THE DUAL DEGREE PROGRAM IN MATHEMATICS & ENGINEERING

The Dual Degree Program in Mathematics and Engineering was established at BSU in 1976.

Through the DDME program, the student can earn, in as little as five years, both a bachelor's degree in mathematics and a bachelor's degree in engineering.

The first three years of the program are spent at BSU, where the student builds a solid foundation in mathematics and other courses relevant to engineering. The last two years (three in the case of UMCP-CP) of the program are spent at the so-called “receiving institution,” where the student takes a sequence of courses determined by his/her particular specialty in engineering.

Upon successful completion of the engineering sequence, the student receives a BS degree in engineering from the receiving institution, followed by BS degree, major in mathematics, from Bowie State University.

RECEIVING INSTITUTIONS & PROGRAMS

The University of Maryland, College Park, MD
- Aerospace Eng.
- Biological Resources
- Chemical Eng.
- Civil Eng.
- Computer Eng.
- Electrical Eng.
- Eng. Materials
- Environmental Eng.
- Fire Protection Eng.
- Mechanical Eng.
- Nuclear Eng.

Howard University, DC
- Civil Eng.
- Electrical Eng.
- Mechanical Eng.
- Software Eng.
- Systems Eng.

The George Washington University, DC
- Civil Eng.
- Electrical Eng.
- Combustion & Environmental
--engineering
- Computer Eng.
- Chemical Eng.
- Mechanical Eng.
- Comp. Aided Design.

Morgan State University, Baltimore, MD
- Civil Eng.
- Electrical Eng.
- Industrial Eng.

Department of Mathematics
College of Arts and Sciences
Bowie State University
Bowie, Maryland 20715
TEL: (301) 860-3350

Bowie State University
1865

Pure Mathematics

Applied & Computational Mathematics

Mathematics Education

Dual Degree Program in Math & Engineering

Revised: September 2019
Why choose Mathematics as your major?
The mathematics major is a highly respected credential upon which to build a successful career in industry, education or in the public service sector. A major in mathematics can pave the way to graduate school, where you can earn even higher credentials on your way to a satisfying and prestigious career.

Who should consider majoring in Mathematics?
A Math SAT score of at least 650 is a good starting point. But, regardless of your SAT scores or academic record, please feel free to consult the faculty of the Mathematics Department at BSU. No one is excluded on the basis of past performance.

Isn’t Mathematics a very narrow specialty?
The exact opposite is true of mathematics. Mathematics is the essence of disciplined reasoning. The reasoning skills you acquire as a mathematics major are valuable in just about every other field. Even better, a degree in mathematics supported by good communication and technology skills is a winning combination.

What are my Academic Options?
Four concentrations, also known as "tracks", are offered:

1. PURE MATHEMATICS
   Do not choose this option unless mathematics is your passion. The abstract aspects of mathematics are given top priority to prepare you primarily for graduate study.

2. APPLIED AND COMPUTATIONAL MATHEMATICS
   This option provides both a good foundation for graduate study and a practical preparation for the industrial job market.

3. MATHEMATICS EDUCATION (SECONDARY)
   If you wish to become a high school teacher of mathematics, this option was designed for you.

4. DUAL DEGREE MATH/ENGINEERING PROGRAM
   If you wish to become an engineer, a good foundation in mathematics is essential. Through this special five-year program, designed and concluded in cooperation with several other universities, the Department of Mathematics at Boise State University offers you the unique opportunity to earn both a degree in engineering and a degree in mathematics.

Academic Requirements for the Mathematics Major
Consult your university catalog for course titles, prerequisites, descriptions, frequency of course offerings, and certain restrictions and special conditions.

Note: In the course lists below, the credit value for each course is shown in square brackets next to the HEGEB code.

A. General Education Requirements
For all tracks except the Dual Degree Math/Eng program, the general education requirements (49 credits total) are:

- ENGL 101 [3]
- ENGL 102 [3]
- ENGL 203 [3]
- COMM 101 [3]
- COMM 103 [3]
- MATH 100 [3]
- PHYS 101 [3]
- CHEM 101 [3]
- PSYC 101 [3]

For the Dual Degree Math/Eng program only, the general education requirements (37 credits total) are:

- ENGL 101 [3]
- PHYS 102 [3]
- PHYS 103 [3]
- PHYS 104 [3]
- MATH 105 [3]
- MATH 106 [3]
- MATH 107 [3]
- CHEM 101 [3]
- CHEM 102 [3]
- CHEM 103 [3]
- PSYC 101 [3]

B. Math Major Core Requirements
In addition to the General Education Requirements listed above, every mathematics major specializing in any track, including the Dual Degree Math/Engineering program, must complete all of the following core courses (27 to 30 credits total, depending on track), except where indicated with an asterisk:

- ENGL 351 [3]
- MATH 230 [3]
- MATH 252 [3]
- MATH 253 [3]
- MATH 254 [3]
- MATH 255 [3]
- MATH 256 [3]
- MATH 257 [3]

** Exceptions: MATH 252 is not required for Mathematics Education majors. MATH 350 is not required for Dual Degree Math/Eng majors. No other exceptions apply.

C. Concentration Requirements
1. PURE MATHEMATICS (41 credits)
   - MATH 401 [3]
   - MATH 402 [3]
   - MATH 403 [3]
   - MATH 404 [3]
   - MATH 405 [3]

2. APPLIED AND COMPUTATIONAL MATHEMATICS (41 credits)
   - MATH 300 [3]
   - MATH 301 [3]
   - MATH 302 [3]
   - MATH 303 [3]
   - MATH 304 [3]

3. MATHEMATICS EDUCATION (SECONDARY) (49 credits)
   - MATH 310 [3]
   - MATH 311 [3]
   - MATH 312 [3]
   - MATH 313 [3]
   - MATH 314 [3]

4. DUAL DEGREE MATH/ENGINEERING PROGRAM (27 credits)
   - MATH 300 [3]
   - MATH 301 [3]
   - MATH 302 [3]
   - MATH 303 [3]
   - MATH 304 [3]

Six additional credits from an approved list. Some engineering programs may require additional credits in mathematics and/or the natural sciences and/or computer science, depending on your engineering specialty. For details, please consult the Dual Degree Mathematics/Engineering Coordinator in the Department of Mathematics.