# Missouri State.



**Curricular Action Workflow** 



# **Change Program Proposal Form**

Submitted on 11/07/2018 by S Mathis (<u>Aliciamathis@missouristate.edu)</u>.

Department:	· ·	
Biology		
Type of Program		
Choose One:		
Non-Comprehensive		
Undergraduate Major	Option	Certification
© Comprehensive Undergraduate	O Minor	Academic Rules
Major	O Certificate	Other
Graduate Program		
Does this program include any new c	ourses?	
No Yes (A corresponding new	w course form must be sub	mitted to create each new course.)
Title of Program Affected:		
Biology/Wildlife Biology-BS	*	
<ul> <li>Во произволяется императорите потороние и интерпационального в принценей и потороние и поторон и интерпационального в принценей и принценей и потороние и принценей и потороние и потороние и принценей и потороние и потороние и потороние и принценей и потороние и поторо</li></ul>		

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

		A. C.
Current catalog description for prog	gram is attached.	((0)
Attached		
Complete New Catalog Description	(Either provide the revised description in the	text area below [strikethrough all deletions
and insert/bold new information - any cont	ent that is copied and pasted will lose existing	formatting; please review prior to submission
OR provide as an attachment below)		
6 0 B I S		
catalog. This includes addition of a cou- option on the attached file and below.	d under the Wildlife Biology section of the Birse option (BIO 533(4) in bold under the management from: BIO 373(3), 485(1-3), 56	nagment section of the Wildlife Biology
Michael Communication (Communication Communication Communi		energen was entropy were generally we have the energy section of t
Attached		
What is changing? Check all boxes  Title change  Course changes of under 18	that apply:  From option to program (major)	Other
nours	From program (major) to option	Adding another course option to the
Course changes of 18 hours or		options for the management section
more .	$(\theta_{ij}, \theta_{ij}) = (\theta_{ij}, \theta_{ij}) = (1 + \theta_{ij}, \theta_{ij})$	
•		
Reason for Proposed Change:		
Wetland Ecology is offered every spi	ring semester and does not appear to be	e on the radar of many Wildlife
Biology students because it is not lis	sted as a course under the management	section. It is an appropriate course
for the management requirement be	cause: A major project that Wetland Ec	ology students work on throughout
the semester is a detailed proposal f	or restoring or enhancing a degraded w	etland habitat (usually a real life
	cludes the process many natural resource	
	lders, selecting restoration procedures,	
monitoring plans.		
	THE COST OF THE CO	
What is the date that this new proq	ram was approved by departmental o	r program faculty? (MM/DD/YVVY)
10/22/2018		
10; LL LU IU		

**Current Status:** 

College Council Review

# **Proposal Progress:**

12/06/2018 - Submitted by Department Head (S Mathis)



No comments have been added to this proposal.

Copy As New Proposal

# **MAKE YOUR**

**MENT** 

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<u>Contact Information</u>





# **Biology (Comprehensive) (BS)**

## Bachelor of Science

- A. General Education Program and Requirements
- B. Major Requirements
  - 1. <u>BIO 121(4)</u>, <u>122(4)</u>, <u>235(3)</u>, <u>236(1)</u>, <u>302(1)</u>, <u>492(0)</u>, <u>550(3)</u>
  - 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. <u>BIO 310(5)</u> or <u>320(4)</u> or <u>361(4)</u> or <u>544(4)</u>; 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. <u>CHM 201(3)</u> and <u>202(2)</u>, or <u>CHM 302(5)</u> or <u>342(5)</u>; consult options below before selecting course
  - Public Affairs Capstone Experience will be fulfilled by completion of <u>BIO 302(1)</u>, <u>492(0)</u> and two additional courses from the following: <u>BIO 300(1)</u>, <u>355(4)</u>, <u>367(3)</u>, <u>370(4)</u>, <u>373(3)</u>, <u>398(1)</u>, <u>399(1-3)</u>, <u>485(1-3)</u>, <u>498(3)</u>, <u>499(1-3)</u>, <u>501(2)</u>, <u>505(3)</u>, <u>508(3)</u>, <u>509(4)</u>, <u>511(4)</u>, <u>512(3)</u>, <u>520(3)</u>, <u>527(1-4)</u>, <u>539(3)</u>, <u>547(3)</u>, <u>561(2)</u>, <u>573(3)</u>, <u>574(2)</u>, <u>575(3)</u>, <u>576(3)</u>, <u>577(3)</u>, <u>578(4)</u>, <u>579(4)</u>, <u>584(3)</u>, <u>589(3)</u>. 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.)
    - a. Environmental Biology and Evolution (72-85 hours total)
      - 1. Required courses: BIO 367(3), 368(1), 515(3)
      - Complete one of the following options in biodiversity and evolution: <u>BIO</u> 334(3), 339(2), 370(4), 371(3), 380(5), 530(3), 571(4), 573(3), 574(2), 57 5(3), 576(3), 577(3); the following courses taught during the summer at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi: <u>BIO</u> 534(2) and 535(1); 555(3), 556(3), 587(3), 588(3)
      - 3. Complete one of the following options in population biology: <u>BIO</u>
        436(4), 505(3), 532(3), 540(4), 560(3), 563(3), 567(4), 578(4), 584(3), 58
        9(3); the following courses taught during the summer at the Gulf Coast
        Research Laboratory in Ocean Springs, Mississippi: <u>BIO 557(2)</u>
        and 558(2)
      - 4. Complete courses in community/ecosystem biology totaling at least 3 hours from the following: BIO 373(3), 485(1-



- 3), 508(3), 509(4), 533(3), 539(3), 547(3), 562(4), 564(2), 579(4); the following courses taught during the summer at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi: BIO 537(2), 538(2), 565(3), 566(2)
- 5. Complete at least one biology course with a substantial field component. A course used to satisfy this requirement also may be counted toward the biodiversity, population biology, and community/ecosystem biology concentration areas described above. Complete one of the following: BIO 334(3), 339(2), 370(4), 436(4), 509(4), 527(1-4), 562(4), 564(2), 574(2), 575(3), 576(3), 577(3), any biology course taught at the Gulf Coast Research Laboratory, any biology course taught at the Bull Shoals Field station or another field station (with the approval of your advisor)
- Complete 0-8 hours of elective BIO courses at the level of 300 or higher to total a minimum of 43 hours in biology
- Complete at least one of the following related requirements in Mathematics, Statistics, or Computer programming: <u>MTH 261(5)</u>, <u>MTH 287(3)</u>, <u>CSC 125(4)</u>, <u>CSC 130(3)</u>, <u>CSC 587(3)</u>, <u>BIO 551(2)</u>, <u>PSY 527(3)</u>
- 8. Related requirements in Chemistry: CHM 160(4), 161(1), 170(3), 171(1)
- Complete one of the following related science courses: <u>AGN 215(3)</u>, <u>ANT 305(3)</u>, <u>ANT 375(3)</u>; <u>CHM 260(3)</u> or <u>460(3)</u>; <u>GLG 171(3)</u>, <u>GRY 351(3)</u>
- 10. Complete one of the following from related fields of study: <u>BIO</u> 561(2), <u>ECO 540(3)</u>, <u>GEO 363(4)</u>, <u>LAW 537(3)</u>, <u>PHI 302(3)</u>, <u>PLS 555(3)</u>, <u>PSY 379(3)</u>
- b. Microbiology and Biotechnology (71-87 hours total)
  - 1. Required courses: <u>BIO 310(5)</u>, <u>320(4)</u>
  - 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
  - Related requirements in Chemistry: <u>CHM</u>
     160(4), 161(1), 170(3), 171(1); <u>CHM 201(3)</u> and 202(2), or <u>CHM 342(5)</u> and 343(5), or <u>CHM 342(5)</u> and 344(3); <u>CHM 352(3)</u>, or <u>CHM 554(3)</u> and <u>556(3)</u>
- c. Pre-Teacher Education (71-73 hours total)\*:
  - 1. Required courses: <u>BIO 310(5)</u>, <u>361(4)</u>, 369(4), 515(3)



- Complete a minimum of 9 additional hours of upper level Biology courses (with approval of advisor).
- 3. Related requirements in Chemistry: <u>CHM</u> <u>160(4), 161(1), 170(3), 171(1); CHM 201(3)</u> and <u>202(2)</u>, or <u>CHM 302(5)</u>
- 4. Complete the following related science courses: <u>GLG 171(3)</u>; <u>GRY 135(4)</u>; <u>SCI 505(3)</u>
- 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 postbaccalaureate programs or master's program at Missouri State University.

- d. Wildlife Biology (68-87 hours total)
  - 1. Required courses: <u>BIO 320(4)</u> or <u>361(4)</u>, <u>367(3)</u>, <u>368(1)</u>
  - 2. Complete two courses in plant biology from: <u>BIO</u> 334(3), 339(2), 530(3), 544(4)
  - 3. Complete three courses in animal biology from: <u>BIO</u> 370(4), <u>371(3)</u>, <u>380(5)</u>, <u>571(4)</u>, <u>573(3)</u>, <u>574(2)</u>, <u>575(3)</u>, <u>576(3)</u>, <u>577(3)</u>
  - 4. Complete a minimum of 5 hours in management from: <u>BIO</u> 373(3), 485(1-3), 509(4), 532(3), 562(4), 589(3)
  - Complete two courses in ecology and evolution from: <u>BIO</u> 436(4), 515(3), 539(3), 563(3), 567(4), 578(4), 579(4), 584(3)
  - Complete one course in human dimensions from the following: <u>AGN</u> 335(3), <u>BIO 547(3)</u>, <u>BIO 561(2)</u>, <u>CRM 210(3)</u>, <u>ECO 540(3)</u>, <u>GRY</u> 108(3), <u>GRY</u> 351(2), <u>PHI 302(3)</u>, <u>PLS 555(3)</u>, <u>LAW 537(3)</u>
  - 7. Complete one course in earth/environmental science: AGN 215(3), CHM 260(3), GLG 110(4), GRY 142(4)
- C. General Baccalaureate Degree Requirements



# Biology (Comprehensive) (BS)

### Bachelor of Science

- A. General Education Program and Requirements
- B. Major Requirements
  - 1. <u>BIO 121(4)</u>, <u>122(4)</u>, <u>235(3)</u>, <u>236(1)</u>, <u>302(1)</u>, <u>492(0)</u>, <u>550(3)</u>
  - 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) or 320(4) or 361(4) or 544(4); consult options below before selecting course
  - 5. <u>CHM 116(4)</u> and <u>117(1)</u>, or <u>CHM 160(4)</u> and <u>161(1)</u>; 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
  - Public Affairs Capstone Experience will be fulfilled by completion of <u>BIO 302(1)</u>, <u>492(0)</u> and two additional courses from the following: <u>BIO 300(1)</u>, <u>355(4)</u>, <u>367(3)</u>, <u>370(4)</u>, <u>373(3)</u>, <u>398(1)</u>, <u>399(1-3)</u>, <u>485(1-3)</u>, <u>498(3)</u>, <u>499(1-3)</u>, <u>501(2)</u>, <u>505(3)</u>, <u>508(3)</u>, <u>509(4)</u>, <u>511(4)</u>, <u>512(3)</u>, <u>520(3)</u>, <u>527(1-4)</u>, <u>539(3)</u>, <u>547(3)</u>, <u>561(2)</u>, <u>573(3)</u>, <u>574(2)</u>, <u>575(3)</u>, <u>576(3)</u>, <u>577(3)</u>, <u>578(4)</u>, <u>579(4)</u>, <u>584(3)</u>, <u>589(3)</u>. Courses may also be used to satisfy option requirements.
  - 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: <u>BIO 300</u>, 399, 499, or <u>597</u>.)
    - a. Environmental Biology and Evolution (72-85 hours total)
      - 1. Required courses: <u>BIO 367(3)</u>, <u>368(1)</u>, <u>515(3)</u>
      - Complete one of the following options in biodiversity and evolution: <u>BIO</u> 334(3), 339(2), 370(4), 371(3), 380(5), 530(3), 571(4), 573(3), 574(2), 57 5(3), 576(3), 577(3); the following courses taught during the summer at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi: <u>BIO</u> 534(2) and 535(1); 555(3), 556(3), 587(3), 588(3)
      - 3. Complete one of the following options in population biology: <u>BIO</u> 436(4), 505(3), 532(3), 540(4), 560(3), 563(3), 567(4), 578(4), 584(3), 58 9(3); the following courses taught during the summer at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi: <u>BIO</u> 557(2) and 558(2)
      - 4. Complete courses in community/ecosystem biology totaling at least 3 hours from the following: BIO 373(3), 485(1-



- 3), <u>508</u>(3), <u>509</u>(4), <u>533</u>(3), <u>539</u>(3), <u>547</u>(3), <u>562</u>(4), <u>564</u>(2), <u>579</u>(4); the following courses taught during the summer at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi: <u>BIO</u> <u>537</u>(2), <u>538</u>(2), <u>565</u>(3), <u>566</u>(2)
- 5. Complete at least one biology course with a substantial field component. A course used to satisfy this requirement also may be counted toward the biodiversity, population biology, and community/ecosystem biology concentration areas described above. Complete one of the following: BIO 334(3), 339(2), 370(4), 436(4), 509(4), 527(1-4), 562(4), 564(2), 574(2), 575(3), 576(3), 577(3), any biology course taught at the Gulf Coast Research Laboratory, any biology course taught at the Bull Shoals Field station or another field station (with the approval of your advisor)
- 6. Complete 0-8 hours of elective BIO courses at the level of 300 or higher to total a minimum of 43 hours in biology
- Complete at least one of the following related requirements in Mathematics, Statistics, or Computer programming: <u>MTH 261(5)</u>, <u>MTH 287(3)</u>, <u>CSC 125(4)</u>, <u>CSC 130(3)</u>, <u>CSC 587(3)</u>, <u>BIO 551(2)</u>, <u>PSY 527(3)</u>
- 8. Related requirements in Chemistry: CHM 160(4), 161(1), 170(3), 171(1)
- Complete one of the following related science courses: <u>AGN 215(3)</u>, <u>ANT 305(3)</u>, <u>ANT 375(3)</u>; <u>CHM 260(3)</u> or <u>460(3)</u>; <u>GLG 171(3)</u>, <u>GRY 351(3)</u>
- Complete one of the following from related fields of study: <u>BIO</u>
   <u>561</u>(2), <u>ECO 540</u>(3), <u>GEO 363</u>(4), <u>LAW 537</u>(3), <u>PHI 302</u>(3), <u>PLS 555</u>(3), <u>PSY 379</u>(3)

# b. Microbiology and Biotechnology (71-87 hours total)

- 1. Required courses: BIO 310(5), 320(4)
- 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: <u>CHM</u>
  <u>160(4)</u>, <u>161(1)</u>, <u>170(3)</u>, <u>171(1)</u>; <u>CHM 201(3)</u> and <u>202(2)</u>, or <u>CHM 342(5)</u>
  and <u>343(5)</u>, or <u>CHM 342(5)</u> and <u>344(3)</u>; <u>CHM 352(3)</u>, or <u>CHM 554(3)</u>
  and <u>556(3)</u>
- c. Pre-Teacher Education (71-73 hours total)\*:
  - 1. Required courses: <u>BIO 310(5)</u>, <u>361(4)</u>, <u>369(4)</u>, 515(3)



- 2. Complete a minimum of 9 additional hours of upper level Biology courses (with approval of advisor).
- 3. Related requirements in Chemistry: <u>CHM</u> <u>160(4)</u>, <u>161(1)</u>, <u>170(3)</u>, <u>171(1)</u>; <u>CHM 201(3)</u> and <u>202(2)</u>, or <u>CHM 302(5)</u>
- 4. Complete the following related science courses: <u>GLG 171(3)</u>; <u>GRY 135(4)</u>; <u>SCI 505(3)</u>
- Complete at least one of the following related requirements in Mathematics: <u>MTH 181(3)</u>, or eligibility for <u>MTH 261(5)</u> on <u>Mathematics</u> <u>Placement test.</u>
  - \*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 postbaccalaureate programs or master's program at Missouri State University.
- d. Wildlife Biology (68-87 hours total)
  - 1. Required courses: BIO 320(4) or 361(4), 367(3), 368(1)
  - 2. Complete two courses in plant biology from: <u>BIO</u> 334(3), 339(2), 530(3), 544(4)
  - 3. Complete three courses in animal biology from: <u>BIO</u> 370(4), <u>371(3)</u>, <u>380(5)</u>, <u>571(4)</u>, <u>573(3)</u>, <u>574(2)</u>, <u>575(3)</u>, <u>576(3)</u>, <u>577(3)</u>
  - 4. Complete a minimum of 5 hours in management from: <u>BIO</u> 373(3), 485(1-3), 509(4), 532(3), 533(4), 562(4), 589(3)
  - Complete two courses in ecology and evolution from: <u>BIO</u> 436(4), 515(3), 539(3), 563(3), 567(4), 578(4), 579(4), 584(3)
  - Complete one course in human dimensions from the following: <u>AGN</u> 335(3), <u>BIO</u> 547(3), <u>BIO</u> 561(2), <u>CRM</u> 210(3), <u>ECO</u> 540(3), <u>GRY</u> 108(3), <u>GRY</u> 351(2), <u>PHI</u> 302(3), <u>PLS</u> 555(3), <u>LAW</u> 537(3)
  - 7. Complete one course in earth/environmental science: AGN 215(3), CHM 260(3), GLG 110(4), GRY 142(4)
- C. General Baccalaureate Degree Requirements

# Missouri State.



**Curricular Action Workflow** 



# **Change Course Proposal Form**

# Submitted on 11/14/2018 by Rebecca Baker (<u>Beckybaker@missouristate.edu)</u>.

# \*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: PHY123 Introduction to Physics I

Will this proposal need to be reviewed by CGEIP? ON Yes

Current online catalog description:

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# PHY 123 Introduction to Physics I

Prerequisite: MTH 287 or eligibility for enrollment in MTH 261. General Education Course (Focus on Physical Sciences). MOTR number PHYS 150L - Physics I with Lab. An introduction to physical theories covering the content areas of mechanics, fluids, sound, and thermodynamics. A knowledge of the laws of Physics will help the student better understand the world and how these laws can be used to make informed decisions to improve society. A grade of "C" or better is required in this course to take PHY 124. 4(3-2) F,S

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ΗY	123 Intr	roduction to Ph					,		
duc neo rill h	cation Co ries cove nelp the	ourse (Focus or ering the conte student better ade of "C" or be	n Physical Sc nt areas of r understand etter is requi	or MTH 136 or MTH iences). MOTR numbe nechanics, fluids, sou the world and how the ired in this course to	er PHYS 150L nd, and therr ese laws can take PHY 124	- Physics nodynami be used t . 4(3-2) F	I with Lab. An cs. A knowledgo make inform S	introduc je of the ed decisi	tion to physical laws of Phys ons to impro
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at i	s changir	ng? Check all bo	xes that appl	<b>y.</b>			· .		
	Course	e Code		Course Number ( <u>Ch</u> <u>Availability</u> )	eck		Title	Ø.	Prerequisit
	Credit Hours	Hours/Contact		Periodicity		Ü	Description		
sor	n for pror	posed change							
ГН	135 and M	MTH 136 will sat	isfy the requi	rements for PHY 123. B	asically the tri	g prerequi	site requiremen	t is no lon	ger needed
oes	s this cha	ange affect cours	se assessmen	it (e.g. student learning	evidence/outo	comes)?	No ( ) Yes		
v di	id you de	termine the nee	d for this cha	nge? Check all boxes th	nat apply or sp	ecify other	:		
	Routine	e or annual revie	w/assessmer	nt of curriculum			Faculty Input	; <u>;</u>	Student in
	Accred	litation/certificat	tion complian	ce			Review of cat	alog infor	mation



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)

11/14/2018

### **Current Status:**

College Council Review

# **Proposal Progress:**

11/16/2018 - Submitted by Department Head (Robert Mayanovic)

# **Review Comments:**

No comments have been added to this proposal.

Copy As New Proposal

# **MAKE YOUR**

**MENT** 

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