Challenges and Solutions in Business Sustainability

MHR 310 / ENVIT ST 310

Spring 2016
Tuesdays & Thursdays 1:00 PM – 2:15 PM
2190 Grainger Hall
http://courses.bus.wisc.edu

**Note: With the exception of the title page, this is the course syllabus from Spring 2015. For Spring 2016, the course will largely be the same, though be prepared for minor changes in terms of assignments (their structure and/or due dates) as well as very slight adjustments in some of the topics**

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Office hours: by appointment
Learning Outcomes

In this class students will acquire fundamental knowledge of (i) causes of environmental and social challenges as relating to business, and respective policy and business responses, (ii) frameworks and measurement systems for incorporating sustainability concerns into business analysis and decision-making, and (ii) domains in which business activities and sustainability concerns intersect, and the management of these intersections.

Students will further acquire the skills to (i) analyze the causes of and responses to environmental and social problems, as well as develop and implement solutions to these problems as managers and policymakers, (ii) identify and apply frameworks for effectively incorporating sustainability considerations into the analysis and decision-making of managers and policymakers, and (iii) analyze where and how environmental and social issues intersect with business, as well as develop and implement solutions for managing these intersections.

Course Structure

The course is structured around these learning outcomes, into three interrelating modules. The first module offers insights into the higher level systems within which business operates. It provides an understanding of how limits to both markets (market failures such as externalities and public goods) and managerial decision making (biases and cognitive limitations to understanding complex systems) result in environmental and social problems. It also addresses policy responses, allowing the development of knowledge and skills in analyzing different solutions such as taxes, cap-and-trade systems (e.g., in carbon markets), and quota systems (e.g., in fisheries). The module further offers insights into varieties of capitalism (i.e., the differences in liberal market economies such as the United States and coordinated market economies such as in many Northern European Countries), thereby providing insights into the role that higher level institutions play in driving sustainability related market outcomes.

The second module is concerned with different frameworks and measurement systems for sustainability. How an issue is framed and measured determines the extent to which (and manner in which) it is captured and subsequently incorporated in business decision making. Accordingly, this module provides knowledge and skills in identifying and applying different frameworks including systems thinking, industrial ecology, biomimicry, ecological economics, as well as their associated tools (e.g., Life Cycle Analysis). It also offers insights into accounting systems (e.g., carbon accounting) and templates for firm self-reporting. Finally, it allows developing an understanding of the strength and weaknesses of various measurements of firm environmental and social performance.

The third module synthesizes content from the first two modules and combines it with basic business concept from different business disciplines and functional areas such as strategy, operations management, supply chain management, and more. For example, a Life Cycle Analysis may reveal superior environmental attributes in a firm’s product. In this case, we apply strategy concepts to analyze how the firm can successfully pursue a differentiation strategy and demand a price premium for this product. Or, consider that systems thinking may point to NGOs as a critical component in a firm’s system, leading us to study different alliance frameworks to understand the design and implementation principles for successful firm-NGO alliances. Other examples include the “greening” of supply chains, operations & waste management, and “socially responsible investing”.
Course Material

All course materials other than cases are posted online on the course webpage or distributed in class. The course webpage is accessible via http://courses.bus.wisc.edu. It is each student’s responsibility to download all class materials from the class webpage.

Cases are held electronically at Harvard Business School. A link to access the cases is posted below and will also be provided in class and on the class webpage. You will be asked to create an account and purchase the case package. It is the responsibility of each student to purchase and download the case package.

https://cb.hbsp.harvard.edu/cbmp/access/32390207

Performance Measures & Assignments

Performance Components

Class Participation (Individual) 30%
Analysis Brief (x2) (Small Team) 30%
Case Briefs (x7) (Individual) 15%
Firm Environmental Performance Assessment (x1) (Small Team) 20%
Competency Analysis (x1) (Individual) 5%

Class Participation (30%)

The overall success of this class heavily relies on class discussions. As a result, quality class participation is rewarded. Quality class participation consists of comments that show evidence of class preparation, add to our understanding of the situation, clarify or develop further earlier comments, and test new ideas rather than present a simple repetition of facts without analysis or conclusions.

There are occasional homework assignments during the semester. These homework assignments require you to think about assigned readings or topics, write down your thoughts, and come to class prepared to share these thoughts. Homework assignments do not need to be handed in. Instead, sharing your thoughts in class will serve as evidence of you having done this homework, and will count towards participation.

Class preparation is as much a prerequisite for participation as class attendance. I expect you to attend class on a regular basis. I am happy to discuss your participation at any point during the semester.
Analysis Briefs (total of 30%)

Each student will present and submit two analysis briefs (worth 15% each), with each brief examining a given topic. The briefs are prepared in groups of two to four students (depending on class size). Each topic is analyzed by two groups. For a session in which an analysis brief is scheduled, both groups will present their analysis.

While the structure of each brief differs slightly with each topic, the overall set-up tends to be the same (the analysis brief on fossil fuels divestment is an exception to this): For a given topic (see list below), each group researches, analyzes, and contrasts 2-3 examples (as chosen by the students) with the goal to identify the key success factors for the subject matter under study. For example, for the “Carbon Markets” brief, each group will select two to three examples of carbon markets. Through studying these examples and employing conceptual background readings, you are expected to identify the attributes on which the cases differ, evaluate the cases according to these attributes, and assess their overall success/effectiveness. The ultimate goal is to derive the key success factors for, in this case, successful carbon markets. To do so, it often is helpful to contrast a successful case with an unsuccessful one. Both the class presentation and the write-up should also include a brief introduction to each of the examples/cases.

At the beginning of the semester, students will sign up for two of the following topics:

- Regulating the Commons (here: Fisheries)
- Carbon Markets
- Sustainability Reporting
- Divesting from Fossil Fuels
- Alliances with NGOs

As each analysis brief is due, we will discuss further details as needed. You are expected to hand in a written analysis. This write-up does not need to follow a specific format but you should keep it brief and concise. For the in-class presentation, you may prepare a PowerPoint presentation but this is not required. You can also use the blackboard, handouts, etc. for presenting your analysis and leading the discussion. Each group’s discussion/presentation should take about 15 -20 minutes.

Please bring a hard copy of your written analysis to class, and also upload an electronic version to the class webpage.

Case Briefs (total of 15%)

Case Briefs are short written answers to a set of case preparation questions posed for each case. We will study a total of seven cases. Your answers do not need to be very detailed, extended, or even well written. The case briefs simply serve as evidence that you have done the case preparation – i.e., that you have read the case and thought about it.
Grading of the case briefs is coarse: a “0” if you do not hand in the brief; a “+” if you hand it in and your answers suggest that you have read the case but didn’t get a chance to think about it too deeply; and “++” if your answers reveal that you have thought about the case in more depth.

Please hand in a hard copy of your case brief at the class session in which we discuss the case.

**Firm Environmental Performance Assessment (20%)**

For this assignment you are asked to evaluate and rank order the environmental performance of several firms (a list of firms will be provided in class). You will need to choose at least four different data sources upon which you base your evaluation, and, accordingly, at least four different criteria (if you derive more than one criterion from a given data source, you may also use just three different data sources) that you then combine for your overall assessment. Describe the data sources that you choose, explain which criteria you derive from it, and how you apply them to arrive at your evaluation/ranking. Justify your choices! (why did you choose the data sources and criteria you did, what are the advantages and disadvantages of using them, etc).

Possible databases and criteria include (but are most certainly not limited to!) the Trucost database (accessible through the school’s library) which shows (among other things) a firm’s environmental impact costs, EPA’s TRI database which provides (among other things) information on toxic release emissions, EPA’s echo database (environmental enforcement and compliance history), Newsweek’s environmental performance rankings, the Carbon Disclosure Project database at [https://www.cdproject.net/en-US/Pages/HomePage.aspx](https://www.cdproject.net/en-US/Pages/HomePage.aspx) (carbon emissions), firms’ CSR reports, a firm’s in/exclusion in various SRI indices etc. You are strongly encouraged to research data sources and apply criteria that are not listed here – these are just some initial ideas to get you going. You may also want to check out EPA’s Envirofact at [http://www.epa.gov/enviro/](http://www.epa.gov/enviro/).

This assignment is to be completed individually or in small groups of up to three students (depending on class size). Use a PowerPoint presentation to describe your analysis and findings. This presentation will serve as the basis for evaluation (i.e., you do not have to hand in anything else). The evaluation focuses on the appropriateness, thoroughness, coherence, and creativity of your analysis. I will select two to four groups to also present their findings in class.

You need to upload this presentation (as well as supporting data such as an excel spreadsheet containing your data, if any) to the class webpage by Monday, March 23rd at 8:00 PM.

**Competency Assessment (5%)**

This assignment serves for you to review and reflect upon what you have learned in class, and for the instructor to see whether learning outcomes have been met. For each topic (not necessarily each class because we sometimes use multiple classes to cover one topic), you are expected to write one paragraph detailing the most important knowledge and/or competencies
(skills) that you have taken away. The insights and/or skills can be derived from any part of the class -- the readings, cases, homework assignment, presentations, class room discussions, etc.

This assignment is to be completed individually. Similar to the case briefs, it will be graded in a coarse manner: a “0” if you do not hand in the competency analysis; a “+” if you hand it in but your answers are incomplete in that they address only a fraction of the topics that we have discusses; and “++” if your analysis is complete and reveals that you have actually reflected on the content that we have covered. Note: you will not be graded on the “level” or “quality” of the insights and skills that you developed.

Please upload your analysis to the class webpage before class on Thursday, May 8th, and also bring a hard copy to class. During class time, you will present your take-aways as we wrap up the class.

Other Administrative Matters

Feedback

I am happy to discuss the course, your progress, or any other issues related to this course on an individual basis. See me after/before class or email to set up an appointment to meet in my office. Please do not wait until the end of the semester to see me regarding problems with the course material or your performance. Your success in this class is important to me. Please come by to discuss potential problems early in the semester.

No Laptop, No PDA, and No Cell Phone Policy

Using laptops, PDAs, and cell phones during class time is distracting and disrespectful to the instructor and your fellow students, and therefore prohibited. Please discuss with me a possible exemption from this policy if you require a laptop for note taking purposes.

Adjustments in Syllabus

This syllabus provides a guideline for what to expect in this class. As we go through the semester, minor adjustments to the syllabus may be undertaken to accommodate unforeseen events (such as unexpectedly lengthy class discussions, current events that are worthy a discussion, etc.). These adjustments might affect homework assignments (mostly in terms of timing). I will announce any adjustments in class and on the course webpage. It is your responsibility to stay informed about these changes.

Academic Integrity

All University policies regarding scholastic dishonesty and absence as outlined in the current University regulations will be enforced. Please visit the following link for details on the rules and regulations related to academic misconduct: http://students.wisc.edu/saja/misconduct/UWS14.html Your work and conduct will be held accountable under this policy and academic dishonesty will be prosecuted pursuant this policy. Academic misconduct includes acts in which a student:
• seeks to claim credit for the work or efforts of another without authorization or citation
• uses unauthorized materials or fabricated data in any academic exercise
• forges or falsifies academic documents or records
• intentionally impedes or damages the academic work of others
• engages in conduct aimed at making false representation of a student's academic performance
• assists other students in any of these acts.

Examples include but are not limited to: cutting and pasting text from the Web without quotation marks or proper citation; paraphrasing from the Web without crediting the source; using notes or a programmable calculator in an exam when such use is not allowed; using another person's ideas, words, or research and presenting it as one's own by not properly crediting the originator; stealing examinations or course materials; altering a transcript; signing another person's name to an attendance sheet; collaboration that is contrary to the stated rules of the course or assignment.
# Calendar Overview

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<tr>
<th>#</th>
<th>Date</th>
<th>Due</th>
<th>Topic</th>
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<tr>
<td>1</td>
<td>Jan 20 (T)</td>
<td></td>
<td>Introductions &amp; Administrative Details</td>
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<tr>
<td>2</td>
<td>Jan 22 (R)</td>
<td></td>
<td>Fishbanks Simulation Game</td>
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<tr>
<td>3</td>
<td>Jan 27 (T)</td>
<td></td>
<td>Fishbanks Simulation Game – Debrief</td>
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<tr>
<td>4</td>
<td>Jan 29 (R)</td>
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<td>Market “Failures” &amp; Policy Responses</td>
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<td>5</td>
<td>Feb 3 (T)</td>
<td>Analysis Brief 1 (select)</td>
<td>Regulating the Commons (Fisheries)</td>
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<td>6</td>
<td>Feb 5 (R)</td>
<td>Case Brief 1 (all)</td>
<td>Privatization as a conservation tool – <em>Black Rhino case</em></td>
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<tr>
<td>7</td>
<td>Feb 10 (T)</td>
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<td>Market Failures in the Market for Energy Efficiency</td>
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<td>8</td>
<td>Feb 12 (R)</td>
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<td><strong>Speaker:</strong> Financing Energy Efficiency</td>
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<td>9</td>
<td>Feb 17 (T)</td>
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<td>Markets for Carbon Trading</td>
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<td>10</td>
<td>Feb 19 (R)</td>
<td>Analysis Brief 2 (select)</td>
<td>Markets for Carbon Trading – cont’</td>
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<td>11</td>
<td>Feb 24 (T)</td>
<td>Case Brief 2 (all)</td>
<td>Market Effects of Regulation – <em>Du Pont Freon case</em></td>
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<td>12</td>
<td>Feb 26 (R)</td>
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<td>Decision Making “Failures”</td>
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<tr>
<td>13</td>
<td>Mar 3 (T)</td>
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<td>The Higher Level System: Capitalism and its Variants</td>
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**Module 1: “Higher Level Systems” and Sustainability Related Market Outcomes**

| 14  | Mar 5 (R) |                    | Sustainability Perspectives, Frameworks and Tools            |
| 15  | Mar 10 (T)| Case Brief 3 (all) | Cradle-to-Cradle Design in Action – *Herman Miller case*    |
| 16  | Mar 12 (R)|                    | Systems Thinking                                            |
| 17  | Mar 17 (T)| Analysis Brief 3 (select) | Sustainability Accounting & Self-Reporting                  |
| 18  | Mar 19 (R)| Case Brief 4 (all)  | Carbon Accounting – *Frito Lay case*                        |
| 19  | Mar 24 (T)| Env. Perf. Assign. (all) | Assessing Firm Environmental Performance                    |
| 20  | Mar 26 (R)|                    | Assessing Firm Environmental Performance – cont’            |

**Module 2: Frameworks, Measurement & Reporting Systems for Sustainability**

| 21  | Mar 5 (R) |                    | Sustainability Perspectives, Frameworks and Tools            |
| 22  | Mar 10 (T)| Case Brief 3 (all) | Cradle-to-Cradle Design in Action – *Herman Miller case*    |
| 23  | Mar 12 (R)|                    | Systems Thinking                                            |
| 24  | Mar 17 (T)| Analysis Brief 3 (select) | Sustainability Accounting & Self-Reporting                  |
| 25  | Mar 19 (R)| Case Brief 4 (all)  | Carbon Accounting – *Frito Lay case*                        |
| 26  | Mar 24 (T)| Env. Perf. Assign. (all) | Assessing Firm Environmental Performance                    |
| 27  | Mar 26 (R)|                    | Assessing Firm Environmental Performance – cont’            |

Spring break     Spring break     Spring break     Spring break
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<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tr>
<td>21 Apr 7</td>
<td>T</td>
<td>Case Brief 5 (all)</td>
<td>Env. Differentiation Strategy – <em>Star-Kist &amp; Patagonia cases</em></td>
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<td>22 Apr 9</td>
<td>R</td>
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<td>Eco Labels and Certification Schemes</td>
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<td>23 Apr 14</td>
<td>T</td>
<td>Analysis Brief (4)</td>
<td>Socially Responsible Investing – Divestment debate</td>
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<td>24 Apr 16</td>
<td>R</td>
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<td><strong>Speaker:</strong> Socially Responsible Investing cont’</td>
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<td>25 Apr 21</td>
<td>T</td>
<td>Case Brief 6 (all)</td>
<td>Operations &amp; Waste Management – <em>Cook Composites case</em></td>
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<tr>
<td>26 Apr 23</td>
<td>R</td>
<td>Case Brief 7 (all)</td>
<td>Green Supply Chain Management – <em>Walmart case</em></td>
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<tr>
<td>27 April 28</td>
<td>T</td>
<td>Analysis Brief 5 (select)</td>
<td>Firm – NGO Alliances</td>
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<tr>
<td>28 April 30</td>
<td>R</td>
<td>Case Brief 8 (all)</td>
<td><strong>Speaker:</strong> Firm – NGO Alliances and more</td>
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<tr>
<td>29 May 5</td>
<td>T</td>
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<td>Reflection on learning outcomes – no class meeting</td>
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<tr>
<td>30 May 7</td>
<td>R</td>
<td>Competency Assess. (all)</td>
<td>Wrap-Up</td>
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Class 1 (Tuesday, January 20)

Topic: Class Overview, Administrative Details, Introductions

Content: We will discuss the course outline, assignments, expectations, class organization etc. We will also designate groups that we need to play a simulation in Class 2.

Reading¹:
- none

Class 2 (Thursday, January 22)

Topic: The Tragedy of the Commons: Fishbanks Simulation Game

Content: We will play a simulation game that will expose us to the Tragedy of the Commons, the dynamics of renewable resources, and the challenges of designing, implementing and enforcing policies for sustainable resource management. The game is an interactive, web-based simulation that is made available by the MIT Sloan School of Management.

Readings:
- Introduction to Fishbanks (handed out in previous class)

Simulation Preparation:
- Watch simulation instruction at: https://mitsloan.mit.edu/MSTIR/system-dynamics/fishbanks/Pages/Video.aspx
- Bring two laptops per fishing company/group to class

Class 3 (Tuesday, January 27)

Topic: Debrief Fishbanks Simulation

Content: We will debrief the simulation from the previous class, identify the underlying dynamics that cause the simulation outcomes, and discuss leverage points for influencing these dynamics.

Readings:

¹ Unless noted otherwise, all readings (with the exception of cases and technical background notes as indicated) are available for viewing and downloading on the course webpage.
Class 4 (Thursday, January 29)

Topic: Market Failures & Policy Responses

Content: We will study different market “failures” – or, put differently, limits to markets -, their effects on sustainability related market outcomes, and respective policy responses such as pollution taxes and cap and trade systems.

Readings:

- A Framework to Think about Pollution: Externalities, Pollution Taxes, and Cap and Trade (in case package)

Class 5 (Tuesday, February 3)

Topic: Regulating the Commons (Fisheries)

Content: As we have learned during our simulation game, fisheries are one example of a common resource. In today’s session, we will use the students’ analysis briefs to explore different approaches to regulating this common resource, and to learn about the approaches’ various benefits & limitations. Time permitting, we will also discuss the potential and risks of aquaculture to help alleviate overfishing.

Readings:


Due for select students: Analysis Brief - Regulating the Commons
Class 6 (Thursday, February 5)

Topic: Privatization as a conservation tool

Content: We will discuss the Black Rhino case. This case describes the attempt to prevent extinction of the African black rhino through creating privately owned, for-profit game farms for breeding and hunting rhinos.

Readings:

- The Black Rhino (in case package)

Due for all: Case Brief - The Black Rhino. Submit a one page summary of your answers to the following case questions:

- What speaks for and what against privatizing wildlife such as the black rhino for trophy hunting? What consequences that might be unintended or unwanted from an environmental and/or ethical perspective can you foresee as a result of privatizing black rhinos for trophy hunting?
- Would legalizing the international sale and trade of rhino horns help conserve the black rhino? Why/why not?

Class 7 (Tuesday, February 10)

Topic: Market Failures in the Market for Energy Efficiency

Content: The “energy efficiency paradox” describes the notion that there are many opportunities for cost effective energy efficiency that aren’t exploited – it’s essential like leaving dollars lying on the sidewalk. We will discuss why and how the market for energy efficiency can fail, and learn about cutting edge solutions with which different players are experimenting to address these failures.

Readings:

- TBA
**Class 8 (Thursday, February 12)**

**Topic:** Speaker – Financing Energy Efficiency

**Content:** Innovative ways to finance energy efficiency in the built environment are one way to address market failures in energy efficiency. Beau Engman, founder of Pace Equity, will share his experiences as a leader in creating new financing solutions, with a particular focus on the PACE mechanism.

**Readings:**


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**Class 9 (Tuesday, February 17)**

**Topic:** Markets for Carbon Trading

**Content:** A number of scholars and practitioners view carbon markets as a cost-effective, incentive-compatible mechanism to limit CO2 emissions. We will spend this week to study these markets – their history, their various institutional structures, and their respective benefits and limitations.

**Readings:**

- Carbon Credit Markets (*in case package*)

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**Class 10 (Thursday, February 19)**

**Topic:** Markets for Carbon Trading – cont’

**Content:** Students will present their Analysis Brief on different carbon markets.

**Readings:**

- See Class session #9

**Due for select students:** Analysis Brief - Carbon Markets
Class 11 (Tuesday, February 24)

Topic: Effects of regulation on market structures & firm opportunities

Content: We will use the Du Pont Freon Case to look back in history and analyze the effects that phasing out CFSs (per the 1999 Montreal Protocol) had on market structures and firm opportunities. This case will wrap up our discussions on regulation.

Readings:

- Du Pont Freon Products Division *(in case package)*

Due for all: Case Brief - Du Pont Freon Products Division. Submit a one page summary of your answers to the following case questions:

- What are the likely effects of the Montreal Protocol and the report of the Ozone Trend Panel on the market structure of chlorofluorocarbons?
- What are the implications for Du Pont, and what are Du Pont’s options?
- What would you recommend that Joe Glas do, and why?

Class 12 (Thursday, February 26)

Topic: Decision Making Failures

Content: We will study the limits to human decision making. There are a number of biases and cognitive limitations that make it difficult for us to find appropriate solutions to complex sustainability issues (such as climate change) or even to managing renewable resources (such a fisheries). The implication is that even if there were no market failures, there still would be a number of other challenges on the human side that hinders solving sustainability issues.

Readings:


Homework (does not need to be submitted): Prepare a list/summary of what you see as the most important biases and cognitive limitations in understanding sustainability challenges. Link each bias/limitation to a particular sustainability related example (some examples are provided in the
texts but you can and should also think of your own examples). Be prepared to share your examples in class.

Class 13 (Tuesday, March 3)

Topic: The higher level system: Capitalism and its variants

Content: Markets and firms operate within a system of higher-level formal and informal institutions that together shape different forms of capitalism. We will study the role of capitalism in driving sustainability related outcomes, and discuss how different variants of capitalism will lead to different outcomes. Time permitting, we will also analyze the conceptual foundations of the popular “Conscious Capitalism” notion, as well as spend some time on the virtues and limitations of “Benefit Corporations” (a new (legal) class of corporation in the U.S. that is distinct from the more common C-Corporation).

Readings:


Homework (does not need to be submitted): Prepare two three 3 examples of possible effects of liberal market economies (such as in the U.S.) versus coordinated market economies (such as in many Northern European Countries) on sustainability related market and policy activities. These activities could be actual firm strategies or policy making activities and outcomes. Be prepared to share your examples in class.
Class 14 (Thursday, March 5)

**Topic:** Sustainability Perspectives, Frameworks & Tools

**Content:** This class marks the start of our second module. In this module, we will study various sustainability perspectives, frameworks and tools, as well as measurement systems. How one frames a problem greatly determines what exactly is measured (and how), and what subsequently gets considered in business decision making. There are many different sustainability frameworks: systems thinking, industrial ecology, biomimicry, ecological economics, to name just a few. We will spend this class on creating a conceptual map of these various frameworks, with a particular focus on highlighting their differences in assumptions, scope, and areas of applicability.

**Readings:**


**Homework** (does not need to be submitted): Prepare a conceptual map of the various frameworks and tools from the reading (esp. the latter two). You may also include frameworks and tools of which you are aware but that are not mentioned in the readings. The goal is to create some clarity around each framework’s focus, and how they relate to one another/are different from one another. Organize your map according to a criteria or dimensions that make sense to you (e.g., it could be according to the concept’s level of analysis; the time at which it emerged; whether it’s a concept versus tool, etc). Be prepared to share your map in class.

Class 15 (Tuesday, March 10)

**Topic:** Cradle-to-Cradle Design in Action

**Content:** We will use the case “Cradle-to-Cradle Design at Herman Miller” to study how Herman Miller, an office furniture maker, has implemented a C2C protocol and how this framework was used to operationalize a firm strategic vision.

**Readings:**

- Cradle-to-Cradle Design at Herman Miller: Moving Toward Environmental Sustainability (*in case package*)

**Due for all:** Case Brief - Cradle-to-Cradle Design at Herman Miller. Submit a one page summary of your answers to the following case questions:
What arguments speak for, and what arguments against, Herman Miller using TPU instead of PVC in the Mirra Chair arm pad? As CEO of Herman Miller, what would be your final decision, and why?

What did it take to implement the DfE/C2C protocol at Herman Miller? Further, what are some of the key aspects that facilitated implementation?

Will Herman Miller capture value from the DfE/C2C initiative? If so, how?

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**Class 16 (Thursday, March 12)**

**Topic:** Systems Thinking

**Content:** Today we will think about systems thinking as one of the more “higher level” or “general” sustainability frameworks that we have mentioned in class #14). We will look at how to represent and interpret systems (e.g., stocks, flows, feedback loops), apply systems representations to specific examples, and identify leverage points for influencing systems.

**Readings:**


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**Class 17 (Tuesday, March 17)**

**Topic:** Sustainability Accounting and Self-Reporting

**Content:** We will get introduced to sustainability (or “integrated”) accounting, i.e., attempts to systematically measure a firm’s economic, social, and environmental impacts. We will then use the students’ presentations of their analysis briefs to learn how firms self-report their environmental (and social) performance.

**Readings:**

- Familiarize yourself with the Global Reporting Initiative and its latest guidelines, G4, at https://www.globalreporting.org/Pages/default.aspx

**Due for select students:** Analysis Brief – Sustainability Self Reporting
Class 18 (Thursday, March 19)

**Topic:** Carbon Accounting

**Content:** We will use the Frito-Lay case to practice carbon accounting, a ‘subfield’ in environmental accounting focused on measuring a firm’s Greenhouse gas emissions.

**Readings:**
- Corporate Greenhouse Gas Accounting: Carbon Footprint Analysis (in case package)

**Due for all:** Case Brief - Frito-Lay North America. Submit a one page summary (max.) of your answers to the following case questions (as well as the spreadsheet to answer question 2 and 3):

- If you are Al Halvorsen, what are the arguments that speak for the net zero facility idea, and what speaks against the idea?
- Use information from the reading “Corporate Greenhouse Gas Accounting: Carbon Footprint Analysis” as well as information from the case to calculate, for the Case Grande facility, the metric tons of emissions of greenhouse gases from electricity and natural gases usages for each year from 2002 to 2007. Pay close attention to units when applying emissions factors. The uploaded spread contains Exhibit 5 from the case.
- Project the estimated reduction in greenhouse gas emissions and operating costs savings that will result from the proposed net zero project in years 2008 – 2010 (for your analysis, assume that all equipment upgrades are made immediately at the start of 2008, rather than phased in over the years such that reductions are effective immediately).

Class 19 (Tuesday, March 24)

**Topic:** Assessing Firm Environmental Performance

**Content:** We will continue grappling with issues of measuring and rating firm environmental performance. Unless we develop a sense of what exactly good (or bad) environmental firm performance may mean, and how it can be measured, inquiries into potential links between environmental performance and financial performance (or competitiveness) are futile.

**Readings**

Due for all (on March 23rd!): Firm Environmental Performance Assessment. For detailed instructions refer to the Assignment section of this syllabus.

Class 20 (Thursday, March 26)

Topic: Assessing Firm Environmental Performance – cont’

Content: We will continue debriefing your firm environmental performance assessments, and speculate about the future of the market for rating and ranking companies.

Readings
• See readings for class #19

SPRINGBREAK

Class 21 (Tuesday, April 7)

Topic: Environmental Differentiation Strategy

Content: This class marks the beginning of the course’s third module in which we synthesize content from the first two modules and combine it with business concept from different business disciplines. We will kick off this module by studying the feasibility of environmental differentiation strategies. Imagine a LCA has revealed that your firm’s products have environmentally superior attributes. Under what conditions might the firm be able to pursue a differentiation strategy and demand a price premium for its products? We will use the Patagonia case and the StarKist case to explore this question.

Readings:
• Patagonia (in case package)
• StarKist (in case package)
• Skim: Strategic Positioning: Cost advantage and Benefit Advantage (Besanko et al., Chapter 11) (This reading is intended for students without prior knowledge in strategy (cost leadership and differentiating strategy).
Due for all: Case Brief – Patagonia & Starkist. Submit a one page summary of your answers to the following case questions:

- Do you think StarKist managers made the right decision (or, asked differently, was the April 1990 decision a good one)? Why or why not?
- Looking at both cases at once, it appears that Patagonia is far more successful pursuing its environmental differentiation strategy than StarKist. What are important differences in the two cases that account for this difference in success?

Class 22 (Thursday, April 9)

Topic: Eco-labels and Certification Schemes

Content: Building on last class, we will study eco labels and certifications as one means that firms may employ to communicate to stakeholders their (environmental) attributes. What is the theory underlying these label and certification schemes, what other purposes may they have, how are they designed, and what designs appear to be the most effective under what circumstances?

Readings:

Class 23 (Tuesday, April 14)

Topic: Socially Responsible Investing

Content: We will kick off the class by briefly reviewing some conceptual background material on socially responsible investing. Then we will launch the fossil fuel divestment debate: how UW should respond to 350.org’s demand to divest from fossil fuel? Should UW divest? Why? Why not?. We will use the students’ analysis briefs to explore the arguments for and against this divestment decision before discussing this issue as a class.

Readings:
- Determined by each student’s research

Due for select students: Analysis Brief – Divesting from Fossil Fuels
Class 24 (Thursday, April 16)

**Topic:** Socially Responsible Investing cont’

**Content:** Lydia Miller, an investment professional with Big Path Capital, will share with us the experiences and insights that she has developed as she has participated in the emergence and development of SRI over the last 20+ years.

**Readings:**

Class 25 (Tuesday, April 21)

**Topic:** Operations Management and Waste Streams

**Content:** We will explore the integration of environmental management concerns – in particular issues of managing waste and by-products – into operations management. The Cook Composites case will allow us to assess different waste management alternatives, including recycling, waste exchange options, and engaging in by-product synergies (industrial symbiosis).

**Readings:**
- Cook Composites and Polymers Co. (*in case package*)

**Due for all:** Case Brief – Cook Composites and Polymers Co (CCP). Submit a one page summary of your answers to the following case questions:

CCP faces three options for addressing its rinse styrene waste stream:
- a) Continue with business-as-usual, sending its rinse styrene to cement kilns
- b) Sell its rinse styrene on a waste exchange
- c) Proceed with developing the concrete coating that uses its rinse styrene (BPS).

- What criteria should Mike Gromacki be considering when deciding whether to pursue the waste exchange, the concrete coating by-product, or business as usual? And which option should he ultimately recommend to management?
- Compared to business-as-usual, what are the financial implications for CCP of selling its rinse styrene to a waste exchange, and what the implications of producing the concrete coating by-product (BPS)? Use the posted spreadsheet to calculate expected profits for each of the options. (for now, ignore the $3 Mio needed for R&D for bringing BPS online).
- What is the environmental impact (relative to business as usual) if CCP implements BPS? Consider just the impact on CO₂ emissions. From case exhibit 9, you can calculate that diverting 1 pound of styrene from cement kiln disposal to reuse in concrete coating
increases the kiln’s emissions by 1.2 pounds CO2. Producing concrete coating with 1 pound of rinse styrene emits 1.9 fewer pounds of CO2 than conventional production of the same amount of concrete coating. Producing one pound of styrene results in 2.5 pounds CO2 emissions. You can use the posted spreadsheet for your calculations.

Class 26 (Thursday, April 23)

**Topic:** Green Supply Chain Management

**Content:** We will study Walmart’s sustainability strategy and analyze how it might derive value from it. We will pay particular attention to its various supply networks, and explore how attributes of these supply networks shape the networks’ differential potentials for “greening”.

**Readings:**
- Walmart’s Sustainability Strategy (*in case package*)

**Due for all:** Case Brief – Walmart’s Sustainability Strategy. Submit a one page summary of your answers to the following case questions:

- How is Walmart deriving business value from its sustainability strategy?
- Imagine that you are Andy Ruben or Tyler Elm, evaluating the progress of the electronics, seafood, and textiles networks. Which of these three networks have been most successful in creating business while reducing environmental impacts? Importantly, what factors might explain the success (or lack of success) of these networks?
- How is Walmart motivating its suppliers to share information about and reduce the environmental impacts of products and processes?

Class 27 (Tuesday, April 28)

**Topic:** Firm- NGO Alliances

**Content:** Systems thinking often reveals a broad set of stakeholders with whom a firm directly or indirectly interacts. Sometimes these stakeholders are NGOs, leading firms to form firm-NGO alliances. Because of the differences between firms and NGOs, these alliances tend to differ from typical firm-firm alliances. We will study the various types of firm-NGO alliances, their challenges, and how they may be structured to increase chances for success.
Readings:

**Due for select students:** Analysis Brief – Alliances with NGO

**Class 28 (Thursday, April 30)**

**Topic:** Firm- NGO Alliances and more

**Content:** Gary Rappeport, former CEO of Donlen (a leading fleet leasing and management company that was acquired by Hertz in 2011) will join us to provide a practitioner’s perspective on not just firm-NGO alliances but also other topics that are central to combining business and sustainability.

**Class 29 (Tuesday, May 5)**

**Topic:** Reflection on learning outcomes

**Content:** There will be no class meeting today. Use the time to review the materials that we worked through this semester, and to complete your competency assessment (due next class). Besides requiring you to reflect on the knowledge and skills that you have taken away from this class, the assignment also provides an opportunity to see the class in ‘its whole’ and recognize how the various class sessions fit together.

**Readings:**
- Previous class materials

**Class 30 (Thursday, May 7)**

**Topic:** Wrap-Up

**Content:** We will use this last class to recap what you have learned and to tie up loose ends and unfinished discussions. For the recap, students will be sharing bits and pieces from their competency assessments with the class.

**Readings:**
- none

**Due for all:** Competency Assessment. For detailed instructions refer to the Assignment section.