Course Code & No. – Section (CRN):	ENVS 200-1 (10441) and ENVS 205-1 (10442)
Course Title (Credits):	Environmental Science (3 credits) and Lab (1 credit)
Term & Year:	Spring 2020
Instructor:	Suzanne Gollery
Phone(s):	Office: 775-881-7456 Cell (texts are best): 775-813-4215
Email:	sgollery@sierranevada.edu or suzanne.gollery@gmail.com
Office:	TCES 223
Office Hours:	Mon 4:00-5:00pm, Wed 10:30am-noon, Fri 2-3pm or by appointment
Class Meeting Time:	ENVS 200: TR 11:00am - 12:45 pm; ENVS 205: T 1:00-4:45 pm
Locations:	TCES 205 (EPLAB – Env Science & Physics Lab)
Prerequisites:	ENGL 101 & MATH 101 or higher, or instructor approval
Corequisites:	ENVS 200 and ENVS 205 are corequisites

Required text and materials:

1. Daniel D Chiras, *Environmental Science, 10th Edition*, Jones and Bartlett, 2016. ISBN: 978-1-284-05705-8
2. ENVS 200 Canvas Course and ENVS 205 Canvas Course
3. Looseleaf binder in which to keep course materials. You should save all class materials and returned scored assignments until the end of the semester.
4. Laptop or Tablet that meets SNC requirements. You should have Adobe Reader installed for pdf files and access to the Internet. We will also use MS Excel from Office 365.

Course Grades and Grading Scale: You will have separate ENVS 200 and ENVS 205 grades. Assignments and weighting (percent of grade from each type of assignment) is given. The grading scale lists letter grades that will be assigned based on your overall percent scores in the classes.

ENVS 200 Assignments and Percent of grade (weighting):

In-class assignments	20%
Reading quizzes	10%
Climate change presentation	15%
Energy Debate	15%
3 Exams	40%

ENVS 205 Assignments and Percent of grade (weighting):

Lab in-class assignments (9)	80%
2 Lab reports	20%

Grading scale:

92% to 100%	A
90% - 92%	A-
88% - 90%	B+
82% - 88%	B
80% - 82%	B-
77% - 80%	C+
67% - 77%	C
65% - 67%	C-
63% - 65%	D+
53% - 63%	D
50% - 53%	D-
Below 50%	F

Brief assignment descriptions: (More complete instructions are provided on Canvas and in class.)

Reading quizzes: (10% of ENVS 200 grade) We will start most classes with a very short reading quiz administered through the ENVS 200 Canvas course. You must be in the class and on time to get the password and take the reading quiz. The quiz will encourage you to read assigned pages from the text by answering 3 or 4 questions about it. (See Athlete policy for excused absences.)

In-class assignments: (20% of ENVS 200 grade) Many classes will include activities or short assignments completed in class to help you learn course concepts. For example, when we use math to model aspects of ecosystems, we will practice calculations in class. You must be in class to complete these assignments (or have an excused absence).

Energy Debate (fun!!): (15% of grade) Small teams of students will research the pro or con position of one approach to making electricity and prepare argument that logically supports their position. They will have time to rebut the opposing position. Teams will submit debate notes with citations. One team will WIN each debate and earn 5 point more than the losing team. The **purpose** of the energy debate is for students to practice teamwork skills, researching a topic, critical thinking, and oral presentation skills, which are essential for professional success in any discipline.

Climate change presentations: (15% of grade) Small teams of students will research an effect of climate change on ecosystems and make an oral presentation to the class about this effect. The **purpose** of the climate change presentation is for students to investigate deeply some consequence of climate change, research a topic, think critically, and practice oral presentation skills, which are essential for professional success in any discipline.

Exams: (40% of grade) Students will take three in-class written exams, each covering approximately one third of course content. Exams are scored for content accuracy. The **purpose** of exams is to assess how well students can recall and understand Environmental Science facts and concepts. If anxiety makes it hard for you succeed on exams, keep in mind that 50% of your ENVS 200 grade depends on completing assignments that are NOT exams or quizzes, so that it is possible to pass Environmental Science with a C grade by averaging 35% on exams. Of course, this assumes that you do other course assignments on time and well. Make-up exam policy: I will give one comprehensive make-up exam at the end of the semester. Students may replace a missed exam or lower exam score with the make-up exam score. Athletes who must miss an exam for competition or sports travel can take the regular exam proctored by their coach (or by me for home competitions).

Lab assignments: The **purpose** of lab assignments is to familiarize you with our local Incline Creek watershed environment and let you experience what doing science is like. We will often be outside making observations and gathering data. We will ask questions, form logical hypotheses, make predictions, test our predictions, and form conclusions based on evidence. You will complete an assignment during lab class for most lab activities and turn them in at the end of class (80% of ENVS 205 grade). For two activities that involve all parts of the "scientific method," you will write a lab report in the style of a scientific research paper to practice communicating like scientists do. You will have at least a week to work on the lab report after completing the lab activity. Lab reports are worth 20% of your ENVS 205 grade. Completing lab assignments is the ultimate in active learning for science classes.

Class policies:

1. **Field safety**: You will get field and lab safety training at the start of the semester. It is important to cooperate with safety procedures and pay attention when the I am giving lab activity instructions. We will be doing outdoor field activities in winter when there is health risk due to cold exposure. It is your responsibility to come to these lab classes dressed in gear that will keep you safe outdoors, such as warm coats, snow boots, snow pants, hats, and gloves. You are also encouraged to bring a water bottle and snacks because lab class is several hours long. We will NOT intentionally go out when there is a winter storm warning in effect, so pay attention to weather-related announcements about the lab schedule.

2. **Attendance**: Success in Environmental Science and Lab is significantly influenced by participation in class and lab activities. You cheat yourself if you skip class without a really good reason! Please email me to explain why you have missed class. Because life happens, our last lab period will be a make-up lab activity for students who have missed a lab for any reason. (See Athlete policies below.)
3. Consistent with a growth mindset, **do your own work and write answers in your own words.** It is cheating to copy from sources (including cutting and pasting from the Internet) or other students. You must really understand a concept to write about it in your own words, so this is an important step in learning. Transcribing a correct answer won't help you learn and remember it nearly as well as explaining it in your own words!
4. **Turning in work:**
    a. Written work and presentation materials should be uploaded as pdf files to the Canvas course. Saving documents and slides as a pdf file will preserve your formatting and figures, whereas figures may "disappear" when you convert Google docs or pages files to docx (Word).
    b. If you have difficulty uploading work to Canvas, you can email work to me to meet due dates and times. If you email work, please follow up if I haven't replied that I got your work after a couple of days. I much prefer that you upload work to Canvas if possible.
    c. You may turn in late work until midnight on Friday, April 24, one week after our last class. Late work is worth half credit (50%). I MAY excuse your lateness and give you full credit if I agree that you have a good reason for turning in work late, so please talk to me!
5. **Make-up exams:** I will not give make-up exams before or after every exam. Instead, students who miss exams for any reason can take a comprehensive make-up exam at the end of the semester. Students who did less well than usual on an exam may also take the make-up exam to replace a lower exam score. Athletes who must miss an exam for competition or sports travel can take the regular exam proctored by their coach (or by me for home competitions).
6. **SNC athletes** will miss some classes, labs, and even exams. Athletes are excused from being in class, but are NOT excused from making up work missed due to competitions or sports travel. Please let me know as early as possible when you will miss class. Schedule work for missed classes so that you have the work completed by the due dates and before we have the exam over that material. This may mean doing work before you travel or while you travel. Don't count on having internet while you travel – make sure you have downloaded and/or printed assignments and the text. Contact me if you cannot turn in work on time, so that I can work with you on due dates. I will work with SNC athletes to help you make up labs outside of class, but you should consider dropping ENVS 205 and taking it another semester if your competition schedule requires that you miss more than two or three lab classes.
7. **Course communication:**
    a. This course syllabus is intended to provide you with a clear and accurate outline of course content, student outcomes, class policies, class topics, assignment due dates, and exam dates. You should keep and refer to the syllabus regularly, and learn how to access it on the Canvas course website. I reserve the right to make announced changes to the syllabus and class schedule at my discretion if it is in the best interest of my students to do so.
    b. I will make some important course announcements through Canvas and SNC email. You should check your SNC email regularly, especially when an outdoor lab is scheduled and precipitation is in the forecast. You can forward your SNC email to some messaging service that you actually use and there are instructions on the IT Help page of the SNC website.
    c. Although I have a rough outline of the course schedule on Canvas, I will regularly update with handouts and material used in class. You can find out a lot about what happened in class by going to Canvas afterward (but it's not a good substitute for attending class). Refresh your browser if you don't see something on Canvas that I say is there. Please contact me if you still can't find it.

d. I will post all course assignment and exam scores on Canvas. I do my best to score assignments and post scores within a week of the assignment due date.
e. Please reach out to me by email, Canvas comment, by phone, or coming to office hours if you want to discuss something with me. FYI, my cell phone doesn't have good coverage in my office, so if your call is dropped, try the office phone number. I do pay attention to texts and emails. I teach from 11:00 am to 7 pm on Tues and Thurs this semester, so I probably won't give you a rapid response on those days!

8. **Office hours** are for you to get individual help from me outside of class. Easy access to your professor is part of why many of you chose SNC. Please use this resource for individualized instruction, advising, or just to visit! I promise to be in my office Mondays 4:00-5:00 pm, Wednesdays 10:30 am-noon, and Fridays 2-3 pm. If these times don't work for you, please text or email to ask for an appointment.

Course Descriptions: ENVS 200/205 (Lab): Environmental Science (3/1) [ES] (Core Curriculum Course)
Prerequisites: ENGL 101 and any college-level math course. This course introduces students to natural systems on earth, and how humans are molded by them and affect them. It concerns the connection of economic, ethical, and physical environments, and guides students through the study of environmental and economic sustainability, and how they affect human equity treatment. It also reinforces students' numeracy skills on probability, graphic, calculation, and statistics, in an environmental context that includes application of the Tahoe Basin.

Student Outcomes for ENVS 200/415: Upon completion of Environmental Science and Lab, students will

1. Explain and apply knowledge of how the world's climate and ecological systems work.
2. Create correctly formatted graphs of actual data, both on paper and using Excel.
3. Apply the concepts of sustainability to human- ecosystem interactions, considering economics and culture.
4. Conduct scientific research, include hypothesis formation, experimental design, and statistical tests.
5. Describe the key characteristics of the ecosystems and many species of the Tahoe Basin.
6. Create solutions to problems by applying diverse subject areas and appropriate calculations.

Methods of Assessing Student Outcomes: Student outcomes will be assessed using the following:

1. Brief reading quizzes asking questions about assigned reading
2. Written in-class, closed-book exams
3. Debates and oral presentations about environmental issues.
4. Laboratory assignments and written lab reports.
5. Instructor observations of students in class

Instructional Strategies: Students will learn Environmental Science content by reading some background information prior to class, exploring and applying this information to our local ecosystem, discussing current issues related to sustainability and the environment in class, and researching a few issues in more depth for assignnments. Students will practice doing science: making observations, asking questions, making predictions and testing them by gathering data, and making conclusions based on evidence. Emphasis is made on quantitative analysis of data related to environmental science.

ADA Accommodations: In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu, office in Prim Library: PL-304.

Sanctions for Cheating and/or Plagiarism

The Honor Code

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore, faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

> Cutting and pasting or copying phrases or sentences from internet sources, books, articles, or other students is a violation of the student honor code. If you consistently write using your own words, you will avoid plagiarizing or cheating.

Prim Library Resources: Using the library's resources effectively (not just internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

Prim Library Resources for Environmental Science and Lab include, but are not limited to:

1. Electronic databases (for peer-reviewed primary source research articles, secondary source reviews, newspaper magazine articles, and online books): Electronic databases most likely to include articles on biology topics are EBSCO: Academic Search Premier, Environment Complete, General Science Collection, GreenFILE, Health Source, Newspaper Source, and TOPICsearch; BioOne; and GREENR.
2. Books (can be checked out): In general, books related to environmental science have Library of Congress Classification numbers starting with GE.

3. Hardcopy periodicals: Prim Library has current subscriptions for Science, New Scientist, Science News, Scientific American, and National Geographic Magazine. Any of these are likely to have secondary source articles about biology topics written for educated people who are not necessarily scientists.
4. Lib Guides: http://Libguides.sierranevada.edu These web pages contain instructions about how to use resources available at Prim Library, how to evaluation the appropriateness of information from the internet, how to cite sources, and other topics related to finding and using information.

The SNC Email System

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes: Four core themes from the SNC mission are woven through all courses and the life of the community at SNC.

Liberal Arts **Professional Preparedness** **Entrepreneurial Thinking** **Sustainability**

Image by Ashley Nicole DeLeon © The Balance 2019

Environmental Science and Lab Schedule of classes, reading assignments, and due dates:

Week	Date	Day	[1]Reading assignment	Class topics	[2]Work due
1	*Jan 20*	*M*		*Martin Luther King Jr. Holiday*	
	Jan 21	T		Introductions, Why environmental science? Critical thinking and you	
		Lab	Handout on Canvas	Lab 1: Incline Creek Watershed (inside) Pre-trip meeting for outside labs	Lab 1 (end of class) Participant agreements
	Jan 23	R	Read Chapters 1 & 2	What is science? What is sustainability?	Reading quiz Chs 1 & 2
2	Jan 28	T	Read Chapter 3	Root cases of environmental crisis	Reading quiz Ch 3
		Lab	Handout on Canvas	**Lab 2: Local Exploration (outside)**	Lab 2 (end of class)
	Jan 30	R	Read Chapter 4	How ecosystems work	Reading quiz Ch 4
3	Feb 4	T	Read Chs 5 & 6	Biomes/Aquatic life zones Self-sustaining mechanism	Reading quiz Chs 5 & 6
		Lab	Handout on Canvas How Write Lab Report	**Lab 3: Tree Distribution (outside)**	
	Feb 6	R	Read Chapter 7	Human Ecology	Reading quiz Ch 7
4	Feb 11	T		**Exam 1: Ecology – Chapters 1 - 7**	
		Lab		**Lab 4: Snow Survey (outside)**	Lab 4 (end of class)
	Feb 13	R	Read Chs 8 & 9	Population growth, Stabilizing human pop.	Reading quiz Chs 8 & 9
5	*Feb 17*	*M*		*President's Day Holiday*	
	Feb 18	T	Debate instructions	Population Math Practice	
		Lab	Handout on Canvas	Lab 5: Population Growth (inside)	**Lab 3: Tree lab report** Lab 5 (end of class)
	Feb 20	R	Read Chs 14 & 15	Non-renewable and renewable energy	Reading quiz Chs 14 & 15
6	Feb 25	T	Peer review form	Energy Debate I	
		Lab	Handout on Canvas	Lab 6: Energy assessment of SNC buildings (walking between buildings)	Lab 6 (end of class)
	Feb 27	R		Energy Debate II	
7 (mid-terms)	Mar 3	T	Read Chs 10 & 22	Sustainable agriculture	Reading quiz 10 & 22
		Lab	Handout on Canvas Bring laptops	Lab 7: Food (inside)	Lab 7 (end of class)
	Mar 5	R		**Exam 2: Humans - Chapters 8, 9, 14, 15, 10, 22)**	
Spring Break – Saturday, Mar 7 through Sunday, Mar 15: rest, play hard, and return ready to rock school again					

[1] Read BEFORE CLASS for the BEST learning opportunity. Read BEFORE THE EXAM to do well in the class.
[2] Assignments are DUE at the beginning of class on due dates unless otherwise indicated.

Week	Date	Day	Reading assignment	Class topic	Work Due
8	Mar 17	T	Read Chs 13 & 21	Water resources and water pollution	Reading quiz Ch 13 & 21
		Lab	Handout on Canvas	**Lab 8: Water quality (outside)**	Lab 8 (end of class)
	Mar 19	R	Read Chs 18 & 23	Toxins and waste (garbage)	Reading quiz Ch 18 & 23
9	*Advising for Fall 2020 Semester This Week – make an appointment with your academic advisor*				
	Mar 24	T	Read Chs 19 & 20	Local and global air pollution	Reading quiz Ch 19 & 20
		Lab	Handout on Canvas How Write Lab Report	**Lab 9: Biodiversity (outside)**	
	Mar 26	R	Reading on Canvas	Loss of biodiversity	Reading quiz 3/26
10	*Advising for Fall 2020 Semester This Week – make an appointment with your academic advisor*				
	Mar 31	T		**Exam 3: Big issues – Chs 13, 21, 18, 23, 19, 20**	
		Lab	Handout on Canvas	Lab 10: Climate diagram (inside)	Lab 10 (end of class)
	Apr 2	R			
	Apr 3	F	*Graduation Petitions are Due to the Registrar (with advisor and department chair signatures)*		
11	Apr 7	T	Reading on Canvas	Predicted consequences of climate change	Reading quiz 4/7
		Lab	Handout on Canvas	**Lab 11: Urban Parks (outside)**	**Lab 9: Biodiversity reprt** Lab 11 (end of class)
	Apr 9	R	Reading on Canvas	Managing solutions to climate change	Reading quiz 4/9
12	Apr 14	T		Climate change presentations	
		Lab	Handout on Canvas Please RSVP	Make-up lab for students who missed a lab or lab report for any reason	Make up lab (end of class) or report on 4/22
	Apr 15	R		Climate change presentations	
13	***SNC Senior Symposium Week – Attend these events for extra credit and because they're awesome!***				
	TBA			**ENVS 200 Comprehensive Make-up Exam**	
	Apr 20	M	2 – 4 PM 6 – 9 PM	Psychology Research Fair Business Plan Competition	TCES 139/141
	Apr 21	T	1:30 – 4:30 PM 5:30 – 8:30 PM	Humanities & INTD Senior Projects SBRM Master Plan Competition	TCES 139/141
	Apr 22	W	4 – 7 PM	Science Student Symposium	TCES 139/141 **Make up lab report due**
	Apr 23	Th	5 – 7 PM	BFA Gallery Reception Trashion Show, Art Prom	Prim Library 320 Holman Garage Gallery
	Apr 24	F	4 – 6 PM 7 PM on	SNC Student Symposium Poetry Slam!	TCES 139/141 Patterson Cafeteria