“Be the change you want to see in the world”.  *Mahatma Gandhi*

~~Live in the moment; Think ahead~~  Tessa Joy Davis (Kristin’s niece)

There is growing concern at De Anza College about critical environmental issues:  1)  We are continuing our 23+ years of work in the Environmental Studies Department with critical issues and urge you to get involved by exploring our three degree/certificate areas and/or by engaging in stewardship projects/events.  We hope that you will join us as we move along our sustainability path.  We live in a hopeful time, but ACTION by all of us is necessary!  2)  The College Environmental Advisory Group (CEAG) is continuing with the implementation of De Anza’s Sustainability Management Plan.  You may help with the implementation of this important environmental plan.  3)  Notable environmental events will be occurring this Spring, stay tuned.

INSTRUCTOR INFORMATION:  **Kristin Jensen Sullivan**  
Office Hours Held:  M 9:40-10:20 am; M 2:25-2:45 pm (except 4/27-6/8); W 8:20-10:20 am; W 2:25-3:25 pm; W 3:25-3:45 pm (only 4/27-6/8); other times by arrangement in KC 214.  I have office time for all of you.  
Phone/Voicemail #:  (408) 864-8625  
Office Location:  KC 214  
E-mail Address:  sullivankristin@fhda.edu  
Personal Website:  [http://www.deanza.edu/faculty/sullivankristin/](http://www.deanza.edu/faculty/sullivankristin/) (Please print double-sided!)  
ES Dept Website:  [http://EnvironmentalStudies.deanza.fhda.edu/es/](http://EnvironmentalStudies.deanza.fhda.edu/es/)

1)  **DESCRIPTION**  
An introduction to environmental science as a branch of the sciences and its relation to the scientific field. Review of the principles of environmental and ecological literacy as well as trends in restoration ecology, regenerative/sustainable studies, including Agenda 21 and other environmental indicator tools as they relate to humans including all cultural, ethnic/gender groups & the earth’s systems.  This class fulfills general education requirements.  
*Your ideas and/or suggested topics are appreciated and will be considered for discussion.*

2)  **ADVISORIES**  
English Writing 100B and Reading 100 (or Language Arts 100), or ESL 24 and 72 (or ESL 4).  A good attitude and a willingness to learn by problem solving are essential to receiving desirable grades.

3)  **STUDENT LEARNING OUTCOMES (SLO’s)**  
After completing reading assignments, assessments, journals, projects, field assignments, and attending class, you should be able to:  
1.  Assess (apply) the criteria necessary to be successful in this course.  
2.  Utilize the scientific & environmental methods and ecosystems thinking (including ecological principles including ecosystem services, major aquatic life zones & terrestrial biomes) and a team approach (including scientists, public, decision-makers & others) to implement ecosystems thinking into the public policy process utilizing a local case study.
4) COMPETENCIES
After completing reading assignments, assessments, journals, projects, field assignments, and attending class, you should be able to:

1. Examine environmental science as a branch of the sciences and its relation to the scientific field
2. Examine and survey ecological concepts and vocabulary
3. Assess and apply ecological literacy to modern life and to a technologically-based society
4. Examine and survey the world's natural resources including water, air, soil, species, ecosystems, energy and minerals (WASSEEM)
5. Assess and survey the environmental indicators utilized to assess current trends in our environment
6. Examine the environmental method as a problem-solving tool to develop solutions to the problems created by overuse of the world's resources
7. Examine the worldwide strategies developed to address global environmental issues including Agenda 21, the Montreal Protocol, ISO 14000 and the Kyoto Protocol

5) COURSE MATERIALS
(Copies of the texts are on reserve at the Stewardship Resource Center) (Texts are available for rent at bookstore)

6) SCHEDULE
Please see the Tentative Class Schedule list. Note that the readings are to be read in advance of the corresponding class meeting date.

7) SUGGESTIONS/TEACHING METHODS
This course will cover a large amount of material in a short amount of time. Therefore, it is imperative that you attend all lectures (you will be keeping a journal and journal entries will be a daily event), take good notes, and complete the readings prior to attending the lectures. Additionally, I would suggest that you take advantage of the effective and efficient learning strategies that I will present periodically throughout the course. My teaching style is designed to engage you in a more active fashion. In order to meet this goal, I will combine the following teaching methods: hands-on lectures which make use of DVD’s/videos, the document camera, the Internet, website handouts, PowerPoint slides; hands-on activities such as active group/discussion sessions (participation is crucial) and learning games; and, the use of various effective learning tools such as time management, note taking, memory techniques, concept mapping/timelines, the PQ3R method of reading, and cooperative study groups. To assure your success, please read and implement the information presented on the two study strategies handouts (available on my web page). Also, the BHES Division Student Handbook is available online at http://bhs.deanza.edu/StudentHandbook.pdf as well as in the BHES Division Learning Resource Center (SC3101) in hard copy. The information in the Student Handbook applies in this course and students are held accountable for this information; it contains many helpful resources on success and classroom behavior.

8) REQUIREMENTS
• Attend all lectures and BE ON TIME (two late days, regardless of minutes, = at least one absence).
1. Participation- Weekly activities and lectures on the key vocabulary and concepts. Each lecture is to be summarized and placed into your ESCI 1 portfolio folder for that week (along with any other assignments).
2. Portfolio Entries- Homework from Textbook readings: Weekly Wright/Boorse Textbook Chapter Readings and summaries: There are weekly chapter reading homework assignments. The textbook chapter reading summaries should be placed in your ESCI 1 portfolio folder in the Textbook Readings section. (Chapter readings are due when
you turn in your ESCI 1 folder). Each student is required to complete an ESCI 1 portfolio folder, which includes weekly journal entries including class lecture notes, class activities, website assignments, research and case studies. The portfolio folder is an important component of this course and provides both a current and historical overview and archive of the critical and key concepts, vocabulary and issues necessary for an environmentally-literate society and for a student of the 21st century!

3. **Midterm and Final Team Assessments** - Midterm and final assessment (Case Study) - Communicating about key issues facing us in the 21st century is an integral component to ESCI 1. The mid-term and final assessments will be discussed in the weekly lectures. You have an opportunity to learn about these unique and critical topics through research, and then you will communicate via PowerPoint (and written too for the final) what you have learned. The midterm and final assessments (oral and written) will also apply the vocabulary and concepts you have learned throughout the quarter. The midterm assignment includes a team/self evaluation (10% of grade).

4. **Team Project Presentation** - This team PowerPoint presentation will be on one of our three ES Degree/Certificate areas. The instructions for this assignment will be discussed during class. You have an opportunity to learn about our three degree/certificate environmental science/studies areas through research, and then you will communicate what you have learned. This assignment includes a team/self evaluation (10% of grade).

**Point Breakdown: Grading Scale:**

- **Class Participation** – 20%  
- **Portfolio Entries** – 20%  
- **Midterm Team Assessment (with team/self evaluation)** – 20%  
- **Team Project Presentation (with team/self evaluation)** – 20%  
- **Final Team Assessment** – 20%

**9) ADDITIONAL INFORMATION/POLICIES**

1. **General Information**
   a. This is an *intensive, environmental science course*! Please be prepared to dedicate sufficient time and energy to this 4-unit course (allow time per week for out-of-class study time).
   b. Students are expected to check the lecture schedule daily.
   c. Students are expected to exhibit proper classroom etiquette (i.e. arrive to class on time, listening during lecture or video, cell phones or other such devices will remain off in class).

2. **Fundamental values of academic integrity** - This class is based upon *honesty, trust, respect, fairness, and responsibility*. I always appreciate your *cooperation*. As in all classes, cheating and plagiarism are **not tolerated**; there will be consequences! Plagiarism means copying someone else's work and presenting it as your own, without giving credit to the author. Cheating means using unfair means to fulfill an assignment or assessment, such as having someone else do your work for you. What will happen if you plagiarize or cheat: (a) you will not be learning anything, (b) you will receive an “F” on the assignment or assessment without the option to redo it; (c) the instructor will ask to meet with you to discuss the issue; (d) your name will be given to the Dean of Students; (e) you may have other severe future college(s) consequences.

3. **Texting, Cell Phones and other Technological Devices** will need to be turned off and/or put away once class begins. We are unplugging for a change! If you text or if your cell phone goes off in class or you are using such items after a warning, it will equal one absence. If the behavior continues, you will be asked to leave the class, which will result in another absence, etc. You are welcome to leave the classroom if you need to use an electronic device during an emergency. (The above applies unless you have an outstanding physical/mental reason to use electronic devices; see the instructor in this case).

4. **An Honors cohort is being offered for this course**. Eligibility requirements can be found at http://faculty.deanza.fhda.edu/honors/. The cohort entails additional work [please see the instructor to fill out an Honors contract] in order to earn an Honors designation for this class on your transcript.

5. **Safety and Evacuation Procedure** - Please know the correct procedures to follow in the case of an earthquake or another emergency.

6. **Add/drop** - See policies and procedures in the “Schedule of Classes.” It is your responsibility to follow add and drop rules (Please remember this: if you drop correctly= W, incorrectly= F).

7. **Midterm Assessment, Final Assessment, Homework**
There will be no make-ups for the midterm assessment (except under extraordinary circumstances).

b. The final assessment must be taken during the scheduled time. You cannot pass the course without taking the final assessment.

c. In the event of an illness or emergency on the day of an assessment, you have 24 hours to notify me of your circumstances on my office phone.

d. Homework assignments are due at the beginning of class on the dates listed in the lecture schedule. Late assignments will not be accepted (except under extraordinary circumstances). There are no make-ups for journal entries, in-class group work, or video supplemental questions.

e. You may access your final grades through the online registration system (http://www.deanza.edu/admissions/faq.html#grades).

"I don’t really know why I care so much. I just have something inside me that tells me that there is a problem and I have to do something about it. And I’m sure it’s the same voice that is speaking to everyone on this planet, at least everybody who seems to be concerned about the fate of the world, the fate of this planet".

Wangari Maathai, Kenya’s Green Belt Movement and 2004 Nobel Peace Prize Recipient

<table>
<thead>
<tr>
<th>Environmental Science LECTURE Assignment Schedule</th>
<th>Spring 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week: LECTURE ASSIGNMENT DUE DATES</strong></td>
<td><strong>This Week’s LECTURE Topics</strong></td>
</tr>
<tr>
<td><strong>Week 1: 6, 8 April</strong></td>
<td>4/6- 3 Global Challenges (Relationship between humans &amp; nature); Introduction to class, team work</td>
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<tr>
<td>• Review course syllabus &amp; Wright/Boorse reading list, Kirsch Center for Environmental Studies (KCES) Tour</td>
<td>4/8- Environmental Science “the science of hope”, scientific method; Sustainability, Sound Science &amp; Stewardship; <strong>Sustainable Societies</strong>; Introduction to your portfolio requirements &amp; homework/note checks</td>
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<tr>
<td>• Introduction to Environmental Science, Overview, Sustainability</td>
<td><strong>Chapters</strong></td>
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<tr>
<td>• Sustainable Systems Tour; 3 Stations</td>
<td><strong>• Rachel Carson &amp; Silent Spring</strong> (pgs 2-3)</td>
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<td>• Ecosystems 1: Ecology; Unifying Themes of Environmental Science</td>
<td><strong>• Environmentalist’s Paradox &amp; 4 Hypotheses</strong> (pg 4)</td>
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<td><strong>• Human Development Index</strong> (pgs 4-5)</td>
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<td><strong>• Millennium Ecosystem Assessment</strong> (pgs 5-6)</td>
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<td><strong>• The Environmental Movement</strong> (pgs 9-11)</td>
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<td><strong>• Moving Toward a Sustainable Future</strong> (pg 19-20)</td>
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<td><strong>Week 2: 13, 15 April</strong></td>
<td>4/13- Sustainable Systems &amp; Human Systems (Connecting students to nature on our campuses and in our communities) – 3 Stations</td>
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<tr>
<td>• Sustainable Systems Tour; 3 Stations</td>
<td><strong>Planet Earth &amp; Environmental Science: Ecosystem-Based Learning</strong></td>
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<td>• Ecosystems 1: Ecology; Unifying Themes of Environmental Science</td>
<td><strong>4/15- Ecosystems 1: Introduction to Ecology &amp; Ecosystems</strong>; How do the Earth’s natural systems work? Using ecosystems as a model for a sustainable society to address global challenges</td>
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<td><strong>4/16- Chapters</strong></td>
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<td><strong>4/20- Cont. with above!</strong></td>
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<td><strong>4/22- Ecosystems 2: What are Ecosystems?</strong>; Species, habitat, niche, community. <strong>Biomes &amp; Aquatic Systems</strong> (**See Chapter 5, Table 5-1 and Table 5-2, Pgs 111 &amp; 114); <strong>What is Sustainability? Creating a Sustainable Model for Society</strong>; Cheeseman Environmental Study Area (ESA)</td>
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<td><strong>4/23- Ecosystems 2: What are Ecosystems?</strong></td>
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<td><strong>4/24- Ecosystems 2: What are Ecosystems?</strong></td>
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<td><strong>4/25- Ecosystems 2: What are Ecosystems?</strong></td>
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<td><strong>4/26- Ecosystems 2: What are Ecosystems?</strong></td>
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<td><strong>4/28- Ecosystems 2: What are Ecosystems?</strong></td>
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<tr>
<td>Week</td>
<td>LECTURE ASSIGNMENT DUE DATES</td>
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| Week 4: 27, 29 April | ![Week 4 LECTURE ASSIGNMENT DUE DATES](image1) | **4/27**: Ecosystems 3 - The functional units of life on Earth  
**Ecosystem Services**! (Chapter 5 – Table 5-3, Pg 123); (Chap 7 - Services from Various Types of Ecosystems Table 7-2, Pg 160)  
**4/29**: The Structure of Ecosystems: Major Aquatic Systems & Terrestrial Biomes; 4 Categories of Ecosystem Services (Citizen Scientists) | For each week below: Review & write 2 lines for each topic in Portfolio Folder - total 1/4 page each |
| Week 5: 4, 6 May | ![Week 5 LECTURE ASSIGNMENT DUE DATES](image2) | **5/4**: Taxonomy & California’s Biodiversity  
**5/6**: Case Study – Watersheds and effects from Climate Change  
**Team Assessment Preparation** (Topic: Major Aquatic Systems & Terrestrial Biomes) | Chap 5: Ecosystems: Energy/Patterns/Disturbance  
• Eruption of Mount Pinatubo in 1991 & Rebuilding (pgs 101-102)  
• Characteristics of Ecosystems (Trophic Levels/ Categories, Food Chains/Webs) (pgs 103-107)  
• The Flow of Energy in Ecosystems (The Fate of Food, Energy Flow/Efficiency, Aquatic Systems, From Ecosystems to** Global Biomes, Table 5-1 and Table 5-2) (pgs 108-114)  
• Ecological Restoration & Aldo Leopold, the Shack on the Prairie (pg 120)  
• Can Ecosystems Be Restored? The Future, Ecosystem Management (pgs 122-125) |
| Week 6: 11, 13 May | ![Week 6 LECTURE ASSIGNMENT DUE DATES](image3) | **5/11**: Midterm Team Assessment  
**5/13**: Midterm Team Assessment | Chap 6: Wild Species & Biodiversity  
• Indus River Dolphin (pgs 129-130)  
• The Value of Wild Species & Biodiversity (pgs 130-135)  
• Table 6-1 Modern Drugs from Traditional Medicines (pg 135)  
• Biodiversity & Its Decline (pgs 136-143)  
• Known and Estimated Species on Earth – Table 6-2 (pg 136)  
• Who is going Extinct? Figure 6-6 (pg 137)  
• Saving Wild Species (Science of Conservation) Table 6-3 (pgs 145-152)  
• The Red List, CITES, & Convention on Biological Diversity (pgs 153-154) |

**Midterm Team Assessment Preparation**

**Midterm Team Assessment** Present your team’s topic.
<table>
<thead>
<tr>
<th>Week</th>
<th>ASSIGNMENT DUE DATES</th>
<th>This Week’s Topics</th>
<th>Text Chapters and Pages to Read</th>
</tr>
</thead>
</table>
| Week 7: 18, 20 May | • Photosynthesis & Evolution; SRC Research Activity  
• Biogeochemical Cycles  
• Hydrologic Cycle  
• Team Presentation Preparation | 5/18: Photosynthesis (Using light to build life); Evolution; Ecosystem Capital Biogeochemical Cycles: Water Cycle, Carbon Cycle  
5/20 - Video: Global Change & Extinction (BBC: State of the Planet) | Chap. 10: Water, Hydrologic Cycle & Human Use  
• China has a Water Problem (pgs 239-240)  
• Water: A Vital Resource and Figure 10-1 Earth’s Water (pg 240)  
• Hydrologic (Water Cycle): Natural Cycle & Human Impacts (pgs 241-249)  
• Table 10-1 Terms Commonly Used to Describe Water (pg 243)  
• Is Bottled Water the Answer (Pgs 252-253)  
• Surface Waters & Groundwater (pgs 253-256)  
Chap 11 Soil (The Foundation for Land Ecosystems)  
• “The Nation that destroys its soil, destroys itself, The Dust Bowl (pgs 266-267)  
• Soil & Plants, Soil Characteristics (pgs 267-270)  
• Soil Degradation (pgs 276) |
| Week 8: 25, 27 May | • Case Study: Global Change +Video  
• Team Presentation Preparation  
• Case Study: Restoration Ecology & Ecosystem Management  
• Team Presentation Preparation | 5/25- Memorial Day Holiday- Honor, Remember and Enjoy!  
5/27- Team Project Preparation | Ch. 18: Global Climate Change  
• Maldives is the canary in the world’s carbon coal mine (pgs 441-442)  
• Atmosphere, Weather & Climate (pgs 442-444)  
• Climate Change Science (pgs 445-448)  
• The Earth as a Greenhouse (pgs 449-454) including Figure 18-9 (pg 450)  
• Rising Greenhouse Gasses (pgs 454-457)  
• Climate Change Impacts in the U.S. (pgs 461-462)  
• Response to Climate Change (pgs 462-465) |
| Week 9: 1, 3 June | • Team Project Presentations! All Teams PPT due today  
• Final Team Assessment Meeting #1 | 6/1- Team Project Presentation’s Due  
6/3- Team Project Presentation’s Due | Ch. 23: Sustainable Communities & Lifestyles (LAST CHAPTER!)  
• Sustainable Cities & Communities (pgs 585-589)  
• Lifestyles & the Common Good & Lifestyle Changes (pgs 589-593) |
| Week 10: 8, 10 June | • Case Study- On the Brink of Extinction  
• Final Team Assessment Meeting #2  
• Preparation For Final Assessment  
• Final Team Assessment Activity | 6/8- Case Study – Teetering on the Brink of Extinction; Topics related to Final Team Assessment  
6/10- Continue with the above |  |
| Week 11: 15, 17 June | • Case Studies; Final Team Assessment Meeting #3  
• Final Team Assessment Meeting #4 | 6/15- Toward a Sustainable Future! Students of the 21st Century – Earth Song  
6/17- Preparation for Final Team Assessment |  |
| Week 12: FINAL EXAM | • 6/22 is cancelled for your final preparation teamwork | 6/22- Class cancelled for your final preparation teamwork  
6/25- Final Team Assessment |  |
| Thursday 6/25 | • FINAL  11:30 am-1:30 pm |  | Arrive at least ten minutes early for your final assessment; you are a professional student! |