CARRIE R. RICH

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GEORGETOWN UNIVERSITY
SCHOOL OF NURSING AND HEALTH STUDIES
DEPARTMENT OF HEALTH SYSTEMS ADMINISTRATION

SPRING 2010

CARRIE R. RICH
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COURSE NUMBER: HESY 470

COURSE TITLE: Environmental Health Care Sustainability

CREDITS: 2 Credits, 470-01
3 Credits, 470-02

PLACEMENT: 2nd semester for graduate students
3rd or 4th year for undergraduate students

PREREQUISITES: Permission of advisor and instructor

FACULTY: Carrie Rich
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LOCATION/TIME: St. Mary's Hall, Room 110
Wednesdays, 5:15-8:05pm

DESCRIPTION

Capital budgeting evaluations in health care typically do not include environmental impacts, costs or savings, despite the relatively large ecological footprint of the health care industry. This lack of transparency results in decisions that may prematurely dismiss sustainable management strategies, despite potentially significant long-term environmental and financial savings. This course approaches health care management differently by featuring environmental health care sustainability guidelines that reflect the intrinsic relationship between delivering quality health care and the ecological health of the community.

This course examines social trends and drivers of sustainable health systems, with a special focus on hospitals, and explores approaches for health care providers and systems to become better stewards of the environment. The advantages and disadvantages of sustainability initiatives in health care will be examined and a business case for sustainable health care organizations will be developed. The design and impact of the physical infrastructure of health care delivery organizations will also be examined and the current state of evidenced based hospital design will be analyzed. The relationship between hospital design, sustainability initiatives and quality of care will be studied.

OBJECTIVES

At the completion of this course, students will be able to:

1. Discuss operational and theoretical definitions of sustainability.
2. Describe the 'best practices' of environmental sustainability in healthcare systems.
3. Critique sustainability initiatives in contemporary health systems.
4. Discuss the elements of a 'business case' for sustainable health systems.
5. Critique the state of evidence based hospital design.
6. Analyze the impact of the built environment on clinical, financial and human resource indicators.
7. Discuss leadership and managerial strategies for improving sustainability indicators in healthcare systems.
8. Analyze the implications of environmentally sustainable delivery systems on both private and social costs.

TOPICAL OVERVIEW

I. Theoretical and operational definitions of sustainability
II. Current state of sustainability initiatives
III. Best practices in sustainable healthcare settings
IV. Building a business case for sustainable delivery systems
V. Framework and metrics for quantifying the impact of sustainability programs
VI. Impact of the regulatory and accreditation environment
VII. Pros and cons of green technologies
VIII. Environmental purchasing, green cleaning, waste reduction and recycling initiatives
IX. Greening the supply chain
X. Energy efficiencies
XI. Community partnership
XII. Employee engagement
XIII. Sustainable building and renovation
XIV. Leadership responsibilities and training
XV. Trends, issues and challenges

PROGRAM COMPETENCIES ADDRESSED IN THIS COURSE:

COMPETENCY		LEVEL (Bloom's Taxonomy)	WHERE	METHODS	EVALUATION
Q.1.	Use healthcare quality, health outcomes, and other performance measures as management tools.	Cognitive - Application	Feb 24	Guest lecture; checklist tool; webinar	Use of quality and clinical measures to map green, evidence based building
Q.2.	Apply the concepts and techniques in quality / performance improvement and service excellence.	Cognitive - Application	Feb 17 March 17 March 31	Simulation Center field trip; checklist tool; video; written proposal; Total Quality Management tool	Application of evidence-based design checklist and Total Quality Management Tool to assess quality indicators
Q.3.	Describe the interrelationships among patient safety, risk management, and performance improvement.	Cognitive – Synthesis	Jan 20 Feb 24 March 31	Interactive lecture; webinar	Case study presentation
P.1.	Examine and analyze the healthcare policy environment, policy initiatives, current issues, and trends and how these affect health systems and healthcare management.	Effective – Receiving	Jan 27 April 14	Review of Senate Bills, state and local policies; distinguish policies created from policies implemented	Analysis of current trends in sustainability as related to healthcare management
P.3.	Develop a strategic and business plan.	Cognitive – Application	April 21 April 28	Oral and written presentations	Business Plan Development; Presentation
P.4.	Develop a marketing plan.	Cognitive – Application	April 28	Written and oral presentation	Marketing Plan for employee engagement
L.2.	Formulate and articulate a professional values system, inclusive of Jesuit values.	Effective – Organization	Jan 27 April 14 March 24	Written and oral presentation; debate	Formulation & articulation of a sustainability mission statement
L.3.	Communicate effectively in oral and written presentations.	Cognitive – Application	Every Class	Group discussions and individual presentation; written report	Food proposal submission to Board of Directors; Debate
M.5.	Evaluate appropriate organizational structures / designs and issues involving mergers, systems	Cognitive – Evaluation	March 3	Study of existing and potential supply chain management	Evaluation of vendor purchasing agreements

	integration, and financial arrangements with providers and vendors.			systems	
A.4.	Apply quantitative methods and evidence from research studies to assist in making management decisions and assessing the quality of patient care.	Cognitive – Application	Feb 10 Feb 17 Feb 24 March 24	Energy calculator; energy tracking tool; water tracking tool; webinar	Application of quantitative methods to assist in management decisions
A.5.	Apply accounting and financial analysis in making decisions and assessing the financial health of the organization.	Cognitive – Application	Feb 3 Feb 24 March 24	Case study; guest lecture; webinar	Analysis of waste management accounting systems

COURSE EVALUATION

Evaluation	Due Date	Maximum Points
Class Participation / Career Journal	Every Class	50
Field Assignments		50
Midterm	March 3	20
Final	April 28	30
Total		100

CLASS PARTICIPATION: MAXIMUM 50 POINTS

Class attendance is required. You will be evaluated on your contributions to classroom discussion based on thoughtful analysis of assigned readings, current events and classroom reflections, as displayed orally in your Career Journal. Given the concentrated nature of the course, any student who misses any class without approval will receive no points for that class. The schedule is subject to change, but is provided for general planning purposes. Policies for class absence are consistent with University regulations.

CAREER JOURNAL GUIDELINES

Your Career Journal is the basis of evaluation for classroom participation. The purpose of the Career Journal is to help you develop skills in critical, reflective thinking while concurrently producing a valuable resource for future professional use that is tailored to your personal interests.

Each Career Journal entry earns a maximum of 5 points per class, comprising a total of 50% of your grade. The faculty will select 10 of 14 Journal entries for grading.

Assigned course readings will be provided by the faculty every week along with supplemental questions to guide your Journal entry. Approximate length per Journal entry is one single-spaced, typed page. Journal entries need not be in paragraph form; bulleted ideas and diagrams are welcomed. Current events pertaining to topics studied in class should be included and accompanied by one paragraph of reflection. Journals will be reviewed every class and collected at random; please bring your Journal to every class. On days when Journals are not collected, your notes will be a source of reference to enhance classroom conversation. If you prefer to create a blog and record your Career Journal electronically, feel free to do so. A successful model is the blog of Paul Levy, CEO, which may be found at the following link: **www.runningahospital.blogspot.com**.

HOMEWORK

All homework assignments must be completed, documented in your Career Journals, and brought to the start of each class. The purpose of the Career Journal is to document your participation in the study of healthcare sustainability outside of the classroom setting. The Career Journal will also be a useful professional portfolio that highlights a range of skill sets, likely beneficial to you and employers when job hunting.

FIELD ASSIGNMENTS: MAXIMUM 50 POINTS

MIDTERM: MAXIMUM 20 POINTS
"GOING GREEN"

Each student must research one aspect of a healthcare sustainability program that has been or will be implemented at a host institution. Your mid-semester project accounts for 20% of your grade.

Students will be provided with a list of topic options. For each topic, you must research the following content areas:

1. Overview [5 Points, 1-3 Pages]
2. Associated Regulations [5 Points, 1-3 Pages]
3. Community Benefit [5 Points, 1-2 Pages]
4. Tools and Resources [5 Points, 1-2 Pages]

This assignment should be between 5 and 10 pages, including bulleted paragraphs, graphs, tables, charts, pictures, etc. You will not be penalized for a shorter or longer final document, so long as the content is relevant. The report should be double-spaced in no smaller than 12-point font. A list of references in APA format is required, but does not count toward the length requirement. Please present this report as you would present a formal report to a healthcare CEO. Late papers will receive 5 point deductions for each late day.

FINAL : MAXIMUM 30 POINTS

This assignment is worth 30% of your grade. Each student will build on his/her midterm research. Prior to submission of the final, students will attend a site visit with a local healthcare system. Students must cite field experience and incorporate tools and resources introduced throughout the course in developing Part 2, Strategic Plan.

1. Background Analysis
   a. Edited midterm report

2. Strategic Plan
   a. Business case [5 Points, 2-3 Pages]
   a. Financial plan [5 Points, 1-2 Pages]
   b. Key stakeholders [5 Points, 1-2 Pages]
   c. Marketing plan [5 Points, 1-2 Pages]
   d. Employee training plan [5 Points, 1-2 Pages]
   e. Evaluation plan [5 Points, 1-2 Pages]

You must produce both a written and PowerPoint presentation. The written report will be evaluated by the course faculty member. The PowerPoint will be evaluated by faculty, your peers, and industry professionals based on your ability to provide a convincing presentation. You must practice the mindset of a Healthcare Sustainability Administrator: green thinking, fiscally responsible behavior and code compliant strategies. Ultimately, you must convince the audience that it is important to integrate sustainability in the healthcare delivery system.

This assignment should be between 5 and 10 pages, including bulleted paragraphs, graphs, tables, charts, pictures, etc. You will not be penalized for a shorter or longer final document, so long as the content is relevant. The report should be double-spaced in no smaller than 12-point font. A list of references in APA format is required, but does not count toward the length requirement. Please present this report as you would present a formal report to a healthcare CEO. Late papers will receive 5 point deductions for each late day.

REQUIRED RESOURCES

Practice Greenhealth Webinars. Student Code: 09TW01
http://www.practicegreenhealth.org/tools/webinars

> Note: Students have free access to participate in upcoming webinars and/or listen to events. Review the webinar calendar at www.practicegreenhealth.org/webinars or the archive at www.practicegreenhealth.org/archive. Do not log in from the Home Page. Simply click on the Tools & Education tab, Webinar Calendar or Webinar Archive, choose desired webinar and enter your Webinar pass code as specified.

Green Guide for Health Care: Best Practices for Creating High Performing Healing Environments. Version 2.2 Operations Section 2008 Revision, December 2008.

Weekly readings, webinars and handouts will be assigned and distributed by the faculty.

ADDITIONAL RESOURCES

American Institute of Architects
www.AIA.org

American Public Health Association
www.APHA.org

Cascadia Region Green Building Council
http://cascadiabc.onenw.org/

Center for Disease Control
http://www.cdc.gov/nceh/

Center for Health Design
www.HealthDesign.org

EcoLogo
http://ecologo.org/en/certifiedgreenproducts/
http://www.terrachoice-certified.com/en/

Environmental Defense Fund: Healthcare
http://innovation.edf.org/page.cfm?tagid=30606

Epeat
www.Epeat.net/

Etsy, Daniel C. and Winston, Andrew S. *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage.* Westchester Book Services. USA, 2006.

Global Environmental Management Initiative
http://www.GEMI.org

Global Health and Safety Initiative
(becoming part of Practice Greenhealth and Health Care Without Harm)
www.GlobalHealthSafety.org

Greenhouse Gases Protocol Standard
www.Ghgprotocol.org/standards/corporatestandard

Greenseal
www.Greenseal.org

Guenther, Robin & Vittori, Gail. *Sustainable Healthcare Architecture.* John Wiley & Sons, Inc., New Jersey: 2008.

Hammel, Laury and Denhart, Gun. *Growing local value: how to build business partnerships that strengthen your community.* The Social Venture Network Series. Berrett-Koehler Publishers, Inc. San Francisco, 2007.

Harvard Business Review. *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts.* 1 November, 2007.

Healthy Building Network
http://www.healthybuilding.net/

Hospitals for a Healthy Environment
(now part of Practice Greenhealth)
www.H2E-online.org

Health Care Without Harm
www.NoHarm.org

Infection Control Risk Assessment
www.Premierinc.com

Institute for Healthcare Improvement
www.IHI.org

IRS Schedule H, Form 990
www.Irs.gov/charities/article/0,,id=176613,00.html

Joint Commission Environment of Care Standard 3.10.1
http://www.hercenter.org/regsandstandards/jcahotoc.cfm

McDonough, William & Braungart, Michael. *Cradle to Cradle: Remaking the Way we Make Things.* North Point Press, New York: 2002.

Pharos
www.Pharosproject.net/wiki/index.php?title=VOCs

Practice Greenhealth
www.PracticeGreenhealth.org

Robert Wood Johnson Foundation
http://www.rwjf.org/

Regulated Medical Waste
www.Envcap.org/statetools/rmv/rmvlocator.html

Savitz, Andrew W. and Weber, Karl. *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economic, Social and Environmental Success – And How You Can Too.* John Wiley & Sons, Inc. San Francisco, 2006.

United States Green Building Council
www.usgbc.org

United States Environmental Protection Agency
www.Epa.gov
www.Energystar.gov

EVALUATION POLICY

Information will be presented in varied formats so that aptitude can be measured in varied contexts. I have high expectations of your ability to synthesize the interconnectedness of local, national and international events as they relate to healthcare sustainability.

GRADING CRITERIA

UNDERGRADUATE GRADING SYSTEM

LETTER GRADE RANGE & QUALITY POINTS

Letter Grade	Numerical Grade	Quality Points
A	93-100	4.00
A-	90-92	3.67
B+	87-89	3.33
B	83-86	3.00
B-	80-82	2.67
C+	77-79	2.33
C	73-76	2.00
C-	70-72	1.67
D+	67-69	1.33
D	60-66	1.00
F	<59	0.00

GRADUATE GRADING SYSTEM

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Letter Grade	Numerical Grade	Quality Points
A	93-100	4.00
A-	90-92	3.67
B+	87-89	3.33
B	83-86	3.00
B-	80-82	2.61
C	70-79	2.00
F	Below 70	0

Graduate Students cannot earn a C+, C-, D+ or D.

ACADEMIC ELIGIBILITY

Graduate students are required to achieve a cumulative GPA of 3.0 by the end of their first year, and maintain a cumulative GPA of 3.0 for each subsequent semester to remain in the program. Grade point averages are calculated at the end of each semester.

Undergraduate students must receive a passing grade in each of their courses, and must maintain a cumulative GPA of 2.0.

ACADEMIC INTEGRITY AND THE HONOR CODE

The Honor Code is a critical component of pedagogy at Georgetown University.

The Honor Code states: *In the pursuit of the high ideals and rigorous standards of academic life, I commit myself to respect and uphold the Georgetown University Honor System, to be honest in any academic endeavor, and to conduct myself honorably, as a respected member of the Georgetown community, as we live and work together.*

All students are expected to read the standards of conduct established by the Georgetown University Undergraduate Honor Council, and are held responsible for understanding and upholding the honor code in their academic endeavors. Violations of the honor system are taken very seriously. Information about the Georgetown Honor Code is located on pages 10-14 of the Student Handbook or can be found online at http://grad.georgetown.edu/pages/info-acad-integrity.cfm.

STATEMENT OF MUTUAL EXPECTATIONS

The undergraduate/graduate program is more than a series of courses; it is a total learning experience. In order for students, faculty, and administrators to work cooperatively in this endeavor, certain assumptions must be understood by all involved in the process.

The faculty and administrators guide and support learning. Faculty provides learning experiences including lectures, workshops, guest speakers, and contact with healthcare delivery organizations. Faculty promotes creativity and individual initiative as well as critical and analytical thinking. Faculty and staff assist students with problem solving when necessary. Office hours and appointments should be consistent and maintained.

Students entering the program are expected to have strong written and oral communication skills. These skills will further be developed and evaluated in all course work. Oral skills are needed for effective class participation. Written assignments are expected to conform to APA or other accepted format, as well as proper English usage (spelling, grammar, and neatness will be evaluated). Students should take initiative to seek assistance in meeting these expectations if and when the need is recognized.

Many instructors provide both required and recommended reading lists. Students must be able to synthesize a great deal of written material to achieve course objectives. The student who does not complete *at least* the required reading will not be able to meet either course or personal objectives. The rapidly occurring changes in healthcare delivery require professionals to continually seek new information, from newspapers and journals, as well as assigned texts. Students are encourages to seek information from the many resources available online and in the community. Only by having and demonstrating intellectual curiosity can students be partners in the learning experience.

Class attendance is required. Faculty and students are expected to be on time and remain for the durations of the class. Students should turn off cell phones, PDAs, MP3 players, remain alert and

engaged, and not leave the classroom except for emergencies. If absences are necessary, notify the instructor as soon as possible, either before or after the event, in order to arrange a means of obtaining missed material.

Written assignments must be submitted on the date due. If extensions are to be granted, arrangements must be made before the due date. Grades will be reduced 10% for each day beyond the due date that the assignment is late. Assignments turned in late without advance permission are reduced at least one grade.

Most of the responsibility for successful learning lies within each student who takes the initiative to seek and share information, and to identify and correct deficits. We expect all partners in learning to show respect for self and others by coming to class prepared to meet class objectives, by actively listening to what others are saying, and by contributing to class discussion in ways that enhance the group's learning experience.

WRITING STATEMENT AND STUDENT GUIDELINES FOR WRITING PAPERS

Every Health Systems course is a writing course.

To succeed in health systems administration, or in any career, you must write effectively. Effective writing requires both grammatical accuracy and skillful presentation. Effective writing is essential to enter and succeed in graduate schools and will be a major factor in career advancement. Therefore the program places emphasis on producing graduates who are effective and skilled writers. Every writing assignment produced for courses in the program must be technically correct and effectively presented. All examinations will be graded for content and writing ability.

If you are concerned that your writing skills will not meet the standard of the Department, take advantage of the writing resources available on campus. Discuss your situations with your instructor, faculty advisor, or NHS Student Academic Affairs staff. Effective writing is a skill that takes practice and time to develop, so act early to establish the solid skills and habits that will be important for your academic and professional career.

To be successful in the field of healthcare, you must be able to translate your thinking into a coherent written document. It is essential that you be able to master this technical skill.

Hints: purchase a book that will guide you through the turbulent waters of expressing your thoughts in writing. There are many in the book store and many in your local Borders or Barnes and Noble. Also, if you have not yet purchased an APA manual, you need to do so. The manual has some pertinent writing style information as well. The Elements of Style by Stunck and White, fourth edition, is compact and filled with information such as:

- Use of specific, concrete language
- Work from an outline (I strongly suggest this approach)
- Do not overstate
- Do not use slang or informal words
- Be clear
- Do not inject opinion unless asked to do so

- Do not use figures of speech
- And many other than may help those of you struggling with written assignments

Other tips:

- The use of quotes should be minimal and confined to areas of text that defy translation by you, or are so familiar as to warrant quoting. I am interested in your ability to understand content and to apply that in a meaningful, thoughtful manner.

- Most formal papers are not opinion papers. You must cite in the text and bibliography the source documents that you use to construct a coherent paper. **You must use APA format for citations.**

- The papers that you will be asked to write in this program require a depth of thinking analysis, and ultimately synthesis as you progress through the program. Courses build, one upon the other, in pursuit of these cognitive skills.

You have a wealth of information available to you: texts, articles, data bases in the electronic library – use them and be creative!

- You should use a minimal number of web sites. Instead, cite the text of the article, book, etc. that you have accessed via the web.

- Most of the papers that you are asked to write cannot be completed in a "hurried" manner, i.e. overnight or a few days before they are due. If you choose this approach, your grades will suffer, as it is obvious to the reader.

- Organize your time and your research.

CAMPUS RESOURCES

If you believe you have a disability that will affect your ability to succeed in this course, you should contact the Academic Resource Center (Leavey 335) for further information. The Academic Resource Center is the campus office responsible for determining reasonable accommodations in accordance with the Americans with Disabilities Act (ADA) and University policies.

If you need assistance with your written papers, the Writing Center is available to provide assistance. www.georgetown.edu/departments/english/writing/wcenter.htm.

APPEALS CONTESTING GRADES

When a student contests a grade received as part of coursework, the following steps are to be taken:

1. The student should first seek an acceptable resolution through a discussion with the instructor of the course. This must be initiated no later than thirty days after the start of the semester following the one in which the disputed grade was assigned.

2. If a satisfactory resolution is not reached, the student should then discuss the matter with the Director of Graduate Studies or program director under whose aegis the course is offered. This discussion must be initiated no later than sixty days after the start of the semester following the one in which the disputed grade was assigned.

3. If a satisfactory resolution is still not reached, the material in question will be sent to a faculty committee established by the department or program in which the course is offered (either a standing committee or an *ad hoc* committee). This committee review must be initiated no later than ninety days after the start of the semester following the one in which the disputed grade was assigned. That committee's decision (to raise, lower, or sustain the grade) shall be final.

GRADE CHANGE REQUESTS

The only legitimate reason to change a grade is faculty computation error. Requests for a change of grade will not be approved if the new grade results from additional work performed after the initial grade had been assigned.

COURSE SCHEDULE

Class #1: January 20, 2010	Overview: A Theoretical Construct Making Sustainability Your Competitive Advantage
Class #2: January 27, 2010	Strategic Development: An Operational Construct Strategy Development for Baseline Performance & Systems Checklist
Class #3: February 3, 2010	Waste Management Analysis Methodology & Risk Assessment
Class #4: February 10, 2010	Energy Management Transparency & Self-Assessment
Class #5: February 17, 2010	Evidence-Based Facility Design Tools & Decision Making
Class #6: February 24, 2010	Sustainable Buildings Metrics Navigation & Business Incentives
Class #7: March 3, 2010	Supply Chain Management Meets Environmentally Preferable Purchasing Sustainable Sourcing, Cleaning & Vendor Partnerships
Class #8: March 17, 2010	Sustainable Food Incentive Strategies
Class #9: March 24, 2010	Water Management & Transportation Management Beyond Compliance: Resource Stewardship
Class #10: March 31, 2010	Health Information Technology Overview Environmental Information Management Systems
Class #11: April 7, 2010	Policy Implications Community Impact & Industry-NPO Partnerships
Class #12: April 14, 2010	Call to Leadership Leadership Development & Governance
Class #13: April 21, 2010	Future Outlook Strategic Partnerships
April 22, 2010	Sustainability Forum, Showcase Student Work
Class #14: April 28, 2010	Student Presentations Public Speaking & Networking

Class #1: Overview: A Theoretical Construct

January 20, 2010

Overview

The United States healthcare system requires multidisciplinary approaches to address the dynamic field of environmental healthcare sustainability. This lesson will explain why healthcare sustainability is important; students will learn about frameworks for healthcare sustainability, identify stakeholders and gather evidence based resources for sustainability management.

Objectives

1. Introductions
2. Review course syllabus.
3. Introduce patient, worker and environmental safety in sustainability terms.
4. Identify key stakeholders and information repositories.

Topics

A. Issue Framing
   a. Societal interest in sustainability and healthcare
   b. Current state of knowledge
   c. Healthcare's environmental impact

B. Corporate responsibility and social entrepreneurship
   a. Triple bottom line
   b. Community benefit
   c. Legal considerations

Homework

The Eco-Health Footprint Guide: Measuring Your Organization's Impact on Public Health and the Environment, Version 1.2. Global Health and Safety Initiative, May 2009.

Practice Greenhealth webinar. Introduction to the Revised Green Guide for Health Care Operations Section. January 23, 2009. Webinar pass code (case sensitive): 09TW01
http://www.practicegreenhealth.org/tools/webinars/archive/archive/439

Review the mission statements of healthcare organizations committed to sustainability. Create a mission statement for your imagined or real health care organization. Record in your Career Journal.

Additional Resources

Kaplan, Susan; Orris, Peter and Machi, Rachel. A Research Agenda for Advancing Patient, Worker and Environmental Health and Safety in the Healthcare Sector. Global Health and Safety Initiative. October 2009.

Class #2: Strategic Development: An Operational Construct
January 27, 2010

Overview
Healthcare professionals with an understanding of sustainable practices share a unique vantage point of challenges and solutions that cut across all aspects of business. They are positioned to identify problems and opportunities and to broker information. This lesson surveys tools used to measure environmental health system impacts, focusing on innovative solutions that add business value and contribute to an organization's overall strategic business success.

Objectives
1. Orally present homework from previous class.
2. Identify critical interactions between economic, social and sustainable development issues that are important to business activities.
3. Examine the planning, development and implementation considerations taken into account when evaluating sustainability drivers and programs.
4. Learn how to advance business performance through metrics program implementation.
5. Evaluate business benefits, costs and best practices by systematically addressing economic development, social equity and environmental issues.

Topics
A. PDCA Lifecycle (GEMI)
B. Strategic Development Planner (GEMI)
C. Three Safeties GHSI (Spell out)

Homework
Practice Greenhealth Eco-Checklist for Operations: How Green is Your Healthcare Organization? Version 1.0, April 2009.

Environmental Reporting in a Total Quality Management Framework. Global Environmental Management Initiative. Washington, DC: 1994.

Imagine you are the CEO of a healthcare organization that is newly committed to sustainability practices. Based on classroom conversation and examples, write an organizational statement of commitment to sustainability to a public community audience. Record in your Career Journal.

Additional Resources
Environmental Health & Safety Training. Global Environmental Management Initiative. Washington, DC: 1995.

Environment: Value to the Investor. Global Environmental Management Initiative. Washington, DC: 2004.

Class #3: Waste Management
February 3, 2010

Overview
This lesson introduces an overview of solid waste regulations, related risk assessment methodologies, solid waste collection and disposal practices, and recycling. Students will learn from a guest lecturer about waste minimization and pollution prevention, treatment of hazardous waste, and remediation.

Objectives
1. Explore major sources and types of healthcare waste.
    a. Identify waste subtopics.
2. Identify opportunities to reduce waste and avoid risk.
3. Evaluate costs and benefits of proposed waste management practices.
4. Analyze gaps in current knowledge concerning waste management.
5. Discuss current legislation and regulation regarding waste issues.
6. Debate when it is safe to reuse disposable items.

Topics
A. Types of waste
B. Waste subtopics
C. Halogenated anesthetic gas exposure
D. Pharmaceutical waste management
E. Reduce, reuse, recycle, prevent

Homework
Best Management Practices For Hospital Waste. Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program. October 2005.

Practice Greenhealth webinar. Mind Your Ps & Us! Managing Pharmaceutical Waste, Including an Update of the 2008 10-Step Blueprint for Health Care Facilities in the U.S. May 15, 2009. http://www.practicegreenhealth.org/tools/webinars/archive/archive/456

One of the most challenging efforts of healthcare sustainability is selecting a starting point. Reflecting on classroom discussion, assigned reading and webinar content, identify where you would begin as a Sustainability Coordinator located at a regional medical center and why you chose that starting point. Record in your Career Journal.

Additional Resources
Practice Greenhealth Webinar. Waste Volume Reduction Strategies in the Operating Room. September 14, 2007. http://www.practicegreenhealth.org/tools/webinars/archive/archive/380

Class #4: Energy Management
February 10, 2010

Overview
Typical capital budgeting evaluations do not include environmental costs and savings, resulting in decisions that may prematurely dismiss energy management projects, despite potentially significant long-term environmental and financial savings. The capital budgeting evaluations described in this lesson will be applied to a variety of energy management approaches.

Objectives
1. Raise the economic valuation of energy management projects to a level that is worth considering in addition to alternative options.
2. Discuss key components needed to ensure use of an energy management approach and how the approach can be institutionalized.
3. Utilize tools to measure, calculate and assess organizational energy usage.
    a. Quantify and allocate energy resources across appropriate business functions and activities.

Topics
A. Guidelines for energy management
    a. Energy Star
    b. Energy Impact Calculator
    c. Energy savings
B. Senate Energy Bill

Homework
2008 Healthcare Energy Efficiency Indicator Results. Johnson Controls.

Practice Greenhealth webinar. Operations Series: Energy Use in Hospitals. October 24, 2008.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/423

Describe how to employ the Energy Impact Calculator. Record in your Career Journal.

Additional Resources
Practice Greenhealth webinar. Greening Operations Series: Purchasing Tools and Strategies to Reduce Energy and Maintenance Costs. January 15, 2010.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/519

A Prescriptive Path to Energy Efficiency Improvements for Hospitals. Development of a prescriptive package of energy efficiency measures to obtain energy savings and earn points under the green guide for health care version 2.2. Austin, Texas: December 19, 2007.

Class #5: Evidence-Based Facility Design
February 17, 2010

Overview
This lesson will make the case for evidence-based design, using case studies and green design standards. We will review sustainable design and construction options for new and renovated buildings, including the payback period for specific capital improvement decisions. Students will tour the Georgetown University Simulation Center and evaluate the space according to evidence based design principles.

Objectives
1. Make the business case for evidence-based design (EBD).
    a. Provide approaches for how to measure, manage and communicate EBD value to the financial community.
    b. Test EBD skills.
2. Explain how leveraging EBD can help create value enhancing brand, reputation, innovation and leadership.
3. Visit the Georgetown University Simulation Center to assess EBD integration.

Topics
A. Evidence based facility design
    a. Agency for Healthcare Research and Quality (AHRQ) DVD
    b. Center for the Built Environment, Berkley
    c. Evidence-Based Design Accreditation & Certification (EDAC)
B. Operations and maintenance
C. Pharos (nutrition label for building products)
D. Policy implications
    a. Massachusetts case study
E. Simulation Center

Homework
Sadler, Blair; DuBose, Jennifer; Malone, Eileen and Zimring, Craig. The Business Case for Building Better Hospitals Through Evidence Based Design. Center for Health Design, Leadership Series. September 2008.

Sadler BL, Joseph A, Keller A, Rostenberg B. *Using Evidence-Based Environmental Design to Enhance Safety and Quality.* IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2009.

Complete the EBD matrix checklist based on your experience in the Simulation Center. Record your EBD assessment and reflections in your Career Journal.

Class #6: Sustainable Buildings
February 24, 2010

Overview
Students will learn from a healthcare design professional guest lecturer who will walk them through the Leadership in Energy and Environmental Design (LEED) rating system, exploring how to balance healthcare capital improvement demands with environmental challenges. Students will be exposed to resource and code constraints, programmatic requirements and institutional cultural barriers.

Objectives
1. Identify design elements integrated to achieve LEED buildings.
    a. Study the costs of green upgrades.
2. Calculate the payback period for sustainable options.

Topics
A. P+W transparency tool
    a. Pharos rating system
B. Leadership in Energy and Environmental (LEED)
    a. LEED exercise with architect / design professional
C. ASHRAE 90.1
D. The Living Building Challenge

Homework
Demystifying First-Cost Green Building Premiums in Healthcare. Health Environments Research & Design Journal 2009 Summer; 2(4):10-45.

How do I build green? The Kresge Foundation, Green Building Initiative. Troy, Michigan.

Practice Greenhealth webinar. Design & Construction Series: Sustainable Healthcare Architecture: Where are we now? January 9, 2009.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/436

Additional Resources
The Business Case for Greening the Health Care Sector. Practice Greenhealth and the Institute for Innovation in Large Organizations. January 10, 2008.

Practice Greenhealth webinar. Design & Construction series: Metro Health Hospital's Transition to a LEED Hospital: Design, Construction and Operations. August 14, 2009.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/475

Class #7: Supply Chain Management Meets Environmentally Preferable Purchasing
March 3, 2010

Overview
In this lesson, we will review product evaluations specifically focusing their documentation of patient safety impacts as well as workforce safety and health. We will examine best practices for preferred purchasing practices that document efficacy, infection control, environmental and human life-cycle impacts from manufacture to waste, and effective capital and maintenance costs.

Objectives
1. Evolve supply chain management from a traditional focus on purchasing and logistics to a broader, more integrated emphasis on contributing to value creation.
    a. Identify and illustrate opportunities to enhance supply chain performance by creating business value in the procurement supply chain.
2. Study how sustainable supply chain management affects business and relationships with manufacturers, suppliers, clinicians, managers and practices.
    a. Detail how companies in other industries derive business value from sustainable sourcing.
3. Understand how cleaning practices support prevention and control goals.
4. Link occupational health to healthcare sustainability.

Topics
A. Drivers of environmental health and safety successes
    a. National Institute for Occupational Safety & Health (NIOSH)
B. Key questions of the environmental health and safety supply chain
C. Environmentally preferable purchasing
    a. Group purchasing
    b. Business process improvements
    c. Environmental and social benefits
D. Green cleaning
    a. Clinician perspective

Homework
Chase Wilding, Bobbi; Curtis, Kathy and Welker-Hood, Kristen. Hazardous Chemicals in Health Care: A Snapshot of Chemicals in Doctors and Nurses. Physicians for Social Responsibility. 2009.

Toxic Reduction through Environmentally Preferable Purchasing Technical Brief. Green Guide for Health Care, Environmentally Preferable Purchasing Credits 4.1, 4.2, and 4.3. Version 2.2, 2007.

Additional Resources
Forging New Links: Enhancing Supply Chain Through Environmental Excellence. Global Environmental Management Initiative. June 2004.

Class #8: Sustainable Food
March 17, 2010

Overview
Students will assess and analyze environmental issues related to local, nutricious food procurement in the healthcare setting. We will review case studies that demonstrate how the current healthcare food supply and distribution system can be modified to comply with sustainability aims.

Objectives
1. Identify factors that pose a risk to the operations of daily sustainable food procurement.
    a. Food Safety Objectives
2. Explore incentive programs structured to advance sustainable food objectives, including local procurement and healthy eating habits.

Topics
A. Food Sourcing
    a. Farmer's markets and nutrition
    b. Carbon foodprint
    c. Green chemistry
B. Case studies
    a. Pitt County Memorial Hospital
    b. Children's Hospital and Regional Medical Center, Seattle

Homework
Menu of Change: Healthy Food in Health Care, A 2008 Survey of Healthy Food in Health Care Pledge Hospitals. Health Care Without Harm. May 12, 2008.

Farm to Work Toolkit: A guide for implementing a local produce delivery program at your worksite. The Texas Department of State Health Services.
http://www.dshs.state.tx.us/obesity/pdf/F2W_toolkit_resources.pdf

Submit a one-page proposal to the Board of Directors outlining a proposal for sustainable food procurement. Record in your Career Journal.

Additional Resources
Practice Greenhealth webinar. Healthy Food In Hospitals. October 6, 2006.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/292

Practice Greenhealth webinar. Greening Operations Series: Food Services Waste Prevention and Composting. January 16, 2009.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/437

Class #9: Water Efficiency & Transportation Management
March 24, 2010

Overview
This lesson provides an overview of approaches that may be used to protect the quality of water that is filtered through healthcare systems. Students will also assess and analyze issues related to sustainable transportation programs. The class will watch sustainable transportation video footage and will debate the ethics of sustainable transportation programs.

Objectives
1. Describe the environmental significance of water quality data.
2. Identify opportunities to efficiently manage water resources.
3. Relate the Smart Growth concept to sustainable transportation strategy.

Topics
A. Factors that influence water operations
B. Risk categories of water management
C. Greywater analysis case study for promoting resource management, stewardship and conservation
D. Debate social factors that influence the adaptability of sustainable transportation programs.

Homework
Collecting the Drops: A Water Sustainability Planner. Global Environmental Management Initiative, Water Sustainability Work Group. January 2007.

Connecting the Drops Toward Creative Water Strategies: A Water Sustainability Tool, Water Sustainability Work Group. June 2002.

Practice Greenhealth webinar. Greening Operations Series: Worker Commuting Options and Incentives. December 18, 2009.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/453

Additional Resources
Reducing Potable Water Use Technical Brief. Green Guide for Health Care Version 2.2, 2007.

Practice Greenhealth Webinar. Operations Series: Water Use in Facilities: Laundry, Stormwater and Green Roof Case Studies. July 25, 2008.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/420

Practice Greenhealth Webinar. Design & Construction Series: Low Flow Water Fixture Selection for Health Care Facilities. http://www.practicegreenhealth.org/tools/webinars/archive/archive/400

Class #10: Health Information Technology Overview
March 31, 2010

Overview
Healthcare today depends on information technology, yet, not much attention has been paid to sustainable Health Information Technology (HIT). There will continue to be profound implications on sustainable HIT systems as healthcare transitions from a paper-centric environment to an IT-centric environment. This lesson will introduce opportunities for environmental HIT practices based on case studies.

Objectives
1. Study examples of how benchmarking results lead to implementation of sustainable HIT improvement programs.
    a. Case study, Partners Healthcare System
2. Provide a format, structure, and step-by-step process for a benchmarking study.
    a. Introduce a useful Total Quality Environmental Management (TQEM) Tool.

Topics
1. Infrastructure investment
2. Storage management
3. Server virtualization
4. Reduction and print elimination

Homework
Yosie, Terry and Herbst, Timothy. Corporate Environmental, Health and Safety Practices in Transition: Management System Responses to Changing Public Expectations, Regulatory Requirements and Incentives. Global Environmental Management Initiative. Washington, DC: September 1996.

Practice Greenhealth webinar. Responsible Purchase of Computers with a Kaiser Permanente Case Study. December 19, 2008.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/422

Additional Resources
Nimpuno, Nardono; McPherson, Alexandra and Sadique, Tanvir**.** Greening Consumer Electronics: moving away from bromine and chlorine. September 2009.

Practice Greenhealth webinar. Greening Operations Series: Change is Good! Using Change Management Techniques to Improve Environmental Performance — With a Case Study on Paper Prevention. October 16, 2009.
http://www.practicegreenhealth.org/tools/webinars/archive/archive/449

Class #11: Policy Implications
April 7, 2010

Overview
The American Recovery and Reinvestment Act (ARRA) coupled with entrepreneurial innovation and consumer demand are transforming America into a green economy. Energy, environment and healthcare are priorities because of their short- and long-term benefits. This class will explore federal, state and accreditation policies that influence sustainable health systems management.

Objectives
1. Define and outline best practices of corporate-NGO partnerships.
    a. Outline environmental, social and business benefits of corporate-NGO partnerships.
2. Identify how incentive mechanisms are used today to encourage environmental practices in the healthcare industry.

Topics
A. Corporate-NGO Partnerships
B. Five Categories of Incentive Options
C. Fostering healthcare sustainability in health systems and multi-national corporations

Homework
Fuchs, Heidi. Summary of Federal Environmental, Energy and Education Funding in the American Recovery and Reinvestment Act & 2009 Omnibus Bills. National Council for Science and the Environment. Washington, DC: 2009.

Regulatory Information for the Healthcare Sector: Laws, Regulations, Guidance & Dockets. United States Environmental Protection Agency. 2009.

Laws that We Administer: Laws, Regulations, Guidance & Dockets. United States Environmental Protection Agency. 2009.

Additional Resources
American Clean Energy Leadership Act of 2009. 111th Congress, 1st Session. Committee on Energy and Natural Resources. S. 1462, O:\END\END09B90.xml [file 1 of 7]. Calendar No. 110.

Class #12: A Call to Leadership
April 14, 2010

Overview

This lecture is based on the concept that decision makers who are responsible for preserving the value of our healthcare investments should take steps to mitigate environmental risks posed by the healthcare industry. Responsible behavior regarding healthcare sustainability supports community benefit and, conversely, failure to address sustainability issues leads to profound questions about the exercise of governance and leadership responsibilities. This class is structured to start a conversation about leadership's role in taking measurable, evidence based approaches to healthcare sustainability.

Objectives

1. Review green job descriptions.
2. Explore corporate transparency as related to healthcare sustainability business practice.
3. Describe the critical linkage between healthcare sustainability training and improved performance.
    a. Present elements of a leadership approach for managing healthcare sustainability training needs.

Topics

A. Future sustainability employment opportunities
B. Performance reporting
C. Employee and community training

Homework

Sample Job Description: Healthcare Sustainability Director. Practice Greenhealth and Global Health and Safety Initiative. 2008.

Draft a healthcare sustainability administrative job position in your Career Journal. Include a job title, position description (required skills and experience, core responsibilities), compensation (salary and benefits) and location on the organizational hierarchy.

Additional Resources

Value at Risk: Climate Change and the Future of Governance. CERES Sustainable Governance Project Report. April 2002.

Green Team Checklist. Energy Star, United States Environmental Protection Agency. 2009.

Class #13: Future Outlook
April 21, 2010

Overview
This class serves as an opportunity to catch up on content and/or to explore topics of student interest in greater depth.

Objectives
1. Review backlogged content from previous classes.
2. Identify strategic partnerships.

Topics
A. Strategic partnership
B. Multi-national sustainability efforts

Homework
Keeping Track, Promoting Health, Connecting the Dots. Centers for Disease Control and Prevention, National Environmental Public Health Tracking Program. Atlanta, Georgia: 2009.

Fostering Environmental Prosperity: Multinationals in Developing Countries. Global Environmental Management Initiative. Washington, DC: 2009.

Prepare for final oral presentation and written content submission.

Class #14: Student Presentations
April 28, 2010

Overview

Students will present their final projects.

Objectives

1. Present final projects.
2. Discuss intrinsic elements of modern healthcare sustainability management practices in a social business setting.

Topics

A. Content sharing
B. Social media networking and development

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MIDTERM

To be delivered March 3, 2010 at the start of class.

Your midterm is Part 1 of a 2-part sustainable program management strategy for your healthcare institution.

The midterm length should be between 5 and 10 pages, including bulleted paragraphs, graphs, tables, charts, pictures, etc. You will not be penalized for a shorter or longer final document, so long as the content is relevant and articulate. The report should be double-spaced in no smaller than 12-point font. A list of references in APA format is required, but does not count toward the length requirement. Please present this report as you would present a formal report to a healthcare CEO. Late papers will receive 5 point deductions for each late day.

1. **Overview** [5 Points, 1-3 Pages]

   A. Define your selected topic.
   B. Explain why the topic is important to the host institution.
   C. Identify 3-5 overarching objectives of your sustainability program.
      (Note: These objectives will drive Part 2 of the business plan – your Final.)
   D. Identify specific outcomes you will you measure and explain why you selected those outcomes.

2. **Associated Regulations** [5 Points, 1-3 Pages]

   A. Identify relevant local, regional, state, national and/or international legal policies.
   B. Identify relevant accreditation standards (e.g. Joint Commission).
   C. Identify organizational policies that have been implemented internally within host institutions that apply to your topic.
   D. Identify results/successes/failures of A, B, and C where A, B, C exist.

3. **Community Benefit** [5 Points, 1-2 Pages]

   A. Explain why your topic is important to the community at large.
   B. What is the relevance of your topic to Community Benefit Form 990?

4. **Tools and Resources** [5 Points, 1-2 Pages]

   A. What tools will you use to conduct a preliminary assessment?
   B. What people need to be involved?
      i. For data gathering
      ii. For user group meetings
      iii. For data/financial/qualitative analysis
   C. Create a bibliography of useful documents for someone who is new to sustainable management of your topic.
      i. Background documents that provide topic overview
      ii. Program assessment/implementation/management/evaluation tools

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FINAL

To be delivered no later than 12PM on May 10, 2010.

Your final is the second part of your environmentally sustainable strategy for your host healthcare institution. This assignment is worth 30% of your grade. Each student will build on his/her midterm research. Prior to submission of the final document, students will attend a site visit with a local healthcare system. Students should cite field experience and incorporate tools and resources introduced throughout the course in developing Part 2.

Part I: Business Plan

a. Edited midterm report

Part II: Detailed Plan

a. Financial plan [10 Points]

The overarching goal of your financial plan is to demonstrate a cost-value relationship by proving that your proposed environmental healthcare sustainability program will help fulfill the mission of the host institution by improving community health and well-being.

i. What are the Year 1 costs of your proposed environmental healthcare sustainability program? Consider the costs of information gathering, implementation costs, and the costs of support services to maintain the program throughout Year 1.

Project	Labor Hrs	FTEs 2080 hrs / FTE	Supplies	Other	Total Cost
					Year 1 Costs

ii. What are the operational costs for Year 2 and Year 3 of your proposed environmental healthcare sustainability program?

iii. Compare the Year 1 initial investment to the long-term operational costs and potential cost savings of your environmental healthcare sustainability program. At what point in time do you achieve ROI, if ever? What are the subsequent cost savings per year?

iv. How does your proposal compare financially to what the host institution is doing now with regard to environmental healthcare sustainability?

b. Employee training program [10 Points]

i. How will you train employees to utilize the resources that are dedicated to the environmental healthcare sustainability initiative at your host institution?

ii. What types of staff resistance/indifference do you anticipate? How will the host institution react to employees who choose not to participate in the environmental healthcare sustainability initiative?

iii. What metrics will be used to evaluate the success/failure of environmental healthcare sustainability training?

iv. How will staff training about environmental healthcare sustainability influence long-term staff satisfaction? Productivity? Retention?

c. Evaluation plan [10 Points]

i. How will you measure the degree of success/failure of your host institution's environmental healthcare sustainability initiative?

ii. How will you quantify the value of the environmental healthcare sustainability program when presenting progress to the community and neighborhood stakeholders?

iii. How will you publicly disseminate/share best practices in environmental healthcare sustainability?

Part 2 of this assignment should be roughly 10-15 pages in length. You will not be penalized for a shorter or longer final document, so long as the content is relevant. The report should be double-spaced in no smaller than 12-point font. A list of references in APA format is required, but does not count toward the length requirement. Please present this report as you would present a formal report to a healthcare CEO, including the edited Part 1 of your report. Late papers will receive 5 point deductions for each late day.