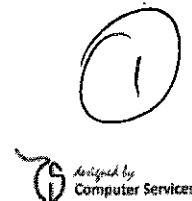


**Missouri State.**

## Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - Change Program Proposal Form

### Change Program Proposal Form

Submitted on 03/14/2016 by G Schick ([AlanSchick@MissouriState.edu](mailto:AlanSchick@MissouriState.edu)).

Department:

Chemistry

Type of Program

Choose One:

- Major (Non-Comprehensive/Graduate Program)
- Minor
- Academic Rules
- Comprehensive Major
- Certificate
- Other
- Option
- Certification

Title of Program Affected:

Chemistry-MS

Current Catalog Description: (Either cut and paste present description from online catalog OR provide as an attachment below)

Chemistry Program  
 Graduate programs  
 Master of Science, Chemistry  
 G. Alan Schick, Graduate Director  
 Temple Hall, Room 425, Phone 417-836-5506  
 AlanSchick@missouristate.edu



#### Program description

This program is designed to prepare students to work in industrial or governmental chemistry laboratories, or to pursue doctoral studies in chemistry.

#### Program objectives

Development of a sound knowledge of chemical principles, acquisition of outstanding research and communication skills, and attainment of an understanding and appreciation of applied chemistry and the importance of multidisciplinary approaches to the solution of scientific problems.

Areas of specialization include analytical chemistry, biochemistry, chemical education, environmental chemistry, inorganic chemistry, materials chemistry (including polymer chemistry and nanotechnology), organic chemistry, and physical chemistry.

Formal courses, graduate seminars, professional advisement, directed research, and a master's thesis will be incorporated into a customized curriculum based on the individual's scholastic background and career goals. On completion of the program, the student will have developed the skills needed for a career in chemical production, development, or research.

#### Entrance requirements

Students admitted to the graduate chemistry program in full standing must meet the following requirements:

A bachelor's degree from an accredited institution in the U.S. or equivalent training in a foreign university.

A minimum overall GPA of 3.00 on a 4.00 scale, or a minimum GPA of 3.00 on a 4.00 scale for the last 60 hours of course work.

Scores from the verbal and quantitative sections of the Graduate Record Examination. Normally, students are expected to score at or above the 50th percentile on each section of the GRE and to have an overall college GPA of at least 3.00.

International applicants from countries not recognizing English as the primary official language are additionally required to submit a score for the Test of English as a Foreign Language (TOEFL) of not less than 550 (paper-based), 213

(computer-based), or 79 (Internet-based) and with a minimum of 50th percentile on the Listening Comprehension Section.

A minimum undergraduate background in chemistry consisting of two semesters of general chemistry, two semesters of organic chemistry, one semester of analytical chemistry, and one semester of inorganic chemistry with grades of "C" or better in each course and an overall GPA of not less than 3.00.

Applicants lacking the background courses described in item five above may be admitted, but will be required to rectify any of these deficiencies with appropriate course work. These leveling courses will not apply toward the master's degree.

Students who do not meet the grade point standards outlined above may be granted conditional admission to the program. As conditions of admission, students will be required to complete a minimum of 9 hours of specified graduate

Not Attached

**Complete New Catalog Description:** (Either provide the revised description in the text area below [strikethrough all deletions and insert/bold new information - any content that is copied and pasted will lose existing formatting; please review prior to submission] OR provide as an attachment below)

← → B I S

The attached file is an MS Word document with "Track Changes" turned on. In the Review tab, select "All Markup" to see corrections as described in this section. Select "Simple Markup" or "No Markup" to see the new proposed description in its final form. Note: Some of the numbers in requirement lists appear to be out of place in the "All Markup" view for some reason, but they appear properly in "Simple Markup" or "No Markup".

1

Attached

What is changing? Check all boxes that apply:

- Title change
- From option to program (major)
- Other
- Course changes of under 18 hours
- From program (major) to option
- Course changes of 18 hours or more

Reason for Proposed Change:

Periodic review and update of catalog description, along with additional new or altered program requirements.

What is the date that this new program was approved by departmental or program faculty? (MM/DD/YYYY)

03/01/2016

Current Status:

Grad Council Review

Proposal Progress:

03/14/2016 - Submitted by Department Head (Bryan Breyfogle)

03/14/2016 - Reviewed by Dean (Tamera Jahnke)

Review Comments:

03/14/2016 - Department Head Review - Bryan Breyfogle - Edit: Change the period after ((including polymer chemistry and nanotechnology). to a comma as this is part of a series, not the end of a sentence.



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**Missouri State**

**Curricular Action Workflow**



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - New Course Proposal Form

**New Course Proposal Form**

Submitted on 03/22/2016 by Gary Michelfelder ([GaryMichelfelder@MissouriState.edu](mailto:GaryMichelfelder@MissouriState.edu)).

\*All fields require input

New COURSE

New REGULAR PERMANENT SECTION of an existing variable content course. If a new regular section of an existing variable topics course, enter the existing course number below

Course Code:  Course Number: (Check Availability)

Course Title:

Will this proposal need to be reviewed by CGEIP?  No  Yes

Will this proposal need to be reviewed by EPPC?  No  Yes

Prerequisite/Co-requisite or enter 'None':

General Course Description: (Include any Pass/Not Pass grading restrictions, repeatable limits, limitation on course applicability, UG/GR parallel course, etc.)

Systematic discussion of volcanic phenomena, including types of eruptions, generation and emplacement of magmas, products of volcanism, volcanic impact on humans, and the monitoring and forecasting of volcanic events. Case studies of individual volcanoes illustrate principles of volcanology, with a particular emphasis on Hawaiian, Andean, Icelandic and Cascade volcanism. 3 (2-2).

Credit Hours:  Lecture Contact Hours:  Lab Contact Hours:

Note: If variable credit, enter the highest number and add to end of course description. (e.g. "Variable credit, may be taken 1-3 hours.")

Periodicity. Check all that apply.

Fall  Fall (even-numbered years only)  Fall (odd-numbered years only)

- Spring
- Spring (even-numbered years only)
- Spring (odd-numbered years only)
- Summer
- On Demand only

2

**Complete Catalog Description:**

GLG 355 Volcanology

Prerequisite: GLG 110 or GLG 171 and GLG 172

Systematic discussion of volcanic phenomena, including types of eruptions, generation and emplacement of magmas, products of volcanism, volcanic impact on humans, and the monitoring and forecasting of volcanic events. Case studies of individual volcanoes illustrate principles of volcanology, with a particular emphasis on Hawaiian, Andean, Icelandic and Cascade volcanism. 3 (2-2).

Credit hours: 3 Lecture contact hours: 2 Lab contact hours: 2

Typically offered: Spring (odd-numbered years only)

Include sample syllabus (list topics, course goals.) Use text box OR upload only file types of PDF, DOC or DOCX.

Attached

**Purpose of Course**

1. To provide students with an introduction to the science of Volcanology with particular reference to hazard assessment and risk communications.
2. The course will fit into the University's and the departments desire to build its expertise in environmental sustainability, specifically in

**Relationship to Other Departments**

This course may be of interest to students in Anthropology and Archaeology since this course will discuss human (hazards and risk communication) interaction with volcanic landscapes.

Is there a graduate/undergraduate parallel course to this one?  No  Yes

**New Course Resource Information**

Anticipated Average Enrollment per section:	30	Maximum Enrollment Limit per section:	30
Anticipated Average Enrollment per semester:	30	Maximum Enrollment Limit per semester:	30
Anticipated Average Enrollment per year:	30	Maximum Enrollment Limit per year:	30
Faculty Load Assignment (equated hours):	4		

Is another course being deleted?  No  Yes

What will this course require in the way of:

Additional Library Holdings

None

Additional computer resources

2

None

Additional or remodeled facilities

None

Additional equipment or supplies

None

Additional travel funds

None

Additional faculty; general vs specialized

None

Additional faculty; regular vs per-course

None

Other additional expenses

None

If additional faculty are not required, how will faculty be made available to teach this course?

Course to be offered by recent faculty hire. Course will alternate with GLG 318, Physical Oceanography.

List names of current faculty qualified and available to teach this course

Michelfelder, Gary S.

What is the anticipated source of students for this course?

GGP department Majors and Minors. Additional students could include education and anthropology majors.

If from within the department, will students be taking this course in addition to or in place of other courses?

This course will be offered as an elective course for Geology Majors and minors. Targeted population of students are students who have completed GLG 110 but do not have the prerequisites for further course work. This course will fill the elective requirement for Geology Comprehensive and Non-Comprehensive majors and will fulfill the requirements towards a geology minor.

If from outside the department, which courses in other departments would most likely be affected?

Anticipated number of students from outside the department is minimal.

Other comments:

This is the faculty member (Gary Michelfelder) area of research specialty.

What is the date that this new course was approved by departmental or program faculty? (MM/DD/YYYY)

10/01/2015

Current Status:

Department Head Review

**Proposal Progress:**

This proposal is waiting for its first review.

2

**Review Comments:**

No comments have been added to this proposal.



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2

**COURSE POLICY STATEMENT – SPRING SEMESTER 2015**

**VOLCANOLOGY  
GLG 397**

**DEPARTMENT OF GEOGRAPHY,  
GEOLOGY, AND PLANNING**

Section 1: Mon and Wed: 3:30 to 4:45 pm

Instructor: Gary Michelfelder

Credit Hours: 3

Office: Temple 369

Classroom: Temple 335

Phone: 836-3137

**E-mail:** [Garymichelfelder@missouristate.edu](mailto:Garymichelfelder@missouristate.edu)

**Office Hours:** T, R: 1:00 pm- 2:30 pm; W: 1:00- 3:00 pm; OR *by appointment*

**Course Description:**

The course involves a systematic discussion of volcanic phenomena, including types of eruptions, generation and emplacement of magmas, products of volcanism, volcanic impact on humans, and the monitoring and forecasting of volcanic events. Case studies of individual volcanoes illustrate principles of volcanology, with a particular emphasis on Hawaiian, Andean, Icelandic and Cascade volcanism. Credit hours: 3.

**Required Textbooks:**

**Fundamentals of Physical Volcanology (2008)**-by E.A. Parfitt and L. Wilson, Blackwell Publishing- Available in the Bookstore

**Volcanic Successions: Modern and Ancient** by R.A.F. Cas and J.V. Wright (Mar 31, 1987)-  
**ON Blackboard**

**Volcano Cowboys**, (2000) by D.Thompson; St Martin's Press (ISBN: 978-0-312-20881-3)- You should purchase this book on your own (MSU Bookstore special order; Amazon, etc.) Please begin reading the book **no later than Week 5** of the semester and plan to finish no later than **Week 16** (however, the earlier you finish the book, the better your perspective on the course materials will be). Thompson provides a perspective on developments in the profession of forecasting volcanic eruptions during the late 20<sup>th</sup> Century and is a very good read.

**Recommended Textbook:**

**We will use several other texts throughout the semester although none are required for purchase. These books are available on reserve at the library:**

**Volcanism** by Hans-Ulrich Schmincke (Oct 10, 2005)

**Modeling Volcanic Processes: The Physics and Mathematics of Volcanism** by

Sarah A. Fagents, Tracy K. P. Gregg and Rosaly M. C. Lopes (Apr 22, 2013)

**Volcanoes: Global Perspectives** by John P. Lockwood and Richard W. Hazlett (May 17, 2010)

**Volcanoes: A Planetary Perspective** by Peter Francis (Jul 29, 1993)

**COURSE DETAILS**

**Blackboard:**

I plan to use Blackboard for this class to communicate information, other recommended or required readings and updates – please become familiar with Blackboard to see these important updates.



**Course Grading:**

**Grades in the course will be earned as follows:** Exams: 25% ea.; Coursework: 50% (see breakdown below)

**Grading Scale:** 100-93--A; 92.9-90--A-; 9.9-87-- B+; 87-83--B; 82.9-80-- B-; 79.9-77-- C+; 76.9-73--C; 72.9-70-- C-; 69.9-67-- D+; 67.9-63-- D; 6.29-60-- D; 59.9-0-- F

**Exams**

The each exam will consist of 25% of the overall grade. Format will consist of short answer and essay questions. Making up exams will be determined on a case by case basis. Please discuss any issues with exam times or if special accommodations are required with the instructor as far in advance as possible. Exam dates are set and will not change.

**Coursework**

In-clas assignment.....	30%
Class participation .....	20%

**Expectations:**

Just as students expect instructors to arrive prepared and organized for each class meeting period, we also expect each student to attend every class prepared. Thus, we insist that students keep up the reading assignments from the textbook and review the laboratory materials before each class. We also expect students to seek help when they do not understand the material in both the lab and lecture sections. This can occur during class time, office hours or by appointment. We will do our best to seek out and help students experiencing difficulties with the course. However, **it is expected that students will also take personal responsibility for their own education and learning** by asking for help or clarification from the instructor when necessary.

**Drop Policy:** It is your responsibility to understand the University's procedure for dropping a class. If you stop attending this class but do not follow proper procedure for dropping the class, you will receive a failing grade and will also be financially obligated to pay for the class. For information about dropping a class or withdrawing from the university, contact the Office of the Registrar at 836-5520.

**Attendance, Absence, and Tardiness Policies**

Sometimes illnesses or family emergencies crop up, and there is no possible way to avoid being absent. Please let me know in advance if you will not be attending. By itself, attendance is not directly counted in your grade. However, because this class only meets once per week, absence will mean you miss an entire week's worth of material, and it is the student's responsibility to make-up the missed material. I do take attendance into account for borderline grade boundaries when creating final letter grades for the course.

Tardiness disrupts the class, as does leaving early. This class meets from 9:40-11:30 am; please be prepared for class, attend on time, and stay for the full duration. Attendance may be taken at any time during the class; absence at any point may be considered absence for that entire class period (excepting excused illness and participation in university-sponsored events where you have notified me *in advance*).

**Safety:** Your personal safety is important.

**Escorts:** Safety personnel are available to escort students, faculty, or staff to or from any place on campus after dark. Escorts are available upon request by calling 836-5509.

**Shuttles:** MSU operates a shuttle bus service for use by students, faculty, staff, and guests. The shuttle makes stops at locations convenient to campus facilities and the downtown city bus terminal. No fares are charged during scheduled operating hours. Shuttles are accessible to persons with disabilities.

**Telephones:** Free campus telephones, shuttle stop emergency phones and elevator emergency phones are available at numerous locations on campus to provide quick-call capability should you have an emergency.

**Class Disruptions:** In a class this size it is easy for one person to disrupt a large number of people. Examples of disruption are cellular phones (please set them to silent or turn them off), excessive talking or joking during lecture, or consistently arriving late for lecture or leaving before the class is over. If I don't see a disturbance, the people being bothered should let me know (either during or after the lecture) and I will see to it that the offender stops his or her disturbance.

**Drop Policy:** It is your responsibility to understand the University's procedure for dropping a class. If you stop attending this class but do not follow proper procedure for dropping the class, you will receive a failing grade and will also be financially obligated to pay for the class. For information about dropping a class or withdrawing from the university, contact the Office of the Registrar at 836-5520.

**Use of Cell Phones, Pagers, and Text-Messaging Devices in Classes:** As a member of the learning community, each student has a responsibility to other students who are members of the community. When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class. Therefore, the Office of the Provost prohibits the use by students of cell phones, pagers, PDAs, or similar communication devices during scheduled classes. All such devices must be turned off or put in a silent (vibrate) mode and ordinarily should not be taken out during class. Given the fact that these same communication devices are an integral part of the University's emergency notification system, an exception to this policy would occur when numerous devices activate simultaneously. When this occurs, students may consult their devices to determine if a university emergency exists. If that is not the case, the devices should be immediately returned to silent mode and put away. Other exceptions to this policy may be granted at the discretion of the instructor.

**Nondiscrimination:** 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 Institutional Equity and Compliance, Park Central Office Building, 117 Park Central Square, Suite 111, (417) 836-4252. Other types of concerns (i.e., concerns of an academic nature) should be discussed directly with your instructor and can also be brought to the attention of your instructor's Department Head. Please visit the OED website at [www.missouristate.edu/equity/](http://www.missouristate.edu/equity/).

**Accommodating Students:** To request academic accommodations for a disability, contact the Director of the Disability Resource Center, Plaster Student Union, Suite 405, (417) 836-4192 or (417) 836-6792 (TTY), [www.missouristate.edu/disability](http://www.missouristate.edu/disability). Students are required to provide documentation of disability to the Disability Resource Center prior to receiving accommodations. The Disability Resource Center 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) 836-4787, <http://psychology.missouristate.edu/lde>.

**Emergency Response:** Students who require assistance during an emergency evacuation must discuss their needs with their professors and the Disability Resource Center. If you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. For

2

additional information students should contact the Disability Resource Center, 836-4192 (PSU 405), or Donald Clark, Director of Safety and Transportation, at 836-8870.

For further information on Missouri State University's Emergency Response Plan, please refer to the following web site:

<http://www.missouristate.edu/safetran/erp.htm>.

**Academic Integrity:** Missouri State University is a community of scholars committed to developing educated persons who accept the responsibility to practice personal and academic integrity. You are responsible for knowing and following the university's student honor code, Student Academic Integrity Policies and Procedures and also available at the Reserves Desk in Meyer Library. Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.

**Emergency Response:** At the first class meeting, students should become familiar with a basic emergency response plan through a dialogue with the instructor that includes a review and awareness of exits specific to the classroom and the location of evacuation centers for the building. All instructors are provided this information specific to their classroom and/or lab assignments in an e-mail prior to the beginning of the fall semester from the Office of the Provost and Safety and Transportation. Students with disabilities impacting mobility should discuss the approved accommodations for emergency situations and additional options when applicable with the instructor. For more information go to <http://www.missouristate.edu/safetran/51597.htm> and <http://www.missouristate.edu/safetran/erp.htm>

(2)

**COURSE SCHEDULE:**

<b><u>Week</u></b>	<b><u>Monday</u></b>	<b><u>Wednesday</u></b>
Week 1 Jan 12/14	Intro to the course, volcanism and tectonism, products and some classification <b>Reading: P&amp;W Ch. 1</b>	Review of magma physical and chemical properties <b>Reading: P&amp;W Ch. 2; C&amp;W: Ch. 2</b>
Week 2 Jan 19/21	<b>NO CLASS- MLK DAY</b>	Volcanic Hazards and Monitoring <b>Reading: P&amp;W Ch. 11</b>
Week 3 Jan 26/28	Volcanic Hazards and Monitoring	Forecasting volcanic events
Week 4 Feb 2/4	Physical Volcanology Hazards and Mitigation Scenario	Mafic Volcanic Products <b>Reading: C&amp;W: 371-383</b>
Week 5 Feb 9/11	Intermediate Volcanic Products	Magma Vesiculation, fragmentation, and eruption mechanisms <b>Reading: C&amp;W: 34-42</b>
Week 6 Feb 16/18	<b>NO CLASS- PRESIDENTS DAY</b>	Magma Vesiculation, fragmentation, and eruption mechanisms cont.
Week 7 Feb 23/25	Effusive Silicic products; Lava flows: sizes, forms, structures, surface internal features <b>Reading: P&amp;W Ch. 9</b>	Lava flows cont.,
Week 8 Mar 2/4	Lava Flows cont.	<b>Exam</b>
<b>Week 9 Mar 9/11</b>	<b>SPRING BREAK</b>	<b>NO CLASS</b>
Week 10 Mar 16/18	Pyroclastic deposits <b>Reading: C&amp;W: 349-362; P&amp;W: Ch. 8</b>	Pyroclastic deposits cont.
Week 11 Mar 23/25	Pyroclastic Fallout deposits	Pyroclastic Flow deposits <b>Reading: C&amp;W p. 105-114; 177-197</b>
Week 12 Mar 30/ Apr 1	Pyroclastic Surge deposits	Large volcanic landforms: shield volcanoes <b>Reading: C&amp;W: 363-369</b>
Week 13 Apr 6/8	Large volcanic landforms: composite volcanoes <b>Reading: C&amp;W: 382-395</b>	Large volcanic landforms: composite volcanoes cont.
Week 14 Apr 13/15	Large volcanic landforms: calderas <b>Reading: C&amp;W: 223-237; 395-403</b>	<b>Experimental Volcanology</b> <b>Reading: P&amp;W Ch. 10</b>
Week 15 Apr 20/22	Case study 1: The 79 AD eruption of Mt Vesuvius	Case study 2: May 1902 Eruption of Mt Pelée
Week 16 Apr 27/29	Case Study 3: 1980 Eruption of Mt St Helens <b>Reading: Schmincke p. 166-171; Volcano Cowboys up to page 170</b>	Case Study 4: 1991 Eruption of Mt Pinatubo <b>Reading: Finish Volcano Cowboys; Schmincke p. 253-255</b>
Week 17 May 4/6	Case Study 5: Yellowstone Caldera	Group Discussion Society and volcanic eruptions (attendance and participation is required).
<b>Finals Week</b>	<b>Final Exam</b>	<b>Monday May 11<sup>th</sup>, 3:30-5:30 pm</b>

Missouri State



Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - New Course Proposal Form

New Course Proposal Form

Submitted on 03/22/2016 by Gary Michelfelder (GaryMichelfelder@MissouriState.edu).

\*All fields require input

New COURSE

New REGULAR PERMANENT SECTION of an existing variable content course. If a new regular section of an existing variable topics course, enter the existing course number below

Course Code:

Course Number: (Check Availability)

GLG

715

Course Title:

Trace Element and Isotope Geology

Will this proposal need to be reviewed by CGEIP?  No  Yes

Will this proposal need to be reviewed by EPPC?  No  Yes

Prerequisite/Co-requisite or enter 'None':

Graduate Standing

General Course Description: (Include any Pass/Not Pass grading restrictions, repeatable limits, limitation on course applicability, UG/GR parallel course, etc.)

Topics include the application of radiogenic, radioactive and stable isotopes to the processes and timescales relevant to the formation of the planet and solar system, the evolution of the Earth system and interactions in the hydrosphere and biosphere. Course consists of lecture and seminar section, where students are exposed to these applications and discuss relevant papers from the literature. A semester long project using geochronology and isotope geochemistry data is required. 3(3-0).

Credit Hours:

3

Lecture Contact Hours:

3

Lab Contact Hours:

0

Note: If variable credit, enter the highest number and add to end of course description. (e.g. "Variable credit, may be taken 1-3 hours.")

Periodicity. Check all that apply.

- Fall  Fall (even-numbered years only)  Fall (odd-numbered years only)
- Spring  Spring (even-numbered years only)  Spring (odd-numbered years only)
- Summer  On Demand only

3

**Complete Catalog Description:**

GLG 715 Trace Element and Isotope Geology

Prerequisite: Graduate Standing

Topics include the application of radiogenic, radioactive and stable isotopes to the processes and timescales relevant to the formation of the planet and solar system, the evolution of the Earth system and interactions in the hydrosphere and biosphere. Course consists of lecture and seminar section, where students are exposed to these applications and discuss relevant papers from the literature. A semester long project using geochronology and isotope geochemistry data is required. 3(3-0).

Credit hours: 3 Lecture contact hours: 3 Lab contact hours: 0

Typically offered: Fall (even-numbered years only)

Include sample syllabus (list topics, course goals.) Use text box OR upload only file types of PDF, DOC or DOCX.

Attached

**Purpose of Course**

This course will add instruction in a critical aspect of geosciences relevant to two of the current faculty members specialties: trace element and isotope geochemistry and geochronology. Isotope geochemistry and geochronology is rapidly becoming two of the most valuable tools available to a geologist. Graduate students working with Michelfelder and McKay as well as other faculty, are increasingly using these tools. These course will allow these tools to become more effectively used by our students. In addition, this course offers an additional optional 700 level graduate course for M.S. students in the geology emphasis.

**Relationship to Other Departments**

The use of isotope geochemistry is applicable to chemistry, physics and biology. Course material in the seminar portion of this course can be tailored to interests of the students enrolled.

Is there a graduate/undergraduate parallel course to this one?  No  Yes

**New Course Resource Information**

Anticipated Average Enrollment per section:	10	Maximum Enrollment Limit per section:	15
Anticipated Average Enrollment per semester:	10	Maximum Enrollment Limit per semester:	15
Anticipated Average Enrollment per year:	10	Maximum Enrollment Limit per year:	15
Faculty Load Assignment (equated hours):	3		

Is another course being deleted?  No  Yes

What will this course require in the way of:

3

Additional library Holdings

None

Additional computer resources

None

Additional or remodeled facilities

None

Additional equipment or supplies

None

Additional travel funds

None

Additional faculty; general vs specialized

None

Additional faculty; regular vs per-course

None

Other additional expenses

None

If additional faculty are not required, how will faculty be made available to teach this course?

This course is proposed by a recent hire, Gary Michelfelder (the proposal author) as part of his current load.

List names of current faculty qualified and available to teach this course

Michelfelder, Gary S.  
McKay, Matthew  
Bassett, Damon

What is the anticipated source of students for this course?

Graduate Students of Michelfelder and McKay plus additional graduate students studying geology and physical geography in GGP. Possible students from outside GGP from Physics, Chemistry and Biology

If from within the department, will students be taking this course in addition to or in place of other courses?

This course will take the place of other courses offered by the department.

If from outside the department, which courses in other departments would most likely be affected?

There will be a minimal effect on courses outside of GGP.

Other comments:

None

What is the date that this new course was approved by departmental or program faculty? (MM/DD/YYYY)

10/01/2015

Current Status:

Department Head Review

3

Proposal Progress:

This proposal is waiting for its first review.

Review Comments:

No comments have been added to this proposal.



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**COURSE POLICY STATEMENT – FALL SEMESTER 2015**

**ISOTOPE GEOCHEMISTRY  
GLG 765**

**DEPARTMENT OF GEOGRAPHY,  
GEOLOGY, AND PLANNING**

Section 1:  
Credit Hours:  
Classroom:  
**E-mail:**  
**Office Hours:**

Instructors:  
Office:  
Phone:

**Course Description:**

Topics include the application of radiogenic, radioactive and stable isotopes to the processes and timescales relevant to the formation of the planet and solar system, the evolution of the Earth system and interactions in the hydrosphere and biosphere. Course consists of lecture, where students are exposed to these applications, and a seminar section where students discuss relevant papers from the literature, and carry out a project. 3(3-0).

**Recommended Textbook:**

**Isotopes: Principles and Applications**, 3<sup>rd</sup> Edition (2004) Faure, G. and Mensing, T.M; Wiley Publishing, 928 pages. ISBN-13: 978-0471384373; ISBN-10: 0471384372

**Principles of Stable Isotope Geochemistry**, (2006) Sharp, Z. Prentice Hall Publishing; ISBN-13: 978-0130091390; ISBN-10: 0130091391

**Course Goals:** By the end of this course...

1. Be able to explain the processes by which the chemical elements have been synthesized over the history of the cosmos.
2. Understand and be able to use the various techniques of radiometric dating to determine the age of geologic materials and events.
3. Be able to explain how radiogenic isotopes are used as tracers of geologic and oceanographic processes, including evolution of the continental crust and mantle, and ocean circulation.
4. Be able to explain how slight differences in mass lead to slight differences in chemical behavior of isotopes of an element.
5. Be able to explain how isotopes of oxygen and sulfur are used to understand interaction between magma and surrounding country rock and the genesis of metal ores.
6. Be able to explain how isotopes of carbon, nitrogen, and sulfur can be used to reconstruct the history of life and how they are used to infer diets and paleodiets of animals and humans.

**COURSE DETAILS**

**Blackboard:** I plan to use Blackboard for this class to communicate information, other recommended or required readings and updates, along with the gradebook – please become familiar with Blackboard to see these important updates.

3

**Course Grading:**

**Grades in the course will be earned as follows:** Participation 50%; Presentation 25%;  
Research Project 25%

**Grading Scale:** 100-93--A; 92.9-90--A-; 89.9-87-- B+; 87-83--B; 82.9-80-- B-; 79.9-77-- C+;  
76.9-73--C; 72.9-70-- C-; 69.9-67-- D+; 67.9-60-- D; 59.9-0-- F

**Expectations:** Just as students expect instructors to arrive prepared and organized for each class meeting period, we also expect each student to attend every class prepared. Thus, we insist that students keep up the reading assignments from the textbook and review the laboratory materials before each class. We also expect students to seek help when they do not understand the material in both the lab and lecture sections. This can occur during class time, office hours or by appointment. We will do our best to seek out and help students experiencing difficulties with the course. However, **it is expected that students will also take personal responsibility for their own education and learning** by asking for help or clarification from the instructor when necessary.

**Attendance, Absence and Tardiness Policies:** Sometimes illnesses or family emergencies crop up and there is no possible way to avoid being absent. Please let me know in advance if you will not be attending. By itself, attendance is not directly counted in your grade. I do take attendance into account for borderline grade boundaries when creating final letter grades for the course.

Tardiness disrupts the class, as does leaving early. This class meets from 3:35 to 4:25 pm; please be prepared for class, attend on time, and stay for the full duration. Attendance may be taken at any time during the class; absence at any point may be considered absence for that entire class period (excepting excused illness and participation in university-sponsored events where you have notified me *in advance*).

**Class Disruptions:** In a class this size it is easy for one person to disrupt a large number of people. Examples of disruption are cellular phones (please set them to silent or turn them off), excessive talking or joking during lecture, or consistently arriving late for lecture or leaving before the class is over. If I don't see a disturbance, the people being bothered should let me know (either during or after the lecture) and I will see to it that the offender stops his or her disturbance.

**Drop Policy:** It is your responsibility to understand the University's procedure for dropping a class. If you stop attending this class but do not follow proper procedure for dropping the class, you will receive a failing grade and will also be financially obligated to pay for the class. For information about dropping a class or withdrawing from the university, contact the Office of the Registrar at 836-5520.

**Use of Cell Phones, Pagers, and Text-Messaging Devices in Classes:** As a member of the learning community, each student has a responsibility to other students who are members of the community. When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class. Therefore, the Office of the Provost prohibits the use by students of cell phones, pagers, PDAs, or similar communication devices during scheduled classes. All such devices must be turned off or put in a silent (vibrate) mode and ordinarily should not be taken out during class. Given the fact that these same communication devices are an integral part of the University's emergency notification system, an exception to this policy would occur when numerous devices activate simultaneously. When this occurs, students may consult their devices to determine if a university emergency exists. If that is not the case, the devices should be immediately returned to silent mode and put away. Other exceptions to this policy may be granted at the discretion of the instructor.

**Nondiscrimination:** 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 Institutional Equity and Compliance, Park Central Office Building, 117 Park Central Square, Suite 111, (417) 836-4252. Other types of concerns (i.e., concerns of an academic nature) should be discussed directly with your instructor and can also be brought to the attention of your instructor's Department Head. Please visit the OED website at [www.missouristate.edu/equity/](http://www.missouristate.edu/equity/).

**Accommodating Students:** To request academic accommodations for a disability, contact the Director of the Disability Resource Center, Plaster Student Union, Suite 405, (417) 836-4192 or (417) 836-6792 (TTY), [www.missouristate.edu/disability](http://www.missouristate.edu/disability). Students are required to provide documentation of disability to the Disability Resource Center prior to receiving accommodations. The Disability Resource Center 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) 836-4787, <http://psychology.missouristate.edu/lde>.

**Emergency Response:** Students who require assistance during an emergency evacuation must discuss their needs with their professors and the Disability Resource Center. If you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. For additional information students should contact the Disability Resource Center, 836-4192 (PSU 405), or Donald Clark, Director of Safety and Transportation, at 836-8870. For further information on Missouri State University's Emergency Response Plan, please refer to the following web site: <http://www.missouristate.edu/safetran/erp.htm>.

**Academic Integrity:** Missouri State University is a community of scholars committed to developing educated persons who accept the responsibility to practice personal and academic integrity. You are responsible for knowing and following the university's student honor code, [Student Academic Integrity Policies and Procedures](#) and also available at the Reserves Desk in Meyer Library. Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.

**Emergency Response:** At the first class meeting, students should become familiar with a basic emergency response plan through a dialogue with the instructor that includes a review and awareness of exits specific to the classroom and the location of evacuation centers for the building. All instructors are provided this information specific to their classroom and/or lab assignments in an e-mail prior to the beginning of the fall semester from the Office of the Provost and Safety and Transportation. Students with disabilities impacting mobility should discuss the approved accommodations for emergency situations and additional options when applicable with the instructor. For more information go to <http://www.missouristate.edu/safetran/51597.htm> and <http://www.missouristate.edu/safetran/erp.htm>.

**LECTURE OUTLINE:**

	<u>Topic</u>	<u>Reading</u>
17-Aug	Introduction, Physics of the Nucleus, Radioactive Decay	None
19-Aug	Nucleosynthesis/ Radioactive Decay	Faure and Mensing, Ch 3
21-Aug	Formation of the Solar System, Timescales of Planet Accretion and the Age of the Earth	None
24-Aug	Equilibrium Isotopic Fractionation	TBD
26-Aug	Hydrosphere & The Oceans	TBD
28-Aug	Biogenic Carbonates & Phosphates: Oxygen	TBD
31-Aug	Carbon	TBD
2-Sep	Nitrogen & Sulfur	TBD
4-Sep	<b>Discussion (Stable Isotopes)</b>	
7-Sep	<b>NO Class- Labor Day</b>	<b>None</b>
9-Sep	Non-Traditional Stable Isotopes	Marschall et al., 2008
11-Sep	Equations of Radioactive Decay and Radiogenic Growth	Faure and Mensing, Ch 4 p. 55-63
14-Sep	Pb Isotopes	Aitcheson et al., 1995
16-Sep	Pb Isotopes	Wolff et al., 2005
18-Sep	<b>Discussion (Common Pb)</b>	
21-Sep	K-Ar and Ar/Ar	Sherlock et al., 2009; Hames et al., 2008
23-Sep	K-Ar and Ar/Ar/ Sm-Nd	DePaolo, 1980
25-Sep	<b>Discussion (Ar Geochron)</b>	
28-Sep	Sm-Nd	Kinney and Maas, 2003; Chakrabarti et al., 2007
30-Sep	Lu-Hf	Patchett et al 1982
2-Oct	Re-Os	Kendall et al., 2006
5-Oct	U-Series Short Lived Isotopes	Tepley et al 2004
7-Oct	U-Series Short Lived Isotopes	Spiegelman, 2000
9-Oct	<b>Discussion ( U Series)</b>	
12-Oct	U-Series Geochronology	Gehrels et al 2008;
14-Oct	U-Series Geochronology	McDowell et al., 2014
16-Oct	<b>Discussion (U-Series Geochron)</b>	
19-Oct	Rb-Sr	Jones and Jenkyns, 2000
21-Oct	Rb-Sr	Hofmann and Hart, 1978
23-Oct	<b>Discussion (Rb-Sr)</b>	
26-Oct	Sr Isotopes - Microanalysis	Ramos and Reid. 2005; Davidson et al., 2007
28-Oct	Sr isotopes - Tracers	Jones and Jenkyns, 2000

3

30-Oct	<b>Discussion (Sr Isotopes)</b>	
2-Nov	<b>No Class- GSA</b>	<b>None</b>
4-Nov	<b>No Class- GSA</b>	<b>None</b>
6-Nov	Oxygen at High Temperatures	Valley, 2001
9-Nov	Geochronology- Radiation Damage	Bernet and Garver, 2005
11-Nov	Cosmogenic Radionuclides	None
13-Nov	<b>Discussion (TBD)</b>	
16-Nov	Mass Spectrometry	None
18-Nov	Mass Spectrometry	None
20-Nov	<b>Discussion (TBD)</b>	
11/23 - 11/27	<b>No Class- Thanksgiving Break</b>	<b>None</b>
30-Nov	<b>Presentations</b>	<b>None</b>
2-Dec	<b>Presentations</b>	<b>None</b>
TBD	<b>Presentations</b>	<b>None</b>

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Missouri State

# Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - New Interdisciplinary Program Proposal Form

## New Interdisciplinary Program Proposal Form

Submitted on 03/03/2016 by Michael Suttmoeller ([MSuttmoeller@MissouriState.edu](mailto:MSuttmoeller@MissouriState.edu)).

This special form is to be used for internal Missouri State approval of a new Interdisciplinary program involving two or more academic departments/schools including graduate programs, undergraduate majors (comprehensive or non-comprehensive), minors, graduate certificates, undergraduate certificates.

New graduate programs, new undergraduate majors, and certificate programs involving more than 18 credit hours require approval by the CBHE as well as approval through the Missouri State curricular process. CBHE applications for such programs are processed through the Office of Institutional Research. All proposals for new programs requiring CBHE approval should progress through the Missouri State curricular process accompanied by a draft of the required CBHE documentation.

Only select departments with at least 9 hours or at least 30% of total program hours.

Sponsoring Department (1): (responsible for administration and budget)

Criminology & Criminal Justice

Sponsoring Department (2):

Biology

Sponsoring Department (3): (if applicable)

Sponsoring Department (4): (if applicable)

Proposed Program Title:

Conservation Law Enforcement

Choose One:

Major (Non-Comprehensive/Graduate Program)

Minor

Graduate Certificate

Undergraduate Certificate

Master's Degree

Comprehensive Major

Select Degree Type (or Select Graduate Certificate or Undergraduate Certificate):

UGCT - Undergraduate Certificate

4

**General Education Courses Required:**

None

Total Hours: 0

**General Education Courses Recommended:**

None

Total Hours: 0

**Requirements (including Admission) and Limitations for Specific Degree/Program:**

Required:

- CRM 210 Introduction to the American Criminal Justice System
- CRM 365 Criminal Procedure
- CRM 400 Conservation Law Enforcement; New course proposal submitted on 2/19/16
- BIO 122 General Biology II
- BIO 373 Principles of Wildlife Management
- Students choose one:
  - BIO 532 Principles of Fisheries Management
  - BIO 561 Environmental Issues Education and Interpretation
  - BIO 573 Ornithology
  - BIO 575 Ichthyology
  - BIO 576 Herpetology

Total Hours: 18-19

**Prerequisites for Required Courses:**

Prerequisites will be waived for students pursuing this certificate.

**Recommended Electives:**

BIO 121 or BIO 101/111

Total Hours: 4

**Limitations on Electives:**

None

Please attach the following documents: (only one file may be attached for each requirement; accepts file types of PDF, DOC or DOCX)

1. Statement of Rationale: Attached
2. Estimated costs for first five years: Attached

3. Complete catalog description (including new courses and course changes pending approval): Attached

4. CBHE Application (if applicable): Not Attached

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\*Note: For new programs requiring CBHE approval, CBHE forms NP, PS, and PG will satisfy #1 and CBHE form FP will satisfy #2.

What is the date that this new program was approved by departmental or program faculty? (MM/DD/YYYY)

02/09/2016

**Current Status:**

College Council Review; College Council Review

**Proposal Progress:**

03/14/2016 - Submitted by Department Head (S Mathis)

03/15/2016 - Submitted by Department Head (Patti Salinas)

**Review Comments:**

No comments have been added to this proposal.



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### Justification for a Conservation Law Enforcement Certificate Program

Those students who are pursuing a career in conservation law enforcement generally either complete a criminology/criminal justice or biology/wildlife management degree. Because of the nature of the work of conservation officers, neither of these degrees fully prepares a student for this type of career. Those students with a criminal justice background have a good understanding of the criminal justice system, criminal law and policing. However, these students often do not have the background in wildlife and fisheries management that is needed to be a conservation officer. Similarly, those students with a background in fisheries or wildlife management have a good understanding of wildlife or fisheries management and wildlife and fisheries identification that is needed, but often lack the needed background in criminal justice. To address these shortcomings, a certificate program in conservation law enforcement should be created. This certificate would be a joint certificate between the Department of Criminology and Criminal Justice and the Department of Biology. Even though it is geared toward students in Criminology and Biology, this certificate would be open to any student who wished to pursue it.

The vision for this certificate is that it would entail 18-19 hours of coursework, and would include coursework in both Criminology and Criminal Justice and Biological Sciences. After consultation with officials from the Missouri Department of Conservation Protection Division, they identified needs for potential applicants to have a background in criminal procedure, conservation law enforcement, wildlife/fisheries management and wildlife/fish identification. A combination of the proposed courses will make students from Missouri State University stronger applicants for their positions as conservation agents.

Objectives

1. Students will be able to explain the different facets of the criminal justice system, and its role in society.
2. Students will be able to articulate how various Supreme Court cases apply to not only the criminal justice system, but to conservation law enforcement officers specifically.
3. Students will be able to articulate and explain legal controls on evidence collection and handling.
4. Students will be able to explain who conservation officers are and their main job responsibilities.
5. Students will be able to articulate various law enforcement strategies commonly utilized by conservation officers.
6. Students will be able to explain how resource limitations influences populations.
7. Students will be able to explain how organisms are interdependent.
8. Students will be able to explain how human activities and populations affect the living world.
9. Students will be able to explain how science influences wildlife management decisions.
10. Students will be able to explain the importance of maintaining biological diversity in developing and enforcing wildlife management plans.

4

### Projected Costs of the Conservation Law Enforcement Certificate

No additional costs are projected because students in the certificate program will enroll in existing courses, and we anticipate that the current courses will be able to absorb the additional enrollment without the need for new sections.



## **Conservation Law Enforcement**

### **Undergraduate Certificate**

This certificate is jointly offered by the Department of Criminology and Criminal Justice and the Department of Biology and is designed to provide students with the fundamental knowledge needed to pursue a career in conservation law enforcement. Students who complete this certificate will better understand the interdisciplinary nature of conservation law enforcement and the interdependent relationship between criminological and biological principles in this unique law enforcement field.

### **Required Courses**

1. CRM 210 (3); CRM 365(3); CRM 400(3)\*; BIO 122(4); BIO 373(3)
2. Choose one from following to total 18-19 hours: BIO 532(3); BIO 561(2); BIO 573(3); BIO 575(3); BIO 576(3)

### **Recommended Elective**

BIO 121(4); or BIO 101(3) and 111(1)

\*New course proposal submitted 2/9/16.

### **Required Courses**

#### **CRM 210 Introduction to the American Criminal Justice System**

An overview of the American criminal justice system, its functions, problems and potential solutions. This course is a prerequisite for upper division criminology and criminal justice courses.

**Credit hours:** 3

**Lecture contact hours:** 3

**Lab contact hours:** 0

**Typically offered:** Fall, Spring

Projected offerings

#### **CRM 365 Criminal Procedure**

*Prerequisite: CRM 210 and CRM 250 and CRM 260 and CRM 270.*

4

This course critically examines the constitutional and other legal controls placed on the government's ability to collect evidence to be used in criminal proceedings. Special attention is given to Supreme Court decisions related to the issues of privacy, detention, arrest, searches, seizures, interrogations, confessions, wiretapping and eavesdropping, right to counsel, and protections against self-incrimination. Issues of officer liability are also addressed.

**Credit hours:** 3

**Lecture contact hours:** 3

**Lab contact hours:** 0

**Typically offered:** Fall, Spring

Projected offerings

### **CRM 400-Conservation Law Enforcement**

Conservation law enforcement and conservation officers occupy an important, yet often overlooked segment of the criminal justice system. The role and duties of conservation officers is unique among law enforcement. While conservation officers perform similar duties to traditional law enforcement officers such as order maintenance and law enforcement, the scope of those duties differs in several respects. This course will explore those differences through examining conservation law enforcement from a local, national and international perspective. Additionally, this course will examine the unique role of conservation officers within the larger criminal justice system, and within the smaller law enforcement community.

### **BIO 122 General Biology II**

*Prerequisite: eligibility for both ENG 110 and MTH 135.*

Recommended Prerequisite: BIO 121. Second half of two-semester introductory biology sequence for biology majors and minors. Introduction to the biology of organisms including evolutionary history, diversity, structure, and function of major taxa; and ecology. Cannot be taken Pass/Not Pass. A grade of "C" or better is required in this course in order to take BIO 235, BIO 320, or BIO 369.

**Credit hours:** 4

**Lecture contact hours:** 3



**Lab contact hours: 3**

**Typically offered:** Fall, Spring  
Projected offerings

**BIO 373 Principles of Wildlife Management**

*Prerequisite: BIO 122.*

This course considers ecological principles, conservation, and management policies for wild animals and habitats. Public Affairs Capstone Experience course.

**Credit hours: 3**

**Lecture contact hours: 3**

**Lab contact hours: 0**

**Typically offered:** Fall  
Projected offerings

**Select one of these**

**BIO 532 Principles of Fisheries Management**

*Prerequisite: BIO 369 or BIO 373.*

Life history, population ecology, and management of exploited freshwater and marine species. Scientific sampling and analysis of fishery populations. Characterization, history, and management principles for representative commercial and recreational fisheries. May be taught concurrently with BIO 632. Cannot receive credit for both BIO 632 and BIO 532.

**Credit hours: 3**

**Lecture contact hours: 2**

**Lab contact hours: 2**

**Typically offered:** Spring  
Projected offerings

4

**BIO 561 Environmental Issues Education and Interpretation**

*Prerequisite: permission of instructor.*

Discussion of environmental issues, practical experiences in teaching environmental concepts, and awareness of environmental resource materials for the formal and nonformal educational setting. May be taught concurrently with BIO 661. Cannot receive credit for both BIO 561 and BIO 661 Public Affairs Capstone Experience course.

**Credit hours: 2**

**Lecture contact hours: 1**

**Lab contact hours: 2**

**Typically offered:** Upon demand

Projected offerings

**BIO 573 Ornithology**

Taxonomy, distribution, life histories and ecology of birds; emphasis on Missouri forms. Early morning field trips required. May be taught concurrently with BIO 673. Cannot receive credit for both BIO 673 and BIO 573. Public Affairs Capstone Experience course.

**Credit hours: 3**

**Lecture contact hours: 2**

**Lab contact hours: 2**

**Typically offered:** Spring

Projected offerings

**BIO 575 Ichthyology**

*Prerequisite: 12 hours in biology.*

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Taxonomy, distribution, life histories and ecology of fish with emphasis on Missouri forms. May be taught concurrently with BIO 675. Cannot receive credit for both BIO 675 and BIO 575. Public Affairs Capstone Experience course.

**Credit hours: 3**

**Lecture contact hours: 2**

**Lab contact hours: 2**

**Typically offered: Fall**  
Projected offerings

**BIO 576 Herpetology**

*Prerequisite: 12 hours in biology.*

Taxonomy, distribution, life histories and ecology of amphibians and reptiles with emphasis on Missouri forms. One weekend field trip required. Supplemental course fee. May be taught concurrently with BIO 676. Cannot receive credit for both BIO 676 and BIO 576. Public Affairs Capstone Experience course.

**Credit hours: 3**

**Lecture contact hours: 2**

**Lab contact hours: 2**

**Typically offered: Spring**  
Projected offerings



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Missouri State.

Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - Delete Program Proposal Form

Delete Program Proposal Form

Submitted on 03/31/2016 by Daniel Beckman ([Danielbeckman@missouristate.edu](mailto:Danielbeckman@missouristate.edu)).

Department:

Biology

Type of Program

Choose One:

- Major (Non-Comprehensive/Graduate Program)
- Minor
- Academic Rules
- Comprehensive Major
- Certificate
- Other
- Option
- Certification

For proper approval routing, choose all degrees in this minor:

- Bachelor of Arts
- Bachelor of Music Education
- Bach of Science in Athl Traing
- Bachelor of Applied Science
- Bachelor of Music
- Bach of Science in Education
- Bachelor of Fine Arts
- Bachelor of Science
- Bachelor of Science in Nursing
- Bachelor of Social Work

Title of Program Affected:

Environmentl Sciences & Policy

Current Catalog Description (cut and paste present description from online catalog):

5

Environment Sciences and Policy Program

Minor(s)

Environmental Sciences and Policy

Bachelor of Arts

Bachelor of Science

Administrator: Professor Xingping Sun, Ph.D.

The Environmental Sciences and Policy minor is administered by the College of Natural and Applied Sciences with the Dean, or his/her designate, serving as program coordinator. Courses must be approved by the faculty on the Environmental Focus Committee for inclusion in the minor. The coordinator must approve the course of study for each student who wishes to complete the minor.

The minor in Environmental Sciences and Policy consists of 18-19 hours. It is interdisciplinary and will permit students in various fields to complement their academic major with a minor emphasizing Environmental Sciences and Policy.

Natural Science: Select 3 of the following. (9-10 hours)

BIO 369(4) General Ecology

CHM 260(3) Principles of Environmental Chemistry or CHM 460(3) Environmental Chemistry I

GLG 171(3) Environmental Geology\* or GRY 108(3) Principles of Sustainability\*\*

GRY 351(3) Conservation of Natural Resources or AGN 335(3) Soil Conservation and Water Management

Policy: Select 3 of the following courses (9 hours)

ECO 540(3) Economics of the Environment

PHI 302(3) Environmental Ethics

PLS 555(3) Public Policy for a Global Environment

LAW 537(3) Environmental Regulation

PSY 379(3) Environmental Psychology

SOC 319(3) Environmental Sociology

Recommended: At least one statistic course.

\*GLG 171 may count toward the General Education Focus on Physical Science requirement.

\*\*GRY 108 may count toward the General Education Focus on Social and Behavioral Sciences requirement.

Not Attached

Total Hours: 18-19 hours

**Reason for Proposed Deletion:**

This minor is rarely used and students will be advised to complete the Sustainability minor instead. All students currently in the minor have been contacted. The final student to complete the minor will graduate in May 2016.

**What is the date that this new program was approved by departmental or program faculty? (MM/DD/YYYY)**

03/17/2016

**Current Status:**

College Council Review

**Proposal Progress:**

03/31/2016 - Submitted by Department Head (S Mathis)

**Review Comments:**

No comments have been added to this proposal.



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Missouri State.

Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - Change Course Proposal Form

Change Course Proposal Form

Submitted on 03/29/2016 by Miles Barnhart (Chrisbarnhart@missouristate.edu).

\*All fields require input

This proposal applies to:

- Radio buttons for 'An existing COURSE' and 'An existing REGULAR (e.g. permanent) SECTION of a variable content course.'

Existing Course:

BIO539 Biogeography

Will this proposal need to be reviewed by CGEIP? [X] No [ ] Yes

Will this proposal need to be reviewed by EPPC? [X] No [ ] Yes

Current online catalog description:

BIO 539 Biogeography
Prerequisite: BIO 121 and BIO 122. Study of patterns of distribution of organisms in space and in time.
May be taught concurrently with BIO 639. Cannot receive credit for both BIO 639 and BIO 539. Public Affairs Capstone Experience course. 2(2-0) F

Revise the current online catalog description as needed: (Strikethrough all deletions and insert/bold new information. Any content that is copied and pasted will lose existing formatting; please review prior to submission.)



BIO 539 Biogeography
Prerequisite: BIO 121 and BIO 122. Study of patterns of distribution of organisms in space and in time. May be taught concurrently with BIO 639. Cannot receive credit for both BIO 639 and BIO 539. Public Affairs Capstone Experience course. 3(3-0) F

What is changing? Check all boxes that apply.

- Checkboxes for 'Course Code', 'Course Number (Check Availability)', 'Title', and 'Prerequisite'

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Credit Hours/Contact Hours     Periodicity     Description

Reason for proposed change

The scope of Biogeography has expanded because of the availability of new types of evidence, especially molecular phylogeny, and because of the increasing study of the effects of climate change on plant and animal distribution. It is no longer practical to give an adequate introduction to the discipline in a 2-hour course framework.

Does this change affect course assessment (e.g. student learning evidence/outcomes)?     No     Yes

How did you determine the need for this change? Check all boxes that apply or specify other.

- Routine or annual review/assessment of curriculum
- Faculty Input
- Student Input
- Accreditation/certification compliance
- Review of catalog information
- Other (be specific):
- Check if this is a non-substantive change.

What is the date that this course change was approved by departmental or program faculty? (MM/DD/YYYY)

03/29/2016

Current Status:

College Council Review

Proposal Progress:

03/29/2016 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.



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Missouri State.



Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - Change Course Proposal Form

Change Course Proposal Form

Submitted on 03/29/2016 by Miles Barnhart (Chrisbarnhart@missouristate.edu).

\*All fields require input

This proposal applies to:

- An existing COURSE
- An existing REGULAR (e.g. permanent) SECTION of a variable content course.

Existing Course:

BIO639 Biogeography

Will this proposal need to be reviewed by CGEIP?  No  Yes

Will this proposal need to be reviewed by EPPC?  No  Yes

Current online catalog description:

BIO 639 Biogeography  
Recommended Prerequisite: general biology I and II courses. Study of patterns of distribution of organisms in space and in time. May be taught concurrently with BIO 539. Cannot receive credit for both BIO 539 and BIO 639. 2(2-0) F

Revise the current online catalog description as needed: (Strikethrough all deletions and insert/bold new information. Any content that is copied and pasted will lose existing formatting; please review prior to submission.)

← → | **B** *I* ☒

BIO 639 Biogeography

Recommended Prerequisite: general biology I and II courses. Study of patterns of distribution of organisms in space and in time. May be taught concurrently with BIO 539. Cannot receive credit for both BIO 539 and BIO 639. 3(3-0) F

What is changing? Check all boxes that apply.

- Course Code
- Course Number (Check Availability)
- Title
- Prerequisite
- Credit Hours/Contact Hours
- Periodicity
- Description

7

Reason for proposed change

The scope of Biogeography has expanded because of the availability of new types of evidence, especially molecular phylogeny, and because of the increasing study of the effects of climate change on plant and animal distribution. It is no longer practical to give an adequate introduction to the discipline in a 2-hour course framework.

Does this change affect course assessment (e.g. student learning evidence/outcomes)?  No  Yes

How did you determine the need for this change? Check all boxes that apply or specify other.

Routine or annual review/assessment of curriculum  Faculty Input  Student Input

Accreditation/certification compliance  Review of catalog information

I surveyed courses in Biogeography at other universities by examining syllabi posted on line (Google search). Of the 10 undergraduate and graduate courses that I examined, semester hours ranged from 3-5 hours (average 3.3).

Other (be specific):

Check if this is a non-substantive change.

What is the date that this course change was approved by departmental or program faculty? (MM/DD/YYYY)

03/29/2016

Current Status:

Dean Review

Proposal Progress:

03/29/2016 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.



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Curricular Action Workflow



Missouri State > Computer Services - MIS > Curricular Action Workflow > CAW - New Course Proposal Form

New Course Proposal Form

Submitted on 03/29/2016 by G Schick (AlanSchick@MissouriState.edu).

\*All fields require input

- New COURSE
- New REGULAR PERMANENT SECTION of an existing variable content course. If a new regular section of an existing variable topics course, enter the existing course number below

Course Code:	Course Number: <u>(Check Availability)</u>
CHM	791

Course Title:  
Preparation for Graduate Study in Chemistry

Will this proposal need to be reviewed by CGEIP?  No  Yes

Will this proposal need to be reviewed by EPPC?  No  Yes

Prerequisite/Co-requisite or enter 'None':  
Admission to graduate program in Chemistry

General Course Description: (Include any Pass/Not Pass grading restrictions, repeatable limits, limitation on course applicability, UG/GR parallel course, etc.)  
Orientation to graduate study in chemistry, including laboratory safety, scientific dissemination, and design of a research project.

Credit Hours:	<input type="text" value="2"/>	Lecture Contact Hours:	<input type="text" value="2"/>	Lab Contact Hours:	<input type="text" value="0"/>
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Note: If variable credit, enter the highest number and add to end of course description. (e.g. "Variable credit, may be taken 1-3 hours.")

Periodicity. Check all that apply.

- Fall  Fall (even-numbered years only)  Fall (odd-numbered years only)
- Spring  Spring (even-numbered years only)  Spring (odd-numbered years only)





Summer  On Demand only

**Complete Catalog Description:**

CHM 791 Preparation for Graduate Study in Chemistry

Prerequisite: Admission to graduate program in Chemistry

Orientation to graduate study in chemistry, including laboratory safety, scientific dissemination, and design of a research project.

Credit hours: 2 Lecture contact hours: 2 Lab contact hours: 0

Typically offered: Fall, Spring

Include sample syllabus (list topics, course goals.) Use text box OR upload only file types of PDF, DOC or DOCX.

[Empty text box for syllabus]

Attached

**Purpose of Course**

The content of CHM 791 is designed as an optional course to help get students started effectively on their graduate experience. There are two primary purposes for creating this course:  
Purpose 1: A few specific issues related to the Research/Thesis experiences of our students have become recognized in recent years that

**Relationship to Other Departments**

This course is similar in concept to GEO 700 (introduction to Graduate Study in Geospatial Science) but is tailored to the needs of chemistry program students.

Is there a graduate/undergraduate parallel course to this one?  No  Yes

**New Course Resource Information**

Anticipated Average Enrollment per section:	6	Maximum Enrollment Limit per section:	18
Anticipated Average Enrollment per semester:	6	Maximum Enrollment Limit per semester:	18
Anticipated Average Enrollment per year:	12	Maximum Enrollment Limit per year:	36
Faculty Load Assignment (equated hours):	2		

Is another course being deleted?  No  Yes

What will this course require in the way of:

**Additional library Holdings**

None.

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Additional computer resources

None.

Additional or remodeled facilities

None.

Additional equipment or supplies

None.

Additional travel funds

None.

Additional faculty; general vs specialized

None.

Additional faculty; regular vs per-course

None.

Other additional expenses

None.

If additional faculty are not required, how will faculty be made available to teach this course?

This course will be administered by the department's graduate coordinator.

List names of current faculty qualified and available to teach this course

All graduate faculty in the department: Drs. Bhattacharyya, Bosch, Biagioni, Cuebas, Fichter, Gerasimchuk, Herati, Meints, Richter, Schick, Siebert, Steinle, Wanekaya, Wang, Yoshimatsu.

What is the anticipated source of students for this course?

Incoming graduate students of the Master of Science program in Chemistry, incoming graduate students of the Master of Natural and Applied Science program with Chemistry as the primary area.

8

If from within the department, will students be taking this course in addition to or in place of other courses?

It will replace 2 credits of CHM 798 Research or CHM 799 Thesis in the program requirements of students choosing to take this optional course.

If from outside the department, which courses in other departments would most likely be affected?

None.

Other comments:

None.

What is the date that this new course was approved by departmental or program faculty? (MM/DD/YYYY)

03/29/2016

Current Status:

Department Head Review

Proposal Progress:

This proposal is waiting for its first review.

Review Comments:

No comments have been added to this proposal.

Copy As New Proposal



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# CHM 791: PREPARATION FOR GRADUATE STUDY IN CHEMISTRY



- Course/Section:** CHE 791 (2 Credit Hours), Section xxxxx
- Class Schedule:** W 2:30p – 3:20p; one additional hour arranged.
- Instructor:** Alan Schick, TEM 104, 417-836-4161, [AlanSchick@MissouriState.edu](mailto:AlanSchick@MissouriState.edu)  
Office Hours: MWF 2:30-3:20pm, or by walk-in (look for door ajar), or by appointment.
- Catalog Description:** Prerequisite: Graduate standing and departmental approval. Orientation to graduate study in chemistry, including laboratory safety, scientific dissemination, and design of a research project. 2 (2-0) F,S
- Course Purpose:** This course prepares new graduate students for advanced studies in the chemical sciences.
- Learning Objectives:** *During the course of CHM 791, a student will...*
- complete the mandatory departmental safety certification for instructing and conducting research in a scientific laboratory environment.
  - identify a research advisor, thesis project, and thesis committee.
  - develop a department-approved program of course study.
- Additionally, upon successful completion of CHM 791, a student should be able to...*
- navigate the chemical literature using search engines, databases, and other resources available on the Springfield campus of Missouri State University.
  - present both orally and in writing the concepts underpinning his/her chosen thesis project.
  - demonstrate and explain safe laboratory practices.
  - demonstrate and explain effective instructional practices for course laboratory settings.
- Course Text:** No required textbook. Course reading will be assigned as appropriate.
- Helpful Websites:** Course Blackboard sites – <http://blackboard.missouristate.edu/>
- Assessments:**
- |   |             |
|---|-------------|
| Safety Exam                             | 15%         |
| Scientific Dissemination Activities     | 40%         |
| Thesis Advisor/Committee Identification | 15%         |
| Program of Study                        | 15%         |
| Thesis Proposal (Written)               | 15%         |
| <b>Total</b>                            | <b>100%</b> |
- Course Grade:** +/- grades will be assigned in this class:
- |   |    |    |    |    |    |    |    |    |
|---|----|----|----|----|----|----|----|----|
| A | A- | B+ | B  | B- | C+ | C  | D  | F  |
| % | 93 | 90 | 87 | 83 | 80 | 77 | 70 | 60 |
- Current Grades:** Scores will be available at all times on the course Blackboard site in the MyGrades area.
- Safety Exam:** Students will work with the Stockroom Manager to successfully complete the departmental safety training. A final safety exam will be administered online.
- Scientific Dissemination Activities:** Students will complete a number of exercises related to searching scientific literature, preparing visual aids for oral presentations, and producing technical reports. See course Bb site for details.
- Thesis Advisor and Committee:** Students will consult various CHM faculty members and choose a thesis advisor and project. In consultation with the thesis advisor the student will identify a thesis committee in accordance with departmental policy. See Graduate Catalog for details.
- Program of Study:** In consultation with the chosen thesis advisor and the departmental graduate director the student will develop and submit a course program of study to be followed as part of his/her graduate program.
- Thesis Proposal:** The student will prepare both written and oral reports containing a brief proposal of his/her chosen thesis project. The written report will be evaluated by the thesis committee.



- Incompletes:** If a student fails to complete the course, a temporary grade of "I" is possible. However, due to the relationship of the course activities to the program timeline, incomplete grades are discouraged and will result in one full grade reduction for each semester that begins with the "I" grade in place.
- Inclement Weather:** In the event that the University cancels classes due to severe weather conditions (e.g., snow and/or ice), all scheduled activities will resume on the next day that campus is open. If an inclement weather closing does occur, the activity schedule for the remainder of the semester will be re-organized accordingly.
- Attendance:** Attendance in all activities of the course is mandatory. Excused absences will be considered on a case-by-case basis, but no activities of the course will be waived.

## **ADDITIONAL UNIVERSITY POLICIES**

**Academic Dishonesty:** Missouri State University is a community of scholars committed to developing educated persons who accept the responsibility to practice personal and academic integrity. You are responsible for knowing and following the university's student honor code. The Student Academic Integrity Policies and Procedures are available at <http://www.missouristate.edu/academicintegrity/> and also at the Reserves Desk in Meyer Library. Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.

**Nondiscrimination:** 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, Park Central Office Building, 117 Park Central Square, Suite 111, (417) 836-4252. Other types of concerns (i.e., concerns of an academic nature) should be discussed directly with your instructor and can also be brought to the attention of your instructor's Department Head. Please visit the OED website at [www.missouristate.edu/equity/](http://www.missouristate.edu/equity/).

**Disability Accommodation:** To request academic accommodations for a disability, contact the Director of the Disability Resource Center, Plaster Student Union, Suite 405, (417) 836-4192 or (417) 836-6792 (TTY), [www.missouristate.edu/disability](http://www.missouristate.edu/disability). Students are required to provide documentation of disability to the Disability Resource Center prior to receiving accommodations. The Disability Resource Center 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) 836-4787, <http://psychology.missouristate.edu/lcd>.

**Cell Phones:** As a member of the learning community, each student has a responsibility to other students who are members of the community. When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class. Therefore, the Office of the Provost prohibits the use by students of cell phones, pagers, PDAs, or similar communication devices during scheduled classes. All such devices must be turned off or put in a silent (vibrate) mode and ordinarily should not be taken out during class. Given the fact that these same communication devices are an integral part of the University's emergency notification system, an exception to this policy would occur when numerous devices activate simultaneously. When this occurs, students may consult their devices to determine if a university emergency exists. If that is not the case, the devices should be immediately returned to silent mode and put away. Other exceptions to this policy may be granted at the discretion of the instructor.

**Emergency Response:** At the first class meeting, students should become familiar with a basic emergency response plan through a dialogue with the instructor that includes a review and awareness of exits specific to the classroom and the location of evacuation centers for the building. All instructors are provided this information specific to their classroom and/or lab assignments in an e-mail prior to the beginning of the fall semester from the Office of the Provost and Safety and Transportation. Students with disabilities impacting mobility should discuss the approved accommodations for emergency situations and additional options when applicable with the instructor. For more information go to <http://www.missouristate.edu/safetran/51597.htm> and <http://www.missouristate.edu/safetran/erp.htm>.

**Dropping Course:** It is your responsibility to understand the University's procedure for dropping a class. If you stop attending this class but do not follow proper procedure for dropping the class, you will receive a failing grade and will also be financially obligated to pay for the class. For information about dropping a class or withdrawing from the university contact the registrar's office at 836-5520. See also Academic Calendars (<http://calendar.missouristate.edu/academic.aspx>) for deadlines.