



UNIVERSITY OF CALGARY
 FACULTY OF SCIENCE
 DEPARTMENT OF BIOLOGICAL SCIENCES
 COURSE OUTLINE

1. **Course: ECOLOGY 439 – ECOLOGY OF POPULATIONS**

Lecture Sections: L01 MWF 11:00-11:50 SA 247 WINTER 2017

Course Coordinator: Dr. K. Flanagan

Instructor: Dr. K. Flanagan BI 266 220-7644 kmflanag@ucalgary.ca
 Dr. J.R. Post BI 262 220-6937 jrpost@ucalgary.ca

D2L Course name: W2017ECOL439L01: ECOL 439 L01 - (Winter 2017) - Ecology of Populations
 Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITE(S):** Ecology 425 and 429
 See section 3.5.C in the Faculty of Science section of the online Calendar
<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Midterm Examination	30%	Friday, Feb. 17, 2017	5-7PM	SB 146
Final Examination	30%			
Laboratory Exercises	35%			
Participation	5%			
Total	100%			

(There will be a final exam scheduled by the Registrar's office.)

No late papers will be accepted for grading. The student is responsible for the material covered in both lecture and laboratory on a cumulative basis.

Each piece of work (laboratory exercises, participation, midterm test or final examination) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

OVERALL PERCENTAGE – LETTER GRADE

96%	A+	70%	C+
90%	A	66%	C
85%	A-	60%	C-
80%	B+	55%	D+
77%	B	50%	D
73%	B-	<50%	F

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours. **Feb. 17, 2017 5-7PM SB 146**

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **Course Materials: TEXT:** N/A

7. **Examination Policy:** All examinations are closed book. The use of camera devices, MP3 Players and headphones, or wireless access devices such as cell phones, Blackberries, etc., during the examinations will not be allowed. Calculators are not allowed for this examination. Students should also read the Calendar, [Section G](#), on Examinations.
8. **Writing across the curriculum statement:** In this course, the quality of the student's writing in laboratory reports will be a factor in the evaluation of those reports. See also [Section E.2](#) of the University Calendar.
9. **Human studies statement:** See [Section E.5](#) of the University Calendar.

STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students are expected to be familiar with <http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html> of the on-line calendar.

See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf.

Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy by email addy@ucalgary.ca or phone 403 220-3140.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: suypaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; <http://ucalgary.ca/provost/students/ombuds>
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

Associate Dean's Approval for
Out of regular class-time activity: _____ ORIGINAL SIGNED _____ Date _____

Day	Date	Lecture	Labs	Assessment
M	<u>Jan-17</u>	9 1: Introduction to Population Ecology	No lab	NO ASSIGNMENT
W		11 2: Modeling Population Growth: Exponential and Geometric Growth & Assumptions		
F		13 3: Environmental and Demographic stochasticity in exponential models		
M		16 4: Modeling populations with density dependence	Lab 1: Density Independent Growth	1: Density Independent Growth
W		18 5: The logistic growth equation		
F		20 6: Continuous time lagged logistic growth		
M		23 7: Discrete logistic growth: DEMO #1	Lab 2: Density Dependent Growth	2: Density Dependent Growth
W		25 8: Density Vague population regulation & Introduction to stats		
F		27 9: Statistical analyses in Population Ecology		
M	<u>Feb</u>	30 10: Statistical analyses in Population Ecology	Lab 3: Time Series Analysis	3: Time Series Analysis
W		1 11: Statistical analyses in Population Ecology		
F		3 12: Age-structured Population Growth		
M		6 13: Age-structured Population Growth & Leslie Matrices	Lab 4: Structured Population Growth (Age/Stage)	4: Structured Population Growth
W		8 14: Age-structured Population Growth & Leslie Matrices: DEMO #2		
F		10 15: The Euler equation		
M		13 16: Stage and size structured population growth	Lab 5: Tutorial Midterm Review	NO ASSIGNMENT
W		15 17: CASE STUDY		
F		17 18: Review Lecture		
M		20 Reading week: no lecture	NO LAB	NO ASSIGNMENT
W		22 Reading week: no lecture		
F		24 Reading week: no lecture		
M	<u>Mar</u>	27 19: Review Lecture	NO LAB	NO ASSIGNMENT
W		1 20: Predator-Prey		
F		3 21: Preator-Prey		
M		6 22: Predator-Prey	Lab 6: Predator-Prey Interactions	5: Predator-prey interactions
W		8 23: Predator-Prey		
F		10 24: Competitive Interactions		
M		13 25: Competitive Interactions	Lab 7: Competitive Interactions	6: Competitive interactions
W		15 26: Competitive Interactions		
F		17 27: Competitive Interactions		
M		20 28: Host-Parasite	NO LAB	NO ASSIGNMENT
W		22 29: Host-Parasite		
F		24 30: Space and Metapopulations		
M		27 31: Space and Metapopulations	Lab 8: Harvest Dynamics	7: Harvest dynamics
W		29 32: Applications to Harvest		
F		31 33: Applications to Harvest		
M	<u>Apr</u>	3 34: Applications to Harvest	Lab 9: Population Viability	8: Population viability
W		5 35: Conservation Biology		
F		7 36: Conservation Biology		
M		10 37: Conservation Biology	NO LAB	NO ASSIGNMENT
W		12 38: Review Session		

¹The schedule may deviate from this slightly due to the needs of the class. Lecture 1-19 will be taught by Dr. Flanagan Lecture 20-38 will be taught by Dr. Post.