

**COMPARATIVE STRESS PHYSIOLOGY**

**Instructor:** Dr. K. Rouvinen-Watt and Dr. Julie Small

**Instruction Plan**

**Course Objectives:** The objectives of this special topics course are to better understand the physiological mechanisms by which animals respond to deviation from homeostasis and the coping mechanisms they employ to adapt to both environmental and internal stressors.

**Course Description:** This special topics course focuses on Comparative Stress Physiology. The course will emphasize the universal nature of stress and how mammals and other organisms respond to the disruption in homeostasis. We will review the concepts of homeostasis and endocrine regulation, the various stages of the physiological stress response and the positive and negative consequences of both short and long-term stress. The types of stressors covered will include for example temperature, and nutritional, metabolic and oxidative stress. Special emphasis will be placed on evaluating research methods that can be used in stress physiology studies. This course can also be taken as individual modules under the AGRI5710 Module Course depending on student interest.

**Activities:** In this course we will explore the similarities and species specific differences in the physiological stress response through lectures, critical review of primary research articles, group discussions, and student presentations.

**Format of Instruction:** Formal lectures, class discussions and debates, critical thinking exercises, guided independent study, student presentations.

**Role of the Instructor(s):** The role of the instructor(s) is to provide a brief introduction to each of the topic areas and act as a resource person for the students in their independent in-depth study. The instructor(s) will also guide the class discussions and debates and critical thinking exercises. The instructor(s) will evaluate the student's course work and class participation.

**Work Schedule:** The class will meet for 2-3 hours per week between September and December 2008. The meeting time will be chosen to accommodate all students in the course. The deadlines for the following course work will be agreed with the class.

**Methods of Evaluation:**

10% Critical Review: Oral Presentation I (Peer and instructor evaluation)

10% Critical Review: Oral Presentation II (Peer and instructor evaluation)

25% Critical Review: Written Mini-Review Paper

10% Research Methods: Oral Presentation III (Peer and instructor evaluation)

10% Research Methods: Oral Presentation IV (Peer and instructor evaluation)

25% Research Methods: Written Mini-Project Plan

10% Class participation, Discussions and Debate, Questions