

Dalhousie University, Faculty of Agriculture

AGRI5710 and AGRI5705: Graduate Module Course

Module Title: Applied Forest Resource Analysis and Biometrics

Instructor: Dr. Brandon Heung
Assistant Professor
Department of Plant, Food, and Environmental Sciences
Email: brandon.heung@dal.ca

Dates module will be offered: October 14 to November 18, 2019

Frequency of formal classes/meetings: 2 hours a week for 6 weeks

Module Content and Learning Objectives:

This module is intended for graduate students that are involved with forestry related research. Students will develop the necessary statistical skills required to develop predictive models of key tree attributes that are relevant to forest resource management. Using data acquired from their ongoing graduate research project, students will develop predictive models using machine-learning techniques (e.g. random forest, support vector machines, neural network), validate those models, and perform uncertainty analysis. All data analysis will be carried out in *R*.

Method of Evaluation: Assessment of this module will be based on the completion of a final project report that applies various machine-learning algorithms for the prediction of forest attributes.

Class Participation: 20%

Assignments: 40%

Project Report: 40%

Any restrictions on enrollment: Students are required to use their own datasets for analysis.