

B.S. in Chemistry - ACS Certified Option -- Quarter to Semester Translation Table
Quarter Requirements (AY 2017-18)

			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 no 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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CACS

Lower Division Requirements	Required courses	BIOL 200	BIOL 2010			5	5	
		CHEM 215	CHEM 2100, CHEM 2100L			6	5	
		CHEM 216	CHEM 2200, CHEM 2200L			6	5	
		MATH 211, MATH 212, MATH 213	MATH 2210, MATH 2220			12	8	
		MATH 251	MATH 2310			4	4	
		PHYS 221, PHYS 222, PHYS 223	PHYS 2500, PHYS 2500L, PHYS 2510, PHYS 2510L			15	10	
Upper Division Requirements	Organic Chemistry	CHEM 321, CHEM 322, CHEM 323	CHEM 3400, CHEM 3500			15 to 17	10 to 13	Students completing Chem 221 will take a bridge class followed by Chem 2500, and Chem 2500L or students completing Chem 321 will take a bridge class followed by Chem 3500, and Chem 3500L...
	Subject to departmental approval the organic chemistry requirement may be met with the following	CHEM 221A, CHEM 221B, CHEM 222, CHEM 222B, CHEM223, CHEM 223B, CHEM 421	CHEM 2400, CHEM 2400L, CHEM 2500, CHEM 2500L, CHEM 3600					
	Required courses	CHEM 345	CHEM 3200			5	4	
		CHEM 436A	CHEM 4100			4	3	
		CHEM 436B	CHEM 4100 L			1	1	
		CHEM 455, CHEM 456	CHEM 4400, CHEM 4500, CHEM 4550			5	7	
		CHEM 475	CHEM 4300			5	4	
		CHEM 545	CHEM 5200			6	5	
		CHEM 576	CHEM 5300			4		
		CHEM 590A				1		
	CHEM 590B	CHEM 5800			1	1		
	Four units in UD chemistry	CHEM 300-599	Four Units in UD chemistry: 2 units from CHEM 5100, or CHEM 5150, and 2 units from CHEM 4200, 5001, 5002, 5003, 5100, 5150, 5300, 5320, 5400, 5420, 5500, 5550, 5751, 5752, 5753, 5901, 5902, 5903, 5951, 5952, or 5953.			4	4	
	Additional Requirements	Applied Mathematics (four units chosen from)	MATH 252, MATH 270, MATH 331	MATH 2320, or MATH 2330			4	4
Comp Exam		CHEM 599	CHEM 5990			0	0	
Total						93	70	

B.A. in Chemistry -- Quarter to Semester Translation Table
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		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 no 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
CHEM								
Lower Division Requirements	Required courses	CHEM 215	CHEM 2100, CHEM 2100L			12	10	
		CHEM 216	CHEM 2200, CHEM 2200L					
		MATH 211, MATH 212, MATH 213	MATH 2210, MATH 2220			12	8	
Introductory Physics (one year chosen from sequence A or B)	Sequence A	PHYS 121, PHYS 122, PHYS 123	PHYS 2000, PHYS 2000L, PHYS 2010, PHYS 2010L					
	Sequence B	PHYS 221, PHYS 222, PHYS 223	PHYS 2500, PHYS 2500L, PHYS 2510, PHYS 2510L			13-15	9 to 10	
Biological Science	One course chosen from	BIOL 100 BIOL 200	BIOL 1000, BIOL 1000L BIOL 2010			5	4	
Organic Chemistry	Organic Chemistry UD sequence	CHEM 321, CHEM 322, CHEM 323	CHEM 3400, CHEM 3500					
	Optional sequence to Organic Chemistry (with departmental approval)	CHEM 221A, CHEM 221B, CHEM 222, CHEM 222B, CHEM 223, CHEM 223B, CHEM 421	CHEM 3400, CHEM 3400L, CHEM 3500, CHEM 2500L, CHEM 3600			15 to 17	10 to 13	Students completing Chem 221 will take a bridge class followed by Chem 2500, and Chem 2500L or students completing Chem 321 will take a bridge class followed by Chem 3500, and Chem 3500L.
Upper Division Requirements	Required courses	CHEM 345	CHEM 3200			5	4	
		CHEM 455, CHEM 456	CHEM 4400, CHEM 4500, CHEM 4550			10	7	
		CHEM 475	CHEM 4300			5	4	
		CHEM 590A CHEM 590B	Chem 5800	Chem 5800		1	1	
	Four units UD Chemistry	CHEM 300-599	Three Units in UD chemistry chosen from CHEM 4200, 5001, 5002, 5003, 5100, 5150, 5300, 5320, 5400, 5420, 5500, 5550, 5751, 5752, 5753, 5901, 5902, 5903, 5951, 5952, or 5953.			4	3	
Total						83-85	60 - 64	

B.S. in Chemistry - Biochemistry Option -- 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 no 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
CBIO-B5								
Lower Division Requirements	Required courses	CHEM 215	CHEM 2100, CHEM 2100L			6	5	
		CHEM 216	CHEM 2200, CHEM 2200L			6	5	
		MATH 211, MATH 212, MATH 213	MATH 2210, MATH 2220			4		
						4	8	
Introductory Physics (one year chosen from sequence A or B)	Sequence A	PHYS 121, PHYS 122, PHYS 123	PHYS 2000, PHYS 200L, PHYS 2010, PHYS 2010L			13-15	9 to 10	
	Sequence B	PHYS 221, PHYS 222, PHYS 223	PHYS 2500, PHYS 2500L, PHYS 2510, PHYS 2510L					
Biology	Required courses	BIOL 200, BIOL 201, BIOL 202	BIOL 2010, BIOL 2020			15	10	
Organic Chemistry	Organic Chemistry UD sequence	CHEM 321, CHEM 322, CHEM 323	CHEM 3400, CHEM 3500			15	10	
	Optional sequence to Organic Chemistry (with departmental approval)	CHEM 221A, CHEM 221B, CHEM 222, CHEM 222B, CHEM223, CHEM 223B, CHEM 421	CHEM 2400, CHEM 2400L, CHEM 2500, CHEM 2500L, CHEM 3600			17	13	Students completing Chem 221 will take a bridge class followed by Chem 2500, and Chem 2500L or students completing Chem 321 will take a bridge class followed by Chem 3500, and Chem 3500L.
Upper Division Requirements	Required courses	CHEM 345	CHEM 3200			5	4	
		CHEM 436A, CHEM 436B, CHEM 437A, CHEM 437B, CHEM 438A, CHEM 438B	CHEM 4100, CHEM 4100L, CHEM 4200, CHEM 4200L			4		
						1		
						3	8	
						1		
						3		
Ten units chosen from Group A or Group B	Group A	CHEM 451, CHEM 452	CHEM 4600, CHEM 4700, CHEM 4750			10	7	
	Group B	CHEM 455, CHEM 456	CHEM 4400, CHEM 4500, CHEM 4550					
	One course chosen from	CHEM 470	CHEM 4350			3-5	3 - 4	
		CHEM 475	CHEM 4300					
	Required courses	CHEM 590A				1		
		CHEM 590B	CHEM 5800			1	1	
		BIOL 300	BIOL 3010			5	4	
	One course chosen from	BIOL 320, BIOL 324, BIOL 400, BIOL 413, BIOL 423, BIOL 424, BIOL 431, BIOL 440, BIOL 576, BIOL 580	BIOL 3100, BIOL 3120, BIOL 3200, BIOL 3300			4-6	4	
	Comp Exam	CHEM 599	CHEM 5990			0	0	
Total						109-115		

Chemistry 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 a 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
CHEM-MIN								
Minor Requirements	Required courses	CHEM 215, CHEM 216 CHEM 345	CHEM 2100, CHEM 2100L, CHEM 2200, CHEM 2200L CHEM 3200			12 5	10 4	
A Minimum of Twelve Units, Choose Group A or B	Group A	CHEM 221A, CHEM 221B, CHEM 222, CHEM 222B, CHEM 223, CHEM 223B	CHEM 2400, CHEM 2400L, CHEM 2500, CHEM 2500L			12-15	8 to 10	Students completing Chem 221 will take a bridge class followed by Chem 2500, Chem 2500L or students completing Chem 321 will take a bridge class followed by Chem 3500, Chem 3500L.
	Group B	CHEM 321, CHEM 322, CHEM 323	CHEM 3400, CHEM 3500					
Mathematics	One course chosen from	MATH 192 MATH 212	MATH 1601 RMATH 212			4	3	
One Year of Introductory Physics: Choose Sequence A or B	Sequence A	PHYS 121, PHYS 122, PHYS 123	PHYS 2000, PHYS 2000L, PHYS 2010, PHYS 2010L			13-15	9 to 10	
	Sequence B	PHYS 221, PHYS 222, PHYS 223	PHYS 2500, PHYS 2500L, PHYS 2510, PHYS 2510L					
Electives	Ten additional upper-division units in chemistry. The following courses may not be used to satisfy this requirement: CHEM 301, CHEM 590A, CHEM 590B, CHEM 597		Seven additional upper-division units in chemistry. The following courses may not be used to satisfy this requirement: CHEM 3900, CHEM 5800, CHEM 5971, CHEM 5972, CHEM 5973			10	7	
Total						56-61	43 to 44	