

October 6, 2017

Fisher College of Business
The Ohio State University

MHR 7640

Business & the Environment: Strategies for Sustainability

Autumn Semester 2017 – Term 2

SYLLABUS

Class Schedule:

Mondays - 6:15 PM – 9:30 PM
Room: 210 Gerlach

Instructor: Senior Lecturer Neil L. Drobny, Ph.D.
Phone: (614) 268-6100
Office: 218 Ag. Admin. Building (2120 Fyffe Rd.)
Email: drobny.3@osu.edu

This syllabus has five Sections:

- Section 1 – Course Description
- Section 2 – Course Overview
- Section 3 – Class meeting Detail
- Section 4 – Deliverables and Course Mechanics
- Section 5 – OSU Policies

SECTION 1 - COURSE DESCRIPTION

How a company interacts with the environment is a strategic issue for many corporations and those who supply them. Strategic issues are associated with matters that convey competitive advantage, build shareholder value, and strengthen stakeholder relationships. The business-environment interface contains many acute opportunities to gain -- or lose -- shareholder value and stakeholder goodwill. Such opportunities pertain to image/reputation, product quality, risk management, attraction and retention of talent, and cost reduction, just to mention a few.

Business & the Environment will teach students how to integrate consideration of the environmental and social capital into thinking about business processes to improve a company's competitive advantage. The course will be anchored in the topic of sustainability, often referred to in a business context as the Triple Bottom Line, and will investigate two important dimensions of this concept. One will be translating the principles of sustainability into operational terms and the other will be establishing the business case for sustainable business practices.

Topics to be covered in the course will include: renewable and non-renewable energy issues, industrial ecology, by-product synergy, design for environment, green buildings, corporate social responsibility, and transparency and disclosure of environmental impacts. Local sustainability initiatives will be highlighted including the sustainability initiatives of several Central Ohio organizations. Students will also complete a team project.

SECTION 2 - COURSE OVERVIEW

The topics for each class session are summarized below.

Date	Topic(s)
Oct. 16	1) 6:15-7:15: Introduction to Sustainability in Business 2) 7:15-8:15: Selection of project teams 3) 8:15-9:30: Independent team project work (in breakout rooms)
Oct. 23	1) 6:15-7:15: Sustainability-Focused Stakeholder Engagement (Drobny) 2) 7:15-8:15: Strategic Materials Management (Drobny) 3) 8:15-9:30: Independent team project work (in breakout rooms)
Oct. 30	1) 6:15-7:15 – The Evolution of Sustainability Reporting (Sandy Nessing – AEP: Guest Lecturer) 2) 7:15-8:15 – Materiality (Drobny) 3) 8:15-9:30: Independent team project work (in breakout rooms)
Nov. 6	1) 6:15-7:15: Energy- Environment-Economy Nexus (Prof. Brent Sohngen – CFAES: Guest Lecturer) 2) 7:15-8:15: Risks & Opportunities Associated with Climate Change (Prof. Christian Blanco – FCOB: Guest Lecturer) 3) 8:15-9:30: Independent team project work (in breakout rooms)
Nov.13	1) 6:15-7:15: UL 880 Case Study – New Enterprise Sustainability Standard (Tanis Marquette – Hexion Inc: Guest Lecturer) 2) 7:15-8:15: The Built Environment (Drobny) 3) 8:15-9:30: Independent team project work (in breakout rooms)
Nov. 20	<i>1) 6:45-9:00 – Economic Issues and Solutions Associated with Decline of the Coal Industry - Attend EPN Documentary: <i>From the Ashes</i></i>
Nov. 27	1) 6:15-7:15: End-of-Term Exam 2) 7:15-9:30: Independent team project work (in breakout rooms)
Dec. 4	1) 6:15-as Needed: Team Project presentations. (approximately 25 minutes per team including Q&A)

SECTION 3 – CLASS MEETING DETAIL

Oct. 16, 2017

1) INTRODUCTION TO SUSTAINABILITY IN BUSINESS

Read before class

- Course syllabus
- [“State of Green Business 2017.”](#) (Download report)
- “Business at its Best: Driving Sustainable Value Creation”. (PDF #1 on Canvas)
- “Resilience; Navigating Toward a Sustainable Future”. (PDF #2 on Canvas)

2) SELECTION OF PROJECT TEAMS

Pre-read

- None additional, *except be familiar with project descriptions in Attachment 1 of syllabus*

Oct. 23, 2017

1) SUSTAINABILITY-FOCUSED STAKEHOLDER ENGAGEMENT

Pre-reads:

- [“Engaging Employees to Create a Sustainable Business.”](#)
- “Sustainability Certifications and Standards: Making Sense of the Maze for Your Business.” (PDF # 3 on Canvas)
- [“CERES Roadmap for Sustainability.”](#) (Read through the 20 expectations of companies by 2020).
- [“CDP: Driving Sustainable Economies”](#) (and related links)
- [“B corporations”](#).

2) STRATEGIC MATERIALS MANAGEMENT

Pre-reads:

- View: [“Circularity: Preparing for the New Economy”](#).
- View: [“Kalundborg Symbiosis”](#).
- [“Achieving a Circular Economy: How the Private Sector is Reimagining the Future of Business”](#). (Read pages 4-15)
- [“By-Product Synergy and Industrial Ecology.”](#)

Oct. 30, 2017

1) THE EVOLUTION OF SUSTAINABILITY REPORTING

Pre-reads:

- “[Global Reporting Initiative](#)”. Concentrate on site map topics *USEFUL PAGES/GRI STANDARDS & WHO WE ARE &*
- “[The Global Goals for Sustainable Development](#)” Read through the article and click on the hyperlinked “flyer for business on SDGs”.
- “[AEP’s sustainability website](#)”. Flip through each of the major sections of the 2017 AEP Corporate Accountability Report.
- “[Enabling Positive Change](#)”.
- “Measuring Sustainability Disclosure.” (PDF #4 on Canvas)

2) MATERIALITY

Pre-reads:

- “[Owens Corning Materiality Assessment](#)”
- “[Getting Materiality Right](#)”.
- “[The Core of Materiality – What Matters Most](#)”

Nov. 6, 2017

1) ENERGY-ECONOMY-ENVIRONMENT NEXUS

Pre-reads

- “[Business Solutions to Enable Energy Access for All](#)”.
- “[Reporting Your Company’s Carbon Footprint Can Save \\$1.5 million a year](#)”.
- “[California Cap-and-Trade: A Booming Success in Disguise](#)”
- “[The Cost of Inaction: Recognising the Value at Risk from Climate Change.](#)” *Read only Executive Summary and Conclusions*

2) RISKS & OPPORTUNITIES ASSOCIATED WITH CLIMATE CHANGE

Pre-reads

- “[Climate Change is Running a \\$535 Trillion Debt](#)”
- “The State of Supply Chain Footprinting: Analysis of CDP Disclosures by Firms.” (PDF # 5 on Carmen)

Nov. 13, 2017

1) UL880 CASE STUDY – NEW ENTERPRISE SUSTAINABILITY STANDARD

Pre-reads

- “[UL 880 – Standard for Sustainability for Manufacturing Organizations](#)”

2) THE BUILT ENVIRONMENT

Pre-reads

- Review the website, “[LEED is driving the Green Building Industry](#)”.
- “[Making the Business Case for High Performance Green Buildings](#)”.

Nov. 20, 2017

ECONOMIC ISSUES AND SOLUTIONS ASSOCIATED WITH DECLINE OF THE COAL INDUSTRY

Pre-reads:

- *Business Wire* [review](#) :

Agenda for class:

Attend the showing of *From the Ashes* an important documentary that “underscores one of the most dominant and controversial industries in the history of the United States,” said National Geographic Global Networks’ Courtney Monroe. “The film explores the reality of coal’s role in climate change while offering insight into solutions that could help revive the struggling economies of dying mining towns and still safeguard the environment. For over a century, mining and energy companies have been privatizing coal’s profits while socializing its costs. Coal plant pollution kills 7,500 Americans a year and causes many more serious illnesses,” said Michael R. Bloomberg, founder of Bloomberg Philanthropies and co-author of the new book *Climate of Hope*. *From the Ashes* shows the risks we face as a nation if we continue to rely on coal and examines how Americans in local communities, including in coal country, are helping to lead the transition toward cleaner air and stronger economies.

This film is part of [6-week film series](#) offered Monday evenings by OSU’s Environmental Professionals Network.

Location: Chemical and Biomolecular Engineering and Chemistry Building, Room 130, 151 W. Woodruff (just east of the Fisher campus).

Time: 7:00 pm (free pizza served at 6:45 pm) and a 30-minute discussion will follow the film. The event will end at 9:00 pm.

Link and trailers: <https://www.fromtheashesfilm.com/>

<http://www.businesswire.com/news/home/20170413005757/en/>

Assignment:

Write a 750-word reflection paper summarizing the main points of the film and the subsequent discussion, how the film impacted you and why, and briefly how you think public-private partnerships could bring lasting solutions to the problems presented. This paper will count 10 percent of your overall course grade. Your paper is due in MS Word Format by 10 PM, Thursday, November 30.

Nov. 27, 2017

END-OF-TERM EXAM

Read before class:

- *None*

After a 60-minute end-of-term exam, project teams will have the opportunity to meet in breakout rooms and to consult with the instructor on project matters.

Dec. 4, 2017

TEAM PROJECT PRESENTATIONS

Each team or individual will present project results. Approximately 25 minutes per team will be available including Q&A. Project clients will be invited to attend.

SECTION 4 – DELIVERABLES AND COURSE MECHANICS

Deliverables

There are four deliverables.

1 - Project

As described in Attachment 1 students will work in teams on a major project. Students will work in teams of 4 or 5 students (as of this date 17 students are enrolled which means four teams of 4 students and one team of 5 students). Students will be organized into project teams at the first class meeting on October 16.

Each project team will prepare a report on its work. The target length (not a minimum or maximum) is 25 double-spaced pages, 12 point Times Roman font with one-inch margins. Additionally, project summaries will be presented orally (PowerPoint format and 25 minutes maximum in length including Q&A) in class on **December 4** (the last class meeting). All team members should participate in the presentations.

Your PowerPoint presentation deck and report in MS Word format are due to the instructor in electronic form via email before the **beginning of class on December 4**. Representatives from the project client organizations will be invited to attend the final project presentations. Teams should bring 2 hard copies of their presentation for client attendees.

Approximately 60 minutes at the end of each class period (except Nov. 20) will be set aside for student teams to work on their projects in breakout rooms. The instructor will visit each team to answer questions and provide needed guidance.

The project reports and presentations will count 40 percent of the final course grade.

2 - Documentary Reflection Paper

Write a 750-word reflection paper summarizing the main points of the documentary, *From the Ashes*, and the subsequent audience discussion, summarizing how the film impacted you and why, and how you think public-private partnerships could bring lasting solutions to the problems presented.

Your paper is due in MS Word Format by 10 PM, Thursday, November 30.

This paper will count 10 percent of your overall course grade.

3 - Case Analysis

In late 2016 multinational Unilever acquired U.S. based Seventh Generation (SG). Both companies served consumer goods markets and brought strong and records of sustainability performance to the table.

The case deals with complex sustainability issues faced by both parties. Your assignment is to analyze these issues according to the framework outlined below from the pre-acquisition perspective of the two parties. The case document and the internet contain substantial information upon which to base your analysis.

1. Compare and contrast how the two companies incorporate sustainability into their business operations.
2. How would the two companies impact each other as a result of the acquisition?
 - a. Would being acquired by Unilever shake the foundation of SG?
 - b. Would SG be left with the same level of autonomy as Ben & Jerry's?
 - c. Would Unilever impact the long term goals of SG's mission to encourage use of natural brands and a sustainable lifestyle and helping mission-driven, natural brands to go mainstream with SG's venture arm?
3. Given SG's success, does it need Unilever to expand its mission?

4. How might Vogel's past connections to Unilever influence the terms of the acquisition? What are the benefits (to both parties) of his familiarity with the company?
5. Would Unilever support the #ComeClean campaign? Should it? Why or why not?

Your case analysis is due to the instructor in MS Word format by 10 PM, Tuesday, November 21.

The case analysis will count 25% of your final grade

The case is available for purchase for \$ 3.95 from The University of Michigan. *The customary requirement that every student purchase his/her personal copy of the case applies.*

Directions for ordering the case:

Here is the link to the page for ordering the Seventh Generation case: <https://wdi-publishing.com/product/seventh-generation-unilever-acquisition-affect-sustainability/>

Students can go directly to this link and purchase a copy of the case for \$3.95, using any major credit card. Once they click "add to cart", they should go to their cart and follow the prompts to complete their transaction. Note, they will have to *register for an account* before they can complete the check-out process. Once the check-out process is successfully completed, a pdf of the case will be available to them in the Purchases section of their account.

4 - End-of-term Exam

At the next to last session of class (Nov. 27) you will take a 60-minute exam covering material presented in class and assigned reading. There will be a mix of true/false, multiple choice, fill-in-the-blank, and short essay questions.

The exam will count 25 percent of your final grade.

Summary of Deliverables

- Case Analysis – due Tuesday, November 21.
- In-class final exam – Monday, November 27.
- Reflection Paper – due Thursday, November 30.
- Project reports and presentation PowerPoint decks – due Monday, December 4, before class.

The Case Analysis and Reflection Paper may be submitted in advance of the due date.

Grading

Your course grade will be based on a combination of factors weighted as follows:

- Project 40 %
- Film Reflection Paper 10 %
- Case Analysis 25%
- End of Term Exam 25%

Grading criteria. Letter grades will be assigned to all written work using the following criteria. ^(a)

A Demonstrates superb understanding of the subject as evidenced by particularly substantive content and by very insightful [critical thinking](#) and analysis • key themes are very easy to identify and trains of thought are very easy to follow due to professional-level composition and organization ^(b) • citations of referenced sources employ a consistent standard format, [APA](#), [MLA](#) or [Chicago](#) ^(c).

B Demonstrates complete understanding of the subject as evidenced by content and insightful critical thinking and analysis • key themes are easy to identify and trains of thought are easy to follow due to effective composition and organization • citations of referenced sources employ a consistent standard format.

C Demonstrates incomplete understanding of subject matter as evidenced by weak content and limits to the critical thinking and analysis provided • key themes are difficult to identify and trains of thought are difficult to follow due to composition and/or organizational issues • citations of referenced sources do not employ a consistent standard format or are not provided.

D Demonstrates very incomplete understanding of the subject matter as evidenced by exceptionally weak content and the absence or superficial nature of the thinking and analysis provided • key themes are very difficult to identify and/or trains of thought are very difficult to follow due to composition and/or organizational issues; citations of referenced sources do not employ a consistent standard format or are not provided.

E Insufficient with regard to most or all factors outlined above.

Note ^(a) - Gradations between the above primary grades (e.g. B+, B-) will be employed to indicate performance in between the levels described above.

Note ^(b) – At the minimum use Spell Check to identify basic composition and grammar errors in written work prior to submitting it. Alternatively consider using the free software available at www.grammarly.com which provides more robust support than Spell Check.

Note ^(c) – URLs alone do not count as a standard format. They may be used, however, as supplementary information.

Classroom engagement. Classroom engagement will be used to determine a student's final course grade when the student's grade based on all other calculations is on the borderline between two grades. In that case the higher grade will be awarded when the student's participation in class discussions has been frequent and substantive and attendance has been regular. If such participation has been infrequent and not substantive and/or attendance not regular, the lower grade will be awarded.

Absences

Excused absences will be approved by the instructor on a case-by-case basis. Except where an emergency is involved, requests should be made by phone or email at least 3 days in advance

Late Deliverables

Late submissions of graded work will be penalized one grade increment for 6 each hours it is late. For example, A-graded work received 6 hours late will be awarded a grade of A minus; 12 hours late and the awarded grade will be a B plus, etc.

All assigned work must be submitted to receive a grade in the course. Even if an assignment is so late that it would receive a “zero”, it must still be submitted, no later than 3 days before final course grades are due. Otherwise a course grade of **Incomplete** will be assigned..

SECTION 5 - OSU POLICIES

Your attention is directed to the following OSU policies.

Diversity

We will, as a group and as individuals, hold ourselves accountable for demonstrating an openness to and appreciation for ideas of others. This means being conspicuously respectful of each other on all occasions and in all of our class transactions.

Disability

Every effort will be made to provide each student with a meaningful learning opportunity. If there are any obstacles that could prevent you from learning effectively, please set an appointment with the instructor so that we might jointly figure out how to circumvent those obstacles. Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor privately to discuss specific needs. The Office for Disability Services, 614-292-3307, in room 150 Pomerene Hall can assist with coordinating reasonable accommodations should there be a need.

Academic Misconduct

All students are expected to abide by the university’s Code of Student Conduct which may be found on the website of the Office of Academic Affairs, Committee on Academic Misconduct (COAM): <http://oaa.osu.edu/coam/home.html>. Your attention is particularly called to guidance on plagiarism: <http://oaa.osu.edu/coam/hownottoplagiarize.pdf>. The instructor is obligated by University policy to report to COAM all suspected cases of academic misconduct.

If you are unclear regarding any aspect of University policy on the above matters, discuss your questions with the instructor.

ATTACHMENT 1

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Project Assignment

All students will complete a team project. Projects will be performed in teams of approximately 4 students and will be client-driven. Every project will require two deliverables: a written final report and an oral presentation. The assignment will be to develop recommendations for solving a problem or pursuing an opportunity as framed by the clients which are as follows:

1. Jeni's Splendid Ice Creams

Develop and Employ a "Shop Sustainability Scorecard" for Jeni's Splendid Ice Creams

Jeni's Splendid Ice Creams is a Columbus-based, Certified B Corp dedicated to social and environmental performance, accountability, and transparency. As the company grows, so does the challenge of tracking sustainability standards. The objective of this project is to create a tracking tool for Jeni's shop sustainability, evaluate a local shop's performance, and develop innovative, business-backed solutions for improvement. Project findings will be utilized by Jeni's to improve social and environmental performance, reduce long-term costs, and achieve sustainability recognition.

A successful project will require the team to:

- Create a Jeni's-specific, sustainability scorecard that can be used to evaluate shop footprint and behaviors. The scorecard may include topics that are influenced both on an individual shop level and/or the corporate level.
- Evaluate a Columbus-area shop using the scorecard, and report on creative solutions to improve this score.
- Determine which Jeni's markets (e.g. Chicago, Los Angeles, Atlanta) have criteria scorecards pertinent to assessing the sustainability of commercial establishments (e.g. Columbus's Green Spot, or St. Louis's Green Dining Alliance), and define the standards Jeni's should meet in order to achieve local sustainability recognition.

Client Contact: Sarah Moore – sarah.moore@jenis.com

2. Owens Corning (project 1)

Sustainability as a Recruiting Tool

Owens Corning embeds sustainability within its company values, and we believe our approach provides differential value to our stakeholders. Our definition of sustainability is: meeting the needs of the present without compromising the world that we leave to the future, and we measure it across economic, environmental, and social dimensions.

This project will focus on using sustainability as a recruiting tool for new professionals (graduate and undergraduate students) early within their careers regardless of discipline. As an organization, our hypothesis is that new professionals value employers that are engaged and have a demonstrated commitment to a greater purpose.

From an early-in-career (EIC) professional's perspective, the project deliverable should include:

- The definition of sustainability and its components and how the different factors influence perception of a company.
- Where and how EIC professionals obtain this information about companies they target as employment prospects.
- Best practices of other companies that can be examples for positive learning as well as what not to do, with context as to why those practices were selected. Recommendations should be provided on how Owens Corning should most effectively communicate its results and strategy and other actionable measures to reach and engage the target audience.
- Effective ways to present this information during campus recruiting events. How do we identify and gain access to events where we can share our information? Can we get inside classrooms? Or what other ways can we be effective in doing this?
- How other companies have been successful in sharing recruiting information beyond typical career fairs.?

The deliverable should include references to public quantitative data to back-up the results as well as published survey results that report on employment search strategies used by EIC professionals. Overall, we want to know what does a creative, effective, sustainability-centric campus recruiting strategy look like?

Client contacts: Julie Childers – julie.childers@owenscorning.com

Thomas Maxson – Thomas.m.maxson@owenscorning.com

3. Owens Corning (project 2)

Future of Electric Trucks

Owens Corning has a strong commitment to embedding sustainability into every aspect of its operations. Its continued leadership position on the Dow Jones Sustainability is one indication of its success in doing so on a consistent basis. One reason behind this success is the company's relentless exploration of emerging technologies and business models to support continuous improvements in sustainable performance across all business functions.

Transportation of raw materials and products represents one of the largest areas of expense for Owens Corning. It is also one of the most complex to manage in that it employs external carriers to provide these services. Because material transport is energy (and emissions) intensive, it is also an area that impacts sustainability performance to a large degree.

For these reasons Owens Corning monitors closely technology changes that can reduce transportation expenses and energy consumption. In recent years the company identified the financial and sustainability opportunity to switch from diesel to natural gas as the preferred fuel source in transporting raw materials

and products. This switch, executed over the last 5 years, was complicated by the need to convince its external carriers to share in the investment needed to facility fuel conversion. The desire to retain Owens Corning business and the knowledge of Owens Corning's commitment to sustainability were largely responsible for the successful joint effort between the company and its carriers to make the investments needed to make the conversion.

An emerging technology that Owens Corning is interested to track in support of continuously improving the financial and sustainability performance of its transportation activities is electric trucks. Much is being discussed in the press about the rapid emergence of electric automobiles and light trucks (e.g. [Nissan](#)), not only in the U.S. but globally. There is also evidence, though less visible, that R&D by manufacturers of trucks (e.g. [Nikola](#)) and associated equipment, such as batteries and fuel cells, needed to enable commercial scale adoption of electric freight-hauling (EFH) trucks is well underway.

The purpose of this project is to characterize the state of development of electric truck development and layout a strategy and timetable for Owens Corning to track and incorporate, as appropriate, EFT's trucks as part of its material transport functions.

Key elements of the project should include:

- A summary of technologies essential to the commercialization of freight-hauling electric trucks including companies performing the development work, technology barriers, stages of technology development, time-tables for stages of commercial deployment, impact of battery capacity on haul length, and related issues about which Owens Corning should be informed.
- Regulatory, public policy, infrastructure (e.g. charging stations), driver training and other issues that must be addressed to enable commercial scale deployment of electric freight-hauling trucks.
- Identification of companies and countries that are in leadership roles as regards EFH trucks.
- A comparison of the life cycle issues associated with diesel and natural gas vehicles vs. EFH trucks in terms of issues such as raw material use, manufacturing processes, and maintenance.
- Lessons learned from Owens Corning's transition from diesel to natural gas fuel by its external carriers (e.g. financing required investments) that may have application to the transition to EFH trucks.

Client Contact: David Uncapher: david.uncapher@owenscorning.com

4. The Ohio State University

Value Recovery from Discarded Bicycles on the OSU Columbus Campus

Each year about 500 bicycles are discarded on the OSU Columbus Campus, and after tagging and a specified waiting period they are collected by OSU. About 40 percent of the bicycles require only minor repair/maintenance and are sold with funds being donated to Pelatonia. The remaining approximately 60 percent of the bicycles are discarded. This project will investigate possible means of recovering value from the discarded 60 percent.

Key elements of the project to be expanded/refined by the project team, include:

- Benchmarking what is happening at other colleges and universities. [This 12-minute video](#) details a bicycle recycling effort at Dartmouth College, as just one example.
- Estimating what fraction of the “60 percent” can reasonably be assumed to be sufficiently repairable for resale.
- Estimating the labor and expenses in materials required to repair the repairable bicycles.
- Estimating the market in Columbus for repaired bicycles.
- Determining the reaction of the commercial and non-profit bicycle repair/resale enterprises accessible by OSU students (i.e. the competition).
- Determining if an existing student group would be interested in taking on establishing and operating a bicycle repair and resale initiative on the OSU campus, if OSU provided the necessary space.
- Determining options for used of funds generated from the resale of repaired bicycles.

The deliverable for the project will be:

- A business plan to with timetables and other pertinent details for establishing a bicycle repair enterprise on the OSU Columbus campus. **OR**
- A white paper detailing the obstacles to creating such an enterprise and recommendations as to whether future work on developing the idea is worth pursuing and what the key next steps would be, if the recommendation is for further work on the idea.

Client contact: Rob Osterfeld - osterfeld.5@osu.edu