

Oakland University Recommended Program Guide
Bachelor of Science with a major in Biochemistry
Effective Date: September 2011

GENERAL EDUCATION REQUIREMENTS¹

Students must complete 40 credits of general education, excluding U.S. Diversity, Capstone and Writing Intensive in the Major. Each category must be fulfilled by completing one course of at least 3 or more credits. Courses used to meet Writing, Formal Reasoning, Arts, Foreign Language and Culture, Global Perspective, Literature, Natural Science and Technology, Social Science, Western Civilization, and Knowledge Applications may not be double counted with each other. U.S. Diversity, Writing Intensive in General Education, Writing Intensive in the Major, and a Capstone may be met by double counting approved general education courses. Please see the Oakland University catalog for further information.

Oakland University	Mott Community College
Writing Foundations WRT 160	Writing Foundations ENGL 102
Formal Reasoning Satisfied by Major	Formal Reasoning Satisfied by Major
Arts AH 100, 101, 104; CIN 150; DAN 173, 175; MUS 100, 131, 200, 205, 225, 236, 334, 336, 338; SA 100; THA 100, 301, 302	Arts ART 110, 111, 112, 116; FILM 249; MUS 180, 182, 183, 186, 271, 272, 273; THTR 254
Foreign Language and Culture ARB, CHE, FRH, GRM, HBR, IT, JPN, LTN, SPN 114, 115, 214, 215; ALS 176; LIN 181	Foreign Language and Culture ARBC 111, 112; CHI 111, 112; FREN 151, 152, 251, 252; GERM 111, 112, 211, 212; JAPA 111, 112, 211; RUSN 111, 112; SPAN 181; 182; 281; 282
Global Perspective AN 102, 200; ENG 260; GEO 200; IS 200, 210, 220, 230, 240, 250, 260, 270; MGT 110; MUS 236; PS 114, 131; REL 101, 102, 150; WRT 360	Global Perspective ANTH 200, 211; GEOG 142
Literature ENG 100, 105, 111, 112, 224, 241, 250, 303, 305, 306, 312; LIT 100, 181, 182; REL 311	Literature ENGL 220, 221, 223, 227, 231, 232, 235, 240, 241, 242, 251, 252, 271
Natural Science and Technology Satisfied by Major	Natural Science and Technology Satisfied by Major
Social Science AN 101, 102, 300 COM 287; ECN 150, 200, 201, 210; HS 302; PS 100, 114, 131, 312 ; PSY 100, 130; SOC 100, 206; WGS 200	Social Science ANTH 211, 212; ECON 221, 222; PSCN 171, 275; PSYC 281; SOCY 191
Western Civilization AN 300; COM 375; HST 101, 102, 114, 115, 292; MGT 235; PHL 101, 103; PS 377	Western Civilization HIST 151, 152, 154, 155, 253; PHIL 101, 295
U.S. Diversity ALS 374; AMS 300; AN 331, 374, 381, 385; CIN 150; COM 330, 385; DAN 175; ECN 315; EED 420; ENG 112, 341, 342; HRD 367; HS 302; HST 114, 115, 292, 318, 319, 322, 361, 362; MUS 200, 336, 338; NRS 280, 302, 304, 450; PS 100, 312; SOC 100, 331; WHP 370; WGS 200, 300, 322, 361, 362, 385; WRT 330, 364	U.S. Diversity Choose one of the following from a group above: ENGL 223, 235; FILM 249; HIST 154, 155, 253; MUS 273; PSCN 171; SOCY 191
Knowledge Applications Satisfied by Major	Knowledge Applications Satisfied by Major
Capstone Course Satisfied by Major	Capstone Course Satisfied by Major
Writing Intensive in the Major Satisfied by Major	Writing Intensive in the Major Satisfied by Major

EXPLORATORY REQUIREMENT

Students with majors in the College of Arts and Sciences are required to complete an exploratory requirement in addition to general education. This can be done by completing a double major or a College of Arts and Sciences, minor or concentration; or by completing a minimum of 12 credits in a single rubric, outside of their major. Students may also fulfill this requirement by completing a pre-defined thematic set of courses as identified on the College of Arts and Sciences website at [Exploratory Requirement](#). Courses applied to the exploratory requirement must be in a single subject taught within the College unless they are part of a thematic set. Only courses that are at the 100 level or above and completed with a minimum grade of 2.0 may be used to fulfill the exploratory requirement.

The exploratory requirement *MAY* be satisfied by non-chemistry or non-biochemistry courses in the major.

Students who have completed the MACRAO agreement at a community college must complete the exploratory requirement at Oakland University or another four-year institution.

BIOCHEMISTRY MAJOR REQUIREMENTS

Oakland University	Credit	Course Title	OR	Mott Community College	Credit	Course Title
BIO 111	4	Biology		BIOL 111	4	Fundamentals of Biology
BIO 113	4	Biology		BIOL 125 <u>or</u> BIOL 126	5 <u>or</u> 4	Zoology <u>or</u> Botany
CHM 157	5	General Chemistry I		CHEM 131	5	General Chemistry I
CHM 158	5	General Chemistry II		CHEM 132	5	General Chemistry II
CHM 234	4	Organic Chemistry I		CHEM 237	5	Organic Chemistry I
CHM 235	4	Organic Chemistry II		CHEM 238	5	Organic Chemistry II
CHM 237	2	Organic Chemistry Laboratory		Students who complete CHEM 237 and 238 have completed the equivalent of OU's CHM 234, 235 and 237-Organic Chemistry I and II and Laboratory.		
MTH 154	4	Calculus I		MATH 170	5	Analytic Geometry and Calculus I
MTH 155	4	Calculus II		MATH 180	5	Analytic Geometry and Calculus II
PHY 151	4	Introductory Physics I		PHYS 287	5	General Physics I
PHY 152	4	Introductory Physics II		PHYS 288	5	General Physics II

¹ Students who transfer with the MACRAO agreement satisfy the university's general education requirements with the exception of a writing intensive course in the major and a capstone course. MACRAO transfer students must also either transfer in a course that is acceptable for the knowledge application requirement or take a course at Oakland University.

Complete the following courses at Oakland University					
Select one from the following biology courses:					
Course	Credit	Course Title	Course	Credit	Course Title
BIO 309	4	Biology of the Cell	BIO 310	1	Biology of the Cell Laboratory
BIO 311	5	Botany	BIO 320	1	General Microbiology Laboratory
BIO 321	4	Physiology	BIO 322	1	Anatomy and Physiology Laboratory
BIO 323	4	Developmental Biology	BIO 324	1	Developmental Biology Laboratory
BIO 341	4	Genetics			
Complete the following courses:					
Course	Credit	Course Title	Course	Credit	Course Title
CHM 325	4	Analytical Chemistry	CHM 343	4	Physical Chemistry II
CHM 342	4	Physical Chemistry I	BCM 453	3	Biochemistry I
BCM 454	3	Biochemistry II	BCM 457	3	Biochemistry Laboratory
BIO 319	4	General Microbiology			
Select one course of 3 or more credits from the following:					
Course	Credit	Course Title	Course	Credit	Course Title
BIO 407	4	Cellular Biochemistry	BIO 423	4	Immunology
BIO 441	4	Microbial Biotechnology	CHM 458	2	Biochemistry Projects
CHM 553	3	Advanced Biochemistry	CHM 554	3	Topics in Biochemistry
CHM 581	3	Biochemical Toxicology	BCM 490	1 to 4	Research
FREE ELECTIVES					
Select free electives with adviser assistance to reach a total of 124 credits, including 32 credits of 300/400 level course work.					

Notes:

- Students may transfer in one-half of the 124 credits required for the baccalaureate degree.
- Major requirements will be based on the current catalog at the time of admission to Oakland University.
- Students who complete 3 credit courses at Mott Community College may be required to enroll in additional course credits to reach the required minimums for Oakland University.
- Students should consult a Mott Community College adviser to determine the requirements for the Associate of Baccalaureate Studies degree.
- For further questions, please contact the Office of Admissions (248) 370-3360 or the College of Arts and Sciences at (248) 370-4567.

Maximum Mott Community College credits = 62

Minimum Oakland University Credits = 62

Minimum Credits for the BS in Biochemistry =124