

# BIOMEDICAL PHYSICS

## Requisite Courses

Code	Title	Credits
BIO 201 & BIO 205	General Biology: Organismal and Population and General Biology: Organismal and Population Laboratory	4
BIO 202 & BIO 206	General Biology: Cellular and Molecular and General Biology: Cellular and Molecular Laboratory	4
CHM 203 & CHM 204	General Chemistry I and General Chemistry I Laboratory	4
CHM 205 or CHM 285	General Chemistry II Advanced General Chemistry II	3
CHM 206 or CHM 286	General Chemistry II Laboratory Chemical and Statistical Analysis Laboratory	1
MTH 245	Calculus I	4
MTH 246	Calculus II <sup>1</sup>	4

## Biomedical Physics degree requirements (38 credits)

Code	Title	Credits
<b>Biomedical Physics Core</b>		
PHY 213	General Physics for the Physical Sciences I <sup>2</sup>	3
PHY 205	General Physics Laboratory I <sup>3</sup>	1
PHY 214	General Physics for the Physical Sciences II <sup>4</sup>	3
PHY 206	General Physics Laboratory II <sup>5</sup>	1
PHY 301	Modern Physics	3
PHY 397	Research Methods	2
PHY 491	Physics Seminar	1
PHY 497	Directed Independent Research	1-3
PHY 499	Research Capstone	1
<b>Biophysics Lecture Elective</b>		<b>3</b>
Choose one from the following:		
PHY 351	Physics in Medicine	
PHY 353	Introduction to Biological Physics	
An additional 19 hours of upper division coursework from BIO (3 credit hours minimum, 300-level and above), CHM, PHY (6 credit hours minimum, 400-level or above), and MTH. This can be satisfied by completing one of the specializations below. <sup>6</sup>		19
<b>Total Credits</b>		<b>38-40</b>

<sup>1</sup> MTH 249 Modeling the Physical World I may be substituted for MTH 246.

<sup>2</sup> PHY 201 General Physics for the Life Sciences or PHY 221 Advanced General Physics I:Modeling the Physical World may be substituted for PHY 213 General Physics for the Physical Sciences I.

<sup>3</sup> PHY 223 Project Physics Laboratory I may be substituted for the PHY 205 General Physics Laboratory I requirement.

<sup>4</sup> PHY 202 General Physics for the Life Sciences II or PHY 222 Advanced General Physics II:Modeling the Physical World may be substituted for PHY 214 General Physics for the Physical Sciences II.

<sup>5</sup> PHY 224 Project Physics Laboratory II may be substituted for the PHY 206 General Physics Laboratory II requirement.

<sup>6</sup> PHY 493 Directed Independent Readings, PHY 495 Directed Independent Study, or PHY 497 Directed Independent Research cannot

be used to fulfill the 6 credit hours of upper division physics courses requirement.

## Pre-Biomedical Engineering Specialization

Code	Title	Credits
CHM 321	Organic Chemistry I	3
CHM 322	Organic Chemistry I Laboratory	1
BIO 362	Cell Structure and Function	3
MTH 350	Applied Linear Algebra and Differential Equations	3
PHY 471	Classical Mechanics	3
PHY 553	Computational Physics	3
PHY Elective Any additional PHY courses numbered 400 or above.		3
<b>Total Credits</b>		<b>19</b>

## Pre-Medical Physics Specialization

Code	Title	Credits
BIO 449	Physiology	3
BIO 433	Vertebrate Comparative Anatomy	4
MTH 347	Calculus III	3
PHY 471	Classical Mechanics	3
PHY 531	Quantum Mechanics	3
PHY 561	Nuclear Physics	3
<b>Total Credits</b>		<b>19</b>

## Pre-Biophysics Specialization

Code	Title	Credits
CHM 321	Organic Chemistry I	3
CHM 322	Organic Chemistry I Laboratory	1
CHM 323	Organic Chemistry II	3
CHM 324	Organic Chemistry II Laboratory	1
CHM 371	Biochemistry of Metabolism	3
BIO 362	Cell Structure and Function	3
PHY 553	Computational Physics	3
PHY 541	Thermodynamics And Statistical Mechanics	3
<b>Total Credits</b>		<b>20</b>