

SYLLABUS

K4310: Practicum in Innovative Sustainability Leadership

Wed. 6:10 – 8 PM

Instructor Information

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Course Description

The earth's population is currently seven billion people with half that population living in urban environments. The growth in population is straining the earth's resources, making the concept of sustainability paramount in preserving a planet that can provide for future generations. Climate change compounds the problem by threatening to disrupt fundamental aspects of global economic activity. Over the next century, scientists forecast climate risks to public health, agriculture, ecosystems, and infrastructure. These sustainability challenges are increasingly informing government policy, public advocacy and private investment internationally. But sustainability is also creating opportunities in all sectors of the economy: to increase productivity and revenue; to develop and market new technologies; to differentiate firms from their competitors; to attract and retain talented employees.

Managers have a key role to play in advancing sustainability by developing ways to integrate resource conservation and efficiency in the operations of their organizations, and by managing environmental risk. These functions – integration and risk management – raise familiar management questions: how to make sustainability strategic, how to motivate staff, how to set targets and measure performance, and how to pay for new initiatives.

These issues are covered with theory and cases in the program's required Sustainability Management (SUMA K4100) course. Student case analysis is based on the literature presented in that introductory survey course. This new class systematically exposes students to the ways in which leading sustainability practitioners manage these issues in practice. The case material is provided directly by practitioners, and students have the benefit of processing this material through the knowledge they have gained earlier in the program. This sequence enables a more sophisticated, nuanced examination of the practice of sustainability management. Through weekly guest lectures, students will learn how practitioners from a wide array of organizations deal with real world constraints to improve environmental performance in their organizations. The lectures, along with readings and assignments, will further develop the students' understanding and critical thinking about the management tools and strategies that they, themselves, can use to integrating sustainability in organizations and managing environmental risk.

The course satisfies any of three of the Sustainability Management program's areas of study: the area, "Integrative Courses in Sustainability Management"; the area, "Public Policy Environment of Sustainability Management"; and the area "General and Financial Management."

Course Objectives

The Sustainability Management Practicum is an exploration of the most salient issues in the field of

sustainability management through the knowledge and experience of leading sustainability practitioners. By the end of this course, students will:

- Explain how managers develop sustainability strategy; how they gain support for sustainability initiatives; and how they evaluate sustainability performance in their organizations;
- Analyze work processes and operations in order to understand how to improve resource efficiency and limit and environmental impact;
- Identify models for financing and evaluating the economic performance of sustainability initiatives;
- Discover the importance of varied stakeholder interests, inside and outside of organizations, in the formulation of sustainability initiatives;
- Synthesize, apply and communicate sustainability knowledge to solve environmental problems.

The Sustainability Management Practicum features a different lecture each week given by a leader in the field of sustainability from the public, non-profit, and private sectors. Each guest lecturer presents a new topic related to sustainability management and discusses his or her professional background and organization, sustainability program objectives, and concrete strategies for meeting those objectives. The lecture topics range from energy efficiency to greening the supply chain; and sustainability issues affecting cities to those that are priorities for large private firms. The course provides time for questions and discussion among the instructors, the lecturer, and the students, giving students valuable insights into how sustainability is managed in the real world. Assignments will reflect topics covered in the class lectures. The course is open to both graduate and undergraduate students.

Course Topics

The course begins with an overview of the course objectives, an introduction to sustainability practice, and a guest lecture on the profession of sustainability. In subsequent weeks, the course covers a series of key dimensions of sustainability practice that are related by independent of one another. The course concludes with a lecture that reviews important themes, key management strategies, and effective funding models that emerged from the preceding lectures.

- Week 1: Introduction to the Course and to the Profession of Sustainability Management.
- Week 2: Approaches to the Integration of Sustainability in U.S. Cities
- Week 3: The Making of Greener Products
- Week 4: The Sustainable Built Environment and Behavior Change
- Week 5: Low-Carbon Transportation
- Week 6: Climate Change Adaptation and Resilience in New York City
- Week 7: Sustainable Agriculture
- Week 8: The Sustainability/Profitability Connection
- Week 9: Clean Technology and Sustainability
- Week 10: Standards and Metrics for Sustainability Performance
- Week 11: Renewable Energy
- Week 12: Sustainable Investing
- Week 13: Building Sustainable Communities
- Week 14: Cutting-Edge Strategies for Sustainability Management

Required Reading

All of the readings, except three of them, are available online or as e-books through the Columbia Libraries. Please find the citations and hyperlinks to these readings in the “Course Schedule” section below.

The readings that are as of yet unavailable online or as e-books through the Columbia Libraries, and which students may have to purchase are as follows:

Barbier, Edward and Markendya, Anil. “A New Blueprint for a Green Economy.” New York: Routledge, 2013.

Johnston, Sadhu A., Parzen, Julia and Nicholas, Steve. “The Guide to Greening Cities.” Island Press: Washington DC, 2013.

Shah, Jigar. “Creating Climate Wealth: Unlocking the Impact Economy.” ICOSA: Denver Colorado, 2013.

Recommended Reading

Students are expected to stay current on news and trends in sustainability policy and business. As there will be discussion on required readings and current events at the beginning of each class, students will be advised to read various sources of sustainability news. Below are examples of these news sources.

Sustainability News / Trade websites

- <http://www.greenbiz.com/>
- <http://www.environmentalleader.com/>
- <http://grist.org/>
- <http://www.sustainablebrands.com/>
- <http://www.csrwire.com/>
- <http://www.unep.org/newscentre/>
- <http://www.nrdc.org/policy/>
- <http://www.edf.org/blog>
- <http://www2.epa.gov/newsroom>
- http://www.doi.gov/customcf/DOI/doi_rss.cfm
- <http://climatepolicyinitiative.org/>
- <http://www.guardian.co.uk/environment>
- <http://www.wasterecyclingnews.com/>

Resources

Courseworks will be used to distribute reading materials, lecture slides, and to submit assignments. Any readings whose full-text is unavailable through the links in Courseworks will be placed on reserve at the Library.

Course Requirements - Assignments

Graduates students must take the course for 3 credits. Undergraduate Sustainable Development majors and concentrators have the option of registering for the 1-credit course or the 3-credit course.

A. The requirements for students who take the course for 3 credits are as follows.

Attendance and Participation (10%)

Attendance is mandatory for each class session. If a student must miss class for any reason, the student must notify the instructors by email before the start of the class session. One point from the student's participation grade will be deducted for each unexcused absence. There will be 15 – 30 minutes of discussion in each class to discuss the lecture, current events, reading assignments, and responses to the previous week's lecture.

Courseworks Discussion Assignments (20%)

Assignments are to be posted on Courseworks webpage in the Discussions section. At the end of class, a question related to the readings for that week will be posed in class and posted in the Discussion section. All students, except those assigned to present and oral briefing and group memo, must then offer a response either (1) to the question itself, or (2) to a response (or more than one response) already offered by another student (or other students) in the Discussion section of Courseworks. The entry, no longer than 250 words in length, should be succinct and analytical and should reflect knowledge of the readings for that week, as well as any related current events. The analysis should be geared to the ways in which managers develop sustainability strategy; how they gain support for sustainability initiatives; and how they evaluate sustainability performance in their organizations. All entries must be posted by midnight the Sunday before the following class. Each student should maintain a document file including all his or her discussion entries, dated as entered. Ten entries are required. All postings are required to receive full points. The document file is to be submitted via Courseworks at the end of the course. The entire document will be graded as a single assignment and given a letter grade scale from A+ to F.

Action Memos (30%)

Two 2-page action memos will account for 30% of the course grade, 15% for each one. In each memo, you will report to the manager of your own fictitious organization, or any other organization you have worked for, one key action discussed by a speaker that should be adopted by the organization. The memo should:

1. Provide detail on the action.
 2. Explain why the action was taken in the speaker's organization, and why the action should be used in your organization. Account for the internal and external environments that inform the decision to take the action.
 3. What impact the action had in the speaker's organization and what impact it would have in your organization.
 4. Indicate how the action should be funded and compare and contrast your funding model with the one that was used in the speaker's organization.
 5. Alternative actions that could be taken in place of the one suggested by the speaker.
 6. The immediate steps you would take to implement the proposed action in your own organization.
- Memo #1: Due by start of class #5
Please choose a topic covered by one of the speaker lectures between Classes #1 - #4
 - Memo #2: Due by start of class #9
Please choose a topic covered by one of the speaker lectures between Classes #5 - #8

Group Presentation/Memo (15%)

Starting with the third class meeting, a different student team each week will prepare a 2.5 – 3-minute oral briefing, using PowerPoint and filming the briefing via Adobe Connect. The team will also write a two-page memo to accompany the briefing. The briefing is to address the upcoming speaker's contribution to sustainability management and how the readings illuminate the speaker's contribution. Students will be randomly assigned to teams. Each team will convene early in the semester to assign roles and responsibilities, including team manager, and the members who will produce either the oral briefing or the written memo. A single member of the team will be responsible for presenting the briefing via Adobe Connect. An email of the link to the video is due to the TA by midnight on Friday, the week before the designated class. The memo is due at the beginning of the designated class. The team that is preparing the briefing and writing the group memo in any given week is exempt from the Courseworks Discussion assignment that particular week.

Final Exam: A 1,500 Word Blog Post on the Current State of the Field of Sustainability Management (25%)

This posting must address the following issues:

1. What are the two or three key areas of knowledge (e.g. strategies; management skills; models for financing and evaluation) established in the field?
2. What are the key issues now being addressed?
3. What are the key issues that require much more work than is now underway?

The best five blog posts will be published on the Earth Institute's State of the Planet blog. The final exam due date is TBD.

B. The requirements for students who take the course for 1 credit are as follows.

Attendance and Participation (10%)

Attendance is mandatory for each class session. If a student must miss class for any reason, the student must notify the instructors by email before the start of the class session. One point from the student's participation grade will be deducted for each unexcused absence. There will be 15 – 30 minutes of discussion in each class to discuss the lecture, current events, reading assignments, and responses to the previous week's lecture.

Courseworks Discussion Assignments (25%)

Assignments are to be posted on Courseworks webpage in the Discussions section. At the end of class, a question related to the readings for that week will be posed in class and posted in the Discussion section. All students, except those assigned to present and oral briefing and group memo, must then offer a response either (1) to the question itself, or (2) to a response (or more than one response) already offered by another student (or other students) in the Discussion section of Courseworks. The entry, no longer than 250 words in length, should be succinct and analytical and should reflect knowledge of the readings for that week, as well as any related current events. The analysis should be geared to the ways in which managers develop sustainability strategy; how they gain support for sustainability initiatives; and how they evaluate sustainability performance in their organizations. All entries must be posted by midnight the Sunday before the following class. Each student should maintain a document file including all his or her discussion entries, dated as entered. Ten entries are required. All postings are required to receive full points. The document file is to be submitted via Courseworks at the end of the course. The entire document will be graded as a single assignment and given a letter grade scale from A+ to F.

Final Exam: A 1,500 Word Blog Post on the Current State of the Field of Sustainability Management (65%)

This posting must address the following issues:

1. What are the two or three key areas of knowledge (e.g. strategies; management skills; models for financing and evaluation) established in the field?
2. What are the key issues now being addressed?
3. What are the key issues that require much more work than is now underway?

The best five blog posts will be published on the Earth Institute's State of the Planet blog. The final exam due date is TBD.

Evaluation & Grading

Grading Criteria for All Written Assignments:

Students who take the course for 3 credits will be evaluated on all of the criteria below. Students who take the course for 1 credit will be evaluated based only the criteria related to their course requirements.

- Explaining sustainability management concepts and demonstrating critical thinking: In Courseworks, entries and written assignments, students must indicate their understanding and analysis of the sustainability concepts related to the student's topic of choice.
- Content and Sources: Students are expected to draw from insights in the weekly lectures, as well as from a variety of published sources, to inform their analysis of sustainability issues. All sources shall be properly cited in the text and provide a bibliography using MLA format. Please use only primary or secondary resources. For more information about primary and secondary resources, see <http://www.lib.berkeley.edu/instruct/guides/primarysources.html>.
- Quality of written assignments: students are expected to produce concise, well-organized, and persuasive memos, **in the correct format**, that display their facility with the concepts of the weekly lectures and reading assignments.
- Case memos should be no more than 2 pages in length and will be graded out of 100 points using the following rubric: Spelling and Grammar: 20 points, Adherence to Format Guidelines: 30 points, Answers to assigned questions: 50 points total (10 to 12.5 points per question)
- Group Presentation/Memo. The presentation should be 2.5 – 3 minutes long. The accompanying memo should be two pages. The assignment will be graded out 100 points: 50 points for the presentation, and another 50 points for the memo. The grading criteria for the presentation are clarity and persuasiveness. The memo will be graded using the rubric: Spelling and Grammar: 10 points, Adherence to Format Guidelines: 15 points, Answers to assigned questions: 25 points total.
- Final exam should be 1,500 words in length and will be graded out of 100 points using the following rubric: Spelling and Grammar: 20 points, Adherence to Format Guidelines: 30 points, Answers to assigned questions: 50 points total (10 to 12.5 points per question)

Grading Policies

The following identifies how points awarded to individual assignments translate into letter grades for the course:

A= 93-100, A- = 90-92, B+ = 97-89, B = 84-86, B- = 80-83, C+ = 77-79, C = 74-76, C- = 70-73, D = 66-69, F = 65 or fewer

Policies and Expectations: Attendance, Late Papers, Class Behaviors and Civility, Academic Integrity, Disability Access, Safety, Cancellation Policies

Attendance

Students are expected to arrive on time, attend all classes, and to stay until the end of class unless they have notified the instructor at the beginning of the session that they will be leaving early. Each unexcused absence will affect a student's grade in the class.

Late Assignment Policy

Assignments are due on the dates/times identified. One letter grade will be deducted from any assignment submitted after the due date/time. No assignment will be accepted after the deadline for submitting final grades.

Incompletes

As outlined in the School's grading and academic starts policy, "A grade of 'I' (incomplete) is a temporary grade indicating failure to complete assigned work. The mark is given only upon the request of the student and at the discretion of the instructor. The student and faculty member must sign a completed 'Request for Grade of Incomplete Form' before the final class session. The 'I' must be removed within one year after the end of the semester in which the student received the grade. Students seeking an extension of this time limit must have the approval of the instructor and successfully petition of the director of their program. If no petition is made, or if the petition is unsuccessful, the grade is changed to an N-Permanent Incomplete- which remains on the student's permanent record.

Academic Integrity

The School of Continuing Education does not tolerate cheating and/or plagiarism in any form. Those students who violate the Code of Academic and Professional Conduct will be subject to the Dean's Disciplinary Procedures. The Code of Academic and Professional Conduct can be viewed online: <http://ce.columbia.edu/node/217>

Please familiarize yourself with the proper methods of citation and attribution. The School provides some useful resources online; we strongly encourage you to familiarize yourself with these various styles before conducting your research:

<http://library.columbia.edu/help/howto/endnote.html>

Violations of the Code of Academic and Professional Conduct will be reported to the Associate Dean for Student Affairs.

Accessibility Statement

Columbia is committed to providing equal access to qualified students with documented disabilities. A student's disability status and reasonable accommodations are individually determined based upon disability documentation and related information gathered through the intake process. For more information regarding this service, please visit the University's Health Services website:

<http://health.columbia.edu/services/ods/support>

Course Schedule / Calendar

Please note that the schedule of speakers is subject to change during the course of the semester in order to include current news, events and accommodate speakers' schedules. This is a sample of the speakers that will be invited to speak about the course topics.

Week #1 – 1/22/14: Introduction to the Course and to the Profession of Sustainability Management.

- **Introduction:** Overview of the course, speaker schedule and assignments. A guest lecture on the profession of sustainability management from a veteran sustainability manager will focus attention on the challenges that practitioners face, and the skills that they most need to meet those challenges.
- **Speakers:** Steve Nicholas, Vice President for U.S. Programs, Institute for Sustainable Communities, and former Director of the City of Seattle Office of Sustainability & Environment.
- **Reading:**
Johnston, Sadhu A., Parzen, Julia and Nicholas, Steve. *Guide to Greening Cities*. Island Press: Washington DC: 2013 (p. 1-79)
- **Bio:**

Steve joined the Institute for Sustainable Communities (ISC) as Vice President of Climate & Environment Programs in October 2008. Prior to that, he was Director of the City of Seattle Office of Sustainability & Environment for eight years, where he led several urban sustainability initiatives, including the development and implementation of the Seattle Climate Protection Initiative, winner of the 2007 Innovations in American Government Award. He co-authored Seattle's first-ever climate action plan, as well as the U.S. Mayors Climate Protection Agreement, which sparked a national movement of more than 940 mayors taking local action on global warming and demanding stronger federal action. He also staffed the Mayor's Green Ribbon Commission on Climate Protection, led the creation of the Seattle Climate Partnership, a voluntary pact among more than 50 public and private institutions to reduce their global warming pollution, and established the Directors' Climate Network, a coalition of environment directors and senior climate protection staff from about 20 U.S. cities. From 1995-1998, Nicholas directed ISC's program in Macedonia. Known as the Democracy Network Project, it strengthened Macedonia's fledgling democracy by building the capacity of nonprofit organizations through technical and financial assistance. Steve holds a Master of Public Policy from Kennedy School of Government at Harvard University and a BA in Public Policy from Colby College.

Week #2 – 1/29/14: Approaches to the Integration of Sustainability in U.S. Cities

- **Introduction:** This class session will focus on the strategies that successful urban sustainability managers have used to implement sustainability programs in the face of political obstacles and fiscal austerity. The lecture and discussion will center around the importance of developing partnerships, securing funding, engaging the community, and measuring progress to achieve sustainability objectives.
- **Speaker:** Katherine Gajewski, Director of Sustainability, City of Philadelphia
215-686-4471 www.phila.gov/green
- **Readings:**
“The Process Behind PlaNYC: How the City of New York Developed its Comprehensive Long-Term Sustainability Plan.” ICLEI-Local Governments for Sustainability USA and The Mayor's Office of Long-Term Planning and Sustainability, City of New York. April 2010. Online.
<http://www.icleiusa.org/action-center/planning/sustainability-planning-resources/planyc-case-study-the-process-behind-the-plan> (53 pages)
- **Bio:**
Katherine Gajewski is the Director of Sustainability in the City of Philadelphia, where she is responsible for the implementation of Greenworks Philadelphia, the city's sustainability framework unveiled by Mayor Nutter in April 2009. The framework sets goals in five areas — energy, environment, equity, economy and engagement — and encompasses more than 150 achievable, measurable initiatives. Implementation of these initiatives will reduce the city's vulnerability to rising energy prices, limit its environmental footprint, and reposition its workforce and job development strategies to build upon Philadelphia's competitive advantages in the emerging green economy.
- **Assignment:** Courseworks discussion #1

Week #3 – 2/5/14: The Making of Greener Products

- Introduction: This lecture and discussion will center around the integration of environmental concerns in the design and manufacture of consumer products. Students will learn about ways in which sustainability managers make the case for green products, as well as about strategies for gaining collaboration from colleagues in the process of developing a green product. Case studies will illustrate how firms such as Johnson & Johnson, General Electric, and Timberland are improving the environmental performance of their products.
- Speaker: Al Iannuzzi, Ph. D., Senior Director, Worldwide Environment, Health & Safety, Johnson & Johnson
- Readings: Iannuzzi, Al. "Greener Products: Making and Marketing of Sustainable Brands." Boca Raton: CRC Press. 2012. (<http://clio.columbia.edu/catalog/9390439>) p. 1-28 and 49 – 58.
- Assignments: Courseworks discussion #2.
- Bio:
Al is a Senior Director in the Worldwide Environment, Health & Safety department at Johnson & Johnson where he directs the global Product Stewardship and Green Marketing programs. He has over 30 years of experience in the EHS field and leads Johnson & Johnson's EARTHWARDS™ greener product design process, Healthy Future 2015 product stewardship sustainability goals, emerging issues and environmental toxicology programs. Prior to J&J, Al worked for the NJ Department of Environmental Protection and at an environmental consulting firm. Al received his Ph.D. degree in Environmental Policy from the Union Institute & University in Cincinnati where he researched EHS self-regulation programs. He is the author of the books; Greener Products: the Making & Marketing of Sustainable Brands (CRC Press 2011) and "Industry Self-Regulation and Voluntary Environmental Compliance" (CRC Press, 2002) and has written numerous articles on product stewardship and environmental compliance.

Week #4 – 2/12/14: The Sustainable Built Environment and Behavior Change

- Introduction: How building occupants use energy can make a big difference in a building's energy consumption and environmental performance. The advantages of changing the behavior of building occupants to conserve energy are that it tends to be inexpensive and that it requires no government regulation. In this session of the course, Jonathan Rose, a real estate developer and a pioneer of green building techniques, will discuss the Climate, Buildings and Behavior project, which is an effort to integrate insights from neuroscience and the behavioral and social sciences into the ways in which buildings are designed and managed.
- Speaker: Jonathan F. P. Rose, President, Jonathan Rose Companies
- Reading:
 - Runming, Yao. *Design and Management of Sustainable Built Environments*. London: Springer, 2013. eBook. Ch. 1 Sustainability in the Built Environment, Ch. 10 Energy Efficient Building Design, and Ch. 11 Renewable Energy for Buildings. (pp. 1-22, 179 – 202, 203 - 224)
- Assignments: Courseworks discussion #3.

- **Speaker Bio:**
Jonathan F.P. Rose's business, public policy and not-for-profit work all focus on creating a more environmentally, socially and economically responsible world. In 1989, Mr. Rose founded Jonathan Rose Companies LLC, a multi-disciplinary real estate development, planning, consulting and investment firm, as a leading green urban solutions provider. The firm has successfully completed \$1.5 billion of work. In 2005, the firm launched the nation's first green transit oriented acquisition and redevelopment fund. The company's mission is to repair the fabric of communities. The firm draws on its human capital, financial depth and real estate expertise to create highly integrated solutions to real estate challenges. The firm's work touches many aspects of community health; working with cities and not-for-profits to build not only housing, but also civic, cultural, educational and infrastructure open space. A thought leader in the Smart Growth, national infrastructure, green building, and affordable housing movements, Mr. Rose is a frequent speaker and writer. His work has received widespread media attention from CNN to The New York Times and was profiled in *e2*, a PBS series on sustainable development. His book on resilient cities, *The Well Tempered City*, will be published by Harper Collins in 2014. The firm's innovative development, planning, investment, new construction, conversion and historic preservation work has won awards from a wide range of notable organizations including: the National Trust for Historic Preservation, the Natural Resources Defense Council, Global Green USA, the Urban Land Institute, the American Planning Association and the American Institute of Architects. Mr. Rose is Vice Chair of Enterprise Community Partners and is a trustee of the Natural Resources Defense Council. He also serves on the Board of the Brooklyn Academy of Music, and is an Honorary Member of the American Institute of Architects. Mr. Rose chaired the Metropolitan Transit Authority's Blue Ribbon Sustainability Commission, which developed the nation's first green transit plan, and was a commissioner on Governor Cuomo's NYS 2100 Commission, tasked with identifying strategies for the long-term resilience of New York State's infrastructure post-Hurricane Sandy. Mr. Rose is also a co-founder of the Garrison Institute with his wife, Diana Rose, where he founded the Climate, Mind and Behavior program. Mr. Rose graduated from Yale University in 1974 with a B.A. in Psychology and Philosophy, and received a Masters in Regional Planning from the University of Pennsylvania in 1980.

Week #5 – 2/19/14: Low-Carbon Transportation

- **Introduction:** To get to low-carbon transportation requires a mix of policy initiatives and technologies that improve travel efficiency. States have built huge road networks that they are now struggling to maintain. There are also economic and environmental constraints to optimal mobility. The reliance on the automobile has allowed for great distances between housing and employment centers, which means that people waste a lot of productive time and money driving back and forth to work. The more they drive, the more air pollutants and greenhouse gases they emit. Plus they pass across, over, and around places, leaving their pollution behind, but no economic benefit. Low-carbon transportation retains the idea of efficiency (and lower emissions), but adds the notion of capturing value across the transportation network. Practitioners are working on solutions such as linking mass transit, to jobs, and to housing (transit-oriented development-TOD); creating walkable, bikeable communities, so that people can get places without driving but also spend money locally; on mass transit that can link people to employment centers; and on new, clean forms of mass transit: light rail, bus-rapid-transit (BRT), bike networks.
- **Speaker:** (tentative) Lori Ardito, First Deputy Commissioner, New York City Department of Transportation
- **Reading:**

- Goldstein, Dana. "Street Fighter." *The American Prospect*. 21 November 2008 (9 pages)
- Institute for Sustainable Communities. "Climate Leadership Academy, Promising Practices in Low-Carbon Transportation: A Resource Guide for Local Leaders Version 2.0." 8 June 2011. (77 pages)

- Assignment:

- Speaker Bio:

Lori Ardito was appointed First Deputy Commissioner in May 2007. As DOT's chief operating officer, she oversees the divisions in the Department that ensure the safe, efficient, and environmentally responsible movement of people, goods, and vehicles throughout the City of New York. This includes the maintenance of approximately 6,300 miles of streets and highways, the management and rehabilitation of more than 700 bridge structures, operation of the Staten Island Ferry, oversight of private ferry service, management of municipal parking facilities, and maintenance of the City's street lights, traffic signals, and traffic signs. Prior to becoming First Deputy Commissioner (FDC), Ms. Ardito served as Lower Manhattan Borough Commissioner. The Borough Commissioner is the agency's liaison to the community, including elected officials, community boards, business improvement districts, advocacy groups, and individuals. While in Lower Manhattan, FDC Ardito took the additional responsibility of coordinating construction work on streets near the World Trade Center site to ensure that the reconstruction effort was accomplished with the least possible amount of disruption. Previous to that appointment, she served as the Borough Commissioner of Brooklyn from August 2002 to March 2006. Here she worked with DOT's operating units to coordinate the delivery of essential traffic safety services to communities throughout the borough, New York's largest. A graduate of Kean College in New Jersey, FDC Ardito joined the Department of Transportation in 1987 as a grants manager with the Bureau of Traffic's Planning Division. Over the next eight years she held various positions in the Divisions of Bridges and Roadways, with responsibilities ranging from maintenance operations to the supervision of central administrative personnel. In May 1997, FDC Ardito became the Administrative Superintendent of Highways for Brooklyn and Arterial Highways, directing both daily street maintenance activities in Brooklyn and the Citywide Arterial Resurfacing program.

- Assignment: Memo #1.

Week #6 – 2/26/14: Climate Change Adaptation and Resilience in New York City

- Introduction: This session will focus on how sustainability practitioners integrate climate risk in making capital investments in large-scale infrastructure. The discussion will focus on the resilience efforts underway in New York City, although the strategies identified for managing climate risk will be applicable to other locations, and to both public organizations and private firms.
- Speakers: Susanne E. DesRoches, LEED AP, Assistant Chief, Resilience and Sustainability, The Port Authority of New York & New Jersey
- Reading:
 - PlaNYC, The City of New York. "A Stronger, More Resilient New York." 11 June 2013. P. 1-36, 174-188.
- Assignment: Courseworks discussion #4.

- Speaker Bio:
Susanne DesRoches holds the position of Assistant Chief, Resilience and Sustainability at The Port Authority of New York & New Jersey. She is the lead for the Hurricane Sandy immediate recovery and future resiliency efforts in the Engineering Department. She has represented the Agency on numerous regional climate change initiatives including the New York City Building Resiliency Task Force, the New York City Climate Change Adaptation Task Force and the New York State Climate Action Council. Susanne manages the sustainable design program for Agency capital projects. In this capacity, she oversees the sustainability and climate resiliency of large-scale projects such as the LaGuardia Modernization Program and Newark Terminal A Redevelopment. She led the development and adoption of the PA Sustainable Infrastructure Guidelines, a sustainability rating system for infrastructure projects. Currently, she is overseeing the integration of future climate impacts in development of Agency resiliency design guidelines. Susanne holds a Bachelor of Industrial Design from Pratt Institute and a Masters in Public Administration in Environmental Science and Policy from Columbia University. She is a lecturer in the Master of Science in Sustainability Management at Columbia University.

Week #7 – 3/5/14: Sustainable Agriculture

- Introduction: Feeding nine billion people in a truly sustainable way will be one of the greatest challenges our civilization will have ever faced. Issues such as soil depletion, genetically modified organisms, factory vs. grass-fed farming, food labeling, and the carbon footprint of meat are all controversial and impactful on agriculture, health, security, sustainability and business practices. This class session will concentrate on the environmental impacts of large-scale agriculture and on less damaging alternative agricultural models.
- Speaker: Howard Buffett, Executive director, Howard G. Buffett Foundation, former policy advisor in the Executive Office of the President of the United States
- Readings:
 - Clay, Jason. “World Agriculture and the Environment: A Commodity-by-Commodity Guide to Impacts and Practices.” Washington, DC: Island press: 2004. eBook (<http://site.ebrary.com.ezproxy.cul.columbia.edu/lib/columbia/docDetail.action?docID=10064697>) Ch. 1-2 (p. 11 – 68)
 - Bittman, Mark. “How to Feed the World.” New York Times. Oct. 14, 2013. (2 pages)
- Assignments: Courseworks discussion #5.
- Speaker Bio:

Howard W. Buffett specializes in improving the effectiveness of foreign aid and global philanthropy. Before joining SIPA’s faculty, he was Executive Director of the Howard G. Buffett Foundation, which strengthens food security for vulnerable populations throughout the world.

Buffett previously served in the U.S. Department of Defense, where he oversaw agriculture-based economic stabilization and redevelopment programs in Iraq and Afghanistan. He received the Joint Civilian Service Commendation Award – the highest ranking civilian honor presented by the Joint Chiefs of Staff. Buffett has also served as a Policy Advisor for the White House Domestic Policy Council where he co-authored the President’s cross-sector partnership strategy.

Buffett received his MPA in Advanced Management and Finance from SIPA at Columbia

University. He is co-author of *40 Chances: Finding Hope in a Hungry World*, which draws from his experiences while traveling in more than seventy countries across six continents.

Week #8 – 3/12/14: The Sustainability/Profitability Connection

- **Introduction:** This class session will center around the ways in which large private firms make sustainability part of their pursuit for increased production and profitability. The discussion will cover strategies for integrating environmental concerns in supply chain management, production, operations, and marketing.
- **Speaker:** Vance A. Merolla, Director of Environmental Sustainability, Global Supply Chain, Colgate-Palmolive Company
- **Reading:**
 - Richards, Deanna J. ed. *The Industrial Green Game: Implications for Environmental Design and Management*. Washington DC: National Academy Press, 1997. E-Book (<http://site.ebrary.com.ezproxy.cul.columbia.edu/lib/columbia/docDetail.action?docID=10041128>) Ch. 1, 6, 7, 8 (pp. 1-34, 101-113)
 - Colgate-Palmolive Sustainability Report 2012: <http://www.colgate.com/app/Colgate/US/Corp/LivingOurValues/Sustainability/HomePage.cvsp>
- **Assignment:** Courseworks discussion #6.

Speaker Bio:

Vance Merolla is the Director of Environmental Sustainability, Global Supply Chain for the Colgate-Palmolive Company, a global consumer products company based in New York City. Mr. Merolla is responsible for driving energy, climate change, water and waste reduction initiatives in Colgate's manufacturing operations worldwide. Prior to his current 15 years with Colgate, he was an environmental group manager for the URS Corporation. Vance holds a BS in Industrial Engineering from Arizona State University and a Masters in Environmental Engineering from Rutgers University. He is a licensed professional engineer (PE) in the states of New York, New Jersey and Washington, and is a U.S. Green Building Council LEED-Accredited Professional, and a Member of the USGBC NJ Chapter Board of Directors. Colgate-Palmolive Company is a \$17.1 billion global company serving people in more than 200 countries and territories with consumer products that make lives healthier and more enjoyable. The Company focuses on strong global brands in its core businesses — Oral Care, Personal Care, Home Care and Pet Nutrition. Colgate seeks to deliver strong global growth by following a tightly defined strategy to grow market shares for key products, such as toothpaste, toothbrushes, bar and liquid soaps, deodorants/antiperspirants, dishwashing detergents, household cleaners, fabric conditioners and specialty pet food.

Week #9 – 3/26/14: The Role of Clean Technology and Sustainability

- Introduction: Successful product and service innovation is often accomplished by addressing an existing social need. A win-win scenario is when new technologies result in economic success, environmental benefits, and positive social impact. This class session will focus on the contribution that clean technology to sustainability. The discussion will consider the growth outlook of clean tech, as well as the opportunities and challenges for bringing clean tech to market.
- Speakers: Alain E. Kaloyeros, Senior Vice President and Chief executive Officer, College of Nanoscale Science and Engineering.
- Readings:
Riis, Soren et al. "Rethinking Climate Change Research: Clean-technology, Culture and Communication." Surrey, England: Ashgate Pub. Company: 2012. eBook
(<http://www.columbia.edu/cgi-bin/cul/resolve?clio10281713>) Section 2, Clean Technology (Intro. to Section 2, Ch. 2.1 and Ch. 2.4)
- Assignment: Memo #2.
- Speaker Bio:

Alain E. Kaloyeros is Professor of Nanoscience, Senior Vice President and Chief Executive Officer, College of Nanoscale Science and Engineering (CNSE) of the University at Albany-SUNY, Vice President and Special Advisor to the President, University-wide Economic Innovation and Outreach. Dr. Kaloyeros received his Ph.D. in Experimental Condensed Matter Physics from the University of Illinois, Urbana-Champaign in 1987. He has authored and coauthored over 150 articles and contributed to 7 books on topics pertaining to the science and technology of nanoelectronics and nano-optoelectronics ultrathin film materials, atomic layer vaporphase deposition processes, and nanoscale x-ray, electron, and photon-based characterization and metrology. He holds 13 U.S. patents. Dr. Kaloyeros has been actively involved in the development and implementation of New York's high tech strategy to become a global leader in the nanotechnology driven economy of the 21st Century. A critical cornerstone of New York's high technology strategy is the establishment of the UAlbany College of Nanoscale Science and Engineering as a truly global resource for research and development (R&D), technology deployment, education, and commercialization for the international nanoelectronics industry. CNSE has generated over \$7B in public and private investments, including more than \$900M from NYS and over \$6B from the federal government and international nanoelectronics industry. The CNSE Albany NanoTech Complex houses major R&D centers involving corporate giants that include IBM, GlobalFoundries, SEMATECH, Toshiba, Samsung, Tokyo Electron, Applied Materials, ASML, Novellus Systems, Vistec Lithography and Atotech, among many others.

Week #10 – 4/2/14: Standards and Metrics for Sustainability Performance

- Introduction: The session will be devoted to understanding how the use of sustainability standards and metrics advance the integration of sustainability in the operation of organizations. A lecture on the GHG Protocol will concretize the discussion by helping us understand what goes into developing and gaining wide acceptance for such a tool, and by discussing the impact of accounting for GHG emissions.

- Speaker: Cynthia Cummis, Deputy Director, GHG Protocol, World Resources Institute
- Reading: “Corporate Value Chain (Scope 3) Accounting and Reporting Standard.” Bhatia, Pankaj et al. 2011. World Resources Institute.
http://www.wri.org/sites/default/files/pdf/ghgp_corporate_value_chain_scope_3_standard.pdf
(p. 1 – 63)
- Assignments: Courseworks discussion #7.
- Speaker Bio:
Cynthia Cummis is the Deputy Director of GHG Protocol within WRI’s Climate and Energy Program. In this role she manages GHG Protocol’s corporate work which includes activities related to the Corporate, Scope 3 and Product Life Cycle Standards. Ms. Cummis is a well-known expert in GHG accounting and brings more than 15 years of experience working on the issue of global climate change. Prior to WRI, Cynthia was the Director of Carbon Management at Clear Carbon Consulting where she managed carbon quantification and management projects for multiple Fortune 500 clients as well as large public institutions. Ms. Cummis was the Founding Director of U.S. EPA’s Climate Leaders Program, a voluntary program that partnered with businesses to develop corporate-wide greenhouse gas inventories and reduction goals. For more than 5 years, she led the design and implementation of the program and oversaw the growth of the program to more than 90 corporate Partners. Cynthia holds a MPA in environmental policy from Columbia University in New York City and a B.S. from Cornell University in Ithaca N.Y.

Week #11 – 4/9/14: Sustainable Energy Strategies

- Introduction: This session of the course, we will delve into the challenges that sustainability managers face as they seek to reduce energy consumption and improve the environmental performance of energy production. The discussion will be based on the development of SunEdison, a solar energy services company that employed an innovative business model – the Power Purchase Agreement – to make photovoltaic installations financially viable. Jigar Shah, the founder of SunEdison will discuss the lessons that stem from his experience at the firm.
- Speaker: Jigar Shah, CEO, Jigar Shah Consulting
- Readings: Shah, Jigar. “Creating Climate Wealth: Unlocking the Impact Economy.” ICOSA: Denver Colorado, 2013. p. 45 – 124.
- Assignment: Courseworks discussion #8.
- Speaker Bio: Jigar Shah is author of "Creating Climate Wealth: Unlocking the Impact Economy" and an entrepreneur. Shah helped to unlock the multi-billion dollar worldwide solar industry with a business model innovation (Power Purchase Agreement), not a new technology. This model created SunEdison, the largest solar services company worldwide. Jigar Shah has shown that business model innovation applied to the biggest challenge of our lifetime - climate change - will unlock a \$10 trillion dollar new economy.

After SunEdison was sold in 2009, Jigar served through 2012 as the first CEO of the Carbon War Room – the global organization founded by Sir Richard Branson and Virgin Unite to help entrepreneurs address climate change. SunEdison and Carbon War Room proved that we could

make positive change through business and financial model innovation in many industries. Today, as CEO of Jigar Shah Consulting, he works with global companies in a multitude of industries to deploy existing clean energy and resource efficiency solutions fueled by new business models.

Week #12 – 4/16/14: Sustainable Investment: Environmental, Social and Governance Concerns

- **Introduction:** This class session will consider the extent to which the pursuit of profit from investments accords with environmental, social, and governance concerns. Another way to put it, is that we will consider how investors can account for not only financial capital, but also physical capital (e.g. use of natural resources) and human capital (e.g. labor practices) when they make investment decisions.
- **Speaker:** Anne Simpson, Senior Portfolio Manager and Director of Corporate Governance, CalPERS
- **Readings:**
 - “Towards Sustainable Investment: Taking Responsibility.” CalPERS. Online.
<http://www.calpers.ca.gov/eip-docs/about/press/news/invest-corp/esg-report-2012.pdf>
 - Barbier, Edward and Markendya, Anil. “A New Blueprint for a Green Economy.” New York: Routledge, 2013. P. 54 – 79.
 -
- **Assignment:** Courseworks discussion #9.
- **Speaker Bio:**

Ms. Anne Simpson is a Senior Portfolio Manager and Director of Corporate Governance at California Public Employees' Retirement System. Ms. Simpson oversees CalPERS' Focus List program, which involves monitoring portfolio companies' performance related to finance, corporate governance practices and strategic issues, and works on refining investment structures and the capital allocation process used to construct the fund's \$98.6 billion global equity portfolio. Prior to this, she served as the Head of the Secretariat at the Global Corporate Governance Forum at World Bank and is a Member of the private sector advisory group of the forum. Prior to joining the World Bank in 1999, Ms. Simpson was a Joint Managing Director at Pensions & Investment Research Consultants Ltd. She is a Member of Advisory Board of Governance of Owners LLP. Ms. Simpson is a Director of Council of Institutional Investors. She has been involved in a wide range of initiatives to promote corporate governance internationally, including serving as a Member of the Ad Hoc Taskforce which developed the OECD Principles of Corporate Governance, the Commonwealth Principles of Business Practice, a Member of the Investor Advisory Group of the Public Company Accounting Oversight Board, and the Corporate Governance Working Party of the Islamic Financial Services Board. Ms. Simpson is an Ex-Officio Director of the Global Academic Research Network housed at Yale University. She serves as a Member of Advisory Board at Governance for Owners LLP. Ms. Simpson was the Executive Director at the International Corporate Governance Network. She is a Member of the editorial board for the academic journal 'Corporate Governance: An International Review' (published by Blackwells), and has taught and written extensively on corporate governance, including 'Fair Shares: the future of shareholder power and responsibility', with Jonathan Charkham (Oxford University Press) and 'The Greening of Global Investment: how politics, ethics and the environment are reshaping strategy' (Economist Publications). Ms. Simpson was named to a list of the 100

most influential corporate governance professionals for 2011 by The NACD Directorship 100 Hall of Fame. She read Politics, Philosophy, and Economics at St Hilda's College, Oxford and was a Slater Fellow in Development Economics at Wellesley College, Massachusetts. Ms. Simpson was elected a Fellow of the Royal Society of Arts, Commerce & Manufacture in 1995.

Week #13 – 4/23/14: Building Sustainable Communities

- **Introduction:** Increasingly, communities and regions across the United States are recognizing that meeting their economic and social challenges will require integrated and collaborative approaches that account for land use, housing, transportation, and economic development to deliver more prosperous, sustainable, and equitable results. To support these locally driven efforts to advance sustainability, the U.S. Department of Housing and Urban Development (HUD), the U.S. Environmental Protection Agency, and the U.S. Department of Transportation created the Partnership for Sustainable Communities in 2009. Guided by six livability principles, the Partnership agencies work to improve access to affordable housing and transportation options, lowering housing and transportation costs to families and local governments, while protecting human health and the environment. The Livability Principles are as follows:

Provide more transportation choices. Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

Support existing communities. Target federal funding toward existing communities—through such strategies as transit-oriented, mixed-use development and land recycling—to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

Coordinate policies and leverage investment. Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.

This class will be devoted to learning about the implementation of these principles in a regional planning initiative – Sustainable NYCT – which was funded by the federal Partnership for Sustainable Communities.

- Speakers: Panel – Howard Slatkin, Director of Sustainability and Deputy Director of Strategic Planning, NYC Department of City Planning.
- Reading:
 - *New York & Connecticut Sustainable Communities*. Website. (30 pages)
<http://www.sustainablenyct.org/>
 - Institute for Sustainable Communities. “Sustainable Communities Leadership Academy: A Resource Guide for Local Leaders. Version 2.0.” Denver: 1 October 2012. (85 pages)
http://sustainablecommunitiesleadershipacademy.org/resource_files/documents/Resource-Guide-HUD-SCLA-2.pdf
- Speaker Bio:

Howard Slatkin, the director of sustainability for the New York City Department of City Planning, was a frequent visitor to NYC while growing up in New Jersey, but it was not until he moved to the City after studying history at Brown University, that he became interested in architecture and the social life of places. He earned a master’s degree in urban planning at Columbia University in 2000. At that time the concept of sustainability, though embedded in the course curriculum, had not yet gained the notoriety it has today. Slatkin joined the Department of City Planning immediately after graduation in the summer of 2000; he started as the community planner for Brooklyn Community District 1. His first task was to look closely at the Williamsburg, Brooklyn area and how the community was changing around the L subway line. His work eventually became part of the 2005 Greenpoint-Williamsburg Rezoning. The rezoning addressed population growth in the area and the disparity between the actual and legal uses of industrial buildings that were increasingly being used as residential and commercial spaces. The experience exposed Slatkin to many important issues including mixed-use development, waterfront redevelopment, and affordable housing, which became one of Slatkin’s areas of expertise and focus. The Greenpoint-Williamsburg Rezoning created the City’s current tool for affordable housing development – the Inclusionary Housing Program, which allows developers to take advantage of a floor area bonus in exchange for creating or preserving units of affordable housing for targeted income levels. The program has been used to encourage affordable housing development in many of City Planning’s rezoned areas, including Hudson Yards, West Chelsea/High Line, and West Harlem. From there, Slatkin became increasingly involved with the policy side of city planning and eventually became deputy director of strategic planning, where he oversaw the special projects, and in particular the green initiatives, for all of City Planning’s divisions. In 2010, Slatkin was named City Planning’s first director of sustainability. Slatkin said that the creation of the position was recognition of the importance of sustainability to the City and a reflection of the City’s shift in focus after PlaNYC. PlaNYC was created in 2007 by Mayor Michael R. Bloomberg’s administration and sought to develop long-term sustainability goals addressing population growth, climate change and economic development. At City Planning, sustainability issues and ideas for projects are communicated and implemented through a green team, a person from each division who is responsible for focusing on sustainability. Slatkin coordinates and directs the group. He says that “the idea of sustainability is that it is a set of principles that you integrate into everything you do.” Slatkin and the green team encourage the concept of complete neighborhoods, communities with a variety of housing options and accessible transit, open space, and retail and services all within walking distance.

- Assignment: Courseworks discussion #10.
- **Week #14 – 4/30/13: Cutting-edge Strategies for Sustainability Management**
- Introduction: In this final class, we will consider the major themes that have emerged throughout the semester, and we will consider the future of sustainability management practice. We will especially focus on the importance of leadership in integrating sustainability in organizations.
- Speakers: Professors Steve Cohen and George Sarrinikolaou
- Readings:
 - Cohen, Steven A. "Defining and Measuring Effectiveness in Public Management." *Public Productivity & Management Review* 17.1 (1993): 45. *ProQuest*. Web. (pp. 45 – 57)
- Assignment: Due date of final to be announced.

APPENDIX A

School Policies

Copyright Policy

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SCE holds each member of its community responsible for understanding and abiding by the SCE Academic Integrity and Community Standards posted at <http://ce.columbia.edu/node/217> . You are required to read these standards within the first few days of class. Ignorance of the School's policy concerning academic dishonesty shall not be a defense in any disciplinary proceedings.

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