

# BACHELOR OF SCIENCE IN APPLIED MATHEMATICS ALL CONCENTRATIONS

## FERRIS STATE UNIVERSITY/ NORTHWESTERN MICHIGAN COLLEGE TRANSFER PLAN

PROGRAM COORDINATOR: Mr. Robert McCullough

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**Admission requirement for transfer students:**

1. Transfer students with fewer than 12 transferable credits at the time of application, must meet the current freshman admission criteria.  
The application will be considered for admission based upon the high school academic record.
2. Transfer students with 12 or more transferable credits at the time of application (including both English and Algebra) must have a minimum CGPA of 2.0. Students without an English and Algebra class will be required to submit an ACT/SAT score.

**Graduation Requirements:**

1. 2.0 CUMULATIVE grade average in all courses.
2. 2.5 grade average for all MATH and CPSC course work.
3. 120 minimum semester credits including general education requirements.
4. Residency requirement: 30 minimum FSU semester credits.
5. Minimum of 40 credits numbered 300 or higher.

REQUIRED		COURSE TITLE – FOR PREREQUISITES, SEE FSU OR NMC CATALOG COURSE DESCRIPTIONS	FSU S.H.	NMC Equivalent	GRADE
<b>Applied Mathematics Core Requirements: minimum 19 credits</b>					
MATH	251	Statistics for the Life Sciences	3		
MATH	220	Analytical Geometry & Calculus 1	5	MTH141	
MATH	230	Analytical Geometry & Calculus 2	5	MTH142	
MATH	320	Analytical Geometry & Calculus 3	3	MTH241	
MATH	322	Linear Algebra	3		
<b>Applied Mathematics Concentration Requirements: minimum 21 - 22 credits</b>					
CPSC	200 OR 244	Object Oriented Programming Scientific Programming with Fortran	3 - 4	MTH116 MTH118	
MATH	330	Differential Equations	3	MTH251	
MATH	340	Numerical Analysis	3		
MATH	360	Operations Research	3		
MATH	380	Applied Analysis	3		
MATH	440	Mathematics Modeling	3		
		MATH OR CPSC ELECTIVE	3		
<b>Actuarial Science Concentration Requirements: minimum 24 - 24 credits</b>					
CPSC	200 OR 244	Object Oriented Programming Scientific Programming with Fortran	3 - 4	MTH116 MTH118	
MATH	310	Linear Models in Statistics	3		
MATH	314	Probability	3		
MATH	340	Numerical Analysis	3		
MATH	414	Mathematical Statistics 1	3		
MATH	416	Mathematical Statistics 2	3		
ECON	221	Principals of Economics	3	ECO201	
		Directed Elective (consult program coordinator for appropriate selection)			
<b>Computer Science Concentration Requirements: minimum 23 credits</b>					
CPSC	200	Object Oriented Programming	4	MTH116	
CPSC	244	Scientific Programming with Fortran	3	MTH118	
CPSC	300	Data Structures and Algorithms	4		
CPSC	328	Discrete Structures	3		
MATH	340	Numerical Analysis	3		
MATH	420	Introduction to Abstract Algebra	3		
CPSC		Elective (300 level or higher)	3		

<b>Operations Research Concentration Requirements: minimum 21 - 22 credits</b>					
CPSC	200 OR 244	Object Oriented Programming	3 - 4	MTH116	
		Scientific Programming with Fortran		MTH118	
MATH	330	Differential Equations	3	MTH251	
MATH	360	Operations Research	3		
MATH	440	Mathematics Modeling	3		
		MATH OR CPSC ELECTIVE	3		
		MATH OR CPSC ELECTIVE	3		
		MATH OR CPSC ELECTIVE	3		
<b>Statistics Concentration Requirements: minimum 21-22 credits</b>					
CPSC	200 OR 244	Object Oriented Programming	3 - 4		
		Scientific Programming with Fortran			
MATH	310	Linear Models in Statistics	3		
MATH	314	Probability	3		
MATH	414	Mathematical Statistics 1	3		
MATH	416	Mathematical Statistics 2	3		
		MATH OR CPSC ELECTIVE	3		
		MATH OR CPSC ELECTIVE	3		

General Education: All Students must complete the General education associated with this degree. Some courses listed in the major program requirements also satisfy general education requirements. Listed below are general education requirements not satisfied in the programs major area.

FSU General Education requirements are available on the FSU web site at:

<http://www.ferris.edu/htmls/academics/gened/gened.html>.

Listings of FSU courses that will satisfy these requirements are available on the FSU web site at:

<http://www.ferris.edu/htmls/academics/gened/courses.html>.

Equivalencies for FSU courses at your school may be found on the FSU web site at:

<http://www.ferris.edu/admissions/Transfer/WebPages/homepage1.cfm>

<b>Remaining General Education Requirements not fulfilled in the major: minimum 37 credits</b>					
ENGL	150	English 1	3	ENG111	
ENGL	250	English 2	3	ENG112	
Choose 1:		ENGL 311 Advanced Technical Writing	3		
		ENGL 321 Advanced Composition			
		ENGL 323 Proposal Writing			
		ENGL 325 Advanced Business Writing			
COMM	105 or 121	Interpersonal Communication Fundamentals of Public Speaking	3	COM111	
		Scientific Understanding (with Lab)	4		
		Scientific Understanding	3		
		Cultural Enrichment Elective (see websites above)	3		
		Cultural Enrichment Elective	3		
		Cultural Enrichment Elective – 200 level or higher	3		
		Social Awareness Elective – Foundation Course (see websites above)	3		
		Social Awareness Elective – Second Subject Area	3		
		Social Awareness Elective – 200 level or higher	3		
		Race/Ethnicity/Gender – to be taken as one of the Cultural Enrichment or Social Awareness courses.			
		Global Consciousness – to be taken as one of the Cultural Enrichment or Social Awareness courses.			
<b>Electives to the minimum 120 required for this degree</b>					