



Chemistry A.S.

Career Community: Science and Mathematics

Curriculum Code: 0117

Effective: Fall 2022 – Summer 2027

Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

Milestone

In addition to the required General Education courses in Math and English, completion of CHEM 151 and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

Additional Information

A student must earn a minimum grade of 2.0 in all courses.

Contact Information

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

General Education – Transfer Degree (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course) or Communications
COMM 130 or ENGL 122 or ENGL 132 meets this requirement.
- Humanities and Fine Arts
Program of Study Required Courses meets this requirement.
- Mathematics
Program of Study Required Courses meets this requirement.
- Natural Sciences – *Select one from a discipline other than CHEM*
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251
BIOL 127 is strongly recommended.

- Social Science – *Select two, each from a different discipline*
Career Community and Program of Study Required Courses meets this requirement.

Science and Math Career Community Courses – *These courses are required for all Science and Mathematics programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or GEOG 120 or GEOG 200 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120	Cultural Anthropology Power, Authority, and Exchange Principles of Economics-Micro Educational Psychology Introduction to Education Introduction to Geography World Regional Geography American Political System Introduction to Public Policy Comparative Political Systems Introduction to Psychology Introduction to Sociology	3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 4 / 4 4 / 4
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose COMM 130.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose ENGL 122.

Program of Study Required Courses - CHEM 151 and CHEM 161 will meet both Career Community and Program of Study Requirements.

Course Code	Course Title	Credit / Billing Hours
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 262	Quantitative Analysis	3 / 6
CHEM 272	Organic Chemistry Laboratory	2 / 6
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4

Program of Study Required Courses, Limited Choice – Humanities or Fine Arts *Select two from different disciplines.*

Course Code	Course Title	Credit / Billing Hours
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
PHIL 151	Intro to Logic and Critical Thinking	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

Program of Study Required Courses – Limited Choice – Social Sciences- *Select one from a different discipline chosen for the Science and Math Career Community block of courses.*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
POLS 120	American Political System	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

Note:

For future transfer (Secondary Education Certification) choose PSYC 200.

Elective Courses, Recommended Choices – *Select a minimum of one course to reach the minimum 60 total credits required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor.*

Course Code	Course Title	Credit / Billing Hours
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 253	Calculus III	4 / 4
MUSC 108	Concert Choir	1 / 3
MUSC 122	Rock Band	1 / 3
MUSC 123	Jazz Ensemble	1 / 3
MUSC 124	Multi-Instrumental Music Ensemble	1 / 3
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7

Minimum Total Credit Hours

60 credits / 75 billing hours

Recommended Course Sequence

Semester I
ENGL 121 or 131
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120
CHEM 151 – Milestone course
CHEM 161 – Milestone course
MATH 151

Semester II
COMM 130 or ENGL 122 or ENGL 132
Limited Choice - Humanities and Fine Arts
CHEM 152
CHEM 162
MATH 152

Semester III
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (BIOL 127 recommended)
Limited Choice - Social Sciences
CHEM 251
CHEM 262
Elective as needed for total credits

Semester IV
Limited Choice - Humanities and Fine Arts
CHEM 252
CHEM 272
Elective as needed for total credits

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.