Actuaries

SOC: 15-2011 • Career Profile Report

■ Key Facts

$125,770	33,600	+22.0%
Median Salary	Employment	Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 12.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.2/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	7.4/10	**Investigative**	9.2/10
Artistic	4.6/10	**Social**	5.4/10
Enterprising	5.6/10	**Conventional**	6.8/10

■ Top Skills Required

Analytical skills, Communication skills, Computer skills, Interpersonal skills, Math skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Actuaries are analytical professionals who assess and manage **financial risk and uncertainty using mathematics, statistics, and data analysis**. They help organizations understand the likelihood and impact of future events—such as accidents, natural disasters, illness, or market changes—and design strategies to minimize losses while maximizing financial stability. Actuaries are essential to industries where long-term planning and risk management are critical, especially insurance, finance, pensions, and healthcare.

This career is well suited for individuals who enjoy math-intensive problem-solving, working with data, and applying quantitative reasoning to real-world decisions that have significant financial consequences.

What Do Actuaries Do?

Actuaries analyze historical data and build models to predict future outcomes. Their work informs pricing, policy design, reserves, and strategic planning.

Common responsibilities include:

- Analyzing statistical data to evaluate risk
- Building mathematical and financial models
- Estimating the probability and cost of future events
- Designing insurance policies, pension plans, or financial products
- Setting premiums, contribution rates, or reserve requirements
- Communicating findings to executives, regulators, and non-technical stakeholders
- Ensuring compliance with financial and insurance regulations

Areas of Specialization

Actuaries often specialize by industry or risk type:

- Insurance Actuaries: Work in life, health, property, and casualty insurance.
- Pension and Retirement Actuaries: Design and manage retirement and benefits plans.
- Enterprise Risk Management (ERM): Assess organization-wide financial and operational risks.
- Healthcare Actuaries: Analyze medical costs, utilization, and population health trends.
- Investment and Finance Actuaries: Support asset management and long-term investment strategies.
- Government and Public Policy Actuaries: Evaluate social insurance and public benefit programs.

Skills and Abilities Needed

Actuaries combine deep quantitative skills with business insight.

Core Technical Skills

Personal Qualities That Matter

Education and Credentialing Pathway

Becoming an actuary involves formal education and a rigorous professional exam process:

- Bachelor’s Degree: Typically in actuarial science, mathematics, statistics, economics, or finance
- Professional Exams: A series of challenging exams required for certification
- Entry-Level Actuarial Roles: Positions such as actuarial analyst while completing exams
- Professional Designations: Credentials from actuarial societies after passing exams and meeting experience requirements
- Continuing Education: Ongoing learning to maintain credentials

The exam process often takes several years and requires sustained commitment.

Where Do Actuaries Work?

Actuaries are employed in a variety of risk-focused organizations:

- Insurance Companies
- Consulting and Professional Services Firms
- Financial Institutions and Investment Firms
- Healthcare Organizations and Insurers
- Government Agencies and Regulatory Bodies
- Technology and Data Analytics Companies

Many roles are office-based, with increasing opportunities for hybrid or remote work.

Is This Career Difficult?

Actuarial work is intellectually demanding. The mathematics and modeling are complex, and the professional exams are known for their difficulty. However, the work environment is typically stable and predictable compared to many high-stress careers. The main challenge lies in long-term discipline and persistence.

Who Should Consider Becoming an Actuary?

This career may be a strong fit if you:

- Excel in math and logical reasoning
- Enjoy working with data and probabilities
- Prefer structured, analytical work
- Are comfortable with long-term goals and exams
- Want a career with strong stability and advancement potential

How to Prepare Early

- Take advanced math and statistics courses
- Learn spreadsheet and basic programming skills
- Explore actuarial science or finance clubs
- Practice problem-solving and analytical thinking
- Research actuarial exams and career pathways early

Actuaries turn uncertainty into insight, helping organizations plan for the future with confidence, precision, and financial responsibility.
