

Sample Course Schedule for Major in Astronomy & Astrophysics  
at Villanova University

### Freshman Year

<b>Fall Semester</b>	
Course	Credits
AST2120 (Sun & Stars)	3
PHY2410/2411 (Mechanics)	4
PHY2601 (Comp Phys I)	1
MAT1500 (Calc I)	4
Augustine & Culture Seminar I	3
Core Language (1 of 2)	3
	18

<b>Spring Semester</b>	
Course	Credits
AST2121 (Solar System)	3
PHY2412/2413 (E&M)	4
PHY2603 (Comp Phys II)	1
MAT1505 (Calc II)	4
Augustine & Culture Seminar II	3
Core Language (2 of 2)	3
	18

### Sophomore Year

<b>Fall Semester</b>	
Course	Credits
AST2122 (Cosmology)	3
AST2133 (Ob Lab I)	2
PHY2414/2415 (Thermo)	4
MAT2500 (Calc III)	4
Core Theology 1 (THL1000)	3
	16

<b>Spring Semester</b>	
Course	Credits
AST2123 (Astrodynamics)	3
AST2134 (Ob Lab II)	2
PHY2416/2417 (Modern)	4
MAT2705 (Diff Eq)	4
Core Philosophy (PHL1000) <i>or</i> PHY4200 (Mat Phys I) <sup>a</sup>	3
	16

## Junior Year

<b>Fall Semester</b>	
Course	Credits
AST3141 (Galactic) or AST3143 (Astrobio)	3
PHY4100 (Mechanics I)	3
PHY Elective <sup>b</sup>	3
Core Social Science 1	3
Free Elective	3
Core History	3
	18

<b>Spring Semester</b>	
Course	Credits
AST3142 (Astrophys) or AST3162 (Analysis)	3
AST4121 (Research I)	3
PHY4200 (Mat Phys I) <i>(if not taken Sophomore year)</i>	3
CSC4630 <sup>c</sup>	3
Core Ethics (ETH2050) <sup>d</sup>	3
Core Lit & Writing	3
	18

## Senior Year

<b>Fall Semester</b>	
Course	Credits
AST3141 (Galactic) or AST3143 (Astrobio)	3
AST4122 (Research II)	3
PHY Elective <sup>b</sup>	3
Core Social Science 2	3
Free Elective	3
	15

<b>Spring Semester</b>	
Course	Credits
AST3142 (Astrophys) or AST3162 (Analysis)	3
PHY Elective <sup>b</sup>	3
Core Theology 2	3
Core Fine Arts	3
Free Elective	3
	15

<sup>a</sup> PHY4200 is a pre-requisite to PHY4000 (E&M I)

<sup>b</sup> Three Physics electives must be selected from numbers above 3000. Suggested courses include 3310/11 (Electronics), 4000 (E&M I), 5200 (Thermo), 5100 (Quantum).

<sup>c</sup> CSC4630 offered Spring semester in odd-numbered years

<sup>d</sup> THL1000 and PHL1000 must be taken before ETH2050