

B.S. in Applied Physics (Optics Emphasis) 2022-2023: Option 1 - CWILT

FIRST YEAR					
Fall (even)	Credits	Interim	Credits	Spring (odd)	Credits
PHY 292 & PHY 292D General Physics I and General Physics I Lab	4	GES 125 Introduction to the Creative Arts	4	PHY 296 & PHY 297 General Physics II and General Physics II Lab	4
MAT 124M1 Calculus 1 or Elective	4			GES 130 Christianity Western Culture	4
BIB 101 Introduction to the Bible	3			GES 140 Introduction to Wellbeing	3
GES 160 Inquiry Seminar	3			MAT 125 Calculus 2	4
	14		4		15
SECOND YEAR					
Fall (odd)	Credits	Interim	Credits	Spring (even)	Credits
PHY 302 & PHY 303 Electronics and Electronics Lab	4	World Cultures (U) course	3	PHY 312 & PHY 313 Modern Physics and Modern Physics Lab	4
COS 205 Scientific Computing	3			PHY 352 & PHY 353 Computer Methods in Physics and Engineering and Computer Methods in Physics and	4
MAT 223 Multivariable Calculus	3			MAT 222 Differential Equations	3
PHY 260 Careers in Engineering and Physics Seminar	1			Contemporary Western Life and Thought (L)	3
Second Language (S) course *1	4				
	15		3		14
THIRD YEAR					
Fall (even)	Credits	Interim	Credits	Spring (odd)	Credits
PHY 320 Mathematical Methods in Physics and Engineering	4	Science, Technology, and Society (K) course	3	PHY 365 Physics Research Seminar	1
CHE 208 & CHE 208D Accelerated General Chemistry and Accelerated General Chemistry Lab	4			PHY 432 & PHY 433 Topics in Contemporary Optics and Topics in Contemporary Optics Lab	4
PHY 440 Quantum Mechanics	4			Comparative Systems (G) course	3
THE 201 Christian Theology	3			Interpreting Biblical themes (J) course	3
				Elective	3
	15		3		14
FOURTH YEAR					
Fall (odd)	Credits	Interim	Credits	Spring (even)	Credits
PHY 400 Electricity and Magnetism	4	Interim Off	0	PHY 332 & PHY 333 Optics and Optics Lab	4
PHY 340 Mechanics	4			PHY 490 Research	4
Contemporary Christian Issues (P) course	3			Elective	3
Elective	3			Leisure and Lifetime Sport (Q) course	1
Cross-Cultural Experience (Z) course	0-3			Artistic Experience (A) course	0-3
	14-17		0		12-15
Total Credits 123-129					

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

This program assumes a student will use [MAT 124M](#) and [PHY 292/PHY 292D](#) to meet the General Education Mathematics (M) course and Laboratory Science (D) course requirements.

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) 2022-2023: Option 2 - Humanities

FIRST YEAR					
Fall (even)	Credits	Interim	Credits	Spring (odd)	Credits
PHY 292 & PHY 292D	4	GES 147 Humanities II: Renaissance and Reformation	4	PHY 296 & PHY 297	4
General Physics I and General Physics I Lab				General Physics II and General Physics II Lab	
MAT 124M1 Calculus 1 or Elective	4			GES 244 Humanities III: European Enlightenment and American Culture to 1877	4
BIB 101 Introduction to the Bible	3			GES 140 Introduction to Wellbeing	3
GES 145 Humanities I: Greco-Roman through Middle Ages	4			MAT 125 Calculus 2	4
	15		4		15
SECOND YEAR					
Fall (odd)	Credits	Interim	Credits	Spring (even)	Credits
PHY 302 & PHY 303	4	World Cultures (U) course	3	PHY 312 & PHY 313	4
Electronics and Electronics Lab				Modern Physics and Modern Physics Lab	
GES 246 Humanities IV: Modern and Contemporary Western Culture	4			PHY 352 & PHY 353	4
COS 205 Scientific Computing	3			Computer Methods in Physics and Engineering and Computer Methods in Physics and	
MAT 223 Multivariable Calculus	3			MAT 222 Differential Equations	3
PHY 260 Careers in Engineering and Physics Seminar	1			Second Language (S) course *1	4
	15		3		15
THIRD YEAR					
Fall (even)	Credits	Interim	Credits	Spring (odd)	Credits
PHY 320 Mathematical Methods in Physics and Engineering	4	Science, Technology, and Society (K) course	3	PHY 365 Physics Research Seminar	1
CHE 208 & CHE 208D	4			PHY 432 & PHY 433	4
Accelerated General Chemistry and Accelerated General Chemistry Lab				Topics in Contemporary Optics and Topics in Contemporary Optics Lab	
PHY 440 Quantum Mechanics	4			Comparative Systems (G) course	3
				Interpreting Biblical themes (J) course	3
				Elective	3
	12		3		14
FOURTH YEAR					
Fall (odd)	Credits	Interim	Credits	Spring (even)	Credits
PHY 400 Electricity and Magnetism	4	Interim Off	0	PHY 332 & PHY 333	4
PHY 340 Mechanics	4			Optics and Optics Lab	
Contemporary Christian Issues (P) course	3			PHY 490 Research	4
Elective	3			Elective	3
Cross-Cultural Experience (Z) course	0-3			Leisure and Lifetime Sport (Q) course	1
				Artistic Experience (A) course	0-3
	14-17		0		12-15
Total Credits 122-128					26
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*1. Students must complete through the second semester of a first year language course or equivalent (Check the catalog for details of this option.)

This program assumes a student will use [MAT 124M](#) and [PHY 292/PHY 292D](#) to meet the General Education Mathematics (M) course and Laboratory Science (D) course requirements. 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.)