

Course Information

Number:	SC219
Name:	Environmental Science
Description:	The theme stressed throughout this course is that all systems involving life depend on maintaining balances. Topics investigated include population, land use, and energy policies; resource depletion; pests and pest control; and disposal of domestic and industrial wastes.
Credit(s):	3
Offered (DAY schedule):	
Instructor Permission Required:	N
Pre-Requisite(s):	

Course Objectives

After completing this course, students will be able to: Demonstrate the scientific method. Diagram the processes of photosynthesis and respiration. Explain the flow of energy and nutrients through an ecosystem. Discuss the value of biodiversity. Summarize the sustainability and environmental impacts of agriculture. Summarize the sustainability, value and environmental impacts related to forest resources. Summarize the sustainability, value and environmental impacts related to freshwater resources. Summarize the environmental impacts of global climate change.

Syllabus

SC 219 Environmental Science

Fall 2018; 3 credits (this is a fully on-line class)

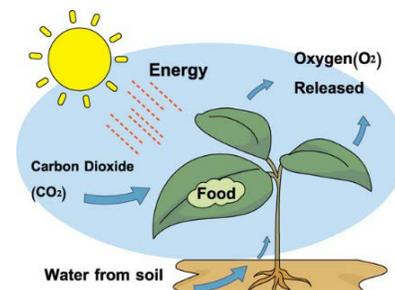


The theme stressed throughout this course is that all systems involving life depend on inter-relationships and maintaining balances. Topics investigated include the four big U.S. E.P.A. categories: Water, Air, Pollution, and Climate, which include issues such as population, land use planning, energy policies, resource depletion, ecosystem services, and disposal of domestic and industrial wastes. The economics of natural resources will be a theme throughout the course, especially the value provided free by ecosystem services to all of humanity.

What you will get out of this course. The intent of this course is not to make you into a scientist but to enhance your understanding of the natural world and the New England landscape that you see every day -- in order for you to be a scientifically-literate citizen capable of evaluating environmental issues and information, and therefore being an engaged citizen and voter. The course will emphasize *communication* skills important for your life and your future employment – including written and discussion skills in Moodle forums and assignments. Grammar, spelling, and construction will be part of your grade. *Critical thinking, and collaborating with others* will be emphasized. These skills are essential to your future *career success and social leadership activities*.

After completing this course, you will be able to:

- 1) Differentiate the Scientific Method and Precautionary Principle
- 2) Understand the value of ecosystem services to the global economy and well-being of humanity.
- 3) Explain the flow of energy and nutrients through an ecosystem.
- 4) Discuss the value of biodiversity and environmental systems.
- 5) Summarize the sustainability and environmental impacts of agriculture, energy development and use, and waste disposal.
- 6) Summarize the value of, and impacts of, resource extraction.
- 7) Summarize the value of freshwater resources for functions as disparate as drinking water and waste disposal.
- 8) Appreciate the complexity of the science underlying human-induced climate change and what you can do to minimize your own impacts on the environment.



Instructor: Dr. Steve Kahl; KahlS@thomas.edu; WWW.LINKEDIN.COM/IN/SKAHL

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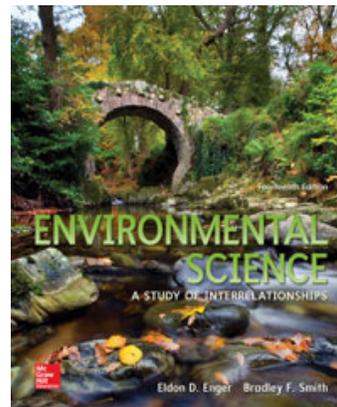
Office hours: Regular office hours are posted at the beginning of Moodle for each semester.

You can also usually catch me after class or any time my office door is open. Feel free to call or text my mobile phone during office hours, just in case. I am glad to meet you at Jeanie's Café to chat over coffee.



Text and course materials:

Environmental Science: a study of interrelationships, 2016 (14th edition). Authors: Enger and Smith. This text is required for the assigned readings and assignments. (McGraw Hill; ISBN: 978-0-07-353255-4)–which may be rented or found used. *An alternative is a loose leaf book of the same title and authors with ISBN 978-1-25-929839-4.* There will be a copy of the loose-leaf edition on reserve in the library all semester.



Additional electronic material posted in Moodle will be an essential component of the course to keep the content relevant and up-to-date. You will be expected to research current content as well.

Tutoring assistance. There is a science tutor in the Student Success Center and three writing tutors. Their hours can be found at <http://www.thomas.edu/inside/student-resources/learning-resources/peer-tutor-schedule/>. You can earn extra course credit for seeking assistance in the success center.

Grading. Course grade will be approximately 25% Moodle Forum blog posts, 25% homework assignments, 25% for exams and quizzes, and 25% final term research paper. The term project will be done in two-person teams to emphasize teamwork and collaborations. Your grade is based on total point accumulation, not an average of averages.

All course deliverables must be submitted in Microsoft Office compatible software. My Dell laptop can't read Apple files.

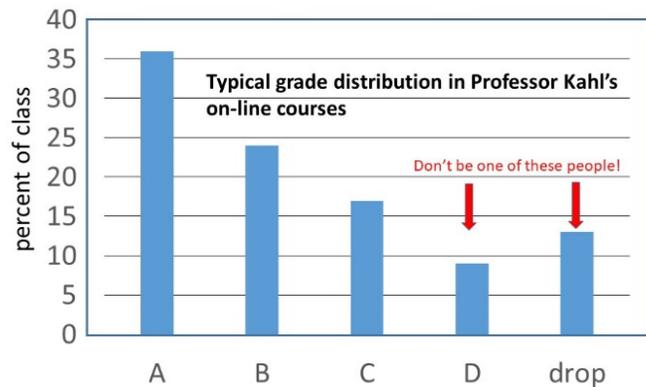
Late assignments. Because this course utilizes on-line forum discussions in Moodle which are analogous to live classroom discussions, *late forum assignments will not be accepted for full credit.* If you submit an assignment late (after I've graded submissions), it is up to you to a) post the assignments in Moodle AND b) collate all missing assignments into a single Word document which is emailed to me no later than the Wednesday before finals week for partial credit. *Any late assignments for which you want partial credit must be submitted by Moodle AND email by 5pm the Wednesday BEFORE finals week.*

If you miss a regular exam which typically will be a combination of T/F, M/C, and short answer, the make-up will be an essay test.

Extra credit and your course grade. There are multiple opportunities for extra credit. There is a 20% extra credit bonus for a meaningful second post to a Moodle discussion forum (but there is a 40% deduction for late submissions - as an incentive for generating a real discussion). *Your grade is largely up to you - depending on how much you want it*

Special statement for on-line enrollees: *On-line classes require discipline and responsibility.*

You can't put off participation in Moodle 'until tomorrow' because in my experience, 'tomorrow' never arrives for procrastinators. Most of my on-line students do very well - but some students totally bomb because they don't get around to active participation in the class. See graph: historically about half of students in my on-line courses get an A or B, but 20% get a D or drop the class - because they didn't keep up. *Think about your personality and decide if an on-line class is right for you.* I will do everything possible for you to succeed, but ultimately it is up to you to get the job done, and on-time.



Course deliverables:

- 1) Moodle Forum discussions for which *everyone* is expected to post comments or feedback twice a week by the stated deadline.
- 2) Homework assignments typically consisting of no more than two page submissions that include an annotated bibliography of your sources. The format is font 12, one inch margins, single spaced). Some homework assignments may be small e-group collaborations.
- 3) Electronic exams. The good news is that the exams are open notes and open book. The bad news is that the exams are open notes and open book. You will be expected to think and synthesize on exams (and in assignments).
- 4) Term project consisting of a single-spaced report with lots of graphics, maps, diagrams, and/or photos, all with captions. You will need to include as many bibliographic citations as needed to adequately address your project. This deliverable will be due a week or two before the end of the semester to avoid the end of the semester rush. There will be deliverables for the term project throughout the semester to keep procrastination at bay, including a quiz on the term projects during finals week. The quiz will be based on abstracts of your term papers that you post in Moodle, and for which you submit quiz questions.



Fake news and confirmation bias. In the internet age, there is abundant news of questionable validity. My advice? Question everything you see on-line. Perhaps more importantly, social media delivers to your news feed information that is determined by your past browsing history. This means that you have a bias in your feed that supports your existing views (confirmation bias), which can make you close-minded. The solution? Click on links that don't necessarily support your pre-existing viewpoints in order to open your mind and minimize the confirmation

bias in your social media feed. I often click on climate deniers websites just to keep me honest and able to apply real science to all sides of an argument. See the guidance documents in Moodle about how to do research and how to avoid fake news. And don't post fake news in any of your submissions for this course!!

Participation policy. Your time at Thomas College is the beginning of your career. In your future job, you won't skip work unless there is a very serious reason. Likewise in this class, *you are expected to participate regularly, when everyone else is posting about the same assignment.*



Professionalism, respect, and courtesy. This class is all about participation and exchange of ideas, information, and opinions. Courtesy and acceptance of other's ideas is expected. Consider this a work environment, analogous to a job. If you are dis-courteous and unprofessional in any job, you will be fired. Consider that these same rules apply in this class. The college provides abundant professional resources for you at <http://www.thomas.edu/inside/student-resources/career-services/>

ACADEMIC HONESTY

<http://www.thomas.edu/inside/wp-content/uploads/sites/9/ThomasCollegeHandbook2014-15.pdf>

Students are expected to do assigned work themselves or in assigned groups, to write papers in their own words, and to cite sources appropriately and accurately. Taking credit for work that is not your own is a serious offense, such as these excerpts from the student handbook cited above:



Plagiarizing. Borrowing, copying, or failing to properly cite and document sources may constitute plagiarism, even if there is no deliberate attempt or intent to misrepresent the work in question. *All instances of plagerism are required by Thomas College policy to be reported to the Academic Affairs Office. A minor offense may result in the assignment getting a zero; most plagerism offenses in my classes have resulted in dismissal from the course.*

Aiding and abetting plagiarism. Permitting others to use your work. See penalties above.

Cheating. Copying from another student's exam paper; permitting others to copy one's work; accepting or giving unauthorized assistance on coursework and/or assignments.

Falsifying. Falsification or fabrication of research results, quotations, facts, and/or references. *Falsifying includes using 'fake news' on purpose or inadvertently.*

Note: Proper citation of references and sources used is an essential part of all deliverables in this course.

Class schedule, topics, and deliverables are delineated in Moodle. The schedule may change during the semester based on the interests of you, the students; on emerging topics in the media; new topics of local interest; or topics that you suggest. *Moodle is your friend in this course. It is organized by week, by topic, and includes readings, supplemental resources and assignments each week. **Keep up with the readings and assignments in Moodle each week and you can expect to do well in the course.*** Late assignments are either not accepted or receive reduced points.