## Actuarial Science--Finance Specialization Honours Plan
### 2021-2022 calendar

These sheets were created to help you plan your courses, not to provide an official list of your graduation requirements. It is ultimately your responsibility to ensure you meet your graduation requirements which are officially listed in the undergraduate calendar. For example, a mistake on this sheet cannot be used as a reason to graduate without meeting official requirements.

The entire CAS MAS-II syllabus cannot be directly mapped to the program's courses. In addition to the courses indicated above, students preparing for this exam may also consider taking STAT 430, STAT 440, and STAT 441, STAT 442, STAT 450 and STAT 440.

### 2021-2022 calendar

<table>
<thead>
<tr>
<th>Course</th>
<th>Year/ Term</th>
<th>Topic</th>
<th>Pre-req</th>
<th>Offering</th>
<th>SOA exams</th>
<th>CAS exams</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 115 or CS 135 or CS 145</td>
<td>1A</td>
<td>CS Core I</td>
<td></td>
<td>FWS</td>
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<tr>
<td>MATH 135/145</td>
<td>1A</td>
<td>Algebra</td>
<td></td>
<td>FWS</td>
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<tr>
<td>MATH 137/147</td>
<td>1A</td>
<td>Calculus I</td>
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<td>FWS</td>
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<tr>
<td>Math English course</td>
<td>1A</td>
<td>Course from English Language Competency requirements list</td>
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<tr>
<td>MTHEL 131</td>
<td>1B</td>
<td>Intro to Actuarial Practice</td>
<td>≥60% required for admission to ACTSC</td>
<td>FWS</td>
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<tr>
<td>CS 116 or CS 136 or CS 146</td>
<td>1B</td>
<td>CS Core II</td>
<td>CS Core I</td>
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<tr>
<td>MATH 136/146</td>
<td>1B</td>
<td>Linear Algebra 1</td>
<td>≥60% in M135</td>
<td>FWS</td>
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<tr>
<td>MATH 138/148</td>
<td>1B</td>
<td>Calculus II</td>
<td>≥60% in M137</td>
<td>FWS</td>
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</tr>
<tr>
<td>STAT 130/240</td>
<td>1</td>
<td>Intro microeconomics</td>
<td></td>
<td>FWS</td>
<td>VEE-E</td>
<td>VEE-E</td>
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<tr>
<td>STAT 102</td>
<td>1/2</td>
<td>Intro to Financial Accounting</td>
<td></td>
<td>FWS</td>
<td>VEE-AP</td>
<td>VEE-AP</td>
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<tr>
<td>STAT 202</td>
<td>1/2</td>
<td>Introduction to managerial accounting</td>
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<td>AM101</td>
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<tr>
<td>STAT 250</td>
<td>2</td>
<td>Linear Algebra 2</td>
<td>≥60% in M138, Coreq M138</td>
<td>FWS</td>
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<tr>
<td>STAT 231/241</td>
<td>2B</td>
<td>Calculus 3</td>
<td>M138, M235</td>
<td>FWS</td>
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<tr>
<td>STAT 230/240</td>
<td>2A</td>
<td>Probability</td>
<td>M. 137, ≥60% or M138</td>
<td>FWS</td>
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<tr>
<td>ACTSC 231</td>
<td>2A</td>
<td>Introductory Financial Mathematics</td>
<td>M137. level 2A, Coreq S230</td>
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<tr>
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<td>2</td>
<td>Intro to diff equations</td>
<td>M138, M139</td>
<td>FWS</td>
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<tr>
<td>STAT 231/241</td>
<td>2B</td>
<td>Statistics</td>
<td>M138, S230</td>
<td>FWS</td>
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<tr>
<td>ACTSC 232</td>
<td>2B</td>
<td>Life Contingencies 1</td>
<td>≥60% in A231, ≥60% in MTHEL 131; S.230</td>
<td>FWS</td>
<td>LTAM</td>
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<tr>
<td>ACTSC 372</td>
<td>2/3</td>
<td>Investment Science and Corporate Finance</td>
<td>A231, M235, M237</td>
<td>FWS</td>
<td>JPM, VEE-AF</td>
<td>JPM, VEE-AF</td>
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<tr>
<td>ACTSC 363</td>
<td>3A</td>
<td>Casualty and Health Insurance Mathematics 1</td>
<td>Coreq S230</td>
<td>FW (S-I)</td>
<td>STAM</td>
<td>First offering is Winter 2021</td>
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<tr>
<td>ACTSC 431</td>
<td>3A</td>
<td>Life Contingencies 2</td>
<td>≥60% in A330</td>
<td>FWS</td>
<td>LTAM</td>
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<tr>
<td>AMATH 242/CS 371</td>
<td>3</td>
<td>Introduction to Computational Mathematics</td>
<td>CS Core II &amp; M 235/M237, 246</td>
<td>WS</td>
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<tr>
<td>MATH 370</td>
<td>3</td>
<td>Numerical Computation</td>
<td>M 136, M138, (one of CS 231, 234, 241, or 240)</td>
<td>FWS</td>
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<tr>
<td>STAT 370</td>
<td>3</td>
<td>Mathematical Statistics</td>
<td>M233, ≥50% in S230, S231</td>
<td>FWS</td>
<td>VEE-M</td>
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<td>STAT 331</td>
<td>3</td>
<td>Applied linear models</td>
<td>M233, ≥50% in S231</td>
<td>FWS</td>
<td>SBM, PA</td>
<td>MAS-I</td>
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<tr>
<td>STAT 333</td>
<td>3</td>
<td>Stochastic Processes 1</td>
<td>≥60% in S230/240, M237/247</td>
<td>FWS</td>
<td>MAS-I</td>
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<tr>
<td>ENGL 378/MTHEL 300</td>
<td>3B/4</td>
<td>Professional Communications in Statistics and Actuarial Science</td>
<td>≥60% in S230, S231, CS Core</td>
<td>WS</td>
<td>FWS</td>
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<tr>
<td>STAT 340</td>
<td>3/4</td>
<td>Stochastic Simulation Methods</td>
<td>≥60% in S230, S231, CS Core I</td>
<td>WS</td>
<td>STAM</td>
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<tr>
<td>ACTSC 432</td>
<td>4</td>
<td>Casualty and Health Insurance Mathematics 2</td>
<td>≥60% in A232</td>
<td>FS</td>
<td>STAM</td>
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<tr>
<td>ACTSC 446</td>
<td>4</td>
<td>Mathematics of Financial Markets</td>
<td>A230, S330 or S340</td>
<td>FW</td>
<td>JPM</td>
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<tr>
<td>CS 476</td>
<td>4</td>
<td>Numerical Computation for Financial Modeling</td>
<td>CS 370 or AMATH 243/CS 371, S331</td>
<td>W</td>
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<tr>
<td>ACTSC 471/AM 476</td>
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<td>Advanced corporate finance</td>
<td>A272</td>
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<tr>
<td>ACTSC 424</td>
<td>3/4</td>
<td>Equity Investments</td>
<td>A372</td>
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<tr>
<td>ACTSC 432</td>
<td>4</td>
<td>Property &amp; Casualty Insurance Pricing</td>
<td>A380, S330, S331/271</td>
<td>FS</td>
<td>STAM</td>
<td>MAS-II</td>
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<tr>
<td>ACTSC 453</td>
<td>4</td>
<td>Basic Pension Mathematics</td>
<td>A231</td>
<td>C (old years)</td>
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<tr>
<td>ACTSC 454</td>
<td>4</td>
<td>Longevity and Mortality using Predictive Analytics</td>
<td>A331, S330</td>
<td>W</td>
<td>LTAM</td>
<td>Formerly ACTSC 433</td>
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<tr>
<td>ACTSC 455</td>
<td>4</td>
<td>Life Contingencies 3</td>
<td>≥60% in A331, co-req A446</td>
<td>W</td>
<td>LTAM</td>
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<tr>
<td>ACTSC 463</td>
<td>4</td>
<td>Intro to Property &amp; Casualty Loss Reserving</td>
<td>A383, S331/271</td>
<td>W (not certain)</td>
<td>STAM</td>
<td>Exam 5</td>
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<tr>
<td>ACTSC 432</td>
<td>4</td>
<td>Stochastic Processes</td>
<td>S233</td>
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<tr>
<td>ACTSC 441</td>
<td>4</td>
<td>Statistical Learning - Classification</td>
<td>S341, S331</td>
<td>FW</td>
<td>PA</td>
<td>MAS-II</td>
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<tr>
<td>ACTSC 431</td>
<td>4</td>
<td>Generalized linear models</td>
<td>S330, S331 or S371</td>
<td>FWS</td>
<td>SBM</td>
<td>MAS-I</td>
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<tr>
<td>ACTSC 471/AM 476</td>
<td>4</td>
<td>Advanced corporate finance</td>
<td>A272</td>
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</tbody>
</table>

### Additional 400 level ACTSC course (current available courses include: if ACTSC 471/AM 476 is taken then this is complete)

<table>
<thead>
<tr>
<th>Course</th>
<th>Year/ Term</th>
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<tbody>
<tr>
<td>ACTSC 432</td>
<td>4</td>
<td>Property &amp; Casualty Insurance Pricing</td>
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<tr>
<td>ACTSC 454</td>
<td>4</td>
<td>Longevity and Mortality using Predictive Analytics</td>
<td>A331, S330</td>
<td>W</td>
<td>LTAM</td>
<td>Formerly ACTSC 433</td>
<td></td>
</tr>
<tr>
<td>ACTSC 455</td>
<td>4</td>
<td>Life Contingencies 3</td>
<td>≥60% in A331, co-req A446</td>
<td>W</td>
<td>LTAM</td>
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<tr>
<td>ACTSC 463</td>
<td>4</td>
<td>Intro to Property &amp; Casualty Loss Reserving</td>
<td>A383, S331/271</td>
<td>W (not certain)</td>
<td>STAM</td>
<td>Exam 5</td>
<td></td>
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<tr>
<td>ACTSC 432</td>
<td>4</td>
<td>Stochastic Processes</td>
<td>S233</td>
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<tr>
<td>ACTSC 441</td>
<td>4</td>
<td>Statistical Learning - Classification</td>
<td>S341, S331</td>
<td>FW</td>
<td>PA</td>
<td>MAS-II</td>
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<td>ACTSC 431</td>
<td>4</td>
<td>Generalized linear models</td>
<td>S330, S331 or S371</td>
<td>FWS</td>
<td>SBM</td>
<td>MAS-I</td>
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</tbody>
</table>

Any 300-400 level ACTSC course: (at least 3 must be outside the math faculty (however, if ACTSC 424 is taken, then at least 2 outside of the math faculty)

Students who want a double major with Statistics must have STAT 332 and a total of 3 STAT 4XX courses

### Total 40 courses

* ACTSC 471/AM 476 is taken then it can only be used to satisfy #33 and one of the 4xx additional ACTSC courses. It cannot be triple counted and also used towards the 3xx/4xx ACTSC additional list.

Updated on: 2021-10-18