OPTICAL ENGINEERING

Plan of Study

Below is a sample plan of study that illustrates one way to achieve the program requirements. Any given student's plan of study may differ based on a variety of factors (e.g., advanced credit, placement exams, adding a minor). Enrolled students will work with their academic advisor; utilize the degree audit/planner to create a specific plan of study.

Course	Title	Hours
Freshman		
Fall		
MA 111	Calculus I	5
PH 111	Physics I	4
PH 111L	Physics I Lab	0
RHIT 100	Foundations for Rose-Hulman Success	1
EM 104	Graphical Communications	2
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Lab	1
	Hours	**16**
Winter		
PH 112	Physics II	4
PH 112L	Physics II Lab	0
MA 112	Calculus II	5
HUM H190	First-Year Writing Seminar	4
CHEM 113	General Chemistry II	3
CHEM 113L	General Chemistry II Laboratory	1
	Hours	**17**
Spring		
PH 113	Physics III	4
PH 113L	Physics III Lab	0
MA 113	Calculus III	5
ME 123 or CSSE 120	Computer Programming or Introduction to Software Development	4
OE 172	Lasers and Fiber Optics [1]	2
EM 103	Introduction to Design	2
	Hours	**17**
Sophomore		
Fall		
PH 235	Many-Particle Physics	4
PH 292	Physical Optics	4
MA 221	Matrix Algebra & Differential Equations I	4
ES 213	Electrical Systems	3
ES 213L	Electrical Systems Lab	1
	Hours	**16**
Winter		
HSSA Elective		4
PH 255	Foundations of Modern Physics	4
MA 222	Matrix Algebra & Differential Equations II	4
OE 280	Geometrical Optics	4
	Hours	**16**
Spring		
OE 295	Photonic Devices and Systems	4
ECON S151 or ECON S152	Introduction to Microeconomics or Introduction to Macroeconomics	4
MA 381	Introduction to Probability with Applications to Statistics	4
Free Elective		4
	Hours	**16**
Junior		
Fall		
OE 480	Optical System Design	4
OE 395	Optomechanics & Optical Engineering Lab	4
PH 316	Electric & Magnetic Fields	4
HSSA Elective		4
	Hours	**16**
Winter		
OE 392 or OE 360	Linear Optical Systems or Optical Materials	4
ENGL H290	Technical & Professional Communication	4
Free Elective		4
Engineering Elective [2]		4
	Hours	**16**
Spring		
OE 415	Optical Engineering Design I	4
OE 450	Laser Systems & Applications	4
HSSA Elective		4
OE 393	Fiber Optics and Applications	4
	Hours	**16**
Senior		
Fall		
OE 416	Optical Engineering Design II	4
OE 460	Silicon Photonic Devices and Applications	4
PH/OE/EP Elective [3]		4
HSSA Elective		4
	Hours	**16**
Winter		
OE 417	Optical Engineering Design III	4
OE 495	Optical Metrology	4
OE 392 or OE 360	Linear Optical Systems or Optical Materials	4
Engineering Elective [2]		4
	Hours	**16**
Spring		
HSSA Elective		4
HSSA Elective		4
Engineering Elective [2]		4
Free Elective		4
	Hours	**16**
	Total Hours	**194**

Notes

1. If OE 172 Lasers and Fiber Optics is not taken during the freshman or sophomore year, the requirement must be replaced with a 300 or 400-level OE course of at least 2 credits.
2. An engineering elective is any 200, 300,or 400-level course listed as OE, EP, ECE, ME, CE, BE, EM or ES.
3. A PH/OE/EP elective is any 200, 300,or 400-level course listed as OE, EP or PH.