INDIANA UNIVERSITY
FAIRBANKS SCHOOL OF PUBLIC HEALTH
Fall 2014

COURSE TITLE:	Fundamentals of Product Stewardship
COURSE NUMBER:	A670
LOCATION:	EF235 and online
DATE:	Monday – 600 to 8:40 pm

FACULTY: John A. Harris, M.S., MBA
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COURSE DESCRIPTION

Product stewardship is the practice of identifying the health, safety, environmental and social issues associated with commercial products and managing them to achieve public health protection while achieving maximum economic value. This is performed for both the product and its packaging throughout all lifecycle stages from development through customer use and end-of-life. The course will examine the basic principles and methods of implementing a product stewardship program, conducting product risk assessments, analyzing compliance requirements, and the long-term initiatives to enhance this approach to thoughtful product design and marketing. It will examine product stewardship across different business sectors and products to identify where the issues are critical for risk management and creating business value. We will examine this through different functional disciplines within an organization to allow students to orient their learning from the perspective of their professional areas of interest.

LEARNING OBJECTIVES

- Describe the role of product stewardship in product management across its life cycle
- Understand product advancement from its development to its customer use and end of life from an environmental and sustainability perspective.
- Describe the development, implementation & evaluation of a product stewardship program
- Apply risk assessment methods to products and determine how to determine which risks are critical to selected products or markets
- Develop the ability to determine compliance issues for products across their life-cycle
- Describe long-term initiatives for development and managing products in the market
- Apply design principles to products to lessen health, safety and environmental impacts and to improve business value
- Develop communication skills for presenting priority product risks and compliance issues to present cross-functional recommendations for managing the product.

REQUIRED OR SUGGESTED TEXT AND READINGS

Required

Text

1. *Design for Environment – A Guide to Sustainable Product Development*, 2nd Edition; Joseph Fiksel; McGraw Hill; 2011; Paperback

Reports and Articles

1. *Forging New Links — Enhancing Supply Chain Value Through Environmental Excellence*, Global Environmental Management Initiative (GEMI), Hugh Shares and John Harris, 2004
2. *Life Cycle Comparison of Environmental Emissions from Unused Pharmaceutical Disposal Options*, Sherri Cook, Bryan Van Duinen, Nancy Love, and Steven Skerlos; University of Michigan; Environmental Science and Technology; 2012
3. *Practical Advice for Product Steward Professionals on Remaining Competent, Socially Aware, and Scientifically Proficient*; Lynn L. Bergeson, Charles L. Franklin, Robert W. Hamilton, and Joe W. (Chip) Pitts III; Bureau of National Affairs; 2012
4. *Life Cycle Management, A Business Guide to Sustainability;* United Nations Environment Programme; ISBN: 978-92-807-2772-2; 2007
5. *A Global Language for Packaging and Sustainability*, The Consumer Goods Forum; 2012
6. *Ten Trends In Packaging Operations;* EALU, 2008
7. *Greener Package Guidelines to Sustainability Claims, v1*.2; Environmental Packaging International; 2010
8. *Design Guidelines for Sustainable Packaging*; Sustainable Packaging Coalition, GreenBlue; 2006
9. *Responsible Care Management System(RCMS), Technical Specification*; American Chemistry Council; 2008
10. *Orgalime RoHS Guideline*; The European Engineering Industries Association, July, 2011
11. *Clear Advantage*: *Building Shareholder Value, Environment Value to the Investor*; GEMI; Jim Thomas and John Harris; 2004
12. *Embedding Sustainability in Your Business*; The Sustainability Forum, Corporate Executive Board; 2008
13. *Purchasing's Contribution to the Socially Responsible Management of the Supply Chain*; Craig R. Carter and Marianne M. Jennings; Center for Advanced Purchasing Studies; 2000
14. *New Paths to Business Value, Strategic Sourcing – Environment, Health and Safety*; GEMI, John Harris, Dale Moore and Robert Sherman; 2001.

Suggested Books – available in the library

1. *Green to Gold*; Daniel C. Esty and Andrew S. Winston; Yale University Press; 2006
2. *Green Marketing – Opportunity for Innovation***;** 2nd Edition; Jacquelyn A. Ottman; NTC Business Books; 1998
3. *Greening the Supply Chain*; Joseph Sarkis; Springer Science; 2006
4. *Strategies for the Green Economy*; Joel Makower; McGraw Hill; 2009

Additional Course References

Consult the course website for additional materials that may assist students in their preparation for course assignments and discussion

EVALUATION AND GRADING SCALE

Case Exercises - 3 exercises at 20% each
Complete assigned case exercises and lead class discussion on topics selected by students associated with instructional class schedule.

Final Case Study - 30%
Perform analysis of a selected product across its value chain identifying relevant Health, Safety and Environment (HSE) aspects with recommendations for management to support business performance. This is to include both HSE risk and compliance to both regulatory and customer requirements.

Class participation – 10%

GUIDELINES

- Cell phones – Do not use cell phones in class for calls or texting.
- PowerPoint presentations will be prepared for case exercise discussions and available on-line for student access prior to the class

ATTENDANCE

Attendance is mandatory to assure the students encounter case exercise discussions, guest lectures and course content. Students who are absent for medical reasons need to contact John Harris as soon as possible before or after the absence.

CLASS SCHEDULE

Week	Topics	Learning Objectives	Reading Assignments, Homework, Exams
1	Review of Syllabus	Describe the scope, approach and content of the course	
2	Foundations of Design for the Environment	Explain the origin and evolution of HSE management • Origin of environmental regulation • Description of sustainability and its evolution • Heritage of Design for Environment (DFE) • Converting concepts into business value	*Guest Lecturer – Joseph Fiksel, Ph.D.; author of course text* Read Chapters – 1, 2, 3, 6 Group discussion on *product design and how it addresses social interests*

3	Labor Day - No class		
4	Foundation of Product Stewardship	Describe the concept of a products supply chain and its relation to HSE aspects • Determine which stages are the most important for different business sectors and products • Compare a product's value chain and supply chain • Prioritizing stages of the value chain elements • Managing a product across its value chain	Read chapter: 4 Read articles: 1 Exercise assignment and Group discussion: *Students to identify and analyze a products value chain elements and determine critical issues*
5	Review Environmental, Health and Safety aspects of each value chain stage	Explain how key HSE issues for products are identified • Environment, health, safety and process safety aspects • Extended producer responsibility	Read chapter - 11 Group discussion: *HSE aspects for each value chain stage*
6	HSE management systems	Describe the development of management systems and explain their application • Objective of management systems • Different approaches • Common elements and critical stages • Individual types of HSE management systems – ISO, RCMS, VPP • Future use of management systems	*Read articles:* 9 *Guest Lecturer* – Robert Pojasek, Ph.D., Harvard Extension School Group discussion: value in the use of management systems
7	Product risk assessment	Apply basic risk assessment methodologies as applied to product stewardship • Risk assessment through the product stewardship lens • Risk management • Risk communication	Read articles: • TBD *Guest Lecturer* – Allan Fleeger, ExxonMobil Case exercise – *analyze types of risk across a product value chain*
8	Product regulatory compliance	Identify and analyze the regulatory requirements applicable to products across their supply chain • Chemical registration • Material content • Production	Read articles: 10 Guest Lecturer – Steffen Erler, SABIC Case exercise – an*alyze regulatory requirements*

		• Sales and customer obligations • Globalization • Governmental role in advancing product stewardship	*of a selected product* <u>Group discussion</u>: the role of global regulations driving product stewardship
9	Fall Break		
10	Environmental aspects	Explore critical tools for assessing environmental aspects of products and examine their application • Design for the environment • Environmental Footprint – use of life cycle analysis tools • Products in the environment (PIE)	Read chapter - 9 Read articles: 2, 4, <u>*Guest Lecturer*</u> – Neil Parke, Eli Lilly and Company <u>Group discussion</u>: the *use of life cycle analysis tools*
11	Product development	Learn how to identify and address critical HSE issues in product development • Direct and secondary customers • Green chemistry – guest lecturer • Environmental development review • Regulatory impacts	Read chapters – 5, 8 <u>*Guest Lecturer*</u> – John Kindervater, Eli Lilly and Company
12	Packaging design principles	Describe packaging and how it relates to product management • Packaging types • Compliance • Material use • Customer interests	Read chapter - 15 Read articles: 5, 6, 7, 8 <u>*Guest Lecturer*</u>: Victor Bell, President of Environmental Packaging International <u>Group discussion</u>: how packaging provides business value to products
13	Marketing and sales	Appraise customer interests of products and methods for working with them for mutual product management • Market analysis of customers • Interface with customers • Green marketing • Tangible benefits	Read articles: 11, 12 <u>*Guest Lecturers:*</u> • TBD, Proctor & Gamble • Chris Palabrica, Mays Chemical <u>Group discussion</u>: how can product stewardship be integrated into

		• Intangible benefits	marketing and sales
14	Procurement	Comprehend procurement practices in managing suppliers in advancing product management • Supplier requirements • Supporting sustainability goals • Partnering with strategic suppliers • Outsourcing product development and manufacturing	Read articles: 13, 14 *Guest Lecturer*: Dennis Ison, Eli Lilly and Company Group discussion: how are key suppliers identified and leveraged into a company's sustainability program
15	Product stewardship in various professions	Evaluate how product stewardship applies to various professions • Environmental Scientist • Environmental Engineer • Industrial Hygienist • Business – marketing • Healthcare – hospitals, physicians, pharmacies	Read chapters – 13, 14 Read articles: 3 *Guest Lecturers:* • IU Health • Dow AgroSciences Case exercise - *describe how product stewardship relates to that students professional area of interest*
16	Future of product stewardship	Explore how product stewardship will advance in both technical methods and application to business value • Value to business • Government regulation • Customer expectations • Product development	Read articles: TBD *Guest Lecturer*: Elsie Palabrica., ERM Consulting Group discussion: approaches to leverage product stewardship into the different company functions
17	Long-term strategies for advancing product stewardship	Examine application of risk management, regulatory changes and business strategy to products • Advancing approaches for risk assessment and risk management; • Emerging technologies for toxicity testing; • Improving exposure science; • Health risks to susceptible populations;	Read articles: TBD Case exercise – *develop a business plan outline for integrating product stewardship into a product management* Group discussion: how product stewardship may benefit their careers and

		• Understanding products; • Alternatives to animal testing; • Strategies to enhance product stewardship; • Science versus social expectations	professional interests
18	Submit final case study on product stewardship for a selected business sector		

Final Case Study Schedule

The final case study will be required to be submitted on the last week of class. It shall be submitted electronically to the instructor when it was completed.

Student Course Evaluation

The Fairbanks School of Public Health evaluates all courses. Student course evaluations will be conducted in a manner that maintains the integrity of the process and the anonymity of respondents.

Academic Integrity

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Student Misconduct section of the IUPUI *Code of Conduct*, http://www.iupui.edu/code/#page

Communication between Faculty and Students

Consistent with campus policy, a student's campus email address is the official means of communication between current School of Public Health students and School of Public Health staff. For email communication with School of Public Health faculty, current School of Public Health students should refer to course syllabi for instructors' preferences (Oncourse, Webmail, etc.). This policy applies to current students only. Students can forward IUPUI email to another account and still meet the requirements of this policy. Instructions for forwarding IUPUI email to another account can be found at http://uits.iu.edu/scripts/ose.cgi?berh.def.help.

Course Withdrawals

Students who stop attending class without properly withdrawing from the class will receive a grade of F. It is important to withdraw from a course within specified timeframes (see chart below). Note that withdrawals after Week 12 of a regular session or Week 4 of a summer session are rarely granted. **Poor performance in a course is not grounds for a late withdrawal.**

Withdrawal forms will not be processed in the Office of the Registrar after the last day of classes. Any requests for a late withdrawal after the last day of classes must go through the grade appeal process, but each student should remember that in accordance with campus policy, the School of Public Health does not permit a student to withdraw from a course if he/she has completed the course requirements. Grade replacement should be used in this case. See the Office of the Registrar's website at http://registrar.iupui.edu/withdraw.html for more information.

Withdrawal Deadlines	
Course deleted from record, no grade assigned, 100% refund (Advisor signature **IS NOT** required)	Week 1 (last day)
Withdrawal with automatic grade of W (Advisor signature **IS** required)	Week 2– Week 7 (regular session) Week 2 – Week 3 (summer session)
Withdrawal with grade of W or F (Advisor and instructor signatures **ARE** required)	Week 8 – Week 12 (regular session) Week 3 – Week 4 (summer session)

Administrative Withdrawals

A basic requirement of this course is that you will participate in all class meetings and conscientiously complete all required course activities and/or assignments. Keep in touch with the course instructor if you are unable to attend, participate, or complete an assignment on time. If you miss more than half of the required activities within the first 25% of the course without contacting the course instructor, you may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and if you are administratively withdrawn from the course you will not be eligible for a tuition refund. If you have questions about the administrative withdrawal policy at any point during the semester, please contact the course instructor.

Incompletes

A grade of incomplete (I) indicates that a 'substantial portion' of the work in a course has been satisfactorily but not entirely completed by the student as of the end of the semester. The incomplete can be given to a student facing a hardship such that such that it would be unjust to hold the student to the established time limits for completing the work. Students should contact their instructor to determine if they are eligible for the incomplete. **Poor performance in a course is not grounds for an incomplete.** The School of Public Health follows the campus guidelines, which may be accessed at the Office of the Registrar's website at http://registrar.iupui.edu/incomp.html in awarding incompletes. Incompletes must be removed within a time period specified by the instructor, but the time period may not exceed one year after the semester in which the student was enrolled in the course. The incomplete will revert to an 'F' if not completed within the specified timeframe.

Grade Changes

Under certain circumstances, students can seek grade changes for previously taken courses if they believe that a grade has been calculated or assigned incorrectly. A student who is seeking a grade change must first contact the instructor and ask for the grade change. In the event the instructor does not change the grade, the student can file a Change of Grade Petition with the Registrar's Office. **In the School of Public Health, a student has 90 days after the conclusion of a course to appeal a grade.** In cases of extenuating circumstances, the School of Public Health may consider petitions filed after this date. The School of Public Health will review the request and make a final decision on a case-by-case basis. The Change of Grade petition form is located at the Office of the Registrar's website at http://registrar.iupui.edu/grdfrm.html.