Actuarial Science, BS

Actuaries are mathematicians who turn risk into reward by evaluating the likelihood of future events using numbers instead of crystal balls. They design creative ways to reduce the likelihood of undesirable events and decrease the impact of undesirable events when they do occur.

Program Description

Actuarial science majors learn to use tools from mathematics, statistics and finance to measure the impact of risk in order to improve forecasting and decision-making in business and government sector. Actuaries are required to pass a series of professional exams in order to become credentialed, and this degree program prepares students for these exams.

At a Glance

- **College/School:** The College of Liberal Arts and Sciences
- **Location:** Tempe campus
- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 270 - Calculus w/Analytic Geometry I
- **Math Intensity:** Substantial

Required Courses (Major Map)

2019 - 2020 Major Map
Major Map (Archives)

Accelerated Program Options
This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an accelerated bachelor's and master's degree with:

**Actuarial Science, MS**

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

**Admission Requirements**

**General University Admission Requirements:**

All students are required to meet general university admission requirements.

| Freshman | Transfer | International | Readmission |

**Change of Major Requirements**

Current ASU students wishing to change their major to actuarial science should have a cumulative GPA of at least 3.00 (scale is 4.00 = "A"), have completed at least MAT 265 or MAT 270 and CIS 105 (or CSE 100 or CSE 110), and have earned a "B" grade or better in all critical classes they have already completed.

Students should refer to [https://changingmajors.asu.edu/request](https://changingmajors.asu.edu/request) for information about how to change a major to this program.

**Transfer Options**

ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use the Transfer Map search to outline a list of recommended courses to take prior to transfer.

ASU has transfer partnerships in Arizona and across the country to create a simplified transfer experience for students. These pathway programs include exclusive benefits, tools and resources, and help students save time and money in their college journey. Students may learn more about these programs by visiting the admission site: [https://admission.asu.edu/transfer/pathway-programs](https://admission.asu.edu/transfer/pathway-programs).

**Global Opportunities**

**Global Experience**
With over 250 programs in more than 65 countries (ranging from one week to one year), study abroad is possible for all ASU students wishing to gain global skills and knowledge in preparation for a 21st-century career. Students earn ASU credit for completed courses, while staying on track for graduation, and may apply financial aid and scholarships toward program costs. [https://mystudyabroad.asu.edu/](https://mystudyabroad.asu.edu/)

**Career Opportunities**

Risk is a part of daily life and wherever there is risk, there are opportunities for actuarial intervention. Many actuaries work with insurance companies to calculate premiums, determine reserves needed to ensure an organization’s financial health and to ensure organizations conform to stringent, complex legal mandates. Others help companies to establish retirement plans or are employed as consultants. With a Bachelor of Science degree in actuarial science, students acquire skills that are transferable to any industry and any organization that requires risk modeling and management, including:

- colleges and universities
- consulting firms
- energy, such as utilities, oil and gas
- environment (on issues such as climate change and the financial impact or risk of extreme events)
- financial services, such as banking and investment management
- government agencies such as Social Security, the Department of Labor and Medicare (to manage social programs and to develop regulations and legislation)
- insurance companies
- retirement and pensions
- transportation, such as shipping and air travel

Students can also apply the advanced problem-solving skills learned in the actuarial science undergraduate program to a variety of other professional careers, including:

- analysts
- business operations specialists
- consultants
- teachers

Career examples include but are not limited to those shown in the following list. Advanced degrees or certifications may be required for academic or clinical positions.
<table>
<thead>
<tr>
<th>Career</th>
<th>*Growth</th>
<th>*Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuary (Financial Risk Analyst) 🌟</td>
<td>22.5%</td>
<td>$101,560</td>
</tr>
<tr>
<td>Business Intelligence Analyst</td>
<td>9.3%</td>
<td>$88,510</td>
</tr>
<tr>
<td>Compliance Manager</td>
<td>8.0%</td>
<td>$105,610</td>
</tr>
<tr>
<td>Economist</td>
<td>6.3%</td>
<td>$102,490</td>
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<tr>
<td>Financial Aid Counselor 🌟</td>
<td>13.8%</td>
<td>$44,710</td>
</tr>
<tr>
<td>Financial Analyst 🌟</td>
<td>10.9%</td>
<td>$84,300</td>
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<tr>
<td>Insurance Claims Investigator</td>
<td></td>
<td>$64,900</td>
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<tr>
<td>Insurance Underwriter</td>
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<td>$69,760</td>
</tr>
<tr>
<td>Investment Fund Manager</td>
<td>8.0%</td>
<td>$105,610</td>
</tr>
<tr>
<td>Statistician 🌟</td>
<td>33.8%</td>
<td>$84,060</td>
</tr>
</tbody>
</table>

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

☀️ Bright Outlook  🌿 Green Occupation

**Contact Information**

Schedule an advisor appointment  
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