

What can I do with a major in **MATHEMATICS** from Valparaiso University?

Description of major:

Study in the field of mathematics offers an education with an emphasis on careful problem analysis, precision of thought and expression, and the mathematical skills needed for work in many other areas. Many important problems in government, private industry, health and environmental fields, and the academic world require sophisticated mathematical techniques for their solution. The study of mathematics provides specific analytical and quantitative tools, as well as general problem-solving skills, for dealing with these problems.

Relevant skills for a MATHEMATICS major:

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| <ul style="list-style-type: none"> ◆ Collect and organize data ◆ Communicate with others, in writing & verbally ◆ Conduct and clearly explain scientific research ◆ Create mathematical models and simulations ◆ Have programming and computing abilities | <ul style="list-style-type: none"> ◆ Have substantial knowledge of computer programming ◆ Identify the mathematical essence of a "real" problem ◆ Make critical observations ◆ Organize, analyze and interpret numerical data ◆ Pay close attention to detail | <ul style="list-style-type: none"> ◆ Solve problems at various levels of ability ◆ Understand both concrete and abstract mathematical concepts ◆ Use good reasoning ability and persistence in order to identify, analyze, and apply basic principles to technical problems ◆ and others! |
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Sample work activities for Graduates in MATHEMATICS (some may require an advanced degree)

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| <ul style="list-style-type: none"> • Accountant • Actuary • Aerospace Engineer • Airplane Pilot • Analytical Statistician • Applications Programmer • Appraiser • Architect • Astronomer • Bank Officer • Benefits Specialist • Biomathematician • Biomedical Engineer • Cartographer • Communications Engineer • Computer & Information Sciences • Computer Applications Engineer • Computer Programmer | <ul style="list-style-type: none"> • Control Systems Engineer • Credit Manager • Cryptanalyst • Data Base Manager • Data Processor • Demographer • Director of Research and Development • Ecologist • Electrician • Engineering Analyst • Financial Analyst/Planner • Fluid Dynamics Analyst • Geologist • Hydrologist • Investment Analyst • Market Research Analyst • Mathematical Consultant • Mathematician • Meteorologist | <ul style="list-style-type: none"> • Navigator • Nuclear Scientist • Numerical Analyst • Operations Research Analyst • Physicist • Researcher • Sports Statistician • Statistician • Systems Analyst • Systems Engineer • Teacher/Instructor/Professor – Junior High School, Secondary School, Community College, College, University • Technical Writer • Theoretical Statistician • and others! |
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Potential hiring institutions for MATHEMATICS majors:

- ◆ Aerospace
 - ◆ Banks/Financial Institutions
 - ◆ Business Corporations
 - ◆ Colleges and Universities
 - ◆ Communication Companies
 - ◆ Computer hardware and software firms
 - ◆ Data Processing and Information Systems Firms
 - ◆ Federal agencies including:
- Defense, Labor, Justice, Agriculture, Health and Human Services, Transportation, Commerce, Treasury, NASA and Library of Congress.
 - ◆ High Schools/Junior High Schools
 - ◆ Independent Consulting firms
- ◆ Insurance Agencies
 - ◆ Large CPA firms
 - ◆ Manufacturing Firms
 - ◆ Non-profit Organizations
 - ◆ Pharmaceutical Companies
 - ◆ Real Estate Organizations
 - ◆ Software Developers and others!

Area of further education for MATHEMATICS majors:

- Actuarial Science
- Aeronautical Engineering
- Applied Mathematics
- Artificial Intelligence/Robotics
- Astrophysics
- Atmospheric Science
- Biometrics
- Biostatistics
- Business Administration
- Chemistry
- Computational Sciences
- Computer Engineering
- Computer Science
- Divinity Studies/Seminary
- Economics
- Education
- Electrical Engineering
- Engineering Physics
- English
- Financial Engineering
- Insurance
- Management Information Systems
- Mathematics
- Nuclear Engineering
- Physics
- Quantitative Analysis
- Radio/TV/Film
- Software Engineering
- Sports Management
- Statistics
- Systems Science
- and others!

Sources of additional information for MATHEMATICS majors:

- VU Department of Mathematics: <http://www.valpo.edu/mathcs/>
- Occupational Outlook Handbook: the US Bureau of Labor Statistics compiles information about various occupations, including the nature of the work, the job outlook, the earnings, and other relevant information. <http://www.bls.gov/oco/oco1002.htm>
- Actuary.com: Resources for actuaries, including education and jobs. <http://www.actuary.com/>
- American Mathematical Society: furthers mathematical research and scholarship. Includes employment opportunities. <http://www.ams.org>
- American Statistical Association: a scientific and educational society founded in 1839 with the following mission: To promote excellence in the application of statistical science across the wealth of human endeavor. Includes job listings. <http://www.amstat.org>
- Association for Women in Mathematics: a non-profit organization that encourages women in the mathematical sciences. Has on-line job listings <http://www.awm-math.org>
- Mathematical Association of America: the world's largest organization devoted to the interests of collegiate mathematics. <http://www.maa.org>
- Math Jobs.com: Links to math job opportunities. <http://www.math-jobs.com/>
- National Council of Teachers of Mathematics: For mathematics educators. <http://www.nctm.org/>
- National Science Foundation: an independent U.S. government agency responsible for promoting science and engineering through programs that invest over \$3.3 billion per year in almost 20,000 research and education projects in science and engineering. Site includes a listing of scholarships and fellowships as well as a page for Students under their "Special Programs" and Vacancy announcements under their "Online Documents". <http://www.nsf.gov/>
- Society for Industrial and Applied Mathematics: advances the application of mathematics and computational science to science, engineering, industry, and society; promotes research that could lead to effective new mathematical and computational methods and techniques for science, engineering, industry, and society; and provides media for the exchange of information and ideas among mathematicians, engineers, and scientists. <http://www.siam.org/index.htm>

VU Career Center Resource Library Materials:

- *Book of U.S. Government Jobs: Where They Are, What's Available, and How to Get One*
- *Career Opportunities in Banking, Finance, and Insurance*
- *Careers for Financial Mavens & Other Money Movers*
- *Careers for Number Crunchers & Other Quantitative Types*
- *Careers in Finance*
- *Civil Service Career Starter*
- *Current Jobs for Graduates (Job Bulletin)*
- *Essays that Worked for Business Schools*
- *Essays that Worked for Law Schools*
- *Fast Track: The Insider's Guide to Winning Jobs in Management Consulting, Investment Banking, and Securities Trading*
- *GMAT 2003*
- *Graduate Admissions Essays: Write Your Way into the Graduate School of Your Choice*
- *Graduate Programs in Engineering and Computer Science*
- *Graduate Schools in the U.S*
- *GRE Exam 2003*
- *Guide to America's Federal Jobs*
- *Harvard Business School Guide to Careers in Finance*
- *Harvard Business School Guide to Careers in Management Consulting*
- *Harvard Business School Guide to Careers in the Nonprofit Sector*
- *How to Write a Winning Personal Statement for Graduate and Professional School*
- *Jobbank Guide to Computer & High-Tech Companies*
- *LSAT 2003*
- *Opportunities in Aerospace Careers*
- *Opportunities in Banking Careers*
- *Opportunities in Computer Careers*
- *Opportunities in Engineering Careers*
- *Opportunities in Financial Careers*
- *Opportunities in Fund-raising Careers*
- *Opportunities in Government Careers*
- *Opportunities in Insurance Careers*
- *Opportunities in Law Careers*
- *Opportunities in Teaching Careers*
- *Peterson's Game Plan for Getting into Business School*
- *Peterson's Game Plan for Getting into Graduate School*
- *Peterson's Game Plan for Getting into Law School*
- *Peterson's Graduate & Professional Programs, an Overview*
- *Peterson's Graduate Programs in Business, Education, Health, Information Studies, Law & Social Work*
- *Peterson's Graduate Programs in Engineering & Applied Sciences*
- *Peterson's Graduate Programs in the Physical Sciences, Mathematics, Agricultural Sciences, the Environment & Natural Resources*
- *PhD Factory: Training and Employment of Science and Engineering Doctorates in the United States*
- *Resumes for Banking and Finance Careers*
- *Resumes for Computer Careers*
- *Resumes for Engineering Careers*
- *Resumes for High-Tech Careers*
- *Resumes for Scientific and Technical Careers and others!*

For more information about majoring in MATHEMATICS, contact:

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For more questions about your career decisions, please make an appointment with a VU Career Counselor by calling 464-5005, stopping by the Career Center in Alumni Hall or e-mailing us at Career.Center@valpo.edu