GRAD 713/714 – Scientific Professionalism: Scientific Integrity
(2 semesters, 1 credit each semester)

The students will use the Problem-Based Learning (PBL) method to identify discipline-specific and broad professional norms and obligations for the ethical practice of science. Content will include the norms and principles for the responsible conduct of science such as data acquisition, management, sharing and ownership, publication practices, and responsible authorship. Emphasis will be placed on learning the tenets of responsible conduct of research, the current regulatory and legal climate as well as the underlying norms and principles that shaped these concepts. Topics will include the student and advisor relationship, laboratory dynamics, collaborations in science, appropriate handling of data and appropriation of credit, plagiarism, conflicts of interest and financial responsibility. Students will acquire skills to recognize ethical issues in the practice of science, identify role obligations, and develop sound ethical reasoning to address these issues.

GRAD 715/716 – Scientific Professionalism: Bioethics and Social Responsibility
(2 semesters, 1 credit each semester, prerequisite of first year course)

New frontiers in science and technology are daily changing the social environment we inhabit. Consequently, the next generation of scientists faces new ethical situations that did not exist a few short years ago. Science’s special place in society has immense freedom for discovery that is based on the integrity and social responsibility of science. Students will use the Problem-Based Learning (PBL) method to explore the ethical issues within the scientific profession and implication of science for society. Emphasis will be placed on not only learning the current policy, regulations and legal issues but also the underlying ethical principles, norms, and values at play. Topics will include entrance of bias into research, limits of scientific authority, conflicts of interest, peer review, human and animal subjects, commercialization and globalization of science, scientific freedom and responsibility, and right of conscience. Students will acquire skills to recognize ethical issues in the societal implications of science, identify role obligations for individual scientists and scientific societies, and use sound ethical reasoning to address these issues.