BIOL 3040 & 3045 General Ecology & Lab Spring 2015

GENERAL INFORMATION and SYLLABUS

It is the province of knowledge to speak and it is the privilege of wisdom to listen.
- Oliver Wendell Holmes (1841 – 1935)

Instructor: Marius van der Merwe, Science Building, office no. 203
Email and phone: marius@dixie.edu, (435) 652-7924

Lecture room: Science 109

Lecture sections: Mon, Wed, Fri, 9:00 -9:50 am

Office hours: Mon & Wed 10:00 am-12:00 pm, Fri 10:00-11:00 am. Or contact me to arrange for a different time.

Recommended text book: Ecology – Concepts and Applications (6th edition), Molles, 2013.

- Lectures will include material not covered in the textbook. Class attendance is therefore very important.

Course Objectives

After successful completion of this course the student will through testing, written reports or oral presentation/discussion:

- Demonstrate knowledge of the process of science as it relates to ecology, including hypothesis testing, basic experimental design, and the use of inductive and deductive reasoning in the formation of testable hypotheses.
- Know the difference between biological patterns and processes and how they apply to the field of ecology.
- Understand and explain the fundamental concepts that underlie natural selection and the relationship of these concepts to ecology.
- Understand and explain the relation of temperature, water, energy and nutrients to living organisms.
- Be able to explain basic concepts and ideas in population, community, ecosystem and large-scale ecology.
- Be able to explain basic concepts and ideas in behavioral ecology.
- Display an understanding and working knowledge of important concepts and terminology that are used in the ecological literature.
- Have an understanding of the ecological and environmental challenges of the times that we live in and the implications of these challenges for the future.

Exams, written assignments and grades

For the lecture part of the course there will be four exams in addition to a final comprehensive exam. Questions will be multiple choice, short answer and essay. Each exam is worth 100 points. The final exam is worth 200 points. Exams will be taken in the class room during normal lecture time. Your lecture grade will be calculated from your accumulated score out of the maximum total of 700 points.

For the lab part of the course your grade will be determined from a plant field identification test, a term paper, a number of exercises based on lab work, and a final end-of-semester PowerPoint presentation where you will present field-collected data and analysis of a plant community project.

Disability Accommodations

Students with medical, psychological, learning or other disabilities desiring reasonable academic adjustment, accommodations, or auxiliary aids to be successful in this class will need to contact the

DISABILITY RESOURCE CENTER Coordinator (Baako Wahabu) for eligibility determination. Proper documentation of impairment is required in order to receive services or accommodations. DRC is located in the North Plaza Building. Visit or call 652-7516 to schedule appointment to discuss the process. DRC Coordinator determines eligibility for and authorizes the provision of services.

College resources

Several college resources are available to help you succeed. Check out the links for each one to get more information.

If you need help understanding the content of your courses, go to the Tutoring Center located on the 4th floor of the Holland Centennial Commons in Room 431. You can visit them online at http://dsc.dixie.edu/tutoring/

If you need help writing papers, go to the Writing Center on the fourth floor of the Holland Centennial
Commons in room 421. You can also visit them online at
http://new.dixie.edu/english/dsc_writing_center.php

If you need to use a computer to do schoolwork on campus, go to the Smith Computer Center or in the Dixie College library on the second, mezzanine, or third floors of the HCC.

If you are assigned to take a test in the Testing Center, go to the North Plaza. You can get information on their website at http://new.dixie.edu/testing/

The Library has all kinds of information and resources. Visit the Dixie State College Library on the 2nd, and 3rd floors of the Holland Centennial Commons, or go to the library website at http://library.dixie.edu/

Attendance:

Regular and prompt attendance in classes and laboratory sessions is expected of every Dixie State College student. Attendance requirements are established by each instructor and such requirements are enforced by the College. No absence excuses a student from completing work missed. It is the student's responsibility to find out which assignments will be missed. Attendance will be taken regularly. If you know that you must miss a class, it is your responsibility to discuss the matter with the instructor prior to that absence.

Classroom behavior policies:

You are expected to be polite in the classroom, both to the instructor and your fellow classmates. Please refrain from unnecessary conversations with your neighbors. If you are observed to be disturbing your classmates, you will be asked to leave the room for the day.

The use of any form of electronic communication device (including but not limited to cell phones, pagers, and MP3 players) is strictly forbidden during class lectures, quizzes, and exams. In the event of a personal emergency that requires the use of such devices, you must get personal permission from the instructor, keep all settings in silent mode (including keeping a vibrating phone or pager off of hard surfaces) and you must arrange to sit next to an aisle so that you may leave to take any incoming calls or messages. If you do not have my permission, if your device disrupts class, or if you answer a call or message in class, 1% will be deducted from your final grade.

Food or drink is allowed in lecture as long as it can be consumed quietly (ie. chips are probably a bad idea). If you leave any garbage behind, this privilege will immediately be rescinded for the entire class and points will be deducted from the responsible student's grade.

DSC policy prohibits bringing children to class as they are a disruption to the other students. Please try to find other arrangements.

Academic Integrity (Cheating and Plagiarism):

There is a zero-tolerance policy toward any form of cheating or plagiarism. If any student is observed cheating on any examination or quiz, the time and event will be noted and the student will receive no credit for that assignment. Please make things easier for you and the instructor and keep your eyes to yourself during exams and quizzes. If a second offense is committed by a student, s/he will be subjected to further disciplinary action (See "Code of Conduct," DSC Catalog or Student Handbook).

DSC policy regarding Academic Discipline (policy #3-34):

34.1 Cheating: Academic dishonesty in any form will not be tolerated at Dixie State College, including but not limited to plagiarism on written assignments, submitting other person's work as one's own, and cheating on exams or quizzes. Teachers at Dixie State College may discipline students proven guilty of academic dishonesty by:

34.1.1 Giving a failing grade on the specific assignment where dishonesty occurred,

34.1.2 Failing the student in the entire course,

34.1.3 Immediately dismissing and removing the student from the course, and/or

34.1.4 Referring the student to Student Affairs, a committee which may reprimand, place on probation, suspend, and/or expel the student.

34.2 Disruptive Behavior: Teachers at Dixie State College have the right to manage the classroom environment to ensure a good learning climate. Toward this end, teachers (or college security) may dismiss and remove disruptive students from individual class activities. If a student's behavior continues to disrupt class activities, the teacher may dismiss and cause the removal of disruptive students from their course.

34.3 Student Appeals: Students who believe themselves wrongfully disciplined may appeal those disciplinary actions through the standard grievance procedure. (Policy 5-35)

Succeeding in this class:

There is a great deal of material covered in this course for which you will be responsible. Because both concepts and vocabulary are important there are several tactics I tend to suggest to students. Flash cards can help with vocabulary (even the process of determining appropriate terms and making the cards helps) but are not sufficient to excel in the class. When preparing for tests and exams make sure you start several days in advance and focus on the material as outlined in the PowerPoint lecture notes. Use your textbook when you need more detailed information and please come and see me during office hours for any additional help. PowerPoint files covering the lectures will be available on Canvas for printing.

I strongly recommend forming a study group that meets at regular hours. Asking questions and giving explanations in the context of a study group are both very valuable for an understanding and retention of the material. It also provides a great opportunity to interact and socialize with your fellow students.

I know this is hard to do, but PLEASE do not wait until the last month of class if you are having problems with the material (or the day before the exam). Not only will you likely be competing with many of your classmates for my attention, but improving your grade in the class takes a semester of work.

Dixie State College has both a Tutoring and a Writing Center and I strongly encourage you to make use of these facilities (both are located in the Browning Learning Resource Center). For the **Tutoring Center** the hours are Mon-Thurs 9:00 am to 8:00 pm and Friday 9:00 am to 5:00 pm. The hours for the **Writing Center** are Mon-Fri 9:00 am to 5:00 pm daily.

Grades
Lecture grades are assigned based *on exam and written assignment scores*. Lab grades are based on attendance/participation, written reports and an oral presentation.

The following percentage scale will be used:

93-100%	= A (4.0)	73-76%	= C (2.0)
90-92%	= A- (3.7)	70-72%	= C- (1.7)
87-89%	= B+ (3.4)	67-69%	= D+ (1.4)
83-86%	= B (3.0)	63-66%	= D (1.0)
80-82%	= B- (2.7)	60-62%	= D- (0.7)
77-79%	= C+ (2.4)	59% or less	= F (0)

Extra credit
A small amount of extra credit will be available for the course (to be announced in class). Extra credit will not exceed 20 points in total. Exam and written assignment results are far more important.

General Ecology Lecture Schedule

Note: dates for lecture topics are tentative and subject to change, BUT **exam dates are set in stone**.

Date	Day	Topic	Molles Chapter Readings
12 Jan	M	Syllabus and course introduction	
14 Jan	W	Ecology and Natural Selection	1 & 4
16 Jan	F	Ecology and Natural Selection	1 & 4
19 Jan	M	***Martin Luther King Day***	
21 Jan	W	Ecology and Natural Selection	1 & 4
23 Jan	F	Temperature	5
26 Jan	M	Temperature	5
28 Jan	W	Water	6
30 Jan	F	Water	6
2 Feb	M	**Exam 1**	
4 Feb	W	Demographics	10
6 Feb	F	Demographics	10
9 Feb	M	Population Growth	11
11 Feb	W	Population Growth	11
13 Feb	F	Competition	13
16 Feb	M	***President's Day***	
18 Feb	W	Competition	13
20 Feb	F	Competition	13
23 Feb	M	**Exam 2**	
25 Feb	W	Predation	14
27 Feb	F	Predation	14
2 Mar	M	Biodiversity	16
4 Mar	W	Biodiversity	16
6 Mar	F	Succession	20
9 Mar	M	***Semester Break***	
11 Mar	W	***Semester Break***	
13 Mar	F	***Semester Break***	
16 Mar	M	Succession	20
18 Mar	W	Succession	20
20 Mar	F	**Exam 3**	
23 Mar	M	Energy Flow and Primary Production	18
25 Mar	W	Energy Flow and Primary Production	18
27 Mar	F	Secondary Production	18
30 Mar	M	Secondary Production	18
1 Apr	W	Nutrient Cycles – nitrogen and sulfur	19
3 Apr	F	Nutrient Cycles – nitrogen and sulfur	19
6 Apr	M	Nutrient Cycles – nitrogen and sulfur	19
8 Apr	W	**Exam 4**	
10 Apr	F	Human Impact and Ecosystem Health	23
13 Apr	M	Human Impact and Ecosystem Health	23
15 Apr	W	Conservation Biology	16
17 Apr	F	Conservation Biology	16
20 Apr	M	Behavioral Ecology	6
22 Apr	W	Behavioral Ecology	6
24 Apr	F	Optimal Foraging	7
27 Apr	M	Optimal Foraging	7
29 Apr	W	Optimal Foraging (Class work ends)	7
Final exam	**Wed, 6 May 10:00-12:00**	Penalty for missing the final exam is course failure.	

BIOL 3045, General Ecology Lab

Lab Schedule for Spring 2015, Tue or Thurs 2:00-4:50pm

Date	**Lab title**	**Venue**
13/15 Jan	Semester overview and introduction to plant identification field labs	Class room
20/22 Jan	Plant identification field lab I	Field
27/29 Jan	Plant identification field lab II	Field
3/5 Feb	Plant identification field lab III & field identification test	Field
10/12 Feb	Plant survey lab I: Quadrant Sampling	Field
17/19 Feb	Plant survey lab II: Line Transect Sampling	Field
24/26 Feb	Global Warming	Class room
3/5 Mar	Abiotic factors and microhabitats lab I	Field
10/12 Mar	***Semester Break***	
17/19 Mar	Abiotic factors and microhabitats lab II	Field
24/26 Mar	Data Analysis lab I (plant survey data)	Class room
31 Mar/2 Apr	Data Analysis lab II (abiotic factor and microhabitats data)	Class room
7/9 Apr		
14/16 Apr	Work on plant community PowerPoint presentations. Hand in abiotic factor/microhabitats write-up.	Class room
21/23 Apr	PowerPoint Presentations	Class room

Important dates:

Mon, Jan 12	Classes begin
Thurs, Jan 15	Last day for waitlist
Fri, Jan 16	Last day to add classes online
Mon, Jan 19	Martin Luther King Jr. Day (no classes)
Thurs, Jan 22	Drop/Audit fee begins ($10 per class)
Thurs, Jan 22	Residency Application deadline
Tue, Jan 27	$50 Late registration/payment fee
Mon, Feb 2	Spring 2015 Associate's Degree Graduation Application Deadline
Mon, Feb 2	Last day for refund
Mon, Feb 2	Pell Grant Census
Mon, Feb 2	Last day to drop without a "W" grade
Wed, Feb 4	Classes dropped for nonpayment
Fri, Feb 6	Last day to add/audit classes
Mon, Feb 16	President's Day (no classes)
Tues, Feb 17	*Spring Block classes start*
Mon, Mar 2	Summer 2015 Bachelor's Degree Graduation Application Deadline
Mon, Mar 2	Midterm grades due
Fri, Mar 6	Last day to drop individual classes
Mon-Fri Mar 9-13	Spring break (no classes)
Mon, Mar 23	Fall 2015 class schedule available online
Mon-Thurs Mar 23-26	Summer Registration Opens (seniors, juniors, sophomores, all students)
Wed, Apr 1	Fall 2015 Bachelor's Degree Graduation Application Deadline
Fri, Apr 10	Last day for complete withdrawal
Mon-Thurs, Apr 14-17	Fall Registration Opens (seniors, juniors, sophomores, all students)
Wed, Apr 29	Last day of classes
Thurs, Apr 30	Reading Day (no classes)
Fri, May 1	Summer 2015 Associate's Degree Graduation Application Deadline
Fri-Thurs May 1-7	Final Exams
Fri, May 8	Commencement
Mon-Fri, Dec 15-19	Final exams