

Chemistry-Biochemistry Major



EASTERN OREGON
UNIVERSITY

DEGREE PROGRAM CHECK SHEET

Complete all Institutional Graduation Requirements (Including University Writing Requirement, Diversity Requirement, General Education Requirement, etc.) as provided at <http://www.eou.edu/registrar>.

Program Requirements: Chemistry-Biochemistry is a minimum 102-111 graded credit hour degree. A grade of "C-" or better is required for each course counting towards the major, but a cumulative GPA of at least a 2.00 is required for completion of the major.

REQUIRED CORE COURSES: 48 credits

Complete 48 credit hours from the following:

Course Number	Course Title	Credits	Prerequisites
CHEM 204	General Chemistry [SMI]	5	<i>MATH 111</i>
CHEM 204L	General Chemistry Lab	0	<i>Must be taken concurrently with CHEM 204</i>
CHEM 205	General Chemistry [SMI]	5	<i>CHEM 204</i>
CHEM 205L	General Chemistry Lab	0	<i>Must be taken concurrently with CHEM 205</i>
CHEM 206	General Chemistry [SMI]	5	<i>CHEM 205</i>
CHEM 206L	General Chemistry Lab	0	<i>Must be taken concurrently with CHEM 206</i>
CHEM 285	Chemical Safety	1	
CHEM 320	Analytical Chemistry [UWR]	3	<i>CHEM 206</i>
CHEM 321	Analytical Chemistry Lab	2	
CHEM 334	Organic Chemistry I	4	<i>CHEM 205</i>

Course Number	Course Title	Credits	Prerequisites
CHEM 338	Organic Chemistry Lab I	1	<i>CHEM 334</i>
CHEM 335	Organic Chemistry II	4	<i>CHEM 334</i>
CHEM 339	Organic Chemistry Lab II	1	<i>CHEM 335, CHEM 338</i>
CHEM 336	Organic Chemistry III	4	<i>CHEM 335</i>
CHEM 340	Physical Chemistry	4	<i>CHEM 206, MATH 251 or 252, PHYS 201, 202</i>
CHEM 401	Research	1	
CHEM 407	Seminar (Capstone) [UWR]	1	
CHEM 407	Seminar (Capstone) [UWR]	1	
CHEM 407	Seminar (Capstone) [UWR]	1	
CHEM 421	Instrumental Analysis	3	<i>CHEM 320</i>
CHEM 422	Instrumental Analysis Lab	2	<i>CHEM 421</i>

MATHEMATICS & PHYSICS REQUIRED COURSES: 20 credits

Course Number	Course Title	Credits	
MATH 251	Calculus I [SMI]	4	<i>MATH 112</i>
MATH 252	Calculus II [SMI]	4	<i>MATH 251</i>
PHYS 201	General Physics [SMI]	4	<i>MATH 111, 112</i>
PHYS 201L	Physics Lab	0	<i>Must be taken concurrently with PHYS 201</i>
PHYS 202	General Physics [SMI]	4	<i>MATH 111, 112, PHYS 201</i>
PHYS 202L	Physics Lab	0	<i>Must be taken concurrently with PHYS 202</i>
PHYS 203	General Physics [SMI]	4	<i>MATH 111, 112, PHYS 202</i>
PHYS 203L	Physics Lab	0	<i>Must be taken concurrently with PHYS 203</i>

CHEMISTRY PATHWAY REQUIRED COURSES: 34-36 credits

Course Number	Course Title	Credits	Prerequisites
CHEM 360	Environmental Chemistry	4	<i>CHEM 206</i>
CHEM 361	Environmental Chemistry Lab	1	
CHEM 411	Inorganic Chemistry	4	<i>CHEM 206</i>
CHEM 437	Organic Spectroscopy	2	<i>CHEM 336, 339</i>
CS 161	Foundations of Computer Science I	4	
MATH 253	Calculus III [<i>SMI</i>]	4	<i>MATH 252</i>

Choose FOUR courses from the following:

Course Number	Course Title	Credits	Prerequisites
CHEM 412	Inorganic Chemistry Lab	1	<i>CHEM 206</i>
CHEM 450	Structural Biochemistry	4	<i>CHEM 336</i>
CHEM 451	Metabolic Biochemistry	4	<i>CHEM 450</i>
MATH 321	Differential Equations	4	<i>MATH 252</i>
MATH 341	Linear Algebra	4	<i>MATH 252</i>
STAT 327	Statistics & Experimental Design [<i>SMI</i>]	5	<i>MATH 105 or 111</i>
STAT 352	Statistics	4	<i>MATH 111, and STAT 243 or STAT 327</i>

BIOCHEMISTRY PATHWAY REQUIRED COURSES: 40-43 credits

Course Number	Course Title	Credits	Prerequisites
BIOL 211	Principles of Biology [<i>SMI</i>]	4	
BIOL 211L	Principles of Biology Lab	1	<i>Must be taken w/ BIOL 211</i>
BIOL 212	Principles of Biology [<i>SMI</i>]	4	<i>BIOL 211, CHEM 204</i>
BIOL 212L	Principles of Biology Lab	1	<i>BIOL 211, CHEM 204. Must be taken w/ BIOL 212</i>

Course Number	Course Title	Credits	Prerequisites
BIOL 213	Principles of Biology [SMI]	4	BIOL 211, 212, CHEM 204, 205
BIOL 213L	Principles of Biology Lab	1	BIOL 211, 212, CHEM 204, 205. Must be taken w/ BIOL 213
BIOL 341	Genetics	4	BIOL 211, 212, 213 or BIOL 231, 232, 233
BIOL 341L	Genetics Lab	0	Must be taken concurrently with BIOL 341
BIOL 342	Genetics	4	BIOL 211, 212 and 213 or BIOL 231, 323 and 233, 341, CHEM 334
BIOL 342L	Genetics Lab	0	Must be taken concurrently with BIOL 342
BIOL 431	Cell Structure and Function	5	BIOL 211, 212 and 213 or BIOL 231, 212 and 233, CHEM 334
CHEM 450	Structural Biochemistry	4	CHEM 336
CHEM 451	Metabolic Biochemistry	4	CHEM 450
CHEM 454	Biochemistry Lab	2	CHEM 336

Choose ONE course from the following:

Course Number	Course Title	Credits	Prerequisites
BIOL 323	General Microbiology	5	BIOL 211, 212 and 213 or BIOL 231, 232 and 233
BIOL 323L	General Microbiology Lab	0	Must be taken concurrently with CHEM 323
BIOL 345	Molecular Biology	3	BIOL 211, 212 and 213 or BIOL 231, 323 and 233, 342
BIOL 432	Animal Physiology [UWR]	5	BIOL 431
BIOL 432L	Animal Physiology Lab	0	Must be taken concurrently with BIOL 432
BIOL 433	Plant Physiology	5	BIOL 211, 212 and 213
BIOL 433L	Plant Physiology Lab	0	Must be taken concurrently with BIOL 433

Course Number	Course Title	Credits	Prerequisites
CHEM 411	Inorganic Chemistry	4	<i>CHEM 206</i>
CHEM 437	Organic Spectroscopy	2	<i>CHEM 336, CHEM 339</i>

Total credits required for major: Chemistry Pathway = 102-104 // BioChemistry Pathway = 108-111

Pre-Health Professions:

These courses are NOT required for the Chemistry-Biochemistry Degree but should be taken to prepare students on their pre-pharmacy, pre-dental, pre-veterinary, or pre-medical tracks for their entrance requirements.

Course Number	Course Title	Credits	Prerequisites
SOC 204	General Sociology [SSC]	5	
SOC 205	General Sociology: Problems [SSC]	5	
PSY 201	General Psychology [SSC]	4	
PSY 202	General Psychology [SSC]	4	<i>PSY 201</i>
ANTH 203	Cultural Anthropology [SSC]	5	
BIOL 231	Human Anatomy & Physiology	4	<i>MATH 070</i>
BIOL 231L	Human Anatomy & Physiology Lab	0	<i>Must be taken concurrently with BIOL 231</i>
BIOL 232	Human Anatomy & Physiology	4	<i>BIOL 231</i>
BIOL 232L	Human Anatomy & Physiology Lab	0	<i>Must be taken concurrently with BIOL 232</i>
BIOL 233	Human Anatomy & Physiology	4	<i>BIOL 232</i>
BIOL 233L	Human Anatomy & Physiology Lab	0	<i>Must be taken concurrently with BIOL 233</i>
BIOL 317	Vertebrate Structure	5	<i>BIOL 211, 212, 213 or BIOL 231, 232, 233</i>

Course Number	Course Title	Credits	Prerequisites
BIOL 445	Immunology	3	<i>BIOL 211-213 or BIOL 231-233, CHEM 334</i>
BIOL 462	Cellular Neurobiology	3	<i>BIOL 431</i>

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