

**Dalhousie University, Faculty of Agriculture**  
**AGRI5710 Graduate Module**  
**“Structure and Function of Enzymes”**  
**Fall 2015**  
**Schedule: Sept.-Nov. 2015**

**Instructor:**

Dr. Chibuike Udenigwe, Office Cox 124, Phone (902) 893-6625, [cudenigwe@dal.ca](mailto:cudenigwe@dal.ca)

**Module Description:**

The module will involve discussions, critical reviews, mini-projects and formal presentations on the fundamental chemistry, structure and roles of enzymes in food and human health. Emphasis will be made on the stability, kinetics of enzyme-catalyzed reactions, enzyme inhibition patterns and recent advances on their practical applications in food and human/animal health.

**Requirements:**

Students must have strong academic background in food science, chemistry, biochemistry, molecular biology or related fields.

**Capacity: Five (5) graduate students**

Email the Instructor by Friday September 18, 2015 if interested in taking the module.

**Module Content:**

Meetings will involve an introductory lecture to discuss the background (currently available literature) and identify specific problems to address in the module, and subsequent weekly meetings and lab work or literature review. Students are required to choose an enzyme of interest with specific function in food or human/animal physiology. The final topic must be discussed with the instructor during the first day of class. The student will review the literature on the selected topic (2 pages), design a mini-project with the instructor and conduct relevant short experiments (the instructor will provide space and materials). Students are required to write a short report (not more than 15 pages, double line-spaced) to summarize their study findings following a format of a peer-reviewed journal. Alternatively, students can prepare a comprehensive review (not more than 30 pages) covering various aspects of the topic. Students will deliver a 20-minute presentation at the end of the module and the seminars will be evaluated by the instructor.

**Evaluation:**

Contribution to discussion (10%), Lab work (30%), Paper (30%), Presentation (30%);

OR Contribution to discussion (10%), Comprehensive review (60%), Presentation (30%)

**Materials:**

Marangoni, A.G. (2003). Enzyme Kinetics: A Modern Approach. John Wiley & Sons, 248 pages.  
Additional materials for module discussions will be derived from scientific journals.