Sustainability Inspired Product and Service Design (BUAD 492-02)

Course Syllabus

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Class Hours: Monday & Wednesday; 11:00 a.m.–12:20 p.m.

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BOOKS & MATERIALS

There is a surprising amount of great content, freely available over the internet. This is largely a function of the 'ethic', or culture, of folks who are into design, sustainability or both. So, many of the materials that I will refer you to (assigned readings, etc.) will be shared via an online link. That being said, there are a couple of really good books that you should know about and two that I want you to purchase:

Required:

Ottman, Jacquelyn A. *The New Rules of Green Marketing*. (2011). San Francisco: Berrett-
   Koehler Publishers, Inc. **ISBN-10:** 1605098663 ($15 online)

Shedroff, Nathan. *Design is the Problem: The Future of Design Must Be Sustainable.* (2009).
   Brooklyn: Rosenfeld Media. **ISBN-10:** 1933820004 ($39 online or $22 as pdf from
   http://rosenfeldmedia.com/books/sustainable-design/)

Stanford d.school. The Bootcamp Bootleg. **Free** download available at :
   http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf

Optional:

A good primer on marketing (for non-marketing majors):

Pearce, Michael. *An Introductory Note on Marketing Management.* (2008). Available from
   several online sources, including HBR: http://hbr.org/product/introductory-note-on-
   marketing-management/an/908A15-PDF-ENG

These are great resources for those of you who want to build a small reference library on design & sustainability (in alphabetical order).

Belz, Frank-Martin & Peattie, Ken. *Sustainability Marketing.* West Sussex: John Wiley &
   Sons. (written as a textbook)

Iannuzzi, Al. *Greener Products: The Making and Marketing of Sustainable Brands*. Boca
   Raton: Taylor & Francis Group.

Martin, Diane & Schouten, John. *Sustainable Marketing*. Upper Saddle River: Pearson
   Education. (written as a textbook)

COURSE BACKGROUND

Sustainability

Sustainability has different meanings in different contexts. The general concept of sustainability is pretty straightforward. Sustainability is derived from the Latin *sustinere* (*tenere*, to hold; *sus*, up), and is the qualitative characteristic of something that endures[1]. One of the most cited definitions of sustainability was drafted by the Brundtland Commission of the United Nations on March 20, 1987, where "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[2] Long before this UN Commission, the Iroquois were guided by the principle of Seven Generations, whereby all major decisions were made with an understanding of the implications for the seventh generation in the future[3]. Within a business context, sustainability typically refers to a balanced management of economic, environmental and social issues, also referred to as "the triple bottom line".[4] We will be using an even more recent definition and framework that adds a 4th dimension: culture.[5]

Product Design

The term "product design", which is one of many types of design (e.g., graphic design, interior design), encompasses the form of the product (the aesthetics of the tangible good and/or service) and the function (i.e., its capabilities) together with the holistic properties of the integrated form and function.[6] In other words, product design refers to how we experience the product from a sensory point of view (e.g., what it looks like), what it does – and to the overall experience it creates or enables (something more than just the sum of the form and function). Note that product, in this definition, is either a tangible good or a service.

The Relationship Between Sustainability and Product Design

While some view concerns about sustainability as a current trend, others recognize that the

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[1] http://en.wikipedia.org/wiki/Sustainability#Definition

[2] http://www.un-documents.net/wced-ocf.htm

[3] http://en.wikipedia.org/wiki/Seven_generation_sustainability

[4] http://en.wikipedia.org/wiki/Triple_bottom_line

[5] http://www.livingprinciples.org/framework/introduction/

[6] Luchs, Michael G. and K. Scott Swan (2011), "The Emergence of Product Design as a Field of Marketing Inquiry", *Journal of Product Innovation Management*, 28(3): 327-345.

problem of the *un*-sustainability of our economic system is, unfortunately, getting worse. Many of the problems are related to both how much we consume and what we consume. While many factors influence these (our culture, infrastructure, public policy etc.), product design fundamentally defines and constrains what we can consume – and to some degree, how much we consume. Progress towards a more sustainable future depends on many factors – one of the most important is product design that promotes the virtue(s) of sustainability.

The industrial design community has a long history of embracing social and environmental issues and has spent decades developing design tools and methods; however, industrial designers are typically not the decision makers in companies nor do they always sufficiently understand the vagaries and dynamics of consumption, management and markets. Conversely, while the business community has been waking up to the need and opportunity presented by the current interest in sustainability, most executives – and business students – lack a basic understanding of the issues surrounding sustainability and the tools and methods that enable "sustainable design thinking". This course is an intentional, focused effort to help prepare you to lead positive and productive change in global industries and companies; to be leaders of 'design for sustainability'.
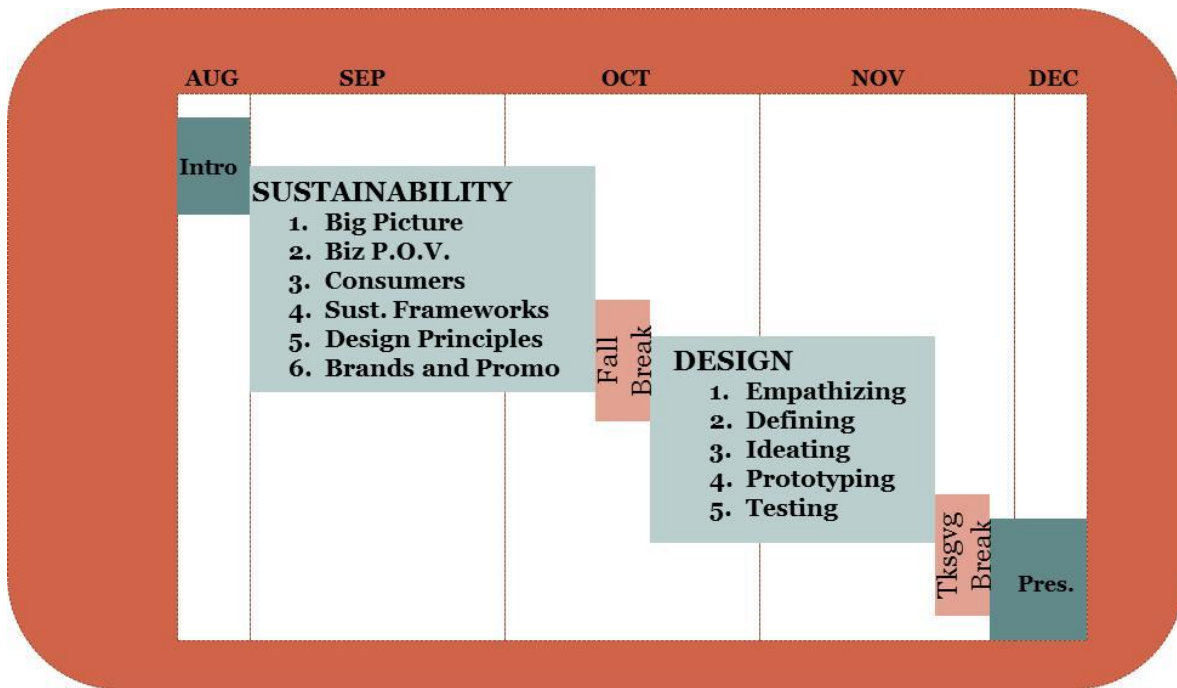
COURSE PHILOSOPHY & DESCRIPTION

The convergence in this course of design principles, business insight and the principles of sustainability is relatively new. Some of the capabilities that you need to succeed as product designers – such as tolerance for ambiguity, creativity and holistic thinking – will be needed in class. While I am likely to make some 'running changes' during the semester on the specifics (list of readings, timing of specific lectures etc.), following are some of the defining elements of the course.

This course will be a discussion and application intensive experience, combining an immersion into the topic of sustainability (with an emphasis on reading, discussion and reflection) and a hands-on, new product/service design practicum (with an emphasis on learning-by-doing & reflection). The former will feel a lot like a seminar class; the latter will feel like a studio class (which will be new to many of you).

As illustrated below, the course is formally divided into two interdependent modules. This distinction is real, but not absolute. We will be dealing with both design and sustainability throughout the course, yet our emphasis and approach will shift once you develop a sufficient base of knowledge about sustainability and the principles of sustainable design. During the second module, you will be simultaneously learning and applying "design thinking" using a customized sequence of design thinking methods/tools. These methods/tools have evolved over

the last 50-60 years – in various fields (mostly outside of business). Many individuals, institutions and consultancies have contributed. A leading contributor, especially in the last 20 years, has been IDEO, one of the world's leading design firms (www.ideo.com), in collaboration with Stanford (most recently with the now formally defined Hasso Plattner Institute of Design at Stanford http://dschool.stanford.edu/).

AUG	SEP	OCT	NOV	DEC

Intro

SUSTAINABILITY
1. Big Picture
2. Biz P.O.V.
3. Consumers
4. Sust. Frameworks
5. Design Principles
6. Brands and Promo

Fall Break

DESIGN
1. Empathizing
2. Defining
3. Ideating
4. Prototyping
5. Testing

Tksgvg Break

Pres.

COURSE OBJECTIVES & LEARNING OUTCOMES

Formally, the primary objectives of the course are as follows:

1. Understand the issues and opportunities related to product/service sustainability, especially within the context of new product design.
2. Develop a working knowledge of sustainable product design frameworks and principles.
3. Develop experience with the philosophy and methods of design thinking.

Some secondary objectives include:

4. Enable self-learning by developing a baseline of knowledge and a network of resources.
5. Develop or enhance personal skills that are critical to applying design thinking to "big problems" (e.g., comfort with taking chances and "failing")
6. Refine group collaboration capabilities; develop group facilitation skills.

I could argue that the "secondary" objectives above are in some ways more important. The

former three are very important, but really just provide a baseline of knowledge and skills. However valuable they are on their own, for them to have meaning in your lives and careers, you need to be able to apply them "out there". In particular, some of personal skills that I want you to consciously focus on throughout the course include:

- Integrating discrete knowledge into a more holistic understanding of the interdependency of people, functional disciplines, socio-cultural systems and physical resources
- Nurturing your creative instincts and confidence
- Gaining comfort with complex, ambiguous problems and the uncertain path towards specific, viable solutions
- Appreciating the importance of process to guide your thinking without constraining it
- Developing a greater sense of purpose and empowerment; exploring your mission and meaning in life

ASSIGNMENTS & GRADING

Several complementary assignments – both group and individual – will provide an opportunity for learning as well as a basis for evaluation of your progress (no exams!). We will form groups by the 3rd week of class. Your grade for group projects will depend in part on a group peer evaluation (your grade could be adjusted up or down from your group's baseline grade depending on a consistent *pattern* of feedback from your group members).

(Group) Living Principles Analysis (20% of course grade)

(see document "Living Principles Analysis – Instructions" on Blackboard)

(Group) Design Project (40% of course grade)

(see document "Final Design Project – Instructions" on Blackboard)

(Individual) Journal/blog (25% of course grade)

Maintain a journal throughout the entire semester, with regular journal entries (the formal course schedule identifies required entry dates & topics, but you are encouraged to write whenever you feel inspired as well). The focus of your writing will be on processing and reflecting on what you have read, what was discussed in class, what was done in class, and thoughts, feelings and ideas that emerge throughout the semester. It is not intended to be a diary in which you simply document what you have done. Instead, you will briefly mention the topic/activity and then will use the process of journaling to share insights (and to help elicit these insights).

Deliverable: online journal/blog with regular entries (see schedule for required entry dates and topics)

(Individual) Class participation (15% of course grade)

My goal is to inspire and enable good discussions and debates in class. For this to work, we will need to have everyone participate. We all have different comfort levels with class participation, and different styles. Let's acknowledge – and even celebrate – these differences; but let's also push ourselves to engage in useful (and fun) ways. Comfort and ability with dialogue and debate is needed to solve problems "out there" and will really help with our experience in the course as well. The case is included in this component of your grade. Another component of class participation (during discussions, during activities) is your willingness to be wrong, i.e., "to fail". Yes, one of the skills that is important for this class and in general is to be willing to stretch yourself and take chances – which means accepting some failure along the way (one of my favorite quotes about successful new product development, from IDEO, is "fail early and often {in order to succeed in the long run})".

Deliverable: relatively frequent, interesting, sometimes wrong and occasionally entertaining participation

Extra credit (up to 2%)

See details on Blackboard

(see the Course Schedule on Blackboard for topics and assignments by date; check for updates and pay attention to regular emails from me, please)