

# B.S. Molecular Biology & Biotechnology Four-Year Sample Curriculum 2019-2020

Requirements subject to change. See UI Catalog for complete degree requirements and additional information. Updated 2/19/19.

1 <sup>st</sup> Year – Fall Semester			1 <sup>st</sup> Year – Spring Semester		
<b>BIOL 114</b>	<b>Organisms and Environments</b> minimum 'C' required to graduate	4	<b>BIOL 115/115L</b>	<b>Cells &amp; the Evolution of Life &amp; Lab</b> <i>Pre-/Coreq:</i> CHEM 101/101L or CHEM 111/111L minimum 'C' required to graduate	4
<b>CHEM 111/111L</b>	<b>Principles of Chemistry I &amp; Lab</b> <i>Prereq:</i> math test or min 'C' in CHEM 101, MATH 143 or 170	4	<b>CHEM 112/112L</b>	<b>Principles of Chemistry II &amp; Lab</b> <i>Prereq:</i> Chem 111/111L	5
<b>MATH 170</b>	<b>Analytic Geometry and Calculus I</b> <i>Prereq:</i> math test or min 'C' in MATH 143 and MATH 144 (co-req possible).	4	<b>STAT 251 or STAT 301*</b>	<b>Statistical Methods or Probability &amp; Statistics</b> <i>Prereq:</i> MATH 108, 137, 143, 160, or 170 or math test (SM); ^MATH 175 (P & S)	3
<b>ENGL 102</b>	<b>College Writing and Rhetoric</b> <i>Prereq:</i> ENGL 101 or test scores	3	<b>ISEM 101</b>	<b>Integrated Seminar</b>	3
<b>Total Credits</b>		<b>15</b>	<b>Total Credits</b>		<b>15</b>
2 <sup>nd</sup> Year – Fall Semester			2 <sup>nd</sup> Year – Spring Semester		
<b>BIOL 250/255</b> <i>(250 Fall only)</i>	<b>General Microbiology &amp; Lab</b> <i>Prereq:</i> BIOL 115/115L and CHEM 101/101L or 111/111L	5		<b>General Education Course/Elective</b>	3
<b>CHEM 277/278</b>	<b>Organic Chemistry I &amp; Lab</b> <i>Prereq:</i> CHEM 112/112L	4	<b>CHEM 372</b> <i>(Spring only)</i>	<b>Organic Chemistry II</b> <i>Prereq:</i> CHEM 277	3
<b>PHYS 111/111L</b> or <b>PHYS 211/211L</b>	<b>General Physics I &amp; Lab or Engineering Physics I &amp; Lab</b> <i>Prereq:</i> MATH 143 (GP); MATH 170 (EP)	4	<b>PHYS 112/112L</b> <i>(Spring only)</i> or <b>PHYS 212/212L*</b>	<b>General Physics II &amp; Lab or Eng. Physics II &amp; Lab</b> <i>Prereq:</i> PHYS 111/111L (GP); PHYS 211/211L and ^MATH 175 (EP)	4
	<b>General Education Course/Elective</b>	3		<b>General Education Course/Elective</b>	3
				<b>General Education Course/Elective</b>	3
<b>Total Credits</b>		<b>16</b>	<b>Total Credits</b>		<b>16</b>
3 <sup>rd</sup> Year – Fall Semester			3 <sup>rd</sup> Year – Spring Semester		
<b>BIOL 310/315</b> <i>(Fall only)</i>	<b>Genetics &amp; Lab</b> <i>Prereq:</i> BIOL 115/115L or BIOL 250	4	<b>BIOL 312/313</b> <i>(Spring only)</i>	<b>Molecular and Cellular Biology &amp; Lab</b> <i>Prereq:</i> BIOL 115/115L	4
<b>BIOL 380/382</b> <i>(Fall only)</i>	<b>Biochemistry I</b> <i>Prereq:</i> CHEM 112/112L and CHEM 277	6	<b>BIOL 454</b> <i>(Spring only)</i>	<b>Biochemistry II</b> <i>Prereq:</i> CHEM 372; BIOL 380 or CHEM 302 or 306	3
<b>ENGL 317 or 207</b> or <b>208</b>	<b>Writing Course</b> <i>Prereq:</i> ENGL 102 (all); Junior stand. (317)	3	<b>BIOL 485</b> <i>(Spring only)</i> or *see below	<b>Prokaryotic Molecular Biology or MBB Elective</b> (if BIOL 487 not taken) <i>Prereq:</i> BIOL 250 and BIOL 380	3
	<b>General Education Course/Elective</b>	3	<b>ISEM 301</b>	<b>Great Issues Seminar</b> <i>Prereq:</i> ENGL 102 and Sophomore standing	1
				<b>General Education Course/Elective</b>	3
<b>Total Credits</b>		<b>16</b>	<b>Total Credits</b>		<b>14</b>
4 <sup>th</sup> Year – Fall Semester			4 <sup>th</sup> Year – Spring Semester		
<b>BIOL 400</b>	<b>Seminar</b>	1	<b>Senior Experience</b>	<b>BIOL 401 or BIOL 405</b> <i>(Fall)</i> or <b>BIOL 407 or BIOL 408</b> <i>(Spring)</i> or <b>BIOL 411</b> <i>(Spring)</i>	2
<b>PLSC 488</b> <i>(Fall only)</i>	<b>Genetic Engineering</b> <i>Prereq:</i> BIOL 310 or GENE 314	3	<b>BIOL 301 or 401 or 499 or PLSC 440</b> <i>(440 Spring only)</i>	<b>Undergraduate Research or Directed Study or Advanced Laboratory Techniques</b> <i>Prereq:</i> Sr. and permission (UR); BIOL 250 (ALT)	4
<b>BIOL 487</b> <i>(Fall only)</i> or *see below	<b>Eukaryotic Molecular Genetics or MBB Elective</b> (if BIOL 485 not taken) <i>Prereq:</i> BIOL 380 & BIOL 310 or GENE 314	3	*see below	<b>MBB Elective</b>	3
*see below	<b>MBB Elective</b>	3		<b>General Education Course/Elective</b>	3
	<b>General Education Course/Elective</b>	3		<b>General Education Course/Elective</b>	3
<b>Total Credits</b>		<b>13</b>	<b>Total Credits</b>		<b>15</b>

\***MBB Electives:** Immunology, Pathogenic Microbiology, Genomics, Virology, Neurobiology, Principles of Developmental Biology, Protein Structure and Function, Prokaryotic Molecular Biology, Eukaryotic Molecular Genetics, Food Microbiology, Food Microbiology Lab, Instrumental Analysis, Cell Biology

Additional classes can be substituted with prior approval from advisor and chairperson.