

FERRIS STATE UNIVERSITY

BIOLOGY TRANSFER GUIDE FOR DELTA COLLEGE

Ferris Program: Biology

Degree Type: Bachelor of Science

Ferris College: College of Arts, Sciences, and Education

Transfer School: Alpena Community College (ACC)

Consortium Eligible: No

Total Credits Required: 120-121

Catalog Year: 2022-2023

GENERAL EDUCATION REQUIREMENTS – 30 Credits Required

Students are encouraged to work with an advisor to select appropriate general education courses. Diversity Competency - 2 Courses Required. If not met by courses taken for Culture, Self and Society, or MTA, a student must meet the following: 1 course with the Global Diversity attribute and 1 course with the U.S. Diversity attribute.

Visit the Ferris State [for more information](#).

Communication Competency

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
COMM 121	Fundamentals of Public Speaking	3	SPE 123
ENGL 150	English 1	3	ENG 111 or ENG 121
ENGL 250	English 2	3	ENG 112 or ENG 122
ENGL 311 or ENGL 321 or ENGL 323	Advanced Technical Writing or Advanced Composition or Proposal Writing	3	No Equivalent

Quantitative Literacy Competency

Requirements for Quantitative Literary Competency can be met with the following:

- Official Pre-2016 Math SAT Score of 560 or Higher
- Official Post-2016 Math SAT Score of 580 or Higher
- Official Math ACT Score of 24 or Higher

The MATH course required depends on the course required in the chosen concentration; see the Concentration section.

Natural Sciences Competency

Two courses are required with a minimum of 6 credits: must have at least one lab course.

Culture Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines, have at least one 200 level or higher course.

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Culture Electives (Consult Advisor)	9	Varies

Self and Society Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines, have at least one 200 level or higher course, and at least oneself and Society Foundation course. The recommended or required courses to meet this competency depends on the chosen concentration: (see program check sheet).

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Self and Society Electives (Consult Advisor)	9	Varies

COLLEGE REQUIREMENTS – 90-91 Credits Required

Major Courses

16 Credits Required.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 121	General Biology 1	4	No Equivalent
BIOL 122	General Biology 2	4	No Equivalent
BIOL 346 or BIOL 347 or BIOL 442	Ecological Assessment or Environmental Conservation or Ecology	3	No Equivalent
BIOL 375	Principles of Genetics	3	No Equivalent
BIOL 460	Current Topics in Biology	2	No Equivalent

Supporting Sciences

10 Credits Required.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
CHEM 121	General Chemistry 1	5	CEM 121
CHEM 122	General Chemistry 2	5	CEM 122

Electives

In order to graduate with a bachelor's degree, a student must have a minimum of 120 credits. The electives required for each student may vary depending on courses taken. Based on how a student meets the programmatic requirements, they may need more or less than 25 credits of elective courses to meet the required 120 credit minimum. MGMT 310 is recommended if the Biology/Pre-Dentistry Concentration (BIPD) or Biology/Pre-Medicine Concentration (BIPM) was chosen. ACCT 201 or MGMT 310 is recommended if the Biology/Pre-Optometry Concentration (BIPO) was chosen.

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Electives (Consult Advisor)	25	Varies

CONCENTRATION – 39-65 Credits Required (Advisor Approval)

Choose One Concentration

Biology Concentration (BIBS)

A total of 20 credits are required in Biology (BIOL) courses within this concentration. The total number of Biology electives varies based on the Biology (BIOL) courses taken within this concentration. This concentration also requires MATH 120 or higher, a minimum of 7 credits in Chemistry (CHEM) courses, including Biochemistry; and a minimum of 4 credits in Physics (PHYS) courses.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
(Choose 1 of 3) BIOL 251 and BIOL 252	Human Anatomy and Human Physiology	6	BIO 201 and BIO 203
(Choose 1 of 3) BIOL 321 and BIOL 322	Human Physiology and Anatomy 1 and Human Physiology and Anatomy 2	8	No Equivalent
(Choose 1 of 3) BIOL 453	Plant Physiology	4	No Equivalent
BIOL 218 or BIOL 286 or BIOL 389	Microbial Ecology or General Microbiology or Immunology	3	No Equivalent or BIO 227 or No Equivalent
CHEM 214 or CHEM 321 and CHEM 322	Fundamentals of Organic Chemistry or Organic Chemistry 1 and Organic Chemistry 2	4 or 10	No Equivalent or CEM 221 and CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
MATH 120	Trigonometry	3	MTH 122
(Choose 1 of 3) PHYS 130	Concepts in Physics	4	No Equivalent
(Choose 1 of 3) PHYS 211 and PHYS 212	Introductory Physics 1 and Introductory Physics 2	8	PHY 121 and PHY 122
(Choose 1 of 3) PHYS 241 and PHYS 242	General Physics 1 and General Physics 2	10	PHY 221 and PHY 222

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Biology Application Area Electives	5	Varies
Varies	Biology Electives - BIOL 300 Level or Higher	9-13	Varies

Biology/Environmental Concentration (BIEB)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 218	Microbial Ecology	3	No Equivalent
BIOL 330	Zoology	4	No Equivalent
BIOL 343 or BIOL 344 or BIOL 348	Ornithology or Entomology or Animal Behavior	3	No Equivalent
BIOL 350	Plants and Fungi	4	No Equivalent
BIOL 453	Plant Physiology	4	No Equivalent
BIOL 492	Biology Internship	1-6	No Equivalent
CHEM 214 or CHEM 321 and CHEM 322	Fundamentals of Organic Chemistry or Organic Chemistry 1 and Organic Chemistry 2	4 or 10	No Equivalent or CEM 221 and CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
GEOL 121 or GEOL 131	Physical Geology or Geology and Land Use Management	4 or 3	No Equivalent
GISC 225 or GEOG 311	Principles of Geographic Information Systems or Social Implications of Geographic Information Systems	3	No Equivalent
MATH 130	Advanced Algebra and Analytical Trigonometry	4	MTH 123
MATH 251	Statistics for the Life Sciences	3	MTH 223
(Choose 1 of 2) PHYS 130	Concepts in Physics	4	No Equivalent
(Choose 1 of 2) PHYS 211 and PHYS 212	Introductory Physics 1 and Introductory Physics 2	8	PHY 121 and PHY 122

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Environmental Elective; BIOL 340 or 345 Recommended	3	Varies

Biology/Forensic Concentration (BIFB)

A total of 21 credits are required in Biology (BIOL) courses within this concentration. The total number of Biology electives varies based on the Biology (BIOL) courses taken within this concentration.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
(Choose 1 of 2) BIOL 251 and BIOL 252	Human Anatomy and Human Physiology	6	No Equivalent
(Choose 1 of 2) BIOL 321 and BIOL 322	Human Physiology and Anatomy 1 and Human Physiology and Anatomy 2	8	No Equivalent
BIOL 207	Forensic Biology	4	No Equivalent
BIOL 286	General Microbiology	3	No Equivalent
BIOL 407	Forensic DNA Analysis	3	No Equivalent
CHEM 207	Science and Crime	3	No Equivalent
CHEM 231 or CHEM 307 or CHEM 332	Quantitative Analysis or Forensic Chemistry or Biochemistry Lab 1	4 or 3 or 2	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
CRIM 110	Introduction to Criminal Justice	3	CRJ 121
CRIM 301	Criminal Justice Investigation Issues	3	No Equivalent
MATH 220	Analytical Geometry and Calculus 1	4	MTH 131

Biology/Pre-Physician Assistant Studies Concentration (BIPA)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 300 or	Pathophysiology or	3	BIO 228 or

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 310	Nutrition		No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BIOL 322	Human Physiology and Anatomy 2	4	No Equivalent
CHEM 214 or CHEM 321 and CHEM 322	Fundamentals of Organic Chemistry or Organic Chemistry 1 and Organic Chemistry 2	4 or 10	No Equivalent or CEM 221 and CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
MATH 130	Advanced Algebra and Analytical Trigonometry	4	MTH 123
MATH 251	Statistics for the Life Sciences	3	MTH 223
(Choose 1 of 2) PHYS 211 and PHYS 212	Introductory Physics 1 and Introductory Physics 2	8	PHY 121 and PHY 122
(Choose 1 of 2) PHYS 241 and PHYS 242	General Physics 1 and General Physics 2	10	PHY 221 and PHY 222
Varies	Biology Application Area Elective	2	Varies
Varies	Biology Electives - BIOL 300 Level or Higher	6	Varies

Biology/Pre-Dentistry Concentration (BIPD)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BIOL 322	Human Physiology and Anatomy 2	4	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
MATH 120	Trigonometry	3	MTH 122
(Choose 1 of 2) PHYS 211 and PHYS 212	Introductory Physics 1 and Introductory Physics 2	8	PHY 121 and PHY 122
(Choose 1 of 2) PHYS 241 and PHYS 242	General Physics 1 and General Physics 2	10	PHY 221 and PHY 222
Varies	Biology Application Area Electives; RMLS 122 Recommended	5	Varies
Varies	Biology Electives - BIOL 300 Level or Higher; BIOL 370 Recommended	9	Varies

Biology/Pre-Medicine Concentration (BIPM)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BIOL 322	Human Physiology and Anatomy 2	4	No Equivalent
BIOL 370	Developmental Biology	4	No Equivalent
BIOL 389	Immunology	3	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222
MATH 130 or MATH 220 or MATH 230	Advanced Algebra and Analytical Trigonometry or Analytical Geometry and Calculus 1 or Analytical Geometry and Calculus 2	4	MTH 123 or MTH 131 or MTH 132
(Choose 1 of 2) PHYS 211 and PHYS 212	Introductory Physics 1 and Introductory Physics 2	8	PHY 121 and PHY 122
(Choose 1 of 2) PHYS 241 and PHYS 242	General Physics 1 and General Physics 2	10	PHY 221 and PHY 222
Varies	Biology Application Area Electives	5	Varies

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Biology Elective - BIOL 300 Level or Higher	3	Varies

Biology/Pre-Optometry Concentration (BIPO)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 251	Human Anatomy	3	No Equivalent
BIOL 252	Human Physiology	3	No Equivalent
BIOL 286	General Microbiology	3	No Equivalent
BIOL 370	Developmental Biology	4	No Equivalent
BIOL 373	Cell Biology	3	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
MATH 220	Analytical Geometry and Calculus 1	4	MTH 131
MATH 251	Statistics for the Life Sciences	3	MTH 223
PHYS 211	Introductory Physics 1	4	PHY 121
PHYS 212	Introductory Physics 2	4	PHY 122
Varies	Biology Application Area Electives	2	Varies
Varies	Biology Electives - BIOL 300 Level or Higher	5	Varies

Biology/Pre-Pharmacy Concentration (BIPP)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BOIL 322	Human Physiology and Anatomy 2	4	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
CHEM 324 or CHEM 364	Fundamentals of Biochemistry or Biochemistry	3 or 4	No Equivalent
MATH 220	Analytical Geometry and Calculus 1	4	MTH 131
MATH 251	Statistics for the Life Sciences	3	MTH 223
PHYS 211	Introductory Physics 1	4	PHY 121
PHYS 212	Introductory Physics 2	4	PHY 122
Varies	Biology Application Area Elective	2	Varies
Varies	Biology Electives - BIOL 300 Level or Higher; BIOL 373 or 474 Recommended	9	Varies

Biology/Pre-Physical Therapy Concentration (BIPT)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 300	Pathophysiology	3	BIO 228
BIOL 301	Exercise Physiology	4	No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BIOL 322	Human Physiology and Anatomy 2	4	No Equivalent
CHEM 214	Fundamentals of Organic Chemistry	4	No Equivalent
CHEM 324	Fundamentals of Biochemistry	3	No Equivalent
COHP 100	Orientation to Medical Vocabulary	1	No Equivalent
MATH 130	Advanced Algebra and Analytical Trigonometry	4	MTH 123
MATH 251	Statistics for the Life Sciences	3	MTH 223
PHYS 211	Introductory Physics 1	4	PHY 121
PHYS 212	Introductory Physics 2	4	PHY 122

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
RMLS 122	Responding to Emergencies	2	No Equivalent
Varies	Biology Elective - BIOL 300 Level or Higher	3	Varies

Biology/Pre-Veterinary Medicine Concentration (BIPV)

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
BIOL 286	General Microbiology	3	No Equivalent
BIOL 310	Nutrition	3	No Equivalent
BIOL 321	Human Physiology and Anatomy 1	4	No Equivalent
BIOL 322	Human Physiology and Anatomy 2	4	No Equivalent
BIOL 373	Cell Biology	3	No Equivalent
BIOL 389	Immunology	3	No Equivalent
CHEM 321	Organic Chemistry 1	5	CEM 221
CHEM 322	Organic Chemistry 2	5	CEM 222
CHEM 364	Biochemistry	4	No Equivalent
MATH 130	Advanced Algebra and Analytical Trigonometry	4	MTH 123
PHYS 211	Introductory Physics 1	4	PHY 121
PHYS 212	Introductory Physics 2	4	PHY 122
Varies	Biology Application Area Electives	5	Varies
Varies	Biology Elective - BIOL 300 Level or Higher	3	Varies

PROGRAM CONTACT INFORMATION

Biology Department
(231) 591-2550

(231) 995-1734

ADMISSION REQUIREMENTS

New Student Admission Requirements

- 2.50 High School GPA (on a 4.00 scale)
- ACT Score of 17 or SAT Score of 900 (optional)

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Transfer Student Admission Requirements

- 2.00 Overall GPA (on a 4.00 scale)
- At least 12 credits

MORE INFORMATION

Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at the Ferris Main Campus or at a statewide location).

To fulfill the residency requirement for a bachelor's degree a student must earn a minimum of 30 credits from Ferris State University.

Steps to Apply

- Complete your .
- Submit official transcripts
 - Submit official transcripts from every school attended to
 - Or mail to:
Ferris State University Admissions Office
1201 S. State St., CSS 201
Big Rapids, MI 49307
- Submit test scores (if required)
 - ACT Scores; go to the - Ferris State University School Code: 1994
 - SAT, CLEP and AP Sores; go to the - Ferris State University School Code: 1222

Advising Notes

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, transfer policies and have any questions answered prior to completing an application. Ferris accepts transfer courses in which the student earned a letter grade of "C" or better. Additional policies such as the Ferris Sunset and Residency Requirement should be discussed with a Ferris advisor. Students who are completing the MTA may have different general education course requirements for the particular degree selected.

Meeting with a Ferris advisor prior to the selection of general education or elective coursework may reduce the chance of completing a course that will not apply toward the selected degree. Students must work with their Ferris advisor to declare a Minor or Concentration and for the selection of Directed Electives.

Once admitted, students are required to complete an orientation and should continue to meet with an advisor as they work toward graduation.

To schedule an appointment or for additional transfer resources and policies see our .

*Indicates an approved Ferris course substitution

Reverse Transfer Agreement

Ferris has reverse transfer agreements with several Michigan Community Colleges. Under such agreement, Ferris will provide your official University transcript to a partner school you have attended, so that they may grant you an associate or bachelor's degree upon completion of sufficient and appropriate credit hours from both institutions. In turn, the degree-granting institution will provide Ferris with an updated transcript reflecting the newly earned credential.

Michigan Transfer Agreement (MTA)

Ferris participates in the Michigan Transfer Agreement (MTA). This agreement will facilitate the transfer of general education requirements from one Michigan institution to another. Students may complete the MTA as

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part of a degree program or as a stand-alone package. The MTA consists of a minimum of 30 general education credit hours as identified by the college or university.

Students transferring to Ferris with the Michigan Transfer Agreement (MTA) and entering a degree program will have met a 30-hour block of lower-level general education courses. However, this does not exempt students from completing program-specific prerequisites or higher-level general education course requirements. Students should contact their advisor regarding classes that meet the MTA.

Transfer Equivalencies Tools

The transfer equivalencies link is located in the Transfer Resources section at .

Disclaimer

Transfer guides are not intended to be a contract with Ferris. The information in this guide is subject to change and is aligned with the catalog year listed above. Students should contact their community college and/or Ferris to keep informed of changes. Students' final responsibility for verifying all transfer information lies with the student. Please refer to the for the most current curriculum.

Partners may contact the Office of Transfer and Secondary School Partnerships with questions or updates at .