

# *Natural Resources in a Changing Climate*

*FOR 6934 (3 credits) Spring 2019*  
*Sections 18DE (on campus), 1A43 and 26CC (distance)*

## **Course Description**

Our collective focus has been on protecting natural resources as they are, restoring them to what they were, or using them based on past experience. ***The world is changing.*** We need to reconsider our objectives and the tools we use to meet them. This course will explore conservation and management tools and their vulnerabilities to global climate change (GCC), how they can be implemented in new ways to maintain or increase their effectiveness, options for integrating the needs of humans and natural resources, and how governance mechanisms might be improved to support adaptation efforts. *Be prepared to think creatively!*

## **Instructor**

Dr. Shirley Baker

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Office hours: By appointment on main campus or at FAS

## **Student Learning Outcomes**

At the end of this course, each student will be able to:

- Explain the mechanisms and broad implications of GCC.
- Analyze vulnerabilities of current conservation and management strategies to GCC.
- Compare strategies to reduce vulnerability of natural resources to GCC.
- Evaluate and design conservation and management tools to adapt to GCC.
- Assess the effectiveness of natural resource policies in adapting to GCC.

## **Meeting Times**

**Face-to-face delivery:** T 3-4 (9:35-11:30), R 2-3 (9:35-10:25)

**Distance delivery:** Lectures will be recorded and posted to the course Canvas site.  
Lectures and discussions will be streamed for optional live participation.

**Location** NZH 222

## **Required Texts/Readings**

1. Hansen, L.J. and J.R. Hoffman. 2011. *Climate Savvy; Adapting Conservation and Resource Management to a Changing World*. Island Press, Washington DC. 245 pp.
2. Relevant readings from journals and other media will be required for discussions. These will be posted on the course Canvas site.

## **Required software**

Word, Excel, PowerPoint, and Adobe Acrobat Reader. Suggested subscription: Netflix.

## **Class Format, Policies on Attendance and Assignments**

### **Contacting the instructor:**

Please use the Canvas message system. Messages sent by email or posted in the Canvas discussion area may get lost.

### **Course format:**

This course will consist primarily of lecture and discussion.

### **Late assignments:**

Late materials will have 10% of the total possible points deducted for every day late.

### **Quiz policy:**

Quizzes are open for a generous amount of time. Once a quiz closes, it will NOT be reopened.

Please check *Announcements* in Canvas on a regular basis.

## Assignments

For each of the following assignments, expectations will be described in class/recorded and in Canvas. Grading rubrics will be provided.

**Introduction: 3 points.** Distance (DE) and Face-to-Face (F2F) students will introduce themselves by asynchronously sharing an audio/video on *VoiceThread*, as well as watching and commenting on other student's introductions.

**Quizzes: 6 @ 6 points each.** Quizzes will be administered through Canvas (see schedule). Quizzes will consist of multiple choice, short answer, and short essays. Questions will be "open notes" but will require critical thinking, integration, and application of interdisciplinary concepts. Quizzes will open and close on the dates noted.

**Discussion Participation: 9 @ 3 points each.** The class will discuss papers from the primary literature, textbook readings, or other media, which will be made available on Canvas during the week prior to the discussion. Students will be expected to read the materials prior to class and to *actively participate in every discussion*. There will be 11 discussion weeks. During two of the weeks, the student will be graded as a Discussion Leader; these weeks will not double-count. Further expectations will be provided.

**F2F students:** Discussion will take place in the classroom on Tuesdays, following lecture.

**DE students:** Discussion will take place asynchronously via "Discussions" in Canvas.

**Discussion Leadership: 2 @ 6 points each.** Twice during the semester, students (individuals or pairs, depending on class size) will be expected to lead the literature discussion session. F2F students will lead synchronous discussions; DE students will lead asynchronous discussions. A schedule of assigned leadership weeks will be posted in Canvas.

**Project: 27 points.** Students will develop a project over the course of the semester. This could be a case study, position paper, review, outreach extension document, curriculum, policy brief, in-service training for extension agents, infographic poster, video, podcast, or adaptation plan, etc. I encourage you to choose a project that will be useful to you (your grad project, job, etc) but also pushes beyond your comfort zone. Each assignment must be completed/submitted by midnight on the due date (see schedule). Further details and a grading rubric will be provided.

**Approval: 6 points.** Students must set up an appointment to have a conversation with the instructor by phone or Zoom. Students will present their idea for a project. Instructor will provide feedback and approve of the project.

**Draft: 9 points.** Students will submit a draft of the project via Canvas or other media, as appropriate. Instructor and peers will provide feedback.

**Final: 12 points.** Students will submit a final project, having incorporated feedback.

**Peer Feedback: 6 points.** Students will be assigned 2 or more peer draft projects to provide feedback. Students will be graded on the usefulness and thoroughness of their feedback.

**Project Presentation: 18 points.** Students will present their project to the class. Media and style of presentation will depend on the type of project and must be discussed with the instructor. Expectations and a rubric will be provided.

**Peer Presentation Participation: 15 points.** Students will be presenting their projects during Weeks 13, 14, and 15. All students will be expected to actively participate in the presentations either synchronously or asynchronously. Expectations and a rubric will be provided.

**Participation Week 13:** 6 points

**Participation Week 14:** 6 points

**Participation Week 15:** 3 points

**Peer Evaluation: 6 points.** Students will be assigned 2 or more peer projects/presentations to evaluate. Students will be graded on the usefulness and thoroughness of their feedback.

## Evaluation of Student Learning

<i>VoiceThread</i> Introduction	3 points
Quizzes, 6 @ 6 pts each	36 points
Discussion Participation, 9 @ 3 pts each	27 points
Discussion Leadership, 2 @ 6 pts each	12 points
Project	27 points
Peer Feedback	6 points
Project Presentation	18 points
Peer Presentation Participation, 3 @ 3-6pts	15 points
Peer Evaluation	6 points
<b>TOTAL</b>	<b>150 points</b>

## Grading Scale

Final grades will be assigned based on the percentage of total points earned. For additional information on UF grading policies, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

A (93-100%), A- (90-92%), B+ (86-89%), B (82-85%), B- (78-81%), C+ (74-77%), C (67-73%), C- (63-66%), D+ (59-62%), D (55-58%), D- (51-54%) and E (<50%).

<b>Schedule</b>			
<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Assignments due</b>
<b>1</b>	<b>8 January</b>	Introduction to course Assignment expectations	
	<b>Introduction to global change</b>		
	10	Evidence of global change	
<b>2</b>	15	Earth's climate system <i>Discussion wk 2</i>	<b>Voicethread Intro</b>
	17	Natural drivers of change	
<b>3</b>	22	Anthropogenic drivers of change <i>Discussion wk 3</i>	<b>Project Approval</b>
	24	Climate models and projections	<b>Quiz wks 1 &amp; 2</b>
<b>4</b>	29	Climate models and projections <i>Discussion wk 4</i>	
	<b>Impacts of GCC on natural resources</b>		
	31	Impacts on species: Range shifts	
<b>5</b>	<b>5 February</b>	Impacts on species: Extinctions <i>Discussion wk 5</i>	
	7	Impacts on species: Phenology	<b>Quiz wks 3 &amp; 4</b>
<b>6</b>	12	Impacts on species: Phenology <i>Discussion wk 6</i>	
	14	Impacts on ecosystems: Terrestrial	
<b>7</b>	19	Impacts on ecosystems: Terrestrial <i>Discussion wk 7</i>	<b>Project Draft</b>
	21	Impacts of ecosystems: Marine	<b>Quiz wks 5 &amp; 6</b>

<b>Tools for management of natural resources under GCC</b>			
	26	Insights from experimentation <i>Discussion wk 8</i>	
	28	Modelling species and ecosystem response	<b>Peer Feedback</b>
<b>Spring Break, 5– 9 March</b>			
<b>9</b>	<b>12 March</b>	Vulnerability assessment <i>Discussion wk 9</i>	
	14	Adaptive management and governance	<b>Quiz wks 7 &amp; 8</b>
<b>10</b>	19	Threatened species management <i>Discussion wk 10</i>	
	21	Protected areas	
<b>11</b>	26	Connectivity <i>Discussion wk 11</i>	
	28	GCC mitigation	<b>Quiz wks 9 &amp; 10</b>
<b>12</b>	<b>2 April</b>	Case studies in adaptation <i>Discussion wk 12</i>	
	4	Case studies in adaptation	
<b>Student presentations – Final projects due April 7</b>			
<b>13</b>	9	Student project presentations - 4	
	11	Student project presentations - 2	<b>Quiz wks 11 &amp; 12</b>
<b>14</b>	16	Student project presentations - 4	<b>Participation wk 13</b>
	18	Student project presentations - 2	
<b>15</b>	23	Student project presentations - 4	<b>Participation wk 14</b>
	25	No class	<b>Participation wk 15 Peer Evaluations</b>

## Other Information

### **Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities**

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

**The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.**

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."**

The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

Students should report any condition that facilitates dishonesty to the instructor, department chair, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office.

*(Source: 2011-2012 Undergraduate Catalog)*

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.



## **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

## **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)*  
Counseling Services  
Groups and Workshops  
Outreach and Consultation  
Self-Help Library  
Training Programs  
Community Provider Database
- *Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)*

## **Students with Disabilities**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)