PAB3103

Plant & Agricultural Genetics

Coordinator: Sara Farrona

Lecturers: Sara Farrona, Ronan Sulpice

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Sara Farrona

Interests: plant development and adaptation, epigenetics, chromatin.

http://www.farronalab.org/

Ronan Sulpice

Interests: plant systems biology, algae, biomass, plant breeding, metabolism.

https://sulpice-lab.com/

Module Description:

This module provides training in fundamental and applied genetics in relation to plants (crops) and animals (livestock), including molecular agricultural biotechnologies. Conventional, molecular, population and quantitative genetics aspects will be covered, including the latest advances in genetics, genomics, genetic modifications and applied systems biology as applied to crops.

Learning Outcomes:

- LO1 Understand the role that agricultural plant and animal research has played and continues to play in the emergence of our current level of understanding of genetics.
- LO2 Describe and discuss different genetic techniques and approaches for the improvement of plants and crops.
- LO3 Critically appraise the contribution that genetics has made to agricultural productivity compared to other innovations.
- LO4 Use scientific evidence to appraise benefits or risks associated with new varieties (genotypes) of plants and crops.
- LO5 Understand the distinctions, relationships and synergies between different branches of genetics (e.g. Mendelian, population, quantitative, epigenetics etc).
- LO6 Developed their abilities to read, interpret, appraise and present the results in genetics research papers from leading-edge scientific journals.
- LO7 Have gained an understanding of multiple traits of relevance to agriculture that have been improved through past and current advances in genetics.
- LO8 Be proficient in science communication, and understand how policy and media interfaces with the field of plant genetics

Student's Testimonial

The module offered me unique blend of features such as boosting my understanding of plant genetics as well as improving my practical skills in academic writing and research. The lectures were a great mix of themes ranging from plant genetics and agriculture to future environmental sustainability.

Module Assessment:

Continuous Assessment - Students will write an essay about a provided topic in relationship to the areas covered by PAB3103. The essay will contribute to develop the comprehensive skills of the students through the reading of scientific material and the building of the essay. The aim is also that students will become familiar with the search and reference of scientific articles. Weight: 40%

Exam – The written exam will have 5 questions to answer 3 in essay style. Weight: 60%