

# BS Biochemistry Checklist

This major only requires 52-55 upper division credits, must have 60 upper division credits to graduate.

<b>General Chemistry Credits: 15 (taken in sequence)</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
CHEM 181 – General Chemistry I	4	
CHEM 181Lab – General Chemistry Laboratory I	1	
CHEM 182 – General Chemistry II <i>(minimum of C- in MATH 153 or qualify for MATH 154 on compass Test)</i>	4	
CHEM 182Lab – General Chemistry Laboratory II	1	
CHEM 183 – General Chemistry III	4	
CHEM 183Lab – General Chemistry Laboratory III -- OR -- CHEM 193Lab – General Chemistry III Honors Laboratory	1	

<b>General Biology Credits: 15 (taken in sequence)</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
BIOL 181: General Biology I <i>(CHEM 181: can be co-requisite)</i>	5	
BIOL 182: General Biology II <i>(CHEM 182: can be co-requisite)</i>	5	
BIOL 183: General Biology III <i>(CHEM 183: can be co-requisite)</i>	5	

<b>Physics Credits: 15 (taken in sequence)</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
PHYS 111, PHYS 121, or PHYS 181 with lab <i>(variable)</i>	5	
PHYS 112, PHYS 122, or PHYS 182 with lab <i>(variable)</i>	5	
PHYS 113, PHYS 123, or PHYS 183 with lab <i>(variable)</i>	5	

<b>Calculus Credits: 15 (taken in sequence)</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
MATH 172: Calculus I <i>(MATH 154 or qualified for MATH 172 on compass test)</i>	5	
MATH 173: Calculus II	5	
MATH 272: Multivariable Calculus I	5	

<b>Organic Chemistry Credits: 13 (taken in sequence)</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
CHEM 361 – Organic Chemistry I <i>(Chem 183, as either a prerequisite or a co-requisite)</i>	3	
CHEM 361Lab – Organic Chemistry Laboratory I	2	
CHEM 362 – Organic Chemistry II	3	
CHEM 363 – Organic Chemistry III	3	
CHEM 363Lab – Organic Chemistry Laboratory II	2	

<b>Biochemistry Credits: 13</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
CHEM 431 – Biochemistry I (CHEM 362)	3	
CHEM 431Lab – Biochemistry Laboratory I	2	
CHEM 432 – Biochemistry II (CHEM 431)	3	
CHEM 433 – Biochemistry III (CHEM 431)	3	
CHEM 433Lab – Biochemistry Laboratory II (CHEM 431Lab)	2	

<b>Additional Required Upper Division Credits: 24</b>		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
CHEM 332 – Quantitative Analysis (CHEM 183/ 183Lab)	3	
CHEM 332Lab – Quantitative Analysis Laboratory	2	
CHEM 350 – Inorganic Chemistry (CHEM 183, PHYS 113/123/183)	3	
CHEM 381 – Physical Chemistry I (CHEM 183 and CHEM 183Lab, MATH 272, and PHYS 113/123/183 w/ lab)	5	
CHEM 382 – Physical Chemistry II (CHEM 381)	3	
CHEM 382Lab – Integrated Physical/Inorganic Laboratory I	2	
CHEM 488 – Colloquium (expected in winter or spring of final year)	1	
BIOL 321 – Genetics (BIOL 183 or BIOL 220 and either BIOL 213 or CHEM 332 and CHEM 332Lab)	5	

<b>Department Approved Electives: 2-5 Credits Required</b>		
Note: in order to receive the ACS-certified degree, Chemistry courses must be selected from this list.		
<b>Course Name (prerequisites)</b>	<b>Credits</b>	<b>Term</b>
CHEM 383 – Physical Chemistry III (CHEM 382) -- AND -- CHEM 383Lab – Physical/Inorganic Laboratory (CHEM 382Lab)	5	
CHEM 452 – Instrumental Analysis (CHEM 332) – AND – CHEM 452Lab – Instrumental Analysis Laboratory (CHEM 322Lab)	5	
CHEM 295/395/495 – Research* *a maximum of 6 credits of research may be applied to this degree.	variable	
BIOL 323 – Microbiology (BIOL 213 and BIOL 183 or 220)	5	
BIOL 425 – Molecular Biotechnology (BIOL 321)	5	
BIOL 430 – Cell Biology (CHEM 361/361Lab and BIOL 182)	5	