Applied Mathematics Major

Lower Division Program Requirements (43 UNITS)

- CMPT 120 or CMPT 130 (3)
- CMPT 125 or CMPT 135 (3)
- MACM 203* (2)
- MACM 204* (2)
- STAT 270 (3)

All of:
- MATH 150(4), 151, 154*, or 157* (3)
- MATH 152, 155*, or 158* (3)
- MATH 232* or MATH 240 (3)
- MATH 242 (3)
- MATH 251 (3)
- MATH 252 (3)
- MATH 260 (3)

One of:
- CMPT 225 (3)
- ENSC 220 (3)
- MACM 201 (3)
- MSE 250 (3)
- PHYS 211 (3)
- PHYS 285 (3)

6 UNITS:
- Faculty of Science Courses (Outside of MATH/STATS. Excluding PHYS 100, BISC 100, and CHEM 110/111.)

*With a B grade or higher.
*MACM 409 can substitute MACM 203.
*MACM 401 or MACM 442 can substitute MACM 204.

Upper Division Program Requirements (30 UNITS – 9 UNITS MUST BE 400 LEVEL)

All of:
- MACM 316 (3)
- MATH 314 (3)
- MATH 320 (3)
- MATH 322 (3)
- MATH 418 (3)

One of:
- MATH 426 (3)
- MATH 462 (3)
- MATH 467 (3)
- MATH 475 (3)

Upper division MATH or MACM course, or any pre-approved UD Q course.

Two of:
- MACM 401 (3)
- MATH 308 (3)
- MATH 409 (3)
- MATH 416 (3)

One of:
- PHIL 345W (3)
- PHYS 413 (3)
- STAT 380 (3)

 UD W course within program major.

*Up to 6 units can be from PHIL 345W, PHYS 413, or any UD STAT course (except for STAT 302, STAT 305, STAT 310, STAT 311, STAT 320, and STAT 403).

Breadth + W Requirements (21 UNITS)

B-HUM (6 UNITS)
- ______________

B-SOC (6 UNITS)
- ______________

B-SCI (6 UNITS)
- ______________

Lower Division W course (3 UNITS)
- ______________

(UD W requirement is included above in program requirements.)

Elective Courses

120 units (minimum) are required to graduate. Of the 120 units, 44 units must be upper division.

- ______________
- ______________
- ______________
- ______________
- ______________
- ______________
### SFU I DEPARTMENT OF MATHEMATICS

#### ANNUAL COURSE OFFERINGS:

#### APMA MAJOR

<table>
<thead>
<tr>
<th><strong>100 LEVEL COURSES</strong></th>
<th><strong>FALL</strong></th>
<th><strong>SPRING</strong></th>
<th><strong>SUMMER</strong></th>
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<tbody>
<tr>
<td>MATH 150 - Calculus I with Review</td>
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<td>MATH 151 - Calculus I</td>
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<td>MATH 152 - Calculus II</td>
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<tr>
<th><strong>200 LEVEL COURSES</strong></th>
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<tbody>
<tr>
<td>MACM 203 - Computing with Linear Algebra</td>
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<td>MACM 204 - Computing with Calculus</td>
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<td>MATH 232 - Applied Linear Algebra</td>
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<td>MATH 240 - Algebra I: Linear Algebra</td>
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<td>MATH 242 - Introduction to Analysis</td>
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<td>MATH 251 - Calculus III</td>
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<td>MATH 252 - Vector Calculus</td>
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<tr>
<td>MATH 260 - Introduction to Ordinary Differential Equations</td>
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<tr>
<th><strong>300 LEVEL COURSES</strong></th>
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<tbody>
<tr>
<td>MACM 316 - Numerical Analysis I</td>
<td>√</td>
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<tr>
<td>MATH 314 - Introduction to Fourier Methods and Partial Differential Equations</td>
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<td>MATH 320 - Introduction to Analysis II</td>
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<td>MATH 322 - Complex Variables</td>
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<th><strong>400 LEVEL COURSES</strong></th>
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<tr>
<td>MATH 418 - Partial Differential Equations</td>
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<tr>
<th><strong>FLEXIBLE REQUIREMENTS</strong></th>
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<tbody>
<tr>
<td>MATH 426 - Probability</td>
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<td>ODD YEARS</td>
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<tr>
<td>MATH 462 – Fluid Dynamics</td>
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<td>EVEN YEARS</td>
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<tr>
<td>MATH 467 – Dynamical Systems</td>
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<td>MATH 475 – Mathematical Topics in Data Science</td>
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