Course Syllabus – FALL 2016
GLOBAL to LOCAL SUSTAINABILITY
BIOL 647 (73524), and NRM 647 (74910)

Course Information Location: AHRB 183 Meeting Time: Tu/Th, 2:00-3:30

Instructor
• Sarah Trainor, 370 O’Neill Building; sarah.trainor@alaska.edu, office: 907.474.7878. Office Hours by appointment

Course Description
This course explores key elements of sustainability science in order to give students a strong foundations for graduate studies and for applying their graduate research to solving important real-world problems. Central topics to be covered include: linking science and decision-making; the importance and challenge of cross-scale interactions and feedbacks, multiple stressors, and adaptation; indicators of sustainability, and evaluating sustainability outcomes. A key theme of the course will be Sustainability in Alaska and the Arctic, including adaptation to climate change.

The course format will include lectures and guest-lectures, but will primarily focus on student lead discussions of required course readings. The theoretical and practical aspects of sustainability will be addressed through central focus on a class group project to interview faculty regarding their interactions with stakeholders. The outcome of this class project will inform the Alaska Experimental Program to Stimulate Competitive Research (EPScR) in their required reporting to the National Science Foundation.

Student Learning Outcomes:

Students who are successful in this class will learn:
• How to read, review, and lead a discussion on peer-reviewed published literature
• How to navigate the Institutional Review Board (IRB) requirements for research with human subjects.
• How to conduct semi-structured, open-ended interviews and how to manage qualitative data.

By the end of this class, students will:
• Be able to synthesize interdisciplinary peer-reviewed literature related to sustainability.
• Be able to critically discuss the interdisciplinary complexities of sustainability in the Arctic.
• Be able to critically discuss linkages between science and decision-making from the perspective of sustainability.
• Understand the importance and complexities of knowledge co-production

1 https://www.alaska.edu/epscor/
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:
- Contributions to ALL class discussions, including those on the readings AND those on the class project - 10%
- Leading of select class discussions – 10%
- One page reading summary/reflection papers as assigned – 10%
- Draft contributions to class project as assigned – 10%
- Responsibly and professionally conducting interviews and keeping interview records organized – 10%
- Transcribing interviews and uploading data to server according to instructions – 10%
- Coding interviews and uploading data to server according to instructions – 10%
- Final paper – 30%

Students will be responsible for organizing, presenting material, and leading discussion about readings. Additional guidance will be provided during class discussion.

The class will also include guest lectures. Students should complete readings about the lecture and prepare questions before interacting with lecturers.

Final research papers will be written individually. Research papers are to cite and integrate concepts and examples from assigned readings only. The paper will be an analysis and discussion of interview results in the context of assigned readings. The paper will be no more than 10 double-spaced pages in length (plus bibliography, abstract, figures and tables). Additional guidance will be provided during class discussion.

The following grading scale will apply:

- 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

Adaptation
This is the first time this course has been taught with the course project framework. This course also involves several guest lectures. The course schedule may be adjusted to meet the aims of the course project and the scheduling needs of guest lectures. Assignments handed in after the due dates will receive reduced credit.

Instructional Methods
The course will use a combination of lectures, student lead discussions, and guest speakers. The course is focused around a class project that is designed to provide both theory and practical experience in knowledge co-production. This class is interactive, relying on strong student contribution. We expect
students to contribute to a respectful and productive atmosphere that encourages this joint class exploration of course themes.

**Attendance**
Students are expected to attend all classes. If it is necessary to miss a class, contact the instructors beforehand to inform them of your plans and request guidance on how to make up missed classroom learning. We encourage students to join the class remotely (UAF video conferencing or via Skype) if on travel. Missed classes will be reflected in your participation grade.

**Student Code of Conduct**
According to the UAF code of conduct “Students will not collaborate on any quizzes, in-class exams, or take-home exams that will contribute to their grade in a course, unless the instructor of the course grants permission.... Students will not represent the work of others as their own. A student will attribute the source of information not original with himself or herself (direct quotes or paraphrases) in compositions, theses, and other reports.... No work submitted for one course may be submitted for credit in another course without the explicit approval of both instructors....” Students are expected to abide by the UAF code of conduct.

An explanation of plagiarism and how to properly cite sources are available at the following two sites:
http://library.uaf.edu/ls101-plagiarism
http://library.uaf.edu/ls101-citing

**Plagiarism is grounds for course failure.**

**UAF Policies Disabilities Services**
The University of Alaska Fairbanks is committed to providing equal access for students with disabilities. The Office of Disability Services implements the Americans with Disabilities Act (ADA) and insures that UAF students have equal access to the campus and course materials. We will work with the Office of Disabilities Services (203 WHIT, 474-5655) to provide reasonable accommodation to students with disabilities. If you have a physical or learning disability, please advise us in writing of any special consideration necessary by the beginning of the second class. We will do everything possible to accommodate you in accordance with the Americans with Disabilities Act. Priority seating close to the board and screen is provided for students who need to be in close proximity to the board.

**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://www.uaf.edu/bblearn/prod/](https://www.uaf.edu/bblearn/prod/). 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.

Students in the course may be based in Fairbanks and other sites. Students not located in Fairbanks We will connect our classrooms via Video Conferencing Services ([http://www.alaska.edu/oit/vcs/](http://www.alaska.edu/oit/vcs/)). If you have any trouble with the video conferencing, please notify the instructors or call the Video Conferencing Office at: 907-474-8390. The Video Conference established for our class can also be accessed via telephone during remote travel. The call-in number is: 1-800-570-3591 and the PIN is: 4379201.
Course Schedule – FALL 2016

GLOBAL to LOCAL SUSTAINABILITY
BIO 647 (73524) and NRM 647 (74910)

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Instructor

- Sarah Trainor, 370 O’Neill Building; sarah.trainor@alaska.edu, office: 907.474.7878.
  Office Hours by appointment

***You are responsible for reading all of the readings prior to class meeting.***

***Even when you are not leading the discussion.***

This schedule is subject to change. Updates will be posted on Blackboard.
See syllabus and Blackboard for more details on grading and course assignments.

Required Texts:


Additional readings posted on Blackboard

Recommended Texts:


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<th>Topic</th>
<th>Required Reading</th>
<th>Format/Student Lead</th>
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| 1  | Tu  | 8/30  | Course Goals and Expectations
What is Sustainability Science?                                              | Clark et al 2007
Kates et al. 2011
Chapin 2009                                                                 |
|    |     |       |                                                                      | SFT – Lecture/Discussion                                                         |                     |                                       |
| 1  | Th  | 9/01  | Challenges of Sustainability in the Arctic - Socio-Ecologic Systems, Climate Change, Adaptation, Etc. | North by 2020
Section 1 – pgs 1-52                                                             | SFT – Lecture/Discussion                                                         |                     |
| 2  | Tu  | 9/06  | Alaska EPSCoR Stakeholder Engagement
Course Project Introduction and Overview                                    | Alaska EPSCoR Website
& 2015 Report
Additional Readings on Blackboard TBA:
Northern Test Case, South Central Test Case, South East Test Case |
|    |     |       |                                                                      | Guest Lecture: Dr. Anumpa Prakash,
Lead Alaska EPSCoR                                                                  |                     |                                       |
| 2  | Th  | 9/08  | What is knowledge co-production? Why is it desirable? How can it be accomplished? Who are relevant stakeholders? | Clark and Holliday 2006
Dilling and Lemos 2011
Vogel, McNie & Behar 2016                                                              | STUDENT LEAD
1.
2.                                          | 1 pg summary/reflection based on readings                                    |
| 3  | Tu  | 9/13  | Course Project – IRB Protocols, informed consent
Developing Research & Interview Questions
Staying organized                                                              | Maxwell Chs. 4 & 5
Gordon Chs. 2 & 3                                                                 | SFT – Lead Discussion
                                                        | Create account on IRB.net
Add your name to project personnel list                                           |
| 3  | Th  | 9/15  | What evidence do we have that knowledge co-production is needed in Alaska and the Arctic? How can this be accomplished? | Arctic Observing Summit Conference Statement 2016
Chapin et al 2016
Cochran et al 2013
Knapp and Trainor 2013                                                                 | STUDENT LEAD
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2.                                          | 1 pg summary/reflection based on readings
IRB Certification Complete                                                        |
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| 4  | Tu| 9/20| **Course Project – Discussion of Draft Research & Interview Questions** | **No Readings**  
***Suggested to read sections of interest in North by 2020*** | **SFT – Lead Discussion**                                      | **Draft Research & Interview Questions Due**                      |
| 4  | Th| 9/22| **What are some examples of boundary organizations in Alaska?**   | **Outreach chapter NPLCC monograph**                             | **No Class – Independent work**                                  |                                                                  |
| 5  | Tu| 9/27| **What are key characteristics of successful boundary spanners?** | **Meadow et al 2015**  
**Brugger et al 2014**                                          | **STUDENT LEAD**  
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10. | **1 pg summary/ reflection based on readings**                      |                                                                  |
| 5  | Th| 9/29| **Course Project - Conducting Research: Contacting research participants, Interviewing, Mock Interviews, Interview Assignments** | **Gordon Chs. 4 – 10, Summaries & Exercises**                    | **NEED student volunteers for Technical assistance with video-taping and replay** | **Once interview assignments have been made, begin contacting research participants to set up interviews. Input contact and interview status into google spreadsheet. Be sure to continue updating status on an on-going basis.** |
| 6  | Tu| 10/04| **Indicators of Sustainability, Adaptation, Ecosystem Services**  | **Hinkel 2011**  
**Dunford et al 2015**  
**Ozkan and Schott 2013** | **STUDENT LEAD**  
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10. | **Conduct Interviews – **Now through 11/3****                       |                                                                  |
| 6  | Th| 10/06| **Course Project – Check in Multiple Stressors/ Exposures**       | **Parlee and Furgal 2012**  
**Bennett et al 2016**                                             | **STUDENT LEAD**  
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<td>10/11</td>
<td>Course Project - Coding</td>
<td>Ch. 13 — Qualitative Analysis, pp. 122-126</td>
<td>STUDENT LEAD</td>
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<td>Wilbanks 2007</td>
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<td>Course Project - Discussion of interviews and coding structure</td>
<td>No Readings <em><strong>Suggested to read sections of interest in North by 2020</strong></em></td>
<td>SFT — Lead Discussion</td>
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<td>10/25</td>
<td>Course Project — Check-in coding and interview findings</td>
<td>Honest Broker Chs 1-4 (pp. 1-53)</td>
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<td>Bridging Science &amp; Policy II</td>
<td>Honest Broker Chs 5-7 (pp. 54-116)</td>
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<td>Bridging Science &amp; Policy III</td>
<td>Honest Broker Chs 8 &amp; 9 (pp. 116-163)</td>
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<td>Course Project — Check in Transcribing and Coding,</td>
<td>No Readings <em><strong>Suggested to read sections of interest in North by 2020</strong></em></td>
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<td>11</td>
<td>Tu</td>
<td>11/08</td>
<td>Evaluating and Assessing Sustainability I: Why is evaluation necessary? How do you do it? What do you do with the results? Patton, McKegg and Wehipeihana, Preface, Chs 1 &amp; 2 (pp. v-x, 1-44)</td>
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<td>Evaluating and Assessing Sustainability II Patton, McKegg and Wehipeihana, Ch 9 Ferguson et al 2016. Climate In Context Ch 10</td>
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<td>12</td>
<td>Tu</td>
<td>11/15</td>
<td>Course Project – Check in and discussion. What are your insights and reflections on the interview results? How do your results fit or don’t fit with course readings? Did you find any surprises? No Readings <em><strong>Suggested to read sections of interest in North by 2020</strong></em></td>
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<td>Indigenous Knowledge, Climate Change and Sustainability North by 2020 Sections: 2.1, 2.2, 2.3, 2.6, 2.8 (pp. 55-78, 111 – 133, 151-162) Optional: 2.4, 2.5</td>
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<td>13</td>
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<td>Alaska’s Freshwater Resources North by 202 Sections 3.1 – 3.5 (pp. 169-213)</td>
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<td>Course Project Discussion: Do you have any new insights on your findings in relation to the course readings? Did you find any new surprises?</td>
<td>No Readings <em><strong>Suggested to read sections of interest in North by 2020</strong></em></td>
<td>Possible video recording of session SFT – Lead Discussion</td>
<td>Interview Coding Complete Come prepared you’re your reflections and insights on Interview results</td>
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<td>12/01</td>
<td>Coastal and Offshore Oil and Gas Development I</td>
<td>North by 202 Sections 7.1, 7.2, 7.3, (pp. 493-536)</td>
<td>STUDENT LEAD 1. 2.</td>
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<td>15</td>
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<td>Coastal and Offshore Oil and Gas Development II</td>
<td>North by 202 Sections 7.5, 7.6 (pp. 755 – 614)</td>
<td>STUDENT LEAD 1. 2.</td>
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<td>12/08</td>
<td>Course Project Findings Discussion: Do you have any new insights on your findings in relation to the course readings? Did you find any new surprises?</td>
<td>No Readings</td>
<td>SFT – Lead Discussion</td>
<td>Come prepared with your reflections and insights on interview results</td>
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<td>16</td>
<td>Tu</td>
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<td>Final Paper Presentations/ Discussion</td>
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<td>Final Paper Presentations/ Discussion</td>
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