Astronomy and Astrophysics & Physics Double Major

Sample Academic Plan for students beginning in Math 1150, 1149, or 1140 with Summer courses

Year	Autumn Semester	Credit Hours	Course Title	Spring Semester	Credit Hours	Course Title	Summer Semester	Credit Hours	Course Title
1	ArtsSci 1100.10	1	Survey	Astron 1221 or CSE 122x^	3	Programming see note below	Math 1152*	5	Calculus II
	Astron 2895	1	Seminar				Physics 1251%#	5	Intro Phys. II
	GenEd 1201	1	Launch Sem.	**Math 1151***	**5**	**Calculus I**			
	Math 1150	**5**	**Precalculus**	Physics 1250%	5	Intro Physics I			
	World Lang. 1	4		World Lang. 2	4				
	Gen Ed Course	3							
	Total Hours	**15**		**Total Hours**	**17**		**Total Hours**	**10**	
2	Astron 2291	3	Astrophys. I	Astron 2292	3	Astrophys. II			
	Math 2153*	4	Calculus III	Math 2415*	3	Diff. Eq.			
	Physics 2095	1	Seminar	Physics 2301#	4	Mechanics II			
	Physics 2300#	4	Mechanics I	Physics 3700	3	Data Ana. Lab			
	World Lang. 3	4		Gen Ed Course	3				
	Total Hours	**16**		**Total Hours**	**16**		**Total Hours**	**0**	
3	Astron 3350	3	Meth. of Obs.	Physics 5400	4	Elec. & Magn.			
	Physics 5500	4	Quant. Mech. I	Physics 5501	4	Quant. Mech. II			
	Math 2568*	3	Linear Algebra	Gen Ed Course or Astron 5xxx&	3	See note below			
	3rd Lab Course@	3	see note below						
	Gen Ed Course	3		Targeted Elective†	3				
				Gen Ed Course	3				
	Total Hours	**16**		**Total Hours**	**17**		**Total Hours**	**0**	
4	Gen Ed Course or Astron 5xxx&	3	See note below	Gen Ed Course or Astron 5xxx&	3	See note below			
	Physics 5600	4	Stat. Mech.	Targeted Elective†	3				
	Physics 5700	3	Senior Lab	Targeted Elective†	3				
	Targeted Elective†	3		Gen Ed Course	3				
	Gen Ed Course	3		Gen Ed Course	3				
				GenEd 4001	1	Reflection Sem.			
	Total Hours	**16**		**Total Hours**	**16**		**Total Hours**	**0**	

Degree Hours **139** (121 minimum required)

Courses in YELLOW are only offered in the term shown (i.e., offered in Autumn only or in Spring only)

NOTE: this is **only one of many** possible ways to move through the Astro curriculum. Consult with an academic advisor to develop and refine an academic plan that is appropriate for you.

Details on symbols (* % ^ # @ & †) and a breakdown of which courses count toward each major to satisfy university rules can be found on the next page.

Students beginning in Math 1149 or Math 1140 will follow a similar plan:

If starting in Math 1149, replace Math 1150 in Autumn Year 1 with Math 1149 (3 cr.) + one Gen Ed Course (3 cr.)

If starting in Math 1140, replace Math 1150 in Autumn Year 1 with Math 1140 (4 cr.) and replace Math 1151 in Spring Year 1 with Math 1141 (4 cr.)

You may need to adjust later coursework to ensure you meet the 121-credit minimum for graduation.

Astro only		Both Majors		Physics Only	
Astron 2291	3	Physics 2300	4	Physics 2095	1
Astron 2292	3	Physics 2301	4	3rd Lab Course	3
Astron 2895	1	Physics 3700	3	Physics 5700	3
Astron 3350	3	Physics 5400	4	Targeted Elective†	3
Astron 5xxx	3	Physics 5500	4	Targeted Elective†	3
Math 2415	3	Physics 5501/5401H	4	Targeted Elective†	3
Math 2568	3			Targeted Elective†	3
Physics 5600	4				
Total	**23**	**Total**	**23**	**Total**	**19**

***This "standard" calculus sequence has many acceptable variations. Consult with your academic advisor if you have already taken or wish to take a different set of courses.

[%]Physics 1270-1271 is a version of the introductory Physics courses specifically intended for Physics and Astro majors. The Physics 1250-1251, 1250H-1251H, 1260-1261, and 1270-1271 series are all considered to be equivalent. Physics 1250 and 1251 are offered year-round (Autumn Spring, Summer), but the others are only offered once per year in Autumn-Spring.

[^] Astronomy 1221 (Astronomy Data Analysis), CSE 1222 (C++), CSE 1223 (Java), or CSE 1224 (Python). Students who have changed majors from Engineering may substite Engr 1221 or Engr 1281H.

[#] Physics 1251, 2300, and 2301 each require a grade of C+ or higher to move on in major coursework.

[@]3rd Lab Requirement can be satisfied by Physics 4700 (Electronics Lab), Physics 5680 (Big Data Analytics in Physics), or Physics 5810 (Computational Physics). 4700 is offered every Autumn and Spring; 5680 is offereed Autumn only; 5810 is offered Spring only and is 4 credits instead of 3.

[&]Only one Astron 5xxx course is required: 5205 (Planetary Science) is offered in odd-year Springs; 5681 (Stellar Evolution) is offered in even-year Springs; 5682 (Cosmology) is offered every Autumn.

† Targeted Electives are courses not counting toward any other major, minor, certificate, or GE requirement that are graded A-E and are 2000-level or higher. Full details can be found here: https://physics.osu.edu/applied-physics-option-electives