

LANSING COMMUNITY COLLEGE

CURRICULUM GUIDE

Molecular Biotechnology
Associate in Applied Science Degree

Curriculum Code: 0212 (Effective Fall 2008 – Summer 2013)

The Biotechnology program 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 of this program will be able to work in many exciting 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 program 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 or counselor before enrolling. **Not all courses in this program transfer to all colleges.** Students planning to transfer should see an academic advisor before enrolling in any course.

PREREQUISITES

Students should see *Course Descriptions* or *Course Offerings* for course prerequisite information. See the *Assessment and Placement Testing* section for skills assessment and advising information.

INFORMATION

Contact the Science Department, Arts and Sciences Building, Room 301, telephone number (517) 483-1092 (Website: www.lcc.edu/science) or Counseling and Advising Center, Gannon Building, Room 204, telephone number (517) 483-1904.

REQUIREMENTS

CODE	TITLE	TOTAL: 42 CREDITS CREDIT HOURS
BIOL 127	Cell Biology	4
BIOL 275	Molecular Biology I (See Note 1)	4
BIOL 276	Molecular Biology II	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
CHEM 252	Organic Chemistry Lecture II	4
CHEM 272	Organic Chemistry Laboratory	2
SOCL 120	Introduction to Sociology	4
SPCH 120	Dynamics of Communication	3
WRIT 121	Composition I	4

LIMITED CHOICE REQUIREMENTS**TOTAL: 19–21 CREDITS**Complete the indicated number of credits from **EACH CHOICE** listed below.**CHOICE 1: General Education Core Areas****0 Credits**(See *General Education Core Requirements* 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 3)	0
Science Core Area (See Note 2)	0
Writing Core Area (See Note 2)	0

CHOICE 2: Mathematics**4–5 Credits**

MATH 120	College Algebra	4
MATH 121	Precalculus I	4
MATH 126	Precalculus	5

CHOICE 3: Related Courses**15–16 Credits**

BIOL 128	Organismal Biology	4
BIOL 203	Microbiology	3
BIOL 204	Microbiology Laboratory	1
BIOL 260	Botany	4
CPSC 120	Introduction to Computers	3
CHEM 145	Forensic Chemistry	4
NANO 130	Introduction to Nanotechnology	4
PHYS 221	Introductory Physics I	4
SCIN 287	Science Technology Internship	4
STAT 170	Introduction to Statistics	3
WRIT 122	Composition II (See Note 4)	4

MINIMUM TOTAL**61****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.
2. Students completing "REQUIREMENTS" have fulfilled the requirements for this Core area.
3. Students completing CHOICE 2 have fulfilled the requirements for this Core area.
4. Strongly recommended if transferring to MSU or other 4-year universities.

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 or counselor for help with adjustments.

I Fall	II Spring	III Fall	IV Spring
BIOL 127	CHEM 152	BIOL 275	BIOL 276
CHEM 151	CHEM 162	CHEM 251	CHEM 252
CHEM 161	WRIT 121	Lim. Ch. 3	CHEM 272
SPCH 120	Lim. Ch. 3	Lim. Ch. 3	SOCL 120
Lim. Ch. 2	Lim. Ch. 3		Lim. Ch. 3