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	

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BIOTECHNOLOGY MAJOR REQUIREMENTS

DELTA COLLEGE ARTICULATION

FERRIS REQUIRED COURSES		COURSE TITLE *Ferris prerequisites shown in brackets ( )*	DELTA COLLEGE Courses	FSU Sem. Hrs.	GRADE	GRADE PTS.
MAJOR – 91 credit minimum No grade lower than a C- allowed for graduation						
BIOL BIOL	121 & 122	General Biology 1 *(CHEM 114 or Delta 171 concurrent)* General Biology 2 *(Delta BIO 171)*	BIO 171+172	8		
BIOL Or BIOL BIOL	205 321 322	Human Anatomy/Physiology *(CHEM 114)* or Human Physiology & Anatomy 1 *(BIOL 122 & CHEM 122)* Human Physiology & Anatomy 2 *(BIOL 321)*	BIO 240+241 or BIO 152+153	8		
BIOL	375	Principles of Genetics (*BIOL 122 and a BIO/CHEM course)*				
BIOL	386	Microbiology & Immunology *(BIOL 205/322 & a BIO/CHEM course)*				
BIOL	388	Advanced Immunology Laboratory *(BIOL 386)*				
BIOL	470	Molecular Genetics *(CHEM 364 and BIOL 375)*				
BIOL	471	Biotech 2: Recombinant DNA Lab *(BIOL 470)*				
BIOL	472	Proteins *(BIOL 122 and CHEM 364)*				
BIOL	473	Biotech 3: Proteins Laboratory *(CHEM 364 & BIOL 472)*				
BIOL	474	Advanced Cell & Molecular Biology (*CHEM 364 & BIOL 375)*				
BIOL	475	Bioinformatics *(BIOL 375)*				
CHEM	121	General Chemistry 1 *(MATH 115 and prior CHEM)*	CHM 111 or CHM 111H	4		
CHEM	122	General Chemistry 2 *(CHEM 121)*	CHM 112 or CHM 112H	4		
CHEM	231	Quantitative Analysis *(CHEM 122)*	CHM 230	4		
CHEM	321	Organic Chemistry 1 *(CHEM 122)*	CHM 210 & CHM 210L	5		
CHEM	322	Organic Chemistry 2 *(CHEM 321)*	CHM 220 & CHM 220L	5		
CHEM	332	Biochemistry Lab 1 *(CHEM 322, corequisite = CHEM 364)*				
CHEM	333	Biochemistry Lab 2 *(CHEM 332)*				
CHEM	364	Biochemistry *(PHCH 320 is acceptable)* *(CHEM 322)*				
CHEM	474	Advanced Biochemistry *(CHEM 364)*				
MATH	130	Advanced Algebra & Analytical Trigonometry (Delta MATH 121 or placement)	MTH 151	4		
MATH	251	Statistics for the Life Sciences *(MATH 130)*	MTH 208	3		
PHYS	211	Introductory Physics 1 *(MATH 120)*	PHY 111	4		
Choose One: BIOL BIOL CHEM	 491 497 497	 Biotechnology Internship *(instructor consent)* Independent Studies in Biology *(instructor consent)* Independent Studies in Chemistry *(instructor consent)*				
TOTAL CREDIT HOURS Required: 121						

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

PROGRAM COORDINATOR

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