

Sustainability Inspired Innovation & Design

BUAD 453-01/02 and ENSP 249-06/08

Course Syllabus

Instructor: Dr. Michael G. Luchs
Class Hours: Tuesday & Thursday; 11:00-12:20/2:00-3:20
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INTRODUCTION

Many companies are embracing sustainability as the inspiration and impetus for the next wave of product and service innovation. In this course, we’ll explore the reasons behind this growing interest in sustainability, what sustainability means to consumers, and the opportunities it presents to companies that want to “do well while doing good”. Further, we’ll also challenge the implicit assumption that the current state should be the basis for our sustainability goal, i.e., that it truly meets our needs and, therefore, that we want to sustain our *current* quality of life. To explore this, we will address the fundamental question of how to define and measure quality of life (aka ‘well-being’) so that we can consider the critical question of how we can *enhance life*. This course will also give students significant hands-on experience with the process of Design Thinking, including gaining insights from consumers, creative idea generation and concept evaluation – with a focus on innovative ideas that enhance life in ways that are inherently sustainable.

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“A gentleman takes as much trouble to discover what is right
as lesser men take to discover what will pay.”

- Confucius

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/innovation, sustainability, or both. So, many of the materials that I will refer you to (assigned readings, etc.) will be shared via online links. 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 (\$85 online from Amazon or \$22 as pdf from <http://rosenfeldmedia.com/books/design-is-the-problem/>)

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.

Design Thinking: New Product Development Essentials from the PDMA. Luchs, Michael, Swan, Scott & Griffin, Abbie. Wiley-Blackwell.

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

Sustainability Marketing. Belz, Frank-Martin & Peattie, Ken. West Sussex: John Wiley & Sons.

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

Sustainable Marketing. Martin, Diane & Schouten, John. Upper Saddle River: Pearson Education.

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* (*sus*, up; *tenere*, to hold, i.e., to up-hold), and is the qualitative characteristic of something that endures¹. 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 future³. 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

Further, we’ll also challenge the implicit assumption that the current state should be the basis for our sustainability goal, i.e., that it truly meets our needs and, therefore, that we want to sustain our *current* quality of life. To explore this, we will address the fundamental question of how to define and measure quality of life (aka ‘well-being’) so that we can consider the critical question of how we can *enhance life* in ways that are inherently sustainable. There is no clearly ‘right’ or agreed to answer to this question, which has been a central concern for millennia across many cultures, and is still being actively studied today (for example, see here: <http://enhancinglife.uchicago.edu/>).

¹ <http://en.wikipedia.org/wiki/Sustainability#Definition>

² <http://www.un-documents.net/wced-ocf.htm>

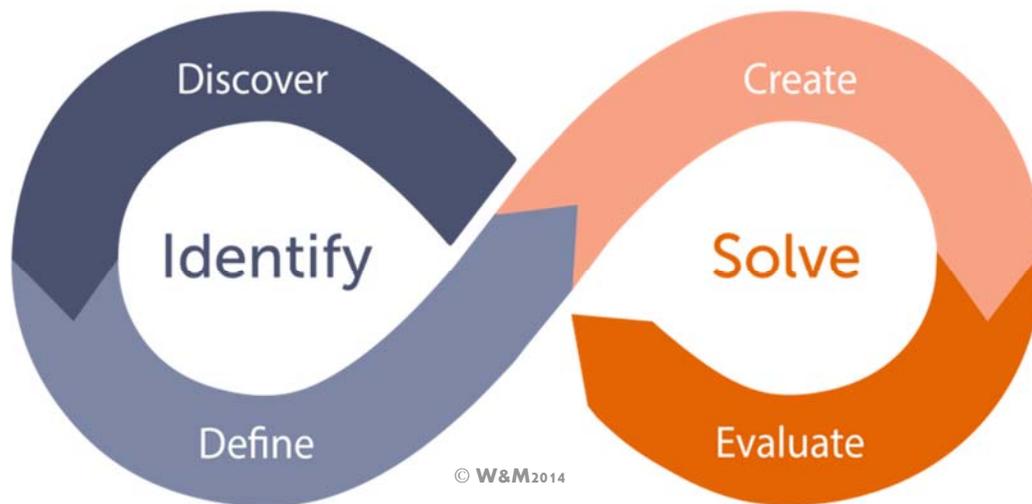
³ http://en.wikipedia.org/wiki/Seven_generation_sustainability

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

⁵ <http://www.livingprinciples.org/framework/introduction/>

Product Design, Innovation, and ‘Design Thinking’

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. Innovation, in turn, refers to the creation/development of new product or service designs. Finally, Design Thinking is the framework of the methodology that we will use in order to innovate, i.e., to *Identify* the best problems to solve, and then to iterate towards the best ways to *Solve* them (see below).



Design Thinking Framework

To learn a bit more about Design Thinking and our own Innovation & Design Studio, see here: <http://www.wmidstudio.com/> .

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.

The Relationship between Sustainability and Product Design

While some view concerns about sustainability as a current trend, others recognize that the 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 a significant degree, how much we consume. Progress towards a better and more sustainable future depends on many factors – one of the most important is product design that promotes the virtue(s) of sustainability.

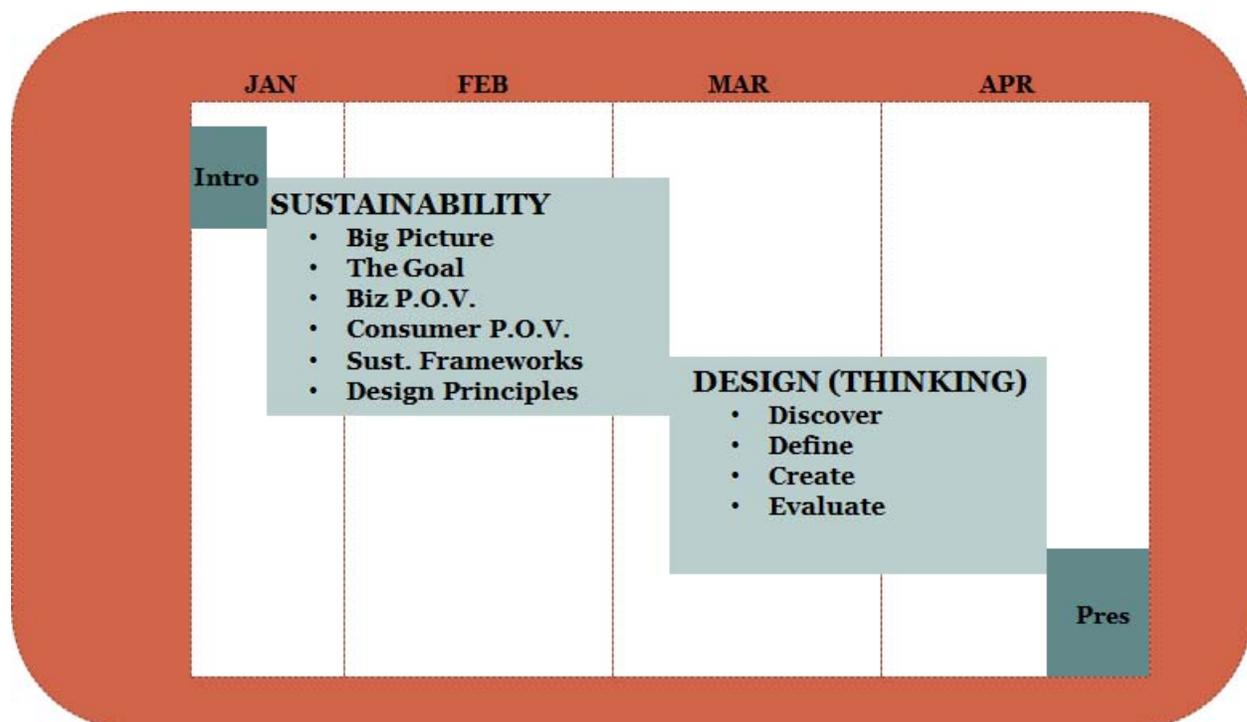
The industrial design community has a long history of embracing social and environmental issues and has spent decades developing design tools and methods; however, industrial designers are typically not the decision makers in companies nor do they always sufficiently understand the vagaries and dynamics of consumer behavior, 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 “sustainability 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,’ and to equip you to help further the goal of enhancing the lives of others throughout your professional careers.

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 also be needed in class. While I may 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 I know will be new to many of you).

As illustrated below, the course is conceptually 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. Within the second module, you will be simultaneously learning and applying “design thinking” using a customized sequence of design thinking methods/tools.



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 these “secondary” objectives 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 your own sense of what it means to “Enhance Life”.
- 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).

I will also be assigning readings that must be completed *before class*. Details will follow in regular emails from me, which gives me the flexibility to modify the reading list as new materials emerge throughout the semester.

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

(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. 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

MISCELLANEOUS POLICIES

Student Accessibility Services

It is the policy of The College of William & Mary to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact me privately to discuss your specific needs. Students will also need to contact Student Accessibility Services staff at 757-221-2509 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Diversity & Inclusion Vision Statement

The Raymond A. Mason School of Business values and actively nurtures an environment of diversity and inclusiveness where every individual, regardless of how we may differ – for example, but not limited to, with regard to race, religion, gender, ethnic origin, age, socioeconomic status, political preferences, physical abilities, or sexual orientation – is embraced, respected, and afforded the same opportunity to grow, to succeed, and to contribute to the Mason School's success.

What is success?

To laugh often and love much;
to win the respect of intelligent persons and the affection of children;
to earn the approbation of honest citizens and endure the betrayal of false friends;
to appreciate beauty;
to find the best in others;
to give of one's self;
to leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social
condition;
to have played and laughed with enthusiasm and sung with exultation;
to know even one life has breathed easier because you have lived—this is to have succeeded.

- Bessie A. Stanley

Sustainability Inspired Innovation & Design

***SUBJECT TO CHANGE - CHECK BLACKBOARD FOR UPDATED ASSIGNMENTS & FOR ASSIGNED READINGS**

| Date | Day | Subject | Assignment(s) due <i>by this date</i> unless noted otherwise (I will email you about assigned readings) | Readings <i>by this date</i> (<i>email students weekly about these</i>) |
|--------|------|---|---|---|
| 21-Jan | Thur | Course introduction | Purchase assigned books per syllabus | Non-business students to purchase and read "An Introductory Note on Marketing Management" from Ivey School of Business |
| 26-Jan | Tue | The Big Picture | Create personal blog page and post entry about yourself (as an intro to your pending group teammates) | "Resilient People, Resilient Planet", pp. 10-27; "8 Ways the World Will Change by 2052" |
| 28-Jan | Thur | The Goal: Enhancing Life (begin movie) | Post blog entry about the Big Picture; take online survey: http://www.happyplanetindex.org/survey/ | 10 Keys to Happier Living; "Happiness is the Ultimate Economic Indicator" |
| 2-Feb | Tue | The Goal: Enhancing Life (finish movie) | Groups identified by this date | |
| 4-Feb | Thur | The Business Perspective | Blog entry on The Goal of Enhancing Life | "The Third Generation Corporation"; "From Green Marketing to Marketing for Environmental Sustainability", pp. 348-353; "The New Rules of Green Marketing" ch. 3 |
| 9-Feb | Tue | Design Thinking Crash Course | Blog entry about Business Perspective | "Five Ways to Make Corporate Space More Creative"; "Forget B-School, D-School is Hot" |
| 11-Feb | Thur | Design Thinking Overview | Blog entry on initial Design Thinking "bootcamp" experience | "Change by Design" and 'Design Thinking Primer' |
| 16-Feb | Tue | Sustainability and Consumption | Blog entry on Design Thinking "bootcamp" experience | "The New Rules of Green Marketing", pp. 1-13 and ch. 2; "Why Not Choose Green" |
| 18-Feb | Thur | Consumer Wisdom | Watch and analyze an interview focused on "Consumer Wisdom"; Pick LP Analysis & Final Project product/service context by this date | (assign review article on wisdom in Psych?) |
| 23-Feb | Tue | DISCOVER: Empathizing | Bring in draft of empathy map with supporting pictures, articles, thoughts about your product/service context | Mode Guide: Empathize and Ch. 1 of PDMA Essentials |
| 25-Feb | Thur | Sustainability Frameworks | Blog entry on "best framework" | "Design is the Problem", ch. 3 |
| 1-Mar | Tue | Sustainability Design Principles | | "The New Rules of Green Marketing", ch. 4 and 5 |
| 3-Mar | Thur | Work on LP Analysis | Bring your draft of LP Analysis to class for discussion/refinement; Turn in LP Analysis binder by Friday at 4:00 | |
| | | SPRING BREAK | | |
| 15-Mar | Tue | DEFINE | | Mode Guide: Define |
| 17-Mar | Thur | CREATE: Ideating | Blog entry about Defining activities | Mode Guide: Ideate |
| 22-Mar | Tue | CREATE: Ideating (<i>continued</i>) | | |
| 24-Mar | Thur | CREATE: Prototyping | Blog entry about Ideating activities | Mode Guide: Prototype |

*SUBJECT TO CHANGE - CHECK BLACKBOARD FOR UPDATED ASSIGNMENTS AND READINGS

| Date | Day | Subject | Assignment(s) due <i>by this date</i> unless noted otherwise (I will email you about assigned readings) | Readings <i>by this date</i> (email students weekly about these) |
|--------|------|---|--|---|
| 29-Mar | Tue | CREATE: Prototyping (<i>continued</i>) | | |
| 31-Mar | Thur | EVALUATE: In class 'elevator pitches' | Blog entry about Prototyping activities | Mode Guide: Test |
| 1-Apr | FRI | EVALUATE: Testing; Cross-class pitches | Prepare pitch boards and prototypes for cross-class conference/pitches in the studio (participate both as presenters and as audience/judges) | |
| 5-Apr | Tue | CREATE: Refine concepts/ prepare for more testing | | |
| 7-Apr | Thur | Compile and synthesize feedback | | |
| 12-Apr | Tue | Sustainability, Brands and Promotion | Blog entry about Testing activities | "The New Rules of Green Marketing", ch. 6 and 7 |
| 14-Apr | Thur | Refining concepts & final project development | | |
| 19-Apr | Tue | Final project & pres development | Blog entry - topic TBD Provide feedback on room & course using feedback grids (during class) | |
| 21-Apr | Thur | FREE DAY | (this is a day I am giving you back in exchange for the sessions on Friday April 1st) | |
| 26-Apr | Tue | Presentations - Groups 1-4 | Final Project Due (for ALL groups) | |
| 28-Apr | Thur | Presentations - Groups 5-8 | Formal course eval (online, by Friday 29th) | |