

Bachelor of Science in Mathematics: Actuarial Science Specialization Suggested Plan

For students entering in an **ODD** year:

<p><u>Fall of 1st Year (odd) (14 hours)</u> MA 151 – Calculus I (5) WU 101 – Washburn Experience (3) MA 140 - Statistics (pre-req for MA340/341) (3) Natural Science General Education (3)</p>	<p><u>Spring of 1st Year (even) (14-16 hours)</u> MA 152 – Calculus II (5) EN 101 – Freshman Composition (3) MA 340 – ANOVA/Design of Experiments (3) (or take MA 341 in Spr of 2nd yr, below) Natural Science Course (3-5) (Hum GE AR/TH/MU if not taking MA340) (3)</p>
<p><u>Fall of 2nd Year (even) (15-17 hours)</u> MA 253 – Calculus III (3) AC 224 – Financial Accounting (3) EC 200 – Principles of Microeconomics (3) BU 250 – Management Information (3) Natural Science Course (3-5)</p>	<p><u>Spring of 2nd Year (odd) (15-16 hours)</u> MA 341 - Nonparametric Tests/QC (3) (or take MA 340 in Spr of 1st yr, above) AC 225 – Managerial Accounting (3) EC 201 – Principles of Macroeconomics (3) Natural Science General Education (3) Natural Science Course (3-4) (Hum GE AR/TH/MU if not taking MA341) (3)</p>
<p><u>Fall of 3rd Year (odd) (15 hours)</u> MA 301 – Linear Algebra (3) MA 344 – Math Statistics I* (3) BU 374 – Principles of Risk and Insurance (3) EN 300 – Advanced Composition (3) Natural Science Course (3)</p>	<p><u>Spring of 3rd Year (even) (15 hours)</u> MA 345 – Math Stat II (3) MA 347 – Stochastic Processes (3) BU 381 – Business Finance (3) Humanities General Education (3) Natural Sciences Course (3)</p>
<p><u>Fall of 4th Year (even) (15 hours)</u> MA 384 – Theory of Interest** (3) MA 346 – Regression (3) BU 483 - Investments (3) Natural Science Course (3) Social Sciences General Education (3)</p>	<p><u>Spring of 4th Year (odd) (12-15 hours)</u> MA 385 – Actuarial Math (3) MA 348 – Time Series (3) Natural Science General Education (3) Humanities General Education (3) Elective/Nat Sci/300 level if needed (0-3)</p>

For students entering in an **EVEN** year:

<p><u>Fall of 1st Year (even) (14 hours)</u> MA 151 - Calc and Anal Geometry I (5) MA 140 – Statistics (pre-req for MA340/341) (3) WU 101 – Washburn Experience (3) Natural Science General Education (3)</p>	<p><u>Spring of 1st Year (odd) (14-16 hours)</u> MA 152 - Calc and Anal Geometry II (5) MA 341 - Nonparametric Tests/QC (3) EN 101 – Freshman Comp (3) Natural Science Course (3-5)</p>
<p><u>Fall of 2nd Year (odd) (15-17 hours)</u> MA 253 - Calc and Anal Geometry III (3) MA 344 – Math Statistics I* (3) AC 224 – Financial Accounting (3) BU 374 – Principles of Risk and Insurance (3) Natural Science Course (3-5)</p>	<p><u>Spring of 2nd Year (even) (15 hours)</u> AC 225 – Managerial Accounting (3) BU 250 OR BU 248 (3) MA 345 – Math Stat II (3) Natural Science General Education (3) Humanities Gen Ed AR/TH/MU (3)</p>
<p><u>Fall of 3rd Year (even) (15 hours)</u> MA 384 – Theory of Interest** (3) MA 346 – Regression (3) EC 200 – Principles of Microeconomics (3) EN 300 – Advanced Composition (3) Natural Science Course (3)</p>	<p><u>Spring of 3rd Year (odd) (15 hours)</u> MA 385 – Actuarial Math (3) MA 348 – Time Series (3) BU 381 – Business Finance (3) EC 201 – Principles of Macroeconomics (3) Natural Science Course (3)</p>
<p><u>Fall of 4th Year (odd) (15 hours)</u> MA 301 – Linear Algebra (3) BU 483 – Investments (3) Natural Science Course (3) Natural Science Course (3) Humanities General Education (3)</p>	<p><u>Spring of 4th Year (even) (12-15 hours)</u> MA 347 – Stochastic Processes (3) Natural Science Course (3) Humanities General Education (3) Social Sciences General Education (3) Elective/Nat Sci/300 level if needed (0-3)</p>

* It is recommended that students sit for the SOA Exam P during winter break, following MA-344

** It is recommended that students sit for the SOA Exam FM during winter break, following MA-384

Course rotation schedule:

<i>Every Fall</i>	<i>Odd Fall</i>	<i>Even Spring</i>	<i>Even Fall</i>	<i>Odd Spring</i>
MA 301	MA 341 (FA 21 only)	MA 340	MA 346	MA 341 (start SP 23)
	MA 344	MA 345	MA 384	MA 348
		MA 347		MA 385

List of Required Courses:

- MA 151 - Calculus and Analytic Geometry I
 - Prerequisites: MA 117 – Trigonometry, OR Four years of high school mathematics, including trigonometry; or, MA 123 Precalculus; or, a math ACT score of 28 or higher
- MA 152 - Calculus and Analytic Geometry II
- MA 253 - Calculus and Analytic Geometry III
- MA 301 - Linear Algebra
 - Prerequisite: MA253 - Calculus and Analytic Geometry III
- MA 340 – ANOVA/Design of Experiments, **OR** MA 341 – Nonparametrics/Quality Control
 - Prerequisite: MA 140 Statistics
- MA 344 - Mathematical Statistics I
 - Prerequisites: MA 253 - Calculus and Analytic Geometry III, or concurrent
 - MA 340 – ANOVA/Design of Experiments,
 - **or** MA 341 – Nonparametrics/Quality Control
- MA 345 - Mathematical Statistics II
 - Prerequisite: MA 344 - Mathematical Statistics I
- MA 346 – Regression Analysis
 - Prerequisite: MA 343 - Applied Statistics, **OR** MA140 – Statistics
- MA 347 – Stochastic Processes
 - Prerequisite: MA 344 - Mathematical Statistics I
- MA 348 – Time Series Analysis
 - Prerequisites: MA 344 - Mathematical Statistics I
 - MA 346 – Regression Analysis
- MA 384 - Theory of Interest
 - Prerequisite: MA151 - Calculus and Analytic Geometry I
- MA 385 - Actuarial Mathematics
 - Prerequisites: MA 344 - Mathematical Statistics I
 - MA 384 - Theory of Interest
- AC 224 - Financial Accounting
 - Prerequisites: EN 101 – English Composition I, MA 104 or higher
- AC 225 - Managerial Accounting
 - Prerequisites: AC 224 - Financial Accounting, BU 248 or BU 250
- EC 200- Principles of Microeconomics
 - Prerequisite: MA 112 or higher
- EC 201- Principles of Macroeconomics
 - Prerequisites: MA 112 or higher, EC 200
- BU 374 - Principles of Risk and Insurance
- BU 381 - Business Finance
 - Prerequisites: AC 225, MA 344 or MA 346, MA 151
- BU 483 - Investments
 - Prerequisite: BU 381

Other requirements:

- WU 101, EN 101, EN 300
- 9 hours of **Social Sciences Gen Ed** courses (EC 200 and EC 201 count toward this)
- 9 hours of **Humanities Gen Ed** courses with 3 hours in AR/MU/TH
- 9 hours of **Natural Sciences Gen Ed** courses
- 45 hours of 300 level courses (9 more hours beyond EN 300 and degree requirements)
- 30 hours from **Natural Sciences** with at least 20 of these hours in one department (BI 102+, PS 261+, CH 121+, AS 101+, CM 111+).