Statement of Qualitative Difference if Offering Introductory Animal Sciences H200

Introductory Animal Sciences embodies fundamental concepts in areas of genetics, reproduction, nutrition, behavior, and biotechnology as it applies to animals kept for human benefit. Students are introduced to the molecular and cellular mechanisms that underscore the function of biological systems and how knowledge in this area is applicable toward advancement of domestic animals. The course is a core course in the Animal Sciences Department and currently offers an honors embedded version. In the currently offered honors embedded version of Introductory Animal Sciences, honors students attend and participate in regularly scheduled non-honors lectures and, in addition, meet outside of the regularly scheduled course to engage in a research experience that expands on course concepts. The research experience has been well received as it provides students hands-on opportunities learning laboratory techniques and their application to furthering understanding of basic biological principles. It is our intention to offer ANIM SCI 200 as a separate honors course AU 2009, fulfilling both an Animal Sciences major requirement and a GEC requirement in the Natural Sciences. In addition to retaining the Organ Systems project, the honors research component of the embedded course, the following changes are proposed for the new ANIM SCI H200 course:

- Integration of student-centered learning techniques into traditional instructor led lectures. Students will be assigned a team and asked to analyze a course related concept. Students will be required to develop knowledge about the topic and execute an effective way of teaching the topic to their peers.
- Scientific evaluation of popular literature. Students will be required to read Portrait of a Burger as a Young Calf and will evaluate the science that supports or refutes a selected passage from the book. The goal is for students to gain an appreciation of how to interpret scientific data and learn to discern between fact based and sensationalized media.
- Exploration of research methodology and technology that enhances the well-being of animals kept for human benefit and the products they provide. Students will apply concepts covered in lecture to hands-on-experiences. Students will visit the OSU animal centers that maintain various animals of agricultural significance, learn of the production practices employed, and participate in routine activities that are required to maintain these animals. Each tour will be followed the subsequent week by a laboratory activity that will allow students to explore further the science behind the animal industries.

These opportunities will meet the primary goal of the course: foster student's understanding of the principles, theories and methods of modern science, the relationship between science and technology, and the effects of science and technology on the environment. The integration of student-centered learning provides a unique opportunity for students to be exposed to course material and will meet the goals of the honors program to enrich intellectual development and offer greater academic challenges, while facilitating intellectual exchange among students. The scientific evaluation of literature enhances application of knowledge beyond the classroom encourages critical thinking and inquiry, and develops confidence in the ability to defend a position on a controversial topic. Furthermore, depth and breadth of the learning experience, exposure to research methodology, and faculty-student interactions will be further enhanced through laboratory activities. During the Assisted Reproductive Technology laboratory students will have a hands-on opportunity to aspirate oocytes from the ovary and evaluate quality under a microscope, a practice for successful in-vitro fertilization that is important to the success of many animals, including humans. Together, these activities provide a rigorous course for students that want to be challenged academically beyond the regularly offered non-honors version of ANIM SCI 200.