Bachelor of Arts in Astronomy

The Bachelor of Arts in astronomy requires 120 credit hours, including 17 hours in astronomy, 29 hours in physics, 14 hours in math, and 6 hours in technical electives.

Major Courses		
ASTR 221	Stars and Planets	3
ASTR 222	Galaxies and Cosmology	3
ASTR 306	Astronomical Techniques	3
ASTR 309	Astrophysics Seminar I	1
ASTR 310	Astrophysics Seminar II	1
ASTR 311	Stellar Physics	3
ASTR 328	Cosmology and the Structure of the Universe	3
Additional required courses		
MATH 121	Calculus for Science and Engineering I	4
MATH 122	Calculus for Science and Engineering II	4
or MATH 124	Calculus II	
MATH 223	Calculus for Science and Engineering III	3
or MATH 227	Calculus III	
MATH 224	Elementary Differential Equations	3
or MATH 228	Differential Equations	
PHYS 121	General Physics I - Mechanics	4
or PHYS 123	Physics and Frontiers I - Mechanics	
PHYS 122	General Physics II - Electricity and Magnetism	4
or PHYS 124	Physics and Frontiers II - Electricity and Magnetism	
PHYS 221	Introduction to Modern Physics	3
PHYS 250	Computational Methods in Physics	3
PHYS 310	Classical Mechanics	3
PHYS 313	Thermodynamics and Statistical Mechanics	3
PHYS 324	Electricity and Magnetism I	3
PHYS 326	Physical Optics	3
PHYS 331	Introduction to Quantum Mechanics I	3
ENGR 131	Elementary Computer Programming	3
Approved technical electives (consult advisor for other acceptable classes)		15
ASTR 333	Dark Matter	
PHYS 204	Advanced Instrumentation Laboratory	
PHYS 316	Introduction to Nuclear and Particle Physics	
PHYS 325	Electricity and Magnetism II	
PHYS 332	Introduction to Quantum Mechanics II	
Total Units		75

Six hours of mathematics and natural science (physics) are double counted towards the SAGES breadth requirements, and one required math course is double counted towards the SAGES Quantitative Reasoning requirement.

Sample Plan of Study: Bachelor of Arts in Astronomy

First Year	Units	
	Fall	Spring
Calculus for Science and Engineering I (MATH 121)	4	
General Physics I - Mechanics (PHYS 121)	4	
SAGES First Seminar	4	
PHED (2 half semester courses)	0	
Social Science I	3	
Calculus for Science and Engineering II (MATH 122) or Calculus II (MATH 124)		4
General Physics II - Electricity and Magnetism (PHYS 122)		4
Elementary Computer Programming (ENGR 131)		3
PHED (2 half semester courses)		0
Doing Astronomy (ASTR 151)[*]		1
Social Science II		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
Stars and Planets (ASTR 221)	3	
Calculus for Science and Engineering III (MATH 223) or Calculus III (MATH 227)	3	
Introduction to Modern Physics (PHYS 221)	3	
SAGES University Seminar	3	
Galaxies and Cosmology (ASTR 222)		3
Elementary Differential Equations (MATH 224) or Differential Equations (MATH 228)		3
Computational Methods in Physics (PHYS 250)		3
Classical Mechanics (PHYS 310)		3
SAGES University Seminar		3
Year Total:	12	15

Third Year	Units	
	Fall	Spring
Stellar Physics (ASTR 311)[a]	3	
Thermodynamics and Statistical Mechanics (PHYS 313)	3	
Arts & Humanities I	3	
Arts & Humanities II	3	
Technical Elective	3	
Cosmology and the Structure of the Universe (ASTR 328)[a]		3
Electricity and Magnetism I (PHYS 324)		3
Physical Optics (PHYS 326)		3
Quantitative Reasoning		3
Technical Elective		3

Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
Astronomical Techniques (ASTR 306)[a]	3	
Astrophysics Seminar I (ASTR 309)	1	
Introduction to Quantum Mechanics I (PHYS 331)	3	
Astronomy Capstone Project (ASTR 351)[b]	1 - 3	
Global and Cultural Diversity	3	
Astrophysics Seminar II (ASTR 310)		1
Astronomy Capstone Project (ASTR 351)		1 - 3
Year Total:	11-13	2-4
Total Units in Sequence:		100-104

a 300-level astronomy courses: three of the following four are required: ASTR 306, ASTR 311, ASTR 323, ASTR 328.

b A SAGES Capstone Experience is required of all students. The BA in astronomy does not require the astronomy capstone but only that a capstone be taken. The number of hours shown assumes the astronomy capstone with 1 hour in the senior fall semester and 3 hours in the senior spring semester. If another capstone is taken, the number of hours may be different.

* Suggested, but not required for the major.