



# FERRIS STATE UNIVERSITY

## Biotechnology B.S. Degree

### DELTA COLLEGE

Articulation Agreement

THIS PROGRAM IS DESIGNED AS A B.S. DEGREE OPTION FOR STUDENTS WHO HAVE COMPLETED OR ARE COMPLETING AN ASSOCIATE DEGREE

**Application Deadlines:**

1. Transfer students must be admitted 21 days prior to the first day of the semester they plan to attend.

**Admission Requirements:**

1. Transfer students must have at least 12 credits **at the time of application** with a minimum 2.0 overall GPA including an English and mathematics course or they will be considered first year students and must meet freshman admission criteria.

**General Education Requirements:**

1. Upon completion of the General Education courses outlined below, students will have completed MACRAO
2. Students must have the MACRAO Stamp on their college transcript in order to qualify for having met MACRAO
3. Students having completed MACRAO will be required to complete one of the 300-Level Advanced English courses listed below
4. Students not completing MACRAO must complete the Ferris General Education requirements with a 2.0 cumulative GPA
5. To view the Ferris General Education requirements, go to: <http://www.ferris.edu/HTMLS/academics/gened/gened.html>

**Graduation Requirements:**

1. 2.0 cumulative GPA in all courses. No grade lower than C- in science and math courses allowed for graduation.
2. 30 minimum FSU semester hours must be completed to fulfill Ferris residency requirements.
3. A total of 121 credit hours are required for graduation for this major.

### GENERAL EDUCATION REQUIREMENTS

FERRIS Courses	Course Title	DELTA Courses	Credit Hours Required	Grade
ENGL 150	English 1	ENG 111 or ENG 111H	3	
ENGL 250	English 2	ENG 112	3	
Advanced ENGL 300-Level	Advanced Composition (ENGL 321 or ENGL 323 or ENGL 325)		3 (at Ferris)	
Lab Science	Met through Major	DELTA	4	
MATH 115	Intermediate Algebra	MTH 119 or 119A or 120	3-4	
Gen-Ed Elective	Cultural Enrichment/MACRAO Humanities	DELTA	3-4	
Gen-Ed Elective	Cultural Enrichment/MACRAO Humanities	DELTA	3-4	
Gen-Ed Elective	Cultural Enrichment/MACRAO Humanities	DELTA	3-0	
Gen-Ed Elective	Social Awareness/MACRAO Social Science	DELTA	3-4	
Gen-Ed Elective	Social Awareness/MACRAO Social Science	DELTA	3-4	
Gen-Ed Elective	Social Awareness/MACRAO Social Science	DELTA	3-0	

**BIOTECHNOLOGY MAJOR REQUIREMENTS**  
DELTA COLLEGE ARTICULATION

FERRIS REQUIRED COURSES		COURSE TITLE <i>Ferris prerequisites shown in brackets ( )</i>	DELTA COLLEGE Courses	FSU Sem. Hrs.	GRADE	GRADE PTS.
<b>MAJOR – 91 credit minimum</b>						
<b>No grade lower than a C- allowed for graduation</b>						
BIOL	121 &	General Biology 1				
BIOL	122	General Biology 2	BIO 171+172	8		
BIOL	205	Human Anatomy/Physiology	BIO 240+241	8		
Or BIOL BIOL	321 322	Human Physiology & Anatomy 1 Human Physiology & Anatomy 2	or BIO 152+153			
BIOL	375	Principles of Genetics				
BIOL	386	Microbiology & Immunology				
BIOL	388	Advanced Immunology Laboratory				
BIOL	470	Molecular Genetics				
BIOL	471	Biotech 2: Recombinant DNA Lab				
BIOL	472	Proteins				
BIOL	473	Biotech 3: Proteins Laboratory				
BIOL	474	Advanced Cell & Molecular Biology				
BIOL	475	Bioinformatics				
CHEM	121	General Chemistry 1	CHM 111 or CHM 111H	4		
CHEM	122	General Chemistry 2	CHM 112 or CHM 112H	4		
CHEM	231	Quantitative Analysis	CHM 230	4		
CHEM	321	Organic Chemistry 1	CHM 210 & CHM 210L	5		
CHEM	322	Organic Chemistry 2	CHM 220 & CHM 220L	5		
CHEM	332	Biochemistry Lab 1				
CHEM	333	Biochemistry Lab 2				
CHEM	364	Biochemistry				
CHEM	474	Advanced Biochemistry				
MATH	130	Advanced Algebra & Analytical Trigonometry	MTH 151	4		
MATH	251	Statistics for the Life Sciences	MTH 208	3		
PHYS	211	Introductory Physics 1	PHY 111	4		
<b>Choose One:</b>						
BIOL	491	Biotechnology Internship				
BIOL	497	Independent Studies in Biology				
CHEM	497	Independent Studies in Chemistry				
<b>TOTAL CREDIT HOURS Required: 121</b>						

For questions about your transfer to Ferris in the Biotechnology BS degree, contact:

**PROGRAM COORDINATOR**

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