












## 2011 - 2012 Major Map Physics, BS

College of Liberal Arts and Sciences

Campus: Tempe

LAPHYBS

Term 1	0 - 14 Credit Hours	Critical course signified by 	Hours	Minimum Grade	Notes
	MAT 270: Calculus with Analytic Geometry I (MA)		4	C	<ul style="list-style-type: none"> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>All freshman must pass on academic success course and therefore must enroll in an Academic Success Cluster or First Year Seminar</li> </ul>
	ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: English for Foreign Students		3	C	
	LIA 194: Academic Success Seminar OR PHY 191: First-Year Seminar		1		
	Humanities, Fine Arts and Design (HU) AND Cultural Diversity in the U.S. (C) OR Humanities, Fine Arts and Design (HU) AND Historical Awareness (H)		3		
	Social and Behavioral Sciences (SB)		3		
	Maintain 2.00 GPA in Critical Tracking Courses.				
	Term hours subtotal:		14		
Term 2	15 - 28 Credit Hours	Critical course signified by 	Hours	Minimum Grade	Notes
	MAT 271: Calculus with Analytic Geometry II (MA)		4	C	<ul style="list-style-type: none"> <li>PHY 121/122 and 131/132 may be used in place of PHY 150 and 151</li> </ul>
	PHY 150: Physics I (SQ)		4	C	
	ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: English for Foreign Students		3	C	
	Humanities, Fine Arts and Design (HU) AND Cultural Diversity in the U.S. (C) OR Humanities, Fine Arts and Design (HU) AND Historical Awareness (H)		3		
	Maintain 2.00 GPA in Critical Tracking Courses.				
	Term hours subtotal:		14		
Term 3	29 - 45 Credit Hours	Critical course signified by 	Hours	Minimum Grade	Notes
	MAT 272: Calculus with Analytic Geometry III (MA)		4	C	<ul style="list-style-type: none"> <li>PHY 121/122 and 131/132 may be used in place of PHY 150 and 151</li> </ul>
	PHY 151: Physics II (SQ)		4	C	
	CLAS Science and Society Elective		3	C	
	Elective		3		
	Social and Behavioral Sciences (SB) AND Global Awareness (G)		3		
	Complete First-Year Composition requirement.				
	Maintain 2.00 GPA in Critical Tracking Courses.				
	Term hours subtotal:		17		
Term 4	46 - 61 Credit Hours	Critical course signified by 	Hours	Minimum Grade	Notes
	PHY 252: Physics III (SQ)		4	C	<ul style="list-style-type: none"> <li>PHY 333 is OPTIONAL. Students must choose one of two possible two-course lab sequences: PHY 333 and PHY 334 OR PHY 334 and PHY 465.</li> </ul>
	PHY 201: Mathematical Methods in Physics I (CS)		3	C	
	PHY 333: Electronic Circuits and Measurements		3	C	
	Upper Division Humanities, Fine Arts and Design (HU) OR Upper Division Social and Behavioral Sciences (SB)		3		
	Upper Division CLAS Science and Society Elective		3	C	
	Maintain 2.00 GPA in Critical Tracking Courses.				
	Term hours subtotal:		16		
Term 5	62 - 76 Credit Hours		Hours	Minimum Grade	Notes

PHY 302: Mathematical Methods in Physics II	3	C
PHY 310: Classical Particles, Fields, and Matter I	3	C
PHY 314: Quantum Physics I	3	C
Complete 2 courses: Elective	3	
Upper Division Elective	3	
Term hours subtotal:	15	

Term 6 77 - 91 Credit Hours	Hours	Minimum Grade	Notes
PHY 311: Classical Particles, Fields, and Matter II	3	C	<ul style="list-style-type: none"> <li>PHY 334 is REQUIRED. Students must choose one of two possible two-course lab sequences: PHY 333 and PHY 334 OR PHY 334 and PHY 465.</li> </ul>
PHY 315: Quantum Physics II	3	C	
PHY 334: Advanced Laboratory I (L)	3	C	
Literacy and Critical Inquiry (L)	3		
Upper Division Elective	3		
Term hours subtotal:	15		

Term 7 92 - 106 Credit Hours	Hours	Minimum Grade	Notes
PHY 412: Classical Particles, Fields, and Matter III OR PHY 416: Quantum Physics III	3	C	
PHY 441: Statistical and Thermal Physics	3	C	
Complete 2 courses: Elective	6		
Upper Division Elective	3		
Term hours subtotal:	15		

Term 8 107 - 121 Credit Hours	Hours	Minimum Grade	Notes
PHY 465: Advanced Laboratory II	3	C	<ul style="list-style-type: none"> <li>PHY 465 is OPTIONAL. Students must choose one of two possible two-course lab sequences: PHY 333 and PHY 334 OR PHY 334 and PHY 465.</li> <li>PHY Upper Division Elective needs Physics advisor approval.</li> </ul>
PHY Upper Division Elective	3	C	
Upper Division Elective	3		
Elective	3		
Upper Division Literacy and Critical Inquiry (L)	3		
Term hours subtotal:	15		

#### Notes:

- All students who are pursuing a bachelor of arts degree in the College of Liberal Arts and Sciences must complete a second language requirement. This requirement has the student show proficiency in a second, non-English language through the fourth semester of college work, which is usually, although not always, designated as the 202 level. Check with an your advisor for the proficiency level of specific languages. The proficiency courses require students to read, write, and speak the language selected, and proficiency requires students to earn a grade of C or better. In the case of French, German and Spanish, students may complete an online placement exam. The exam is found at [http://silc.asu.edu/testing/undergraduate/language\\_placement](http://silc.asu.edu/testing/undergraduate/language_placement).
- All students pursuing a bachelor of science degree in the College of Liberal Arts and Sciences must complete the two-course Science and Society requirement. A list of all approved courses, may be found at <http://clas.asu.edu/scienceandsociety>. At least one of the two courses taken from the list must be upper division. Science and society courses cannot be used to also fill core general studies requirements such as SB, HU, SQ or SG. Only one of the courses taken for science and society can be used to fill a major, minor or related fields requirement. At the far right side of the list, you will see which of the three science and society learning goals are filled by individual courses. When you complete both courses, all three learning goals must be filled in order to complete the requirement. Finally, a grade of C or better must be earned in order for the course to be used to fill the science and society requirement.

**Total Hours:** 121  
**Upper Division Hours:** 45 minimum  
**Major GPA:** 2.00 minimum  
**Cumulative GPA:** 2.00 minimum  
**Total hrs at ASU:** 30 minimum  
**Hrs Resident Credit for Academic Recognition:** 56 minimum  
**Total Community College Hrs:** 64 maximum

#### General University Requirements Legend

##### General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Fine Arts and Design (HU)
- Social and Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

##### General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

##### First-Year Composition

General Studies designations listed on the major map are current for the 2011 - 2012 academic year.