B.S. in Applied Physics (Optics Emphasis) Enhanced Academic Plans

B.S. in Applied Physics (Optics Emphasis) - CWILT

Recommended Courses				
Fall Semester 1	**Interim Semester 1**	**Spring Semester 1**	**Career Planning and Preparation**	**R.E.A.L. Experience**
PHY 292 & PHY 292D 1 General Physics I and General Physics I Lab	GES 125 Introduction to the Creative Arts	PHY 296 & PHY 297 General Physics II and General Physics II Lab	PHASE 1: EXPLORE	Create your R.E.A.L. Portfolio
GES 160 Inquiry Seminar		GES 130 Christianity Western Culture	*Explore self, careers, & God's call*	Consider joining Sigma Zeta, Women in Physics and Engineering (WPE), or another club or ministry of interest
MAT 124M Calculus 1		MAT 125 Calculus 2	Take a Career Assessment	
BIB 101 Introduction to the Bible		GES 140 Introduction to Wellbeing	Research Careers: O*Net, Candid Careers, & informational interviews w/ Alums	Consider finding a mentor
			Gain Experience: Part-time job; Campus Involvement (e.g. student club); Volunteering	
14	**4**	**15**		
MILESTONES: Consider study abroad options				
Recommended Courses				
Fall Semester 2	**Interim Semester 2**	**Spring Semester 2**	**Career Planning and Preparation**	**R.E.A.L. Experience**
PHY 302 & PHY 303 Electronics and Electronics Lab	World Cultures (U) course	PHY 312 & PHY 313 Modern Physics and Modern Physics Lab	PHASE 1&2: EXPLORE/EXPERIENCE	Continue adding artifacts and reflections to your R.E.A.L. Portfolio.
COS 205 Scientific Computing		PHY 352 & PHY 353 Computer Methods in Physics and Engineering and Computer Methods in Physics and Engineering Lab	*Finalize major if necessary & begin gaining experience*	Consider taking a leadership position with a student club.
MAT 223 Multivariable Calculus		MAT 222 Differential Equations	Create/update Resume & LinkedIn	Consider going on a spring break mission trip.
PHY 260 Careers in Engineering and Physics Seminar		Second Language (S) course*1	Build professional network (e.g. informational interviews)	
Contemporary Western Life and Thought (L) course			Attend Spring Career Fair	
			Obtain Internship or relevant job by summer	
14	**3**	**15**		
MILESTONES: Consider doing an online course over the summer				
Recommended Courses				
Fall Semester 3	**Interim Semester 3**	**Spring Semester 3**	**Career Planning and Preparation**	**R.E.A.L. Experience**
CHE 208 & CHE 208D Accelerated General Chemistry and Accelerated General Chemistry Lab	Science, Technology, and Society (K) course	PHY 365 Physics Research Seminar	PHASE 2: EXPERIENCE	Review your R.E.A.L. Portfolio and prepare to make it public.
PHY 320 Mathematical Methods in Physics and Engineering		PHY 332 & PHY 333 Optics and Optics Lab	*Use experiences to narrow down career choice & develop relevant skills*	Consider studying abroad.
PHY 400 (fall, odd years) Electricity and Magnetism		PHY 440 Quantum Mechanics	Participate in Fall & Spring Recruiting to obtain an internship	Consider applying for a Student Leadership Position in Student Life.
THE 201 Christian Theology		Comparative Systems (G) course	Schedule a Mock Interview	Consider being a TA for a favorite class.
		Interpreting Biblical Themes (J) course	Explore Grad Schools & Take Entrance Exams (e.g. GRE) if necessary	
			Expand Professional Network	
15	**3**	**15**		
MILESTONE: A minimum 3.2 GPA in your major is a good goal to strive for				
Recommended Courses				
Fall Semester 4	**Interim Semester 4**	**Spring Semester 4**	**Career Planning and Preparation**	**R.E.A.L. Experience**
PHY 440 Quantum Mechanics	Interim Off	PHY 432 & PHY 433 (spring, even) Topics in Contemporary Optics, Topics in Contemporary Optics Lab	PHASE 3: EXECUTE	Continue updating your public R.E.A.L. Portfolio with relevant experiences and reflection.
PHY 490 Research		Electives	*Execute an effective job or grad school search*	Consider mentoring an underclassman.
Contemporary Christian Issues (P) course		Leisure and Lifetime Sport (Q) course	Participate in Fall and Spring Recruiting	
Cross-Cultural Experience (Z) course		Artistic Experience (A) course	Apply for Graduate School if necessary	
Electives			Expand Professional Network	
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) Enhanced Academic Plans

B.S. in Applied Physics (Optics Emphasis) - Humanities

Recommended Courses				
Fall Semester 1	**Interim Semester 1**	**Spring Semester 1**	**Career Planning and Preparation**	**R.E.A.L. Experience**
PHY 292 & PHY 292D 1 General Physics I and General Physics I Lab	GES 147 Humanities II: Renaissance and Reformation	PHY 296 & PHY 297 General Physics II and General Physics II Lab	PHASE 1: EXPLORE	Create your R.E.A.L. Portfolio
GES 145 Humanities I: Greco-Roman through Middle Ages		GES 244 Humanities III: European Enlightenment and American Culture to 1877	*Explore self, careers, & God's call*	Consider joining Sigma Zeta, Women in Physics and Engineering (WPE), or another club or ministry of interest
MAT 124M Calculus 1		BIB 101 Introduction to the Bible	Take a Career Assessment	
GES 140 Introduction to Wellbeing		MAT 125 Calculus 2	Research Careers: O*Net, Candid Careers, & informational interviews w/ Alums	Consider finding a mentor
			Gain Experience: Part-time job; Campus Involvement (e.g. student club); Volunteering	
15	**4**	**15**		
MILESTONES: Consider study abroad options				
Recommended Courses				
Fall Semester 2	**Interim Semester 2**	**Spring Semester 2**	**Career Planning and Preparation**	**R.E.A.L. Experience**
COS 205 Scientific Computing	World Cultures (U) course	PHY 312 & PHY 313 Modern Physics and Modern Physics Lab	PHASE 1&2: EXPLORE/EXPERIENCE	Continue adding artifacts and reflections to your R. E.A.L. Portfolio.
GES 246 Humanities IV: Modern and Contemporary Western Culture		PHY 352 & PHY 353 Computer Methods in Physics and Engineering and Computer Methods in Physics and Engineering Lab	*Finalize major if necessary & begin gaining experience*	Consider taking a leadership position with a student club.
MAT 223 Multivariable Calculus		MAT 222 Differential Equations	Create/update Resume & LinkedIn	Consider going on a spring break mission trip.
PHY 302 & PHY 303 Electronics and Electronics Lab		Second Language (S) course*2	Build professional network (e.g. informational interviews)	
			Attend Spring Career Fair	
14	**3**	**15**	Obtain Internship or relevant job by summer	
MILESTONES: Consider doing an online course over the summer				
Recommended Courses				
Fall Semester 3	**Interim Semester 3**	**Spring Semester 3**	**Career Planning and Preparation**	**R.E.A.L. Experience**
CHE 208 & CHE 208D Accelerated General Chemistry and Accelerated General Chemistry Lab	Science, Technology, and Society (K) course	PHY 365 Physics Research Seminar	PHASE 2: EXPERIENCE	Review your R.E.A.L. Portfolio and prepare to make it public.
PHY 400 Electricity and Magnetism		PHY 332 & PHY 333 Optics and Optics Lab	*Use experiences to narrow down career choice & develop relevant skills*	Consider studying abroad.
PHY 260 Careers in Engineering and Physics Seminar		PHY 320 Mathematical Methods in Physics and Engineering	Participate in Fall & Spring Recruiting to obtain an internship	Consider applying for a Student Leadership Position in Student Life.
PHY 320 Mathematical Methods in Physics and Engineering		Comparative Systems (G) course	Schedule a Mock Interview	Consider being a TA for a favorite class.
		Interpreting Biblical Themes (J) course	Explore Grad Schools & Take Entrance Exams (e. g. GRE) if necessary	
			Expand Professional Network	
13	**3**	**15**		
MILESTONE: A minimum 3.2 GPA in your major is a good goal to strive for				
Recommended Courses				
Fall Semester 4	**Interim Semester 4**	**Spring Semester 4**	**Career Planning and Preparation**	**R.E.A.L. Experience**
PHY 440 Quantum Mechanics	Interim Off	PHY 432 & PHY 433 Topics in Contemporary Optics and Topics in Contemporary Optics Lab	PHASE 3: EXECUTE	Continue updating your public R.E.A.L. Portfolio with relevant experiences and reflection.
PHY 490 Research		Leisure and Lifetime Sport (Q) course	*Execute an effective job or grad school search*	Consider mentoring an underclassman.
Contemporary Christian Issues (P) course		Artistic Experience (A) course	Participate in Fall and Spring Recruiting	
Cross-Cultural Experience (Z) course		Electives	Apply for Graduate School if necessary	
Elective			Expand Professional Network	
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.)