Mathematics

The Mathematics major provides students with a deep understanding of mathematical theory, problem-solving techniques, and analytical thinking. The curriculum typically includes courses in calculus, algebra, statistics, differential equations, and mathematical modeling, along with opportunities for electives in applied or theoretical areas. Students learn to apply mathematical principles to real-world problems in fields like science, engineering, finance, and technology. This major prepares graduates for diverse careers or further study in areas such as data science, education, actuarial science, or research.

Job Title Examples:

- Data Analyst
- Research Assistant
- Financial Analyst
- Economic Analyst
- Financial Analyst
- Actuarial Assistant
- Statistician
- Operations Research Analyst
- Market Research Analyst
- Math Tutor

Hard and Soft Skills Needed:

Hard Skills:

1. Statistical Analysis
2. Mathematical Modeling
3. Data Visualization
4. Econometrics
5. Programming (e.g., Python, R, MATLAB)

Soft Skills:

1. Problem-Solving
2. Critical Thinking
3. Communication
4. Attention to Detail
5. Time Management

WKU CAREER STUDIO

wku.edu/career
careerhelp@wku.edu | (270) 745-3095
Monday - Friday 10:00a - 4:00p | DSU Rm. 2001

Further Education/Training Required and/or Suggested:

A BS in Mathematics qualifies students for entry-level roles, but additional training or certifications can enhance career prospects:

To Enter the Field:

1. Actuary Certification (e.g., SOA, CAS exams):
    o For actuarial roles.
2. Data Science/Analytics Certifications (e.g., from IBM, Microsoft, etc.):
    o For roles in data analysis or programming.

To Advance:

1. Master's or Doctoral Degree:
    o For advanced roles in research, teaching, or specialized fields.
2. Certifications in Specialized Areas:
    o E.g., machine learning, statistics, or financial mathematics.

Summary:

Certifications or further studies may be beneficial for specialized roles or career advancement.

Professional or Student Associations:
- American Mathematical Society
- Pi Mu Epsilon
- Society for Industrial and Applied Mathematics

wku.edu/career
careerhelp@wku.edu | (270) 745-3095
Monday - Friday 10:00a - 4:00p | DSU Rm. 2001