

Course Requirements for Undergraduates in Actuarial Science

1. *Actuarial Science Major Course Requirements.*

- The required courses are: Act Sci 303, probability, statistics, Act Sci 650, Act Sci 652, Act Sci 300 and Act Sci 301.
- You must take **one** of either Act Sci 651 or Act Sci 653. (You can take both courses, but only one counts for satisfying the major requirement.)
- Finally, you must take **one** of Act Sci 654, Act Sci 655 or Gen Bus 655. (You can take more than one of these courses, but only one counts for satisfying the major requirement.)
- Your probability course requirement may be satisfied by either (1) Math 431, (2) Stat 309, or (3) Stat 311. Math 234 is a prerequisite for probability, but can be taken concurrently with one of these probability courses.
- Your statistics course requirement may be satisfied by (1) Stat 310 or (2) Stat 312. **Do not take Gen Bus 306 or 307.**

2. *Actuarial Science Course Sequencing*

- We recommend Act Sci 303 as early as your second semester freshman year. You need to have completed Math 222 **prior to** taking this class (it cannot be taken concurrently). Act Sci 301 is a one-credit review class for Act Sci 303 and can be taken concurrently.
- You can take either Math 431, Stat 309 or Stat 311 to meet the probability requirement for the major. Act Sci 300 is the review class for probability and can be taken the semester **AFTER** you take one of these three courses.
- Once you have completed Act Sci 303 and your probability course, register for the Act Sci 652/653 sequence, commonly in your junior year. Take Stats 310 or 312 concurrent with (or prior to) Act Sci 652, as Act Sci 653 requires completion of either Stat 310 or Stat 312.
- You can take the Act Sci 650/651 sequence in your senior year.
- You can take Act Sci 654, Act Sci 655 and/or Gen Bus 656 after you have completed either Stat 310 or Stat 312 in your junior or senior year.

3. *Actuarial Science Other Recommendations*

- Taking a computer programming course can be extremely valuable for actuarial science students. Consider Comp Sci 220 (Data Programming I - Python), or one or more of the Statistics 303/304/305 one credit courses (R for Statistics I/II/III) which can all be taken sequentially in the same semester.
- It is strongly recommended to take RMI 300 your freshman or sophomore year. This course satisfies a breadth requirement and is very useful for actuaries.
- Math, statistics and actuarial science courses can be challenging. Try not to overload your schedule in any semester. Be especially aware in your first semester at the UW-Madison, as your transition to a new environment can bring its own challenges and opportunities.
- The potential schedules below include the math, statistics, actuarial courses needed for the major, along with those classes needed to satisfy the VEE requirements (see below), and RMI 300. Fill in the rest of your schedule with required pre-business, business, and liberal studies requirements for the degree.

	<u>Potential Schedule I (With AB High school calculus)</u>		<u>Potential Schedule II (No high school calculus)</u>	
	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>	<u>Spring</u>
Freshman	Math 222 (4) Econ 101(4)	Act Sci 303 (3) Act Sci 301 (1) Math 234 (4) Econ 102 (4)	Math 221 (5) Econ 101 (4)	Math 222 (4) Econ 102 (4)
Sophomore	Probability (3) RMI 300 (3) Acct 100 (3)	Statistics (3) Act Sci 300 (1) Fin 300 (3)	Math 234 (4) Act Sci 303(3) Act Sci 301(1) Acct 100 (3)	Probability (3) RMI 300 (3) Fin 300 (3)
Junior	Act Sci 652 (3) Fin 320 (3)	Act Sci 653 (3) Act Sci 654 or Act Sci 655 (3) or Gen Bus 656 (3)	Statistics (3) Act Sci 300 (1) Act Sci 652 (3)	Act Sci 653 (3) Fin 320 (3)
Senior	Act Sci 650 (3) Fin 325 (3)	Act Sci 651 (3) Fin 330 (3)	Act Sci 650 (3) Fin 330 (3) Act Sci 654 or Act Sci 655 (3) or Gen Bus 656 (3)	Act Sci 651(3) Fin 325 (3)

UW Actuarial Science Program Quick Reference

Actuarial Major Courses and Pre-requisites

Class	Required for Major	Pre-requisites	Other
Act Sci 300	Two credits of either Act Sci 300 or 301*	The semester following either Math 431, Stat 309, or Stat 311	Offered both Fall and Spring semesters and Summer
Act Sci 301	Two credits of either Act Sci 300 or 301*	Concurrent or following Act Sci 303	Offered both Fall and Spring semesters
Math 431 or Stat 309 or Stat 311	Yes	Math 234 (or concurrent)	Offered both Fall and Spring semesters
Act Sci 303	Yes	Math 222	Offered both Fall and Spring semesters
Stat 310 or Stat 312	Yes	Math 431 or Stat 309 or Stat 311	Offered both Fall and Spring semesters
Act Sci 652	Yes	Math 431, Stat 309, or Stat 311	Offered both Fall and Spring semesters
Act Sci 653	Either Act Sci 651 or 653 required	Act Sci 652 and either Stat 310 or Stat 312	Offered both Fall and Spring semesters
Act Sci 650	Yes	Act Sci 303 and either Math 431, Stat 309, or Stat 311	Usually offered only in Fall semester
Act Sci 651	Either Act Sci 651 or 653 required	Act Sci 650	Offered in Spring semester
Act Sci 654	One of Act Sci 654 or Act Sci 655 or GB 656 required	Either Stat 310 or Stat 312	Offered both Fall and Spring semesters
Act Sci 655	One of Act Sci 654 or Act Sci 655 or GB 656 required	Either Stat 310 or Stat 312	Usually offered once a year
Gen Bus 656	One of Act Sci 654 or Act Sci 655 or GB 656 required	Either Stat 310 or Stat 312	Usually offered once a year

*You may take Act Sci 300 or 301 as many times as you would like, but you can get at most 2 credits per course number.

UW Courses Related to Society of Actuaries (SOA) Requirements

Effective Starting July 1, 2018

UW-Madison Course	Actuarial Exam or Requirement
Stat 309 OR Stat 311 OR Math 431 AND Act Sci 300	Exam P/1 (Probability)
Act Sci 303 AND Act Sci 301	Exam FM/2 (Financial Mathematics)
Act Sci 652 AND Act Sci 653	Exam STAM (Short Term Actuarial Mathematics)
Fin 320, Fin 325 AND Fin 330	Exam IFM/3F (Investments and Financial Markets)
Act Sci 650 AND Act Sci 651	Exam LTAM (Long Term Actuarial Mathematics)
Act Sci 654 OR Act Sci 655 OR Gen Bus 656	Exam SRM and PA (Statistics for Risk Modeling; Predictive Analytics)
Econ 101 AND Econ 102 OR Econ 111	Economics VEE
Acct 100 AND Fin 300	Accounting and Finance VEE
Stat 310 or Stat 312	Statistics VEE

UW Courses Related to Casualty Actuarial Society (CAS) Requirements
Effective Starting Spring 2018

UW-Madison Course	Actuarial Exam or Requirement
Stat 309 OR Stat 311 OR Math 431 AND Act Sci 300	Exam P/1 (Probability)
Act Sci 303 AND Act Sci 301	Exam FM/2 (Financial Mathematics)
Fin 320, Fin 325 AND Fin 330	Exam IFM/3F (Investments and Financial Markets)
Act Sci 650 AND Act Sci 652 AND Act Sci 654 AND Math/Stat 632	Exam MAS-1 (Modern Actuarial Statistics - 1)
Act Sci 653 AND Gen Bus 656 AND Other topics	Exam MAS-2 (Modern Actuarial Statistics – 2)
Econ 101 AND Econ 102 OR Econ 111	Economics VEE
Acct 100 AND Fin 300	Accounting and Finance VEE