

## Honors Math Applied - Chemistry Track Requirements

### This requires an ASC Honors contract

**Part A: Required Prerequisites**

*Pick ONE of the following calculus options:*

Math 1151 & 1152	Calculus I & II	5,5
Math 1181H	Honors Calculus I	5

Chem 1210 & 1220	General Chemistry I & II	5,5
Physics 1250 & 1251	Mechanics, Thermal Physics, Waves and E & M, Optics, Modern Physics	5,5
Biology 1113 <b>or</b> 1114	Energy Transfer and Development or Form, Function, Diversity, Ecology	4
CSE 1222 <b>or</b> 1223	Intro to Computer Programming in C++ <b>or</b> Java	3

**Part B: Major Program (Minimum grade of C- and GPA of 2.0)**

*Honors Core Requirements -- At most 2 of the following Honors math can count toward the "5 Honors eligible courses":*

Math 2153 <b>or</b> 2182H	Calculus III <b>or</b> Honors Calculus II	Prereq: Math 1152 or Math 1181H	<b>4-5</b>
Math 2568 <b>or</b> 2568H	Linear Algebra	Prereq: Math 2153	3
Math 3345 <b>or</b> 3345H	Foundations of Higher Mathematics	Prereq: Math 2153	3

*Core Requirements*

Math 4530 <b>or</b> Stat 4201	Probability <b>or</b> Intro to Mathematical Statistics I	Prereq: Math 2153	<b>3-4</b>
Stat 4202	Intro to Mathematical Statistics II	Prereq: Math 4530 or Stat 4201	4

*Required Courses for Chemistry Track*

Math 2255	Differential Equations and Their Applications	Prereq: Math 2153	3
Math 4557	Partial Differential Equations	Prereq: Math 2255	3

*Applied Math - Chemistry Electives -- Choose at least 2 courses / 6 hours:*

Chem 2210	Analytical Chemistry I: Quantitative Analysis	Prereq: Chem 1220, Math 1148 & 1149	5
Chem 4300	Physical Chemistry I	Prereq: Chem 2210, Math 2153, 2255, Physics 1250	3
Chem 4310	Physical Chemistry II	Prereq: Chem 4300	3

*Applied Math Courses -- Choose ONE path:*

*Path A:*

Math 4556	Dynamical Systems - AU only	Prereq: Math 2153	3
<b>Math 5401 &amp; 5402</b>	Applied Differential Equations I and II - AU/SP	Prereq: Math 2255 & 2568	6
<b>Math 5601</b>	Essentials of Numerical Methods - AU only	Prereq: Math 2568 & 4556	3

*Path B:*

Math 4556	Dynamical Systems - AU only	Prereq: Math 2153	3
<b>Math 5601 &amp; 5602</b>	Numerical Methods & Computational PDEs - AU/SP	Prereq: Math 2568, 4556, & 4557	6
<b>Math 5401</b>	Applied Differential Equations I - AU only	Prereq: Math 2255 & 2568	3

*Path C:*

Math 4556	Dynamical Systems - AU only	Prereq: Math 2153	3
<b>Math 5767 &amp; 5768</b>	Math Methods in Relativity Th. I & II - AU(even)/SP(odd)	Prereq: Math 2153 & 2568	6
<b>Math 5601</b>	Essentials of Numerical Methods - AU only	Prereq: Math 2568 & 4556	3

**Note:** Honors math eligible courses are bolded.

Total Hours **38-44**

**ASC Honors Contract:** Students pursuing such a contract must complete at least "5 honors math eligible courses" selected in consultation with an honors math advisor. At most 2 courses can count from 2182H, 2568H, or 3345H. For the remaining 3 courses, one needs to complete one of the listed sequences available for each track, and select another course from a list of approved courses at the 4000-5000 level (see honors math advisor).

### Honors Math Applied - Chemistry Track Sample Schedule

	Autumn		Spring	
Year 1	Math 1181H (AU only)	5	<b>Math 2182H</b> (SP only)	5
	Chem 1210	5	Chem 1220	5
	ARTSSCI 1110.01	1	English 1110	3
	CSE 1222 <b>or</b> 1223	3	GE	3
	GE	3		
		17		16
Year 2	Math 2568/ <b>2568H</b> (AU only)	3	Math <u>4530</u> <b>or</b> Stat 4201	3-4
	Biology 1113 <b>or</b> 1114	4	Math 3345/ <b>3345H</b> (SP only)	3
	Math 2255	3	Physics 1251	5
	Physics 1250	5	GE	3
		15		14-15
Year 3	Math 4556 (AU only)	3	<b>Math 5402<sup>A</sup></b> (SP only)	3
	Stat 4202	4	Math 4557	3
	<b>Math 5401<sup>A,B</sup></b> (AU only)	3	Chem 4300	3
	Chem 2210	5	GE	3
		15		12
Year 4	<b>Math 5601</b> (AU only)	3	<b>Math 5602<sup>B</sup></b> (SP only)	3
	<b>Math 5756<sup>C</sup></b> (AU <sup>Even</sup> only)	3	<b>Math 5757<sup>C</sup></b> (SP <sup>Odd</sup> only)	3
	GE	3	GE	3
	GE	3	GE	3
		12		12

Additional hours may be necessary depending on course selection.

<sup>A,B,C</sup>Math courses required for the particular path. The Math 5401/5402 and Math 5756/5757 sequences can be swapped as necessary to accommodate course offerings.