BIOETHICS MINOR

Overview
The interdisciplinary minor in bioethics encompasses work in the fields of biology, natural science, philosophy, sociology and theology. It enables students to study topics in which the life sciences and ethics converge, such as: biological and chemical weapons, human stem cell research, global warming, human and animal experimentation, pollution, genetic screening and gene therapy, and human population growth.

The bioethics minor helps to prepare students for a range of future careers, or for advanced study in the health professions, the sciences, teaching, law, journalism, ministry, research, government or social work. For many students, the study of bioethics not only deepens their understanding of science and its impact on our lives, but also strengthens their ability to think broadly and critically, and to better see the vital integration of science and technology with individuals and the world around us.

Curriculum
Requirements
The minor in bioethics requires at least seven courses completed with a grade of "C" or better. The science requirement is satisfied by taking either four courses in Biology or three courses in the Natural Sciences. The Ethics requirement is satisfied by 1) completing the foundational course (PHIL 284 Health Care Ethics); 2) taking two elective courses (one at the 300-level); and 3) one interdisciplinary capstone course (BIET 395A, BIET 395B, BIET 395C, BIET 395E, BIET 396A, BIET 396B, BIET 396C, or BIET 396E). See below for more detailed information about which specific courses satisfy these requirements.

Please note that one of the three ethics courses must be taken at the 300-level. This is in addition to BIET 395A,B,C, or E one of the three ethics courses must be a 300-level course.

Code  Title                                      Hours
Science Requirement
Students choose either Biology or Natural Sciences courses to fulfill the Science requirement.

Biology (BIOL) Courses
All four (4) courses are required
BIOL 101 General Biology I
BIOL 111 General Biology I Lab
BIOL 102 General Biology II
BIOL 112 General Biology II Lab

Natural Sciences Courses
Choose three (3) of the following:

ANTH 101 Human Origins
ANTH 103 Biological Background Human Social Behavior
ANTH 104 The Human Ecological Footprint
ANTH 105 Human Biocultural Diversity
ANTH 106 Sex, Science and Anthropological Inquiry
ANTH 280 Evolution of Human Disease
ANTH 303 People and Conservation
ENVS 204 Gender, Health & Environment
ENVS 207 Plants and Civilization

ENVS 218 Biodiversity & Biogeography
ENVS 223 Soil Ecology
ENVS 224 Climate & Climate Change
ENVS 226 Science & Conservation of Freshwater Ecosystems
ENVS 273 Energy and The Environment
ENVS 274 Chemistry of the Environment
ENVS 280 Principles of Ecology
ENVS 283 Environmental Sustainability
ENVS 301 Environmental Health
ENVS 385 Introduction to Global Health
ENVS 387 Principles of Ecotoxicology

Ethics Requirement

Foundations Course
PHIL 284 Health Care Ethics 3
Choose two (2) additional Ethics courses from the list below, one of which must be 300-level:

Philosophy
PHIL 287 Environmental Ethics
PHIL 324 Topics in Ethics (Topic must be related to Bioethics)
PHIL 355 Neuroethics
PHIL 369 Philosophy of Medicine
PHIL 389 Contemporary Issues (Topic must be related to Bioethics)
PHIL 398 Capstone Seminar in Contemporary Philosophy (Topic must be related to Bioethics)

Theology
THEO 192 Topics in Moral Problems (Topic must be related to Bioethics)
THEO 204 Religious Ethics and the Ecological Crisis
THEO 342 Perspectives on Life and Death
THEO 343 Contemporary Christian Sexuality
THEO 344 Theology and Ecology
THEO 393 Seminar (Topic must be related to Bioethics)

Health Systems Management
HSM 110 Healthcare in America
HSM 210 Introduction to Global Healthcare Delivery
HSM 220 Continuum of Healthcare Services
HSM 230 Fundamentals of Health Equity

Psychology
PSYC 235 Psychology of Human Sexuality
PSYC 238 Gender & Sex Differences & Similarities
PSYC 373 Health Psychology

Sociology
SOCL 226 Science, Technology, & Society
SOCL 225 Sociology of Health Care
SOCL 270 Sociology of Science
SOCL 272 Environmental Sociology
SOCL 278 Global Health

Interdisciplinary Capstone Course
BIET 395A Bioethics Minor Capstone: Philosophical & Anthropological Topics 3
Bioethics Minor

or BIET 395B  Bioethics Minor Capstone: Philosophical & Biological Topics
or BIET 395C  Bioethics Minor Capstone: Philosophical and Chemical Topics
or BIET 395E  Bioethics Minor Capstone: Philosophical & Environmental Science Topics
or BIET 396A  Bioethics Minor Capstone: Theological & Anthropological Topics
or BIET 396B  Bioethics Minor Capstone: Theological and Biological Topics
or BIET 396C  Bioethics Minor Capstone: Theological and Chemical Topics
or BIET 396E  Bioethics Minor Capstone: Theological & Environmental Science Topics

Total Hours 20-21

1 These courses count only when they address topics in bioethics.
2 For example: Environmental Ethics; HIV/AIDS; Reproduction & Reproductive Technologies, Death & Dying, Neuroscience & Neuroethics. Prerequisites: Must have completed two of the science requirements and two of the ethics requirements.

Suggested Sequence of Courses
The below sequence of courses is meant to be used as a suggested path for completing coursework. An individual student's completion of requirements depends on course offerings in a given term as well as the start term for a major or graduate study. Students should consult their advisor for assistance with course selection.

### Biology Track (For Biology, Biochemistry, & Neuroscience Majors)

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<tr>
<th>Year 1</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Fall</td>
<td>BIOL 101</td>
<td>General Biology I</td>
<td>3</td>
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<td></td>
<td>BIOL 111</td>
<td>General Biology I Lab</td>
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<tr>
<td></td>
<td>Hours</td>
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<tr>
<td>Spring</td>
<td>BIOL 102</td>
<td>General Biology II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOL 112</td>
<td>General Biology II Lab</td>
<td>1</td>
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<tr>
<td></td>
<td>Hours</td>
<td>4</td>
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<tr>
<td>Year 2</td>
<td>Fall</td>
<td>PHIL 284</td>
<td>Health Care Ethics</td>
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<tr>
<td></td>
<td>Hours</td>
<td>3</td>
<td></td>
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<td>Year 3</td>
<td>Fall</td>
<td>Ethics Elective (any level)</td>
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<tr>
<td></td>
<td>Hours</td>
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<tr>
<td>Spring</td>
<td>Ethics 300-level Elective</td>
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<tr>
<td></td>
<td>Hours</td>
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### Life Sciences Track

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<th>Year 4</th>
<th>Course</th>
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<tr>
<td>Spring</td>
<td>BIET 395A</td>
<td>Bioethics Minor Capstone: Philosophical &amp; Anthropological Topics</td>
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<tr>
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<td>or BIET 395B</td>
<td>or Bioethics Minor Capstone: Philosophical &amp; Biological Topics</td>
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<td>or BIET 395C</td>
<td>or Bioethics Minor Capstone: Philosophical &amp; Environmental Science Topics</td>
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<td>or BIET 395E</td>
<td>or Bioethics Minor Capstone: Theological &amp; Anthropological Topics</td>
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<td>or BIET 396A</td>
<td>or Bioethics Minor Capstone: Theological and Biological Topics</td>
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<tr>
<td></td>
<td>or BIET 396B</td>
<td>or Bioethics Minor Capstone: Theological and Chemical Topics</td>
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<td>or BIET 396C</td>
<td>or Bioethics Minor Capstone: Theological &amp; Environmental Science Topics</td>
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<td>or BIET 396E</td>
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<td>Total Hours</td>
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<th>Year 1</th>
<th>Course</th>
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<th>Hours</th>
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<tr>
<td>Fall</td>
<td>Life Science Course #1</td>
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<td></td>
<td>Hours</td>
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<tr>
<td>Spring</td>
<td>Life Science Course #2</td>
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<td></td>
<td>Hours</td>
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| Year 2 | Fall | PHIL 284 | Health Care Ethics | 3 |
|        | Hours | 3 |
| Spring | Ethics Elective (any level) | 3 |
|        | Hours | 3 |

| Year 3 | Fall | Life Science Course #3 | 3 |
|        | Hours | 3 |
| Spring | Ethics 300-level Elective | 3 |
|        | Hours | 3 |
Year 4
Spring
BIET 395A  Bioethics Minor Capstone: Philosophical & Anthropological Topics  3
or BIET 395B  or Bioethics Minor Capstone:
or BIET 395C  Philosophical & Biological Topics
or BIET 395E  or Bioethics Minor Capstone:
or BIET 396A  Philosophical and Chemical Topics
or BIET 396B  or Bioethics Minor Capstone:
or BIET 396C  Philosophical & Environmental Science Topics
or BIET 396E  or Bioethics Minor Capstone:
Theological & Anthropological Topics
or Bioethics Minor Capstone:
Theological and Biological Topics
or Bioethics Minor Capstone:
Theological and Chemical Topics
or Bioethics Minor Capstone:
Theological & Environmental Science Topics

Double-Dipping Policy
• Students may not major and minor in the same discipline.
• Majors: Not less than 21 credit hours in the individual student’s transcript must be unique to each major; that is, the courses in question are considered as actually fulfilling requirements of one major, not of more than one major.
• Minors and interdisciplinary minors: not less than 8 credit hours in the individual student’s transcript must be unique to each minor; that is, the courses in question are considered as actually fulfilling requirements of one minor, not of more than one minor or major.

Learning Outcomes
Upon completion of the program, students will:
• Understand relevant scientific concepts, techniques, and methods as they relate to bioethical topics
• Recognize bioethical issues
• Apply ethical reasoning and ethical judgment (concepts, theories, methods) to discuss bioethical issues
• Integrate science and ethics such that students can take a bioethical topic or issue and connect the scientific with the ethical issues.