# ANATOMY AND PHYSIOLOGY CONCENTRATION

**BIO 452**  
Cell Biology  
**CHEM 371**  
Biochemical Principles  
**or CHEM 313**  
Survey of Biochemistry and Biotechnology  

**Biodiversity Courses**  
Select from the following:  
- AEPS/BOT 323  
  Plant Pathology  
- BIO 321  
  Mammalogy  
- BIO 322  
  Ichthyology  
- BIO 323  
  Ornithology  
- BIO 324  
  Herpetology  
- BIO 329  
  Vertebrate Field Zoology  
- BIO 335  
  General Entomology  
- BIO 336  
  Invertebrate Zoology  
- BIO 415  
  Biogeography  
- BOT 313  
  Taxonomy of Vascular Plants  
- MSCI 324  
  Marine Mammals, Birds and Reptiles  
- MSCI 437  
  Marine Botany  

**Core Anatomy and Physiology Courses**  
Select from the following:  
- BIO 406  
  Advanced Anatomy and Physiology:  
    Neuroscience  
- BIO 407  
  Advanced Anatomy and Physiology:  
    Endocrinology  
  or ASCI 405  
  Domestic Livestock Endocrinology  
- BIO 408  
  Advanced Anatomy and Physiology:  
    Cardiorespiratory and Renal  
- BIO 409  
  Advanced Anatomy and Physiology:  
    Muscle and Locomotion  
- BIO 410  
  Functional Histology  
- BIO 426  
  Immunology  

**Department Electives**  
Select from the following:  
- BIO 321  
  Mammalogy  
- BIO 322  
  Ichthyology  
- BIO 323  
  Ornithology  
- BIO 324  
  Herpetology  
- BIO 329  
  Vertebrate Field Zoology  
- BIO 335  
  General Entomology  
- BIO 336  
  Invertebrate Zoology  
- BIO 405  
  Developmental Biology  
- BIO 406  
  Advanced Anatomy and Physiology:  
    Neuroscience  
- BIO 407  
  Advanced Anatomy and Physiology:  
    Endocrinology  
  or ASCI 405  
  Domestic Livestock Endocrinology  
- BIO 408  
  Advanced Anatomy and Physiology:  
    Cardiorespiratory and Renal  
- BIO 409  
  Advanced Anatomy and Physiology:  
    Muscle and Locomotion  
- BIO 410  
  Functional Histology  
- BIO 415  
  Biogeography  
- BIO 426  
  Immunology  
- BIO 428  
  Hematology  
- BIO 429  
  Parasitology  
- BIO 434  
  Environmental Physiology  
- BIO 435  
  Plant Physiology  

**Approved Electives**  
Select from the following:  
- AEPS/BOT 323  
  Plant Pathology  
- ANT 401  
  Culture and Health  
- ASCI 351  
  Reproductive Physiology  
- ASCI 406  
  Applied Animal Embryology and Assisted Reproduction  
- ASCI 438  
  Systemic Animal Physiology  
- BIO 321  
  Mammalogy  
- BIO 322  
  Ichthyology  
- BIO 323  
  Ornithology  
- BIO 324  
  Herpetology  
- BIO 329  
  Vertebrate Field Zoology  
- BIO 335  
  General Entomology  
- BIO 336  
  Invertebrate Zoology  
- BIO 400  
  Special Problems for Advanced Undergraduates  
- BIO 405  
  Developmental Biology  
- BIO 406  
  Advanced Anatomy and Physiology:  
    Neuroscience  
- BIO 407  
  Advanced Anatomy and Physiology:  
    Endocrinology  
  or ASCI 405  
  Domestic Livestock Endocrinology  
- BIO 408  
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    Cardiorespiratory and Renal  
- BIO 409  
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- BIO 415  
  Biogeography  
- BIO 426  
  Immunology  
- BIO 428  
  Hematology  
- BIO 429  
  Parasitology  
- BIO 434  
  Environmental Physiology  
- BIO 435  
  Plant Physiology
### Anatomy and Physiology Concentration

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<tr>
<th>Course Code</th>
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<td>BIO 461</td>
<td>Senior Project - Research Proposal 4, 5</td>
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<td>BIO 462</td>
<td>Senior Project - Research 4, 5</td>
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<td>BIO 463</td>
<td>Honors Research 5</td>
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<tr>
<td>BIO 470</td>
<td>Selected Advanced Topics (for &quot;Gastrointestinal Physiology &amp; Microbiology&quot; topic only)</td>
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<tr>
<td>BIO/CHEM 475</td>
<td>Molecular Biology Laboratory</td>
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<td>BOT 313</td>
<td>Taxonomy of Vascular Plants</td>
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<tr>
<td>CHEM 217</td>
<td>Organic Chemistry II</td>
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<td>CHEM 218</td>
<td>Organic Chemistry III</td>
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<tr>
<td>CHEM 220</td>
<td>Organic Chemistry Laboratory For Life Sciences II</td>
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<td>CHEM 223</td>
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<tr>
<td>CHEM 372</td>
<td>Metabolism</td>
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<td>CHEM 418</td>
<td>Neurochemistry</td>
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<td>COMS 418</td>
<td>Health Communication</td>
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<td>ENGR 322/SCM 302</td>
<td>The Learn By Doing Lab Teaching Practicum 5</td>
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<td>Maternal and Child Nutrition</td>
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<td>FSN 429</td>
<td>Clinical Nutrition I</td>
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<td>Neuroanatomy</td>
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<td>Electrocardiography</td>
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<td>Emerging Infectious Diseases</td>
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<td>Public Health Microbiology</td>
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<td>General Virology</td>
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<tr>
<td>PHIL 339</td>
<td>Biomedical Ethics</td>
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<td>or PHIL 341</td>
<td>Professional Ethics</td>
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<td>or SCM 451</td>
<td>Ethics in the Sciences</td>
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<td>PSY 320</td>
<td>Health Psychology</td>
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<td>PSY 340</td>
<td>Biopsychology</td>
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<tr>
<td>WGS/ES 350</td>
<td>Gender, Race, Culture, Science and Technology</td>
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**Total units**: 43

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1. Excess units will be applied to subsequent concentration Electives.
2. Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
3. Recommended for students interested in health sciences careers.
4. If BIO 461 or BIO 462 is used to meet the Senior Project Requirement, it cannot also be counted as an Approved Elective.
5.Maximum of 6 units may be applied toward Approved Electives from "by arrangement" courses: BIO 400, BIO 461, BIO 462, BIO 463, ENGR 322/SCM 302.