### PRE-ENGINEERING PROGRAM

This program establishes a freshman and sophomore curriculum leading to transfer admission by Articulation Agreement (2+3) to a Bachelor of Science degree program in one of the engineering disciplines at the:

- University of Massachusetts-Lowell in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, Plastics Engineering, and Engineering Technology;
- University of Massachusetts-Dartmouth: Bio-Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering;

Each student who enters the program will be assigned an advisor from the Department of Physics and Earth Sciences. By the end of their freshman year, students should be considering what specific area of engineering they wish to transfer into at the above-mentioned institutions. It may be necessary for transfer students to schedule summer session coursework if they wish to complete all degree requirements over a four-year period.

The program of study during the two years at Framingham State University is shown below. Each incoming student must pass the mathematics placement examination in order to register for a credit-bearing mathematics course. Students must do well on this examination to begin the mathematics sequence with Calculus I. Students who do not place into the Calculus I course are required to take additional mathematics prior to taking Calculus I. Courses to be taken during the sophomore year of the program depend, to some extent, on the choice of engineering concentration.

### First-Year: (common to all engineering options)

#### Fall Semester
- CHEM 107/107L Principles of Chemistry with Lab
- EGNR 101 Introduction to Engineering
- ENWR 110 Composition II
- MATH 219 Calculus I

#### Spring Semester
- CHEM 108/108L Principles of Chemistry and Quantitative Analysis
- CSCI 130 Computer Science I Using Java
- ECON 102 Principles of Microeconomics
- MATH 220 Calculus II

### Second-Year:

#### Fall Semester
- MATH 221 Calculus III
- PHYS 211/211L Principles of Physics I with Lab
- ENGL ___ A Literature course
- _____ ____ Elective*

#### Spring Semester
- CSCI 215 Computer Science II Using Java
- EGNR 201 Engineering Mechanics
- PHYS 212/212L Principles of Physics II with Lab
- _____ ____ Elective*

*Electives (suggested):
- BIOL 160/160L Introduction to Organismal Biology with Lab
- BIOL 161/161L Introduction to Cell and Molecular Biology with Lab
- CHEM 207/207L Organic Chemistry I with Lab
- CHEM 208/208L Organic Chemistry II with Lab
- ECON 101 Principles of Macroeconomics
- MATH 222 Differential Equations