ANATOMY AND PHYSIOLOGY

CONCENTRATION

BIO 452  Cell Biology  4
CHEM 371  Biochemical Principles  5
or CHEM 313  Survey of Biochemistry and Biotechnology

Biodiversity Courses 1,2
Select from the following:  4
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
MCRO 224  General Microbiology I 3
MSCI 324  Marine Mammals, Birds and Reptiles
MSCI 437  Marine Botany

Core Anatomy and Physiology Courses 1,2
Select from the following:  16
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 1,2  5
Select from the following:  3
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
BIO 470  Selected Advanced Topics (for "Gastrointestinal Physiology & Microbiology" topic only)
BIO/Chem 475  Molecular Biology Laboratory
MCRO 224  General Microbiology I 3
MCRO 225  General Microbiology II
MCRO 320  Emerging Infectious Diseases
MCRO 342  Public Health Microbiology
MCRO 402  General Virology
MCRO 423  Medical Microbiology
MCRO 424  Microbial Physiology

Approved Electives 2
Select from the following:  11
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 5
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
Anatomy and Physiology Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 461</td>
<td>Senior Project - Research Proposal 4 5</td>
</tr>
<tr>
<td>BIO 462</td>
<td>Senior Project - Research 4 5</td>
</tr>
<tr>
<td>BIO 463</td>
<td>Honors Research 5</td>
</tr>
<tr>
<td>BIO 470</td>
<td>Selected Advanced Topics (for &quot;Gastrointestinal Physiology &amp; Microbiology&quot; topic only)</td>
</tr>
<tr>
<td>BIO/CHEM 475</td>
<td>Molecular Biology Laboratory</td>
</tr>
<tr>
<td>BOT 313</td>
<td>Taxonomy of Vascular Plants</td>
</tr>
<tr>
<td>CHEM 217</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>CHEM 218</td>
<td>Organic Chemistry III</td>
</tr>
<tr>
<td>CHEM 220</td>
<td>Organic Chemistry Laboratory For Life Sciences II</td>
</tr>
<tr>
<td>CHEM 223</td>
<td>Organic Chemistry Laboratory for Life Sciences III</td>
</tr>
<tr>
<td>CHEM 372</td>
<td>Metabolism</td>
</tr>
<tr>
<td>CHEM 418</td>
<td>Neurochemistry</td>
</tr>
<tr>
<td>COMS 418</td>
<td>Health Communication</td>
</tr>
<tr>
<td>ENGR 322/SCM 302</td>
<td>The Learn By Doing Lab Teaching Practicum 5</td>
</tr>
<tr>
<td>FSN 310</td>
<td>Maternal and Child Nutrition</td>
</tr>
<tr>
<td>FSN 429</td>
<td>Clinical Nutrition I</td>
</tr>
<tr>
<td>KINE 406</td>
<td>Neuroanatomy</td>
</tr>
<tr>
<td>KINE 445</td>
<td>Electrocardiography</td>
</tr>
<tr>
<td>KINE 446</td>
<td>Echocardiography</td>
</tr>
<tr>
<td>MCRO 225</td>
<td>General Microbiology II</td>
</tr>
<tr>
<td>MCRO 320</td>
<td>Emerging Infectious Diseases</td>
</tr>
<tr>
<td>MCRO 342</td>
<td>Public Health Microbiology</td>
</tr>
<tr>
<td>MCRO 402</td>
<td>General Virology</td>
</tr>
<tr>
<td>MCRO 423</td>
<td>Medical Microbiology</td>
</tr>
<tr>
<td>MCRO 424</td>
<td>Microbial Physiology</td>
</tr>
<tr>
<td>MSCI 324</td>
<td>Marine Mammals, Birds and Reptiles</td>
</tr>
<tr>
<td>MSCI 437</td>
<td>Marine Botany</td>
</tr>
<tr>
<td>PHIL 339</td>
<td>Biomedical Ethics</td>
</tr>
<tr>
<td>or PHIL 341</td>
<td>Professional Ethics</td>
</tr>
<tr>
<td>or SCM 451</td>
<td>Ethics in the Sciences</td>
</tr>
<tr>
<td>PSY 320</td>
<td>Health Psychology</td>
</tr>
<tr>
<td>PSY 340</td>
<td>Biopsychology</td>
</tr>
<tr>
<td>WGS/ES 350</td>
<td>Gender, Race, Culture, Science and Technology</td>
</tr>
</tbody>
</table>

Total units 43

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.