GLOBAL to LOCAL SUSTAINABILITY
ANTH/BIOL/ECON/NRM 647
FALL 2020

Course Information
Location: Online
Meeting Time: Tuesday 2-330pm via Zoom; Thursday part will be conducted asynchronously via Blackboard, except as otherwise noted.

Instructor: John Duffy, jduffy@alaska.edu, 907-830-7307; office and discussion hours: by appointment.

Course Description
This course considers basic principles that govern sustainability, resilience and change of linked ecological-social systems. The fundamentals of these concepts are as they have developed in various disciplinary fields and through interdisciplinary inquiry are considered in course discussions. We then investigate how these concepts are related through Zoom-based and Blackboard-based discussions that are both instructor and student-directed.

The readings and discussions will emphasize societal goals, tradeoffs, drivers of stability and change, thresholds, feedbacks and interactions, emergent properties, and temporal and spatial scales. Sustainability science, social-ecological resilience theory, and vulnerability analysis are some of the general frameworks addressed. One purpose of the course is to study the problem-solving implications of interdisciplinary thought and practice. Although the study of complex adaptive systems requires interdisciplinary organization, the focus here will be on understanding the problem. Apart from the theoretical frameworks presented and discussed, we hope to explore the opportunity for practical application of course topics and how theory structures observations and informs research and design of "ideal" solutions to real-world problems, and how those solutions face the realities of power and politics. Through all of the discussions we will also look at the way that different disciplines describe people, places, and ecosystems, and stress the common ground that integrates across disciplines.

Course Goals/Learning Objectives
- Acquire a basic understanding of complexity, systems-thinking, and social-ecological systems
- Develop a conceptual framework for exploring sustainability and resilience
- Develop skills applying basic principles to the analysis of real-world issues related to resilience and sustainability
- Apply these principles through student led projects, focusing on integrating social, cultural, economic and ecological dimensions of systems.

Technology Requirements The course requires that you have a current/active UA Username and password. Visit the UAF Office of Information Technology for more information: https://www.alaska.edu/oit/servicecatalog/#id=225

The course also requires you to have a computer with internet connectivity and the most current versions of the following:

- Web browsers Internet Explorer 10, Chrome and Firefox
- Operating System Windows 7 or higher
- Latest update of Java
- Review Blackboard Collaborate for First Time Users, If MAC user, download Blackboard Collaborate Launcher

Blackboard & Distance Delivery

We will use the UAF Blackboard site for this course to send emails and post readings, assignments and other materials. Blackboard can be accessed at https://classes.alaska.edu/ . Email notification through Blackboard will not work for a non-UAF email address**. If you principally use a non-UAF email service, (such as yahoo) go to your UAF account and forward your UAF email to that address. You are responsible for all emails sent to your UAF email account.** Blackboard resources, links and support information are available at the UAF Blackboard homepage.

Remote Access

Students in the course may be based in Fairbanks and other sites. We will connect with one another via Zoom and Blackboard. If you require remote access or are away from town without internet access, contact the instructor. For questions with Zoom connections, contact Steve Peterson: (907) 474 –7053, slpeterson@alaska.edu.

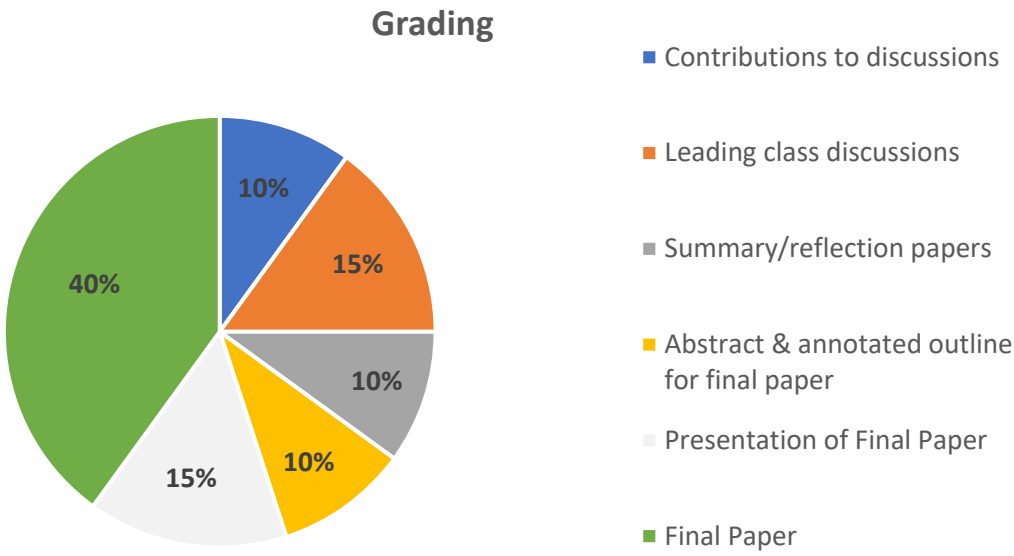
Safety in Online Environments

UAA will never send you an unsolicited e-mail asking you for your password or other personal information. If you receive such a message, please delete it. If you have any concerns, contact the IT Call Center at (907) 786-4646, menu option 1, or via email at helpdesk@alaska.edu. If you experience cyberbullying, cyberstalking, or other inappropriate conduct as part of your involvement in a UAF class, please notify your instructor immediately.

Source: memegenerator.net

All materials for the course are posted on UAA Blackboard. Each session has its own Blackboard folder containing a To Do List, Assignments and journal articles. Separate folders are provided for the rubrics for all assignments. A Journal Article Critique/Question sheet is included (Appendix 1) to guide the critique of journal articles. Weekly readings will also be discussed via Blackboard; the discussion will typically be initiated with a question or two from the instructor.

Assignments/Grades/Requirements
You are expected to complete all of the assigned readings in advance of the class for which they are assigned and to come to every class prepared to discuss these readings. You will be graded on a combination of your completion of each grading element.



- Contributions to ALL class discussions ---------- 10%
- Leading of selected class discussions---------- 15%
- One-page reflection papers as assigned ---------- 10%
- Abstract and annotated outline for final paper ---------- 10%
- Presentation of Final Paper---------- 15%
- Final Paper---------- 40%

Please note that engagement in discussion and learning of new perspectives counts for much in all areas.

The following grading scale will apply for the course:
A:- 90 to 100 (A- 90-91; A+ 99-100)
B : 80 to 89 (B- 80-81; B+ 88-89)
C : 70 to 79 (C- 70-71; C+ 78-79)
D : 60 to 69 (D- 60-61; D+ 68-69)
F : < 60

Assignments handed in after the due dates will receive reduced credit. The instructor reserves the right to modify the final grade in consideration of notable progress demonstrated by an individual, or unforeseen and/or extenuating circumstances. In such cases, extra credit assignments and/or makeup work may be required and used at the discretion of the instructor.

Attendance
Students are expected to devote a similar amount of time to the Online as standard face-to-face classes.

Class contributions and participation The course relies upon your active participation and collaboration in discussing the various aspects of global to local sustainability and resilience as presented in the lectures, discussions and reading assignments. Contributions and participation will be assessed through regularity of contributions and submittal of relevant, insightful questions on the assigned readings and journal articles during our Zoom meetings and via the Discussion Board. To assist our discussions, **each student is to submit 1 or 2 discussion questions each week by Monday, 12 Midnight.** *The questions should address the topics of the session beginning the following Tuesday.* Questions will be selected from the weekly submittal for discussion purposes. Please review the Discussion Rubric for an understanding of how discussions will be graded.

Reaction Papers

Reaction Papers: Each week, students will prepare short reaction papers, (300 words or less) in response to, or critique of, one of the assigned readings or videos. This assignment seeks your thoughts about the practical, complex or theoretical issues that may be difficult to understand, or for which there is not likely to be one answer. **Reaction papers are due by the end of each session, Monday, 12 Midnight.** Review the Reaction Paper rubric for how these assignments will be graded.


Penn State College of Education

Student Lead Discussions: Each student will be responsible for organizing, presenting material, and assist in leading discussion about a particular topic of sustainability. This involves identifying one relevant peer-reviewed journal article, presenting the main points and key concepts of the readings, presenting your thoughtful response, and facilitating a discussion. For example: Do you agree with the author's main points? If so, why? If not, why not? In what ways are the ideas and concepts presented novel or interesting? How do they connect with other materials in the course? Are there any key points or elements for consideration that are missing? Allow for a 20 minutes presentation and 20 minutes for discussion. Potential topics follow:

The Problem of Scale	Psychosocial dimensions	Energy
Infrastructure	Food Production & Food Systems	Climate Change
Markets & Consumption	Sustaining Rural Alaska	Globalization and poverty
Health Systems	International Governance	

Selection of Lead Discussion date must be made no later than September 15th and will be assigned on a first-come, first-served basis. Also, student selected journal article should be sent to the instructor for posting on Blackboard 1 week prior to the date of the lead discussion. Students are encouraged to discuss the proposed lead discussion topic with the

instructor prior to commencement. The lead discussion will be graded in accordance with the lead discussion rubric.

Final project: The final project consists of the preparation of a Final Paper on a topic related to sustainability of the student's choosing. The paper should be written using the typical sections found in a peer-reviewed journal article and not exceed 5,000 words in length; shorter is better as long as the topic is covered sufficiently. A 20 to 30-minute presentation to the class using a PowerPoint (or similar) via Zoom is also required.

Source: karinehmasihi.com

Students are encouraged to discuss the proposed presentation and final paper topic with the instructor prior to commencement. The presentation will be graded in accordance with the presentation and final paper rubrics. An abstract and annotated outline of the final paper is due **October 12th, 12p.m. Midnight**. The purpose of the outline is to *"get you thinking, as time marches on."*

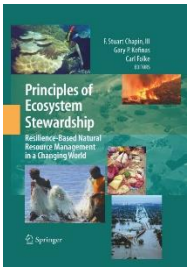
Style/citations: Use APA 7th Ed. See: http://owl.english.purdue.edu/owl/resource/560/01/ All papers should have a title, author and use 1.5 line spacing, 1 inch margins and a Arial, Calibri, Georgia or Times New Roman font.

Class evaluations: It is vital that the classes are informative and productive; hence, during the course an evaluation form will be provided to be completed by each student. This information will be used to make adjustments necessary to improve course delivery.

Ground rules

Our discussions and reading/journal topics may address controversial matters that do not have a correct or incorrect answer. There will be various opinions expressed during our discussions. It is expected that everyone will ***treat each other with respect***. In addition, allowing everyone to have an opportunity to express their thoughts and opinions and finish their comments is necessary for good discussion. Also, it is important to ***listen to what others are saying before formulating a response; in the Online context think and consider the others' comments before stating or writing your response and hitting the "Send" key.***

Course Materials



Textbook (please note that this textbook is available as a PDF and may be found in Blackboard Materials folder):

Chapin, F. S., III, G. Kofinas, and C. Folke editors. 2009. Principles of Ecosystem Stewardship. Resilience Based Natural Resource Management in a Changing World. Springer, New York. (noted as "PES" in course outline)

Additional Readings: Specific journal articles are assigned for each Session and may be found in the Materials folder.

Videos: Some sessions will include one or more videos for review. These videos are posted within the Session folder.

Course Outline and Schedule

Each Session consists of 1 week with two class meeting times. We will meet via Zoom on Tuesday of each week. The Thursday part of the Session will be conducted asynchronously via Blackboard, *which means the materials, assignments, etc. will become available each Tuesday morning. All weekly assignments are due by Monday, 12 midnight prior to the beginning of the new weekly session.* Please consider this course outline as being fluid so that it may be responsive to student interests and to ideas that develop during class discussions.

Course Schedule, Readings, and Assignments

Session	Dates	Topic	Readings
1	8/25 & 8/27	Introductions Introduction to course Review syllabus Complexity Theory & Wicked Problems	Syllabus Peter & Swilling, 2014 Rittel & Weber, 1973
2	9/1 & 9/3	In search of definitions and meaning for sustainability	Santillo, Johnston, Everard & Robert, 2007 Virtanen, Siragusa, & Guttorm, 2020
3	9/8 & 9/10	Key Concepts; Exploring sustainability in the context of global change	PES Ch 1 PES Ch 14 Peduzzi, 2019 *Recommended*: MEA 2005
4	9/15 & 9/17	Ecological Dimensions (part 1)	PES Ch 2 & 3 Raudsepp- Hearne et al., 2010 **NO ZOOM MEETING**
5	9/22 & 9/24	Ecological Dimensions (part 2) Student Lead Discussion #1	Chapin et al., 2009 PES Ch 11
6	9/29 & 10/1	Economic Dimensions Student Lead Discussion #2	Raudsepp- Hearne et al., 2010 Arrow et al., 2012 PES Ch 10
7	10/20 & 10/22	Resilience & adaptation Student Lead Discussion #5	Smit & Wandel, 2006 Cinner et al. 2018
8	10/6 & 10/8	Rigidity Traps Student Lead Discussion #3	Boonstra, Bjorkvik, Haider & Matterson, 2016 Enqvist, Tengo & Boonstra, 2016
9	10/13 & 10/15	Social & Cultural Dimensions Student Lead Discussion #4	Kirch, 1997 Wolsko, 2016 Raudsepp-Hearne, Peterson, Tengö, Bennett, Holland, Benessaiah, MacDonald & Pfeifer, 2010

Session	Date	Topic	Readings
10	10/27 & 10/29	Institutional Dimensions Student Lead Discussion #6	PES Ch 4 Baird, Plummer, Schultz, Armitage & Bodin, 2018 Williams, 2011 Birge, Allen, Garmestani & Pope, 2016
11	11/3 & 11/5	Assessing and Reducing Vulnerability (dimensions of risk) Student Lead Discussion #7	Adger, 2006 Maru et al., 2014 Peduzzi, 2019 Flanagan, Hallisey, Adams & Lavery, 2018
12	11/10 & 11/12	Sustaining cultural pluralism	PES Ch 6; Thorton, 2007 Colic, 2008
14	11/17 & 11/19	**Thanksgiving Break** **(No Classes)**	
15	11/24 & 11/26	Land Use & Land Cover	Foley et al., 2005 Weinzettal, Hertwich, Peters, Stern-Olsen & Galli, 2013 Song et al., 2018
16	12/1 & 12/3	Final Paper Presentations	**We will meet on Tuesday and Thursday via Zoom**
17	12/8	Class Evaluation	

Appendix 1

Sample questions for critiquing a journal article

1. Will you remember the article a few days from now?
2. What are the main and secondary purposes of the article?
3. Are key terms defined?
4. Is a literature review reported?
5. Are the relevant ideas and theories of the field presented? Are problems or drawbacks with the ideas and theories identified?
6. Did the author distinguish between what has been accomplished in the field from what has not?
7. What method(s) is(are) used in the article's study/research? Is(are) the method(s) appropriate for the study/research?
8. What is the context of the study/research?
9. Are there any errors of fact or interpretation?
10. Have the study's procedures and methods been identified in sufficient detail for another person to duplicate the study/research?
11. Are key assumptions identified?
12. Did the author accomplish the purpose of the article?
13. Was a statistical analysis conducted? Is the analysis appropriate? Is the analysis complete and reported accurately?

14. What are the 2 or 3 main findings or conclusions of the article? Did the research support these findings?

Sources:

Boote, David N. & Peile, Penny. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*. *34*(6). ProQuest Psychology Journals

Center for Teaching and Learning. *How to Critique a Journal Article.* http://www.uis.edu/ctl/writing/documents/jrnlcrtq.pdf Accessed October 29, 2011.