BS, Physics, Applied Physics
BS_270B
College of Arts and Sciences
Department of Physics and Astronomy
2014-2015

This is an example semester-by semester plan of study for Applied Physics, BS (270B), designed to prepare students for graduate work. It should be modified during consultation with a department advisor.				
Shaded areas of plan require special attention.				
Course Subject and Title	Credit Hours	Min. Grade Required	Included in Major GPA	Important Notes POS = Program of Study
Semester One: [15 Credit Hours]				
ENG 1000	3			May take in fall or spring semester of first year
UCO 1200	3			May take in fall or spring semester of first year
PHY 1150	5		X	Also counts in Gen Ed Science Inquiry requirement
MAT 1110	4	C-	X	Also meets Gen Ed Quantitative Literacy requirement
Semester Two: [15 Credit Hours]				
PHY 1151	5		X	Also counts in Gen Ed Science Inquiry requirement
MAT 1120	4	C-	X	
Gen Ed Perspective	3			Fine Arts Designation
Gen Ed Perspective	3			
Semester Three : [15 Credit Hours]				
ENG 2001	3			May take in fall or spring of sophomore year
Gen Ed Wellness Literacy	1			
PHY 2010	4	C	X	Min. grade C required for some upper level PHY courses
MAT 2130	4		X	
PHY 3210	3	C	X	Min. grade C required for some upper level PHY courses
Semester Four: [16 Credit Hours]				
PHY 2020	4	C	X	Min. grade C required for some upper level PHY courses
PHY 2210	3		X	**[WID]**
PHY Concentration Course 1	3		X	See Area II. C. on POS for information on contract area; courses must be approved by the advisor (Total of 6 courses - 18 hours) A list of recommended courses is in the Additional Notes at the end of this guide.
Gen Ed Perspective	3			
Free Elective	3			
Semester Five: [16 Credit Hours]				
PHY Concentration Course 2	3		X	
PHY Electives	3		X	A total of 5-7 hours of electives required to total 32 hours in Area II. A. physics courses on POS; A list of recommended courses is in the Additional Notes at the end of this guide
Gen Ed Perspective	3			Historical Studies Designation
Gen Ed Wellness Literacy	1			
Free Elective	3			
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Semester Six: [15 Credit Hours]				
PHY Concentration Course 3	3		X	
PHY Concentration Course 4	3		X	
PHY Electives	3		X	A total of 5-7 hours of electives required to total 32 hours in Area II. A. physics courses on POS; A list of recommended courses is in the Additional Notes at the end of this guide
Free Elective	3			
Gen Ed Perspective	3			Literary Studies Designation
Semester Seven: [15 Credit Hours]				
PHY Elective	3		X	If needed to reach a total of 5-7 hours of electives required to total 32 hours in Area II. A. physics courses on POS; A list of recommended courses is in the Additional Notes at the end of this guide. Otherwise take Free Elective
PHY Concentration Course 5	3		X	
Gen Ed Perspective	3			
Elective	3			
Elective	3			
Semester Eight: [15 Credit Hours]				
PHY Concentration Course 6	3		X	
PHY 4210	3		X	**CAPSTONE**
Gen Ed Perspective	3			
Elective	3			
Elective	3			At least 2 hours of electives must not be PHY; Take enough Free Electives to reach the minimum 122 required for the degree.

General Requirements Summary				
Minimum Total Hours	Gen Ed. Hours	Writing	Minimum Major GPA	Overall GPA
122	44	ENG 1000 and ENG 2001	2.0	2.0

All PHY & AST courses and all courses in Area II on Program of Study count in the major GPA.

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General Education Program Model - 44 Semester Hours Total		
Program Categories	Hours	Important Notes – *Be sure to check for Gen Ed courses required in your major*
First Year Seminar	3	Can be taken first or second semester of freshman year
Wellness Literacy	2	
Quantitative Literacy	4	
First Year Writing	3	Can be taken first or second semester of freshman year
Sophomore Writing	3	
Perspectives:	29	
Aesthetic	6 or 9	
Historical & Social	6 or 9	
Local to Global	6 or 9	
Science Inquiry	8	

Additional Notes:

- This curriculum is designed for students planning on continuing to graduate school in physics and includes a minor in Math. The concentration courses shown exceed the 18 credits required for the degree.
- Recommended Courses to take in the concentration, as physics electives, and as free electives:
  - CS 1440 Computer Science I (4) OR CS 1445 Intro Programming w/Intedisc App (4)
  - MAT 2240 Linear Algebra (3) *(Pre: MAT 1120)*
  - MAT 3130 Differential Equations (3) *(Pre: MAT 1120; recommended pre: MAT 2240)*
  - PHY 3001 Analytical Methods in Physics (3) *(Pre: MAT 2130 w/grade of C; Co: PHY 2020)* Spring semester only
  - PHY 3010 Classical Physics (3) *(Pre: MAT 3130)* Fall semester only
  - PHY 3020 Electromagnetic Fields & Waves (3) *(Pre: PHY 2020 & 3001 w/grade of C; MAT 3130)* Spring semester only
  - PHY 3211 Modern Physics II (3) *(Pre: PHY 1151; Co: PHY 2010)* Spring semester only
  - PHY 3230 Thermal Physics (3) *(Pre: PHY 1104 or 1151; MAT 2130)* Spring semester only
  - PHY 4020 Computational Meth in Phy & Eng (3) *(Pre: PHY 2020 w/grade of C; MAT 2130; Sr standing)* Fall semester only
  - PHY 4620 Optics (4) *(Pre: MAT 3130; Co: PHY 3020; Sr standing)* Spring semester only
  - PHY 4640 Quantum Mechanics (3) *(Pre: PHY 3010 & PHY 3210 w/grade of C; MAT 3130; Sr standing)* Spring semester only
- A contract with a list of the approved courses MUST be filed with the College of Arts & Sciences Dean's Office no later than the end of the first semester of junior year.
- Residency Requirements:
  - 31 hours must be from ASU
  - 18 hours in the major must be from ASU
  - 9 hours in the minor must be from ASU