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 ST 061 WINTER 2018

Course Coordinator: Dr. J.E. Fox

Instructor:	Dr. J. W. Fox	BI 260	220-5275	jefox@ucalgary.ca
	Dr. J.R. Post	BI 581	220-6937	jrpost@ucalgary.ca

D2L Course name: W2018ECOL439L01: ECOL 439 L01 - (Winter 2018) - 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%**	**In-Class**
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.

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Min. Percent Required	96	90	85	80	77	73	70	66	60	55	50

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. N/A

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.

6. Course Materials: There is no required textbook. Ted Case's (2000) *Illustrated Guide to Theoretical Ecology*, available at the library, is recommended for students who would like additional background reading.

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. Only non-graphing, non-text calculators are permitted.
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.

ETHICS IN THE BIOLOGICAL SCIENCES

Studies in the Biological Sciences involve the use of living and dead organisms. Students taking laboratory- and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

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: suvpaca@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

Ecology 439 - 2018- Tentative Schedule				
Day	**Date**		**Lecture**	**Lab**
M	**Jan**	8	1: Introduction to population ecology	No lab
W		10	2: Modeling Population Growth: Exponential and Geometric Growth	
F		12	3: Density dependence	
M		15	4: Time lagged density dependence	Lab 1
W		17	5: Environmental and Demographic Stochasticity I	
F		19	6: Environmental and Demographic Stochasticity II	
M		22	7: Environmental and Demographic Stochasticity III	Lab 2
W		24	8: Practice session	
F		26	9: Statistical techniques for population ecology: time series analysis I	
M		29	10: Time series analysis II	Lab 3
W		31	11: Time series analysis III	
F	**Feb**	2	12: Case study: stochastic population dynamics and time series analysis	
M		5	13: Practice session	No lab
W		7	14: Age- and stage-structured population growth	
F		9	15: Age- and stage-structured population growth II	
M		12	16: Age- and stage-structured Population Growth III	Lab 4
W		14	17: Age- and stage-structured Population Growth IV	
F		16	18: Review/practice session	
M		19	**Reading days**	No lab
W		21	**Reading days**	
F		23	**Reading days**	
M		26	**19: Midterm In-Class**	No lab
W		28	20: Predator-Prey Interactions	
F	**Mar**	2	21: Predator-Prey Interactions	
M		5	22: Predator-Prey Interactions	Lab 5
W		7	23: Predator-Prey Interactions	
F		9	24: Competitive Interactions	
M		12	25: Competitive Interactions	Lab 6
W		14	26: Competitive Interactions	
F		16	27: Competitive Interactions	
M		19	28: Host-Parasite Interactions	Lab 7
W		21	29: Host-Parasite Interactions	
F		23	30: Space and Meta-Populations	
M		26	31: Space and Meta-Populations	Lab 8
W		28	32: Applications to Harvest Dynamics	
F		30	**Good Friday**	
M	**Apr**	2	33: Applications to Harvest Dynamics	Lab 9
W		4	34: Applications to Harvest Dynamics	
F		6	35: Applications to Conservation Biology	
M		9	36: Applications to Conservation Biology	No lab
W		11	37: Applications to Conservation Biology	
F		13	38: Review Session	

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