

Special topics for Biosystems Modeling 2: Basic Models

Time: Fall 2017 (Module2)

Description

Based on the need of Dalhousie graduate students who are willing to use modeling approach for their own research related to biosystems, three modules on special topics of modeling are designed in focusing mainly on the conception and resolution of mathematical models applied to biosystems. In this module 2, learners will deal with the modeling technique related to probabilistic/deterministic models based on partial differential equations (PDE), Artificial Neural Network as well as the dynamic programming.

Prerequisites

Module 1, MATH 2000 or MATH2001.

Delivery: Each module will comprise of 4 weeks of 5 hour lectures/labs.

Evaluation: Assessment of this module will be in the form of weekly assignments (20%) and a final project to be submitted at the end of module (80%).

Instructors:

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Content of the Module 2

Topic 6: Data versus models and treatment of data

Topic 7: Approaches to probabilistic models

Topic 8: Dynamic programming

Topic 9: Artificial Neural Network (ANN) Model

Topic 10: Approaches to Deterministic Models via Differential equations