

















## 2022 - 2023 Major Map





### Actuarial Science, BS




School/College: The College of Liberal Arts and Sciences  
 LAACTBS

Term 1 0 - 14 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CIS 105: Computer Applications and Information Technology (CS) OR CSE 110: Principles of Programming (CS)	3	C	<ul style="list-style-type: none"> <li>ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students.</li> <li>It is suggested that students complete both ECN 211 and 212 to satisfy the SB General Studies requirement as well as the VEE Requirement sequence for Economics by the Society of Actuaries (SOA), Casualty Actuarial Society (CAS), and Canadian Institute of Actuaries (CIA).</li> <li>Select your <b>career interest area</b> and play <b>me3@ASU</b>.</li> </ul>
 MAT 270: Calculus with Analytic Geometry I (MA)	4	B	
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
LIA 101: Student Success in The College of Liberal Arts and Sciences	1		
Social-Behavioral Sciences (SB) ( ECN 211 OR ECN 212 recommended)	3		
Maintain 3.50 GPA in Critical Tracking Courses.			
Term hours subtotal:	14		
Term 2 14 - 30 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 ACT 201: Introduction to Elements and Techniques of Actuarial Science	3	C	<ul style="list-style-type: none"> <li>Meet with your academic advisor to reflect on your first year of classes and map your coursework towards a timely graduation.</li> <li>It is suggested that students complete both ECN 211 and 212 to satisfy the SB General Studies requirement as well as the VEE Requirement sequence for Economics by the Society of Actuaries (SOA), Casualty Actuarial Society (CAS), and Canadian Institute of Actuaries (CIA).</li> <li>COM 225 is recommended to satisfy the Literacy and Critical Inquiry ("L") General Studies requirement.</li> <li>Join <b>Gamma Iota Sigma Kappa</b> chapter.</li> </ul>
 MAT 271: Calculus with Analytic Geometry II (MA)	4	B	
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
Literacy and Critical Inquiry (L) ( COM 225 recommended)	3		
Social-Behavioral Sciences (SB) ( ECN 211 OR ECN 212 recommended)	3		
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Maintain 3.50 GPA in Critical Tracking Courses.			
Term hours subtotal:	16		
Term 3 30 - 44 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 MAT 272: Calculus with Analytic Geometry III (MA)	4	B	<ul style="list-style-type: none"> <li>Meet with your academic advisor to discuss summer <b>internship</b> and Research Opportunities for Undergraduates (REU).</li> <li>Options for the Science and Society electives are found at this <b>website</b>.</li> </ul>
Science and Society Elective	3	C	
Humanities, Arts and Design (HU) AND Historical Awareness (H)	3		
Natural Science - Quantitative (SQ)	4		
 Complete First-Year Composition requirement.			
Complete Mathematics (MA) requirement.			
Maintain 3.50 GPA in Critical Tracking Courses.			
Term hours subtotal:	14		

Term 4 44 - 60 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 MAT 343: Applied Linear Algebra	3	B	<ul style="list-style-type: none"> <li>• Meet with your academic advisor to discuss options for adding a minor, certificate or concurrent major to your degree program.</li> <li>• Upper-division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.</li> <li>• Students seeking VEE accreditation should select an elective from the course list in the note at the bottom of the major map. For this term, ACC 231 counts towards the VEE requirement for Accounting and Finance.</li> </ul>
MAT 300: Mathematical Structures (L)	3	C	
STP 420: Introductory Applied Statistics (CS)	3	B	
Natural Science - Quantitative (SQ) OR Natural Science - General (SG)	4		
Elective	3		
Maintain 3.50 GPA in Critical Tracking Courses.			
Term hours subtotal:	16		

Term 5 60 - 75 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 ACT 301: Risk Management and Insurance (SB)	3	C	<ul style="list-style-type: none"> <li>• Meet with your academic advisor to discuss post-graduation plans, e.g. graduate school, career preparation.</li> <li>• Upper-division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.</li> <li>• STP 421 may be taken in place of ACT 415.</li> <li>• Students seeking VEE accreditation should select an elective from the course list in the note at the bottom of the major map. For this term, ACC 241 counts towards the VEE requirement for Accounting and Finance.</li> </ul>
 ACT 410: Mathematics of Finance	3	C	
 ACT 415: Probability for Risk Management	3	C	
Humanities, Arts and Design (HU) AND Global Awareness (G)	3		
Elective	3		
Maintain 3.00 GPA in Major Courses.			
Term hours subtotal:	15		

Term 6 75 - 90 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 ACT 370: Software Tools for Business Analytics	3	C	<ul style="list-style-type: none"> <li>• Meet with a career counselor from ASU Career Services for a review of your <b>resume</b> and interviewing tips for success.</li> <li>• Upper-division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.</li> <li>• Options for the Science and Society electives are found at this <b>website</b>.</li> <li>• STP 427 satisfies the VEE requirement for Mathematical Statistics by the Society of Actuaries (SOA), Casualty Actuarial Society (CAS), and Canadian Institute of Actuaries (CIA).</li> <li>• DAT 301 may be used in place of ACT 370.</li> </ul>
 STP 427: Mathematical Statistics	3	C	
Upper Division Risk Management Course	3	C	
Upper Division Science and Society Elective	3	C	
Cultural Diversity in the U.S. (C)	3		
 Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).			
Maintain 3.00 GPA in Major Courses.			
Term hours subtotal:	15		

Term 7 90 - 105 Credit Hours <b>Necessary course signified by</b> 	Hours	Minimum Grade	Notes
 ACT 435: Statistics for Risk Modeling	3	C	<ul style="list-style-type: none"> <li>• Meet with your academic advisor to discuss post-graduation plans, e.g. graduate school, career preparation.</li> <li>• Develop your <b>professional online presence</b>.</li> <li>• Students seeking VEE accreditation should select an elective from the course list in the note at the bottom of the major map. For this term, FIN 300 counts towards the VEE requirement for Accounting and Finance.</li> </ul>
 Upper Division Advanced Course	3	C	
ACT 440: Single Life Mortality OR ACT 450: Actuarial Models	3	C	
Upper Division Risk Management Course	3	C	
Elective	3		
Maintain 3.00 GPA in Major Courses.			
Term hours subtotal:	15		

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ ACT 420: Ratemaking and Reserving	3	C	<ul style="list-style-type: none"> <li>Meet with your academic advisor for final degree check and apply for graduation through your My ASU.</li> </ul>
★ ACT 441: Long-Term Actuarial Mathematics OR ACT 451: Short-Term Actuarial Mathematics	3	C	
★ Upper Division Advanced Course	3	C	
ACT 440: Single Life Mortality OR ACT 450: Actuarial Models	3	C	
Elective	3		
Maintain 3.00 GPA in Major Courses.			
Term hours subtotal:	15		

- All students pursuing a BS or BSP degree in The College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at <https://thecollege.asu.edu/student-resources/science-society>. At least one of the two courses must be upper division and students must earn a C or better in the courses. Both Science and Society courses (i.e., all six credits) may count towards any major, minor, related fields, and ASU General Studies requirements.
  - The object of the degree is to prepare students to sit for exams to gain certification as an actuary. One of the optional certifications that individuals may pursue is completion of the VEE requirements from the Society of Actuaries or the Casualty Actuarial Society. This certification requires additional experience not covered in the maximum credits allowed for the degree.

However, students may decide to include these additional courses in their 12 hours of elective credit. ASU courses that meet VEE requirements include:

- STP 427 - requirement for Mathematical Statistics (Prerequisite(s): ACT 415 or STP 421 with C or better; STP 281 or 420 with C or better). This class is required for the degree and will not satisfy an elective. However, it is still a part of the overall VEE curriculum for the purposes of this list.
- ECN 211 and ECN 212 - sequence requirement for Economics
- FIN 300 - requirement for Fundamentals of Finance (Prerequisite(s) with C or better: ACC 231, 232 or 261; ECN 212; ECN 221, ECN 231, IEE 380 or STP 280; MAT 210, 251, 265 or 270; Non-Business: min 2.50 GPA; min 56 hours; Pre- or corequisite(s): ACC 241, 242 or 271; Credit allowed for only FIN 300, 302 or 303)

#### Hide Course List(s)/Track Group(s)

Risk Management Courses	Advanced Courses
ACT 302: Fundamentals of Enterprise Risk Management	ACT 430: Mathematics of Financial Derivatives
ACT 320: Property and Casualty Insurance	ACT 441: Long-Term Actuarial Mathematics
ACT 330: Life and Health Insurance	ACT 451: Short-Term Actuarial Mathematics
ACT 484: Internship	ACT 494: Quantitative Risk Measures
ACT 491: Actuarial Exam Preparation Seminar	ACT 494: Regression Modeling in Insurance
ACT 494: Communications for Business	ACT 494: Machine Learning in Risk Management Applications
ACT 494: Emerging Risks	
ACT 494: Organizational Behavior	
ACT 494: Report Writing	

**Notes:**

- First-Year Composition: All students are placed in ENG 101 unless submission of SAT, ACT, Accuplacer, IELTS, or TOEFL score, or college-level transfer credit or test credit equivalent to ASU's first-year composition course(s), determine otherwise. Students on Polytechnic, Downtown Phoenix and West Campuses are encouraged to complete the Directed Self-Placement survey to choose the first-year composition option they believe best suits their needs. Visit: <https://cisa.asu.edu/DSP>
- Mathematics Placement Assessment score determines placement in first mathematics course.

Please keep in mind that the applicability of a specific transfer course toward an ASU degree program depends on the requirements of the department, division, college or school in which you are enrolled at ASU. Transfer agreements that guarantee the completion of university level requirements do not necessarily meet college and major requirements. Please consult with an advisor for more information.

**Total Hours:** 120

**Upper Division Hours:** 45 minimum

**Major GPA:** 2.00 minimum

**Cumulative GPA:** 2.00 minimum

**Total hrs at ASU:** 30 minimum

**Hrs Resident Credit for**

**Academic Recognition:** 56 minimum

**Total Community College Hrs:** 64 maximum

**Total College Residency Hrs:** 12 minimum

**General University Requirements Legend**

General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

**First-Year Composition**

General Studies designations listed next to courses on the major map were valid for the 2022 - 2023 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.