

B.S. in Applied Physics (Optics Emphasis) 2017-2018: Option 1 - CWILT

First Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY292 & 292D General Physics I and General Physics I Lab *1	4	GES125 Introduction to the Creative Arts	4	PHY296 & PHY297 General Physics II and General Physics II Lab	4
BIB101 Introduction to the Bible	3			GES130 Christianity Western Culture	4
GES160 Inquiry Seminar	3			GES140 Introduction to Wellbeing	3
MAT124M Calculus 1 *1	4			MAT125 Calculus 2	4
	14		4		15
Second Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY302 & PHY303 Electronics and Electronics Lab	4	World Cultures (U) course	3	PHY312 & PHY313 Modern Physics and Modern Physics Lab	4
COS205 Scientific Computing	3			PHY352 & PHY353 Computer Methods in Physics and Engineering and Computer Methods in Physics and Engineering Lab	4
MAT223 Multivariable Calculus	3			MAT222 Differential Equations	3
PHY260 Careers in Engineering and Physics Seminar	1			Second Language (S) course	4
Contemporary Western Life and Thought (L) course	3				
	14		3		15
Third Year					
Fall	Credits	Interim	Credits	Spring	Credits
CHE208 & 208D Accelerated General Chemistry and Accelerated General Chemistry Lab	4	Science, Technology, and Society (K) course	3	PHY365 Physics Research Seminar	1
PHY320 Mathematical Methods in Physics and Engineering	4			PHY332 & PHY333 (spring, even years) Optics, Optics Lab	4
PHY400 (fall, odd years) Electricity and Magnetism	4			PHY440 Quantum Mechanics	4
THE201 Christian Theology	3			Comparative Systems (G) course	3
				Interpreting Biblical themes (J) course	3
	15		3		15
Fourth Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY440 Quantum Mechanics	4	Interim Off		PHY432 & PHY433 (spring, even) Topics in Contemporary Optics, Topics in Contemporary Optics Lab	4
PHY490 Research	3			Electives	8
Contemporary Christian Issues (P) course	3			Leisure and Lifetime Sport (Q) course	1
Cross-Cultural Experience (Z) course	0-3			Artistic Experience (A) course	0-3
Electives	4				
	14-17		0		13-16
Total Credits: 125-131					

*1. Students may also choose to use this course to meet a General Education requirement.

*2. Students must complete through the second semester of a first year language course or equivalent (Check the catalog for details of this option.)

Because of possible double counting between General Education and the major, the actual credit total can be reduced to 122.

Most financial aid packages stipulate 12 credits/semester; Minnesota state grants are reduced when credit load falls below 15 credits/semester. (Interim credits may be split between fall and spring for state grant purposes only.)

B.S. in Applied Physics (Optics Emphasis) 2017-2018: Option 2 - Humanities

First Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY292 & 292D General Physics I and General Physics I Lab *1	4	GES147 Humanities II: Renaissance and Reformation	4	PHY296 & PHY297 General Physics II and General Physics II Lab	4
GES145 Humanities I: Greco-Roman through Middle Ages	4			GES244 Humanities III: European Enlightenment and American Culture to 1877	4
GES140 Introduction to Wellbeing	3			BIB101 Introduction to the Bible	3
MAT124M Calculus 1 *1	4			MAT125 Calculus 2	4
	15				15
Second Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY302 & PHY303 Electronics and Electronics Lab	4	World Cultures (U) course	3	PHY312 & PHY313 Modern Physics and Modern Physics Lab	4
COS205 Scientific Computing	3			PHY352 & PHY353 Computer Methods in Physics and Engineering and Computer Methods in Physics and Engineering Lab	4
MAT223 Multivariable Calculus	3			MAT222 Differential Equations	3
GES246 Humanities IV: Modern and Contemporary Western Culture	4			Second Language (S) course ²	4
	14		3		15
Third Year					
Fall	Credits	Interim	Credits	Spring	Credits
CHE208 & 208D Accelerated General Chemistry and Accelerated General Chemistry Lab	4	Science, Technology, and Society (K) course	3	PHY365 Physics Research Seminar	1
PHY400 Electricity and Magnetism	4			PHY332 & PHY333 Optics and Optics Lab	4
PHY260 Careers in Engineering and Physics Seminar	1			PHY320 Mathematical Methods in Physics and Engineering	4
PHY320 Mathematical Methods in Physics and Engineering	4			Interpreting Biblical themes (J) course	3
				Comparative Systems (G) course	3
	13		3		15
Fourth Year					
Fall	Credits	Interim	Credits	Spring	Credits
PHY440 Quantum Mechanics	4	Interim Off		PHY432 & PHY433 Topics in Contemporary Optics and Topics in Contemporary Optics Lab	4
PHY490 Research	3			Leisure and Lifetime Sport (Q) course	1
Contemporary Christian Issues (P) course	3			Artistic Experience (A) course	0-3
Cross-Cultural Experience (Z) course	0-3			Electives	8
Elective	4				
	14-17		0		13-16
Total Credits: 124-130					

*1. Students may also choose to use this course to meet a General Education requirement.

*2. Students must complete through the second semester of a first year language course or equivalent (Check the catalog for details of this option.)

Because of possible double counting between General Education and the major, the actual credit total can be reduced to 122.

Most financial aid packages stipulate 12 credits/semester; Minnesota state grants are reduced when credit load falls below 15 credits/semester. (Interim credits may be split between fall and spring for state grant purposes only.)