

**B.S. in Physics -- Quarter to Semester Translation Table**  
**Quarter Requirements (AY 2017-18)**

	<b>Quarter Courses</b>	<b>Semester Course Equivalencies</b> (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	<b>Acceptable Semester Course Substitutions</b> (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	<b>Acceptable Semester Course Repeats</b> (If there is <b>no</b> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	<b>Quarter Units</b> (Current number of units which are required for each requirement area.)	<b>Semester Units</b> (Number of semester units which will be required for each requirement area.)	<b>Notes</b>
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**PHYS-BS**

<b>Lower Division Requirements</b>	Required courses	CHEM 215	CHEM 2100 & CHEM 2100L		6	5	
		CHEM 216	CHEM 2200 & CHEM 2200L		6	5	
		MATH 211			4		
		MATH 212	MATH 2210 & MATH 2220		4	8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 213			4		
		MATH 251			4		
		MATH 252	MATH 2310 & MATH 2320		4	8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 331			4		
		PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L		5		
		PHYS 222			5	10	Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
PHYS 223			5				
PHYS 224	PHYS 2510 & PHYS 3500		3		No units because they are counted in other rows		
PHYS 225	PHYS 2700		3	3			
<b>Upper Division Requirements</b>	Required courses	PHYS 306	PHYS 3200		4	4	
		PHYS 307			4		Deleted, waive requirement
		PHYS 313	PHYS 3400		4	3	
		PHYS 314	PHYS 4400		4	3	
		PHYS 324	PHYS 3500		4	4	
		PHYS 373	PHYS 3100		4	4	
		PHYS 398			1		Deleted, requirement waived.
		PHYS 421	PHYS 4700		4	4	
		PHYS 422	PHYS 5700		4	3	
		PHYS 430	PHYS 3800 & PHYS 4800		4	4	
PHYS 473	PHYS 5100		4	3			
<b>Electives</b>	Five or more units chosen from upper-division physics courses selected with the approval of the department	PHYS 315	PHYS 5400				
		PHYS 318		PHYS 5500	PHYS 5500		
		PHYS 370	ASTR 3300 OR ASTR 3310				
		PHYS 450	PHYS 5500				
		PHYS 461					Deleted
		PHYS 463					Deleted
		PHYS 480A					Deleted
		PHYS 480B					Deleted
		PHYS 485A-D	PHYS 4851-4853 OR PHYS 4851-2L				Deleted
		PHYS 573					Deleted
PHYS 590					Deleted		
PHYS 595A-E	PHYS 5951-5953						
<b>Electives</b>	Four units of computer science course work at the 200-level or above selected with the approval of the Physics Department	CSE 200-599	CSE 2010	PHYS 3300	4	4	PHYS 3300 is preferred and only 3 units.
<b>Total</b>					<b>107</b>	<b>78</b>	

**B.A. in Physics -- Quarter to Semester Translation Table**  
**Quarter Requirements (AY 2017-18)**

Quarter Courses	Semester Course Equivalencies (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	Acceptable Semester Course Substitutions (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	Acceptable Semester Course Repeats (If there is <b>no</b> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	Quarter Units (Current number of units which are required for each requirement area.)	Semester Units (Number of semester units which will be required for each requirement area.)	Notes
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**PHYS-BA**

Lower Division Requirements	Required course	CHEM 215	CHEM 2100 & CHEM 2100L		6	5		
		CHEM 216	CHEM 2200 & CHEM 2200L		6	5		
		CSE 201	CSE 2010	PHYS 3300		4	4	
		MATH 211				4		
		MATH 212	MATH 2210 & MATH 2220			4	8	/
		MATH 213				4		
		MATH 251				4		
		MATH 252	MATH 2310 & MATH 2320			4	8	
		MATH 331				4		
		PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L			5	10	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		PHYS 222				5		Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		PHYS 223				5		
PHYS 224	PHYS 2510 & PHYS 3500			3		No units because they are counted in other rows		
PHYS 225	PHYS 2700			3	3			
Upper Division Requirements	Required courses	PHYS 306	PHYS 3200		4	4		
		PHYS 313	PHYS 3400		4	3		
		PHYS 324	PHYS 3500		4	4		
		PHYS 373	PHYS 3100		4	4		
		PHYS 398			1		Not needed, requirement waived.	
		PHYS 421	PHYS 4700		4	4		
		PHYS 430	PHYS 3800 & PHYS 4800		4	4		
		Electives	Seven units chosen from upper-division physics courses selected with the approval of the department	PHYS 307				
PHYS 314	PHYS 4400							
PHYS 315	PHYS 5400							
PHYS 318				PHYS 5500	PHYS 5500			
PHYS 370	ASTR 3300 OR ASTR 3310							
PHYS 422	PHYS 5700							
PHYS 450	PHYS 5500							
PHYS 461								Deleted
PHYS 463								Deleted
PHYS 473	PHYS 5100							
PHYS 480A								Deleted
PHYS 480B								Deleted
PHYS 485A-D	PHYS 4851-4853 OR PHYS 4851-2L							
PHYS 573								Deleted
PHYS 590						Deleted		
PHYS 595A-E	PHYS 5951-5953							
<b>Total</b>					<b>93</b>	<b>69</b>		

**B.S. in Physics - Applied Physics -- Quarter to Semester Translation Table**  
**Quarter Requirements (AY 2017-18)**

Quarter Courses	Semester Course Equivalencies (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	Acceptable Semester Course Substitutions (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	Acceptable Semester Course Repeats (If there is <b>no</b> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	Quarter Units (Current number of units which are required for each requirement area.)	Semester Units (Number of semester units which will be required for each requirement area.)	Notes
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Division	Requirement	Required courses	Semester Course Equivalencies	Acceptable Semester Course Substitutions	Acceptable Semester Course Repeats	Quarter Units	Semester Units	Notes	
Lower Division Requirements	Required courses	CHEM 215	CHEM 2100 & CHEM 2100L			6	5		
		CHEM 216	CHEM 2200 & CHEM 2200L			6	5		
		CSE 201	CSE 2010	PHYS 3300			4	4	PHYS 3300 is preferred and only 3 units.
		MATH 211					4		
		MATH 212	MATH 2210 & MATH 2220				4	8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 213					4		
		MATH 251					4		
		MATH 252	MATH 2310 & MATH 2320				4	8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 331					4		
		PHYS 150	PHYS 2600L				5	1	
		PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L				5	10	Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		PHYS 222					5		
		PHYS 223					5		
		PHYS 224	PHYS 2510 & PHYS 3500				3		No units because they are counted in other rows
		PHYS 225	PHYS 2700				3	3	
Upper Division Requirements	Required courses	PHYS 306	PHYS 3200			4	4		
		PHYS 313	PHYS 3400			4	3		
		PHYS 314	PHYS 4400			4	3		
		PHYS 318		PHYS 5500	PHYS 5500		4	3	
		PHYS 324	PHYS 3500			4	4		
		PHYS 350	PHYS 3600			4	2		
		PHYS 352	PHYS 4600			4	3		
		PHYS 373	PHYS 3100			4	4		
		PHYS 398				1		Not needed, requirement waived.	
		PHYS 421	PHYS 4700			4	4		
		PHYS 430	PHYS 3800 & PHYS 4800			4	4		
		<b>Total</b>						<b>107</b>	<b>78</b>

**Physics Minor -- Quarter to Semester Translation Table**  
**Quarter Requirements (AY 2017-18)**

	<b>Quarter Courses</b>	<b>Semester Course Equivalencies</b> (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	<b>Acceptable Semester Course Substitutions</b> (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	<b>Acceptable Semester Course Repeats</b> (If there is <b>no</b> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	<b>Quarter Units</b> (Current number of units which are required for each requirement area.)	<b>Semester Units</b> (Number of semester units which will be required for each requirement area.)	<b>Notes</b>
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**PHYS-MIN**

<b>Minor Requirements</b>		<b>PHYS-MIN</b>						
		Lower-division required courses	Upper-division required courses					
	MATH 211				4		8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
	MATH 212	MATH 2210 & MATH 2220			4			
	MATH 213				4			
	MATH 251				4		8	Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
	MATH 252	MATH 2310 & MATH 2320			4			
	MATH 331				4			
	PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L			5		10	Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
	PHYS 222				5			
	PHYS 223				5			
	PHYS 224	PHYS 2510 & PHYS 3500			3		3	No units because they are counted in other rows
	PHYS 225	PHYS 2700			3			
	PHYS 306	PHYS 3200			4	4		
	PHYS 313	PHYS 3400			4	3		
	PHYS 324	PHYS 3500			4	4		
	PHYS 373	PHYS 3100			4	4		
PHYS 421	PHYS 4700			4	4			
<b>Total</b>					<b>65</b>	<b>48</b>		

**Physics Applied Minor -- Quarter to Semester Translation Table**  
 Quarter Requirements (AY 2017-18)

Quarter Courses	Semester Course Equivalencies (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	Acceptable Semester Course Substitutions (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	Acceptable Semester Course Repeats (If there is <u>no</u> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	Quarter Units (Current number of units which are required for each requirement area.)	Semester Units (Number of semester units which will be required for each requirement area.)	Notes
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**PHAP-MIN**

Minor Requirements	Lower-division required courses	CSE 201	CSE 2010	PHYS 3300	4	4	PHYS 3300 is preferred and only 3 units. Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 211				4	
		MATH 212	MATH 2210 & MATH 2220		4	8	
		MATH 251			4		
		PHYS 150	PHYS 2600L		5	1	
		PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L		5	10	Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		PHYS 222		5			
		PHYS 223		5			
		PHYS 224	PHYS 2510 & PHYS 3500		3		No units because they are counted in other rows
		PHYS 225	PHYS 2700		3	3	
	Upper-division required courses	MATH 331	MATH 2310		4	4	
		PHYS 350	PHYS 3600		4	2	
		PHYS 352	PHYS 4600		4	3	
		PHYS 373	PHYS 3100		4	4	
<b>Total</b>					<b>58</b>	<b>39</b>	

**Physics Applied Minor -- Quarter to Semester Translation Table**  
 Quarter Requirements (AY 2017-18)

Quarter Courses	Semester Course Equivalencies (Course is the same as the quarter course. This can be 1:1; 1:many; many:1; or many:many courses. Anywhere (for any program) which the quarter course was required or listed, this (these) semester course(s) can be used. This information will also be displayed in the course conversion guide. Repeat rules apply.)	Acceptable Semester Course Substitutions (Course is NOT the same as the semester course, but it is acceptable for this particular program requirement area for all students. This information WILL NOT be displayed in the course conversion guide, but will be reflected on the PAWS as a choice for the student. Repeat rules DO NOT apply.)	Acceptable Semester Course Repeats (If there is <b>no</b> semester course equivalency, this is the alternative course to allow for grade forgiveness/grade discounting.)	Quarter Units (Current number of units which are required for each requirement area.)	Semester Units (Number of semester units which will be required for each requirement area.)	Notes
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**PHAP-MIN**

Minor Requirements	Lower-division required courses	CSE 201	CSE 2010	PHYS 3300	4	4	PHYS 3300 is preferred and only 3 units. Complete the appropriate MATH bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		MATH 211				4	
		MATH 212	MATH 2210 & MATH 2220		4	8	
		MATH 251			4		
		PHYS 150	PHYS 2600L		5	1	
		PHYS 221	PHYS 2500, PHYS 2500L, PHYS 2510, & PHYS 2510L		5	10	Complete the appropriate PHYS bridge course if you have not completed the sequence under quarters. See your advisor for more information.
		PHYS 222		5			
		PHYS 223		5			
		PHYS 224	PHYS 2510 & PHYS 3500		3		No units because they are counted in other rows
		PHYS 225	PHYS 2700		3	3	
	Upper-division required courses	MATH 331	MATH 2310		4	4	
		PHYS 350	PHYS 3600		4	2	
		PHYS 352	PHYS 4600		4	3	
		PHYS 373	PHYS 3100		4	4	
<b>Total</b>					<b>58</b>	<b>39</b>	