Overview: "Industrial Ecology" is a combined seminar/lecture that is an introduction to the field of industrial ecology and the practical application of sustainability principles to organizations and communities. The course will explore theories of sustainability, resource and material flows, the methodologies used in the field, and the relationship between industrial ecology, business, and innovation.

Course goals: an understanding of the core concepts of industrial ecology, familiarity and use of key methodologies in the field, use of critical thinking in practical applications of industrial ecology concepts in business settings, and provide experience in the expectations of a business environment.

Readings: Weekly reading assignments will generally include chapters from the text and 1-2 additional technical articles in the reader. Lectures may not cover all the readings, but may simply refer to the articles.

- Reader: The reader is available in hard copy at SBprinter.com at the UCEN (2nd level).

Course expectations: Our view is that you are a professional-in-training and the course will run similar to a professional organization, be it a public agency, a private business, or a not for profit. Attending class and participating is acting like a professional; you are responsible for speaking up in class discussions. Coming late, leaving early, not showing up at all, and being distracted while present are all behaviors that are not tolerated in a professional setting—they would set your career back, potentially get you reprimanded and, if ongoing, would result in getting you fired. There will be numerous opportunities for participation—you’re responsible for engaging fully. Participation is 10% of your grade, which will be evaluated on both attendance and participation; show up and speak up.

You are also responsible for giving your best effort. Your effort means that turning in any individual work that is not your own is cheating and cheating in any manner whatsoever will not be tolerated—the student code of conduct will be enforced. If you turn in work that isn’t your own, i.e., work by others that is unattributed, you will receive a zero or no credit and will be subject to campus discipline for academic dishonesty. Acting like a professional in training means you take responsibility for yourself such that others may rely on you to do assigned tasks to the best of your ability.

Assignments: Assignments are due as shown on the schedule. The due date is non-negotiable and late work will be penalized 7 points per day (each assignment will be scored a max of 100). Meeting deadlines in an organizational setting is the expected norm. If you have not fully completed an assignment by the due date, we suggest that you turn in what you’ve got by the due date. We will ask you to form a group of 4 or 5 and pick a topic (see Assignments document); all assignments will be structured around the group topics. Two assignments will be individual and one will be a group effort based on your previous individual assignments—the nature of work in organizational settings is increasingly focused on cross-functional teams. The final will be a group presentation in which all members must participate.
Quizzes: Four quizzes will be given during the quarter focused on the lectures and assigned reading prior to the day of the quiz. Each quiz is 5 questions with a mix of multiple choice and short answer, plus a bonus question that is worth a maximum of 5 points; total quiz score, however, cannot exceed 100. The three highest quiz scores will count towards the final grade. There will not be any make up quizzes.

Final: The final is scheduled for December 15 at 7:30 – 10:30 pm. As this is the last day and last time of the finals week, we are open to polling the class to try to find a time earlier in finals week. To change the finals time, all students in the course must agree to an alternative time. If a suitable time cannot be found, the final will be at the scheduled time and all students will be expected to attend and participate in their group presentation.

Grading:

- Attendance/Participation: 10%
- Quizzes: 25%
- Individual Assignments: 15% for first assignment, 30% for second assignment
- Group Assignment: 20% (includes Final - group presentation on Friday Dec 9, 7:30-10:30pm)

No extra credit will be available. Please do the assigned work.
Lecture Schedule and Reading List (subject to change)

The reading list will be available on Gauchospace along with lecture PowerPoints. We will also post optional supplemental reading for those that are interested in further pursuing a topic.

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<th>Date</th>
<th>Session</th>
<th>Lecture Topics</th>
<th>Reading (To be Done in Advance of Class)</th>
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| Oct 2    | 1       | • Class logistics & Office hours  
+ Participation  
+ Quizzes, assignments, grading  
+ What is Industrial Ecology?  
+ Ecology as a Metaphor for Industrial Activities  
+ Small group discussion  
| Oct 4    | 2       | • Systems thinking  
| Oct 9    | 3       | • Sustainability in IE  
+ Alternative definitions  
| Oct 11   | 4       | • Introduction to LCA  
+ What’s LCA & how is it done  
| Oct 16   | 5       | • Planetary Boundaries  
+ Allocation  
| Oct 18   | 6       | • Designing supply chains  
| Oct 23   | 7       | • Product systems design  
| Oct 25   | 8       | • Guest Speaker Stewart Sheppard  
+ LCA in business and policy  
| Oct 30   | 9       | • Innovation 1  
+ Theories of innovation drivers  
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| Nov 1      | 10      | • Innovation 2  
  ◦ Innovation in practice  
  ◦ Resource Productivity  
  ◦ The Sharing Economy  
  Assignment #1 graded and returned  
| Nov 6      | 11      | • Green chemistry and IE  
  • Toxics issues in product life cycles  
| Nov 8      | 12      | • IE and the circular economy  
  ◦ Benefits & concerns  
| Nov 13     | 13      | • Material Flow analysis  
  ◦ Product level  
  ◦ Consumption  
  ◦ National level  
| Nov 15     | 14      | • Industrial Symbiosis  
  ◦ Creating networks  
| Nov 20     | 15      | • Guest Speaker (TBA)  
  Social Responsibility and Human Rights issues  
  Assignment #2 due | K. Raworth, “A safe and Just Space for Humanity: Can We Live Within the Doughnut?” Oxfam Discussion Papers, February 2012, pp. 7-20, ES118 Reader.  
| Nov 22     | 16      | No class:  
  • Do the reading  
  [https://truecostmovie.com/watch-now/](https://truecostmovie.com/watch-now/) |
| Nov 27     | 17      | • Guest Speaker Nellie Cohen  
  Consumption & IE  
  ◦ Understanding human behavior  
  • Consumption exercise  
| Nov 29     | 18      | • Guest Speaker Lars Davenport  
  • IE in the public sector  
| Dec 4      | 19      | • Managing risk with IE tools  
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<tbody>
<tr>
<td>7:30-10:30 pm</td>
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<td>You’re done with the readings!</td>
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