

The Value of a Mathematics Degree from Millersville University

BA or BS in Mathematics with an Actuarial Science Option

The Bureau of Labor Statistics currently projects employment opportunities for actuaries may increase by 21% from 2021 until 2031, a much faster rate of growth than all occupations. The highest paying jobs in math can make over \$50,000 more annually than the average worker as of May 2020.

Mathematics is important for so many different professions in business, health care, education, government, computer science, defense/security, artificial intelligence, economics and finance, engineering, meteorology. A math major or minor can have a large positive impact on your marketability for job offers.

Careers in the actuarial arena involve analyzing and determining financial consequences that come from certain risks, such as investments and seek to maintain economic stability in an organization. Health insurance companies have professionals calculate the costs for their services and set policy prices.

Actuary, auditor, consultant, data analyst, insurance actuarial analyst, investment analyst, market research analyst, operations research analyst, personal financial advisors, postsecondary teachers, risk analyst, and underwriter.

Students successfully completing the Actuarial Science option will be prepared to take the first examination administered by the Society of Actuaries.

Millersville University students who graduate with a BA or BS degree in Mathematics with an Actuarial Science option have been employed in the following positions and companies.

- VP and Chief Property and Casualty Actuary Insurance Consultants Inc.
- President Capital Assets Corporation
- Actuary/Actuarial Associate/Actuarial Analyst: Aetna Life & Casualty, Capital BlueCross, Conduent HR Services, Conrad Siegel, Contribution Health, Donegal Insurance, Highmark, Milliman, Inc., Nationwide Insurance, Nationwide Provident, Trans America, Towers Watson, and United Health Group to name a few.

You can schedule time to attend a class or two, speak with the department administration and faculty, and have lunch with a couple of current students. Please call (717) 871-7668 or email one of the following:

Math Department Chairperson: Dr. Tyrone Washington tyrone.washington@millersville.edu

Assistant Chairperson: Dr. Kevin Robinson kevin.robinson@millersville.edu

Main Office: departmentof.mathematics@millersville.edu

Examples of actuarial work

Area	Application
<i>Banking and Financial Services</i>	help banks and financial services companies with product portfolio, capital management and risk analysis
<i>Consulting</i>	advise clients on actuarial financial risks, usually associated with employee benefits and insurance
<i>Enterprise Risk Management</i>	provide tools, techniques and perspective to manage operational risks at an enterprise or corporate level
<i>Entrepreneurial Actuaries</i>	represents a wide range of opportunities for actuaries who desire to set up and run their own business
<i>Environmental Finance</i>	apply finance techniques and practices to environmental issues
<i>Health and Retirement Financing</i>	offer advice on aspects of social insurance including funding levels and population projections
<i>Investments and Fund Management</i>	focus on asset risks for asset managers but also contribute in areas such as hedging strategy, derivatives structuring and structured finance
<i>Pension</i>	certify the contributions needed to fund a pension plan
<i>Predictive Analytics</i>	use modeling and data analysis techniques on large data sets to discover predictive patterns and relationships for business use
<i>Pricing</i>	determine product features and pricing
<i>Product Line or Segment Risk Management</i>	perform risk management functions for a specific line of business for an insurance company
<i>Reinsurance</i>	perform traditional actuarial duties for a reinsurer that would accept risk from a direct insurance company
<i>Sales and Marketing</i>	help set policies, messages and compensation levels for those directly involved in marketing
<i>Senior Management</i>	provide broad business and management oversight for an organization's most senior decision makers
<i>Valuation</i>	perform experience studies, cash flow testing and other tasks to set the amount of reserve and capital held by an insurer
<i>Wealth Management and Financial Planning</i>	contribute skills and expertise to wealth management firms and individuals (rather than to insurance companies)

Excerpt from Society of Actuaries website. <https://www.soa.org/future-actuaries/career-paths/>

