JOINT INSTITUTE
交大密西根学院
UNIVERSITY OF MICHIGAN – SHANGHAI JIAO TONG UNIVERSITY

Course Profile

Degree Program:

☐ECE-Electrical & Computer Engineering
☐ME -Mechanical Engineering
☑General Courses for Both ECE & ME Degree Programs

Course Name:

Business and Natural Environment

Course Code: VR208
Course Credits: 3
Course Category: ☐ Required ☑ Elective

Terms Offered:

☐Fall
☑Spring 2014-2015
☐Summer

Course Pre/Co-requisites: None

Instructor:

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Teaching Assistant:

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Class Time and Location:

Monday	12.10-13.50	Dong Xia Yuan (F) 202
Thursday	12.10-13.50	Dong Xia Yuan (F) 202
Friday	12.10-13.50	Dong Xia Yuan (F) 202

Textbooks:

Dicken, P. (2011) *Global Shift* (6th edition) London: Sage.
(online resources http://www.uk.sagepub.com/dicken6/default.htm)

Young, S. T. and K. K. Dhanda (2013) *Sustainability: Essentials for Business*. London: Sage
(Bao Yu Gang Library F272-05 Y76S 2013)

* Purchasing the textbook is not compulsory as there are a large number of online recourses to assist your study.

Recommended Reading

Cohen, N. (2011) *Green Business: An A-to-Z Guide*. The Sage Reference Series on Green Society. London: Sage. (Very useful reference book)

Dodson, B. (2013) *China Fast Forward: The technologies, Green Industries and Innovations Driving the Mainland's Future*. Hoboken (NJ): John Wiley & Sons. (Very readable book containing cases in China)

Idowu, S. O. et al. eds. (2013) *Encyclopedia of Corporate Social Responsibility*. New York: Springer (accessible from SpringerLink)

Kibert, C.J et al (2012) *Working toward Sustainability: Ethical decision making in a technological world*. Hoboken(NJ): John Wiley & Sons. (Contains discussions on ethical issues)

Landis, R. (2013) *Studying Engineering: A Road Map to a Rewarding Career*. L.A: Discovery Press (good textbook that guides you to become a better engineering undergraduate student)

Lee, SY., A. Ramasamy and J.H. Rhee (2014) *Green Leadership in China: Management Strategies from China's Most Responsible Companies.* Springer

Salomone, R. and G. Saijia (2014) *Pathways to Environmental Sustainability: Methodologies and Experiences*. Springer (contains case studies)

State of the World 2013, (2013) *Is Sustainability Still Possible*. Washington: World Watch Institute

Taticchi, P., P. Carbone, and V. Albino. (2013). *Corporate Sustainability*. Springer (contains overview as well as case studies)

Internet Resources:

SJTU library's electronic resources, found in the database page, provide a very wide range of resources helpful for your projects. Book chapters and Journal articles available through **Springer Link, JSTOR** or **EBSCO – Academic Source Complete (ASC)** will be very helpful. In addition, you can search internet using keywords such as 'global production network', 'global value chain', and 'sustainability' linked to the industry or product you are interested in to find online resources. Some helpful websites are listed below.

Government and IGOs

UN Environmental Program (UNEP) http://www.unep.org/

UN Sustainable Development Knowledge Platform: https://sustainabledevelopment.un.org/

UNFCCC: http://unfccc.int/2860.php

UN Global Compact: https://www.unglobalcompact.org/

UN Industrial Development Organization (UNIDO): https://www.unido.org/

Ministry of Environmental Protection (China) http://english.mep.gov.cn/

Environmental Protection Agency (US) http://www.epa.gov/

NGOs and Institutes

World Business Council on Sustainable Development: http://www.wbcsd.org/

University of Tennessee Centre for Clean Products: http://isse.utk.edu/ccp/projects/projects.html

Oxfarm: http://www.oxfam.org/

Natural Step: http://www.naturalstep.org/

World Watch: http://www.worldwatch.org

Alternative Energy: http://www.altenergy.org/

World Wildlife Fund (WWF): http://www.worldwildlife.org/

Biomimicry: http://www.biomimicry.net

International Ecotourism Society: http://www.worldwildlife.org/

Carbon Foot Print: http://www.carbonfootprint.com/ - includes a calculator

Green Biz: http://www.greenbiz.com/

Measuring and reporting sustainability:

ISO: http://www.iso.org - see especially, ISO 14000 and 26000

Global Reporting Initiative (GRI): https://www.globalreporting.org/

US Green Building Council: http://www.usgbc.org/ - see LEED certification

Dow Jones Sustainability Indices: http://www.sustainability-indices.com/

ARCADIS Sustainable Cities Index: http://www.sustainablecitiesindex.com/

Sustainability Consortium: http://www.sustainabilityconsortium.org/electronics/

Industry specific

Steel recycling: http://www.recycle-steel.org/Sustainability.aspx
Sustainable Apparel Coalition: http://www.apparelcoalition.org/
Ecofashion: http://www.ecofashionworld.com/
Food Ethics Council: http://www.foodethicscouncil.org
U. of Illinois Sustainable Electronics Initiative: http://www.sustainelectronics.illinois.edu/
Electronic Industry Citizens Coalition: http://www.eiccoalition.org/
Auto Industry Sustainability: http://autoindustrysustainability.org/

* Companies websites – most of the large TNCs have their own sustainability reports (or search for CSR reports) in their websites. Below are some examples.

Ford: http://corporate.ford.com/microsites/sustainability-report-2013-14/default.html
Apple: http://www.apple.com/environment/
Carrefour: http://www.carrefour.com/content/economic-and-sustainable-stores
Uniqlo: http://www.uniqlo.com/en/csr/socialbusiness/

University of Michigan Office of Campus Sustainability: http://www.ocs.umich.edu/

*** Anonymous sources, including Wikipedia, may be helpful at the start when you are exploring ideas for the project but students are required to trace the sources of information found in such internet websites to evaluate the quality of information in their final analysis.**

Grading Policy:

Quizzes (unannounced throughout the course) **15%**

Participation (Class Discussions) **15%**

Final Exam (24th April) **20%**

Group Project (week 8) **50%**

Students will form groups of 3-5 students each and choose one of the two topics in the next page for case studies.

Project Plan (by week 3, Friday 20th March) **10%**

1-2 pages containing **the topic** and **the case(s)** chosen and how the topic is going to be divided among different **members**

It should contain a clear **statement of the question** for each members (or the whole group), which is modified from the topics below to fit your case. (Please be reminded that you are allowed to modify the question before the final presentation.) It should also contain **a list of references** showing your group's preliminary research.
First draft does not have to be written in full sentences but one of the group members should **print** it out **and submit** it **before the class** on the 20th March.

Individual Paper (by week7, Sunday 12th April) **20%**

1000-1500 words containing the result of individual part of the research

It must be written in full sentences and must contain a title, the name of the author, short introduction, conclusion, and a reference list. You can use any style of citation but you must include in-text citations.
Submit by email to the Lecturer and the TA.

Group Presentation (by week 8) **20%**

15-20 minutes presentation summarizing the group's individual research

All the group members must be present for the presentation and Q&A but how you deliver – whether all the members take turn or one member presents the whole, or any method in between – is for the group to decide.

Topics:

1. Evaluate currently available (or being researched) solutions that address the challenges to sustainability in the production and consumption of a particular products.

   Ideas for group members:
   Discuss technological and non-technological solutions in different stages of production and consumption to disposal of a product.

   Evaluate in relation to the triple bottom line – which of the tree components are the main target of such innovation and which of the three is relatively neglected?

2. How effective are the efforts by firms (or governments, or NGOS, or universities, or sustainability indices) in making their products and activities more sustainable?

   Ideas for group members:
   Compare with other firms (or governments, or NGOs, or universities) to find out good and bad practices.

   Find out the roles of various stakeholders – are they positive or negative? Whose actions are more significant and why?

Guide to your grades:

Presentation / Essay grades

A good essay (or presentation) contains the student's own research and independent analysis based on empirically verifiable facts.

Grades	Description	Marks
A+	Qualifies for A and, in addition, shows independent judgment, imaginative approaches, or outstanding use of primary sources.	96-100
A	Both relevant facts and arguments are visible and the facts support arguments in coherent manner. Arguments are balanced showing comprehensive understanding of the topic and research.	87-95 A0 90-95 A- 87-89
B	Both relevant facts and arguments are visible but they fail to support each other in coherent manner. The work needs more comprehensive research to present balanced arguments. Research or presentation of arguments follows other source rather than student's own argument.	77-86 B+ 84-86 B0 80-83 B- 77-79
C	Either relevant facts or arguments are missing. Severely unbalanced or prejudiced and often contains self-contradiction. Under researched and the organisation relies on a couple of readings.	67-76 C+ 74-76 C0 70-73 C- 67-69
D	Few relevant facts or arguments visible and organised in a disjointed manner.	50-66
F	Lacks both facts and arguments	0-50

Academic Integrity:

All students in the class are presumed to be decent, honourable and bound by the Honour Code of the Joint Institute (visit http://umji.sjtu.edu.cn/honorcode for more details)

Plagiarism is a very serious offence and will not be tolerated under any circumstances. You must appropriately acknowledge your use of another's work. Putting a list of references at the end of your paper is not enough: your essay must contain in-text citations each time you quote information, results of research, and arguments that you took from other sources. If you are in doubt as to the right way of referencing, consult the instructor BEFORE the submission, NOT after.

In addition, any form of cheating in exam or in preparation of term-paper will result in scoring 0 for the assignment or exam and could lead to further disciplinary actions.

Course Description:

This course provides an overview of the way business is organized in contemporary world and the impacts of such business practices on natural environment.

Students will explore global production networks (GPNs) in different sectors of industry to understand the ways business firms operate in contemporary world. This will lead to a discussion on variegated environmental challenges at different points of the GPNs and current efforts to address them in social, political and technological contexts.

Key areas of study:

- Understanding the concept of sustainability: the principles as well as the challenges involved in their implementation
- Understanding the complex web of business firms in different sectors of industry.
- Understanding challenges to sustainability particular to different stages of a product's life cycle.
- Understanding different roles of the stakeholders (firms, governments, consumers, labors, civil society organizations) in implementing sustainability.
- Evaluating current technological and non-technological efforts to implement sustainability by various stakeholders.

VR208 Teaching Schedule (Spring 2015)

Week	Date		Monday (DongXiaYuan 202) 12.10-13.50	Thursday (DongXiaYuan 202) 12.10-13.50	Friday (DongXiaYuan 202) 12.10-13.50
1	Mar.	2	Introduction to the course	Business Firms and Global Production Network	Stakeholders of the GPN
2		9	Sustainability – principles and measurements	Sustainability – implementation strategy	Class Discussion
3		16	Agro-Food Industry	Agro-Food Industry and Sustainability	Class Discussion **(Project Plan Submission)**
4		23	Apparel Industry	Apparel Industry and Sustainability	Class Discussion
5		24	Extractive Industry (Energy and raw material)	Extractive Industry and Sustainability	Class Discussion
6		30	Automotive Industry	Automotive Industry and Sustainability	Class Discussion
7	Apr.	6	*No Class*	Electronics Industry and Sustainability	Class Discussion **(Individual Report Submission)**
8		13	Review	**Group Presentation**	**Group Presentation**
9		20	*No Class*	*No Class*	**Final Exam**

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Weekly Reading and Questions to Consider

Week1: Business Firms and Stakeholders in Global Production Network

Questions for discussion:

1. Are business corporations inherently unsustainable? (read esp. "Corporation as Psychopath" below)
2. Draw a 'hypothetical' production chain of a product you are familiar with.
    a. How many different business firms do you think are involved in this chain?
    b. Try checking online for leading firms in different stages
    c. What are the possible environmental or human risks in each stage?
    d. In what ways could the other stake holder influence the firms in each stage?

***Dicken 2011, ch. 3, pp.51-68.**

Young and Dhanda, 2013, ch. 7 (role of the consumer); ch.8 (role of the corporation); ch.9(role of governments and nongovernmental organizations)

***"Corporation as Psychopath" *Encyclopedia of Corporate Social Responsibility* (accessed through Springer Link)**

Sukhdev, P. (2013) "Transforming the Corporation into a Driver of Sustainability". Ch12 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 143-154 (accessed through Springer Link)

Corporation (2005, DVD) – a film by Mark Achbar, Jennifer Abbott and Joel Bakan

Week2: Sustainability

Questions:

1. What are the practices that diminish or increase sustainability – discuss in particular relation to each item of TBL.
2. Read Lemonick's article "Top 10 myths…" below - which do you hesitate to agree with? Why?
3. Why do some people believe technological innovation is not the only answer for the sustainability?
4. What are the pros and cons of different measurement/reporting standards of sustainability?
5. Based on some of the measurements, how sustainable is your country, city, university or the company you want to work for?

*** Dicken, 2011, ch.15**

*** Young and Dhanda, 2013, "Introduction"; ch.10("Transparent Reporting, Measurement, and Standards"); ch.13 ("Green Marketing")**

*** Lemonic, M. (2009) "Top 10 myths about sustainability". *Scientific American*.**
(http://www.scientificamerican.com/article/top-10-myths-about-sustainability/)

Albino, V. (2013) “Green Economy”. In *Corporate Sustainability*, CSR, Sustainability, Ethics and Governance, P. Taticchi et al eds. Berlin: Springer, 1-26 (accessed through Springer Link)

Engleman, R. (2013) “Beyond Sustainababble”. Ch.1 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 3-16 (accessed through Springer Link)

Taticchi, P. (2013) “Sustainability Measurement and reporting: Impacts on Finance, Stakeholders Communication and Internal Measurement”. In *Corporate Sustainability*, CSR, Sustainability, Ethics and Governance, P. Taticchi et al eds. Berlin: Springer, 221-232 (accessed through Springer Link)

Tonelli, F. et al. (2013) “Industrial Sustainability: General Guidelines and Implications” In *Corporate Sustainability*, CSR, Sustainability, Ethics and Governance, P. Taticchi et al eds. Berlin: Springer, 27-57 (accessed through Springer Link)

Questions for week3-7:

1. What can we do as (future) consumers, educators, researchers or business leaders?
2. What technological and non-technological innovations are being made to address problems in the industry?
3. What are the roles of different stakeholders (in China) in promoting sustainability?

Week 3. Agro-Food Industry

*** Dicken 2011, ch.9**

*** Paarlberg, R. *Food Politics: What Everyone Needs to Know* (2nd ed.) New York: OUP. (especially ch. 9 “Farming, the Environment, Climate Change, and Water” and 11. “Agribusiness, Supermarkets, and Fast Food”)**

Food INC (2008, DVD) – a film by Robert Kenner

Nelson, M. K. (2013) “Protecting the Sanctity of Native Foods”. Ch.18 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 201-209 (accessed through Springer Link)

Nierenberg, D. “Agriculture: Growing Food-and Solutions” Ch.17 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 190-200 (accessed through Springer Link)

Weber, K. ed. *Food Inc.: How Industrial Food is Making Us Sicker, Fatter, and Poorer – and What You Can Do About It*. New York: Public Affairs

Week 4. Apparel Industry

*** Dicken 2011, ch. 10**

Gereffi, G. and O. Memedovic (2003) 'The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries?'. UNIDO.

Green Choice Alliance (2012) 'Cleaning Up the Fashion Industry'. *Green Choice Apparel Supply Chain Investigation – Draft Report*

Ruffier, J. (2008) "China Textile in Global Value Chain". In *Chinese Firms in the Era of Globalization*. Jean-Francois HUCHET and WANG Wei eds. China Development Press.

Week 5. Extractive (and Energy) Industry

*** Dicken 2011, ch.8**

*** Young and Dhanda, 2013, ch.5 "Alternative Clean Energy and Fuels"**

Dodson, B. 2012. *China Fast Forward*. Singapore: John Wiley & Sons. (esp. ch.6 "Declaration of Energy Independence", ch.7 "Consider the Alternatives")

Gardner, G. (2013) "Conserving Nonrenewable Resources". Ch.9 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 99-110 (accessed through Springer Link)

Makhijani, S. and A. Ochs (2013) "Renewable Energy's Natural Resource Impacts". Ch.8 of *State of the World 2013: Is Sustainability Still Possible?* Wolrdwatch Institute, 84-98 (accessed through Springer Link)

Week 6. Automotive Industry

*** Dicken, 2011, Ch.11**

*** KPMG International (2010) *The Transformation of Automotive Industry: The Environmental Regulation Effect.***
(http://www.kpmg.com/CN/en/IssuesAndInsights/ArticlesPublications/Documents/Transformation-Automotive-Industry-O-201001.pdf)

Nieuwenhuis, P. and P. E. Wells (2003) *The Automotive Industry and the Environment: A Technical, Business and Social Future*. EBSCO ebook.

Week 7. Semiconductor and Electronics

*** Dicken, 2009 (5th ed.) ch.11**

*** Hussain, Z. and M. A. Bostan (2013) "Sustainable Use of IT". In *Corporate Sustainability,*** CSR, Sustainability, Ethics and Governance, P. Taticchi et al eds. Berlin: Springer, 233-252 (accessed through Springer Link)

Dodson, B. (2012) *China Fast Forward*. Singapore: John Wiley & Sons. (esp. ch.3 "The Silicon Paddies of China")

Lee, SY., A. Ramasamy and J.H. Rhee (2014) *Green Leadership in China: Management Strategies from China's Most Responsible Companies.* Springer