

# BACHELOR OF SCIENCE IN APPLIED MATHEMATICS ALL CONCENTRATIONS

## FERRIS STATE UNIVERSITY/ WAYNE COUNTY COMMUNITY COLLEGE TRANSFER PLAN

**PROGRAM COORDINATOR: Mr. Robert McCullough**

**OFFICE: ASC 2042 PHONE: (231) 591-5876 E-Mail: [mccullor@ferris.edu](mailto:mccullor@ferris.edu)**

**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 WAYNE COUNTY CATALOG COURSE DESCRIPTIONS | FSU S.H. | WCCC 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        | MAT171          |       |
| MATH   | 230              | Analytical Geometry & Calculus 2  | 5        | MAT172          |       |
| MATH   | 320              | Analytical Geometry & Calculus 3  | 3        | MAT271          |       |
| MATH   | 322              | Linear Algebra  | 3        | MAT272          |       |
| <b>Applied Mathematics Concentration Requirements: minimum 21 - 22 credits</b> |                  |   |          |                 |       |
| CPSC   | 200<br>OR<br>244 | Object Oriented Programming<br>Scientific Programming with Fortran                    | 3 - 4    |                 |       |
| MATH   | 330              | Differential Equations  | 3        | MAT273          |       |
| 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<br>OR<br>244 | Object Oriented Programming<br>Scientific Programming with Fortran                    | 3 - 4    |                 |       |
| 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        |                 |       |
|  |                  | Directed Elective (consult program coordinator for appropriate selection)             |          |                 |       |
| <b>Computer Science Concentration Requirements: minimum 23 credits</b>         |                  |   |          |                 |       |
| CPSC   | 200              | Object Oriented Programming   | 4        |                 |       |
| CPSC   | 244              | Scientific Programming with Fortran   | 3        |                 |       |
| 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<br>OR<br>244 | Object Oriented Programming         | 3 - 4 |        |  |
|  |                  | Scientific Programming with Fortran |       |        |  |
| MATH   | 330              | Differential Equations              | 3     | MAT273 |  |
| 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<br>OR<br>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 | ENG110           |  |
| ENGL   | 250           | English 2  | 3 | ENG120           |  |
| Choose 1:  |               | ENGL 311 Advanced Technical Writing  | 3 |                  |  |
|  |               | ENGL 321 Advanced Composition  |   |                  |  |
|  |               | ENGL 323 Proposal Writing  |   |                  |  |
|  |               | ENGL 325 Advanced Business Writing   |   |                  |  |
| COMM   | 105 or<br>121 | Interpersonal Communication<br>Fundamentals of Public Speaking                                     | 3 | SPH100<br>SPH101 |  |
|  |               | 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>                                   |               |  |   |                  |  |
|  |               |  |   |                  |  |
|  |               |  |   |                  |  |
|  |               |  |   |                  |  |