AGRICULTURAL MODELLING 3
Creating an Original Model of a Bio-system

INSTRUCTORS: A. Georgallas & Tri Nguyen-Quang

This is a directed study in which the student will be guided in creating an original model of a bio-system of interest to the student. The instructor will adopt the role of a supervisor giving the necessary guidance that will allow the student to express ideas mathematically, solve the resulting mathematical model and compare its predictions to experimental data.

OUTLINE

Building an Original Model:

The student may chose from the following topics, or suggest his or her own (with the instructors approval)

Plant and Crop Processes: *e.g.*	*Photosynthesis*, *Transpiration, Plant competition*
	Plant diseases or pests
Animal Processes and Production	*Ruminant metabolism, Lactation, Grazing*
Farm Planning	*Nutrient cycling*, *Waste cycling*

Using computer methods & modelling software to solve the model

Spread Sheets, Maple, STELLA

Testing & Evaluation of the model

Calibration, Validation & Prediction

ASSESSMENT

Class member s will be assessed on

1. Preliminary investigation & literature search (25%)
2. Scope & Originality of the Model (20%)
3. Presentation (15%)
4. Scientific Report (40%)