



Engineering-Physics A.S.

Career Community: Science and Mathematics

Curriculum Code: 1619

Effective: Fall 2025 – Summer 2030

Purpose of the Major

This degree is designed for students who plan to transfer to a four-year university to pursue a Bachelor's of Science degree in Engineering or Physics with a variety of concentrations. Students completing this curriculum will also satisfy Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). This degree includes a set of courses common to all Science and Mathematics majors and many transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

Milestone

In addition to the required General Education courses in Math and English, completion of PHYS 251 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

For further information, including career options, course substitutions and waivers, etc., contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

Major Required Courses - Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First-Year Experience	1 / 1
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3

Course Code	Course Title	Credit / Billing Hours
COMM 120 or COMM 130 or COMM 200 or COMM 240 or COMM 260 or ENGL 122 or ENGL 132	Dynamics of Communication Fundamentals Public Speaking Small Group Communication Interpersonal Communication Nonverbal Communication Composition II Honors Composition II	3 / 3 3 / 3 3 / 3 3 / 3 3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4
MATH 253	Calculus III	4 / 4
MATH 254	Intro to Differential Equation	4 / 4
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7

Notes:

ACAD 100 may be waived when students meet one of the following College-approved waiver criteria:

- Completion of 12 college-level credits with minimum grades of 2.0 shown on the LCC transcript (including transfer, if applicable), or
- Employment in the field of, or a field related to, the degree being sought, or
- For Health Careers students, successful completion of CHSE 100.

Students wishing to waive ACAD 100 should contact their advisor.

Major Required Courses – Limited Choices – Humanities and Fine Arts - *Select two from [LCC General Education Transfer Degrees \(MTA\) - Humanities and Fine Arts](#). Courses must be from different disciplines.*

Major Required Courses – Limited Choices – Social Sciences - *Select two from [LCC General Education Transfer Degrees \(MTA\) - Social Sciences](#). Courses must be from different disciplines.*

Notes:

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select PSYC 200 and EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

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

For future transfer (Secondary Education Certification) to:

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

General Education – Transfer Degrees (MTA)

- English Composition
Major Required Courses meet this requirement.
- English Composition (second course)/Communication
Major Required Courses meet this requirement.
- Humanities or Fine Arts
Major Required Courses meet this requirement.
- Mathematics
Major Required Courses meet this requirement.
- Natural Sciences
Major Required Courses meet this requirement.
- Social Sciences
Major Required Courses meet this requirement.

Elective Courses, Recommended Choices – *Select courses as needed to meet the 60-credit minimum required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor. (For the full list of options, see [AA and AS Degree Electives](#).)*

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
CPSC 230	Algorithms and Computing w/C++	4 / 4
MATH 260	Linear Algebra	4 / 4
PHYS 260	Statics for Engineers	3 / 3
STAT 215	Intro to Probability and Stats	4 / 4

Minimum Total Credit Hours

60 credits / 66 billing hours

Recommended Course Sequence

Semester I
ACAD 100
CHEM 151
CHEM 161
ENGL 121 or ENGL 131

Semester I
MATH 151

Semester II
COMM 120 or COMM 130 or COMM 200 or COMM 240 or COMM 260 or ENGL 122 or ENGL 132
MATH 152
Limited Choice – Humanities and Fine Arts
Limited Choice – Social Sciences

Semester III
MATH 253
PHYS 251 – Milestone course
Limited Choice – Social Sciences
Electives as needed to meet 60 credit degree requirements

Semester IV
MATH 254
PHYS 252
Limited Choice – Humanities and Fine Arts
Electives as needed to meet 60 credit degree requirements

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 titles, and make course changes as needed, without prior notice. The College also reserves the right to discontinue programs when warranted.