Astronomy and Astrophysics & Physics Double Major

Sample Academic Plan for students beginning in Math 1151							
Year	**Autumn Semester**	**Credit hours**	**Course Title**		**Spring Semester**	**Credit Hours**	**Course Title**
1	ArtsSci 1100.10	1	Survey		Astron 1221 or CSE 122x^	3	Programming Req. see note below
	Astron 2895	1	Seminar				
	GenEd 1201	1	GE Launch Seminar		Math 1152*	5	Calculus II
	Math 1151*	5	Calculus I		Physics 1271%#	5	Intro Physics II
	Physics 1270%	5	Intro Physics I		World Lang. 2	4	
	World Lang. 1	4					
	Total Hours	**17**			**Total Hours**	**17**	
2	Astron 2291	3	Intro Astrophysics I		Astron 2292	3	Intro Astrophysics II
	Math 2153*	4	Calculus III		Math 2415*	3	Differential Equations
	Physics 2095	1	Seminar		Physics 2301#	4	Mechanics II
	Physics 2300#	4	Mechanics I		Physics 3700	3	Data Analysis Lab
	World Lang. 3	4			Gen Ed Course	3	
	Total Hours	**16**			**Total Hours**	**16**	
3	Astron 3350	3	Methods of Observation		Physics 5400	4	E&M
	Physics 5500	4	Quantum Mechanics I		Physics 5501	4	Quantum Mechanics II
	Math 2568*	3	Linear Algebra		Gen Ed Course or Astron 5xxx&	3	See note below
	3rd Lab Course@	3					
	Gen Ed Course	3			Targeted Elective†	3	
					Gen Ed Course	3	
	Total Hours	**16**			**Total Hours**	**17**	
4	Gen Ed Course or Astron 5xxx&	3	See note below		Gen Ed Course or Astron 5xxx&	3	See note below
	Physics 5600	4	Statistical Mechanics		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	GE Reflection Seminar		Gen Ed Course	3	
	Total Hours	**17**			**Total Hours**	**18**	

Degree Hours **134** (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 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.

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 or 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 substitute Engr 1221 or Engr 1281H.

Physics 1271, 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