**WLE 411 – Wildlife Population Dynamics Laboratory**

**Course Description and Syllabus**

**Instructor:**

Liam Berigan

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Office Hours: Thursdays 1 to 2 pm, or by appointment.

**Teaching Assistant:**

Carolyn Merriam

Office: 220 Nutting Hall

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Office Hours: Monday 9 am to 11 am, or by appointment

**Number of credit hours:** 1

**Prerequisites:** Concurrent enrollment in WLE 410 or with permission.

**Class Meeting Times:**

* Monday (Section 1) 1:00-3:50 pm
* Tuesday (Section 2) 2:00-4:50 p.m.

**Class Location:** 235/245 Nutting Hall.

**Course Overview:** How many moose are there in Maine? What life stage limits the recovery of Atlantic salmon? Does hunting reduce the numbers of black ducks in the Atlantic Flyway? Which forest songbird populations are expected to be impacted by climate change? Understanding how animal abundance changes over time and space, and what causes abundance to change, are two subjects that are central to wildlife and fisheries management. In population ecology, we attempt to quantify these changes and explain the mechanisms behind them. This requires evaluating population size and the underlying demographic rates (survival, recruitment, and immigration/emigration) that contribute to population growth or decline. In this lab we will gain experience working with data to estimate demographic rates using quantitative methods.

**Learning Outcomes:**

Course Goals and Objectives - In this lab we will examine the field of quantitative population dynamics. This field is complex and extremely broad, and this course is meant to introduce you to just some of the more commonly-used methods for evaluating wildlife populations. It should therefore be thought of as an introduction to an advanced subject. With that said, my goal is for you to leave the course with the ability to expand on the skills introduced in this course as you move forward in your careers. My objectives are to provide you with practical experience analyzing data on animal abundance, survival, population growth, population trend, and vulnerability.

Learning Outcomes - Successful students will leave this course better able to:

1) Design wildlife field studies that are useful for population monitoring and analysis

2) Apply quantitative methods to estimate animal abundance, survival, and population growth, and interpret the results of those analyses.

3) Have a greater familiarity with computer software commonly used for wildlife population analysis.

4) Critically assess other’s work and provide constructive suggestions in these areas.