

## Honors Math Theoretical Track Requirements

### This requires an ASC Honors contract

**Part A: Required Prerequisites**

Math 1151 & 1152	Calculus I & II	5,5
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**Part B: Major Program (Minimum grade of C- and GPA of 2.0)**

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

Math 2153 or <b>2182H</b>	Calculus III or Honors Calculus II	Prereq: Math 1152 or 1181H	4-5
Math 2568 or <b>2568H</b>	Linear Algebra	Prereq: Math 2153	3
Math 3345 or <b>3345H</b>	Foundations of Higher Mathematics	Prereq: Math 2153	3
Math 2255	Differential Equations and Their Applications	Prereq: Math 2153	3

*Core Requirements*

Math 4530 or Stat 4201	Probability or Introduction to Mathematical Statistics I	Prereq: Math 2153	3-4
Stat 4202	Introduction to Mathematical Statistics II	Prereq: Math 4530 or Stat 4201	4

*Optional*

<b>Math 5520H</b>	Honors Linear Algebra and Differential Equations	Prereq: <b>Math 4182H</b> or ( <b>Math 2182H</b> & 3345)	5
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*Required Courses -- At least one of the **sequences** must be **Honors***

Math 4547 & 4548	Introductory Analysis I & II	Prereq: Math 3345	3,3
<b>OR Math 4181H &amp; 4182H</b>	Honors Analysis I & II	Prereq: Permission	5,5
Math 4580 & 4581	Abstract Algebra I & II	Prereq: Math 2568 & 3345	3,3
<b>OR Math 5590H &amp; 5591H</b>	Honors Abstract Algebra I & II	Prereq: <b>Math 5520H</b>	5,5

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

Math 3589	Introduction to Financial Mathematics	Math 3345 & (Math 4530 or Stat 4201)	3
Math 3607 (if no <b>5601</b> )	Beginning Scientific Computing	Prereq: Math 2568 & 2255	3
<b>Math 5601</b> (if no 3607)	Essentials of Numerical Methods	Prereq: Math 2568 & 4556	3
Math 3618	Theory of Interest	Prereq: Math 1152	3
Math 4350	Quantitative Neuroscience	Prereq: Math 1152	3
Math 4504	History of Mathematics	Prereq: Math 2568	3
Math 4507	Geometry	Prereq: Math 2568 & 3345	3
Math 4556	Dynamical Systems	Prereq: Math 2153	3
Math 4557	Partial Differential Equations	Prereq: Math 2255	3
Math 4551	Vector Analysis	Prereq: Math 2153	3
Math 4552	Complex Analysis	Prereq: Math 2153	3
Math 4573	Elementary Number Theory	Prereq: Math 3345	3
Math 4575	Combinatorial Mathematics	Prereq: Math 2568	3
Math 4578	Discrete Mathematical Models	Prereq: Math 2568 & 4530	4
<b>Math 5632</b>	Financial Economics for Actuaries	Prereq: Math 3618 & (Math 4530 or Stat 4201)	3

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

Total Hours 42-53

### Honors Math Theoretical Track Sample Schedule

	Autumn		Spring		Major Hours
Year 1	Math 1181H	5	<b>Math 2182H</b>	5	8
	ARTSSCI 1100.01	1	Math 3345 or <b>3345H</b>	3	
	GE	3	English 1110	3	
	GE	3	GE	3	
	GE	3			
		15		14	
Year 2	Math 4547 or <b>Math 4181H</b>	3-5	Math 4548 or <b>Math 4182H</b>	3-5	13-18
	<u>Math 4530</u> or Stat 4201	3-4	Stat 4202	4	
	GE	3	GE	3	
	GE	3	GE	3	
		12-15		13-15	
Year 3	Math 2568 or <b>Math 2568H</b>	3	Math Major Elective	3	9-11
	Math 2255 or <b>Math 5520H</b>	3-5	GE	3	
	GE	3	GE	3	
	GE	3	GE	3	
		12-14		12	
Year 4	Math 4580 or <b>Math 5590H</b>	3-5	Math 4581 or <b>Math 5591H</b>	3-5	9-13
	Math Major Elective	3	GE	3	
		6-8		6-8	

Additional hours may be necessary depending on course selection.

**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).