SCIENCE MATHEMATICS AND TECHNOLOGY - MATHEMATICS CONCENTRATION - FOR STUDENTS MATRICULATED BEFORE JULY 2012

Feb. 1, 1993 — AOS Guidelines: Science, Mathematics and Technology

Mathematics serves as a creative and organizing force for studies in the sciences, as a problem-solving methodology for studies in technology and as an abstract study of fundamental structures for its own sake. It has become increasingly important as a tool for the social sciences.

A concentration in mathematics should include the following core areas:

- Differential and integral calculus.
- Linear algebra.
- Abstract algebra.
- Real analysis.

In addition, there should be in-depth study of a particular area of mathematics. Possibilities include mathematics education, mathematical modeling, statistics or numerical analysis.

Each program in mathematics should include some application project, based on the area of specialization. For example, a degree program focusing on statistics could include a statistical research project. A student preparing for graduate work in mathematics may want to research the development of the proof for the four-color problem.

The computer has become an essential tool for mathematics. Along with including areas of discrete mathematics in the program, attention should be paid to the use of the computer as a tool. For example, programming would be included in a study of numerical analysis and the computer would be used for statistical analysis.