

LANSING COMMUNITY COLLEGE

CURRICULUM GUIDE

Molecular Biotechnology
Associate in Applied Science Degree

Curriculum Code: 0212 (Effective Fall 2015 – Summer 2020)

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.

PREREQUISITES

Students should see [Course Descriptions](#) for course prerequisite information. See [Academic Assessment and Placement Testing for Student Success](#) for skills assessment and advising information.

INFORMATION

Contact the Science Department, Arts & Sciences Building, Room 301, telephone number (517) 483-1092 (Website: www.lcc.edu/science) or the Academic Advising Department, Gannon Building – StarZone, telephone number (517) 483-1904.

REQUIREMENTS

CODE	TITLE	TOTAL: 40 CREDITS CREDIT HOURS
BIOL 127	Cell Biology	4
BIOL 203	Microbiology	3
BIOL 204	Microbiology Laboratory	1
BIOL 270	Human Genetics	3
BIOL 275	Molecular Biology I (See Note 1)	4
BIOL 276	Molecular Biology II (See Note 1)	4
CHEM 151	General Chemistry Lecture I	4
CHEM 152	General Chemistry Lecture II	3
CHEM 161	General Chemistry Lab I	1
CHEM 162	General Chemistry Lab II	1

CHEM 251	Organic Chemistry Lecture I	4
ISCI 275	Advanced Technology Workplace	4
STAT 215	Intro to Probability and Stats	4

LIMITED CHOICE REQUIREMENTS

TOTAL: 20–23 CREDITS

Complete the indicated number of credits from **EACH CHOICE** listed below.

CHOICE 1: [General Education Core Areas](#) 0 Credits

(Complete one course from each Subchoice. Click the link above for information on how to fulfill these requirements. Core area proficiency exams, where appropriate, are available for each core area.)

Communication Core Area (See Note 2)	0
Global Perspectives and Diversity Core Area (See Note 2)	0
Mathematics Core Area (See Note 2)	0
Science Core Area (See Note 3)	0
Writing Core Area (See Note 2)	0

Subchoice 1A: Communication Core Area 3 Credits

SPCH 120	Dynamics of Communication	3
SPCH 130	Fund of Public Speaking	3

Subchoice 1B: Global Perspectives and Diversity Core Area 3 – 4 Credits

ECON 120	Power, Authority and Exchange	4
ECON 260	Comparative Economic Systems	3
GEOG 200	World Regional Geography	4
HUMS 213	World Civilizations to 1600	4
HUMS 214	World Civilizations from 1600	4
PHIL 211	Philosophy: Ancient & Medieval	4
PHIL 212	Philosophy: Modern and Contemptry	4
POLS 260	Comparative Political Systems	3
SOCL 120	Introduction to Sociology	4

Subchoice 1C: Writing Core Area 4 Credits

ENGL 122	Writ About Literature & Ideas	4
WRIT 121	Composition I	4
WRIT 122	Composition II (See Note 4)	4
WRIT 131	Honors Composition I	4
WRIT 132	Honors Composition II	4

Subchoice 1D: Mathematics (See Note 5) 4 Credits

MATH 120	College Algebra	4
MATH 121	Precalculus I	4
MATH 122	Precalculus II	4

CHOICE 2: Related Courses		6–8 Credits
BIOL 128	Organismal Biology	4
BIOL 260	Botany	4
CHEM 252	Organic Chemistry Lecture II (See Note 4)	4
CHEM 262	Quantitative Analysis	3
CHEM 272	Organic Chemistry Laboratory (See Note 4)	2
CITF 110	Intro Computer Info Systems	3
PHYS 221	Introductory Physics I	4
SCIN 287	Science Technology Internships	2–4
MINIMUM TOTAL		60

NOTES:

1. Students are strongly urged to complete BIOL 127 and CHEM 161 before enrolling in BIOL 275. BIOL 275 is offered only in the Fall Semester, and BIOL 276 is only offered in the Spring semester
2. Students completing “Subchoice 1A–1D” have fulfilled the requirements for these Core areas.
3. Student completing “REQUIREMENTS” have fulfilled the requirements for this Core area.
4. WRIT 122, CHEM 252, and CHEM 272 are strongly recommended if transferring to MSU or other 4-year university.
5. Students planning to pursue a bachelor’s degree should select MATH 121.
6. A 2.0 or higher is required in all courses used to satisfy this degree.

SUGGESTED COURSE SEQUENCE

Students should see course descriptions to find out when departments plan to offer courses. Students who for any reason are unable to follow the course sequence suggested below (for example, those who are part-time, have transferred in courses from another school, or have prerequisites to fulfill) should contact an academic advisor for help with adjustments.

I Fall	II Spring	III Fall	IV Spring
BIOL 127	CHEM 152	BIOL 203	BIOL 270
CHEM 151	CHEM 162	BIOL 204	BIOL 276
CHEM 161	STAT 215	BIOL 275	Lim.Ch.2
Lim.Ch.1	Lim.Ch.1	CHEM 251	Lim.Ch.2
Lim.Ch.1	Lim. Ch.1	ISCI 275	