



## Post Baccalaureate Teacher Certification Biology – Categorical (9-12)

### Career Preparation

Missouri State University's Education Program, the largest and only one of its kind in Missouri, provides experiences that prepare students to become effective teachers. A comprehensive field-based component is part of this exciting program. Teachers who have completed a Missouri State University (MSU) Education program are generally considered to be highly qualified, successful classroom teachers. High-need areas currently include: Special Education, Math, Science, and Foreign Language. Post-Baccalaureate students who have had significant experience either in the classroom or with children are often considered more qualified and are frequently hired before those without the experience.

### Academic Program

The Post-Baccalaureate (Post-Bac) Education programs require satisfactory completion of competencies outlined by the Department of Elementary and Secondary Education (DESE). MSU offers several alternative routes to teacher certification which include: Post-Baccalaureate, Masters, and Provisional certification. All programs rely on coursework completed within an initial Bachelor's degree. Professional Education courses are sequenced to provide both study in the university setting and practical experience in classrooms.

### Courses

Students pursuing Post-Bac Teacher Certification at Missouri State need to submit original official transcripts from all universities, colleges, and institutions previously attended. Prior coursework will be evaluated and credit will be granted and applied for all equivalent certification requirements.

An Individualized Program of Study (IPS) will be provided to the student. The IPS is reviewed during an advising session. If a course was not initially determined to be equivalent, but may have provided the competencies required for certification, the student may submit a course description/syllabus for re-evaluation.

### Faculty and Staff Support

The Teacher Certification and several faculty offices are located in Hill Hall. Faculty members are actively involved in teaching, research, and service activities at the local, state, and national levels. While faculty may informally advise students, the Teacher Certification Advisement staff will provide the support and official advisement for all Post-Bac students pursuing teacher certification.

### Facilities

Missouri State University is fortunate to have Greenwood Laboratory School located on campus. Greenwood, a K-12 facility, provides students in the College of Education with first-hand experience in observing and working with students. The technology labs, located in Hill Hall, have the most recent innovations in instructional technology and are available for use by Education students.

### Special Services

The University and the College of Education are committed to the success of each student. Career Services, in cooperation with the College of Education, takes an active role in assisting Education students by providing information about teaching opportunities. Students are encouraged to meet with Career Services for job search assistance.

### For More Information

Teacher Certification Office  
Missouri State University  
901 S. National Ave.  
Springfield, MO 65897  
Office: 417-836-8772 Fax: 417-836-5008  
email: [teachercertification@missouristate.edu](mailto:teachercertification@missouristate.edu)  
[www.missouristate.edu/certification](http://www.missouristate.edu/certification)

## Required Coursework: Biology-Categorical (9-12)

### Special Requirements

Course #	Title	Credits
COM115	Fundamentals of Public Speaking	3 hours
PSY 121	Introductory Psychology	3 hours
CIS 101 or CSC 101	Computers for Learning	2 hours
		<b>8 hours</b>

### Professional Education

Course #	Title	Credits
EDC150	Introduction to Teaching	1 hour
SCI 214	Introduction to Science Teaching in the 21 <sup>st</sup> Century	2 hours
SEC 302	General Methods of Instruction in the Middle and Secondary Schools	4 hours
IMT365 or IMT662	Instructional Apps/Technology and Media Educational Applications of Computers for Teachers	3 hours
SCI 314	Techniques and Technology in Science Laboratory Teaching	3 hours
PSY 360	Educational Psychology	3 hours
SPE340 or SPE715	Educational Alternatives for Exceptional Students Foundations in Special Education	2-3 hours
RDG474 or RDG710	Reading and Writing in the Content Fields Reading in the Content Fields	2-3 hours
SFR486 or PSY486	Management and Assessment in Assessment in Middle School and Secondary Classrooms	3 hours
EDC 350	School and Society	3 hours
SCI 414	Teaching of Secondary School Natural Sciences	3 hours
SCI 493	Supervised Teaching	6 hours
SCI 494	Supervised Teaching	6 hours
		<b>41-42 hours</b>

### Content Area

#### Cell Biology

BIO 121	General Biology I	4 hours
BIO 310	Microbiology	5 hours

#### Plant Form and Function

BIO 122	General Biology II	4 hours
BIO 215	Introduction to the Diversity of Life	2 hours

#### Animal Form and Function

BIO 361	General Physiology	4 hours
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#### Principles of Genetics

BIO 235	Principles of Genetics	4 hours
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Course#	Title	Credits
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<u>Evolution</u>		
BIO 515	Evolution	3 hours
<u>Environmental Science</u>		
BIO 369	General Ecology	4 hours
<u>Electives</u>	At least 2 hours of <b>BIO</b> electives numbered 300 or higher	2 hours
<u>Chemistry</u>		5-9 hours
CHM105	Fundamentals of Chemistry	
<b>Or complete ALL of the following:</b>		
CHM160	General Chemistry I	
CHM170	General Chemistry II	
CHM175	General Chemistry Laboratory	
<u>Physics</u>		4-8 hours
PHY100	Survey of Physics with Lab	
<b>Or both of the following:</b>		
PHY123	Introduction to Physics I	
PHY124	Introduction to Physics II	
<u>Earth Science – Choose one</u>		4 hours
GLG110	Principles of Geology	
GRY135	Atmospheric Science	
GLG171	Environmental Geology	
<u>Environmental Science</u>		4 hours
BIO369	General Ecology	
<u>History/Philosophy of Science</u>		3 hours
SCI505	Intellectual Foundations of Science and Technology	
<u>Math</u>		3-6 hours
MTH135	College Algebra and	
MTH181	Trigonometry	
<b>Or complete one of the following:</b>		
MTH138	Pre-Calculus Mathematics	
MTH261	Analytic Geometry	
MTH287	Computational Calculus with Analytic Geometry	
		<b>55-66 hours</b>
<b><u>Middle School (5-9) Option:</u></b>		
MID421	Philosophy and Organization of Middle School Curriculum	2-3 hours
MID810	The Middle School – The Jr. High School	
MID439	Middle School Instructional Strategies	3 hours
or	Advanced Theory	
MID725		
MID425	Middle School Curriculum	2 hours
RDG318	Foundations of Reading Instruction	3 hours
EEM305	Field Experiences in Education	2 hours
		<b>12-13 hours</b>