Schedule, Spring 2020

NRES 470/670

Please check for updates frequently!

| Week | Dates | Topic | Readings |
| --- | --- | --- | --- |
| Week 1 | 1/20/2019 | NO CLASS (MLK Day) |  |
|  | 1/22/2019 | LECTURE: Course overview; Intro to Systems Thinking | BCTD Chapter 1 |
|  | 1/24/2019 | LAB 1: Introduction to population modeling in Excel, InsightMaker, and R |  |
| Week 2 | 1/27/2019 | LECTURE: Intro to Population Ecology; Exponential growth | Gotelli Chapter 1 |
|  | 1/29/2019 | LECTURE: Malthus and exponential growth |  |
|  | 1/31/2019 | LAB 1 (cont’d) |  |
| Week 3 | 2/3/2019 | LECTURE: Density-dependent growth | Gotelli Chapter 2 |
|  | 2/5/2019 | LECTURE: Density-dependent growth |  |
|  | 2/7/2019 | LAB 2: Density-dependent populations in InsightMaker; maximum sustainable yield (MSY) and more | BCTD Chapter 2 (skim) |
| Week 4 | 2/10/2019 | LECTURE: Passenger pigeon/Allee Effect |  |
|  | 2/12/2019 | LECTURE: Age-structured populations | Gotelli Chapter 3 |
|  | 2/14/2019 | LAB 3: Age-structured populations in Excel and InsightMaker |  |
| Week 5 | 2/17/2019 | LECTURE: Age-structured populations |  |
|  | 2/19/2019 | LECTURE: Matrix population models | [Heppell 1998](heppell1.pdf) |
|  | 2/21/2019 | Work on PVA proposals |  |
| Week 6 | 2/24/2019 | LECTURE: Matrix population models | Gotelli Chapter 3 |
|  | 2/26/2019 | LECTURE: Matrix population models |  |
|  | 2/28/2019 | LAB 4: Matrix population models in R and InsightMaker |  |
| Week 7 | 3/2/2019 | MIDTERM #1 |  |
|  | 3/4/2019 | LECTURE: Stochasticity and uncertainty | [Regan 2002](Regan_2002.pdf) |
|  | 3/6/2019 | LAB 4 (cont’d) and PVA proposals | [Beissinger and Westphal 1998](beissinger1.pdf) |
| Week 8 | 3/9/2019 | LECTURE: Stochasticity and uncertainty (proposals due) |  |
|  | 3/11/2019 | LECTURE: Small population paradigm |  |
|  | 3/13/2019 | Work on group PVA projects (attendance optional) |  |
| Week 9 | 3/16/2019 | SPRING BREAK |  |
|  | 3/18/2019 | " |  |
|  | 3/20/2019 | " |  |
| Week 10 | 3/23/2019 | LECTURE: Individual based models | BCTD Chapter 10 |
|  | 3/25/2019 | LECTURE: Small population paradigm/Individual based models | [Caughley 1988](caughley1.pdf) |
|  | 3/27/2019 | LAB 5: Stochasticity and uncertainty (proposal discussions) |  |
| Week 11 | 3/30/2019 | LECTURE: Declining population paradigm |  |
|  | 4/1/2019 | LECTURE: Metapopulations | Gotelli Chapter 4 |
|  | 4/3/2019 | Final projects (PVA models due next week) | [Griffin et al](griffin1.pdf) |
| Week 12 | 4/6/2019 | LECTURE: Source-sink dynamics |  |
|  | 4/8/2019 | LECTURE: MIDTERM #2 |  |
|  | 4/10/2019 | LAB 6: Metapopulation modeling in InsightMaker (PVA models due) |  |
| Week 13 | 4/13/2019 | LECTURE: Parameter estimation | [Amstrup et al Chapter 1](amstrup1.pdf) |
|  | 4/15/2019 | LECTURE: Parameter estimation |  |
|  | 4/17/2019 | LAB: Parameter estimation: mark-recapture data |  |
| Week 14 | 4/20/2019 | LECTURE: Species interactions: competition | Gotelli Chapter 5 |
|  | 4/22/2019 | LECTURE: Species interactions: competition |  |
|  | 4/24/2019 | LAB: STUDENT PRESENTATIONS AND PEER REVIEW |  |
| Week 15 | 4/27/2019 | LECTURE: Species interactions: predator-prey (final project: complete drafts due) | Gotelli Chapter 6 |
|  | 4/29/2019 | LECTURE: Species interactions: predator-prey |  |
|  | 5/1/2019 | LAB: STUDENT PRESENTATIONS |  |
| Week 16 | 5/4/2019 | LECTURE: final class review |  |
| Week 17 | 5/8/2019 | FINAL EXAM (9:50 to 11:50am) |  |
|  | 5/13/2019 | FINAL PAPERS DUE (last day of finals) |  |