

**Missouri State**

Curricular Action Workflow



# Delete Program Proposal Form

**Submitted on 10/01/2018 by Toby Dogwiler (TDogwiler@MissouriState.edu).**

Department:

Geography, Geology, & Planning

**Type of Program**

Choose One:

Non-Comprehensive

Option

Certification

Undergraduate Major

Minor

Academic Rules

Comprehensive

Certificate

Other

Undergraduate Major

Graduate Program

Title of Program Affected:

Earth Science Education/Unified Science-BSED

0

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

Major(s)

Earth Science Education

Not Attached

Total Hours: 100-102

Reason for Proposed Deletion:

The Earth Science BSED Program will be replaced by a new option in the Geology major. The new program will ensure that students have a more robust background in Earth Sciences content (particularly upper-level courses) and provide a 4+1 pathway to completing the MAT program and the graduate-level coursework necessary for eligibility to teach dual credit courses.

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

9/9/2016

Current Status:

College Council Review

Proposal Progress:

10/01/2018 - Submitted by Department Head (Toby Dogwiler)

Review Comments:

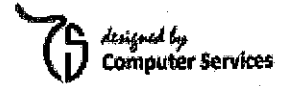
No comments have been added to this proposal.

Copy As New Proposal

**Missouri State**

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Curricular Action Workflow



# Delete Program Proposal Form

**Submitted on 10/01/2018 by Toby  
Dogwiler ([TDogwiler@MissouriState.edu](mailto:TDogwiler@MissouriState.edu)).**

Department:

Geography, Geology, & Planning

## Type of Program

Choose One:

- |  |                                   |                                      |
|--|-----------------------------------|--------------------------------------|
| <input type="radio"/> Non-Comprehensive Undergraduate Major        | <input type="radio"/> Option      | <input type="radio"/> Certification  |
| <input checked="" type="radio"/> Comprehensive Undergraduate Major | <input type="radio"/> Minor       | <input type="radio"/> Academic Rules |
| <input type="radio"/> Graduate Program                             | <input type="radio"/> Certificate | <input type="radio"/> Other          |

Title of Program Affected:

Earth Science Education/Categorical Science-BSED

2

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

Major(s)

Earth Science Education

*Not Attached*

Total Hours: 86-90

Reason for Proposed Deletion:

The Earth Science BSED Program will be replaced by a new option in the Geology major. The new program will ensure that students have a more robust background in Earth Sciences content (particularly upper-level courses) and provide a 4+1 pathway to completing the MAT program and the graduate-level coursework necessary for eligibility to teach dual credit courses.

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

09/09/2016

Current Status:

College Council Review

Proposal Progress:

10/01/2018 - Submitted by Department Head (Toby Dogwiler)

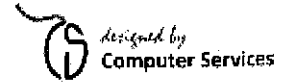
Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**

Missouri State

Curricular Action Workflow



# New Course Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@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:  
BIO

Course Number: (Check Availability)  
212

Course Title:  
Elements of Microbiology

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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

3

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

Prerequisite/Co-requisite or enter 'None':

CHM 116 and 117 or CHM 160; and 4 hours of BIO or BMS courses.

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

Public health aspects of microbiology, particularly causes and control of infectious diseases, immunology, sterilization and disinfection, and food and water bacteriology. A student who takes BIO 212 and BIO 312 receives credit toward graduation only for BIO 312.

Credit Hours:

2

Lecture Contact Hours:

2

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

**Complete Catalog Description:**

BIO 212 Elements of Microbiology

Prerequisite: CHM 116 and 117 or CHM 160; and 4 hours of BIO or BMS courses.

Public health aspects of microbiology, particularly causes and control of infectious diseases, immunology, sterilization and disinfection, and food and water bacteriology. A student who takes BIO 212 and BIO 312 receives credit toward graduation only for BIO 312.

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

Typically offered: Fall, Spring

3

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

Attached

**Purpose of Course**

To introduce Biology majors, Biology minors, pre-veterinary and allied health students to core concepts of microbiology relevant to industry and medicine.

**Relationship to Other Departments**

Elements of Microbiology is part of several degrees in the College of Health and Human Services and the Darr School of agriculture. Elements of Microbiology is required for Nursing, Respiratory Therapy and Radiography programs and dietetics. The appropriate departments have already been contacted about the proposed change.

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

**New Course Resource Information**

Anticipated Average Enrollment per section:	<input type="text" value="144"/>	Maximum Enrollment Limit per section:	<input type="text" value="168"/>
Anticipated Average Enrollment per semester:	<input type="text" value="144"/>	Maximum Enrollment Limit per semester:	<input type="text" value="168"/>
Anticipated Average Enrollment per year:	<input type="text" value="288"/>	Maximum Enrollment Limit per year:	<input type="text" value="288"/>
Faculty Load Assignment (equated hours):	<input type="text" value="2"/>		

Is another course being deleted?  No  Yes

Select course number and title being deleted.

BIO210 Elements of Microbiology

3

**What will this course require in the way of:**

Additional library Holdings

None

Additional computer resources

None

Additional or remodeled facilities

None

Additional equipment or supplies

None

Additional travel funds

None



3

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?

No. Faculty currently teaching BIO210 will teach BIO212

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

Christopher Lupfer, Katy Frederick-Hudson, Angela Plank

What is the anticipated source of students for this course?

Pre-professional and allied health students including pre-veterinary, pre-nursing, pre-physical therapy. Biology majors and minors in some disciplines may also take this course.

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

No. BIO210 will be deleted and students will take BIO212/213 in its place.

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

We are not aware of any courses, outside of biology, that would be affected by this change.

Other comments:

The current Elements of Microbiology course (BIO 210) combines lecture (2 credits) and lab (1 credit) components in a single class. Creating a lecture-only option would facilitate student registration by allowing students to take this portion of microbiology separate from the lab and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.



## MICROBIOLOGY (BIO212) – Fall 2019

### Syllabus and Policy statement

Lecture Time: T, Th 11:00 am – 11:50am  
Lecture Location: Temple 002

Instructor: Christopher Lupfer, PhD  
Office Hours: T, Th 9:00 am – 11:00 am, or by appointment  
Contact info: Office: Temple 254  
Email: [christopherlupfer@missouristate.edu](mailto:christopherlupfer@missouristate.edu)  
Phone: (417)-836-6887

The easiest way to contact me is by email. From time to time, I will email the class announcements or reminders or post announcements on Blackboard, so please make sure you check the course site on Blackboard and your email regularly.

For class related questions, there is a forum on the Discussion Board available titled "Professor's Quorum Sensing". I will check this Discussion Board on a daily basis and will answer questions as needed. I also highly encourage students to read and respond to postings from their classmates. Part of the nature of this class is for students to help each other troubleshoot problems and develop critical-thinking skills. Working through questions on the forum is an excellent method to develop proficiency in these areas.

## COURSE OVERVIEW

Microbiology is a diverse field of biology with applications in medicine, environmental science, biotechnology, and other industries. This class focuses on public health aspects of microbiology, particularly causes and control of infectious diseases, immunology, genetics, biotechnology, metabolism, sterilization/disinfection and food/ water microbiology. Issues involving microorganisms include flu outbreaks, contamination of food and pharmaceuticals, and die offs in fish populations due to bacterial and algal blooms. At the same time, many of the foods we enjoy are made with the aid of microbial organisms (yogurt, cheese); they are also the source of many life-saving antibiotics. It is our intention that you will come away from the course with a better understanding and appreciation of the microbial world. The course is intended for pre-nursing, radiology, dietetics, and physical therapy students, biology majors and minors, pre-professional students, other allied health students, animal science majors and others interested in a current course in microbiology.

## LEARNING OUTCOMES

This course is designed to meet the recommended curriculum guidelines for a general undergraduate course in microbiology as outlined by the American Society of Microbiology. Briefly, at the completion of this course you should be able to:

- Compare and contrast prions, viruses, viroids, prokaryotes (bacteria), and eukaryotes (protozoa, fungi, and helminthes)
- Understand microbial growth, control, and environmental factors influencing growth
- Develop a basic understanding of microbial metabolism and genetics and how they relate to growth
- Describe the role and contribution of microbes in health care, the environment, and industry
- Examine pathogenic microbes and what makes them pathogenic.
- Understand a variety of physical, chemical, medical, and immunological methods for sanitation or sterilization
- Explain terms used in epidemiology

## PREREQUISITES

The prerequisites for the course are: CHM 116 and 117 or CHM 160 (C- or better), and 4 hours of BIO or BMS courses. Each student is responsible for having met the prerequisites prior to enrollment. If you have not met the prerequisites, you must obtain permission from the instructor to remain enrolled. Once a student is enrolled, a lack of prerequisites is no excuse for poor performance.

### Textbook(s):

- The required textbook is Microbiology, A Systems Approach, 5th Edition (McGraw Hill) by Cowan and Smith with the accompanying Connect online access code and learnsmart lab access code. The online access is required and online reading is required, the hard copy of the text book is optional.

### Online course material:

You will access the McGraw-Hill Connect website through links in Blackboard.

### Laboratory:

Section	Instructor	Room Number	Days	Times
1	Mrs. Angela Flann M.S.	Temple 225	W	8:00am-10:00am
3	Ms. Keshia Naffa	Temple 225	W	1:25 pm-3:15pm
4	Ms. Keshia Naffa	Temple 225	W	8:00am-10:00am
5	Ms. Maria Maynada	Temple 225	W	11:15am-1:00pm
7	Ms. Maria Maynada	Temple 225	W	3:35pm-5:25pm

**A separate laboratory syllabus/policy statement will be made available during the first lab period.**

### Grading:

Lecture Exams: There will be 4 lecture exams given during the semester worth 100 points each. You will be allowed to drop the lowest exam score. These exams (~50 questions, ~2 points each) will consist mostly of multiple-choice, true/false, ordering, and matching questions. The exam dates and the material covered on each exam will be subject to change depending on our progress or other unforeseen problems that may arise during the semester (e.g. weather delays, cancellations, etc.). Most of the examination questions will come from the material covered in the lecture. Students should do the assigned **Smartbook** reading in the online textbook to complement the lecture as assigned. Also, additional information from other sources will be added to strengthen the lectures. **For this reason, it is highly recommended you attend the lecture.** Each exam will test largely on new material covered **in class** since a prior exam, but may contain questions that require new and previous material. Students arriving late for exams or quizzes will be allowed to take the exam in the remaining time allotted if no student has finished the exam. If another student finishes the exam, no one will be allowed to start late.

Final Exam: The fourth and final exam will take place during the Final Exam week. The exam will include new material covered in the last quarter of the class (~50 questions, ~2 points each) and will also include a comprehensive component (~25 questions, ~2 point each) covering material tested on earlier in the semester. This exam will follow the format of the lecture exams but will be more extensive and worth 1.25x as much as any individual lecture exam (125 points).

Connect: McGraw Hill's Connect Microbiology website will be used throughout the course in the form of participation (e.g. Smartbook reading assignments, pre-tests, videos, practice problems, etc.) and will be linked to points. These tools are intended to foster understanding and comprehension. Completion of reading assignments (regardless of the answer given) will be worth 75 points and account for 10% of the student's grade (i.e. **FREE POINTS!!** ☺). The Connect Microbiology website will also be used for lecture quizzes. There will be 6 graded online quizzes throughout the semester, each worth 10 points. Students will have 3 days to complete the quiz and will be given 1 attempt. The lowest quiz score will be dropped.

Extra Credit: MSU is a public affairs and community outreach university. In addition, many professions require or look highly on community service activities. Thus, up to 10 points of extra credit will be awarded for community service (2 points for 1 hour of service). If you have an ongoing volunteer activity with organizations such as Ronald McDonald House, COX North Hospital, or Big Brothers Big Sisters, talk with me so we can get that documented. The university also has a Community Involvement Website. There is also the MSU Public Affairs Week with service opportunities. Extra credit for service must be verified and will be added to your grade at the end of the semester.

Grades will be calculated on a standard scale and based on the number of points earned. An explanation of the University's grading system can be found at University Grading policy.

### Grading Scale:

Item	Points each	Total points
3 Lecture Exams	125 points each (drop lowest)	250 points
Final Exam	125 points	125 points

6 Lecture Quizzes	10 points each (drop lowest)	50 points
Connect website Participation	75 points	75 points
	<b>Total Points Possible:</b>	500 points

Percentage	Letter Grade
93-100%	A
90-92.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9	C+
73-76.9	C
70-72.9	C-
67-69.9	D+
60-66.9	D
<60%	F

### Expectations:

#### Attendance:

The University's attendance policy can be found in the Undergraduate Catalog at University attendance policy. Attendance in lecture is expected and may be monitored periodically. Good attendance will generally lead to a better comprehension of the subject. Because class attendance and course grade are demonstrably and positively related, the University expects students to attend all class sessions of courses in which they are enrolled. Each instructor has the responsibility to determine specific attendance policies for each course taught, including the role that attendance plays in calculation of final grades and the extent to which work missed due to non-attendance can be made up. Lecture attendance is not mandatory (you will not lose points), but I **very strongly encourage you to attend class as the majority of the exam material comes from the information presented in class.**

#### Email:

Please email me directly with questions of a regarding grading, advising help or with any other issues that are not appropriate for the rest of the class to read. Please use **ONLY** your MSU email when sending email correspondence to me in this course. As I teach multiple courses each semester, it will help me assist you faster if you include the course name and section number in the subject line of your email. Not including this information could delay my response to you. Please allow 24 hours to respond to your email during the work week, and 48 hours on weekends.

*Unless you have made prior arrangements, or it is specifically stated in the assignment/quiz description, **assignments/quizzed will not be accepted via email.***

#### Makeup work:

We will make efforts to accommodate students whose absence from class resulted from: 1) participation in University-sanctioned activities and programs; 2) serious personal illness; or 3) family and/or other compelling circumstances. If you have an emergency, personal or family, please take care of the emergency and let me know as soon as possible so that we can work out a solution. Emergencies could include a family death or severe illness, personal accident or severe illness, car accident and more. Failing to complete assignments on time for work or

personal reasons will not be considered an emergency. It is your responsibility to schedule your time appropriately and to manage your time commitments. (A doctor's note or other documentation verifying the reason for the absence will be necessary). If no arrangements are made in a timely manner, a zero will be given for the lecture exam or missed course work. **A makeup exam may be varied in format relative to the missed exam, likely consisting of a combination of oral and written essay questions and will be completed outside of class time. Quizzes can only be made-up in extreme circumstances (e.g. prolonged illness) and missed quizzes will normally result in a zero for the quiz.**

Internet: To be successful in this course, you must have reliable computer and Internet access to use Blackboard, Connect and LearnSmart Labs. It is each student's responsibility to have access to a dependable computer and Internet connectivity. It is strongly recommended that, in addition to your standard means of access, you have an alternative plan for acquiring course materials, should your computer fail to function or your Internet connectivity becomes disrupted. The MSU campus library is an excellent option if it is nearby; otherwise, most public libraries offer Internet access. If you have a laptop computer, then familiarity with local "hotspots" might also serve you well. It is your responsibility to actively and proactively address technical problems. Therefore, develop a plan to address technical problems before they arise as extra time will not be given to complete assignments on blackboard or connect due to technical issues. **Do not procrastinate.**

If you need assistance with Blackboard the MSU helpdesk can be reached by phone at 417-836-5891 or by emailing HelpDesk@MissouriState.edu. You can also visit the Help Desk website for a live chat option. For issues with the Connect website, contact McGraw Hill directly.

**Dropping the Class:**

It is the student's 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. To review the relevant drop deadlines, see the Academic Calendars website for deadlines.

**In-class Technology Policy:**

I use a web based student response system that you can use to answer questions through your phone, tablet or laptop. Use of electronic devices for responding to questions is encouraged. However, 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. **I reserve the right to ask you to leave the class if cell phone or electronic device usage becomes distracting to others in the class and to remove participation points from your grade! I do not allow**

**electronic devices of any kind during tests. If I see one out during a test I reserve the right to give you an F and take additional actions as outlined in the honor code.** See academic honesty below and the Student Academic Integrity Policies and Procedures.

#### Disabilities:

If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

#### Nondiscrimination and student conduct:

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.

Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred for disciplinary action.

#### Academic Honesty:

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 (link) 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. Below are some examples. These are not all inclusive!

- cheating- use/attempted use of unauthorized materials, information or study aids
- fabrication- falsification or invention of any information
- assisting- helping another commit an act of academic dishonesty
- tampering- altering or interfering with evaluation instruments and documents
- plagiarism- representing the words or ideas of another person as one's own

**All students must do their own work. Even if you are working in a group, you must fill out your own notebooks or assignments.**



Audio and video recording course activity:

Students who wish to record lectures or class activities for study purposes should inform the faculty member first. **Distribution or sale of recordings or other course materials is prohibited without the written permission of the instructor and other students who are recorded.** Distribution without permission is a violation of copyright law and the Code of Student Rights and Responsibilities (Sections 4.6, 4.8, 4.9).

Religious accommodation:

The University may provide a reasonable accommodation based on a person's sincerely held religious belief. In making this determination, the University reviews a variety of factors, including whether the accommodation would create an undue hardship. The accommodation request imposes responsibilities and obligations on both the individual requesting the accommodation and the University. Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious belief shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

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. 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 Larry Combs, Interim Assistant Director of Public Safety and Transportation at 836-6576. For more information go to Emergency Quick Reference and Emergency Operations Plan.

Shelter Information (in case of severe weather such as tornados).

Building	Shelter Information
Temple Hall	Evacuate fourth floor using central, east, northwest and southwest stairs. Basement and 1st Floor: Shelter in Basement hallway, Rooms 1, 2, 3, interior labs and classrooms. 2nd floor and 3rd floor, Shelter in interior labs and classrooms

Evacuation Instructions (in case the building needs to be evacuated for events such as fire, gas leak, etc.)

Building	Evacuation Information
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Temple Hall	North to Meyer Library Main Entrance; Alternate: Northwest to Glass Hall rooms 101, 102 and 108; and West to Kemper Hall. (Destination will be determined by type of emergency and weather condition.)
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**Lecture Schedule:**

The following schedule for lecture topics is a guideline and is subject to change depending on our progress or extenuating circumstances during the semester.

DATE	TOPIC	CHAPTERS
<b>Unit 1</b>		
8/21	Course Introduction, Brief History of Microbiology	1
8/23	Microscopes, tools and classification	2-3
8/28	Prokaryotes	4
8/30	Eukaryotes	5
9/4	Microbial nutrition and growth	7
9/6	Catchup and Review	
9/11	<b>Exam I</b>	
<b>Unit 2</b>		
9/13	Controlling microbial growth	11
9/18	Antimicrobial drugs	12
9/20	Genetics	9
9/25	Regulation of genes and proteins, Genetic engineering	10
9/27	Metabolism	8
10/2	Catchup and Review	
10/4	<b>Exam II</b>	
<b>Unit 3</b>		
10/9	Environmental, applied and industrial microbiology	24-25
10/11	<b>FALL HOLIDAY (NO CLASS)</b>	
10/16	Viruses, viroids and prions	6
10/18	Microbe-Human Interactions (good and bad)	13
10/23	Innate immunity	14
10/25	Adaptive immunity	15
10/30	Infection of the Skin and Eyes	18
10/31	Infections of the blood and lymph	20
11/6	Catchup and Review	
11/8	<b>Exam III</b>	
<b>Unit 4</b>		
11/13	Respiratory Infections	21
11/15	Gastrointestinal Infections	22
11/20	Epidemiology	13
11/22	<b>Thanksgiving Holiday (NO CLASS)</b>	
11/27	Diagnosing Infections	17
11/29	Genitourinary Infections	23
12/4	Nervous system infections	19
12/6	REVIEW	
12/7	<b>STUDY DAY (NO CLASSES)</b>	
12/13	<b>FINAL EXAM (11am-1pm)</b>	

# Missouri State

Curricular Action Workflow



## New Course Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@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:

BIO

Course Number: (Check Availability)

213

Course Title:

Elements of Microbiology Laboratory

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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

4

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

Prerequisite/Co-requisite or enter 'None':

BIO212 or concurrent enrollment

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

Microbiology laboratory class associated with BIO212 with emphasis on development of sound laboratory skills. A student who takes BIO 213 and BIO 313 receives credit toward graduation only for BIO 313.

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

**Complete Catalog Description:**

BIO 213 Elements of Microbiology Laboratory

Prerequisite: BIO212 or concurrent enrollment

Microbiology laboratory class associated with BIO212 with emphasis on development of sound laboratory skills. A student who takes BIO 213 and BIO 313 receives credit toward graduation only for BIO 313.

Credit hours: 1 Lecture contact hours: 0 Lab contact hours: 2

Typically offered: Fall, Spring

4

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

Attached

**Purpose of Course**

To instruct students on basic microbiology techniques and experiments relevant to healthcare and industry.

**Relationship to Other Departments**

Elements of Microbiology is part of several degrees in the College of Health and Human Services and the Darr School of agriculture. Elements of Microbiology is required for Nursing, Respiratory Therapy and Radiography programs and dietetics. The appropriate departments have already been contacted about the proposed change.

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

**New Course Resource Information**

Anticipated Average Enrollment per section:	<input type="text" value="24"/>	Maximum Enrollment Limit per section:	<input type="text" value="24"/>
Anticipated Average Enrollment per semester:	<input type="text" value="144"/>	Maximum Enrollment Limit per semester:	<input type="text" value="168"/>
Anticipated Average Enrollment per year:	<input type="text" value="144"/>	Maximum Enrollment Limit per year:	<input type="text" value="288"/>
Faculty Load Assignment (equated hours):	<input type="text" value="2"/>		

Is another course being deleted?  No  Yes

**What will this course require in the way of:**

**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?

Faculty that taught the laboratory sections for BIO310 lab will now teach BIO313 instead.

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

Christopher Lupfer, Angela Plank, Katy Frederick-Hudson

What is the anticipated source of students for this course?

Pre-professional and allied health students including pre-veterinary, pre-nursing, pre-physical therapy. Biology majors and minors in some disciplines may also take this course.

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

No. BIO210 will be deleted and students will take BIO212/213 in its place.

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

We are not aware of any courses, outside of biology, that would be affected by this change.

Other comments:

The current Elements of Microbiology course (BIO 210) combines lecture (2 credits) and lab (1 credit) components in a single class. Creating a laboratory-only option would facilitate student registration by allowing students to take this portion of microbiology separate from the lecture and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.



# Fall 2019 Biology 213- Elements of Microbiology Laboratory

## Laboratory Schedule and Statement of Policy

### Section 07

Laboratory Instructor:       **XXXXX**  
 Office:                           **XXXX**  
 Phone:                           **XXXX**  
 E-mail:                           **XXXX**  
 Office Hours:                   **XXXX**

Biology 210, Elements of Microbiology, is intended for nursing, radiology, dietetics, and physical therapy students, biology majors and minors, pre-professional students, other allied health students, animal science majors, and others interested in a current course in microbiology.

### Educational Goals

- Students be familiar with the principles, operation, problems and limitations of microbiological laboratory practices and instrumentation.
- Students will be able to collect, analyze, interpret, evaluate, and present data and other information in a competent matter.
- Students understand the importance and interrelations of major microbiological concepts, tenets and principles.

### Laboratory Time and Room

COURSE /SECTION	INSTRUCTOR	DAYS	START TIME	END TIME	BUILDING /ROOM
<b>BIO 210-A</b>	Chris Lupfer	T/R	11:00 AM	11:50 AM	TEMP 0002
<b>BIO 210-001</b>	Angela Plank	W	9:05 AM	10:55 AM	TEMP 0235
<b>BIO 210-002</b>	Keslie Naffa	W	9:05 AM	10:55 AM	TEMP 0228
<b>BIO 210-005</b>	Keslie Naffa	W	11:15 AM	1:05 PM	TEMP 0228
<b>BIO 210-003</b>	Parris Mayhood	W	1:25 PM	3:15 PM	TEMP 0228
<b>BIO 210-007</b>	Parris Mayhood	W	3:35 PM	5:25 PM	TEMP 0228

### Laboratory Instructors

**Angela Plank, M.S.**- Lab Supervisor, Biology Department Advising Coordinator, Temple 217, 836-6851, [AngelaPlank@MissouriState.edu](mailto:AngelaPlank@MissouriState.edu)  
**Bruce Green**- Graduate Student, Temple 240B, [Bruce720@live.missouristate.edu](mailto:Bruce720@live.missouristate.edu)  
**Katy Frederick, PhD**- Lab Coordinator, Temple 236, [KFrederickHudson@MissouriState.edu](mailto:KFrederickHudson@MissouriState.edu)  
**Keslie Naffa**- Graduate Student, Temple 240B, [keslie1994@live.missouristate.edu](mailto:keslie1994@live.missouristate.edu)  
**Parris Mayhood**- Graduate Student, Temple 240B, [parris417@live.missouristate.edu](mailto:parris417@live.missouristate.edu)

## Laboratory Dress and Safety

All students are required to read the safety rules on p. xi-xiii in the laboratory manual prior to the first lab meeting. A safety statement containing these rules will be provided to the student, which must be signed before any hands-on laboratory work is performed. In the lab, students are *required* to wear closed toe shoes and to have appropriate attire (ex: at least short sleeves and thighs fully covered). This includes anytime you are working in the lab outside of class as well. If you are not appropriately dressed you will be asked to leave and will be counted as absent.

## Laboratory Equipment

You will be responsible for all laboratory equipment used, and each individual is especially urged to help maintain cleanliness in the laboratory. Attention should be given to the microscopes. Our microscopes are used by multiple sections of other microbiology courses, and it is imperative that the utmost care be used in the operation and maintenance of the microscope. Your laboratory instructor will insist that you follow the special precautions outlined on page 3 of your laboratory manual.

Each student is required to furnish the following items: **microscope slides**. Your instructor will provide you with information on these supplies during your first laboratory meeting. **Please refrain from purchasing these materials until after the first laboratory session.** Note that cover slips and wax pencils will be provided and are not necessary purchases.

## Textbooks

The required (custom) laboratory manual is *Benson's Microbiological Applications* by Alfred E. Brown. This book is available at the MSU bookstore. Because it is a customized book, care should be taken when purchasing from other vendors.

## Blackboard

The Blackboard Learning System is a Web-based server software platform for course management. With this, you will have access to Connect Online where you will complete prelabs using LearnSmart Labs. You may take each quiz as many times as you like to get full credit. You must use blackboard to access additional information including lecture PowerPoints, assignments, announcements, lab notes, as well as grades.

## Disability accommodation-

**Microbiology's statement-** please let us know how we can help you access and learn the material ASAP. We want to be helpful and we cannot make changes retroactively.

**University's Statement-** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

## Laboratory procedures and attendance

Exercises from your laboratory manual have been selected for completion in the laboratory. **Each student is required to follow safety rules provided on page xi-xiii of your laboratory manual.** Before coming to laboratory, the student is required to read and understand the theory and procedures for each exercise that is assigned. You are required to keep records of your observations in the appropriate section of your laboratory manual or separate notebook. You will be working with a partner throughout the semester. You may wish to select that partner on the first day of classes if you are familiar with others in your section. You may be directed by your instructor to sit out of performing procedures if you are unable to complete the tasks safely. If you have difficulty working with a particular person, please contact your instructor. Any issues or concerns with your instructor should be directed to the Lab Coordinator: Dr. Frederick, Lab Supervisor: Ms. Plank or Instructor of Record: Dr. Lupfer.

**Attendance in laboratory is required.** Five points will be deducted from the student's laboratory points for each unexcused absence. Documentation must be made available for an absence to be excused. Students missing more than 2 laboratory periods **must** schedule a conference with the instructor to discuss the consequences of excessive absences. No provision for make-up quizzes is in place. Only in **extreme circumstances, and permission granted,** will a test be administered for a missed laboratory exam. The make-up test will be oral and will be scored by two laboratory instructors. Students should consult the **University Attendance Policy Statement**, which can be found at Registrar's website.

**Outside classwork will be required on occasion** to follow up on results. More extensive time may be required during work on unknowns which is partially done outside of class time.

## Dropping the class

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. See Academic Calendars for deadlines.

## Examinations and Grading

Laboratory examination dates are provided on the attached schedule. There are two laboratory exams, one at the midterm and one at the final worth 100 points each. Make-up laboratory examinations are rarely given since they are primarily a practical exam. If you are late, you are not allowed to start the exam after the first exam has been collected. If you must miss an exam, you may be given an oral examination by at least two of the laboratory instructors after asking permission **ahead** of time. If you do not ask permission ahead of time, it may be the decision of the instructor **not** to administer a makeup exam. It is unlikely you will be allowed to take a make-up exam if you fail to notify your instructor in advance.

There are five lab quizzes and the mandatory identification of an unknown microorganism all worth 10 points each. The lowest lab quiz is dropped leaving a total of 40 points to be added to your lab exam total. No provisions for making up points are made if you miss a laboratory quiz. **If you are late, you are not allowed to start the quiz after the last quiz has been collected.** Laboratory attendance is **mandatory** and there are no make-up laboratories for this course, since lab materials and cultures are not available at a later date.

Your final laboratory grade will consist of two laboratory examinations (100 points each), five ten point unannounced quizzes (drop the lowest quiz, 40 points total), a ten point **mandatory** unknown identification (10 points) and 50 pre-lab points through LearnSmart Labs. The sum of these adjusted points earned in lab will be divided by 300 (possible points) to calculate the lab grade.

### 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 academic integrity policy plus additional more-specific policies for each class. A copy of the university policy, formally known as the "Student Academic Integrity Policies and Procedures" is 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.

### 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. For more information please visit the Office for Institutional Equity and Compliance office's website.

### Religious Accommodation

The University may provide a reasonable accommodation based on a person's sincerely held religious belief. In making this determination, the University reviews a variety of factors, including whether the accommodation would create an undue hardship. The accommodation request imposes responsibilities and obligations on both the individual requesting the accommodation and the University. Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious belief shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

### Cell Phone Policy

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

Students who require assistance during an emergency evacuation must discuss their needs with their professors and Disability Services. 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 Office of Disability Services, 836-4192 (PSU 405), or Larry Combs, Interim Assistant Director of Public Safety and Transportation at 836-6576. For further information follow the hyperlink to Missouri State University's Emergency Response Plan. Students will 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. For more information go to Emergency Quick Reference Guide and Campus Emergency Response Plan.

Shelter instructions in case of severe weather

Building	Shelter Information
Temple Hall	Shelter in interior labs and classrooms

Evacuation Instructions (in case of fire, gas leak, etc.)

Building	Evacuation Information
Temple Hall	Northwest to Glass Hall rooms 101, 102 and 108; and West to Kemper Hall.

## Audio and Video Recording

Students who wish to record lectures or class activities for study purposes should inform the faculty member first. Distribution or sale of recordings or other course materials is prohibited without the written permission of the instructor and other students who are recorded. Distribution without permission is a violation of copyright law and the Code of Student Rights and Responsibilities (Sections 4.6, 4.8, 4.9).

Week	Date	Exercises
1	August 22	Check-in, <b>Ex. 1:</b> Brightfield Microscopy and <b>Ex. 8:</b> The Fungi: Molds and Yeasts
2	August 29	<b>Ex. 7:</b> Ubiquity of Bacteria, <b>Ex. 9:</b> Aseptic Technique, <b>Ex. 10:</b> Pure Culture Technique
3	September 5	<b>Ex. 11:</b> Smear Preparation and <b>Ex. 12:</b> Simple Staining
4	September 12	<b>Ex. 15:</b> Gram Staining
5	September 19	<b>Ex. 21:</b> Enumeration of Bacteria, <b>Ex. 31:</b> UV Light: Lethal Effects
6	September 26	<b>Ex. 34:</b> Antibiotic Sensitivity Testing: The Kirby Bauer Method and <b>Ex. 35:</b> Evaluation of Antiseptics and Disinfectants
7	October 3	<b>Ex. 27:</b> Effects of Oxygen, <b>Ex. 28:</b> Temperature: Effects on Growth and <b>Ex. 30:</b> Water Activity and Osmotic Pressure (Demonstrations)
8	October 10	<b>Examination I-Midterm Exam</b>
9	October 17	<b>Ex. 40:</b> Physiological Characteristics: Hydrolytic Reactions

10	October 24	Ex 39: Physiological Characteristics: Oxidation and Fermentation Tests.*Take-home quiz*
11	October 31	Ex. 41: Multiple Test Media (amended), Ex. 39 cont. and <b>START UNKNOWNNS</b>
12	November 7	Ex. 70: The <i>Streptococci</i> : Isolation and Identification
13	November 14	Ex. 69: The Staphylococci: Isolation and Identification and Ex. 70 cont. Ex 72: Synthetic Epidemic. <b>UNKNOWNNS DUE</b>
14	November 21	<b>Thanksgiving Holiday; no classes</b>
15	November 28	Ex 76: WBC Counts, cont. Ex 70 and 69
16	December 5	<b>Examination II - Final Lab Exam</b>

Lab schedule is subject to change dependent upon availability of cultures and expendable materials.

5

# Missouri State

Curricular Action Workflow



## New Course Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@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:

BIO

Course Number: (Check Availability)

312

Course Title:

Microbiology

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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

5

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

Prerequisite/Co-requisite or enter 'None':

"C-" or better in BIO 235 and 236 or BMS 230 or BMS 231; and "C-" or better in CHM 116 and 117 or CHM 160.

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

Fundamental principles of microbiology for Biology majors and pre-professional students. A student who takes BIO 212 and BIO 312 receives credit toward graduation only for BIO 312.

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

**Complete Catalog Description:**

BIO 312 Microbiology  
 Prerequisite: "C-" or better in BIO 235 and 236 or BMS 230 or BMS 231; and "C-" or better in CHM 116 and 117 or CHM 160.  
 Fundamental principles of microbiology for Biology majors and pre-professional students. A student who takes BIO 212 and BIO 312 receives credit toward graduation only for BIO 312.  
 Credit hours: 3 Lecture contact hours: 3 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.

Attached

**Purpose of Course**

To introduce Biology majors and pre-professional students to core concepts of microbiology relevant to ecology, industry and medicine.

**Relationship to Other Departments**

Microbiology is part of two degrees in the College of Health and Human Services. Microbiology is required for Clinical Laboratory Science and is an option for Cellular and Molecular Biology. The appropriate departments have already been contacted about the proposed change.

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

**New Course Resource Information**

Anticipated Average Enrollment per section:	<input type="text" value="120"/>	Maximum Enrollment Limit per section:	<input type="text" value="120"/>
Anticipated Average Enrollment per semester:	<input type="text" value="120"/>	Maximum Enrollment Limit per semester:	<input type="text" value="120"/>
Anticipated Average Enrollment per year:	<input type="text" value="240"/>	Maximum Enrollment Limit per year:	<input type="text" value="240"/>
Faculty Load Assignment (equated hours):	<input type="text" value="3"/>		

Is another course being deleted?  No  Yes

Select course number and title being deleted.

BIO310 Microbiology

**What will this course require in the way of:**

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?

The students in the new course are those that are currently enrolled in BIO 310. Therefore, no new faculty are required.

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

Christopher Lupfer, Babur Mirza

5

What is the anticipated source of students for this course?

Biology majors and Cellular and Molecular Biology Majors.

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

No. Microbiology is a core course for all Microbiology/Biotech majors and an option for many General Biology majors.

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

We are not aware of any courses, outside of biology, that would be affected by this change.

Other comments:

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating a lecture-only option would facilitate student registration by allowing students to take this portion of microbiology separate from the lab and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

5

09/14/2018 - Department Head Review - S Mathis - Separating lecture and lab components also facilitates assigning transfer credit to students whose transfer course included only a 3-hr lecture or a 2-hr lab.

**Copy As New Proposal**



**MICROBIOLOGY (BIO312)**  
**Syllabus and Policy statement**

Lecture Time: M, W, F 10:10 am – 11:00am  
Lecture Location: Glass Hall 101

Instructor: Christopher Lupfer, PhD

Office Hours: T, Th 9:00 am – 11:00 am, or by appointment

Contact info: Office: Temple 254

Email: [christopherlupfer@missouristate.edu](mailto:christopherlupfer@missouristate.edu)

Phone: (417)-836-6887

The easiest way to contact me is by email. From time to time, I will email the class announcements or reminders or post announcements on Blackboard, so please make sure you check the course site on Blackboard and your email regularly.

For class related questions, there is a forum on the Discussion Board available titled "Professor's Quorum Sensing". I will check this Discussion Board on a daily basis and will answer questions as needed. I also highly encourage students to read and respond to postings from their classmates. Part of the nature of this class is for students to help each other troubleshoot problems and develop critical-thinking skills. Working through questions on the forum is an excellent method to develop proficiency in these areas.

**A separate laboratory syllabus/policy statement will be made available during the first lab period.**

## **I. COURSE DESCRIPTION**

Microbiology is a diverse field of biology with applications in medicine, environmental science, biotechnology, and other industries. The study of microorganisms has greatly expanded our understanding of biological processes. Issues involving microbial organisms permeate contemporary news ranging from flu outbreaks, contamination of food and pharmaceuticals, and die offs in fish populations due to bacterial and algal blooms. At the same time, many of the foods we enjoy depend on the byproducts of microbial organisms (yogurt, cheese). Although only a small fraction of microorganisms are the cause of many infectious diseases, they are also the source of many life-saving antibiotics but most are innocuous. It is our intention that you will come away from the course with a better understanding and appreciation of the microbial world.

## **II. COURSE COMPETENCIES**

*This course is designed to meet the recommended curriculum guidelines for a general undergraduate course in microbiology as outlined by the American Society of Microbiology. Briefly, at the completion of this course you should be able to:*

- Explain and describe the cellular structures and functions of Bacteria, Archaea, Eukarya, and viruses
- Understand microbial growth, control, and environmental factors influencing growth
- Have a working knowledge of microbial metabolism and how it relates to growth
- Fully understand the flow of genetic information, genetic systems, and mutations
- Understand genomics and how it can be used to study living organisms
- Understand evolutionary concepts at the microbial level
- Describe the contribution microbes make to environmental nutrient cycling
- Understand introductory level immunological concepts
- Understand introductory level microbial pathogenesis mechanisms and disease
- Perform fundamental laboratory techniques
- Perform and analyze a variety of laboratory tests applicable to microorganisms

### III. PREREQUISITES

The prerequisites for the course are: BIO 235/236 Principles of Genetics or BMS 230/231 Human Genetics (C- or better) and CHM 116/117 Fundamentals of Chemistry or CHM 160 General Chemistry I (C- or better). Each student is responsible for having met the prerequisites prior to enrollment. If you have not met the prerequisites, you must obtain permission from the instructor to remain enrolled. Once a student is enrolled, a lack of prerequisites is no excuse for poor performance.

#### Textbook(s):

- The required textbook is Prescott's Microbiology, 10th Edition (McGraw Hill) by Willey, Sherwood and Woolverton with the accompanying Connect online access code.

Connect Smartbook reading assignments are accessed through links on the Blackboard website

#### Grading:

**Lecture Exams:** There will be 3 equally weighted lecture exams given during the semester. These exams (~50 questions, ~2 points each) will consist mostly of multiple-choice, true/false, ordering, and matching questions. The exam dates and the material covered on each exam will be subject to change dependent on our progress or other unforeseen problems that may arise during the semester (e.g. weather delays, cancellations, etc.). Most of the examination questions will come from the material covered in the lecture. Students should do the assigned **Smartbook** reading in the text to complement the lecture. Also, additional information from other sources will be added to strengthen the lectures. **For this reason it is highly recommended that the lecture be attended.** Each exam will test largely on new material covered in class since a prior exam, but may contain questions that require new and previous material. Students arriving late for exams will be allowed to take the exam in the remaining time allotted provided that an exam has not already been completed and turned in by another student.

**Final Exam:** The fourth and final exam will take place during the Final Exam week. The exam will include new material covered in the last quarter of the class (~50 questions, ~2 points each) and will also include a comprehensive component (~25 questions, ~2 point each) covering material tested on earlier in the semester. This exam will follow the format of the lecture exams but will be more extensive and worth 1.5x as much as any individual lecture exam.

**Connect:** McGraw Hill's Connect Microbiology website will be used throughout the course in the form of participation (e.g. Smartbook reading assignments, pre-tests, videos, practice problems, etc.) and will be linked to points. These tools are intended to foster understanding and comprehension. Completion of these exercises will be worth 170 points and account for 17% of the student's grade. If you score at least 50% on each reading assignment, then you will receive full credit for the assignment. You may repeat reading assignments as many times as you wish. The Connect Microbiology website will also be used for lecture quizzes. There will be 9 online quizzes throughout the semester. Students will have 3 days to complete the quiz and will be given 1 attempt. Each quiz must be completed in one sitting.

Grades will be calculated on a standard scale and based on the number of points earned. An explanation of the University's grading system can be found at <http://www.missouristate.edu/registrar/catalog/grades.html>.

**Grading Scale:**

*Failure of either the lecture or the lab portion (i.e. lower than 60%) will result in a failing course grade. For example, if you get an F in the lecture but an A in lab, you still fail the whole course!!! Similarly, if you get an A in lecture but an F in lab, you fail the whole course!!!*

93-100%	A	4.00	Outstanding
90-93	A-	3.70	Excellent
88-90	B+	3.30	Near Excellent
83-88	B	3.00	Very Good
80-83	B-	2.70	Good
78-80	C+	2.30	Slightly Above Satisfactory
73-78	C	2.00	Satisfactory
70-73	C-	1.70	Slightly Below Satisfactory
68-70	D+	1.30	Passing work
60-68	D	1.00	Minimum Passing work
< 60%	F	0.00	Failed

<b>3 Lecture Exams</b>	100 points each (drop lowest)	200 points
<b>9 Lecture Quizzes</b>	10 points each (drop lowest)	80 points
<b>Connect website Participation</b>	170 points	170 points
<b>Final Exam</b>	150 points	150 points
	<b>Total Points Possible:</b>	<b>600 points</b>

**Expectations:**

**A. Attendance:**

The University's attendance policy can be found in the Undergraduate Catalog at [www.missouristate.edu/registrar/attendan.html](http://www.missouristate.edu/registrar/attendan.html). Attendance in lecture is expected and may be monitored periodically. Good attendance will generally lead to a better comprehension of the



subject. Because class attendance and course grade are demonstrably and positively related, the University expects students to attend all class sessions of courses in which they are enrolled. Each instructor has the responsibility to determine specific attendance policies for each course taught, including the role that attendance plays in calculation of final grades and the extent to which work missed due to non-attendance can be made up. Lecture attendance is not mandatory (you will not lose points), but **I very strongly encourage you to attend class as the majority of the exam material comes from the information presented in class. Laboratory attendance is mandatory. Five points will be deducted from your cumulative point total for each unexcused lab missed.** Good class participation will be looked upon favorably for those students that find themselves on a letter grade borderline.

#### B. Email:

Please email me directly with questions of a regarding grading, advising help or with any other issues that are not appropriate for the rest of the class to read. Please use **ONLY** your MSU email when sending email correspondence to me in this course. As I teach multiple courses each semester, it will help me assist you faster if you include the course name and section number in the subject line of your email. Not including this information could delay my response to you. Please allow 24 hours to respond to your email during the work week, and 48 hours on weekends.

*Unless you have made prior arrangements, or it is specifically stated in the assignment/quiz description, **assignments/quizzed will not be accepted via email.***

#### C. Makeup work:

We will make efforts to accommodate students whose absence from class resulted from: 1) participation in University-sanctioned activities and programs; 2) serious personal illness; or 3) family and/or other compelling circumstances. If you have an emergency, personal or family, please take care of the emergency and let me know as soon as possible so that we can work out a solution. Emergencies could include a family death or severe illness, personal accident or severe illness, car accident and more. Failing to complete assignments on time for work or personal reasons will not be considered an emergency. It is your responsibility to schedule your time appropriately and to manage your time commitments. (A doctor's note or other documentation verifying the reason for the absence will be necessary). If no arrangements are made in a timely manner, a zero will be given for the lecture exam or missed course work. **A makeup exam may be varied in format relative to the missed exam, likely consisting of a combination of oral and written essay questions and will be completed outside of class time. Quizzes can only be made-up in extreme circumstances (e.g. prolonged illness) and missed quizzes will normally result in a zero for the quiz.**

#### D. Blackboard/Connect:

**Technology:** To be successful in this course, you must have reliable computer and Internet access. It is each student's responsibility to have access to a dependable computer and Internet connectivity. It is strongly recommended that, in addition to your standard means of access, you have an alternative plan for acquiring course materials, should your computer fail to function or your Internet connectivity becomes disrupted. The MSU campus library is an excellent option if it is nearby; otherwise, most public libraries offer Internet access. If you have a laptop computer, then familiarity with local "hotspots" might also serve you well. It is your responsibility

to actively and proactively address technical problems. Therefore, develop a plan to address technical problems before they arise as extra time will not be given to complete assignments on blackboard or connect due to technical issues. **Do not procrastinate.**

If you need assistance with Blackboard the MSU helpdesk can be reached by phone at 417-836-5891 or by emailing [HelpDesk@MissouriState.edu](mailto:HelpDesk@MissouriState.edu). You can also visit the [Help Desk website](#) for a live chat option. For issues with the Connect website, contact McGraw Hill directly.

#### **E. Dropping the Class:**

It is the student's 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 417-836-5520. To review the relevant drop deadlines, see Academic Calendars [www.missouristate.edu/registrar/acad\\_cal.html](http://www.missouristate.edu/registrar/acad_cal.html) for deadlines.

#### **F. Technology Policy:**

I use a web based student response system that you can use to answer questions through your phone, tablet or laptop. Use of electronic devices for responding to questions is encouraged. However, 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. **I reserve the right to ask you to leave the class if cell phone or electronic device usage becomes distracting to others in the class and to remove participation points from your grade! I do not allow electronic devices of any kind during tests. If I see one out during a test I reserve the right to give you an F and take additional actions as outlined in the honor code.** See academic honesty below and the [Student Academic Integrity Policies and Procedures](#).

#### **G. Disabilities:**

If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) at the [disability website](#), Meyer Library, Suite 111, Phone: 417-836-4192 or 417-836-6792 (TTY), to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early

notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

#### **H. Nondiscrimination and student conduct:**

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/).

Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred for disciplinary action.

#### **I. Academic Honesty:**

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 (link) 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. Below are some examples. These are not all inclusive!

- cheating- use/attempted use of unauthorized materials, information or study aids
- fabrication- falsification or invention of any information
- assisting- helping another commit an act of academic dishonesty
- tampering- altering or interfering with evaluation instruments and documents
- plagiarism- representing the words or ideas of another person as one's own

**All students must do their own work. Even if you are working in a group during lab, you must fill out your own notebooks or assignments.**

#### **J. 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. 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 Larry Combs, Interim Assistant Director of Public Safety and Transportation at 836-6576. For more information go to <http://www.missouristate.edu/safetran/51597.htm> and <http://www.missouristate.edu/safetran/erp.htm>.

Shelter Information (in case of severe weather such as tornados).

Building	Shelter Information
Glass Hall	1st Floor: Shelter in interior lecture Halls 2nd Floor: Shelter in interior lecture Halls 3rd Floor: Shelter in interior lecture Halls and interior office suites. 4th Floor: Evacuate to 3rd Floor Lecture Halls and Interior Office Suites using northeast, northwest southeast and southwest stairs.

Evacuation Instructions (in case the building needs to be evacuated for events such as fire, gas leak, etc.)

Building	Evacuation Information
Glass Hall	Southwest to Strong Hall Rooms 1, 2, 3 and 4

**Lecture Schedule:**

The following schedule for lecture topics is a guideline and is subject to change depending on our progress or extenuating circumstances during the semester.

DATE	TOPIC	CHAPTER(S)*
1/17	Course Introduction, Brief History of Microbiology	1
1/19	Brief History of Microbiology, Prokaryotic cell structure/function	3-4
1/22	Prokaryotic cell structure/function	
1/24	Prokaryotic cell structure/function, Eukaryotic cell structure/function	5
1/26	Eukaryotic cell structure/function, Microbial Nutrition and growth	7
1/29	Microbial Nutrition and growth	
1/31	Control of microbial growth	8
2/2	Control of microbial growth, Molecular Microbiology & The Central Dogma	9
2/5	Molecular Microbiology & The Central Dogma	13
2/7	Molecular Microbiology & The Central Dogma	15
2/9	<b>Exam I (through Molecular Microbiology &amp; The Central Dogma)</b>	
2/12	Regulation of genes and proteins	14
2/14	Regulation of genes and proteins	
2/16	Viruses and Virology	6
2/19	<b>Presidents Day Holiday</b>	
2/21	Viruses and Virology	
2/23	Prokaryotic genetics and Genetic engineering	17
2/26	Prokaryotic genetics and Genetic engineering	
2/28	Genomics	18
3/2	Genomics	
3/5	Evolution and systematics	1, 16
3/7	Review	
3/9	<b>Exam II (through Evolution and systematics)</b>	
3/12-3/16	<b>Spring Break</b>	

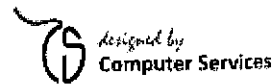
3/19	Basics of metabolism and biosynthesis	10
3/21	Basics of metabolism and biosynthesis	11
3/23	Fermentation	
3/26	Anaerobic respiration	
3/28	Hydrocarbon Metabolism	
3/30	<b>Spring Holiday</b>	
4/2	Chemolithotrophy and nitrogen fixation	12
4/4	Photosynthesis	
4/6	Photosynthesis	28
4/9	Biogeochemical cycles	
4/11	Review	
4/13	<b>Exam III (through Biogeochemical cycles)</b>	
4/16	Microbial ecosystems	30
4/18	Microbial ecosystems	31
4/20	Microbial symbiosis	
4/23	Microbial symbiosis	37
4/25	Epidemiology	
4/27	Epidemiology	36
4/30	Human-microbe interactions - pathogenesis	
5/2	Human-microbe interactions - pathogenesis	33
5/4	Immunology	34
5/7	Immunology	
5/9	REVIEW	
5/11	<b>STUDY DAY (NO CLASSES)</b>	
5/16	<b>FINAL EXAM (8:45-10:45)</b>	

\*Chapters 20-27 contain information on major microbial groups (e.g. phyla, orders, and genera). Information within these chapters often contain good summaries of important features of the organisms described. These chapters are much like an encyclopedia and contain useful information on many organisms and groups of organisms that we cannot cover due to time. For those that we do cover these chapters can be referred to as a quick reference, providing a summary of the organisms key features (metabolism, ecology, etc.). Similarly, chapters 38-40 are encyclopedic reference for diseases and can be used similarly to chapters 20-27. Although most of these chapters will not be explicitly covered, information from these chapters will be periodically added to the lectures to strengthen them.

6

Missouri State

Curricular Action Workflow



# New Course Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@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:

BIO

Course Number: (Check Availability)

313

Course Title:

Microbiology Laboratory

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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

6

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

Prerequisite/Co-requisite or enter 'None':

BIO312 or concurrent enrollment

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

Microbiology laboratory associated with BIO312 for Biology majors and pre-professional students with emphasis on development of sound laboratory skills. A student who takes BIO 313 and BIO 213 receives credit toward graduation only for BIO 313.

Credit Hours:

2

Lecture Contact Hours:

0

Lab Contact Hours:

4

**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:**

BIO 313 Microbiology Laboratory

Prerequisite: BIO312 or concurrent enrollment

Microbiology laboratory associated with BIO312 for Biology majors and pre-professional students with emphasis on development of sound laboratory skills. A student who takes BIO 313 and BIO 213 receives credit toward graduation only for BIO 313.

Credit hours: 2 Lecture contact hours: 0 Lab contact hours: 4

Typically offered: Fall, Spring

6

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

Attached

**Purpose of Course**

To introduce Biology majors and pre-professional students to core concepts of microbiology laboratory techniques relevant to ecology, industry and medicine.

**Relationship to Other Departments**

Microbiology is part of two degrees in the College of Health and Human Services. Microbiology is required for Clinical Laboratory Science and is an option for Cellular and Molecular Biology. It is also part of two programs in the Darr School of Agriculture. The appropriate departments have already been contacted about the proposed change.

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

**New Course Resource Information**

Anticipated Average Enrollment per section:	<input type="text" value="24"/>	Maximum Enrollment Limit per section:	<input type="text" value="24"/>
Anticipated Average Enrollment per semester:	<input type="text" value="120"/>	Maximum Enrollment Limit per semester:	<input type="text" value="120"/>
Anticipated Average Enrollment per year:	<input type="text" value="240"/>	Maximum Enrollment Limit per year:	<input type="text" value="240"/>
Faculty Load Assignment (equated hours):	<input type="text" value="4"/>		

Is another course being deleted?  No  Yes



6

**What will this course require in the way of:**

Additional library Holdings

None

Additional computer resources

None

Additional or remodeled facilities

None

Additional equipment or supplies

None

Additional travel funds

None

6

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?

The students in the new course are those that are currently enrolled in BIO 310. Therefore, no new faculty are required.

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

Christopher Lupfer, Babur Mirza, Angela Plank, Katy Frederick-Hudson

What is the anticipated source of students for this course?

Biology majors and Cellular and Molecular Biology Majors.

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

No. Microbiology is a core course for all Microbiology/Biotech majors and an option for many General Biology majors.

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

We are not aware of any courses, outside of biology, that would be affected by this change.

Other comments:

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating a laboratory-only option would facilitate student registration by allowing students to take this portion of microbiology separate from the lecture in subsequent semesters and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

6

09/14/2018 - Department Head Review - S Mathis - Separating the lecture and lab also facilitates assessment of transfer credit for students who transfer a microbiology course that only includes a 3-hr lecture or a 2-hr lab.

**Copy As New Proposal**

# Laboratory Schedule and Statement of Policy

## Microbiology- 313

### Lab Section Information

#### Section XX

Laboratory Instructor:       **XXX**  
Office:                               **XXX**  
Phone:                               **XXX**  
E-mail:                               **XXX**  
Office Hours:                       **XXX**

### Course Goals

Biology 310, Microbiology, is intended for biology majors and minors, biology majors with an emphasis in microbiology, pre-professional students, and others interested in a modern, general course in microbiology. Students with special needs and requirements should consult with the instructor as early as possible so that arrangements can be made. The educational goal of this laboratory is to provide information so that:

- o Students be familiar with the principles, operation, problems and limitations of microbiological laboratory practices and instrumentation.
- o Students should be able to collect, analyze, interpret, evaluate, and present data and other information in a competent matter.
- o Students understand the importance and interrelations of major microbiological concepts, tenets and principles.

### Laboratory time and room

Section	Time	Days	Room	Instructor
1	9:00-10:50	Tuesday/Thursday	TEMPLE 235	
2	11:00-12:50	Tuesday/Thursday	TEMPLE 235	
3	1:00-2:50	Tuesday/Thursday	TEMPLE 235	
4	3:00-4:50	Tuesday/Thursday	TEMPLE 235	
5	5:00-6:50	Tuesday/Thursday	TEMPLE 235	

### Materials and Textbooks

The required (custom) laboratory manual is *Benson's Microbiological Applications* by Alfred E. Brown. This book is available at the MSU bookstore.

Each student is required to furnish microscope slides. Your instructor will provide you with information on these needed supplies during your first laboratory meeting, so please wait to purchase them until you have been to lab. Note that cover slips, and wax pencils will be provided and are not necessary purchases.

### Laboratory Equipment

You will be responsible for all laboratory equipment used, and everyone is especially urged to help maintain cleanliness in the laboratory. Attention should be given to the microscopes. Our microscopes are used by multiple sections of other microbiology courses, and

(6)

it is imperative that the utmost care be used in the operation and maintenance of the microscope. Your laboratory instructor will insist that you follow the special precautions outlined on page 3 of your laboratory manual.

## Disability Accommodation

**Microbiology's statement-** please let us know how we can help you access and learn the material ASAP. We want to be helpful and we cannot make changes retroactively.

**University's Statement-** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

## Examinations and Grading

Laboratory examination dates are provided on the attached schedule. Each of these exams is worth 100 points and none will be comprehensive. Exams are administered on the *scheduled* exam dates. Additionally, eight unannounced quizzes, worth 10 points each, will be given at the beginning of certain laboratory periods. The material covered on quizzes will include information from the exercise(s) scheduled for that day plus material from the previous laboratory period. Students should expect safety rules to be covered in some manner on the quizzes. The first quiz will be worth 5 points and the additional 5 points will be based on your adherence to the safety precautions throughout the lab period. The lowest score of the eight quizzes will be dropped. In addition, there will be an unknown identification assignment that will be worth 30 points. The sum scores of the seven highest quizzes and the unknown report will be totaled as a major laboratory examination (100 points). There is no make-up provision for a missed quiz, and quizzes are given only during the first ten minutes of the lab period. Quizzes will not be given to anyone who arrives after the quizzes have been collected. **The laboratory grade will account for 40% of the course grade and is composed of the average of three examinations and unannounced quiz/unknown totals. However, you must pass the laboratory component of BIO 310 (>60%) to pass the course. A failing grade in the laboratory will result in the failing of the course, regardless of the student's lecture grade.**

## Laboratory Procedures

Exercises from your laboratory manual have been selected for completion in the laboratory. Before coming to the laboratory, the student is required to read and understand the theory and procedures for each exercise that is assigned. PowerPoint outlines of each week's lab will be posted on the proceeding Friday. You are required to keep records of your observations in the appropriate section of your laboratory manual or separate notebook. It is suggested that you also keep a microorganism list in your notebook for each test period. You will be working with a partner throughout the semester. You may be directed by your instructor to sit out of performing procedures if you are unable to complete the tasks safely. If you have difficulty

working with a particular person, please contact your instructor. Any issues or concerns with your instructor should be directed to the Lab Coordinator: Dr. Frederick, Lab Supervisor: Ms. Plank or Instructor of Record: Dr. Mirza.

### Attendance in laboratory is required.

Five points will be deducted from the student's course grade for each unexcused absence. Students missing more than 2 laboratory periods *must* schedule a conference with the instructor to discuss the consequences of excessive absences. No provision for make-up quizzes is in place. Only in *extreme circumstances*, and *permission granted*, will a test be administered for a missed laboratory exam. The make-up test will be oral and will be independently scored by two laboratory instructors. If you are late to an exam or quiz, you are not allowed to start the exam or quiz after the first assessment has been collected.

### Outside classwork will be required

On occasion to follow you and/or your partner will need to follow up on results. More extensive time may be required during work on independent unknowns which is partially done outside of class time. The lab is open Monday, Wednesday, and Fridays 9-4.

### Laboratory Dress and Safety

All students are required to read the safety rules on p. xi-xiii in the laboratory manual prior to the first lab meeting. A safety statement containing these rules will be provided to the student, which must be signed before any hands-on laboratory work is performed. In the lab, students are *required* to wear closed toe shoes and to have appropriate attire (ex: at least short sleeves and thighs fully covered). This includes anytime you are working in the lab outside of class as well.

### 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 available at the Reserves Desk in Meyer Library. This includes "assisting or attempting to assist another to violate any provision of this Academic Integrity Policy..." This means that leaving a test and informing others who have not yet taken it of what is on the test is considered "cheating." Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.

### Nondiscrimination Policy

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.

### Religious Accommodation

The University may provide a reasonable accommodation based on a person's sincerely held religious belief. In making this determination, the University reviews a variety of factors, including whether the accommodation would create an undue hardship. The accommodation

request imposes responsibilities and obligations on both the individual requesting the accommodation and the University. Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious belief shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

### Dropping a Class

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. See Academic Calendars for deadlines.

### Cell Phone Policy

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.

### Audio and Video Recording

Students who wish to record lectures or class activities for study purposes should inform the faculty member first. Distribution or sale of recordings or other course materials is prohibited without the written permission of the instructor and other students who are recorded. Distribution without permission is a violation of copyright law and the Code of Student Rights and Responsibilities (Sections 4.6, 4.8, 4.9).

### Emergency Response

Students who require assistance during an emergency evacuation must discuss their needs with their professors and Disability Services. 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 Office of Disability Services, 836-4192 (PSU 405), or Larry Combs, Interim Assistant Director of Public Safety and Transportation at 836-6576. For further information go to Missouri State University's Emergency Response Plan.

Shelter instructions in case of severe weather

Building	Shelter Information
Temple Hall	Shelter in interior labs and classrooms

Evacuation Instructions (in case of fire, gas leak, etc.)

Building	Evacuation Information
Temple Hall	Northwest to Glass Hall rooms 101, 102 and 108; and West to Kemper Hall.



## Email Etiquette

When sending any emails to your instructor, be sure to write your class section in the subject line, as well as a brief explanation of your email subject. For example: "BIO 310-1, Gram Staining Question." Failing to place this information in the subject line may result in your email getting lost or misplaced. Emails should have proper greetings and closings. Please allow 24 hours to respond to your email during the work week, and 48 hours on weekends.

# Missouri State

Curricular Action Workflow



## Change Program Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer ([ChristopherLupfer@MissouriState.edu](mailto:ChristopherLupfer@MissouriState.edu)).**

Department:

Biology

### Type of Program

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:


Biology-BA-Minor Required

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

A. General Education Program and Requirements  
 B. Major Requirements  
 1. BIO 121(4), 122(4), 235(3), 236(1); 310(5) or 320(4); 367(3), 368(1), 302(1), 492(0), 550(3)

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)



A. General Education Program and Requirements

B. Major Requirements

1. BIO 121(4), 122(4), 235(3), 236(1); ~~310(5)~~ **312(3), 313(2)** or 320(4); 367(3), 368(1), 302(1), 492(0), 550(3)

2. Select elective courses in biology to total a minimum of 32 hours and include at least 12 hours of 300 level or higher courses. Electives may be selected from one of the following emphases. Advisors can assist students to select electives to emphasize areas that best meet their interest and career goals. Popular areas of emphasis include pre-health studies (pre-medical, pre-veterinary, pre-physical therapy, etc.), microbiology, cell/molecular biology, environmental/conservation biology, and zoology, but other areas of emphasis are also possible.

3. Related Requirements: CHM 201(3) and 202(2), or CHM 342(5) and 343(5) or 344(3); PHY 123(4) and 124(4) or PHY 203(5) and 204(5); MTH 261(5) or 287(3)

4. Public Affairs Capstone Experience will be fulfilled by completion of BIO 367(3), 368(1), 302(1), 492(0) and one additional course from the following: BIO 300(1), 355(4), 370(4), 373(3), 398(1), 399(1-3), 485(1-3), 498(3), 499(1-3), 501(2), 505(3), 508(3), 509(4), 511(4), 512(3), 520(3), 527(1-4), 539(3), 547(3), 561(2), 573(3), 574(2), 575(3), 576(3), 577(3), 578(4), 579(4), 584(3), 589(3). Course may also be used to satisfy the elective courses in biology.

C. Minor Required (or second major)

D. Specific Bachelor of Arts Degree Requirements

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

Title change

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

Reason for Proposed Change:

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating lecture-only and laboratory-only options would facilitate student registration by allowing students to take each portion of microbiology separate and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

09/14/2018 - Department Head Review - S Mathis - The program requirements are not changing, just the course numbers for the lecture and lab.

**Copy As New Proposal**

# Missouri State

Curricular Action Workflow



## Change Program Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@MissouriState.edu).**

Department:

Biology

### Type of Program

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Biology-BS-Minor Required

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

A. General Education Program and Requirements

B. Major Requirements

1. BIO 121(4), 122(4), 235(3), 236(1); 310(5) or 320(4); 367(3), 368(1), 302(1), 492(0), 550(3)

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)

A. General Education Program and Requirements

B. Major Requirements

1. BIO 121(4), 122(4), 235(3), 236(1); ~~310(5)~~ **312(3), 313(2)** or 320(4); 367(3), 368(1), 302(1), 492(0), 550(3)

2. Select elective courses in biology to total a minimum of 36 hours and include at least 12 hours of 300-level or higher courses. Advisors can assist students to select electives to emphasize areas that best meet their interest and career goals. Popular areas of emphasis include pre-health studies (pre-medical, pre-veterinary, pre-physical therapy, etc.), microbiology, cell/molecular biology, environmental/conservation biology, and zoology, but other areas of emphasis are also possible.

3. Public Affairs Capstone Experience will be fulfilled by completion of BIO 367(3), 368(1), 302(1), 492(0) and one additional course from the following: BIO 300(1), 355(4), 370(4), 373(3), 398(1), 399(1-3), 485(1-3), 498(3), 499(1-3), 501(2), 505(3), 508(3), 509(4), 511(4), 512(3), 520(3), 527(1-4), 539(3), 547(3), 561(2), 573(3), 574(2), 575(3), 576(3), 577(3), 578(4), 579(4), 584(3), 589(3). Course may also be used to satisfy the elective courses in biology.

4. Related Requirements: CHM 201(3) and 202(2), or CHM 342(5) and 343(5) or 344(3); PHY 123(4) and 124(4) or PHY 203(5) and 204(5); MTH 261(5) or 287(3)

C. Minor Required (or second major)

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

- Title change                       From option to program (major)

Course changes of under 18 hours

From program (major) to option

Other

Course changes of 18 hours or more

Reason for Proposed Change:

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating lecture-only and laboratory-only options would facilitate student registration by allowing students to take each portion of microbiology separate and repeat lecture or lab independent of each other.

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

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

09/14/2018 - Department Head Review - S Mathis - The program requirements are not changing, just the course numbers for the lecture and lab.

**Copy As New Proposal**

**Missouri State**

Curricular Action Workflow



# Change Program Proposal Form

**Submitted on 09/14/2018 by Christopher  
Lupfer ([ChristopherLupfer@MissouriState.edu](mailto:ChristopherLupfer@MissouriState.edu)).**

Department:

Biology

## Type of Program

Choose One:

- |  |                                   |                                      |
|--|-----------------------------------|--------------------------------------|
| <input type="radio"/> Non-Comprehensive Undergraduate Major        | <input type="radio"/> Option      | <input type="radio"/> Certification  |
| <input checked="" type="radio"/> Comprehensive Undergraduate Major | <input type="radio"/> Minor       | <input type="radio"/> Academic Rules |
| <input type="radio"/> Graduate Program                             | <input type="radio"/> Certificate | <input type="radio"/> Other          |

Does this program include any new courses?

- No  Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:



Biology/Microbiology and Biotechnology-BS

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

- A. General Education Program and Requirements
- B. Major Requirements
  - 1. BIO 121(4), 122(4), 235(3), 236(1), 302(1), 492(0), 550(3)

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
- A. General Education Program and Requirements
  - B. Major Requirements
    - 1. BIO 121(4), 122(4), 235(3), 236(1), 302(1), 492(0), 550(3)
    - 2. PHY 123(4) or 203(5) and PHY 124(4) or 204(5)
    - 3. MTH 138(5) or 181(3), or eligibility for MTH 261 on mathematics placement test
    - 4. BIO ~~310(5)~~ **312(3), 313(2)** or 320(4) or 361(4) or 544(4); consult options below before selecting course
    - 5. CHM 116(4) and 117(1), or CHM 160(4) and 161(1); consult options below before selecting course
    - 6. CHM 201(3) and 202(2), or CHM 302(5) or 342(5); consult options below before selecting course
    - 7. Public Affairs Capstone Experience will be fulfilled by completion of BIO 302(1), 492(0) and two additional courses from the following: BIO 300(1), 355(4), 367(3), 370(4), 373(3), 398(1), 399(1-3), 485(1-3), 498(3), 499(1-3), 501(2), 505(3), 508(3), 509(4), 511(4), 512(3), 520(3), 527(1-4), 539(3), 547(3), 561(2), 573(3), 574(2), 575(3), 576(3), 577(3), 578(4), 579(4), 584(3), 589(3). Courses may also be used to satisfy option requirements.
    - 8. Complete requirements in one of the following options. (Note: With approval of advisor, up to 3 hours of the following can be substituted for one of the BIO courses listed in any option: BIO 300, 399, 499, or 597.)
      - b. Microbiology and Biotechnology (71-87 hours total)
        - 1. Required courses: BIO ~~310(5)~~ **312(3), 313(2)**, 320(4)
        - 2. Complete 21 additional hours in BIO courses with a minimum of 18 hours from the following: BIO 355(4), 508(3), 511(4), 512(3); 505(3) or 515(3); 517(4), 518(2), 520(3), 530(3), 540(4); BMS 524(3) may be substituted for one of these courses; CHM 302(5); or 502(3) and 503(1); or 505(4) may be substituted for one of these courses
        - 3. Related requirements in Chemistry: CHM 160(4), 161(1), 170(3), 171(1); CHM 201(3) and 202(2), or CHM 342(5) and 343(5), or CHM 342(5) and 344(3); CHM 352(3), or CHM 554(3) and 556(3)

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

- Title change
- From option to program (major)

Course changes of under 18 hours  From program (major) to option  Other

Course changes of 18 hours or more

**Reason for Proposed Change:**

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating lecture-only and laboratory-only options would facilitate student registration by allowing students to take each portion of microbiology separate and repeat lecture or lab independent of each other.

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

09/14/2018

**Current Status:**

College Council Review

**Proposal Progress:**

09/14/2018 - Submitted by Department Head (S Mathis)

**Review Comments:**

09/14/2018 - Department Head Review - S Mathis - The program requirements are not changing, just the course numbers for the lecture and lab.

**Copy As New Proposal**

# Missouri State

Curricular Action Workflow



## Change Program Proposal Form

**Submitted on 09/14/2018 by Christopher Lupfer (ChristopherLupfer@MissouriState.edu).**

Department:

Biology

### Type of Program

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:


Biology/Pre-Teacher Education-BS

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

- A. General Education Program and Requirements
- B. Major Requirements
  - 1. BIO 121(4), 122(4), 235(3), 236(1), 302(1), 492(0), 550(3)

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)



- A. General Education Program and Requirements
- B. Major Requirements
  - 1. BIO 121(4), 122(4), 235(3), 236(1), 302(1), 492(0), 550(3)
  - 2. PHY 123(4) or 203(5) and PHY 124(4) or 204(5)
  - 3. MTH 138(5) or 181(3), or eligibility for MTH 261 on mathematics placement test
  - 4. BIO ~~310(5)~~ **312(3), 313(2)** or 320(4) or 361(4) or 544(4); consult options below before selecting course
  - 5. CHM 116(4) and 117(1), or CHM 160(4) and 161(1); consult options below before selecting course
  - 6. CHM 201(3) and 202(2), or CHM 302(5) or 342(5); consult options below before selecting course
  - 7. Public Affairs Capstone Experience will be fulfilled by completion of BIO 302(1), 492(0) and two additional courses from the following: BIO 300(1), 355(4), 367(3), 370(4), 373(3), 398(1), 399(1-3), 485(1-3), 498(3), 499(1-3), 501(2), 505(3), 508(3), 509(4), 511(4), 512(3), 520(3), 527(1-4), 539(3), 547(3), 561(2), 573(3), 574(2), 575(3), 576(3), 577(3), 578(4), 579(4), 584(3), 589(3). Courses may also be used to satisfy option requirements.
  - 8. Complete requirements in one of the following options. (Note: With approval of advisor, up to 3 hours of the following can be substituted for one of the BIO courses listed in any option: BIO 300, 399, 499, or 597.)
    - c. Pre-Teacher Education (71-73 hours total)\*:
      - 1. Required courses: BIO ~~310(5)~~ **312(3), 313(2)**, 361(4), 369(4), 515(3)
      - 2. Complete a minimum of 9 additional hours of upper level Biology courses (with approval of advisor).
      - 3. Related requirements in Chemistry: CHM 160(4), 161(1), 170(3), 171(1); CHM 201(3) and 202(2), or CHM 302(5)
      - 4. Complete the following related science courses: GLG 171(3); GRY 135(4); SCI 505(3)
      - 5. Complete at least one of the following related requirements in Mathematics: MTH 181(3), or eligibility for MTH 261(5) on Mathematics Placement test.

\*This option is designed for students preparing to enter post-graduate studies to become a high school science teach. This program does not include courses in teacher education that are required by the state of Missouri for certification as a teacher. Certification requirements can be met through post-baccalaureate programs or master's program at Missouri State University.

Not Attached

Total Hours: 120

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:

The current microbiology course (BIO 310) combines lecture (3 credits) and lab (2 credit) components in a single class. Creating lecture-only and laboratory-only options would facilitate student registration by allowing students to take each portion of microbiology separate and repeat lecture or lab independent of each other.

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/14/2018 - Submitted by Department Head (S Mathis)

Review Comments:

09/14/2018 - Department Head Review - S Mathis - The program requirements are not changing, just the course numbers for the lecture and lab.

**Copy As New Proposal**

# Missouri State

Curricular Action Workflow



## Change Course Proposal Form

**Submitted on 09/17/2018 by Babur Mirza (BaburMirza@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:

BIO508 Environmental Microbiology

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 508 Environmental Microbiology

Prerequisite: BIO 210 or BIO 310. The study of the ecology of microorganisms and the applied use of microorganisms by man in the environment. Laboratory will emphasize current methods used in the field of environmental microbiology. May be taught concurrently with BIO 608. Cannot receive credit for both BIO 608 and BIO 508. Public

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* S

BIO 508 Environmental Microbiology

Prerequisite: BIO 212 (Lecture) and BIO 213 (lab) or BIO 312 (lecture) and BIO 313 (lab). The study of the ecology of microorganisms and the applied use of microorganisms by man in the environment. Laboratory will emphasize current methods used in the field of environmental microbiology. May be taught concurrently with BIO 608. Cannot receive credit for both BIO 608 and BIO 508. Public Affairs Capstone Experience course. 3(2-2) F

What is changing? Check all boxes that apply.

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

Reason for proposed change

The course numbers of the existing prerequisite (BIO210 and BIO310) have been changed because the lecture and labs are separated into two different sections (BIO212/212, lecture/ lab and Bio312/313, lecture/labs).

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

Because numbers for these courses have been recently changed

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)

09/14/2018

**Current Status:**

College Council Review

**Proposal Progress:**

09/17/2018 - Submitted by Department Head (S Mathis)

**Review Comments:**

No comments have been added to this proposal.

**Copy As New Proposal**





12

# Missouri State

Curricular Action Workflow



## Change Course Proposal Form

**Submitted on 09/20/2018 by Christopher Lupfer (ChristopherLupfer@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:

BIO511 Immunology

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 511 Immunology

Prerequisite: BIO 210 or BIO 310 or BIO 320 or BMS 521. A study of the immune system with emphasis on molecular and cellular mechanisms underlying host-microbe interactions, allergy, transplant rejection, cancer surveillance, and autoimmune disease. Laboratory emphasis on techniques used to address research and diagnostic problems. May be

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 S**

BIO 511 Immunology

Prerequisite: BIO ~~210~~ **212,213** or BIO ~~310~~ **312,313** or BIO 320 or BMS 521. A study of the immune system with emphasis on molecular and cellular mechanisms underlying host-microbe interactions, allergy, transplant rejection, cancer surveillance, and autoimmune disease. Laboratory emphasis on techniques used to address research and diagnostic problems. May be taught concurrently with BIO 611. Cannot receive credit for both BIO 511 and BIO 611. Public Affairs Capstone Experience course. 4(3-2) F

What is changing? Check all boxes that apply.

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

Reason for proposed change

Course numbers for prerequisite courses were changed and needed to be updated for this course.

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
- Student Input

Faculty  
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)

09/20/2018

Current Status:

College Council Review

Proposal Progress:

09/20/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



13

**Missouri State**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/17/2018 by Babur Mirza (BaburMirza@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:

BIO512 Industrial Microbiology

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 512 Industrial Microbiology

Prerequisite: BIO 210 or BIO 310. An introduction to the fundamental concepts of industrial and applied microbiology. The industrial production of proteins, metabolites, polymers, biocides, and vaccines will be discussed in addition to biotransformations and environmental applications. Production improvement strategies that employ both physical

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* ~~S~~

BIO 512 Industrial Microbiology

Prerequisite: BIO 212 (Lecture) and BIO 213 (lab) or BIO 312 (lecture) and BIO 313 (lab). An introduction to the fundamental concepts of industrial and applied microbiology. The industrial production of proteins, metabolites, polymers, biocides, and vaccines will be discussed in addition to biotransformations and environmental applications. Production improvement strategies that employ both physical and modern molecular techniques will be introduced. Laboratory will emphasize the selection of industrially important microorganisms, the theory and operation of a fermentor for the production of proteins, antibiotics, and steroids, use of analytical equipment for monitoring product formation, enzymes analysis, downstream processing, and bio-reactor construction and design. May be taught concurrently with BIO 613. Cannot receive credit for both BIO 613 and BIO 512. Public Affairs Capstone Experience course. 3(2-2) S

What is changing? Check all boxes that apply.

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

Reason for proposed change

The course numbers of the existing prerequisite (BIO210 and BIO310) have been changed because the lecture and labs are separated into two different sections (BIO212/212, lecture/ lab and Bio312/313, lecture/labs).

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):  
Recently, BIO210 and BIO310 classes have been separated into two different lecture and labs sections (BIO212/212, lecture/ lab and Bio312/313, lecture/labs).

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)

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/17/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



14

**Missouri State.**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/17/2018 by Babur Mirza (BaburMirza@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:

BIO517 Microbial Physiology and Metabolism

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

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

14

Current online catalog description:

BIO 517 Microbial Physiology and Metabolism

Prerequisite: BIO 210 or BIO 310 and either [CHM 201 and 202] or CHM 342. Physiology and anatomy of microorganisms including adaptive responses to environmental changes and microbial metabolic diversity will be discussed. Laboratory will emphasize selective isolation and identification of microorganisms, the growth dynamics

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* ~~S~~

BIO 517 Microbial Physiology and Metabolism

Prerequisite: BIO 212-213 lecture and lab or BIO 312-313 lecture and lab, and either [CHM 201 and 202] or CHM 342. Physiology and anatomy of microorganisms including adaptive responses to environmental changes and microbial metabolic diversity will be discussed. Laboratory will emphasize selective isolation and identification of microorganisms, the growth dynamics of microorganisms, and responses by microorganisms to environmental changes. May be taught concurrently with BIO 617. Cannot receive credit for both BIO 617 and BIO 517. 4(2-4) F

What is changing? Check all boxes that apply.

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

Reason for proposed change

The course numbers of the existing prerequisite (BIO210 and BIO310) have been changed because the lecture and labs are separated into two different sections (BIO212/212, lecture/ lab and Bio312/313, lecture/labs).

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
- Student Input



Faculty  
Input

- Accreditation/certification compliance
- Review of catalog information

Other (be

Recently, BIO210 and BIO310 classes have been separated into two different lecture and labs sections (BIO212/212, lecture/ lab and Bio312/313, lecture/labs).

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)

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/17/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



**Missouri State**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/20/2018 by Christopher Lupfer ([ChristopherLupfer@MissouriState.edu](mailto:ChristopherLupfer@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:

BIO520 Pathogenic Microbiology

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

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

15

Current online catalog description:

BIO 520 Pathogenic Microbiology

Prerequisite: BIO 210 or BIO 310. Fundamental principles of pathogenic microbiology; transmission, infection and control of the pathogen. May be taught concurrently with BIO 620. Cannot receive credit for both BIO 620 and BIO 520. Public Affairs Capstone Experience course. 3(3-0) S

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* ~~S~~

BIO 520 Pathogenic Microbiology

Prerequisite: ~~BIO 210,213~~ or ~~BIO 310,313~~. Fundamental principles of pathogenic microbiology; transmission, infection and control of the pathogen. May be taught concurrently with BIO 620. Cannot receive credit for both BIO 620 and BIO 520. Public Affairs Capstone Experience course. 3(3-0) S

What is changing? Check all boxes that apply.

- |   |  |                                      |  |
|---|--|--------------------------------------|--|
| <input type="checkbox"/> Course Code                | <input type="checkbox"/> Course Number ( <u>Check Availability</u> ) | <input type="checkbox"/> Title       | <input checked="" type="checkbox"/> Prerequisite |
| <input type="checkbox"/> Credit Hours/Contact Hours | <input type="checkbox"/> Periodicity                                 | <input type="checkbox"/> Description |  |

Reason for proposed change

Course numbers for prerequisite courses were changed and needed to be updated for this course.

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.

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Routine or annual review/assessment of curriculum | <input type="checkbox"/> Faculty Input | <input type="checkbox"/> 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)

09/20/2018

Current Status:

College Council Review

Proposal Progress:

09/20/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



**Missouri State**

Curricular Action Workflow



# Delete Program Proposal Form

**Submitted on 09/17/2018 by Georgianna Saunders (Gigisaunders@missouristate.edu).**

Department:

Biology

**Type of Program**

Choose One:

Non-Comprehensive

Option

Certification

Undergraduate Major

Minor

Academic Rules

Comprehensive

Certificate

Other

Undergraduate Major

Graduate Program

Title of Program Affected:

Biology Education/Categorical Science-BSED

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

*Attached*

Reason for Proposed Deletion:

The undergraduate biology teacher preparation program (which includes the options of categorical and unified certification) are being replaced by an existing graduate level program (Master of Arts in Teaching).

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

09/14/2018

Current Status:

College Council Review

Proposal Progress:

09/17/2018 - Submitted by Department Head (S Mathis)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**

## Biology Education

### Bachelor of Science in Education (Certifiable grades 9-12)

#### A. General Education Program and Requirements

The following required courses can be used to meet both General Education and Major Requirements: BIO 121(4); MTH 135(3) or 181(3) or 138(5) or 261(5) or 287(3); GLG 110(4) or GRY 135(4) or GLG 171(3) or PHY 100(4) or PHY 123(4)

#### B. Major Requirements

1. Core (32 hours): BIO 121(4), 122(4), 215(2), 235(3), 236(1); 210(3) or 310(5); 361(4), 367(3), 368(1), 515(3); Select elective courses in biology, 300 level or higher, to total a minimum of 32 hours.

2. Related Requirements (6-9 hours): SCI 505(3); MTH 135(3) and MTH 181(3), or MTH 138(5) or 261(5) or 287(3); *Note: MTH 130 cannot be substituted for MTH 135.*

3. Complete the requirements in one of the following grades 9-12 certification areas:

a. **Categorical Science** (12-21 hours): CHM 116(4) and 117(1), or (CHM 160(4) and 161(1) and 170(3) and 171(1)); PHY 100(4) or PHY 123(4) and 124(4); GLG 110(4) or GRY 135(4) or GLG 171(3)

b. **Unified Science** (25 hours): CHM 160(4), 161(1), 170(3), 171(1); PHY 123(4), 124(4); GLG 110(4); GRY 135(4)

4. Public Affairs Capstone Experience will be fulfilled by completion of SCI 214(1), 314(3), 414(3), 493(6), 494(6).

C. Professional Education Courses: A grade of "C" or better in each course is required for state certification.

1. SCI 214(1), 314(3), 414(3), 493(6), 494(6)

2. Professional Education Required Core and Competencies - see Teacher Education Program

D. General Baccalaureate Degree Requirements

E. This program also requires compliance with the Teacher Education Program for eligibility to enroll in Professional Education courses; admission to and continuance in the Teacher Education Program;

approval for supervised teaching; and recommendation for certification which includes following GPA requirements. All GPA requirements include both Missouri State and transfer grades.

1. at least a 2.75 GPA on all course work attempted at all colleges attended
2. at least a 3.00 GPA in the certificate subject area (major field of study) which includes all courses listed under B
3. at least a 3.00 GPA in any additional certificate subject area
4. at least a 3.00 GPA in the professional education courses which includes all courses listed under C; and no grade lower than a "C" in all professional education courses



**Missouri State.**

Curricular Action Workflow



# New Course Proposal Form

**Submitted on 09/21/2018 by Matthew Siebert (MSiebert@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:

CHM

Course Number: (Check Availability)

345

Course Title:

Microscale Organic Chemistry Laboratory

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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':

"C-" grade or better in CHM 171 and 342

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

Learn and apply experimental techniques used in the microscale organic chemistry laboratory, including synthesis, isolation, and characterization of organic molecules.

Credit Hours:

2

Lecture Contact Hours:

1

Lab Contact Hours:

3

**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.

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> Fall   | <input type="checkbox"/> Fall (even-numbered years only)   | <input type="checkbox"/> Fall (odd-numbered years only)   |
| <input checked="" type="checkbox"/> Spring | <input type="checkbox"/> Spring (even-numbered years only) | <input type="checkbox"/> Spring (odd-numbered years only) |
| <input type="checkbox"/> Summer            | <input type="checkbox"/> On Demand only                    |   |

**Complete Catalog Description:**

CHM 345 Microscale Organic Chemistry Laboratory

Prerequisite: "C-" grade or better in CHM 171 and 342

Learn and apply experimental techniques used in the microscale organic chemistry laboratory, including synthesis, isolation, and characterization of organic molecules.

Credit hours: 2 Lecture contact hours: 1 Lab contact hours: 3

Typically offered: Fall, Spring

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 is the laboratory portion of CHM342. CHM342(5) is being split into separate lecture [CHM342(3)] and laboratory [CHM345(2)] components.

**Relationship to Other Departments**

The following programs currently require CHM342(5), which will require modification to: CHM342(3) and CHM345(2):

- a. Biology-Biology Non Comprehensive BA, Biology Non Comprehensive BS, Biology Comprehensive BS, Biology Non Comprehensive BS
- b. Biomedical Sciences-Clinical Laboratory Sciences-Medical Technology
- c. Exercise and Movement Science-Exercise and Movement Science Comprehensive, Pre-Professional

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

**New Course Resource Information**

Anticipated Average Enrollment per section:	20	Maximum Enrollment Limit per section:	20
Anticipated Average Enrollment per semester:	160	Maximum Enrollment Limit per semester:	200
Anticipated Average Enrollment per year:	320	Maximum Enrollment Limit per year:	360
Faculty Load Assignment (equated hours):	3		

Is another course being deleted?  No  Yes

**What will this course require in the way of:**

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 currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

Matthew R. Siebert, Reza Herati, Eric Bosch.

17

What is the anticipated source of students for this course?

Unchanged. This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

Other comments:

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

09/18/2018

Current Status:

College Council Review

Proposal Progress:

09/27/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

Prelab lecture      Online  
 Dr. Matthew Siebert  
 MSiebert@MissouriState.edu  
 Office Hours: MWF, 8:50-9:50 AM., Temple 408

**REQUIRED COURSE MATERIALS**

Textbook      *A Microscale Approach to Organic Laboratory Techniques*, custom ed. Pavia, Lampman, Kriz, and Engel

This textbook contains much of the background and many of the procedures for the experiments and techniques you will carry out in the laboratory. Please note that although there is pre-laboratory material on BlackBoard, that you will (by design) need to review this textbook most weeks to determine the procedure of the experiment(s) and technique(s). **Note that this textbook may not be used while inside the laboratory.**

Other      HGS #1013A, Organic Chemistry Set for Student  
 Laboratory carbon-copy notebook  
 Approved safety goggles  
 Nitrile gloves

**COURSE OBJECTIVES**

Learn and apply experimental techniques used in organic chemistry, including synthesis, isolation, and characterization of organic molecules.

**LAB SECTIONS**

All individual lab section meetings take place in Temple 432.

012	T, 8:00-10:45 AM	307	W, 6:20-9:05 PM
001	T, 11:00 AM-1:45 PM	008	R, 8:00-10:45 AM
002	T, 2:00-4:45 PM	009	R, 11:00 AM-1:45 PM
004	W, 9:05-11:50 AM	010	R, 2:00-4:45 PM
003	W, 12:20-3:05 PM		

**SAFETY**

Each student must pass the start-of-term safety quiz and liability waiver BEFORE working in the lab (see Pavia Technique 1 and BlackBoard Laboratory Technique "Laboratory Safety" to prepare for the quiz). Additionally, each student must pass any experiment-specific laboratory preparedness quiz(zes) and complete the pre-lab activities in her/his carbon-copy notebook BEFORE being admitted to the lab. While in lab you MUST wear safety goggles at all times and wear closed-toed shoes. If you fail to meet these requirements, you will be asked to leave the lab, resulting in a score of zero for that experiment.

**INDEPENDENT WORK**

In this laboratory you are expected to work *independently*; all work must be your own. You do not have "lab partners" and you may not share/use work of others, including (but not limited to): prelaboratory safety quizzes, prelaboratory notebook pages, or data/observations (including interpretations thereof). The preceding (including the spirit of the preceding) are considered a violation of the Student Academic Integrity Policies and Procedures, see "academic dishonesty" statement below.

## DISCLAIMER

I reserve the right to make modifications to this syllabus as necessary. Any modifications will be made with everyone's best interests in mind and will likely benefit you. You will be informed of any changes if/when they occur.

## ATTENDANCE/PARTICIPATION

Students are required to prepare using all pre-laboratory materials posted online (remember that this is serious, you are studying these online materials in lieu of a one-hour lecture), attend assigned lab meetings, and attend lab midterm and final sessions (see below). There are no make-up labs/experiments. If you fail to attend MORE THAN three (3) laboratory periods during the semester, you will receive a grade of "0" for the lab course and non-attendance will be reported to the registrar.

## COMMUNICATION

The University lists email as an official means of communication at Missouri State University. Dissemination of information will be through blackboard announcements and/or email addressed to your Missouri State University email address. As per University policy (Op12.02-4) it is expected that the email will be received and read by the recipient within a reasonable amount of time, as email communications may be time-sensitive. For more information, go to: [http://www.missouristate.edu/policy/Op12\\_02\\_4\\_EmailCommunications.htm](http://www.missouristate.edu/policy/Op12_02_4_EmailCommunications.htm).

## EVALUATION/FEEDBACK

Laboratory Preparedness Quizzes	15%
Informal Reports (12 total)	50%
Exams (2 total)	35%
<b>TOTAL</b>	<b>100%</b>

**Grades:** A 100-89%, B+ 88.99-87%, B 86.99-81%, B- 80.99-79%, C+ 78.99-77%, C 76.99-70%, D 69.99-60%, F below 60%. Grades will not be rounded due to the measures taken to ensure students fall in the proper grade categories.

**Exams:** There will be two exams (one near midterm and one near finals). We will be taking the exams during our normally scheduled Organic Chemistry I lecture time on the dates below. The exams will focus on material covered since the last exam. If you miss an exam, you will receive a grade of "0". There are no make-up exams.

**Midterm Exam:** M 10/8, 8-8:50 AM, Temple 002

**Final Exam:** F 11/30, 8-8:50 AM, Temple 002

**Laboratory preparedness quizzes:** You will take quizzes on the lab BlackBoard site. One start-of-term safety quiz and liability waiver, followed by one quiz for each experiment. These quizzes will focus on information in the appropriate Experiment/Laboratory Techniques section(s) as well as any/all experimental procedures and/or Safety Data Sheet (SDS) information required to SAFELY complete the pre-lab and understand the theory of the experiment. Your lab preparedness quiz is DUE the Monday prior to each experiment at 11:59 PM. **You will not be allowed to enter lab if you have not completed the applicable laboratory preparedness quiz(zes).**

**Informal reports:** You will complete one informal laboratory report for EVERY experiment. Informal reports will largely consist of pre-laboratory preparation, experimental observations, and relatively short post-laboratory experimental processing. Informal reports are DUE at the end of your laboratory period on **the day you complete the experiment**. See BlackBoard for more information on informal reports. **You will not be allowed to enter lab if you have not completed the applicable pre-lab.**

**Discrepancies in grading between lab sections:** If there is substantial discrepancy between the grading styles of different lab instructors, the lab scores may be normalized to ensure that the average lab scores of each section parallel the sections' midterm and final exam averages. **This normalization may result in higher OR lower lab scores.**



**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, Student Academic Integrity Policies and Procedures (<https://www.missouristate.edu/academicintegrity/policies.htm>) 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. Of note in the policy:

**Cheating:** The term "cheating" refers to using or attempting to use unauthorized technology, materials, information, or study aids in any academic exercise (whether intentional or not) or taking any action designed to obtain unearned credit (points) in the class.

**Plagiarism:** The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work or sections of a work of another person without full and clear acknowledgement (whether intentional or not). This includes any material copied directly or paraphrased from the Internet. The unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials, including material taken from or ordered through the Internet, also constitutes plagiarism.

**Facilitating academic dishonesty:** Assisting or attempting to assist another to violate any provision of this Academic Integrity Policy, whether or not that action is associated with any particular course, is considered academic dishonesty.

**Activities applicable to this course that are considered to be academic dishonesty include, but are not limited to:**

- Use of Instructor's materials from previous semesters
- Copying, in part or in whole, solutions or work from another student (this could include homework, exams, and/or laboratory data/reports)
- Modification of an exam after it has been submitted to the instructor for grading

**Instructor Sanctions for Violation of Student Academic Integrity Policies include:**

- denying credit on an assignment and/or examination;
- requiring additional assignments and/or examinations;
- lowering the student's course grade;
- issuing a failing course grade ("F");
- issuing a failing course grade of "XF", which indicates that this failing grade was due to academic dishonesty. The grade "XF" shall be treated as an "F" grade for the purposes of grade point average, course repeatability, and determination of academic standing.

SCHEDULE\*

Monday	Tuesday	Wednesday	Thursday	Friday
	21-Aug	22-Aug	23-Aug	24-Aug
	Safety, Experiment: Molecular Shape and Modelling			
	28-Aug	29-Aug	30-Aug	31-Aug
	Experiment 2A-D: Solubility			
	4-Sep	5-Sep	6-Sep	7-Sep
	Experiment 7: IR Spectroscopy and BP Determination			
	11-Sep	12-Sep	13-Sep	14-Sep
	Experiment 3A,C: Crystallization			
	18-Sep	19-Sep	20-Sep	21-Sep
	Experiment 6A,B: Chromatography (TLC)			
	25-Sep	26-Sep	27-Sep	28-Sep
	Experiment 16: Spearmint and Caraway Oil: (+)- and (-)-Carvones			
	2-Oct	3-Oct	4-Oct	5-Oct
	Experiment 13A: Isolation of Caffeine from Tea or Coffee			
8-Oct				
Midterm Exam				
	16-Oct	17-Oct	18-Oct	19-Oct
	Experiment 6D: Chromatography (Column)			
	23-Oct	24-Oct	25-Oct	26-Oct
	Experiment: Nuclear Magnetic Resonance Worksheet*			
	30-Oct	31-Oct	1-Nov	2-Nov
	Experiment 23A,C: Synthesis of <i>n</i> -Butyl Bromide and <i>t</i> -Pentyl Chloride			
	6-Nov	7-Nov	8-Nov	9-Nov
	Experiment 24A: 4-methylcyclohexene			
	13-Nov	14-Nov	15-Nov	16-Nov
	Experiment 21A,B: Reactivities of Alkyl Halides			
				30-Nov
				Final Exam

\*ACS MWRM

\*This is an anticipated schedule; changes may be made as necessary at the instructor's discretion.

## UNIVERSITY POLICIES

**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/).

**Disability Accommodation:** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

**Cell Phone Policy:** 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 Statement:** 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>.

### Temple Hall

*Shelter Information (in case of severe weather):* Evacuate fourth floor using central, east, northwest and southwest stairs. Basement and 1st Floor: Shelter in Basement hallway, Rooms 1, 2, 3, interior labs and classrooms. 2nd floor and 3rd floor, Shelter in interior labs and classrooms.

*Evacuation Instructions (in case the building needs to be evacuated for events such as fire, gas leak, etc.):* North to Meyer Library Main Entrance; Alternate: Northwest to Glass Hall rooms 101, 102 and 108; and West to Kemper Hall. (Destination will be determined by type of emergency and weather condition.)

**Dropping a Class:** 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.

**Audio and Video Recording of Course:** Students who wish to record lectures or class activities for study purposes should inform the faculty member first. Distribution or sale of recordings or other course materials is prohibited without the written

permission of the instructor and other students who are recorded. Distribution without permission is a violation of copyright law and the Code of Student Rights and Responsibilities (Sections 4.6, 4.8, 4.9).

**Religious Accommodation:** The University may provide a reasonable accommodation based on a person’s sincerely held religious belief. In making this determination, the University reviews a variety of factors, including whether the accommodation would create an undue hardship. The accommodation request imposes responsibilities and obligations on both the individual requesting the accommodation and the University. Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious belief shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

**Mental Health and Stress Management:** As a student you may experience a range of personal issues that can impede learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. You can learn more about free and confidential Missouri State University Counseling Center services available to assist you at <https://counselingcenter.missouristate.edu/>.

**Chosen Name Policy:** A student may choose a name other than their legal name to identify themselves at Missouri State University. A chosen name is different than the student’s legal name. Refer to the Chosen Name policy for more information. Students can provide their chosen first and middle names in the Profile tab of My Missouri State.

**Title IX Policy:** Missouri State University has a Title IX policy that guides our response to instances of sexual violence. Sexual Violence includes: Rape, Sexual Assault, Sexual Misconduct, Sexual Discrimination, Domestic Violence, Dating Violence, Stalking, Sexual Harassment and Pregnancy issues. The Title IX policy can be located on the MSU Title IX website at [www.missouristate.edu/titleix/](http://www.missouristate.edu/titleix/). This website is also a good resource for any questions or issues involving Title IX and contains contact information for the MSU Title IX Office and staff. Read an overview of the Title IX office.

If an MSU student discloses a Title IX related issue to a MSU faculty or staff member who is deemed to be a “Responsible Employee” under the policy, that faculty or staff member is required to report such disclosure to the Title IX Coordinator. A responsible employee includes any employee who has the authority to take action to redress sexual violence; who has been given the duty of reporting incidents of sexual violence or any other misconduct by students to the Title IX Coordinator or other appropriate school designee; or whom a student could reasonably believe has the authority or duty to take action. Taylor Health employees and MSU Counseling Center Clinicians are not considered to be Responsible Employees under the policy, and therefore, are not required to report Title IX issues to the Title IX Coordinator.

**Missouri State.**

Curricular Action Workflow



# New Course Proposal Form

**Submitted on 09/21/2018 by Matthew Siebert (MSiebert@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:

CHM

Course Number: (Check Availability)

445

Course Title:

Intermediate Organic Chemistry Laboratory

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)Will this proposal need to be reviewed by CGEIP?  No  Yes

18

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

Prerequisite/Co-requisite or enter 'None':

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

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

**Complete Catalog Description:**

CHM 445 Intermediate Organic Chemistry Laboratory

Prerequisite: "C-" grade or better in CHM 343 and 345

Learn and apply experimental techniques used in the preparative organic chemistry laboratory, including synthesis, multistep synthesis, isolation, purification, and characterization of organic molecules. Course is intended for chemistry majors.

Credit hours: 2 Lecture contact hours: 1 Lab contact hours: 3

Typically offered: Fall, Spring

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 is the laboratory portion of CHM343. CHM343(5) is being split into separate lecture [CHM343(3)] and laboratory [CHM445(2)] components.

#### Relationship to Other Departments

This course is designed for chemistry majors, who need exposure to organic laboratory techniques that will transfer to higher-level chemistry courses and research. Currently, the following programs currently require CHM343(5), which will require modification to: CHM343(3) but will not, likely, require CHM445(2).  
a. Biology-Biology Non Comprehensive BA, Biology Non Comprehensive BS, Biology Comprehensive BS, Biology Non Comprehensive BS

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

#### New Course Resource Information

Anticipated Average Enrollment per section:

Maximum Enrollment Limit per section:

Anticipated Average Enrollment per semester:

Maximum Enrollment Limit per semester:

Anticipated Average Enrollment per year:

Maximum Enrollment Limit per year:

Faculty Load Assignment (equated hours):

Is another course being deleted?  No  Yes

18

**What will this course require in the way of:**

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 currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

Matthew R. Siebert, Reza Herati, Eric Bosch.

What is the anticipated source of students for this course?

Unchanged. This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

Other comments:

This course is currently taught, incorporated into a 5-hour combined lecture/lab course. We are simply splitting the lab from lecture for ease of waitlisting, transfer credit/assessment, and general improvements to student experience.

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

09/18/2018

Current Status:

College Council Review

Proposal Progress:

09/27/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

18

**Copy As New Proposal**

Prelab Lecture      Online  
 Dr. Matthew Siebert  
 MSiebert@MissouriState.edu  
 Office Hours: MWF 8:50-9:50 AM, Temple 408

**REQUIRED COURSE MATERIALS**

Textbook      *Operational Organic Chemistry*, 4<sup>th</sup> ed. John W. Lehman

This textbook contains much of the background and many of the procedures for the experiments and techniques you will carry out in the laboratory. Please note that although there is pre-laboratory material on BlackBoard, that you will (by design) need to review this textbook most weeks to determine the procedure of the experiment(s) and technique(s). **Note that this textbook may not be used while inside the laboratory.**

Other              Laboratory carbon-copy notebook  
 Approved safety goggles  
 Nitrile gloves

**COURSE OBJECTIVES**

Learn and apply experimental techniques used in the preparative organic chemistry laboratory, including synthesis, multistep synthesis, isolation, purification, and characterization of organic molecules. Course is intended for chemistry majors.

**LAB SECTIONS**

All individual lab section meetings take place in Temple 435.

005	M, 11:15 AM - 2:00 PM	Quinton W.	004	T, 11:00 AM - 1:45 PM	Leanna P.
001	M, 2:30 - 5:15 PM	Alec N.	007	T, 2:00 - 4:45 PM	Quinton W.
302	M, 6:00 - 8:45 PM	Alec N.	306	T, 5:30 - 8:15 PM	Andrew E.
003	T, 8:00 - 10:45 AM	Leanna P.			

**SAFETY**

Each student must pass the start-of-term safety quiz and liability waiver BEFORE working in the lab (see BlackBoard Laboratory Technique "Laboratory Safety" to prepare for the quiz). Additionally, each student must pass any experiment-specific laboratory preparedness quiz(zes) and complete the pre-lab activities in her/his carbon-copy notebook BEFORE being admitted to the lab. While in lab you MUST wear safety goggles at all times and wear closed-toed shoes. If you fail to meet these requirements, you will be asked to leave the lab, resulting in a score of zero for that experiment.

**INDEPENDENT WORK**

In this laboratory you are expected to work *independently*; all work must be your own. You do not have "lab partners" and you may not share/use work of others, including (but not limited to): prelaboratory safety quizzes, prelaboratory notebook pages, or data/observations (including interpretations thereof). The preceding (including the spirit of the preceding) are considered a violation of the Student Academic Integrity Policies and Procedures, see "academic dishonesty" statement below.

**DISCLAIMER**

I reserve the right to make modifications to this syllabus as necessary. Any modifications will be made with everyone's best interests in mind and will likely *benefit* you. You will be informed of any changes if/when they occur.

### ATTENDANCE/PARTICIPATION

Students are required to prepare using all pre-laboratory materials posted online (remember that this is serious, you are studying these online materials in lieu of a one-hour lecture), attend assigned lab meetings, and attend lab midterm and final sessions (see below). There are no make-up labs/experiments. If you fail to attend MORE THAN three (3) laboratory periods during the semester, you will receive a grade of "0" for the lab course and non-attendance will be reported to the registrar.

### COMMUNICATION

The University lists email as an official means of communication at Missouri State University. Dissemination of information will be through blackboard announcements and/or email addressed to your Missouri State University email address. As per University policy (Op12.02-4) it is expected that the email will be received and read by the recipient within a reasonable amount of time, as email communications may be time-sensitive. For more information, go to: [http://www.missouristate.edu/policy/Op12\\_02\\_4\\_EmailCommunications.htm](http://www.missouristate.edu/policy/Op12_02_4_EmailCommunications.htm).

### EVALUATION/FEEDBACK

Laboratory Preparedness Quizzes	15%
Informal Reports (10 total)	50%
Exams (2 total)	35%
<b>TOTAL</b>	<b>100%</b>

**Grades:** A 100-89%, B+ 88.99-87%, B 86.99-81%, B- 80.99-79%, C+ 78.99-77%, C 76.99-70%, D 69.99-60%, F below 60%. Grades will not be rounded due to the measures taken to ensure students fall in the proper grade categories.

**Exams:** There will be one midterm exam and one final. Given the online nature of the pre-lab you will be required to attend an exam session to take each of the midterm and final. As the exam date approaches, you will be required to select either of the two possible sessions. All possible sessions are listed below. The exams will focus on material covered since the last exam. If you miss an exam, you will receive a grade of "0". There are no make-up exams.

**Midterm Exam: R, 3/8, 4:00 PM OR F, 3/9, 2:30 PM in Temple 002**

**Final Exam: R, 5/3, 4:00 PM OR F, 5/4, 2:30 PM in Temple 002**

**Laboratory preparedness quizzes:** You will take quizzes on the lab BlackBoard site. One start-of-term safety quiz and liability waiver, followed by one quiz for each experiment. These quizzes will focus on information in the appropriate Experiment/Laboratory Techniques section(s) as well as any/all experimental procedures and/or Safety Data Sheet (SDS) information required to SAFELY complete the pre-lab and understand the theory of the experiment. Your lab preparedness quiz is DUE the Sunday prior to each experiment at **11:59 PM**. You will not be allowed to enter lab if you have not completed the applicable laboratory preparedness quiz(zes).

**Informal reports:** You will complete one informal laboratory report for EVERY experiment. Informal reports will largely consist of pre-laboratory preparation, experimental observations, and relatively short post-laboratory experimental processing. Informal reports are DUE at the end of your laboratory period on **the day you complete the experiment**. See BlackBoard for more information on informal reports. You will not be allowed to enter lab if you have not completed the applicable pre-lab.

**Discrepancies in grading between lab sections:** If there is substantial discrepancy between the grading styles of different lab instructors, the lab scores may be normalized to ensure that the average lab scores of each section parallel the sections' midterm and final exam averages. **This normalization may result in higher OR lower lab scores.**

SCHEDULE

Monday	Tuesday	Wednesday	Thursday	Friday
22-Jan	23-Jan			
Pinacol Rerarrangement				
29-Jan	30-Jan			
Exp. 33: Grignard				
5-Feb	6-Feb			
Exp. 31: Oxidation/Reduction				
12-Feb	13-Feb			
Ester Synthesis				
26-Feb	27-Feb			
Exp. 46: Polymers				
			8-Mar	9-Mar
			Lab Midterm	
26-Mar	27-Mar			
Chalcone Synthesis				
2-Apr	3-Apr			
Exp. 47: Diels-Alder				
9-Apr	10-Apr			
Exp. 40: Aromatic Substitution				
16-Apr	17-Apr			
Exp. 41: Aromatic Nitration				
23-Apr	24-Apr			
Exp. 52: Unknowns				
			3-May	4-May
			Lab Final	

**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, Student Academic Integrity Policies and Procedures (<https://www.missouristate.edu/academicintegrity/policies.htm>) 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. Of note in the policy:

**Cheating:** The term "cheating" refers to using or attempting to use unauthorized technology, materials, information, or study aids in any academic exercise (whether intentional or not) or taking any action designed to obtain unearned credit (points) in the class.

**Plagiarism:** The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work or sections of a work of another person without full and clear acknowledgement (whether intentional or not). This includes any material copied directly or paraphrased from the Internet. The unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials, including material taken from or ordered through the Internet, also constitutes plagiarism.

**Facilitating academic dishonesty:** Assisting or attempting to assist another to violate any provision of this Academic Integrity Policy, whether or not that action is associated with any particular course, is considered academic dishonesty.

**Activities applicable to this course that are considered to be academic dishonesty include, but are not limited to:**

- Use of Instructor's materials from previous semesters
- Copying, in part or in whole, solutions or work from another student (this could include homework, exams, and/or laboratory data/reports)
- Modification of an exam after it has been submitted to the instructor for grading

**Instructor Sanctions for Violation of Student Academic Integrity Policies include:**

- denying credit on an assignment and/or examination;
- requiring additional assignments and/or examinations;
- lowering the student's course grade;
- issuing a failing course grade ("F");
- issuing a failing course grade of "XF", which indicates that this failing grade was due to academic dishonesty. The grade "XF" shall be treated as an "F" grade for the purposes of grade point average, course repeatability, and determination of academic standing.

**UNIVERSITY POLICIES**

**Emergency Response Statement:** 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>.

Temple Hall

*Shelter Information (in case of severe weather):* Evacuate fourth floor using central, east, northwest and southwest stairs. Basement and 1st Floor: Shelter in Basement hallway, Rooms 1, 2, 3, interior labs and classrooms. 2nd floor and 3rd floor, Shelter in interior labs and classrooms.

*Evacuation Instructions (in case the building needs to be evacuated for events such as fire, gas leak, etc.):* North to Meyer Library Main Entrance; Alternate: Northwest to Glass Hall rooms 101, 102 and 108; and West to Kemper Hall. (Destination will be determined by type of emergency and weather condition.)

**Religious accommodation:** The University may provide a reasonable accommodation based on a person's sincerely held religious belief. In making this determination, the University reviews a variety of factors, including whether the

accommodation would create an undue hardship. The accommodation request imposes responsibilities and obligations on both the individual requesting the accommodation and the University. Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious belief shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

**Attendance policy:** Instructors must provide students with a written statement of the specific attendance policy for that class. The instructor has the responsibility to determine specific attendance policies for each course taught, including the role that attendance plays in the calculation of final grades and the extent to which work missed due to non-attendance can be made up. The University encourages instructors not to make attendance a disproportionately weighted component of the final grade, and also expects instructors to be reasonable in accommodating students whose absence from class resulted from: 1) participation in University-sanctioned activities and programs; 2) personal illness; or 3) family and/or other compelling circumstances. The University's attendance policy can be found at <http://www.missouristate.edu/registrar/catalog/attendan.html>.

**Statement of grading policy:** Faculty have the choice to utilize either the standard grade policy or the plus/minus grading option but are required to indicate their grading scale on their syllabus. The University's plus/minus grading system can be found at <http://www.missouristate.edu/registrar/grades.html>

**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/).

**Disability Accommodation:** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

**Cell phone policy:** 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.

**Dropping a class:** 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. See Academic Calendars ([www.missouristate.edu/registrar/acad\\_cal.html](http://www.missouristate.edu/registrar/acad_cal.html)) for deadlines.

**Missouri State**

Curricular Action Workflow



# New Course Proposal Form

**Submitted on 09/19/2018 by G  
Schick ([AlanSchick@MissouriState.edu](mailto: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:

CHM

Course Number: ([Check Availability](#))

504

Course Title:

Fundamentals of Physical Chemistry

Will this course become part of a program?  No  Yes (A corresponding program change form must be submitted)

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

(19)

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

Prerequisite/Co-requisite or enter 'None':

Prerequisite: "C-" or better in CHM 170; CHM 201 or CHM 342; MTH 261 or MTH 287; and in PHY 123 or PHY 203.

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

A one semester introduction to physical chemistry including the following topics: thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular structure, and spectroscopy. Does not apply to a Chemistry major or minor if the student passes CHM 506. May be taught concurrently with CHM 604. Cannot receive credit for both CHM 604 and CHM 504.

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

**Complete Catalog Description:**

CHM 504 Fundamentals of Physical Chemistry

Prerequisite: Prerequisite: "C-" or better in CHM 170; CHM 201 or CHM 342; MTH 261 or MTH 287; and in PHY 123 or PHY 203.

A one semester introduction to physical chemistry including the following topics: thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular structure, and spectroscopy. Does not apply to a Chemistry major or minor if the student passes CHM 506. May be taught concurrently with CHM 604. Cannot receive credit for both CHM 604 and CHM 504.

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

Typically offered: Spring

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

Syllabi for both CHM 504/604 and the re-organized CHM 505/605 are attached for clarity.

Attached

**Purpose of Course**

The purpose of this "new course" is to replace the lecture part of CHM 505 Fundamentals of Physical Chemistry. CHM 505 (and parallel 605) is currently a lecture/lab course. For reasons related to course administration, offering flexibility to non-chemistry graduate students, and consistency with other upper-division lecture-lab pairings in our department, we are splitting the lecture and lab components into separate courses. Due to course numbering issues (what numbers are available and what related existing courses are already numbered within our department) we do

**Relationship to Other Departments**

None.

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

Enter parallel course number

CHM604 Fundamentals of Physical Chemistry

How do these classes differ?

Additional advanced coursework in graduate-level course as described in the Sample Syllabus.

**New Course Resource Information**

Anticipated Average Enrollment per section:

20

Maximum Enrollment Limit per section:

32

Anticipated Average Enrollment per semester:

Maximum Enrollment Limit per semester:

Anticipated Average Enrollment per year:

Maximum Enrollment Limit per year:

Faculty Load Assignment (equated hours):

Is another course being deleted?  No  Yes

**What will this course require in the way of:**

Additional library Holdings

Additional computer resources

Additional or remodeled facilities

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 only a replacement for the lecture component of the current CHM 505/605. There will be no additional credit hours to students, and no additional teaching load for faculty.

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

G. Schick  
G. Meints

What is the anticipated source of students for this course?

Chemistry (non-comprehensive) majors.

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

In place of other courses.

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

None. This would be (and has been under a special topics number) an elective for other science majors and/or graduate students, most notably from departments GGP and PAMS.

Other comments:

None.

19

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

08/16/2018

Current Status:

College Council Review

Proposal Progress:

09/20/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



## CHM 504/604: FUNDAMENTALS OF PHYSICAL CHEMISTRY

- Course/Sections:** CHM 504/604 (3 Credit Hours; 3 Lec 0 Lab)  
CRNs 12345/67890
- Class Schedule:** Kemper 206, MWF 11:15a-12:05p; Temple 120 (Recitation), R 2:00-3:15p.
- Instructor:** Alan Schick, TEM 104, 417-836-4161, [AlanSchick@MissouriState.edu](mailto:AlanSchick@MissouriState.edu)  
Office Hours: MWF 1:25-2:15pm, or by walk-in (look for door ajar), or by appointment
- Catalog Description:** *Prerequisite: "C-" or better in CHM 201 or CHM 342; and in MTH 261 or MTH 287.* A one semester introduction to physical chemistry including the following topics: thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular structure, and spectroscopy. Does not apply to a Chemistry major or minor if the student passes CHM 506 or CHM 606. May be taught concurrently with CHM 604. Cannot receive credit for both CHM 504 and CHM 604. 3 Credit hours (3 Hrs Lec, 0 Hrs Lab per week) Spring semester
- Course Purpose:** CHM 504/604 provides a one-semester survey of intermediate concepts, theories, and experimental methods in physical chemistry, including thermodynamics, chemical kinetics, quantum chemistry, and various types of spectroscopy.
- Learning Objectives:** *Upon successful completion of CHM 504/604, a student should be able to...*
- describe how and why energy and matter can be converted between various forms.
  - predict and design processes that are inherently spontaneous.
  - create, interpret, and apply phase diagrams.
  - predict how much energy can be extracted from spontaneous processes to produce work.
  - quantitatively express chemical reaction rates.
  - rationalize relationships between reaction mechanisms and observed reaction rates.
  - explain the quantized nature of matter at the molecular and sub-molecular levels.
  - explain the nature of chemical bonding and some mathematical models used to describe it.
  - explain the underlying principles behind various types of spectroscopy.
- Upon successful completion of CHM 604, a student should further be able to...*
- read and better comprehend primary literature sources of chemical research related to course content.
- Course Text:** P. W. Atkins and J. de Paula, "The Elements of Physical Chemistry," 7th Ed., Oxford University Press: Oxford, United Kingdom, 2017 [ISBN: 978-0-19-879670-1].
- Helpful Websites:** Course Blackboard site – <http://blackboard.missouristate.edu/> (<Course name in Bb>)  
Atkins & de Paula (textbook) site – <https://arc2.oup-arc.com/access/echem7e>
- Assessments:**
- |                       | CHM 504 | CHM 604 |
|-----------------------|---------|---------|
| Weekly Quizzes        | 25%     | 15%     |
| Literature Assignment | N/A     | 10%     |
| In-term Exam (2)      | 50%     | 50%     |
| Final Exam            | 25%     | 25%     |
| Total                 | 100%    | 100%    |
- Course Grades:** Grades will be assigned based on a total weighted course percentage as defined above:
- | Grade | Percentage Range |
|-------|------------------|
| A     | 93 - 100%        |
| A-    | 90 - 93%         |
| B+    | 87 - 90%         |
| B     | 83 - 87%         |
| B-    | 80 - 83%         |
| C+    | 77 - 80%         |
| C     | 70 - 77%         |
| D     | 60 - 70%         |
| F     | < 60%            |
- Current grades (lecture & lab) will be available in the MyGrades areas of the respective Bb sites. Both lecture and lab components must be passed individually to pass this course.
- Quizzes:** Quizzes (closed book, in class) covering recent course material have been scheduled as shown on the Schedule of Classes and should be expected at the beginning of the class period. A late arrival may result in less quiz time (and consequently a lower score).
- CHM 604 Literature Assignment:** *CHM 604 only:* students must complete a special assignment entailing research and presentation of a course-related paper found in a relevant journal. See course Bb site for details.

- Exams:** Midterm exams will be in-class and closed-book. There will be no make-up exams and no scores will be dropped. The Final Exam must be taken at the scheduled time in accordance with University policy. The Final Exam will not be cumulative.
- Homework:** Breakout Group (BG) problems will be available on the Bb site and should be completed before the corresponding BG sessions. **Extra credit** of up to 4% of your total course grade (both CHM 504 and 604) will be available for participation in BG sessions as described by the instructor.
- Inclement Weather:** In the event that the University cancels classes due to severe weather conditions (e.g., snow and/or ice), the scheduled class sequence will resume on the next class period. This includes exams, so be prepared for such circumstances. If an inclement weather closing does occur, the class schedule for the remainder of the semester will be re-organized accordingly.
- Attendance:** Class attendance is not graded but is **STRONGLY** encouraged. No allowances will be made for missed class time. Furthermore, grading appeals are more kindly considered for students with good attendance records, so you'd really rather be here...really.

### **ADDITIONAL UNIVERSITY POLICIES**

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## CHM 505/605: FUNDAMENTALS OF PHYSICAL CHEMISTRY LABORATORY

- Course/Section:** CHM 505/605, CRN 12345/67890
- Class Schedule:** Temple 462, R 9:30a – 12:15p
- Course Instructor:** Alan Schick TEM 104, 417-836-4161, [AlanSchick@MissouriState.edu](mailto:AlanSchick@MissouriState.edu)  
Office Hours: MWF 1:25-2:25p, or by walk-in/appointment
- Catalog Description:** *Prerequisite: "C-" or better in CHM 302; and in CHM 201 or CHM 342; and CHM 504 or concurrent enrollment.* Experiments in physical chemistry employing principles and techniques reflecting material presented in CHM 504/604. May be taught concurrently with CHM 605. Cannot receive credit for both CHM 505 and CHM 605. 1 Credit hour (0 Hrs Lec, 3 Hrs Lab per week) Spring semester.
- Learning Objectives:** *Upon completion of the lab component of CHM 505/605, a student should be able to...*
- explain and understand experimental methods used in determining and/or characterizing various quantities related to thermodynamics, kinetics, and spectroscopy, including
    - internal energy, enthalpy, and heat capacity
    - free energy and entropy
    - equilibrium constants
    - rate constants and rate laws
    - energy levels and quantization
  - apply spectroscopic and analytical methods to quantifying characteristic properties of chemical systems
  - write effectively, and produce high quality technical reports
  - effectively maintain a lab notebook
- Upon completion of the laboratory section of CHM 605, a student should further be able to*
- adapt experiments from the scientific literature into the CHM 505/605 course framework

- Course Materials: (Required)** *Text:* None.  
*Calculator:* Scientific, with scientific notation and trigonometric and log functions.  
*Computer hardware:* USB drive for data; scanning app or access to scanner;  
*Computer software:* Access to spreadsheet (Microsoft .xls and/or .xlsx compatible) and word processing (Microsoft .doc and/or .docx compatible) applications software. Access to illustration software (e.g., PowerPoint, Paint)  
*Laboratory notebook:* Bound, college ruled or grid, pages pre-numbered.

- Blackboard (Bb) Site:** <http://blackboard.missouristate.edu/> (CHM505-CHM605 Lab:Combined Spring 2018).  
Grades and all course material will be available on the course Bb site. *Be familiar with it!*

- Attendance:** As your course grade is determined by your completing the appropriate experiments, attendance is required for every experiment to be graded for this course.

- Rescheduling:** If it becomes necessary to change a scheduled experiment, it is the student's responsibility to arrange a trade with another group or student. Adding a 3<sup>rd</sup> person is not allowed. Instructor approval prior to the date of the experiment is required.

Lab Grading:	Activity	CHM 505	CHM 605
	Safety Quiz	50	50
	Exercises (4 total, 25 pts each)	100	100
	Expts. with abridged reports (4 total, scores vary)	900	900
	Expts. with full reports (2 total, 300 each)	600	600
	Completion Incentive (25 pts for each of 6 reports)	150	150
	Expt. Development (CHM 605 only)	NA	200
	<b>Total</b>	<b>1800</b>	<b>2000</b>

- Course Grades:** Grades will be assigned based on a total weighted course percentage as defined above:

Grade	Percentage Range
A	93 - 100
A-	90 - 93
B+	87 - 90
B	83 - 87
B-	80 - 83
C+	77 - 80
C	70 - 77
D	60 - 70
F	Below 60

- Exercises** Four exercises related to specific experiments are accessible in the *Exercises* area of the course Bb site. Due dates for these are determined by your specific experiment schedule. Consult the Bb site and CHM 505/605 Experiment Schedule for specific dates.
- Experiments/Reports:** Experiments will be conducted with your assigned partner. Collaborative data processing and analysis with your partner and other students is allowed for the purpose of general understanding and verifying final values, but all aspects of the reports, including spreadsheets, must be individual efforts unless otherwise stipulated. All reports & associated documentation will be submitted online in Bb and will be automatically evaluated by *SafeAssign* as you submit them. The last report of the semester is a group effort (one analysis spreadsheet and full report from each group). The due date for each report will be one week (abridged report) or two weeks (full report) following the finishing date of the corresponding lab experiment.
- Report Upload:** A report upload will include the report, any spreadsheet file used in collecting or analyzing data, and scans of your lab notebook pages. A maximum of three files will be allowed (you can do it in two if your notebook pages are incorporated into the report file). Only .doc or .docx files will be accepted for reports; .xls, or .xlsx files for spreadsheets; and .pdf (or incorporated into report, but .pdf is preferred) for notebook pages.
- Completion Incentive and Late Fees:** Twenty-five (25) points is awarded for submitting reports by 11:59:00pm of the due date (dates vary; see Experiment Schedule). Late fees will be deducted as follows: For exercises & reports, 5% per day up to maximum of 35% reduction, starting at 12:00am of the 1<sup>st</sup> day (for exercises) or 3<sup>rd</sup> day (for reports) past the due date. For lab attendance, 5% if 15 min late, 10% if 30 min late. No reports will be accepted after 11:59:00 pm on Tuesday of Finals Week.
- Lab Notebooks:** A notebook will be kept for the course (see the section on Course Materials above for required features). The general goal of any scientific endeavor is to perform and record the process in enough detail that a trained chemist would be able to follow your experimental procedure and reproduce your results. The record of your procedure and findings will be kept in your lab notebook, and the corresponding scanned pages will be submitted with each report. Be sure to have your notebook with you in lab at all times!
- Class Cancellations:** In the event that the University closes campus due to severe weather conditions (i.e., snow days) on a day that lab is scheduled, a make-up lab experience will be made available at the discretion of the instructor. Be prepared for these unforeseen circumstances.
- Expt. Development:** *CHM 605 students only* – Propose a new CHM 505/605 lab experience by adapting an experimental idea from an article published within the last 10 years in a primary source of chemical research (including chem ed). The idea must be pre-approved by the instructor prior to writing-up the experience. More details are available in a separate document.
- Other important rules and information:**
- Each student is responsible for submitting his/her own course work.
  - Lab re-scheduling must be approved by the instructor(s) *prior* to the scheduled date of the lab.
  - No (passing) grade for the lab component will be assigned until the lab is clean at the end of the semester.

## **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:** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability. Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations. If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide it to them, and they are not required to apply accommodations retroactively.

**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.

**Religious Accommodation:** Students who expect to miss classes, examinations, or other assignments as a consequence of their sincerely held religious beliefs shall be provided with a reasonable alternative opportunity to complete such academic responsibilities. It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to the instructor by the end of the third week of a full semester course or the end of the second week of a half semester course.

## Schedule of Lab Periods

Week	Day	Date	Start in Temple Rm	Important & Due Dates	Activity
1	W R	17 Jan 18	462		Course Introduction/Safety; Tech. Report Primer; How to keep a lab notebook
	M	22		Drop Date	Last day to drop course for 100% refund
2	W R	24 25	462	Safety Quiz due	Intro to Experiments; Reporting Uncertainties; Spreadsheets & Graphical Analysis
3	W R	31 01 Feb	462		Lab experiments as scheduled
4	W R	07 08	462	<u>Exercises due</u> Real Gases date of Expt 1	Lab experiments as scheduled
5	W R	14 15	462		Lab experiments as scheduled
6	W R	21 22	462	Uncertainties date of Expt 2	Lab experiments as scheduled
7	W R	28 01 Mar	462	Numerical Integ date of Expt 3	Lab experiments as scheduled
8	W R	07 08	462		Lab experiments as scheduled
	M - F	12 - 16	N/A	Spring Break	No Class! ☺
9	W R	21 22	462		Expt 4: Bromination of Acetone
10	W R	28 29	N/A	Spring Holiday	No Class! ☺
11	W R	04 05 Apr	462		Computer workshop (Graphical Analysis)
12	W R	11 12	462	Graphical Analysis exercise due	Lab experiments as scheduled
	F	13		Last Day for 'W'	Last day to change to P/NP or audit or withdraw
13	W R	19 20	462		Lab experiments as scheduled
14	W R	26 27	462		Lab experiments as scheduled
15	W R	03 04 May	462		Lab experiments as scheduled
16	W R	10 11	462	CHM605 only Expt Development Project due	Lab Wrap-up/Clean-up

**Missouri State**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert (MSiebert@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:

CHM342 Organic Chemistry I

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



Current online catalog description:

CHM 342 Organic Chemistry I

Prerequisite: "C-" grade or better in both CHM 170 and CHM 171. Systematic coverage of reactions and properties of organic compounds. A grade of "C-" or better is required in this course in order to take CHM 343, CHM 344 or CHM 352. Cannot be taken Pass/Not Pass. 5(4-3) F,S

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.)

CHM 342 Organic Chemistry I

Prerequisite: "C-" grade or better in ~~both~~ CHM 170 ~~and CHM 171~~. Systematic coverage of reactions and properties of organic compounds. A grade of "C-" or better is required in this course in order to take CHM 343, CHM 34**5**4 or CHM 352. Cannot be taken Pass/Not Pass. ~~5(4-3)~~ **3(3-0)** F,S

What is changing? Check all boxes that apply.

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> Course Code                           | <input type="checkbox"/> Course Number ( <u>Check Availability</u> ) | <input type="checkbox"/> Title                  | <input checked="" type="checkbox"/> Prerequisite |
| <input checked="" type="checkbox"/> Credit Hours/Contact Hours | <input type="checkbox"/> Periodicity                                 | <input checked="" type="checkbox"/> Description |  |

Reason for proposed change

CHM342 is currently a combined lecture/lab course. Herein we are splitting the lecture from lab to aid in waitlisting, transfer credit, and general improvements to student experience.

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.

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Routine or annual review/assessment of curriculum | <input checked="" type="checkbox"/> Faculty Input | <input checked="" type="checkbox"/> 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)

09/18/2018

Current Status:

College Council Review

Proposal Progress:

09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



**Missouri State**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert (MSiebert@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:

CHM343 Organic Chemistry II

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

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

(21)

Current online catalog description:

CHM 343 Organic Chemistry II

Prerequisite: "C-" grade or better in CHM 342. Continuation of CHM 342. A grade of "C-" or better is required in this course in order to take CHM 542. Cannot be taken Pass/Not Pass. 5(4-3) F,S

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>B</b>	<b>I</b>	<b>S</b>
CHM 343 Organic Chemistry II				
Prerequisite: "C-" grade or better in CHM 342. Continuation of CHM 342. A grade of "C-" or better is required in this course in order to take CHM <b>445</b> or 542. Cannot be taken Pass/Not Pass. <del>5(4-3)</del> <b>3(3-0)</b> F,S				

What is changing? Check all boxes that apply.

- |                                     |                            |                          |   |                                     |             |                          |              |
|-------------------------------------|----------------------------|--------------------------|---|-------------------------------------|-------------|--------------------------|--------------|
| <input type="checkbox"/>            | Course Code                | <input type="checkbox"/> | Course Number ( <u>Check Availability</u> ) | <input type="checkbox"/>            | Title       | <input type="checkbox"/> | Prerequisite |
| <input checked="" type="checkbox"/> | Credit Hours/Contact Hours | <input type="checkbox"/> | Periodicity                                 | <input checked="" type="checkbox"/> | Description |                          |              |

Reason for proposed change

CHM343 is currently a combined lecture/lab course. Herein we are splitting the lecture from lab to aid in waitlisting, transfer credit, and general improvements to student experience.

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.

- |                                     |   |                                     |               |                                     |               |
|-------------------------------------|---|-------------------------------------|---------------|-------------------------------------|---------------|
| <input checked="" type="checkbox"/> | Routine or annual review/assessment of curriculum | <input checked="" type="checkbox"/> | Faculty Input | <input checked="" type="checkbox"/> | 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)

09/18/2018

**Current Status:**

College Council Review

**Proposal Progress:**

09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

**Review Comments:**

No comments have been added to this proposal.

**Copy As New Proposal**



**Missouri State.**

Curricular Action Workflow



# Change Course Proposal Form

**Submitted on 09/19/2018 by G  
Schick ([AlanSchick@MissouriState.edu](mailto:AlanSchick@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:

CHM505 Fundamentals of Physical Chemistry

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:

CHM 505 Fundamentals of Physical Chemistry

Prerequisite: "C-" or better in CHM 302; and in CHM 201 or CHM 342; and in MTH 261 or MTH 287. A one semester introduction to physical chemistry including the following topics: thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular structure, and spectroscopy. Laboratory experiments will illustrate principles of

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* ~~S~~

CHM 505 Fundamentals of Physical Chemistry **Laboratory**

Prerequisite: "C-" or better in CHM 302; and in CHM 201 or CHM 342; and ~~in MTH 261 or MTH 287~~ **CHM 504 or concurrent enrollment.** ~~A one semester introduction to physical chemistry including the following topics: thermodynamics, chemical equilibrium, chemical kinetics, atomic and molecular structure, and spectroscopy. Laboratory experiments will illustrate principles of physical chemistry and techniques of analysis. Does not apply to a Chemistry major or minor if the student passes CHM 506.~~ **Experiments in physical chemistry employing principles and techniques reflecting material presented in CHM 504.** May be taught concurrently with CHM 605. Cannot receive credit for both CHM 605 and CHM 505. ~~4(3-3)~~ **1(0-3) S**

What is changing? Check all boxes that apply.

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> Course Code                           | <input type="checkbox"/> Course Number ( <u>Check Availability</u> ) | <input checked="" type="checkbox"/> Title       | <input checked="" type="checkbox"/> Prerequisite |
| <input checked="" type="checkbox"/> Credit Hours/Contact Hours | <input type="checkbox"/> Periodicity                                 | <input checked="" type="checkbox"/> Description |  |

Reason for proposed change

The purpose of this "new course" is to replace the lecture part of CHM 505 Fundamentals of Physical Chemistry. CHM 505 (and parallel 605) is currently a lecture/lab course. For reasons related to course administration, offering flexibility to non-chemistry graduate students, and consistency with other upper-division lecture-lab pairings in our department, we are splitting the lecture and lab components into separate courses. Due to course numbering issues (what numbers are available and what related existing courses are already numbered within our department) we do

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) 08/16/2018

Current Status:  
College Council Review

Proposal Progress:  
09/20/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:  
No comments have been added to this proposal.

**Copy As New Proposal**



# Missouri State.

Curricular Action Workflow



## Change Program Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert (MSiebert@MissouriState.edu).**

Department:

Chemistry

### Type of Program

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Choose All That Apply:

- Bachelor of Arts
- Bachelor of Music Education
- Bach of Science in Athl Traing
- Bachelor of Applied Science
- Bachelor of Music



- Bachelor of Fine Arts     
  Bachelor of Science     
  Bach of Science in Education  
 Bachelor of Science in Nursing  
 Bachelor of Social Work

Does this program include any new courses?

- No   
  Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Chemistry

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

Chemistry  
 Bachelor of Arts  
 Bachelor of Science  
 A. CHM 160(4), 161(1), 170(3), 171(1); CHM 201(3) and 202(2) or 342(5)

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~~

Chemistry  
 Bachelor of Arts  
 Bachelor of Science  
 A. CHM 160(4), 161(1), 170(3), 171(1); CHM 201(3) and 202(2) or 342(~~53~~) **and 345(2)**  
 B. Select an emphasis area from the options below:  
   a. Analytical: CHM 302(5)  
   b. Biochemistry: CHM 352(3) and 353(2); or CHM 554(3) and 555(2)  
   c. Environmental: CHM 460(3) and 461(3)  
   d. Inorganic: CHM 375(3) and 376(2)  
   e. Organic: CHM 343(~~53~~) ~~or 344(3)~~; and CHM 514(3) or 542(3)  
   f. Physical: CHM 506(3); and CHM 507(3) or 508(2)  
   g. Pre-health: CHM 343(3); and CHM 352(~~23~~) or 554(3)  
   h. Student Option: Select at least 8 hours in CHM courses numbered 302 or higher.

Not Attached

Total Hours: unchanged

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

Empty text box with a vertical scrollbar on the right side.

Reason for Proposed Change:

One class in the minor was a combined lecture/lab course that is being split. Additionally, there is an issue with the number of hours for CHM352 (it has been 3, but is incorrectly listed as 2).

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

09/18/2018

Current Status:

College Council Review

Proposal Progress:

09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**

112  
24

**Missouri State.**

Curricular Action Workflow



# Change Program Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert ([MSiebert@MissouriState.edu](mailto:MSiebert@MissouriState.edu)).**

Department:

Chemistry

## Type of Program

Choose One:

- |  |                                   |                                      |
|--|-----------------------------------|--------------------------------------|
| <input checked="" type="radio"/> Non-Comprehensive Undergraduate Major | <input type="radio"/> Option      | <input type="radio"/> Certification  |
| <input type="radio"/> Comprehensive Undergraduate Major                | <input type="radio"/> Minor       | <input type="radio"/> Academic Rules |
| <input type="radio"/> Graduate Program                                 | <input type="radio"/> Certificate | <input type="radio"/> Other          |

Does this program include any new courses?

- No  Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Chemistry-BS-Minor Required

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

Chemistry (Non-Comprehensive)  
 Bachelor of Science  
 A. General Education Program and Requirements  
 B. Major Requirements

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~~

Chemistry (Non-Comprehensive)  
 Bachelor of Science  
 A. General Education Program and Requirements  
 B. Major Requirements  
 1. CHM 160(4), 161(1), 170(3), 171(1), 302(5), 342(~~35~~), 343(~~35~~), **345(2)**, 375(3), 398(1)\*, **445(2)**, 492(0), 498(1)\*, 502(3), 503(1); CHM **504(3)** and 505(~~41~~) or 506(3) and 507(3) and 508(2); and one hour from CHM 397\* or 399\*,\*\*  
 2. Chemistry electives from one of the following categories:  
 a. For a basic chemistry program without a specific area of emphasis, at least eight hours from CHM 352(3), 376(2), 399\*,\*\* or 499(1-3)\*, 460(3) or 461(3), 509(2)  
 b. For students with a strong interest in environmental chemistry: CHM 460(3), 461(3), 462(2)  
 c. For students with a strong interest in biochemistry or health careers: CHM 554(3), 555(2), 556(3), ~~557(2)~~  
 d. For students with a strong interest in education: CHM 352(3), 435(1), 460(3), 462(2). Students interested in pursuing certification for high school science teaching should declare a Foundation of Interdisciplinary Science minor.  
 e. For a specific area of interest not included in categories a, b, c, or d: at least nine hours of chemistry courses numbered greater than 300 selected in consultation with the student's academic advisor and approved by the department head.  
 3. Public Affairs Capstone Experience will be fulfilled by completion of CHM 398 and 498(2); and CHM 397 or 399 or 499(1)  
 4. Related science and mathematics requirements:  
 a. MTH 261\*\*\* and 280(10) or MTH 261\*\*\* and 288(8) or MTH 287 and 288(6)  
 b. PHY 123\*\*\* and 124(8) or PHY 203\*\*\* and 204(10)  
 \*Will also count toward the Public Affairs Capstone Experience requirement  
 \*\*If using CHM399 to fulfill B.1. and B.2.a.: Any hours of CHM399 used to fulfill B.2.a. are in addition to B.1.  
 \*\*\*Will also count toward General Education requirements  
 C. Minor Required (or second major)

Not Attached

Total Hours: unchanged

What is changing? Check all boxes that apply:

24

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

Other

Three combined lecture/lab courses are being split into separate lecture and lab courses.

Reason for Proposed Change:

Three courses with combined lecture and lab (CHM342, 343 and 505) are being split into separate lecture and lab courses to aid in waitlisting, transfer credit/assessment, and general improvements to student experience. Additionally, Biochemistry II laboratory is being removed from the non-comp. major option B.2.b. since this is currently the same level of rigor for the biochemistry option in our

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

09/18/2018

Current Status:  
College Council Review

Proposal Progress:  
09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:  
No comments have been added to this proposal.

**Copy As New Proposal**

**Missouri State**

Curricular Action Workflow



# Change Program Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert (MSiebert@MissouriState.edu).**

Department:

Chemistry

**Type of Program**

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Chemistry/Biochemistry-BS

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

Chemistry (Comprehensive)  
 Bachelor of Science  
 A. General Education Program and Requirements  
 B. Major Requirements

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~~

Chemistry (Comprehensive)  
 Bachelor of Science  
 A. General Education Program and Requirements  
 B. Major Requirements  
 1. CHM 160(4), 161(1), 170(3), 171(1), 302(5), 342(**35**), 343(**35**), **345(2)**, 375(3), 398(1)\*, **445(2)**, 492(0), 498(1)\*, 502(3), 503(1), 506(3), 507(3), 508(2), 554(3), 575(3)  
 2. Related science and mathematics requirements:  
 a. MTH 287 and 288(6) or MTH 261\*\* and 280(10) or MTH 261\*\* and 288(8)  
 b. PHY 123\*\* and 124(8) or PHY 203\*\* and 204(10)  
 c. Recommended: CSC 111(3)  
 3. Public Affairs Capstone Experience will be fulfilled by completion of CHM 398 and 498(2); and CHM 397 or 399 or 499(1)  
 4. Complete requirements in one of the following options:  
 a. Biochemistry: This program is designed for students preparing for a career in medicine or graduate study in biochemistry. Required courses: CHM 399(1-3)\* or 499(1-3)\*, 555(2), 556(3), 557(2); BIO 121(4)\*\*, 235(3), 236(1), 320(4). Suggested elective: BIO 310(5). Premedical students should also take courses in anatomy and physiology.  
 b. Graduate School: This program is designed for students preparing for graduate study in chemistry. Required courses: CHM 376(2), 499(1-3)\*, 509(2); Select one: CHM 514(3), 542(3), 556(3). Suggested electives: one year foreign language  
 c. Industrial: This program is designed for students preparing for industrial positions upon completion of the BS degree, but who wish to be prepared for future entry into graduate school. Required courses: CHM 376(2), 509(2), 514 or 542(3), four hours selected from CHM 397(2)\*, 399(1-3)\*, 499(1-3)\*  
 \*Will also count toward Public Affairs Capstone Experience requirement  
 \*\*Will also count toward General Education requirements  
 C. General Baccalaureate Degree Requirements

Not Attached

Total Hours: unchanged

25

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

Two combined lecture/lab courses are being split into separate lecture

Course changes of 18 hours or more

Reason for Proposed Change:

Two courses with combined lecture and lab (CHM342 and 343) are being split into separate lecture and lab courses to aid in waitlisting, transfer credit/assessment, and general improvements to student experience.

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

09/18/2018

Current Status:

College Council Review

Proposal Progress:

09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

**Copy As New Proposal**



**Missouri State**

Curricular Action Workflow



# Delete Program Proposal Form

**Submitted on 09/19/2018 by Matthew Siebert (MSiebert@MissouriState.edu).**

Department:

Chemistry

**Type of Program**

Choose One:

Non-Comprehensive Undergraduate Major

Comprehensive Undergraduate Major

Graduate Program

Option

Minor

Certificate

Certification

Academic Rules

Other

Title of Program Affected:

Chemistry Education-BSED

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

Chemistry Education  
Bachelor of Science in Education (Certifiable grades 9-12)  
  
General Education Program and Requirements

Not Attached

Total Hours:

Reason for Proposed Deletion:

This program of study has been replaced by a non-comprehensive chemistry degree track with a minor (Foundations of Interdisciplinary Science) to expose students interested in secondary school science education the proper depth and breadth of science knowledge. Students interested in secondary education can then go on to complete a Master of Arts in Teaching (MAT).

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

Current Status:

College Council Review

Proposal Progress:

09/19/2018 - Submitted by Department Head (Bryan Breyfogle)

Review Comments:

No comments have been added to this proposal.

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# Missouri State.

Curricular Action Workflow



## Change Program Proposal Form

**Submitted on 09/26/2018 by Albert Barreda (AlbertBarreda@MissouriState.edu).**

Department:

Hospitality Leadership

### Type of Program

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Hospitality Leadership-BAS

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

Bachelor of Applied Science  
 General Education Program and Requirements  
 Major Requirements  
 Associate of Science or Associate of Applied Science degree from an accredited institution. Contact

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**

Bachelor of Applied Science  
 General Education Program and Requirements  
 Major Requirements  
 Associate of Science or Associate of Applied Science degree from an accredited institution. Contact the department for details.  
 HSP 210(3), 215(3), 218(3), 321(3)  
 Related Requirements: ACC 201(3); MKT 150(3) **or MKT 350(3)**  
 Core Courses: HSP 310(3), 354(3), 428(3), 490(3), 499(6)  
 Major Electives: 12 hours of upper division HSP electives  
 Public Affairs Capstone Experience will be fulfilled by completion of HSP 490(3) and 499(6).  
 Seven additional hours of advisor approved upper division electives to bring total upper division hours to 40.  
 General Baccalaureate Degree Requirements

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

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

Reason for Proposed Change:

The proposed revision provides students in the BAS degree plan an option to satisfy the university's 40 credit hour upper-division requirement without having to add another course to their degree plan. Students in the BAS program tend to transfer to the university with a substantial amount of coursework and are at times challenged to reach the 40 credit hour upper-division requirement

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

09/19/2018

Current Status:

College Council Review

Proposal Progress:

09/26/2018 - Submitted by Department Head (Stephanie Hein)

Review Comments:

No comments have been added to this proposal.

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**Missouri State.**

Curricular Action Workflow



# Change Program Proposal Form

**Submitted on 09/26/2018 by Albert Barreda ([AlbertBarreda@MissouriState.edu](mailto:AlbertBarreda@MissouriState.edu)).**

Department:

Hospitality Leadership

### Type of Program

Choose One:

- |  |                                   |                                      |
|--|-----------------------------------|--------------------------------------|
| <input type="radio"/> Non-Comprehensive Undergraduate Major        | <input type="radio"/> Option      | <input type="radio"/> Certification  |
| <input checked="" type="radio"/> Comprehensive Undergraduate Major | <input type="radio"/> Minor       | <input type="radio"/> Academic Rules |
| <input type="radio"/> Graduate Program                             | <input type="radio"/> Certificate | <input type="radio"/> Other          |

Does this program include any new courses?

- No  Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Hospitality Leadership/General Operations-BS

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

Bachelor of Science  
 General Education Program and Requirements  
 Specific General Education Requirement: GRY 100(3)

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* \$

Bachelor of Science  
 General Education Program and Requirements  
 Specific General Education Requirement: GRY 100(3)  
 Major Requirements  
 Core Courses: HSP 210(3), 215(3), 218(3), 310(3), 321(3), 354(3), 410(3), 426(3), 428(3), 480(3), 490(3), 499(6)  
 Related Requirements: MKT 150(3) or 350(3); and ACC 201(3)  
 Public Affairs Capstone Experience will be fulfilled by completion of HSP 490(3) and 499(6).  
 Complete one of the following options (9 hours):  
 Club Management: HSP 330(3), 345(3); HSP 430(3) or 436(3)  
 Food and Beverage: HSP 330(3), 409(3), 435(3)  
 General Operations: HSP 340(3); HSP 430(3) or 436(3); HSP 315(3), **HSP 370 (3)** or 435(3)  
 Lodging: HSP 315(3), 360(3), 370(3)  
 Senior Living Management: HSP 330(3); GER 366(3), GER 375(3)  
 Tourism: GRY 310(3), GRY 328(3); HSP 340(3)  
 Electives to bring total number of hours to 120. Students are encouraged to use these hours to complete more than one track and to take HSP electives.  
 General Baccalaureate Degree Requirements

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

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

Course changes of 18 hours or more

Other

Reason for Proposed Change:

The HSP 370 course (Revenue Management in the Hospitality Industry) has become popular among our lodging students as it gives them the opportunity to earn an Industry Certification. Our Hospitality Leadership—General Operations students have expressed interest in earning the same Industry Certification. Faculty would like to provide students with the flexibility to take the HSP 370

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

09/19/2018

Current Status:

College Council Review

Proposal Progress:

09/26/2018 - Submitted by Department Head (Stephanie Hein)

Review Comments:

No comments have been added to this proposal.

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**Missouri State**

Curricular Action Workflow



# Change Program Proposal Form

**Submitted on 09/26/2018 by Albert Barreda (AlbertBarreda@MissouriState.edu).**

Department:

Hospitality Leadership

**Type of Program**

Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Does this program include any new courses?

- No
- Yes (A corresponding new course form must be submitted to create each new course.)

Title of Program Affected:

Hospitality Leadership/Senior Living Management-BS

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

Bachelor of Science  
 General Education Program and Requirements  
 Specific General Education Requirement: GRY 100(3)

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**

Bachelor of Science  
 A. General Education Program and Requirements  
 Specific General Education Requirement: GRY 100(3)  
 B. Major Requirements  
 1. Core Courses: HSP 210(3), 215(3), 218(3), 310(3), 321(3), 354(3), 410(3), 426(3), 428(3), 480(3), 490(3), 499(6)  
 2. Related Requirements: MKT 150(3) or 350(3); and ACC 201(3)  
 3. Public Affairs Capstone Experience will be fulfilled by completion of HSP 490(3) and 499(6).  
 4. Complete one of the following options (9 hours):  
 a. Club Management: HSP 330(3), 345(3); HSP 430(3) or 436(3)  
 b. Food and Beverage: HSP 330(3), 409(3), 435(3)  
 c. General Operations: HSP 340(3); HSP 430(3) or 436(3); HSP 315(3) or 435(3)  
 d. Lodging: HSP 315(3), 360(3), 370(3)  
 e. Senior Living Management: HSP 330(3); GER 366(3) **or PSY 366(3)**; GER 375(3) **or SOC 375 (3)**  
 f. Tourism: GRY 310(3), GRY 328(3); HSP 340(3)  
 C. Electives to bring total number of hours to 120. Students are encouraged to use these hours to complete more than one track and to take HSP electives.  
 D. General Baccalaureate Degree Requirements

Not Attached

Total Hours: 120

What is changing? Check all boxes that apply:

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

Course changes of 18 hours  
or more

Other

Reason for Proposed Change:

GER 366(3) and GER 375(3) are offered only once per year. They are not offered every semester. Adding PSY 366(3) and SOC 375(3) gives students the opportunity to complete equivalent courses during semesters in which GER 366 and GER 375 are not offered. This will help students stay on track, advance faster, and help them with timing. Students will be able to take equivalent classes

What is the date that this new program was approved by departmental or program faculty?

(MM/DD/YYYY)

09/19/2018

Current Status:

College Council Review

Proposal Progress:

09/26/2018 - Submitted by Department Head (Stephanie Hein)

Review Comments:

No comments have been added to this proposal.

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# Missouri State

Curricular Action Workflow



## Delete Program Proposal Form

**Submitted on 09/26/2018 by Rebecca Baker (Beckybaker@missouristate.edu).**

Department:

Physics, Astronomy, & Mat Sci

### Type of Program


Choose One:

- Non-Comprehensive Undergraduate Major
- Option
- Certification
- Comprehensive Undergraduate Major
- Minor
- Academic Rules
- Certificate
- Other
- Graduate Program

Title of Program Affected:

Physics Education-BSED


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

Physics Education	
Major(s)	

Not Attached

Total Hours:

Reason for Proposed Deletion:

Replaced with a Teaching Prep Physics Option under the BS in Physics Major.	

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

Current Status:

College Council Review

Proposal Progress:

09/26/2018 - Submitted by Department Head (Robert Mayanovic)

Review Comments:

No comments have been added to this proposal.

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