# **Curricular Action Workflow**



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

# New Program Proposal Form

#### Submitted on 02/06/2018 by Scott Zimmerman (Scottzimmerman@missouristate.edu).

This form is to be used for internal Missouri State approval of any proposal for a new program involving two or more courses, including any new graduate program, new undergraduate major (whether comprehensive or non-comprehensive), new option within an existing program (whether graduate or undergraduate), new minor, new certificate, or new certification program.

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

#### **Department:**

**Biomedical Sciences** 

#### **Proposed Program Title:**

Biomolecular Sciences
Choose One:
Non-Comprehensive Undergraduate Major Option Certification
Comprehensive Undergraduate Major Minor Academic Rules
Graduate Program Certificate Other

Does this program include any new courses?

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

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

GRCT - Graduate Certificate

#### **General Education Courses Required:**

None

	Total Hours: 0
General Education Courses Recommended:	
None	
	Total Hours: 0
Requirements (including Admission) and Limitations for Specific Degree/Program:	
Bachelors degree in Cell and Molecular Biology or related field. Admission to the Missouri State Graduate College.	
	Total Hours: 0
Courses Required in Department:	
BMS 622 Molecular Cell Biology BMS 625 Molecular Biology BMS 635 Signal Transduction BMS 658 Recombinant DNA Techniques	
	Total Hours: 13
Courses Required in Other Departments:	
None	
	Total Hours: 0
Prerequisites for Required Courses:	
None	
Recommended Electives in Department:	
None	
	Total Hours: 0
Recommended Electives in Other Departments:	
None	

Total Hours: 0

#### **Limitations on Electives:**

None

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

- 1. Statement of Rationale: Attached
- 2. Estimated costs for first five years: Attached
- 3. Complete catalog description (including new courses and course changes pending approval): Attached
- 4. If proposal is for a new degree program, you must submit an application to the Missouri Department of Higher Education (MDHE).
  - A. Use the templates below to create your application.
     <u>New Undergraduate Major (or certificate with more than 18 hours)</u> <u>New Graduate Program (or certificate with more than 18 hours)</u>
  - B. Upload and attach the completed MDHE application. Not Attached

\*If you require assistance to complete the application, contact Julie Masterson, Graduate College, 836-5335.

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

01/19/2018

#### **Current Status:**

Grad Council Review

#### **Proposal Progress:**

02/27/2018 - Submitted by Department Head (Colette Witkowski) 03/01/2018 - Reviewed by Dean (Helen Reid)

#### **Review Comments:**

No comments have been added to this proposal.

Copy As New Proposal





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Rationale for proposed Graduate Certificate in Biomolecular Sciences

The field of molecular biology is changing rapidly. Jobs and educational opportunities often rely not only on a specific knowledge but on a specific set of skills. This certificate is a collection of the core courses from the Master's in Cell and Molecular Biology program. Faculty teach these courses to provide current knowledge in the field as well as the base skills necessary to explore questions in the discipline. This program will provide a credential for students as they complete the MS degree and for those interested in obtaining evidence of advanced preparation for employment or further education. Estimated five year costs for Graduate Certificate in Biomolecular Sciences

There are no expected costs with this program. Each course is currently taught within faculty loads and there is room to accommodate the expected number of students in those courses.

## **Graduate Certificate in Biomolecular Sciences**

The Graduate Certificate in Biomolecular Sciences provides a 13-credit hour graduate-level experience for those interested in a deeper understanding of the techniques and applications used in the field of Cell and Molecular Biology. The program provides for the acquisition of knowledge and skills necessary for supporting burgeoning scientists in this field. Completion of this certificate can occur as part of the Master's in Cell and Molecular Biology graduate program.

## Admission requirements

- 1. Undergraduate GPA of 3.0 or higher
- 2. GRE score of 290 or higher.
- 3. Admission to the Graduate College at Missouri State University.
- 4. Admission to the Graduate Certificate in Biomolecular Sciences program

## Courses for the Graduate Certificate in Biomolecular Sciences:

BMS 622 Molecular Cell Biology, 4 credit hours BMS 625 Molecular Biology, 4 credit hours BMS 635 Signal Transduction, 2 credit hours BMS 658 Recombinant DNA Techniques, 3 credit hours

## **Retention Requirements**

After admission into the Graduate Certificate in Biomolecular Sciences program, the students must maintain a GPA of 3.0 or higher, with no more than one course with a grade of "C", and no course with a grade of "D or lower.

# **Curricular Action Workflow**



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

# New Course Proposal Form

Submitted on 02/09/2018 by Scott Zimmerman (<u>Scottzimmerman@missouristate.edu</u>).

#### \*All fields require input

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

Course Code:			Course Number: ( <u>Check Ava</u>	ilability)			
BMS			641				
Course Title:							
Physiology of the Cel							
Will this course become p	art of a program? (	No 🛛 Yes (A corresp	onding program change form	must be :	submitted)		
Will this proposal need to	be reviewed by CGE	IP? ONO Yes					
Will this proposal need to	be reviewed by EPP	C? 💿 No 🔾 Yes					
Prerequisite/Co-requisite	or enter 'None':						
Admission into the Ce	ell and Molecular	Biology graduate proç	ram or permission of the	instruct	or		
Catalog Course Descriptio	on: (Include any Pass	/Not Pass grading restric	ctions, repeatable limits, limits	ition on c	ourse applica	bility, UG/GR parallel course, etc.)	
The molecular, chemi	cal, membrane an	d cellular basis of me	abolic homeostatic proce	esses in o	cells, cytopla	asmic compartments and primary o	rgan systems.
Credit Hours:	3	Lecture Contact	Hours:	3		Lab Contact Hours:	0
Note: If variable credit, en	ter the highest num	per and add to end of co	urse description. (e.g. "Variab	e credit, n	nay be taken	1-3 hours.")	
Periodicity. Check all th	nat apply.						
🗹 Fall		Fall (even-numbered ye	ars only)			Fall (odd-numbered years only)	

	Spring		Spring (even-numbered years only)			Spring (odd-numbered years only)	
	Summer		On Demand only				
Complete C	Catalog Description						
BMS 641 Ph	ysiology of the Cell Admission into the	• • Cell and Mc	ecular Biology graduate program or permiss	ion of the instructor			
The molecul Credit hours	lar, chemical, memb s: 3 Lecture contact	rane and cell hours: 3 Lab	ular basis of metabolic homeostatic processe contact hours: 0	es in cells, cytoplasmic co	ompartme	nts and primary organ systems.	
Typically off	fered: Fall						
Include sam	ple syllabus (list top	oics, course g	goals.) Use text box OR upload only file types	of PDF, DOC or DOCX.			
Attached							
Purpose of (	Course						
This cour	rse is the first sen	nester of a	two-semester sequence in Human Phy	siology. It allows for	a greater	depth of	
investigat	tion into the cellu	llar aspects	of physiologic function, especially rela	ted to the endocrine,	, nervous	s, and	
muscular	systems. It will p	prepare stu	dents to complete BMS 742, Organ Phy uent proposal	siology. Please note,	, BMS 74	2 will be	
Tenumber	160 to DIVIS 042 II	ra subsequ	ient proposal.				
Relationship	o to Other Departme	ents					
No direct	relationship. Gra	aduate stud	lents in other life science programs wo	uld be welcome to tal	ke this co	ourse.	
Is there a gr	aduate/undergradu	ate parallel c	ourse to this one? 🔘 No 💿 Yes				
	Enter paralle BMS442 F	hysiology	of the Cell				
		, ,					
	How do thes	e classes diff	fer?				
	Graduate Written as	students w	ill take oral exams in order to allow a m will also be held to a higher standard t	ore in-depth discussi	ion of co tudents	ncepts. with the	
	expectatio	on that grad	duate students should be able to comm	unicate more effectiv	vely thro	ugh	
	profession	nal writing.					
	• Decourse le fe						
iew Cours		ormation		Marian English			
Anticipated	Average Enrollmen	t per section	3	Maximum Enrollme	ent Limit p	er section:	5
Anticipated	Average Enrollmen	t per semest	er:	Maximum Enrollme	ent Limit p	er semester:	5
			3				0

3

Faculty Load Assignment (equated hours):

Is another course being deleted?  $\begin{array}{c}$  No  $\begin{array}{c}$  Yes

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

Additional library Holdings
No additional resources are required since the undergraduate course is already being offered and sufficient resources are available.
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?



02/27/2018 - Submitted by Department Head (Colette Witkowski) 03/01/2018 - Reviewed by Dean (Helen Reid)

#### **Review Comments:**

No comments have been added to this proposal.

#### Copy As New Proposa





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## Syllabus BMS 442/641, Physiology of the Cell 3 credits

Instructor: Dr. Scott Zimmerman Professional Building Room 353 Phone: 6-6123 E-mail: scottzimmerman@missouristate.edu Office hours: Mondays, Wednesdays, and Fridays 8-9am, Tuesdays 3-4pm

## **Required Materials**

Principles of Human Physiology, 6th Ed., Stanfield. Pearson Publishing

## **Course prerequisites**

<u>Undergraduates</u>: C grade or better in BMS 307 and in BMS 321, BIO 320, CHM 352, or CHM 452. <u>Graduate Students</u>: Acceptance into the Cell and Molecular Biology Program or Instructor Permission

## **Catalog Description**

Physiology of the cell will focus on the molecular, chemical, membrane, and cellular basis of metabolic homeostatic processes in cells, cytoplasmic compartments and primary organ systems. Undergraduates cannot receive credit for both BMS 308 and BMS 442. 3(3-0) F

## **Course Goals**

Students will understand the role of human molecules, cells, tissues, organs, and organ systems in maintaining homeostasis.

Specifically, students who successfully complete this course will able to:

- 1. Understand the key physiology themes of homeostatic regulation, structure/function relationships, compartmentation, biological energy transformation, and communication; provide or recognize examples of each from different organ systems.
- 2. Use quantitative reasoning to demonstrate physiologic concepts such as glomerular filtration rate or pulmonary ventilation.
- 3. Interpret graphs and other sources of data to critically address physiologically-relevant problems.
- 4. Use an appropriate vocabulary to effectively communicate information related to physiology.
- 5. Predict physiological consequences based on changing parameters.
- 6. Recognize and explain the interrelationships within and between body systems.

## Graduate Students

All graduate students will participate in oral examinations so deeper understanding of course concepts can be discussed. In addition, all written assignments will be graded based upon the expectation that each graduate student has more developed writing skills and a better understanding of how to communicate through professional writing.

## Expectations

Learning can take place in a variety of ways, including discussion of assigned readings, researching information in print and electronic resources, and through faculty-directed teaching. Students in this course will be expected to actively participate in class discussion; demonstrating that the student has read the assigned reading, has formulated ideas and questions about the reading, and is ready to discuss the content.

Students can expect an instructor who is dedicated to providing accurate information, who will provide

strategies for understanding physiology, and who is an enthusiastic model for thinking like a scientist.

The grading scale for this course is:

scale for this course is.	
90-100% A	78-79% C+
88-89% B+	72-79% C
82-88% B	70-71% C-
80-81% B-	60-69% D
	< 60% F

Final grades will be based on the total points accumulated during the semester. Attendance is not a factor in calculating a grade other than for completing exams and in-class activities. All final percentages will be rounded up to the next highest integer value.

Grades will be based in exam and assignment scores; 85% Exams, 15% Assignments

## Exams

- <u>Format</u>
  - A variety of test questions styles will be used from multiple choice to essay.
- <u>Material</u>
  - Exams will cover information from assigned readings, discussions, and lectures. All material in the reading assignments may be included on an exam whether it was specifically discussed or not.
- <u>Missed Exams</u>
  - Any student who misses a scheduled exam must provide written documentation supporting the extraordinary reason for their missing the exam.
  - If the absence is excused, the student will be required to take a remediation exam on Study Day.
  - Any student who misses an exam and fails to take the make-up exam will have a score of 0 entered for the missed exam.
  - Should a student miss more than one lecture exam due to extraordinary circumstances, the student will receive an incomplete grade.
  - Should a student know that an exam would be missed, he/she may request to take the exam during the 24 hours prior to the scheduled time.
  - Per University policy, the only excused absences are those caused by significant illness requiring medical attention or a death in the immediate family and University-sponsored activities such as Athletics and field trips.

# Tentative Course Schedule

<u>Unit 1 (weeks 1-4)</u>	
Introduction, Thinking Like a Physiologist	Chapter 1
Homeostasis, Cell Structure	Chapter 2
Cell Metabolism	Chapter 3
Cell Metabolism	Chapter 3
Cell Metabolism	Chapter 3
Cell Membrane Transport	Chapter 4
Cell Membrane Transport	Chapter 4
Chemical Messengers	Chapter 5
Chemical Messengers	Chapter 5
Diabetes 1	
COMPREHENSIVE EXAM 1	

<u>Unit 2</u>	<u>(weeks 5-10)</u>	
	Endocrine System	Chapter 6
	Endocrine System	Chapter 6
	Endocrine System	Chapter 6
	Diabetes 2	
	Nerve Cells and Electrical Signaling	Chapter 7
	Nerve Cells and Electrical Signaling	Chapter 7
	Synaptic Transmission and Neural Integration	Chapter 8
	Synaptic Transmission and Neural Integration	Chapter 8
	COMPREHENSIVE EXAM 2	
<u>Unit 3</u>	<u>(weeks 11-15)</u>	
	Nervous System: Central Nervous System	Chapter 9
	Nervous System: CNS	Chapter 9
	Nervous System: Sensory System	Chapter 10
	Nervous System: Sensory System	Chapter 10
	Nervous System: Autonomic and Motor Systems	Chapter 11
	Nervous System: Autonomic and Motor Systems	Chapter 11
	Muscle Physiology	Chapter 12
	Muscle Physiology	Chapter 12
	Muscle Physiology	Chapter 12
	Diabetes 3	
	COMPREHENSIVE FINAL EXAM	

#### **COURSE POLICIES**

All applicable Missouri State University policies (e.g. Academic Integrity, Attendance, Affirmative Action, Disabled Students, Incomplete Grades, etc.) will serve as guiding principles in this class. Please familiarize yourself with these and other policies at the Missouri State website. In addition, please read the students rights and responsibilities page.

#### Attendance Policy

Attendance will not be taken in this course. However, any in-class assignment missed due to an unexcused absence will have an adverse effect on your grade in this course. The University's attendance policy can be found at http://www.missouristate.edu/registrar/catalog/attendan.html. Reasonable accommodations can be made for those 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.

#### 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, <u>Student Academic Integrity Policies and Procedures</u> 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.

#### **Statement Of 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 <a href="https://www.missouristate.edu/equity/">www.missouristate.edu/equity/</a>.

#### Statement On Disability Accommodation

To request academic accommodations for a disability, contact the Director of the Disability Resource Center, Carrington Hall, Room 302, 417-836-4192 or 417-836-6792 (TTY), <u>www.missouristate.edu/disability</u>. Students are required to provide documentation of disability to the Disability Resource Center prior to receiving accommodations. The Disability Resource Center refers some types of accommodation requests to the Learning Diagnostic Clinic, which also provides diagnostic testing for learning and psychological disabilities. For information about testing, contact the Director of the Learning Diagnostic Clinic, 417-836-4787, <u>http://psychology.missouristate.edu/ldc</u>.

#### Emergency Response Policy

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 <a href="http://www.missouristate.edu/safetran/51597.htm">http://www.missouristate.edu/safetran/51597.htm</a> and <a href="http://www.missouristate.edu/safetran/erp.htm">http://www.missouristate.edu/safetran/51597.htm</a>

#### 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.

Faculty may also wish to include relevant drop deadlines. See Academic Calendars (<u>www.missouristate.edu/registrar/acad\_cal.html</u>) for deadlines.

#### Audio And Video Recording Course Activities

Students may make audio or video recordings of course activity. However, the redistribution of audio or video recordings from the course to individuals who are not students in the class is prohibited without the express permission of the faculty member and any of the students who are recorded.

# **Curricular Action Workflow**



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

# Change Course Proposal Form

BMS 742 Organ Physiology

Prerequisite: BMS 620 or BMS 622 and admission to the Cell and Molecular Biology graduate program or Doctor of Nurse Anesthesia Practice program. Course is the study of the human cardiovascular and respiratory physiology and related human diseases. Emphasis is on the normal and abnormal functions of the heart, lungs and vascular systems. Consideration of disease etiology, diagnosis and clinical interpretation of the cardiopulmonary and vascular systems. Current research topics will be introduced and discussed. 4(4-0) 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.)



BMS 742 642 Organ Physiology

Prerequisite: BMS 620 or BMS 622 and admission to the Cell and Molecular Biology graduate program or Doctor of Nurse Anesthesia Practice program. C or better in BMS 641. Course is the study of the human cardiovascular and respiratory physiology and related human diseases. Emphasis is on the normal and abnormal functions of the heart, lungs and vascular systems. Consideration of disease ctiology, diagnosis and clinical interpretation of the cardiopulmonary and vascular systems. Current research topics will be introduced and discussed. Course will continue the investigation of human physiology by organ system including the cardiovascular and respiratory systems as well as mechanisms of body defense.4(4-0) S 3(3-0)S

...ii

What is	changing? Check all boxes that apply.						
	Course Code	V	Course Number ( <u>Check Availability</u> )		Title		Prerequisite
	Credit Hours/Contact Hours		Periodicity		Description		
Reason	for proposed change						
To bri hours	ng the number in line with the pro with the cross-listed course, BMS	oposed ci 6 542.	eation of BMS 641, dual listed with BMS 44/	2 and to I	oring consistency to	the course	e description and credit
Does	this change affect course assessment	(e.g. stude	nt learning evidence/outcomes)? <ul> <li>No</li> <li>Yes</li> </ul>				
How did	I you determine the need for this chan	ge? Check	all boxes that apply or specify other.				
	Routine or annual review/assessmer	t of curric	ılum		Faculty Input		Student Input
	Accreditation/certification complian	ce			Review of catalog in	formation	
	Other (be specific):						
	Check if this is a non-substantive ch	ange.					
What is	the date that this course change was	approved l	y departmental or program faculty? (MM/DD/YYY	Y)		02/09/2	2018
Current	Status:						
Grad Co	uncil Review						
Proposa	al Progress:						
02/27/20 03/01/20	018 - Submitted by Department 018 - Reviewed by Dean (Helen	Head (C Reid)	olette Witkowski)				
Review	Comments:						
No comr	ments have been added to this	proposal					
Сор	y As New Proposal						
	MA	KE	YOUR		MFI	NT	
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# **Curricular Action Workflow**



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

# New Interdisciplinary Program Proposal Form

#### Submitted on 02/21/2018 by Matthew Siebert (MSiebert@MissouriState.edu).

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

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

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

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

Chemistry		
Sponsoring Department (2):		
Biology		
Sponsoring Department (3): (if applicable)		
Biomedical Sciences		
Sponsoring Department (4): (if applicable)		
Proposed Program Title:		
Foundations of Pharmaceutical Science		
Choose One:		
⊂ Major (Non-Comprehensive/Graduate Program)	O Minor	O Graduate Certificate
Comprehensive Major	Indergraduate Certificate	O Master's Degree

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

UGCT - Undergraduate Certificate		
General Education Courses Required:		
None		
	<b>-</b>	
	lotal Hours	0
General Education Courses Recommended:		
Nana		
None		
	<b>T</b>	
	Total Hours	0
	lotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:	Total Hours	. 0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science	Iotal Hours	. 0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science.	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science. Admission Requirements	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science. Admission Requirements To be admitted students must have declared pre-pharmacy.	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program: Foundations of Pharmaceutical Science Certificate Foundations of Pharmaceutical Science This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science. Admission Requirements To be admitted students must have declared pre-pharmacy. Program requirements (17-18 hours)	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:         Foundations of Pharmaceutical Science Certificate         Foundations of Pharmaceutical Science         This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences         required for pursuit of a Pharm. D. or a career in pharmaceutical science.         Admission Requirements         To be admitted students must have declared pre-pharmacy.         Program requirements (17-18 hours)         A. BIO 310(5), BMS 307 (4), CHM170(3), and CHM171(1)	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:         Foundations of Pharmaceutical Science Certificate         Foundations of Pharmaceutical Science         This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences         required for pursuit of a Pharm. D. or a career in pharmaceutical science.         Admission Requirements         To be admitted students must have declared pre-pharmacy.         Program requirements (17-18 hours)         A. BIO 310(5), BMS 307 (4), CHM170(3), and CHM171(1)         B. Complete requirements in one of the following areas of emphasis:	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:         Foundations of Pharmaceutical Science Certificate         Foundations of Pharmaceutical Science         This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences         required for pursuit of a Pharm. D. or a career in pharmaceutical science.         Admission Requirements         To be admitted students must have declared pre-pharmacy.         Program requirements (17-18 hours)         A. BIO 310(5), BMS 307 (4), CHM170(3), and CHM171(1)         B. Complete requirements in one of the following areas of emphasis:         a. Biology: BIO320(4) or BIO361(4) or BIO511(4).	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:Foundations of Pharmaceutical Science CertificateFoundations of Pharmaceutical ScienceThis interdisciplinary certificate provides students with broad exposure to foundational courses in the sciencesrequired for pursuit of a Pharm. D. or a career in pharmaceutical science.Admission RequirementsTo be admitted students must have declared pre-pharmacy.Program requirements (17-18 hours)A. BIO 310(5), BMS 307 (4), CHM170(3), and CHM171(1)B. Complete requirements in one of the following areas of emphasis:a. Biology: BIO320(4) or BIO361(4) or BIO511(4).b. Biomedical Science: BMS 308(4) or BMS 321(4) or BMS 442(3).	Iotal Hours	0
Requirements (including Admission) and Limitations for Specific Degree/Program:         Foundations of Pharmaceutical Science Certificate         Foundations of Pharmaceutical Science         This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences         required for pursuit of a Pharm. D. or a career in pharmaceutical science.         Admission Requirements         To be admitted students must have declared pre-pharmacy.         Program requirements (17-18 hours)         A. BIO 310(5), BMS 307 (4), CHM170(3), and CHM171(1)         B. Complete requirements in one of the following areas of emphasis:         a. Biology: BI0320(4) or BI0361(4) or BI0511(4).         b. Biomedical Science: BMS 308(4) or BMS 321(4) or BMS 442(3).         c. Chemistry: CHM342(5).	Iotal Hours	0

Total Hours: 17-18

**Prerequisites for Required Courses:** 

BIO310 Prerequisite: "C-" or better in BIO 235 or BMS 230 or BMS 231; and "C-" or better in CHM 116 and 117 or CHM 160.
BMS 307 Prerequisite: "C-" grade or better in BMS 110 and 111 or BIO 121.
CHM170 Prerequisite: "C-" grade or better in CHM 160.
CHM171 Prerequisite: CHM 170 or concurrent enrollment; and a "C-" or better in CHM 160 and CHM 161.
BIO320 Prerequisite: "C-" or better in BIO 235 or, BMS 230 and BMS 232, or BMS 231; and "C-" or better in CHM 201 and 202, or CHM 342.
BIO361 Prerequisite: "C-" or better in BIO 235.
BIO511 Prerequisite: C grade or better in BMS 307 or BIO 320 or BMS 521.
BMS308 Prerequisite: C grade or better in BMS 307, and BMS 321 or BIO 320 or CHM 352 or CHM 452 or concurrent enrollment.
CHM342 Prerequisite: C grade or better in BMS 307; and BMS 321 or BIO 320 or CHM 352 or CHM 452 or concurrent enrollment.

#### **Recommended Electives:**

None

Total Hours: 0

#### **Limitations on Electives:**

None

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

- 1. Statement of Rationale: Attached
- 2. Estimated costs for first five years: Attached
- 3. Complete catalog description (including new courses and course changes pending approval): Attached
- 4. If proposal is for a new degree program, you must submit an application to the Missouri Department of Higher Education (MDHE).
  - A. Use the templates below to create your application.
     <u>New Undergraduate Major (or certificate with more than 18 hours)</u> <u>New Graduate Program (or certificate with more than 18 hours)</u>
  - B. Upload and attach the completed MDHE application. Not Attached

\*If you require assistance to complete the application, contact Julie Masterson, Graduate College, 836-5335.

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

02/20/2018

#### **Current Status:**

**College Council Review** 

CAW - New Interdisciplinary Program Proposal Form - Curricular Acti...

#### **Proposal Progress:**

02/21/2018 - Submitted by Department Head (S Mathis) 02/21/2018 - Submitted by Department Head (Bryan Breyfogle) 02/21/2018 - Submitted by Department Head (Colette Witkowski)

#### **Review Comments:**

No comments have been added to this proposal.

Copy As New Proposa





 Last Modified: 07/17/2015
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 Accessibility
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# Statement of Rationale

The Foundations of Pharmaceutical Science certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science. The admission criteria for a Pharm. D. program do *not* include completion of a Bachelor's degree, rather just select prerequisite courses. For this reason, many students who pursue a Pharm. D. do not complete a Bachelor's degree. This certificate may provide them with a competitive edge when pursuing admission to a Pharm. D. program or when seeking employment in pharmaceutical science.

# Foundations of Pharmaceutical Science Certificate

## Foundations of Pharmaceutical Science

This interdisciplinary certificate provides students with broad exposure to foundational courses in the sciences required for pursuit of a Pharm. D. or a career in pharmaceutical science.

### Admission Requirements

To be admitted students must have declared pre-pharmacy.

Program requirements (17-18 hours)

- A. BIO 310(5), BMS 307(4), CHM 170(3), and CHM171(1)
- B. Complete requirements in one of the following areas of emphasis:
  - **a. Biology**: BIO320(4) or BIO361(4) or BIO511(4).
  - **b.** Biomedical Science: BMS 308(4) or BMS 321(4) or BMS 442(3).
  - c. Chemistry: CHM342(5).

# Estimated Costs (First Five Years)

The admission criteria for a Pharm. D. program do *not* include completion of a Bachelor's degree, rather just select prerequisite courses. These prerequisite courses are included in the certificate program of study. Hence, these are courses that the student is already taking and, therefore, there will be no additional costs in providing this certificate.

# **Curricular Action Workflow**



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

Submitted on	03/09/2018 by A	Amanda	Keys ( <u>AmandaKeys</u>	@Missouri	State.ed	<u>lu)</u> .		
All fields require	input							
his proposal app	lies to:							
An existing	COURSE							
<ul> <li>An existing</li> </ul>	g REGULAR (e.g. perman	ent) SECTIO	DN of a variable content course	э.				
xisting Course:								
SWK420 Social W	ork Practice with Grou	ups and Fa	amilies					
/ill this proposal need	to be reviewed by CGEI	P? 💿 N	lo 🔿 Yes					
ill this proposal need	to be reviewed by EPPC	?? 🖲 No	o 🔾 Yes					
urrent online catalog	description:							
SWK 420 Social W	ork Practice with Gro	ups and Fa	amilies					
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	The BSW curriculum outcomes will not be affected. However, half of the learning Work Practice with Groups.	g outcome	s for this course will	be moved	to SWK 314: Social	
How did you determine the need for this change? Check all boxes that apply or specify other.						
R	Routine or annual review/assessment of curriculum		Faculty Input		Student Input	
	Accreditation/certification compliance		Review of catalog in	talog information		
C	Other (be specific):					
□ c	Check if this is a non-substantive change.					
What is the date that this course change was approved by departmental or program faculty? (MM/DD/YYYY)				03/08/2018		
Current Status: College Council Review						
Proposal Progress:						
03/14/2018 - Submitted by Department Head (Michele Day)						
Review Comments:						
No comments have been added to this proposal.						
Copy As New Proposal						
	MAKE YOUR		MEI	NT.		

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