

Arizona State University

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

Copy and paste current course information from Class Search/Course Catalog.

College/School	Mary Lou Ful	ton Teachers	College	Department		
Prefix SCN	Number	401	Title Sustainability Science, Technology,and Society		Units:	3
Is this a cross-listed course?		No	If yes, plea	ase identify course(s)		
Is this a shared course? No		No	If so, list a	ll academic units offering this course		

Note- For courses that are crosslisted and/or shared, a letter of support from the chair/director of <u>each</u> department that offers the course is required for <u>each</u> designation requested. By submitting this letter of support, the chair/director agrees to ensure that all faculty teaching the course are aware of the General Studies designation(s) and will teach the course in a manner that meets the criteria for each approved designation.

Is this a permanent numbered Yes

If yes, all topics under this permanent numbered course must be taught in a manner that Chair/Director Initials meets the criteria for the approved designation(s). It is the responsibility of the

chair/director to ensure that all faculty teaching the course are aware of the General

Studies designation(s) and adhere to the above guidelines.

Course description: Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Prepares students to think and engage critically with the world around them. Seeks sustainable solutions through science, technology and society acting at global and local levels. Uncovers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions.

Requested designation: Historical Awareness-H

Mandatory Review: No

Note- a separate proposal is required for each designation.

Eligibility:

Permanent numbered courses must have completed the university's review and approval process. For the rules governing approval of omnibus courses, contact <u>Phyllis.Lucie@asu.edu</u>.

Submission deadlines dates are as follow:

For Fall 2016 Effective Date: October 1, 2015

For Spring 2017 Effective Date: March 10, 2016

(Required)

Area(s) proposed course will serve:

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

Checklists for general studies designations:

Complete and attach the appropriate checklist

- Literacy and Critical Inquiry core courses (L)
- Mathematics core courses (MA)
- Computer/statistics/quantitative applications core courses (CS)
- <u>Humanities</u>, Arts and Design core courses (HU)
- Social-Behavioral Sciences core courses (SB)
- Natural Sciences core courses (SQ/SG)
- Cultural Diversity in the United States courses (C)
- Global Awareness courses (G)
- <u>Historical Awareness courses (H)</u>

A complete proposal should include:

- Signed course proposal cover form
- Criteria checklist for General Studies designation(s) being requested
- Course catalog description
 - Sample syllabus for the course
- \boxtimes Copy of table of contents from the textbook and list of required readings/books

It is respectfully requested that proposals are submitted electronically with all files compiled into one PDF. **Contact information:**

Name	Leanna Archambault	E-mail	leanna.archambaul t@asu.edu	Phone	602/543-6338			
Department Chair/Director approval: (Required)								
Chair/Dire	ctor name (Typed): Cyn	di Giorgis						

Rev. 4/2015



Arizona State University Criteria Checklist for

HISTORICAL AWARENESS [H]

Rationale and Objectives

Recent trends in higher education have called for the creation and development of historical consciousness in undergraduates now and in the future. History studies the growth and development of human society from a number of perspectives such as—political, social, economic and/or cultural. From one perspective, historical awareness is a valuable aid in the analysis of present-day problems because historical forces and traditions have created modern life and lie just beneath its surface. From a second perspective, the historical past is an indispensable source of identity and of values, which facilitate social harmony and cooperative effort. Along with this observation, it should be noted that historical study can produce intercultural understanding by tracing cultural differences to their origins in the past. A third perspective on the need for historical awareness is that knowledge of history helps us to learn from the past to make better, more well-informed decisions in the present and the future.

The requirement of a course that is historical in method and content presumes that "history" designates a sequence of past events or a narrative whose intent or effect is to represent both the relationship between events and change over time. The requirement also presumes that these are human events and that history includes all that has been felt, thought, imagined, said, and done by human beings. The opportunities for nurturing historical consciousness are nearly unlimited. History is present in the languages, art, music, literatures, philosophy, religion, and the natural sciences, as well as in the social science traditionally called History.

The justifications for how the course fits each of the criteria need to be clear both in the application tables and the course materials. The Historical Awareness designation requires consistent analysis of the broader historical context of past events and persons, of cause and effect, and of change over time. Providing intermittent, anecdotal historical context of people and events usually will not suffice to meet the Historical Awareness criteria. A Historical Awareness course will instead embed systematic historical analysis in the core of the syllabus, including readings and assignments. For courses focusing on the history of a field of study, the applicant needs to show both how the field of study is affected by political, social, economic, and/or cultural conditions AND how political, social, economic, and/or cultural conditions are affected by the field of study.

Revised October 2015

Historical Awareness [H] Page 2

Proposer: Please complete the following section and attach appropriate documentation.

	ASU[H] CRITERIA						
THE YES	HISTC NO	PRICAL AWARENESS [H] COURSE MUST MEET THE FOL	LOWING CRITERIA: Identify Documentation Submitted				
\square		1. History is a major focus of the course.	Syllabus				
		2. The course examines and explains human development as a sequence of events influenced by a variety of factors.	Syllabus				
\square		3. There is a disciplined systematic examination of human institutions as they change over time.	Syllabus				
\square		4. The course examines the relationship among events, ideas, and artifacts and the broad social, political and economic context.	Syllabus				
		• Courses that are merely organized chronologically.					
		• Courses which are exclusively the history of a field of study or of a field of artistic or professional endeavor.					
		• Courses whose subject areas merely occurred in the past.					

Course Prefix	Number	Title	General Studies Designation
SCN	401	Sustainability Science, Technology, and Society	Н

Explain in detail which student activities correspond to the specific designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
1.	"History is a major focus of the course." The field of sustainability is about meeting the needs of the present while also looking to better the outlook for humanity's future, but neither of these can successfully happen without a strong foundational understanding of the past. It is important to recognize that society's patterns of overconsumption and human-caused environmental damage have led us to face significant sustainability challenges. This course aims to provide students with a full-scope understanding of sustainability, encompassing past events and practices, showing how trends have evolved to bring us to our current existence, and positing potential futures based on historic and present activities.	10 out of the 12 course modules contain historical lessons, themes, data, and case studies. This is done to connect the history of various sustainability topics to the interconnected nature of issues today, and potential outcomes tomorrow. See yellow highlights and comments in syllabus for detailed evidence.
2.	"The course examines and explains human development as a sequence of events influenced by a variety of factors." The first module within the course acts as a launching point to showcase human and society's development, growth, successes,	The majority of the course content is presented through significant case studies throughout time, with the goal of drawing parallels and connections between what has happened, what is currently taking place, and what could unfold in years to come. While the case studies highlight events, they connect to the larger elements of course content providing a "big picture" of how the

	and failures over time. The course begins with a dedicated "History of Sustainability" video, which walks through the field of study starting in the 1600s. This particular video acts as an introduction to the overall course, and its content is built upon throughout the 7.5 week session. For the remainder of the class, SCN 401 is a blend between human influence and each of the module topics (i.e., poverty, fossil fuels, or production, etc.). Within each module, students are provided information showing the development over time through the lens of the topic focus, and exploring how the variety of factors have influenced the next stage of events.	world and society has been and continue to be affected. See blue/turquoise highlights and comments in syllabus.
3.	"There is a disciplined systematic examination of human institutes as they change over time." SCN 401 provides information and opportunities to consider research, discussions, and critical thinking of past and current issues in human institutes related to sustainability, science, technology, and society. Within each module, a dedicated sustainability topic is highlighted and explored to show how humans have crafted industries and infrastructures based on that topic in order to benefit society. These ventures are analyzed to understand their successes or failures. Utilizing the Sustainability Education Framework for Teachers (Warren, 2015), the course considers topics in past, present, and future form, all from multiple perspectives through futures thinking, values thinking, systems	The first piece of evidence in the course for this criteria is found in Module 1, which includes a case study on the Industrial Revolution, how it benefited the economy, promoted innovation and societal growth, but also created issues which needed to be addressed, such as worker rights and pollution distribution. Other examples can be found by refering to the green highlights and comments in the syllabus.

	thinking, and strategic thinking. Students learn about sustainability topics and infrastructures that have affect all parts of the world throughout history, and how these topics are interconnected. Warren, A., Archambault, L. &; Foley, R., (2015). Sustainability Education Framework for Teachers: Developing sustainability literacy through futures, values, systems, and strategic thinking. Journal of Sustainability Education, 6, 1-14.	
4.	"The course examines the relationships among events, ideas, and artifacts and the broad social, political, and economic context." This course establishes the interconnected nature of past and present events and ideas with various sustainability topics, and potential outcomes tomorrow. Using diverse approaches used by scientists, scholars, and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions, students learn critical thinking skills that will foster better engagement with the world around them through the lens of sustainability. Students are encouraged to explore topics from the past and identify the relationship of events, ideas, and social or economic structures, to the present and potential futures.	See gray highlights and comments in syllabus



SCN 401: Sustainability Science, Technology, and Society (This is an online course.) SPRING 2018, session A Schedule line #21187 and 21186 Monday, 1/8/2018 – Tuesday, 2/27/2018

COURSE INFORMATION

Catalog Description - Cover Form checklist requirement: Course Description

Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Prepares students to think and engage critically with the world around them. Seeks sustainable solutions through science, technology and society acting at global and local levels. Uncovers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions.

A More Detailed Description

Successful completion of SCN 401 fulfills three semester hours of education courses for Bachelor of Arts in Educational Studies, and is offered as an elective to all other majors at ASU and ASU Online. This course is designed to introduce sustainability to those who plan to work with people of all ages in nonprofit or government organizations, private educational or recreational settings, or as entrepreneurs in various fields. SCN 401 is part of a suite of courses that prepares students for a variety of career paths, many of which are uncharted. By mapping the **historical** path of sustainability topics, either in progress or regression, students will understand the scope and interconnected nature of issues today, and explore a variety of potential outcomes based on **past** and present efforts. This course provides a strong foundation in education through research, discussion, and critical thinking of issues in human development, science, technology and society **over time**. Through the all-online delivery format of this course, students are provided with a variety of opportunities to explore their professional identity. Students gain skills in communicating virtually through a variety of written formats, from email to formal critical analysis, which will prepare them for their future careers.

Big Themes of Sustainability:

Sustainability Science will broaden and deepen your understanding of the following concepts through each of the week's content areas:

- We are seeking solutions to problems: Sustainability is about achieving a society

where people's needs are met now and in the future. **Historically** and presently, we will find that many human needs are not being met globally in a sustainable way. Each need deficiency becomes a problem to be solved.

- There are limits to resources: Meeting human needs requires resources that come from nature. There are limits to all resources and, therefore, there will be limits to the number of people whose needs can be met. Mapping **past** and present consumption trends is required in order to make informed decisions about the future.
- Advances in technology can reset limits: Technology can be implemented to be sustainable or unsustainable. One of the challenges of the 21st century is to figure out how to deploy technologies sustainably and phase out unsustainable practices.
- Solutions require collaboration: We must borrow insights and **past** experiences from many fields of expertise in order to understand nature and our interaction with it. Successful solutions can only be achieved if all stakeholders are involved.
- Problems and solutions are both global and local: Natural cycles and human trade and transportation assure that actions taken at a local level will ultimately have global consequences.

Course Format

This class will be conducted as an online course including, but not limited to, online discussions, quizzes/study questions, and written and applied projects. For a 7.5 week session, a student should be prepared to spend approximately 18 hours a week on coursework for a 3-credit class.

Student Learning Outcomes

Upon completion of this course, students will be able to:

- 1. Contrast and compare major sustainability themes/topics;
- 2. Identify the major myths or misconceptions associated with sustainability;
- **3.** Distinguish between communicating about sustainability, and action plans for sustainability;
- 4. Discuss the interrelationships among values, beliefs, norms, and behaviors, as well as, perceptions, knowledge, and multiple ways of knowing/thinking;
- Consider and evaluate how social justice and equity play into past and present sustainability choices/decisions;
- 6. Describe how different sectors are making use of sustainability themes, from education to policy;
- Evaluate the credibility of resources related to sustainability;
 Conduct systematic research on sustainability events and challenges drawing from a variety of sources.
- **9.** Understand the scope and interconnected nature of sustainability issues today, and explore a variety of potential outcomes based on **past** and present efforts.

10. Deploy the Sustainability Education Framework: systems, futures, values and strategic thinking skills to evaluate topics, ideas, and approaches.

Related Professional Standards

This course is aligned to the following standards:

- International Society for Technology in Education Standards for Teachers http://www.iste.org/standards/standards-for-teachers.
- The following NGSS and InTASC Standards:

Learning Outcome	Assignment	Four Ways of Thinking	NGSS	InTASC Standards
Identify, analyze, and consider sustainability problems and solutions through explicit instruction and experience with critical thinking skills for sustainability.	Online discussions (2 of 4) Reflections (1 of 2) Assignments (4 of 4) Four Ways of Thinking Definition Report Final Project and Draft	Using Warren, et al., 2014;Wiek, et al., 2011 competencies/sustainability literacy skills to infuse and prompt critical thinking for sustainability Futures Thinking – Using past trends and modeling tools to anticipate potential future scenarios to purposefully avoid or achieve. Systems Thinking – Analyzing complex systems across domains, scales, and time to better understand how actions may affect entire systems. Strategic Thinking – Developing a plan to achieve a specified future vision. Values Thinking – Mapping, reconciling, and applying a breadth of values for sustainability in order to identify goals for sustainability interventions.	Core Idea ETS2: Links Among Engineering, Technology, Science, and Society ETS1.B: Developing Possible Solutions	Standard 2: K, n Standard 4: l, m, n, o, p, q, r

Understand and analyze the	Online participation and discussion	Systems Thinking, Futures Thinking, and Values	Core Idea ESS2: Earth's Systems Core Idea ESS3:	Standard 3: p, q, r, Standard 4: a, b, j,
importance of	Completion of	Thinking	Earth and Human	k, l, m, n, o, p, q, r
sustainability in	Completion of			Standard 5:a, b, c,
relationship to	weekly online		Activity Core Idea PS3:	i, j, k, l, m, n, o, p
past, current, and	quizzes			
future generations	Reflections		Energy LS2 A	
through the	Kenections		202.11.	
dynamic interactions	A		Interdependent	
	Assignments		Relationships in	
between people,	Four Ways of		Ecosystems LS2.C: Ecosystem	
planet, and production.	Thinking Definition		Dynamics,	
production.	Ũ			
	Report		Functioning, and Resilience	
	Einal Duaiaat Duaft		LS2 D: Social	
	Final Project Draft and Submission		Interactions and	
	and Submission		Group Behavior	
Students will	Online participation	Strategic Thinking and	Group Beliavior	Standard 6: I, n, l,
explore their	and discussion	Systems Thinking		Standard 8: a, e, g,
professional	and discussion	Systems Thinking		h, k, l, m, n, o, p, r
identity. Students	Assignments			п, к, т, ш, п, о, р, т
gain skills in	And informal			
comminuting	communications			
virtually through a	communications			
variety of written				
formats in				
preparation for				
their future careers.				
then future careers.				

LEAD INSTRUCTOR

	Leanna Archambault, Ph.D. For more information on me, please visit http://www.leannaarchambault.com/		
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		OFFICE PHONE: 602-543-6338	
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		VIRTUAL OFFICE HOURS:	
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		appointment	

ACADEMIC ASSOCIATE

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ACADEMIC ASSOCIATE

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		& Fridays, 8:00pm to 10:00pm or by appointment		
ALL OF THE OTHER	mong			

COURSE FACILITATORS

If this course has more than 30 students, the Lead Instructor will team with Academic Associates to provide a personalized experience for students. All academic associates have content expertise.

By the end of the first day of class you will be assigned a facilitator who will be your main point of contact for this course. He or she will grade your work, provide feedback on your assignments, and respond to any questions you have about the course or content via email.

Communicating with your Facilitator

Your assigned facilitator is your point of contact for all questions.

- You can contact your facilitator via e-mail, or email them to request an appointment.
- Academic associates will involve the lead instructor when needed.
- As ASU email is the <u>official means of communication</u>, all facilitator correspondence will be sent to your ASU email account; students are expected to read and act upon email in a timely fashion.
- Communications from students should come in the form of an e-mail to their instructor. Phone, Skype, and text messages are not a reliable communication method and should be used with caution, or if a prior appointment is set with their instructor. Students can expect a reply from their instructor within 48 hours of sending an e-mail, unless

otherwise communicated by the instructor in advance. This time frame is not applicable to holiday weekends or approved school breaks.

 E-mails and other forms of communication with your instructor must exhibit professionalism at all times. Kindly refer to this guide: <u>http://www.wikihow.com/Email-a-Professor</u>

REQUIRED COURSE TEXTS AND TECHNOLOGY

Required Texts for all students - Cover Form checklist requirement: Copy of table of content from the textbook and list of required readings/books.

There is not a required textbook for SCN 401. Each content week contains custom-produced videos in the digital storytelling format. The digital storytelling format enables us provide a visual narrative of past and present topics from around the world. Web sites, videos, PDF documents, etc. will be linked in the course Blackboard shell.

Required Texts for graduate students (provided through Blackboard)

Caradonna, J. L. (2014). *Sustainability - A History*. New York - Oxford University Press. (Introduction, pages 1-20)

Caradonna, J. L. (2014). *Sustainability - A History*. New York - Oxford University Press. (Chapter 7, pages 233-255)

Kates, R., Clark, W., Corell, R., Hall, J., Jaeger, C., et al. (2001). Sustainability science. *Science* 292 (5517), 641-642.

Supplemental Resource for all students (not required, but an excellent read!)

Miller, G. & Spoolman, S. (2013). *Living in the environment: Principles, connections, and solutions* (17th ed.). Brooks/Cole, Cengage Learning: Belmont, CA.

Learning Management System

This course is offered through ASU Blackboard Course Management Website and is available through MyASU at <u>my.asu.edu</u>. (All ASU registered students have FREE access to this web resource.)

For help accessing the online course materials, including logging on, submitting work, troubleshooting, etc., please refer to the <u>ASU Online Technical Support</u> page or the Technical Support page located in the online course materials.

• For ASU and Blackboard Technical support assistance, you can speak with a technician 24x7 by calling (480) 965-6500 or 1-855-278-5082 (toll-free). Please be sure to retrieve a ticket/record number for your call to send to your instructor for verification.

Required Computer Technology

This course requires student access to a computer with:

- Internet access, preferably with high-speed connection.
- Required browser Chrome. Please use the current version for this course; it helps things run smoothly.
- Access to a digital camera, smartphone with photo capabilities, OR a scanner, for the assignment in Food Week (Week 3). This will also be used as an optional element in a Week 1 discussion board.
- Audio and video streaming capabilities.

Note: Discounted prices for students purchasing laptop or desktop computers are available through the ASU bookstore at <u>http://www.bkstr.com/arizonastatestore/shop/technology</u>

Technology Backup

It is the student's responsibility to have a backup procedure for course assignments in case there is a problem. I strongly recommend drafting and saving all assignments into Word Documents first, and then copy/paste into the submission area.

Required Technology Skills

To be successful in this course, students are expected to be able to:

- Navigate a web browser (specifically Chrome) to access online resources
- Navigate Blackboard, the learning management system, for this course
- Save, back up, and upload files
- Access ASU library resources online
- Communicate professionally, always exhibiting proper netiquette
- Troubleshoot basic issues and access the Blackboard help desk, if needed
- Use spell check and grammar check before posting
- Access to your ASU email account via http://email.asu.edu

Attendance and Participation

It is expected that students will actively and constructively participate in all class activities and discussions, complete assigned materials and assignments, and act with integrity throughout the course. Students will be responsible for participating in the all-online discussions. Because this is an online course, consistent participation in the course is expected. Unexcused, unexplained lapses in participation will result in a failing grade for this course.

Assignments

All assignments should be submitted via Blackboard by the due date, and you will receive feedback electronically through the same platform. Assignments should be formatted according to provided directions and carefully edited for spelling and grammar. Follow APA 6th edition formatting guidelines for citing sources. Please note that final projects will be collected and archived, without identifying information, for possible future use and/or reference. In addition, viewing patterns of the online instructional content will be tracked for quality assurance.

Late and Missing Assignments

No late assignments will be accepted beyond the specified due date without prior instructor approval and only in the case of documented extenuating circumstances. In these limited cases, it is up to instructor discretion whether or not to accept the work and the amount of credit that is awarded (if any).

Weekly Overview

Students are expected to watch the weekly videos, complete quizzes, respond to reflection prompts, and complete all assignments on time. All work/assignments will be due by **11:59 pm on Sunday**. The Final Project and the Wrap-up Questions will be the only two assignments that are not due on a Sunday this semester. See the Course Calendar for specific due dates as **Weeks often cover more than one module**. Due dates will also be posted in Blackboard. All assignments, discussion board postings, reflections, and projects should be formatted according to provided directions and should be carefully edited for spelling and grammar. Please follow APA 6th edition formatting guidelines.

COURSE CALENDAR

Week, Dates, Curriculum Topics	Due Date	Deliverables and Points	Leanna Archambault 2/24/2018 8:56 PM Comment [2]: The "Big Themes" video
Week 1: January 8 - January 14 Module 1: Sustainability Let's explore the topic and idea of sustainability.	ary 8 - January 14by 11:59pmsection of Blackboard:Iule 1: Sustainability s explore the topic andPhoenix, AZ time)Define the term sustainability and answer related questions. (15 pts)• Watch "Big Themes" and	introduces the Four Ways of Thinking that are woven throughout the course. These are methods and processes for examining past events, policies, and impacts through deep examination of people, places, production, and the planet. Students are taught to explicitly use the framework for evaluating the past and envisioning the future.	
		 videos. Discussion Board: Introduce yourself to the class. (20 pts) Discussion Board: Sustainability Myths. (20 pts) Sustainability Assignment: 	Leanna Archambault 2/14/2018 10:37 AM Comment [1]: Module 1: Sustainability introduces the historic document, <i>Our</i> <i>Common Future</i> (The Brundtland Report). Published in 1987 by the United Nation's World Commission on Environment and Development, this catalytic report is considered the launching point of sustainability as it is known today.
		 Sustainability History Scavenger Hunt (30 pts) Graduate students: Read Caradonna's Introduction article; submit answers to the posted questions (200-word submission.) 	Leanna Archambault 2/24/2018 9:03 PM Comment [3]: The "History of Sustainability" video provides students with a tour of sustainability's growth as a field. Starting with its conceptual drivers from René Descartes in the 1600s, moving through the Industrial Revolution, on to post-World Wars consumerism and technological advances, into the Environmental movement of the late 1960s, and up to the present day.
Week 2: January 15 – January 21 Module 2a: Population How many people can the Earth support?	Sunday, January 21, by 11:59pm (Phoenix, AZ time)	 Population Blackboard quiz (10 pts) Population Assignment (30 pts) <i>Graduate students: Read Kates'</i> Sustainability Science article; submit answers to the posted 	Leanna Archambault 2/24/2018 9:02 PM Comment [4]: The Population Module begins with "Futures Thinking," which is used to analyze issues and historic events by understanding how the past affects the future. Students learn population growth and trends throughout history, factors that have taken place throughout time that hindered or promoted population growth.
Module 2b: Poverty What does it take to meet everyone's basic needs?		 questions (200-word submission.) Poverty Blackboard Quiz (10 pts) Poverty Reflection (40 pts) 	Leanna Archambault 2/24/2018 9:03 PM Comment [5]: In the Poverty Module, students learn about the earliest people on Earth who used hunting and gathering techniques. They then learn about the development of agriculture over time as well as explore the topics of urbanization, career specialization, and financial institutions; Students examine he Millennium Development Goals – established in 2000 by the United Nations, in addition to the impact of the

by the United to the impact of the Cambodian Civil War (1967 – 1975).

Week 3: January 22 – January 28 Module 3a: Food How sustainable is our food system?	Sunday, January 28, by 11:59pm (Phoenix, AZ time)	 Food Blackboard quiz (10 pts) Food Assignment (30 pts) Water Blackboard Quiz (10 pts) Four Ways of Thinking Report Due (100 pts)
Module 3b: Water How can we provide water to meet human needs sustainability?		
Week 4: January 29 – February 4 Module 4a: Fossil Fuels How do fossil fuels affect people? Module 4b: New Energy How can new energy be generated to meet human needs sustainably?	Sunday, February 4, by 11:59pm (Phoenix, AZ time)	 Fossil Fuels Blackboard quiz (10 pts) Fossil Fuels Assignment (30 pts) New Energy Blackboard Quiz (10 pts) Review expectations for the final project. Email your instructor if you have any questions.
Week 5: February 5 – February 11 Module 5: Four Ways of Thinking Application	Sunday, February 11, by 11:59pm (Phoenix, AZ time)	• Four Ways of Thinking Application Report Due (200 pts)
Week 6: February 12 – February 18 Module 6: Ecosystem Services How strategic is our management of the biosphere?	Sunday, February 18, by 11:59pm (Phoenix, AZ time)	 Ecosystem Services Blackboard quiz (10 pts) Submit a working draft of your Final Project this week for review. (50 pts) <i>Graduate students: Read Caradonna's chapter 7; submit</i>

Comment [6]: In the Food Module, students explore the worldwide historical quest for food, development of agriculture domestication of animals, the relationship between food and population over time, the Green Revolution, and the gradual change of the American diet. Time periods explored: Mesolithic (11,000 BC), 16th century, 1770s, 1840s, 1930s-1970s, and present. Leanna Archambault 2/24/2018 9:00 PM Comment [7]: In the Water Module, students examine case studies about the cholera outbreak in 1848 London, water pollution in The Great Lakes during the 1960s and 1970s, the Cuyahoga River fire of 1969, the Colorado River Compact of 1922, and the correlation between improved water sanitation and human population throughout the world. Leanna Archambault 2/24/2018 9:04 PM Comment [8]: In the Fossil Fuels Module, students learn about the gradual change of landscape and economy surrounding the Bakken Oil Formation in North Dakota since the 1950s, historic oil spills, historic changes in the coal industry, and US energy consumption over time. Leanna Archambault 2/24/2018 9:06 PM Comment [9]: In the New Energy Module, students explore our fossil fuels consumption habits throughout history and emerging trends transitioning to renewable energy sources. Students learn about the history of renewable energy marketing (development/promotion of the recycle symbol - 1969; CFC's label in 1973; animal testing label in 1989; organic product label in 1990; fair trade label in 002) Leanna Archambault 2/24/2018 9:06 PM Comment [10]: In the Ecosystem

Leanna Archambault 2/24/2018 8:59 PM

Services Module, students explore **how** humans first begin controlling the natural systems through agriculture (2000 years before the Pyramids), the Industrial Revolution's role in connecting carbon and climate systems, demand for ammonia during World War I, the Green Revolution, wheat growth in Mexico during the 1950's, and the Grand Canyon mining law of 1872.

		answers to the posted questions (200-word submission.)	
Week 7: February 19 – February 25 Module 7a: Production How do systems of production and use affect people and places?	Sunday, February 25, by 11:59pm (Phoenix, AZ time)	 Production Blackboard quiz (10 pts) Production Assignment (30 pts) Disposal Blackboard quiz (10 pts) 	
Module 7b: Disposal How is waste managed, and how does it affect people and places?			Leanna Archambault 2/24/2018 9:08 PM Comment [11]: In the Production Module, students examine case studies focused on traditional cooking systems in Kenya and their evolution to include present day techniques, how the cooking systems have gradually changed the culture and economy for individuals in Kenya, as well as the history behind plastic (starting in the 1800s), plastic
Week 8: Feb. 26 - 27 Wrap-up Let's review the topic and idea of sustainability.	Tuesday, February 27, by 11:59pm (Phoenix, AZ time; Final Report and Wrap-up Questions	 Submit Final Project (300 pts) Wrap-up questions: re-define the term sustainability, taking into consideration what you have learned this semester. (15 pts) 	waste in the 1950s, and production trends over time. Leanna Archambault 2/24/2018 9:09 PM Comment [12]: In the Disposal Module: students are introduced to data that compares improved access to sanitation overtime to income per person; electronic waste trends starting
TOTAL		1000 points	in the 1990s; and plastic recycling rates for the last 25 years.

Assignment Descriptions

Quizzes: The quizzes in this course cover course content from each module and align with learning outcomes. This quiz format will be a series of true/false or multiple-choice questions you will answer *after* you have watched all of the videos for the module. These quizzes are formative and help introduce or reinforce course outcomes.

Reflection: The reflections in Week 2 and 7 cover course content from that week and align with course outcomes. These short, written responses are formative and help students to reflect on course content, outcomes, and materials as related to them as citizens and educational professionals. It is expected that when completing the reflection, students reference specific portions of the video content. These references can take the form of quotations, data, logic,

and/or points made in the video content, and should support the student's reflections in a meaningful manner. This is in opportunity to apply the new material presented, demonstrate your understanding of the content, and make use of the materials prepared for you in this class.

Assignments: These assignments require students to critically explore what is being done in the local surrounding area, or in the world, to address sustainability-related issues. For example, during the Population Week, students calculate their carbon footprint and brainstorm ways to reduce it. The focus is on the student as a citizen, increasing his/her sustainability literacy, and promoting a call to action.

Reports: Students will be responsible for providing detailed and robust responses to all questions and prompts provided for the each report. These research papers are meant to offer the student an opportunity to thoroughly explore the Four Ways of Thinking, conduct some research online as outlined in the prompt, and offer students the opportunity to connect seemingly disparate topics/ideas. It is expected that when completing your research report, students will reference specific quotations, data, logic and/or points made in the video content and/or highlighted outside materials as requested by the report prompts. Each research papers should be no more than four pages* in total making use of Times New Roman, 12 point font, 1" inch margins, and double spaced documents.

*Additional page requirement for graduate students on the final project.

Online Participation/Discussion: Students will be responsible for participating in various online discussions to earn their participation points. These discussions will be centered on the course materials. All students are required to provide thoughtful responses to the discussion and fulfill all segments of the discussion prompt. The idea is to generate a lively and <u>valid</u> discussion of important issues and to share resources. Work from the facts, data and logic shared in the week's materials; use the Ways of Thinking when possible.

Course Work	Point Value
Define the term sustainability (first class and last class) 15 pts.	30 points
x 2	
Online participation/discussion (20 pts. x 2 weeks)	40 points
Students must complete all facets of the prompt for full credit	
Introduce yourself and Myths	
Completion of weekly online quizzes	90 points
Online quizzes (10 pts. each x 9 quizzes)	
Reflections	60 points
Online reflection (30 points x 2)	
Assignment (30 pts. each x 5 assignments)	130 points
Investigation of local sustainability problems and solutions	
related to the topic of the week	

Four Ways of Thinking Definition Report (100 pts. x 1 assignment) Response and research related to the Four Ways of Thinking	100 points
Four Ways of Thinking Application Report (200 pts. x 1 assignment) Evaluation related to the Four Ways of Thinking and the Hurricane Harvey provided resources	200 points
Final Project Draft Submission	50 points
Final Project: Submit final article review and the article's permanent URL or PDF	300 points
TOTAL POINTS	1000 points

Final Project Description and Requirements:

Final Report: Students will be analyzing, evaluating, and considering sustainability science using current news stories for their final project this semester. Students will identify one news story (article) and write a 2-3 page analysis.

Graduate student requirement: Graduate students will be analyzing, evaluating, and considering sustainability science using current news stories for their final project this semester. Students will identify one news story (article) and write a 4-6 page analysis that also weaves in at least two of the sustainability articles that were explored from the beginning of the semester (by Kates and Caradonna). Put your selected news story in conversation with the Four Ways of Thinking, the scholarly articles, and your own insights on the topic as it relates to sustainability.

Learning outcomes:

- 1. Students will be able to explore, analyze, and evaluate how things are happening in the world connect specifically with the topics and materials explored in this course.
- 2. Students will be able to deconstruct and analyze a news story using the Four Ways Of Thinking and the topics of sustainability that we have learned about this semester.

Details:

Select a sustainability themed news story/article from the following required resources (listed below). Write a 2-3-page (double spaced, 12 point, Times New Roman font) review of each of this article. Email your instructor if you need clarification on the topic of the article. *Note:* additional requirements for graduate students listed above under "Final Report."

Briefly describe the article in the first paragraph. In the next two paragraphs, identify the sustainability theme that is noted in the article. Justify how you know this is indeed the sustainability theme of the article. In the following paragraphs, analyze the news story using the following prompts:

1. Why do you believe this article related to the topic of sustainability?

- 2. Why is this topic of interest to those that are concerned with sustainability and related topics?
- 3. Who is the article aiming to convince and/or share this information with (policy makers, certain community members, non-profit organizations, the public, etc.)?
- 4. What larger/meta sustainability topic explored in our course this semester does this article connect with (population, poverty, food, water, energy, new energy, etc.)? Demonstrate/highlight that you indeed see a clear connection.
- 5. How does the article connect to the Four Ways of Thinking used in our course (Futures, Values, Systems, Strategic)? Does it directly connect to all four or just a few of them? Be specific.
- 6. How did the information in this article reinforce or contradict the data, logic, and ideas in this course? Please use at least one specific example from the article and one specific example from the courses online content to support your answer. Be specific and use details, facts, logic, and ideas from the course. Make sure to point to them and let me know where you found the information (for example, reference a specific section/segment in one of our videos). Demonstrate to me what you have learned this semester.

Justify the connections/arguments you have made in this paper with specific details and data from the course. To receive credit, you MUST include either the working link to the article's permanent URL or attach the article you have reviewed to your analysis as a PDF. Reviews without the original article will be considered a zero. It is your job to ensure that I can see and read the article you have selected upon submission of your final project.

Resources:

Students must use the following resources to identify their article. News stories from other resources <u>will not</u> be accepted unless I have granted prior approval. You might ask why I am only considering these outlets for our project? I believe these to be valuable, reputable, and creditable sources. In today's world where we can find anything on the web, we need to ask ourselves, "how creditable, valuable, and reliable are these sources. Likewise, how do we actually know they are creditable, valuable, and reliable? What makes a news outlet creditable?"

National Geographic, New York Times*, Science, Science Daily, Scientific American, News 360, Washington Post, The Wall Street Journal

All of these news outlets are freely accessible through ASU's library system or the Internet. On ASU's library system, you can go to the "Journals" tab and type in the title of the news outlet and go from there. If you have questions, you can chat with a librarian 24 hours a day! https://lib.asu.edu/help

*New York Times:

To access NYTimes.com, each user must initially register on while physically on any ASU campus through a non-proxy server IP address by following these steps. Connect with a librarian if this is not possible, they will help you out. https://lib.asu.edu/help

- 1. Go to nytimes.com/grouppass.
- 2. Create a NYTimes.com account using your ASU email (asu.edu) address. If you already have a NYTimes.com account using ASU's email address, you may log in with those credentials.
- 3. When you see START YOUR ACCESS, the expiration time and date of your pass will appear. Please note, that each "pass" is good for 364 days, and then will need to be renewed.
- 4. Once the account is created, access the NYTimes.com from any location, on or off campus.

Also included in the "Group Pass" is access to the NYTimes smartphone apps (iPhone, Android, Windows). Unfortunately the tablet apps are not included in this access. Tablet users may instead access the nytimes.com web site using a browser.

Work Cited:

Outline of all the resources/references used to prepare your project. (Use APA format. For assistance, refer to http://owl.english.purdue.edu/owl/section/2/10/). Students must cite all of the resources used in their project.

		Fotal ints	Final Project Grading Rubric: Required Materials – Final Project
Article	30 points		A working URL or attached PDF of the original article is included. A current sustainability-themed news story/article was selected from the following resources: National Geographic, New York Times, Science, Science Daily, Scientific American, News 360, The Washington Post, or a source previously approved by the instructor. The selected article covers a clear sustainability topic that has been explored in the course.
Content and Analysis	210 points	70 points	 a) Course Connection: Student identifies the larger sustainability topic that was taught in the course (population, poverty, food, water, etc.), and explores how the information in the article reinforces or contradicts the data, logic, and ideas that were covered in class. Student cites specific, detailed examples from both the article and from our course content while also bringing in additional outside resources to support their reasoning. Gradate students - At least two Kates and/or Caradonna articles are referenced, integrated, and put into conversation with the topic matter, the course, and the analysis.
		70 points	b) Four Ways of Thinking: Throughout the review, the student deconstructs and analyzes their news story through the Four Ways of Thinking (Futures, Values, Strategic and Systems).
		70 points	c) Questions: The student explores the following questions, regarding their selected article: Why is this article related to the topic of sustainability? Why is this topic of interest to those that are concerned with sustainability? What is the article trying to convey? Who are they aiming to convince or share this information with (policy makers, certain community members, non-profit organizations, the public, etc.)?
Work Cited	30 points		An outline of all the resources/references used to prepare the student's project is also submitted, in APA format.
Mechanics	30 points		The final project was thoroughly reviewed and proofread for spelling, grammar, and flow. Student turned in a well-developed review, totaling 4-6 pages. The review is double-spaced, and is written in Times font, size 12 point. Note: Work Cited page does not go toward page count.
Student Earned Points: /300		Points:	

GRADES Course Grading Scale

А	93% - 100%
В	83% - 92.99%
С	73% - 82.99%
D	63% - 72.99%
E (Failure)	0% - 62.99%

Facilitator/Student Responsibilities

Graded assignments, along with any written feedback, will be provided within 5 days of the due date. Students should periodically review grades and comments from their facilitator by accessing the My Grades button in the course Blackboard shell.

Submission of Deliverables/ASU Server Outage

- All deliverables are to be submitted to the Blackboard gradebook. Students should not submit work via email to the instructor.
- Students should verify their submissions by going into My Grades and reviewing the submitted deliverable(s).
- In a situation where the deliverable was not submitted properly, email your instructor right away. They can clear your submission to allow you to re-submit. This must be accomplished by the assignment deadline.
- In the event of an ASU server outage, students should email assignments to the instructor by the assignment submission deadline. As all assignments need to be stored in the gradebook, once the system is restored your instructor will provide directions for you to submit your assignment through Blackboard.
- To monitor the status of campus networks and services, please visit the <u>ASU System</u> Health portal.

Submission Deadlines

- Assignments, are to be submitted by the designated due date and time (Phoenix, AZ time), otherwise no points will be issued.
- Quizzes cannot be made up unless advance arrangements are made with the instructor/academic associate.
- Discussions—Participate early in the week, and revisit throughout the remainder of the week. You and your classmates benefit from one another staying on top of this!

ESSENTIALS FOR STUDENT SUCCESS

Timeliness

To be successful in this online course:

- NOW: create a study and/or assignment schedule to stay on track
- DAILY: read announcements posted in the course Blackboard shell
- DAILY: read and respond to course email messages, within 24 hours where possible
- DAILY: keep copies and backups of all work in process and work submitted
- ON A WEEKLY BASIS: plan to spend approximately 15-18 hours completing coursework requirements, throughout the week. Save time to review and proof your work before submitting to Blackboard.
- ON A WEEKLY BASIS: Submit assignments by the specified day and time
- ON A WEEKLY BASIS: Connect with your instructor if you have any questions in advance of due dates. We are here to help! ☺

See the ASU Online orientation for additional suggestions and resources: https://studentsuccess.asu.edu/

Support Button in Blackboard

The Support button in your course Blackboard shell contains useful links to help students taking this course, APA style guidelines and templates, information about how to contact the Writing Center, ASU counseling services, career mentoring, etc.

Professional Written Presentation & English Conventions

For communications related to this course (emails, discussion board posts, assignments, etc.), University level, formal communication is expected. All graded work will in part be evaluated based on proper English conventions, spelling, grammar, organization, and comprehensiveness, including any assignments that include narration.

Students will be expected to use the APA style guide for any formal papers or projects that have the need for in-text citations and a reference list. This applies to information sources as well as multimedia. See the Support button in your course Blackboard shell for additional information.

Online Writing Center

The Writing Center provides support for all ASU students in an online format. You can make an appointment on your own, without instructor referral. However, should your written work be of concern to facilitator, they will recommend you visit the ASU Writing Center. See the Support button in your course Blackboard shell for additional information.

Tutoring

Tutoring is available on all ASU campuses and Online for a variety of courses in small groups on a walk-in/drop-in basis. Appointments are not taken. For a full list of sites and courses, visit https://tutoring.asu.edu.

Electronic Communication

Acceptable use of university computers, internet and electronic communications can be found in the Student Code of Conduct (*http://www.asu.edu/aad/manuals/usi/usi104-01.html*) and in the University's Computer, Internet, and Electronic Communications Policy (*http://www.asu.edu/aad/manuals/acd/acd125.html*).

ACCOMMODATIONS

Disability Accommodations for Students

Students who feel they may need disability accommodation(s) must provide the necessary documentation from the ASU Disability Resource Center to the lead instructor verifying the need for an accommodation and the type of accommodation that is appropriate. Students who need accommodations for a disability should contact DRC as early as possible (i.e. before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the DRC. https://eoss.asu.edu/drc

Religious Accommodations for Students

Students who need to be absent from class due to the observance of a religious holiday or participate in required religious functions must notify the faculty member in writing as far in advance of the holiday/obligation as possible. Students will need to identify the specific holiday or obligatory function to the faculty member. Students will not be penalized for missing class due to religious obligations/holiday observance. The student should contact the class instructor to make arrangements for making up tests/assignments within a reasonable time. http://www.asu.edu/aad/manuals/acd/acd304-04.html

Military Personnel Statement

A student who is a member of the National Guard, Reserve, or other U.S. Armed Forces branch and is unable to complete classes because of military activation may request complete or partial administrative unrestricted withdrawals or incompletes depending on the timing of the activation. For information, please see <u>http://www.asu.edu/aad/manuals/usi/usi201-18.html</u>.

UNIVERSITY/MARY LOU FULTON TEACHERS COLLEGE POLICIES AND PROCEDURES

Course/Instructor Evaluation

The course/instructor evaluation for this course will be conducted online 7-10 days before the last official day of classes of each semester or summer session. Response(s) to the course/instructor are anonymous and will not be returned to your instructor until after grades have been submitted. The use of a course/instructor evaluation is an important process that allows our college to (1) help faculty improve their instruction, (2) help administrators evaluate instructional quality, (3) ensure high standards of teaching, and (4) ultimately improve instruction and student learning over time. Completion of the evaluation is not required for you to pass this class and will not affect your grade, but your cooperation and participation in this process is critical. About two weeks before the class finishes, watch for an e-mail with "ASU Course/Instructor Evaluation" in the subject heading. The email will be sent to your official ASU e-mail address, so make sure ASU has your current email address on file. You can check this online at the following URL: http://www.asu.edu/emailsignup.

Drop and Add Dates/Withdrawals

This course follows a compressed schedule and may be part of a sequenced program; therefore, there is a limited timeline to drop or add the course. Please refer to the <u>ASU Academic Calendar</u> for relevant deadlines and consult with your advisor on how to proceed. If you are considering a withdrawal, review the following ASU policies: <u>Withdrawal from Classes</u>, <u>Medical/Compassionate Withdrawal</u>, and a <u>Grade of Incomplete</u>.

Copyright Notice

Copyright law may protect some course materials available through this system. This material is only for the use of students enrolled in the specific course(s), and must be used in accordance with the United States Copyright Act, Title 17 of the U.S. Code. Protected materials on this site may not be retained on the user's computer or other electronic storage device for longer than the duration of the specific class for which they are assigned, nor further disseminated by the user to any other persons.

Student Online Conduct and Professional Behavior

Appropriate online behavior (also known as netiquette) is defined by the instructor and includes all electronic communication in the course. Inappropriate contributions may be deleted by the instructor and, if relevant, no credit given. The instructor reserves the right to determine whether a post or other entry is unsuitable.

It is expected that students exhibit professional behavior in all settings: during intern placements, working with other students on assignments related to this class, in addition to behavior in the

online classroom. If at any time a student's behavior does not meet the standards of the program as delineated in the Professionalism Rubric (<u>http://mytc.asu.edu/webfm_send/380</u>), the instructor may refer the student for academic probation.

Electronic Communications Policy

Acceptable use of university computers, internet and electronic communications can be found in the Student Code of Conduct (<u>http://www.asu.edu/aad/manuals/usi/usi104-01.html</u>) and in the University's Computer, Internet, and Electronic Communications Policy (<u>http://www.asu.edu/aad/manuals/acd/acd125.html</u>).

Academic Integrity/Plagiarism

The ASU Student Handbook contains the following information: "The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in suspension or expulsion from the university and/or other sanctions as specified in the academic integrity policies of the individual academic unit. Violations of academic integrity include, but are not limited to, cheating, fabricating, tampering, plagiarizing, or facilitating such activities. The university and unit academic integrity policies are available from the Office of the Executive Vice President and Provost of the University and from the Deans of the individual academic units."

The rest of the code, which consists of several pages, is available at the following URL: <u>http://students.asu.edu/srr/code</u>.

Dependent upon instructor's discretion, penalties for plagiarism range from loss of points on plagiarized assignment to student receiving an E for the course.

Harassment Prohibited

ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status and other protected veteran status. Violations of this policy may result in disciplinary action, including termination of employees or expulsion of students. Contact Student Life (Downtown campus- 522 N. Central Ave., Post Office Room 247, 480-496-4111; Polytechnic campus- Administration building suite 102, 480-727-1060; Tempe campus- Student Services Building room 263, 480-965-6547; or the West campus- UCB 301, 602-543-8152) if you feel another student is harassing you based on any of the factors above. Contact Equal Opportunity/Affirmative Action (EO/AA) at 480-965-5057 if you feel an ASU employee is harassing you based on any of the factors above. http://www.asu.edu/aad/manuals/acd/acd401.html.

Grade Appeals

The professional responsibility for assigning grades is vested in the instructor of the course, and requires the careful application of professional judgment. A student wishing to appeal a grade must first meet with the instructor who assigned the grade to try to resolve the dispute. The process for grade appeals is set forth for the undergraduate and graduate programs are available at https://education.asu.edu/student-forms-policies

Title IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at http://sexualviolenceprevention.asu.edu/fags/students.

This syllabus is subject to change at the discretion of the instructor and/or college. Every effort will be made to avoid changing the syllabus or course schedule but the possibility exists that unforeseen events will make changes necessary. If so, changes will be communicated via ASU email and/or the course site. Continued enrollment in this course assumes that you have read and understand the information outlined in the syllabus.