

**Bachelor of Science in Education (BSE) 2022-23 AY**  
**Chemistry (9-12)** Major Code ES04  
**CIP Code: 131205** Cr Hrs

<b>General Education CORE 42 Requirements 42*</b>		<b>26</b>
Area 1A	Social & Behavioral Sciences (PSY 100)	3
Area 1B	Civic Engagement	3
Area 2A	Written Communication	6
Area 2B	Oral Communication	3
Area 3A	Natural Science Non-Lab (BIO 102 or CHEM 140)	0
Area 3B	Natural science With Lab (PHYS 270 or GEOL 120)	0
Area 4	Mathematics (MATH 150)	0
Area 5A	Humanities	6
Area 5B	Fine Arts	3
Area 5C	Global Competencies(EDUC 280)	0
Area 5D	Health and Wellness	2
<b>UE 100</b>	<b>First Year Experience**</b>	<b>1</b>
<b>Supporting Requirements (C or better)</b>		<b>20</b>
EDUC 100	Introduction to Teacher Education I	3
MATH 150	Calculus and Analytical Geometry I*	5
MATH 250	Calculus with Analytical Geometry II	4
PHYS 290	General Physics II	4
PHYS 291	General Physics II Lab	1
PSY 100	General Psychology*	3
<b>Professional Education (3.0 GPA/C or better)</b>		<b>34</b>
EDUC 280	Education in a Global Society*	3
EDUC 302	Exceptional Child	3
EDUC 321	Microteaching#	1
EDUC 329	Pedagogical Theory, Methods & Practices#	4
EDUC 333	Teaching Science in Secondary Schools	3
EDUC 380	Theories of Teaching English as a 2nd Language	3
OR		
EDUC 480	Instructional Techniques for Teaching ELL (3)	
EDUC 422	Content Area Literacy I:Sec/Mid School	3
EDUC 423	Classroom Management#	3
EDUC 424	Content Area Literacy II: Sec/Mid School	3
EDUC 429	Assessment of Student Learning	3
EDUC 432	Critical Issues	2
PSY 310	Educational Psychology	3
<b>Content Knowledge (3.0 GPA/C or better)</b>		<b>49</b>
BIO 102	General Biology*	3
CHEM 140	General Chemistry I*	3
CHEM 141	General Chemistry I Lab*	1
CHEM 142	General Chemistry II	5
CHEM 201	Analytical Chemistry	5
CHEM 301	Organic Chemistry I	5
CHEM 302	Organic Chemistry II	5
CHEM 350	Biochemistry I	3
CHEM 400	Elementary Physical Chemistry	4
CHEM 431	Chemistry Lab Asst. Practicum	1
GEOL 120	Introduction to Geology*	4
GEOL 300	Environmental Geology	3
PHIL 420	Philosophy of Science	3
PHYS 270	General Physics I*	4
<b>Field &amp; Clinical Experience (3.0 GPA/C or better)</b>		<b>10</b>
EDUC 462	Student Teaching	10
<b>Testing</b>	<b>Passing Score of 220</b>	
MoCA	Missouri Content Assessment	
<b>Total Hours</b>	<b>Must include at 39 upper division (300-400) hrs</b>	<b>140</b>

\*Gen. Ed. Core 42 Requirements: Area 1A 3 hrs met by PSY 100, Area 3A&B met by BIO 102 or CHEM 140 and PHYS 270 or GEOL 120 (6 hrs), Area 4 met by MATH 150, Area 5C met by EDUC 280 or IB 310(3 hrs)  
ENG 250 suggested for 3 hrs of Area 5A  
# Junior Block courses