3109. ~~COMP SCI 2500.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors No

Elective for Majors Yes

Grading Basis	Graded
Repeatable	No

Justification

Dr. CJ Lungstrom and Dr. Patrick Taylor received a curriculum development grant to co-teach this course during the FS25 semester, pending it's being co-listed, with Math-accessible prerequisites.

The addition of math instruction and co-list to course complements the applied cryptography with extra theoretical depth. Further, quantum-resistant cryptographic algorithms are gaining attention. The first-ever widespread use of a quantum-resistant algorithm occurred this year (2024), in web-browser network encryption.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Key: 4375

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 01/29/25 10:49 am

Viewing: ELEC ENG 4010 : Senior Seminar

Last edit: 01/29/25 10:49 am

Changes proposed by: Kelvin Erickson (kte)

Justification for this inactivation request

In Workflow

1. **RELECENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

1. 01/29/25 3:25 pm Jonathan Kimball (kimballjw): Approved for RELECENG Chair
2. 01/29/25 3:29 pm Jade McCain (jm558v): Approved for CCC Secretary
3. 02/10/25 10:48 am Kelly Liu (liukh): Approved for Engineering DSCC Chair
4. 02/10/25 11:21 am Jade McCain

(jm558v): Approved for Pending CCC Agenda post

This course has never been offered and we do not intend to offer. The Elec Eng 4096 course includes whatever topics would be covered in Elec Eng 4010.

Requested Effective Date	Fall 2025
Department	Electrical & Computer Engr (RELECENG)
Discipline	Electrical Engineering (ELEC ENG)
Course Number	4010
Title	Senior Seminar
Abbreviated Course Title	Senior Seminar
Co-Listed Course	

Catalog Description

Discussion of current topics.

Prerequisite(s):

Next to last semester senior.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Recitation/Seminar/Discussion	0.5

Total: 0.5

Required for Majors No

Elective for Majors

Grading Basis Graded or Satisfactory, Non-elective

Repeatable	Yes

Justification

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Key: 6176

Preview Bridge

Course Change Request

Date Submitted: 01/21/25 12:16 pm

Viewing: MIN ENG 6522 : Mining Property Feasibility Studies And Evaluation Procedure

Last approved: 07/31/24 6:04 am

Last edit: 01/21/25 12:16 pm

Changes proposed by: Stephen Casey (caseysc)

Programs referencing this course

MINEPRO-CT: Mining Project Evaluation CT

Requested Effective Date	Spring 2026
Department	Mining and Explosives Engineering (RMINENG)
Discipline	Mining Engineering (MIN ENG)
Course Number	6522
Title	Mining Property Feasibility Studies And Evaluation Procedure
Abbreviated Course Title	Min Prop Feas Stu & Eval
Co-Listed Course	

Catalog Description

In Workflow

1. **RMINENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

1. 02/05/25 1:42 pm Kwame Awuah-Offei (kabp3): Approved for RMINENG Chair
2. 02/06/25 10:16 am Jade McCain (jm558v): Approved for CCC Secretary
3. 02/10/25 10:51 am Kelly Liu (liukh): Approved for Engineering DSCC Chair
4. 02/10/25 11:21 am Jade McCain (jm558v): Approved for Pending CCC

Agenda post

History

1. Apr 28, 2014 by Lahne Black (lahne)
2. Jul 31, 2024 by Julie Parker (juliep)

A systematic phased approach is presented, designed to increase the level of confidence and accuracy of estimates, moving from exploration through to a "bankable" study. Liability, ethics, resource/reserves, political/social/investment risk, economic parameters, and due diligence are discussed.

Prerequisite(s):

Graduate Standing. ~~Min Eng 3512 or Geology 3511 or Min Eng 4742 or Geophys 3251.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
~~Laboratory~~	~~1~~
Lecture	3 ~~2~~

Total: 3

Required for Majors No

Elective for Majors No

Grading Basis Graded

Repeatable No

Justification

Nature and value of the course to the student.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Key: 471

Preview Bridge

Program Change Request

Date Submitted: 12/06/24 11:05 am

Viewing: GL&GPH-BS : Geology and Geophysics BS

Last approved: 09/16/24 3:48 pm

Last edit: 12/10/24 12:05 pm

Changes proposed by: Kelly Liu (liukh)

Catalog Pages Using this Program

Geology and Geophysics

Effective Catalog Edition	FS2025-SP2026
Start Term	Fall 2025
Program Type	Bachelor of Science
Academic Level	Undergraduate
Program Code	GL&GPH-BS
Department	Earth Sciences and Engineering
Discipline	Geology
Title	

In Workflow

1. **RGEOSENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar

Approval Path

1. 12/06/24 9:14 pm Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 12/11/24 9:19 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/31/25 4:03 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 02/10/25 10:48 am Kelly Liu (liukh): Approved for Engineering DSCC Chair
5. 02/10/25 11:21 am

Jade McCain (jm558v): Approved for Pending CCC Agenda post

History

1. May 6, 2014 by Francisca Oboh-Ikuenobe (ikuenobe)
2. Apr 24, 2015 by wronk
3. Mar 27, 2017 by Kelly Liu (liukh)
4. Jun 18, 2018 by Kelly Liu (liukh)
5. Jun 14, 2019 by Sharon Lauck (laucks)
6. Jul 1, 2020 by Sharon Lauck (laucks)
7. Jun 10, 2021 by Sharon Lauck (laucks)
8. Oct 28, 2021 by Katherine Grote (grotekr)
9. Sep 16, 2024 by Crystal Wilson (wilsoncry)

Geology and Geophysics BS

CIP Code 40.0601 - Geology/Earth Science, General.

Program Requirements and Description

Bachelor of Science

Geology and Geophysics

A minimum of 122 ~~of 127~~ credit hours is required for a Bachelor of Science degree in Geology and Geophysics. Students must average at least two grade points per credit hour and must obtain a letter grade of "C" or better in all Geology and Geophysics courses.

The Geology and Geophysics curriculum must include ENGLISH 1120 and ENGLISH 1160 , ECON 1100 or ECON 1200 , either HISTORY 1200 , HISTORY 1300 , HISTORY 1310 or POL SCI 1200 , and nine elective hours in humanities/social sciences. Specific requirements for the bachelor degree program are outlined in the sample program below

Freshman Year

First Semester	Credits	Second Semester	Credits
GEOLOGY 1110 or GEO ENG 1150	3	GEOLOGY 1120[1]	3
ENGLISH 1120	3	GEOLOGY 1129[1]	1
CHEM 1310	4	Elective (Science & Eng)[2]	3
CHEM 1319	1	Humanities/Social Science Elective	3
CHEM 1100	1	MATH 1214 or 1211[3]	4
Humanities/Social Science Elective	3		
	15		14

Sophomore Year

First Semester	Credits	Second Semester	Credits	Summer Semester	Credits
~~GEOLOGY 2610~~	~~4~~	~~GEOLOGY 2620[1]~~	~~4~~	GEOLOGY 2096	3
GEOLOGY 2611	3	GEOLOGY 3410	3		
GEOPHYS 3210	3	ENGLISH 1160 or 3560	3		
MATH 1215[3]	4	ECON 1100 or 1200	3		
COMP SCI 1500 or GEO ENG 3249	3	HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
		ELECTIVE (GEOL & GEOP)[5]	3		
	13		15		3

Junior Year

First Semester	Credits	Second Semester	Credits	Summer Semester	Credits
GEOLOGY 3310	3	GEOLOGY 3620	3	GEOLOGY 4097	3
GEOLOGY 3319	1	GEOLOGY 3629	1		
PHYSICS 1135[4]	4	PHYSICS 2135[4]	4		
STAT 3113, or 3115, or 3117, or GEO ENG 4115	3	Elective (Geo & Geop)[5]	3		
Elective (Geo & Geop)[5]	3	Humanities/Social Sciences Elective	3		

	14		14	3
Senior Year				
First Semester	Credits	Second Semester	Credits	
GEOLOGY 4010	0.5	GEOPHYS 5096	3	
Elective (Science & Eng)[2]	6	Elective (Science & Eng)[2]	9	
Elective (Geo & Geop)[5]	9	Free Elective[6]	3	
		GEOLOGY 4010	.5	
	15.5		15.5	

Total Credits: 122

1

Communications Emphasized (CE) courses

2

All Geology/Geophysics students must complete at least 15 hours of elective course work in science (which may include additional Geology/Geophysics courses), mathematics, and/or engineering, courses required for the basic program. 12 hours of this course work must be numbered 2000 or above.

3

MATH 1208 or MATH 1211 may be substituted for MATH 1214. MATH 1221 may be substituted for MATH 1215.

4

Students may substitute PHYSICS 1111 and PHYSICS 1119 for PHYSICS 1135; PHYSICS 2111 and PHYSICS 2119 for PHYSICS 2135.

5

All Geology and Geophysics students must complete at least 18 hours of elective course work numbered 2000 or above in the Department of Geology and Geophysics, in addition to the required core curriculum.

6

Free elective hours may be taken in any combination of credit hours (1, 2, 3, etc.) and can include any course offerings at the University.

Core Curriculum

Taken by all students in Geology & Geophysics.		
GEOLOGY 1110	Physical and Environmental Geology	3
GEOLOGY 1120	Evolution Of The Earth	3
GEOLOGY 1129	Evolution of the Earth Laboratory [5]	1
~~GEOLOGY 2610~~	~~Mineralogy And Crystallography~~	~~4~~
~~GEOLOGY 2620~~	~~Igneous And Metamorphic Petrology~~	~~4~~
GEOLOGY 2611	Physical Mineralogy And Petrology	3
GEOLOGY 3310	Structural Geology	3

GEOLOGY 3319	Structural Geology Lab	1
GEOLOGY 3410	Introduction To Geochemistry	3
GEOLOGY 3620	Stratigraphy And Sedimentation	3
GEOLOGY 3629	Stratigraphy Lab	1
GEOLOGY 4010	Seminar	0.5
GEOLOGY 2096	Field Geology	3
GEOLOGY 4097	Advanced Field Geology	3
GEOPHYS 3210	Introduction to Geophysics	3
GEOPHYS 5096	Global Tectonics	3
Total Credits		33.5

Geology and Geophysics Focus Areas

Geochemistry

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.

GEOLOGY 3511	Introduction to Mineral Deposits	3
GEOLOGY 4451	Aqueous Geochemistry	3
GEOLOGY 4461	Isotope Geochemistry	3
GEOLOGY 4631	Advanced Igneous and Metamorphic Petrology	4
GEOLOGY 4841	Geological Field Studies	3
GEOLOGY 5611	Granites And Rhyolites	4
GEOLOGY 5671	Clay Mineralogy	3
CER ENG 2110	Atomic Structure Of Crystalline Ceramics	3
CER ENG 3220	Phase Equilibria	3

General Geology

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's

advisor.		
GEOLOGY 3511	Introduction to Mineral Deposits	3
GEOLOGY 4630	Systematic Paleontology	3
GEOLOGY 3811	Fundamentals Of Geographic Information Systems	3
or GEO ENG 3148	Fundamentals Of Geographic Information Systems	
GEOLOGY 4631	Advanced Igneous and Metamorphic Petrology	4
GEOLOGY 4711	Paleoclimatology and Paleoecology	3
GEOLOGY 4841	Geological Field Studies	3
GEOLOGY 5513	Petroleum Geology	3
GEOLOGY 5611	Granites And Rhyolites	4
GEOLOGY 5741	Micropaleontology	3
GEOLOGY 6311	Advanced Structural Geology	3
GEO ENG 3175	Geomorphology And Terrain Analysis	3

Geophysics

Students must choose 1 math and 3 geophysics courses from the list. Students should also choose at least one additional course to be selected from an approved list and with guidance from student's advisor.		
MATH 2222	Calculus III	4
MATH 3304	Elementary Differential Equations	3
MATH 3108	Linear Algebra I	3
MATH 5325	Partial Differential Equations	3
GEOPHYS 4231	Seismic Interpretation	3
GEOPHYS 5202	Exploration and Development Seismology	3
GEOPHYS 5231	Seismic Data Processing	3
GEOPHYS 5261	Computational Geophysics	3
GEOPHYS 5736	Geophysical Field Methods	3
or GEO ENG 5736	Geophysical Field Methods	
GEOLOGY 4310	Remote Sensing Technology	3

Groundwater and Environmental Geochemistry

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
GEOLOGY 4431	Methods Of Karst Hydrogeology	3
GEOLOGY 4451	Aqueous Geochemistry	3
GEOLOGY 4711	Paleoclimatology and Paleoecology	3
GEOPHYS 5782	Environmental and Engineering Geophysics	3
or GEO ENG 5782	Environmental and Engineering Geophysics	
BIO SCI 1173	Introduction to Environmental Sciences	3
ENV ENG 2601	Fundamentals of Environmental Engineering and Science	3
ENV ENG 5640	Environmental Law And Regulations	3
GEO ENG 5237	Geological Aspects Of Hazardous Waste Management	3
GEO ENG 5331	Subsurface Hydrology	3
GEO ENG 5381	Intermediate Subsurface Hydrology And Contaminant Transport Mechs	3

Petroleum Geology

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
GEOLOGY 4630	Systematic Paleontology	3
GEOLOGY 5311	Depositional Systems	3
GEOLOGY 5513	Petroleum Geology	3
GEOLOGY 5661	Advanced Stratigraphy and Basin Evolution	3
GEOLOGY 5741	Micropaleontology	3
GEOPHYS 5202	Exploration and Development Seismology	3
PET ENG 3330	Formation Evaluation	3
GEOLOGY 4310	Remote Sensing Technology	3

Accelerated BS/MS Program Option for Geology and Geophysics Majors

Geology and Geophysics undergraduates in G&G at Missouri S&T may opt to apply for an accelerated BS/MS G&G program where a student can achieve both the BS and MS degrees in G&G faster than if pursuing the degrees separately. The degrees awarded will be a BS & MS (non-thesis or thesis) in Geology and Geophysics.

The benefits for undergraduate students admitted to the program are:

Undergraduate and graduate courses may be chosen with greater flexibility,

Up to nine hours of 5000-level or above G&G coursework may apply to both the BS and MS requirements,

The classes taken for shared BS/MS credit may be taken at the lower undergraduate tuition rate,

The GRE is not required for admission,

Other graduate courses can be taken any time after entering the program as a dual enrolled student,

Work on a thesis project may begin before the BS requirements are completed.

To be eligible for the accelerated BS/MS G&G program, a G&G undergraduate must be at or beyond the junior level standing with a minimum of 48 credit hours. They must have successfully completed the Chemistry and Math requirements and have completed 21 credit hours of G&G courses at Missouri S&T with at least a 3.2 GPA in the G&G courses. To be admitted, the student must complete the program application and non-thesis MS students must have the recommendation of a G&G faculty member, while thesis MS students must have the recommendation of a G&G faculty member who agrees to serve as the graduate thesis advisor. All other MS degree requirements remain the same. The program may be combined with existing honors research, emphasis areas, and certificate options.

The Accelerated Program application must be completed within one semester after shared-credit courses are completed. Courses taken for shared credit will be identified on the application form. These courses will also be listed on the student's Graduate Form 1 to be submitted after the student enters the graduate program. The nine hours of shared-credit coursework, to be taken as undergraduate credit, must be approved by the academic advisor, and may not be undergraduate research, special problems, or transfer courses. An additional six credit hours of coursework for graduate credit (beyond the shared BS/MS credits) can be taken while in the undergraduate program by applying for dual undergraduate/graduate enrollment. Taking additional courses for graduate credit as a dual enrolled student will require formal application to the graduate program. Upon application, acceptance to the G&G MS degree from the Accelerated Program is automatic so long as the student remains in good standing (GPA above 3.0 and B's or better in all graduate courses) within the program. To remain in the Accelerated Program, the student must maintain good standing within the undergraduate G&G program and must maintain continuous enrollment at Missouri S&T. If the student exits the program before completion of the MS degree requirements, or fails to maintain continuous enrollment at Missouri S&T, the shared-credit courses may not apply toward graduate requirements in the event of future readmission.

It is the student's responsibility to check on how dual-enrollment status and graduate coursework affects scholarships and other financial aid. As a graduate student, you **are not** eligible for Federal Pell Grants. You are still eligible for Federal Financial Aid. You may be eligible for fellowships and teaching/research assistantships. It is the International student's responsibility to check with international affairs during completion of an accelerated

BS/MS to ensure immigration status will be maintained throughout the program.

Justification for request

To align our curriculum more closely with evolving national trends in Earth Sciences.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Jade McCain (jm558v) (12/10/24 11:54 am): Removed Geology 2610 and Geology 2620 as required courses per department request on 12/10 via email.

Jade McCain (jm558v) (12/10/24 12:05 pm): Added Geology 2611 as a required course per department request on 12/10 via email.

Program Change Request

Date Submitted: 01/30/25 3:02 pm

Viewing: INTRCU-CTU : Intercultural Studies CTU

Last approved: 08/04/22 2:00 pm

Last edit: 01/31/25 2:02 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Multidisciplinary Studies

Effective Catalog Edition	FS2025-SP2026
Start Term	Fall 2025
Program Type	Certificate
Academic Level	Undergraduate
Program Code	INTRCU-CTU
Department	Arts, Languages & Philosophy
Discipline	Arts, Languages and Philosophy
Title	

In Workflow

1. **RPHILOSO Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar

Approval Path

1. 01/30/25 3:05 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 01/31/25 1:46 pm Jade McCain (jm558v): Approved for CCC Secretary
3. 01/31/25 2:56 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 02/10/25 8:41 am Jade McCain (jm558v): Approved for Pending CCC Agenda post

History

1. May 2, 2022 by Monica Kasza (msp7h)
2. Jun 17, 2022 by Crystal Wilson (wilsoncry)
3. Aug 4, 2022 by Evie Sherlock (esdk3)

Intercultural Studies CTU

CIP Code

Intended Audience

Main Campus Students

Program Requirements and Description

Intercultural Studies Certificate

This certificate program is for students from any major who wish to expand their knowledge of intercultural issues from a multidisciplinary perspective, and develop the knowledge, skills and aptitudes necessary to work successfully in today's global and interconnected world. Students select four courses from an approved list in consultation with their certificate advisor. Many of the courses also fulfill requirements for degree programs. Students must meet regular Missouri S&T undergraduate admission requirements.

Certificate Requirements

Choose one:

HISTORY 1200	Modern Western Civilization	3
ENGLISH 1212	British Literature II 1800 To Present	3

Choose three additional courses:

SP&M S 3235	Intercultural Communication	3
PSYCH 4992	Cross-Cultural Psychology	3
HISTORY 2110	World Regional Geography	3
HISTORY 2220	Making Of Modern Britain	3
HISTORY 2221	Making of Modern Germany	3

HISTORY 2222	The Making Of Modern France	3
HISTORY 2224	Making Of Modern Russia	3
HISTORY 3240	Contemporary Europe	3
HISTORY 3660	Modern East Asia	3
POL SCI 2500	International Relations	3
POL SCI 4500	Geopolitics and International Security	3
POL SCI 4510	The Politics of the Global South	3
ENGLISH 2002	Critical Approaches To Literature	3
ENGLISH 3219	The British Novel II	3
ENGLISH 3233	Contemporary British Literature	3
ENGLISH 3304	Language in Society	3
TCH COM 4450	International Dimensions of Technical Communication	3
ECON 4642	Introduction to Global Eco- and Social-preneurship and Innovation	3
ECON 4643	Ethical Problems in a Global Environment	3
RUSSIAN 4360	Russian Civilization	3
MUSIC 1150	Music Appreciation: Music of Latin America	3

Justification for request

Expand curricular options for students across additional disciplines

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Jade McCain (jm558v) (01/31/25 2:02 pm): Received confirmation from the Provost's Office on 1/31 that these changes are considered minor.

Key: 388

Program Change Request

New Program Proposal

Date Submitted: 12/10/24 3:29 pm

Viewing: **PROPOSED : Computational Earth Sciences Minor**

Last edit: 12/19/24 8:52 am

Changes proposed by: Kelly Liu (liukh)

Effective Catalog Edition	FS2025-SP2026
Start Term	Fall 2025
Program Type	Minor
Academic Level	Undergraduate
Program Code	PROPOSED
Department	Earth Sciences and Engineering
Discipline	Geology
Title	

In Workflow

1. **RGEOSENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar

Approval Path

1. 12/09/24 10:49 pm Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 12/10/24 10:14 am Jade McCain (jm558v): Rollback to Initiator
3. 12/10/24 3:32 pm Stephen Gao (sgao): Approved for RGEOSENG Chair
4. 12/11/24 9:23 am Jade McCain (jm558v): Approved for CCC Secretary
5. 01/02/25 6:00 pm Katie Shannon (shannonk):

Approved for Sciences DSCC Chair
6. 01/10/25 3:08 pm Kelly Liu (liukh): Approved for Engineering DSCC Chair
7. 02/10/25 8:42 am Jade McCain (jm558v): Approved for Pending CCC Agenda post

Computational Earth Sciences Minor

CIP Code 40.0601 - Geology/Earth Science, General.

Program Requirements and Description

The minor will consist of 18 hours of course work and must include COMP SCI 1500, COMP SCI 1570, COMP SCI 1575, GEO ENG 1150 or GEOLOGY 1110, and GEO ENG 3148 or GEOLOGY 3811.
An additional three hours of coursework can be selected from a geology, geophysics, or geological engineering related course, subject to approval by the Geology and Geophysics program. Approved coursework includes:

GEO ENG 4321	Drone Mapping and Photogrammetry	3
GEO ENG 5144	Remote Sensing Technology	3
GEOPHYS 3210	Introduction to Geophysics	3
GEOPHYS 5261	Computational Geophysics	3
GEOLOGY 3310 & GEOLOGY 3319	Structural Geology and Structural Geology Lab	4
GEOLOGY 3410	Introduction To Geochemistry	3
GEOLOGY 4831	Computational Geology	3
GEOLOGY 5513	Petroleum Geology	3

Justification for request

To equip students with the computational and data analysis skills essential for addressing complex challenges in Earth sciences, and to equip interested students in computer science for future work in Earth-related computer science applications.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Jade McCain (jm558v) (12/10/24 10:14 am): Rollback: Rollback per format needs to be corrected.

Jade McCain (jm558v) (12/19/24 8:52 am): Changed program code to state "PROPOSED" and added Minor at the end of the title for consistency.

Key: 417

Catalog language for new General Education Requirements

General Education Credit Hour Requirements

Foundational Goals – (31 credit hours total, distributed in the following areas)

Mathematical Science (3 credit hours) Choose from Math 1120, 1140, and Math 1210 or higher course number.

Natural Sciences (7 credit hours including a minimum 1 credit hour of lab) Choose from at least two specific disciplines: Biology 1113 or higher, Chemistry 1301 or higher, Geology 1110 or higher, Physics 1111 or higher.

Communications (6 credit hours) English 1120 [(a)] and choose one course from ENGL 1160, ENGL 3560, or Speech & Media 1185.

Humanities, Arts, and Social Sciences (15 credit hours) Choose courses from History, Art, Music, Theater, English and Technical Communication, Philosophy, Political Science, Psychology, Economics, Etymology, or Foreign Languages

- 6 credits in the Humanities and Fine Arts, selected from two specific disciplines: History 1300*, 1310*, Art 1150, Music 1150, Theater 1150, and English 1211, 1212, 1221, 1222, and 1231 (or Non-prerequisite Literature).

- 6 credits in the Behavioral and Social Sciences, selected from two specific disciplines: History 1100, 1200*, 2110, Philosophy 1105, 1115, Political Science 1200*, Psychology 1101, Econ 1100 or 1200, Foreign Languages 1101, 1102, and 1180.

- 3 additional credits from any of these Humanities, Art, and Social Sciences disciplines

* Fulfills Williams Law

All other Bachelor of Arts, Bachelor of Science, and Engineering degree requirements, Major Field Requirements, Experiential Learning Requirements, and Missouri Higher Education Civics Achievement Examination requirement, as currently outlined in the catalog, remain the same.