Graduate Biology DQP Narrative

Specialized Knowledge

Specialized knowledge is the core of the program. Since the degree is a general biology degree, rather than focusing on a specific area of biology, students take courses ranging from cell biology and genetics to marine biology to ecology and biology education. Each of the classes involves learning the major theories and challenges of each field, as well as learning typical research methods, both in terms of data collection and analysis.

Broad Integrative Knowledge

Students frequently are asked to address problems crossing the lines between various combinations of these subject areas: education, philosophy, history, biology, sociology, and religion. Since most of the students are working professionals, they bring a wealth of experience to the discussions, and are well aware of the fact that issues are rarely addressed in isolation.

Intellectual Skills

Students have ample opportunities to hone their quantitative skills in lab courses in which they collect, graph, and analyze data in a variety of biological contexts. They also develop skills in searching for, selecting, and synthesizing primary literature. Diverse perspectives are explored as key events and ideas through the lenses of history, philosophy, science, and religion. Finally, students prepare and present both written and oral presentations at various times in the program based on either their own research or on the ideas of others.

Applied and Collaborative Learning

Each student designs and carries out a small original research project that requires them to apply the theories that they have learned to real people in real settings. For the graduate students who are currently teaching, this typically means that they have the opportunity to do a project with their own students to study some aspect of teaching and learning biology. This project allows them to connect their classroom learning with their professional life in deeply meaningful and important ways.

Civic and Global Learning

Since most of the graduate students are teachers, there are many opportunities to apply what they are learning to education, both in their own classrooms, as well as to discuss educational issues at a state and national level, particularly in terms of biology content standards. In addition, since this is a biology program, environmental issues are addressed in several of the courses in the form of global climate change, genetic modification of organisms, and concerns related to loss of biodiversity.