

LANSING COMMUNITY COLLEGE

Liberal Arts

Curriculum Code: 0212
(Effective Fall 2018 –
Summer 2023)

Molecular Biotechnology A.A.S. Pathway

The Biotechnology degree is a laboratory-intensive curriculum which emphasizes the wide-ranging applications of recombinant DNA technology (genetic engineering) including the preparation of gene libraries, Polymerase Chain Reaction, and DNA "fingerprinting". Graduates will be able to work in many areas of biotechnology, such as human genetic disease research, improvement of disease-resistance in plants, enhanced crop production, pharmaceutical research, biological cleanup of environmental pollution, forensic science, or genome sequencing projects. Near the end of the degree the Science Department will make every effort to arrange for internships in university or industrial research laboratories for students who wish to gain further experience. If you plan to transfer to a four-year school, please see an academic advisor before enrolling. Not all courses in this program transfer to all colleges as equivalent. Students planning to transfer should see an academic advisor before enrolling in any course.

For More Information

Contact the Science Department in the Arts and Sciences Building, Room 3203, telephone number (517) 483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number (517) 483-1904.

Semester I Fall	Course Title	Prerequisites	Credit/Billing Hours
Writing Core Area - <i>Select 1</i>			
ENGL 121	Composition I	Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)	4 / 4
ENGL 122	Composition II	Minimum 2.0 in ENGL 121 or ENGL 131 or (Reading Level 5 and Writing Level 8)	4 / 4
Math Core Area - <i>Select 1</i>			
MATH 121	Precalculus I	(Minimum 2.5 in MATH 109 or MATH 112 within 2 years or Math Level 6 within 2 years) and Reading Level 5 and Writing Level 4	4 / 4

Program of Study Requirements			
<i>CHEM 151/161 satisfies the Science Core Area.</i>			
CHEM 151	General Chemistry Lecture I	Reading Level 5 and Writing Level 6 and (Math Level 6 or MATH 109 concurrently or MATH 112 concurrently)	4 / 4
CHEM 161	General Chemistry Lab I	Minimum 2.0 in CHEM 151 or concurrently and Reading Level 5 and Writing Level 6 and (Math Level 6 or MATH 112 concurrently)	1 / 3
Credits			13 / 15
Semester II Spring	Course Title	Prerequisites	Credit/Billing Hours
Communication Core Area - <i>Select 1</i>			
COMM 120	Dynamics of Communication	Reading Level 5 and Writing Level 6	3 / 3
COMM 130	Fund of Public Speaking	Reading Level 5 and Writing Level 6	3 / 3
Program of Study Requirements			
BIOL 127	Cell Biology	(Minimum 2.0 in CHEM 120) or (Minimum 2.0 in CHEM 151 or concurrently) and Reading Level 5 and Writing Level 6 and Math Level 4	4 / 6
CHEM 152	General Chemistry Lecture II	Minimum 2.0 in CHEM 151 and (Math Level 7 or MATH 121 or MATH 126 or concurrently) and Reading Level 5 and Writing Level 6	3 / 3
CHEM 162	General Chemistry Lab II	Minimum 2.0 in (CHEM 152 or concurrently) and CHEM 161 and Reading Level 5 and Writing Level 6 and Math Level 7 or (MATH 121 or MATH 126 or concurrently)	1 / 3
ISCI 245	S.T.E.M. Workplace Practices	Reading Level 5 and Writing Level 6 and (Math Level 5 or MATH 109 concurrently or MATH 112 concurrently)	4 / 6
Credits			15 / 21

Semester III Summer	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
STAT 215	Intro to Probability and Stats	(Minimum 2.0 in MATH 120 or above or Math Level 7) and Reading Level 5 and Writing Level 4	4 / 4
Global Perspectives and Diversity Core Area - <i>Select 1</i>			
ECON 120	Power, Authority and Exchange	Reading Level 5	4 / 4
GEOG 200	World Regional Geography	Reading Level 5 and Writing Level 6 and Math Level 4 or minimum 2.0 in MATH 105 or MATH 106	4 / 4
HUMS 213	World Civilizations to 1600	Reading Level 5 and Writing Level 6	4 / 4
SOCL 120	Introduction to Sociology	Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)	4 / 4
Credits			8 / 8
Semester IV Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
BIOL 203	Microbiology	Reading Level 5 and Writing Level 6 and Math Level 4 or minimum 2.0 in MATH 105 or 106	3 / 3
BIOL 204	Microbiology Laboratory	Minimum 2.0 in BIOL 203 or concurrently and Reading Level 5 and Writing Level 6 and Math Level 4 or minimum 2.0 in MATH 105 or MATH 106	1 / 3
BIOL 275 (Fall only)	Molecular Biology I	Minimum 2.0 in (BIOL 127 and CHEM 151 and CHEM 161) and Reading Level 5 and Writing Level 6 and Math Level 4	4 / 6
CHEM 251	Organic Chemistry Lecture I	Minimum 2.0 in CHEM 151 and Reading Level 5 and Writing Level 6	4 / 4
Credits			12 / 16

Semester V Spring	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
BIOL 270	Human Genetics	Reading Level 5 and Writing Level 6 and Math Level 4 or minimum 2.0 in MATH 105 or 106	3 / 3
BIOL 276 <i>(Spring only)</i>	Molecular Biology II	Minimum 2.0 in BIOL 275 and Reading Level 5 and Writing Level 6 and Math Level 4	4 / 6
Electives - <i>Select 2-3 courses for a minimum of 6 credits</i>			
BIOL 128	Organismal Biology	Reading Level 5 and Writing Level 6 and Math Level 4 or minimum 2.0 in MATH 105 or 106	4 / 6
BIOL 260	Botany	Reading Level 5 and Writing Level 6	4 / 6
CHEM 252	Organic Chemistry Lecture II	Minimum 2.0 in CHEM 251 and Reading Level 5 and Writing Level 6	4 / 4
CHEM 262	Quantitative Analysis	Minimum 2.0 in (CHEM 152 and CHEM 162) and Reading Level 5 and Writing Level 6 and Math Level 7	3 / 6
CHEM 272	Organic Chemistry Laboratory	Minimum 2.0 in CHEM 251 and Reading Level 5 and Writing Level 6	2 / 6
CITF 110	Intro Computer Info Systems	Reading Level 4 and Writing Level 4	3 / 3
PHYS 221 <i>(Spring only)</i>	Introductory Physics I	Reading Level 5 and Writing Level 6 and (Math Level 9 or minimum 2.0 in MATH 122 or MATH 141)	4 / 6
SCIN 287	Science Technology Internship	Department Approval	2-4 / 2-4
Credits			13-15 / 15-21
Total Credits			61-63 / 75-81