

# MIDDLE SCHOOL SCIENCE, BACHELOR OF SCIENCE (734)

The middle school science major is for students who plan to teach science in grades 5 through 9. The middle school science major also requires completion of the science and mathematics education (SMED) program. Upon successful completion of both majors, the student will earn a Bachelor of Science degree and will qualify for an institutional recommendation for a Kentucky Provisional Certificate for teaching in the middle grades (5-9) science field.

## Program Requirements (30-31 hours)

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at [www.wku.edu/registrar/degree\\_certification.php](http://www.wku.edu/registrar/degree_certification.php). ([https://www.wku.edu/registrar/degree\\_certification.php](https://www.wku.edu/registrar/degree_certification.php))

Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: <https://www.wku.edu/colonnade/colonnaderequirements.php>. (<https://www.wku.edu/colonnade/colonnaderequirements.php>)

To major in Middle School Science, students must complete 30-31 semester hours of coursework with a "C" or higher in each course. All science courses must be completed with an average GPA of 2.75 or better.

Code	Title	Hours
Core Courses		
ASTR 104 or ASTR 106	Astronomy of the Solar System Astronomy of Stellar Systems	3
BIOL 122 & BIOL 123	Biological Concepts: Evolution, Diversity, and Ecology and Biological Concepts: Evolution, Diversity, and Ecology Lab	4
Select one of the following:		4
GEOL 111 & GEOL 113	The Earth and The Earth Laboratory	4
GEOL 112 & GEOL 114	Earth's Past and Future and Earth's Past and Future Lab	
Select one of the following:		4
PHYS 201	College Physics I	4
PHYS 231 & PHYS 232	Introduction to Physics and Biophysics I and Laboratory for Physics and Biophysics I	
Upper-Level Science Courses		
SMED 360	Research Methods for Math and Science Teachers	3
Select three of the following:		9
ASTR 405	Astronomy for Teachers	9
BIOL 303	Life Science for Middle Grades Teachers	
CHEM 470	Chemistry / Middle School	9
GEOL 305	Earth System Science for Teachers	
PHYS 410	Physics for Teachers	

## Upper-Level Restricted Electives

Select one of the following: 3-4

BIOL 319 & BIOL 322	Introduction to Molecular and Cell Biology and Introduction to Molecular and Cell Biology Laboratory
BIOL 325	Insect Biodiversity
BIOL 326	Ornithology
BIOL 327	Genetics
BIOL 334	Animal Behavior
BIOL 348	Plant Taxonomy
GEOG 471	Technological Applications in Natural Resource Management
GEOL 408	Structural Geology
GEOL 310	Global Hydrology
GEOL 311	General Oceanography
GEOL 325	Introduction to Minerals and Crystalline Rocks
GEOL 380	Introductory Field Techniques
GEOL 405	Paleontology
SMED 300	Middle Grades Science Skills and Methods
SMED 400	Applying Middle Grade Science Across Disciplines

**Total Hours 30-31**

## Support Courses

Students must complete the following support courses:

Code	Title	Hours
BIOL 120 & BIOL 121	Biological Concepts: Cells Metabolism and Genetics and Biological Concepts: Cells, Metabolism, and Genetics Lab	4
Select one of the following:		3-5
MATH 117	Trigonometry	4-5
MATH 136	Calculus I	
MATH 142	Calculus with Applications for Life Sciences	
Select one of the following:		4-5
CHEM 105 & CHEM 106	Fundamentals of General Chemistry  and Fundamentals of General Chemistry Laboratory	11-14
CHEM 120 & CHEM 121	College Chemistry I and College Chemistry I Laboratory	
<b>Total Hours</b>		<b>11-14</b>

## Finish in Four Plan

First Year			
Fall	Hours	Spring	Hours
ASTR 104 or ASTR 106		3 GEOL 111 & GEOL 113 or GEOL 112/114	4
BIOL 120 & BIOL 121 or BIOL 122/123		4 BIOL 120 & BIOL 121 or BIOL 122/123	4

ENG 100		3	COMM 145		3
MATH 117		3	HIST 101 or HIST 102		3
SMED 101		3	SMED 102		3
		16			17
Second Year					
Fall	Hours		Spring	Hours	
CHEM 105 & CHEM 106 or CHEM 120/121		4	PHYS 201 or PHYS 231/232		4
ENG 200		3	SMED 320		3
Colonnade: Arts & Humanities		3	Restricted Upper Division Elective *		3
SMED 310		3	World Language, if needed OR General Elective		3
World Language, if needed OR General Elective		3	General Elective		3
		16			16
Third Year					
Fall	Hours		Spring	Hours	
SMED 340		3	SMED 360		3
MSS Elective		3	ENG 300		3
Restricted Upper Division Elective *		3	Restricted Upper Division Elective *		3
Colonnade: Connections (Social & Cultural)		3	MSS Elective		3
General Elective		3	MSS Elective		3
		15			15
Fourth Year					
Fall	Hours		Spring	Hours	
SMED 470		3	MGE 490		5-10
General Education B		3	SMED 489		3
Colonnade: Connections (Systems)		3			
Colonnade: Connections (Local to Global)		3			
		12			13
Total Hours 120					

\* Restricted upper division course. Student must select 3 of the 5 following courses with the assistance of their advisor:

- PHYS 410 Physics for Teachers
- ASTR 405 Astronomy for Teachers
- CHEM 470 Chemistry for Teachers
- BIOL 303 Life Sciences for Middle Grades Teachers
- GEOL 305 Earth Systems for Teachers