B.S. IN APPLIED PHYSICS

Code	Title	Credits
Major in Applied Physics (B.S.)		
CHE 113 & CHE 113D	General Chemistry I and General Chemistry I Lab	4
COS 111	Introduction to Programming	4
ENR 321	Statistical Methods in Engineering	2
MAT 125	Calculus 2 [1]	4
MAT 222	Differential Equations	4
or MAT 224	Differential Equations with Linear Algebra	
MAT 223	Multivariable Calculus	4
PHY 260	Careers in Engineering and Physics Seminar	1
PHY 292 & PHY 292D	General Physics I and General Physics I Lab [1]	4
PHY 296 & PHY 297	General Physics II and General Physics II Lab	4
PHY 302 & PHY 303	Electronics and Electronics Lab	4
PHY 312 & PHY 313	Modern Physics and Modern Physics Lab	4
PHY 322	Mathematical Methods in Physics and Engineering	2
PHY 340	Mechanics	4
PHY 352 & PHY 353	Computer Methods in Physics and Engineering and Computer Methods in Physics and Engineering Lab	4
PHY 365	Physics Research Seminar	1
PHY 490	Research	3

Code	Title	Credits
Major		53
General Education *		44-52
Emphasis		16-24
Electives		0-9
Total Credits		**122-129**

[1] MAT 124M with a C- or higher is a prerequisite for this course.

* Courses whose number is followed by a letter fulfill a General Education requirement.

Students may not declare a B.S. in Applied Physics and a Minor in Physics.

Biomedical Emphasis (24 credits)

Code	Title	Credits
BIO 120 & BIO 120D	Introduction to Molecular and Cellular Biology and Introduction to Molecular and Cellular Biology Lab	4
BIO 214 & BIO 215	Human Anatomy and Human Anatomy Lab	4

BIO 216 & BIO 217	Human Physiology and Human Physiology Lab	4
PHY 422 & PHY 423	Fluid Mechanics and Fluid Mechanics Lab	4
Choose from one of the following Optics courses:		4
PHY 332 & PHY 333	Optics and Optics Lab	
PHY 432 & PHY 433	Laser Fundamentals and Laser Fundamentals Lab	
Choose one of the following courses on properties of materials:		4
PHY 400	Electricity and Magnetism	
PHY 424 & PHY 425	Electronic Materials and Devices and Electronic Materials and Devices Laboratory	
Total Credits		**24**

Computational Emphasis (18 credits)

Code	Title	Credits
COS 211	Data Structures	4
MAT 242	Introduction to Proofs [1]	2
MAT 248	Mathematics of Computer Science	4
Choose one of the following courses:		4
COS 235	Computer Systems	
COS 277	Software Development Fundamentals	
One computer science course 300 level or above		4
Total Credits		**18**

[1] MAT 124M with a C- or higher is a prerequisite for this course.

Electronics Emphasis (20 credits)

Code	Title	Credits
ENR 306 & ENR 307	Digital Logic and Design and Digital Logic and Design Lab	4
ENR 326	Circuit Analysis & Simulations	4
PHY 400	Electricity and Magnetism	4
PHY 424 & PHY 425	Electronic Materials and Devices and Electronic Materials and Devices Laboratory	4
Choose one of the following Optical Science courses:		4
PHY 332 & PHY 333	Optics and Optics Lab	
PHY 432 & PHY 433	Laser Fundamentals and Laser Fundamentals Lab	
Total Credits		**20**

Mechanics Emphasis (16 credits)

Code	Title	Credits
ENR 304 & ENR 305	Engineering Materials and Manufacturing and Engineering Materials and Manufacturing Lab	4
ENR 308	Statics and Mechanics of Materials	4
PHY 410	Thermodynamics	4
PHY 422 & PHY 423	Fluid Mechanics and Fluid Mechanics Lab	4
Total Credits		**16**

Optics Emphasis (16 credits)

Code	Title	Credits
PHY 332 & PHY 333	Optics and Optics Lab	4
PHY 400	Electricity and Magnetism	4
PHY 432 & PHY 433	Laser Fundamentals and Laser Fundamentals Lab	4
PHY 440	Quantum Mechanics	4
Total Credits		**16**