

The Department's Educational Philosophy

We believe that students should be exposed to the process of scientific inquiry so they can acquire and interpret scientific knowledge, and begin to realize the wider applicability of scientific problem-solving methods. By making the laboratory the focal point of learning, we seek to foster students' appreciation for the experience of doing science.

Guiding Principles

- Students must be able to collect and analyze data and formulate hypotheses.
- Inductive and deductive problem-solving skills are central to science education.
- An effective program in science addresses the limitations of data and conclusions.
- Students should be able to use or design a strategy for testing scientific concepts.
- A comprehensive science program will emphasize the delicate checks and balances in man's abiotic and biotic environments and the stresses upon these ecosystems, which could affect the destiny of the world.
- Science is integrally related to mathematics.
- An effective science program builds students' ability to communicate accurately and precisely.
- An effective science program stresses both cooperative and independent learning.

ON-LINE BIOETHICS: COURSE #454

Course Frequency: Semester Course, Weekly assignments completed by students independently online

Credits Offered: Two and a half

Prerequisites: Biology, Chemistry, and/or Department Recommendation/Parental Consent

Background to the Curriculum

This course was originally developed more than a decade ago in response to the growing concern about such public health issues as AIDS, the advancements in DNA science and molecular biology, and due to the urgent need for serious ethical reflection (bioethics) as a consequence of our scientific and technological progress. The on-line section will address the same issues, structured to use web-based resources and forum style discussions. The set up on the on-line course encourages active participation and students collaboration to understand these complex issues. Through group and individual work students will address many serious modern issues from a position of knowledge and moral perspective.

Core Topics/Questions/Concepts/Skills

stem cell research, organ transplantation, designer babies, autonomy, abortion, beneficence, DNA science, AIDS – history/epidemiology, reproductive biology, justice, cloning non-maleficence, genetic testing, confidentiality, genetic manipulation, informed consent, fetal tissue research, human/animal experimentation, doctor-assisted suicide, allocation of scarce medical resources, euthanasia, drug legalization/decriminalization

Student research topics (some examples): Anorexia & Bulimia, Dyslexia, Obsessive Compulsive Disorder, eugenics Tuskegee Syphilis study, Karen Quinlan case

Course-End Learning Objectives

Students will:

Bioethical Case Studies

- 1] Explore and evaluate alternative perspectives on particular ethical problems through case analysis and discussion.
- 2] Identify the ethical problem(s) germane to the decision.
- 3] Assess the factual information available to the decision-maker.
- 4] Identify the “stakeholders” in the decision.
- 5] Identify the values at stake in the decision.
- 6] Identify the options available to the decision-maker.
- 7] List the factors (reasons, values, etc.) that led to your decision.

Essential Readings

- 1] Analyze and discuss the supplemental articles that are assigned in class.
- 2] Choose and critique contemporary articles that are germane to the course.

Essential Writings

- 1] Write a supportive and/or opposing argument for doctor-assisted suicide, abortion and embryonic stem cell research.
- 2] Critique contemporary articles that are germane to the course.
- 3] Write a comprehensive research paper utilizing acceptable format guidelines.
- 4] Organize and submit a compilation of ethic cases, readings, critiques, a course evaluation, and a student journal.

Presentation

- 1] Produce a Multimedia presentation on the research topic.
- 2] Express oneself readily and effectively in writing.

Assessment

Critique = 400 words

Position Paper: Grade (A) – Must write Pro and Con = 800 words

Grade (B) – Must write either Pro or Con = 400 words

Research Paper: 5-8 pages; minimum of 5 references. Must use an approved format.

Portfolio = formal case study analyses, journal, selected readings, video critique, and course evaluation

- 3 critiques = 3 tests
- 3 position papers = 6 tests
- Portfolio = 2 tests
- Effort / Participation = 4 tests
- Research paper/PowerPoint presentation = final exam

Materials and Resources

Crigger, B.J. (New York, 1993). Cases in Bioethics-Selections from the Hastings Center. St. Martins's Press.

Dyck, A.J. (Cleveland, 2001). When Killing is Wrong. The Pilgrim Press.

Dyck, A.J., Kinley J.K., Norton, R.A. (Cambridge Massachusetts, 2002). Ethics in Medical Practice (Reader). Harvard Divinity School.

Hockhauser, M., Rothenberger, W. (Dubuque, 1992). AIDS Education. Wm C. Brown Publishers.

Levine. (Guilford Connecticut, 1993). Taking Sides, 5th Edition. Dushkin Publishing Group, Inc.

Munson, R. (Belmont, Ca., 2000). Intervention and Reflection, 6th Edition. Wadsworth Thomson Learning

* *Numerous texts in biology, genetics, immunology, epidemiology and biotechnology are used as references by the instructor.*

** *Various other sources are utilized, such as magazines, newspapers, Internet, films, and video.*