26 March 2008

Attributes of an Ideal Graduate from Integrative Biology

The ideal graduate from the Department of Integrative Biology should possess:

1. A sound, general understanding of the conceptual (e.g., scientific method) and technical (e.g., measurement, accuracy) methods of science, and their limitations.

2. A strong appreciation of biology's contribution to and reliance on other natural and physical sciences.

3. A thorough understanding of and experience with scientific inquiry **within biology**, including appreciation of the breadth and interconnectedness of biological knowledge, uncertainty, the scientific method, experimental design, data collection, information management, and the relevant scientific literature within a chosen area of study.

4. A thorough foundation in biological principles, such as the fundamental features and processes of living things extending from atoms to biomes; genetics, and the process and history of evolution; and, the relationship between form and function.

5. A thorough understanding of the principles and skills relevant to a chosen program of study (i.e., a major).

6. A clear understanding that some major global challenges (e.g., agriculture, health, biodiversity, environmental quality) arise through the interdependencies between humans and other forms of life, and their solutions may have a biological basis.

7. The thinking and organizational skills needed for logic and reason, creativity and criticism, independence of thought, and effective oral, written, numerical, and graphical communication.

8. The awareness and social skills needed for leadership, teamwork, and respect for different perspectives.

9. A sense of ethical and aesthetic value and scientific integrity.

10. The combination of knowledge, skills, and attitude needed to be a self-reliant and self-motivated learner.