THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

February 19, 2014

Vice Provost W. Randy Smith
Council on Academic Affairs
Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
Columbus, OH 43210

Dear Randy Smith,

The Fisher College of Business and its collegiate partners in the College of Engineering and Department of Design are proposing revisions to the Undergraduate Interdisciplinary Minor in Entrepreneurship. The objectives of the revision are: (1) to provide students with an improved and more compelling learning experience; (2) to engage students from a wider number of colleges; (3) to significantly improve the minor completion rate, and (4) to incorporate the latest theories, tools and applied learning experiences from both entrepreneurship and innovation into the curriculum.

Since it's inception in 2006, this partnership between the colleges of Business, Arts and Sciences, Engineering, Food, Agricultural and Environmental Sciences and Human Ecology, has educated 2,028 students. With an annual enrollment of less than 300 students per year and completion rate of less than 17%, the current entrepreneurship minor's potential is far from maximized, moreover, it is not keeping pace with other leading programs in either quality of content, or size of enrollment. Given the level of interest from students and corporations alike in entrepreneurial and innovation-based training and careers, it is incumbent upon us to ensure that the Entrepreneurship Minor is the best is can be.

In spring of 2013 Dean Christine Poon commissioned a study from Keenan & Associates to assess and analyze the Entrepreneurship minor. Tim Keenan is a renowned business leader, successful entrepreneur and supportive alumni of The Ohio State University. Following the delivery of the Keenan report, Dean Poon established a redesign committee chaired by Michael Bills Executive Director of Entrepreneurship. The proposed revision is based on input from the Keenan report, from a secondary best practices assessment, and extensive work of the redesign committee.

Sincerely,

Michael Bills
Executive In Residence
Executive Director, Entrepreneurship & Innovation

Patricia West
Associate Dean of Undergraduate Programs
Associate Professor of Marketing

Cc: Dave Tomasko and Mary Ann Beecher

Attachment: Entrepreneurship & Innovation Minor Revision Proposal

Associate Dean of Undergraduate Programs

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Revision Proposal:

Undergraduate Interdisciplinary Minor In Entrepreneurship (& Innovation)

The Colleges of:
Business
Arts and Sciences &
Engineering

February 2014

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Revision Proposal for the
"Undergraduate Interdisciplinary Entrepreneurship Minor"

I. EXECUTIVE SUMMARY

In spring of 2013 Dean Christine Poon established a redesign committee chaired by Michael Bills Executive Director of Entrepreneurship & Innovation.

The Fisher College of Business and its collegiate partners in the College of Engineering and Department of Design are proposing revisions to the Undergraduate Interdisciplinary Minor in Entrepreneurship. The objectives of the revision are to provide students with an improved and more compelling learning experience, to engage students from a wider number of colleges, to significantly improve the minor completion rate, and to incorporate the latest theories, tools and applied learning experiences from both entrepreneurship and innovation into the curriculum.

II. BACKGROUND

Since its inception in 2006, the colleges of Business, Arts and Sciences, Engineering, Food, Agricultural and Environmental Sciences and Human Ecology, have educated 2,028 students in entrepreneurship through courses offered in the Entrepreneurship Minor (The Minor). With a completion rate of less than 17% however, and with a meager average annual enrollment of less than 300 students per year, The Minor's potential is far from maximized. Moreover, it is not keeping pace with other leading programs in either quality of content, or size of enrollment.

There is also ample evidence to suggest that if properly designed and marketed, that The Minor would be sought out by a much larger number of students. Given the level of interest from students and corporations alike in entrepreneurial and innovation-based training and careers, it is incumbent upon us to ensure that The Minor is the best is can be.

In spring of 2013 a third party (Keenan & Associates) was commissioned to interview faculty teaching in the program as well as current and former students enrolled in The Minor in order to garner feedback and to ascertain opportunities to improve the curriculum and the overarching experience. Instructor SEI's were assessed and the complexion and dispersion of students enrolled in the minor were analyzed. A group comprised of Michael Bills Executive Director of Entrepreneurship who chairs the redesign committee, Dr. Patricia West, Associate Dean of Undergraduate Programs, Dr. Michael Leiblein, Associate Professor of Strategy, Dr. Michael Camp, Founder and Executive Director, Center for Entrepreneurship and Gretchen Goffe, Executive Director convened to review and discuss these and other issues identified during the preceding data collection phase of this project and to begin curriculum redesign. Dr. Blaine Lilly, Associate Professor, Mechanical and Aerospace Engineering and current instructor in The Minor and Mary Ann Beecher, Chair, The Department of Design within the College of Arts and Sciences at The Ohio State University, joined the curriculum redesign team to provide key insights into various multi-disciplinary issues.

Over the course of this process many professors currently teaching in the program were consulted, as were Karen Wruck, Senior Associate Dean and Christine Poon, Dean, both of the Fisher College of Business and David Tomasko, Associate Dean of Undergraduate Education, The College of Engineering.

Finally, the opinions of a cross-section of over thirty student leaders and professional practitioners, involved in The Minor as mentors, were solicited throughout this period including members of the Dean's Advisory Council at the Fisher College of Business. This proposal describes the finding and recommendations of the redesign committee.

The goal of the proposed revisions and additions to The Minor is fivefold:

1. Significantly increase the number of students attracted to The Minor on an annual basis
2. Enroll a more diverse population of students from a wider array of colleges
3. Improve the learning experience by creating a more relevant curriculum that benefits from advancements in the theories and tools developed since the inception of The Minor

4. Integrate theories and processes from the field of innovation (i.e. corporate entrepreneurship, intra-preneurship) into the curriculum including but not limited to Design
5. Develop and support four interrelated but, discrete entrepreneurship and innovation tracks within the learning experience; technology commercialization, general start-ups, corporate entrepreneurship and social entrepreneurship

While there are certainly many positives about the current program, and while particular courses such as ISE MSE 5682 Fundamentals of Product Design are quite well received, many students expressed significant reservations and even frustrations regarding both portions of the content and the quality of the delivery within some areas of The Minor. The vast majority of the students interviewed expressed enthusiasm for the subject matter and stressed the importance of the minor, however, many were nevertheless reticent to recommend The Minor to their fellow students.

Top-line findings from the study and from secondary best practices assessment include the following highlights:

The current minor prioritizes application over general understanding - Some courses in The Minor have strayed significantly from the original intent of the syllabi first documented in the December 12, 2005 proposal for The Minor.

Too many choices, too little foundational learning - The Minor in its current form possesses two required courses in Entrepreneurship (from an option of three courses), and it offers an array of over thirteen additional courses from which to choose to fulfill the fifteen-hour requirement. The result for many students has been underwhelming in that an insufficient number of courses are required to cover the core skills in entrepreneurship necessary to grasp and ultimately practice entrepreneurship. Conversely, too many choices in the elective portion of The Minor have resulted in confusion about what entrepreneurship is. From an operational and profitability perspective, the large number of electives prohibits The Minor from scaling and instead too few students end up enrolling in too many courses, with small class size in the majority of sections.

Theories & Tools need to precede practice and applied learning experience - The Minor lacks a perspective regarding the role of theories and tools of entrepreneurship within the curriculum. Instead, many of the courses jump immediately to practice prior to providing students with the sufficient theories and tools necessary to put the learning into practice within a practicum and/or "capstone-like" experience.

Integrating Innovation & Design Curriculum - A benchmarking study uncovered the opportunity to integrate innovation (described as product and service creation as well as the internal development of new ventures within large, existing businesses rather than merely the creation of new business models within start-ups). The best practices assessment of over 100 leading university programs validated the inclusion of design-based theory into the required curriculum.

Infusing critical thinking skills and cross-disciplinary collaborative problem solving - The best practices assessment also validated the need to prioritize critical thinking as the a primary learning objective across all required courses, with a focus on teaching disparate disciplines both a common problem-solving methodology as well as increasing each student's understanding of how specialists from varied backgrounds and fields of study think, thereby instilling an appreciation for how each field approaches a problem. This will help undergraduate students to become what leading innovation firm IDEO calls "T-shaped people" (the vertical axis of the "T" is derived for a student's expertise gained from the major, while the "top of the T" or the vertical axis is developed by learning collaborative, team-based problem solving).

III. CURRENT CURRICULUM REQUIREMENTS

The current minor requires the successful completion of a minimum of 14 credit hours and five classes.

Required Courses:

BUSMHR 2500 – Entrepreneurship (Approved for GEC credit in Social Sciences)
Credits: 3; Prerequisites: None
Examines the theoretical foundations of innovation and entrepreneurship, including their influence on industry and market evolution.

BUSMHR 3510.01 - New Venture Creation
Credits: 3, Prerequisites: BUS-MHR 2500
Explores the process for creating new ventures, including ideation, evaluation of business opportunities, business planning, and assembling business resources.

- or -

BUSMHR 3510.02 - Creating Social Venture
Credits: 3, Prerequisites: BUS-MHR 2500
Creating Social Venture examines the creation of entrepreneurship ventures in the non-profit sector.

Elective Courses

The minor requires students to successfully complete at least three elective courses. It is recommended that students complete one elective from each of three content areas listed below. Regardless, students will not be permitted to count more than two courses from any one content area for credit toward their minor. In addition, students are encouraged to take at least two electives outside their major areas of study.

Creativity, Innovation, and Idea Generation

BUSML 3241 - Introduction to Entrepreneurial Marketing
Credits: 3; Prerequisites: Econ 2001.01 or AEDEcon 2001 or equiv. and Math 1130 or equiv.
Focuses on marketing concepts and methods of entrepreneurs leading growth-oriented companies.

BUSMHR 3665 - Personal Creativity and Innovation
Credits: 3; Prerequisites: None
Explores how people, places, and practices foster personal creativity. Develops student's ability to create innovative concepts for new products and services.

ISE ME 5682 - Fundamentals of Product Design
Credits: 4; Prerequisites: Senior, graduate student, or by permission
Takes students through the product design process, from listening to the voice of the customer to idea generation and evaluation, system level design and system architecture, design for assembly and manufacturing, and lean manufacturing.

PSYCH 2462 - The Psychology of Creativity
Credits: 3; Prerequisites: Psych 1100 or 1100H
Examines the theories, definitions, processes and measurement of personal creativity.

Opportunity Evaluation and Venture Planning

AEDEcon 3102 - Principles of Agribusiness Marketing
Credits: 3; Prerequisites: AEDEcon 2001, 2001H, Econ 2001, or 2001H
Focuses on in-depth assessment of the marketing environment in specific food and natural resource industries and what it takes to successfully lead an entrepreneurial enterprise in these industries.

BUSFIN 3290 - Foundations of Entrepreneurial Financing
Credits: 3, Prerequisites: BUSFIN 3120 or 3220
Presents a dynamic two-part process in which companies invest in both real and human capital assets and then find the financial capital necessary to pay for those investments.

BUSMHR 5530 - Value Creation in Social Entrepreneurship
Credits: 3; Prerequisites: BUS-MHR 2500 and Econ 2001.01
Progressive social organizations are seeking to be more entrepreneurial in the manner in which they run their nonprofit businesses. This course is offered to honors students throughout the university. Content will include a group assignment where students will focus on completing a social enterprise project for a non-profit organization in Central Ohio.

BUSMHR 3542 - The Accelerator: Planning the Entrepreneurial Venture
Credits: 3; Prerequisites: BUS-MHR 2500
Practicum experience for exploring personal entrepreneurship and creating new ventures.

Leading High-Performance Ventures

AEDEcon 3160 - Human Resource Management in Small Businesses
Credits: 2; Prerequisites: Junior standing or by permission
Study of characteristics of small businesses that make many of their human resource management problems unique, such as recruiting only in local labor markets in relative geographic isolation, limited alternatives for organizational structure, and irregular coverage of labor laws.

BUSMHR 3541 - Global Innovation and Entrepreneurial Leadership
Credits: 3; Prerequisites: BUS-MHR 2500 and Econ 2001.01
Field study projects to introduce students to venture capital, private equity, technology commercialization and new venture strategy.

BUSMHR 3520 - Leading High-Performance Ventures
Credits: 3; Prerequisites: Econ 2001.01 and BUS-MHR 2500
Explores the key managerial practices and skills necessary to lead a successful growing business.

CSC FFS 3270 - Families in Business
Credits: 3; Prerequisites: Sophomore standing or above
Offers students the opportunity to explore family business topics, such as family dynamics, conflicts, and relationships relative to the business, formation and growth, strategic management, professionalization, and succession planning.

SOCIOL 3464 - Work, Employment, and Society
Credits: 3.
Provides an overview of social science knowledge about organizational functioning, labor force composition, and human relations issues

IV. RATIONALE AND CURRICULAR STRUCTURE

Learning Objective of Minor: To provide undergraduate students from multiple disciplines and majors with a core understanding of the theories, tools, practice and application of entrepreneurship and innovation.

Learning Outcome: The application of critical thinking and multi-disciplinary, collaborative problem solving for the creation of successful new ventures, products, and services.

Today's increasingly dynamic and competitive business environment requires that entrepreneurs of all types possess an understanding and command of all facets and stages of new value creation. The revised Minor therefore applies critical thinking and collaborative, multi-disciplinary problem solving to the design and creation of new ventures, products, and services**.** Command of critical thinking skills provides entrepreneurs with a framework for problem solving. And by training students in a cross-section of critical thinking methods that transcend the design, engineering and business professions, students can also learn to collaborate successfully on complex problems and opportunities by first understanding and appreciating how colleagues from diverse backgrounds and fields approach a problem or an opportunity.

The revised Minor is comprised of five, three credit courses, four of which are required courses and one of which is an elective. This increase in required courses from two, to four, and the reduction in the number of electives from three down to one, are proposed in order to introduce a more consistent delivery of critical content to the program and in order to successfully scale the program in a fiscally responsible manner.

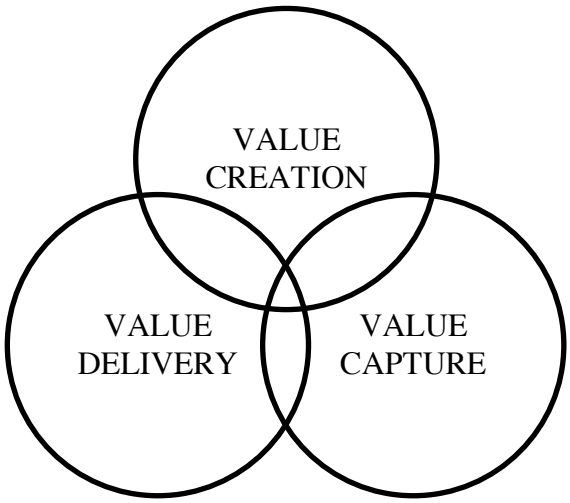
The curriculum is based upon a framework that combines theories (what causes what and why, what managers should do as a result and when they should do it), tools (processes and frameworks that aid in facilitation and execution) and practices (applied learning experiences) from the academic study of both entrepreneurship and

innovation, and that progresses from initial ideation (via hypothesis–based scientific method of discovery or through consumer and socio-economic, macro trend-based creative processes), to commercialization in three distinct stages:

Value Creation → Value Capture → Value Delivery

Good theory is vital to the teaching of entrepreneurship and innovation. Contrary to some other horizontal, enterprise wide fields of study that focus on benchmarking and risk reduction; innovation implies an ability to run disciplined experiments. These experiments require "good" theory. It is impossible to manage entrepreneurship and innovation purely "by the numbers". Instead, evaluation of whether experiments are run rigorously and whether projects should be shut down or shelved when data suggest the initiative is unlikely to succeed is required.

Figure 1. CURRICULAR FRAMEWORK: Holistic Development from idea inception to launch



Curricular Structure

This framework forms the basis of a revised curriculum that begins with three required courses – one each in Business, Design and Engineering:

The first course in Business Entrepreneurship (a revised BUS MHR 3510. 01 New Venture Creation) addresses the principles of entrepreneurship and successful monetization of a new ventures including business plan development, access to capital and the marketing of an a concept, including theories addressing why particular start- up organizations are more successful than others and the tools that can help address specific challenges. The course also addresses the role of culture, organizational structure and leadership on successful new ventures.

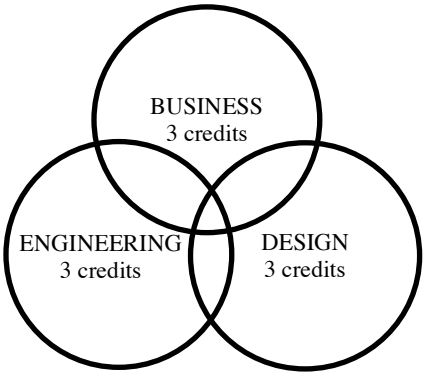
The second course in the sequence is in the field of Design. This new course in The Minor addresses design history, design theory and process and the application of Gestalt Theory and their role in the creation of successful, entrepreneurial enterprises. The Design course focuses on "top of the funnel", open innovation and ideation and the creation of successful products and services through the introduction of increased variability and holistic, inductive thinking.

The third class is an existing course (ISE/ME 5682 - Fundamentals of Product Design) that addresses the value capture mechanisms required to bring a concept to market by reducing variability and introducing constraints to the launch through deductive thinking. This course teaches students the process of guiding a product through the manufacturing process to ready it for market launch.

Together, these three courses will provide students with an appreciation of the dynamic nature of entrepreneurship including the intersection of form and function and of business planning and the realities of bringing a venture,

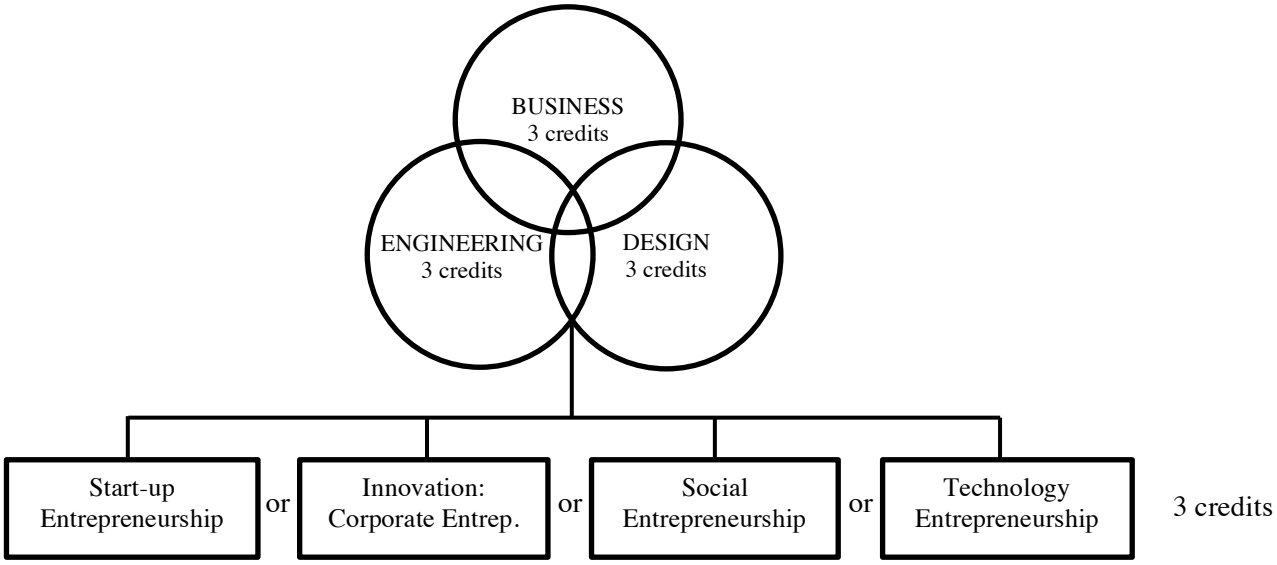
product and service to market. The recommended sequence for these three foundational courses will begin with the Business course, followed by the Design course and ending with the Engineering course. All of these courses will be comprised of approximately 60% theory-based learning and 20% tools-based learning, with a limited amount of hands-on applied learning experiences. As the courses progress, and only once student are sufficiently grounded in the principles, can demonstrate an understanding of the theories and a command of the tools at his/her disposal as an entrepreneur, do the courses become increasingly practice-based.

Figure 2. CORE REQUIRED COURSES: From inductive to deductive thinking



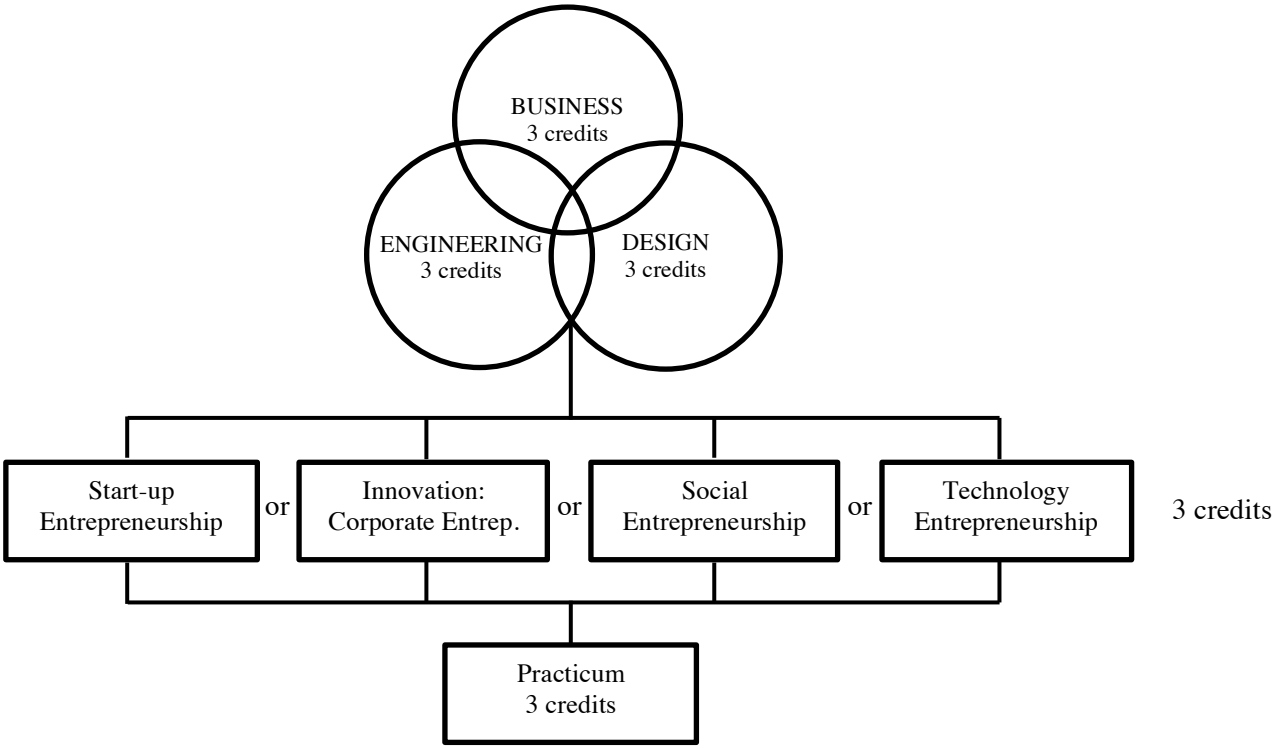
The fourth course in The Minor is comprised of one of four, three credit hour electives. Students who have successfully completed the three foundational, required courses, may choose one of four electives highlighting the unique characteristics of each type of entrepreneurship; Start-up-based Entrepreneurship, Corporate Entrepreneurship (innovation-based development of new products, services, and business units within existing firms), Technology Commercialization (IP based ventures) and Social Entrepreneurship (NFP's and for-profit, mission-based ventures). Three of these courses are new to The Minor while the fourth, BUS-MHR 5530 - Value Creation in Social Entrepreneurship, is an existing course in The Minor.

Figure 3. ELECTIVE TRACKS: Specializations in Entrepreneurship & Innovation



Once a student has successfully mastered the theories and tools of entrepreneurship and innovation, and has begun to apply these teachings to a specific type or "track" of innovation, he/she is now ready to apply these lessons in a Practicum by working within a common course on a project that emanates from one of the four tracks. This course is a new course within the Minor.

Figure 4. PRACTICUM: Applied learning experiences



To achieve these specified goals we recommend the following specific changes described in detail below.

V. RECOMMENDED REVISIONS TO THE MINOR

Recommendation 1: Remove BUSMHR 2500 from the Minor. BUS MHR 2500 will be offered as a course open to any student and serve as a feeder to the minor for non-business students. Students who lack business skills or training will be advised to take this course as an introduction to Entrepreneurship & Innovation before starting the minor. The course will retain the social sciences content and therefore will also continue to qualify as a General Education Course that fulfills a GE requirement.

Recommendation 2: Replace the two required business courses (BUSMHR 2500 and BUSMHR 3510) with three required courses (BUSMHR 3510 – New Value Creation, DESIGN 2700 – Introduction to Design Practices[1], ISE/ME 5682 - Fundamentals of Product Development or BUSADM 3520 – Fundamentals of Product Development).

Recommendation 3: Replace the three content area elective groupings with four "Entrepreneurship & Innovation Track electives" that will form the basis for a track of study that follows the student into their practicum. In 2014, the program will accept applications from colleges for additional courses based upon specific professions and areas of study (i.e. food science innovation) for inclusion in The Minor beginning 2015.

Recommendation 4: Introduce a required practicum/capstone course as the final course in the minor. This Practicum will provide hands-on, real world, applied learning experiences. Each student will join a team of students with similar track interests to work on a project-based learning experience that tests the students understanding of the theory and tools taught in the previous courses. Students who produce particularly viable new ventures or who otherwise excel in this course will be prime candidates for the more selective and post-minor in the current elective entitled BUSMHR 3542 - The Accelerator: Planning the Entrepreneurial Adventure. Because the Accelerator course falls outside of The Minor, and because it is recommended to follow completion of The Minor, this sets up a great opportunity to, over time, evolve the Accelerator course into a "plus one" graduate degree in Entrepreneurship & Innovation. Testing this approach and evolving the curriculum is crucial to

[1] Credit earned via EM testing may not be used in place of letter-graded enrollment in Design 2700.

the long-term success of Entrepreneurship & Innovation at Ohio State since all other leading programs either currently offer an undergraduate major, or supplement it in the form of a graduate degree.

Recommendation 5: Position BUSMHR 3542 - The Accelerator: Planning the Entrepreneurial Venture course as post minor course for highly talented students with promising concepts.

Recommendation 6: Offer a version of ISE/MECHENG 5682 - Fundamentals of Product Design and Engineering (4 credits) and does not include the lab component for non-engineering students BUSADM 3520 – Fundamentals of Product Design (3 credit). Engineering students will be able to use either of these courses toward the minor.

Recommendation 7: Add "Innovation" to the title of The Minor.

In synopsis:

The following courses will remain part of the minor but with modified content (see syllabi in appendix) and/ or status:

- BUSADM 3510.01 – New Venture Creation (Required and Revised Title)
- BUSMHR 5530 – Value Creation in Social Entrepreneurship (Elective)
- MECHENG 5682 – Fundamentals of Product Development

The following nine courses will be removed as either requirements or as electives (note: particular colleges retain the right to offer each course as they see fit):

- BUSMHR 3510.02 – Creating Social Venture
- BUSMHR 3665 – Personal Creativity and Innovation
- PSYCH 2462 – The Psychology of Creativity
- AEDEcon 3102 – Principles of Agribusiness Marketing
- AEDEcon 3160 – Human Resource Management in Small Businesses
- BUSMHR 3541 – Global Innovation and Entrepreneurial Leadership
- BUSMHR 3520 – Leading High-Performance Ventures
- CSC FFS 3270 – Families in Business
- SOCIOL 3464 – Work, Employment, and Society

The following four courses will still be offered and recommended as additional electives outside The Minor to be taken by students with additional interest in entrepreneurship and innovation:

- BUSMHR 2500 – Entrepreneurship
- BUSFIN 3290 – Foundations of Entrepreneurial Financing
- BUSML 3241 – Introduction to Entrepreneurial Marketing
- BUSMHR 3542 – The Accelerator: Planning the Entrepreneurial Adventure

The following five new courses will be added to The Minor as requirements or electives as noted (see syllabi in appendix):

- DESIGN 2700 – Introduction to Design Practices
- BUSADM 3520 – Fundamentals of Product Development
- BUSADM 3531 – Entrepreneurial Start-ups
- BUSADM 3532 – Corporate Entrepreneurship
- BUSADM 3533 – Technology Entrepreneurships
- BUSADM 4510 – Entrepreneurship & Innovation Practicum

In total the revised Minor will now be comprised of four required courses and four electives for a total of eight

courses, or half of the sixteen courses in the current program.

VI. ENROLLMENT PROJECTIONS

Growth Plan, Projections & Resourcing Impact

While there is a market demand for this minor, it will require clear marketing and advising to generate student interest. Once made public, however, a high demand is anticipated. The proposing committee estimates that 1,200 students per year is a realistic and achievable projection for the purposes of resource allocation over the course of five years. In the initial year of offering (Fall of 2014), it is proposed to admit 300 students to the minor as well as any upperclassmen who already have entered the existing minor.

Table: Estimated enrollment projections in the E&I Minor.

Yr. in Curriculum	Year 1	Year 2	Year 3	Year 4	Year 5
Freshman	0	0	0	0	0
Sophomore	125	125	125	250	250
Junior	125	225	225	350	450
Senior		100	180	180	280
Totals	250	450	530	780	980

As a result of this anticipated growth, new faculty will obviously be required to deliver these courses, particularly the lab-like settings that are the Practicum. In addition to staffing of increased instructors, we anticipate developing sophisticated distance-learning modules for portions of all of the required and elective courses.

As enrollment demand in the newly proposed minor is expected to be significant, additional resources for faculty instructors will be critical for success. A balanced investment in non-tenure track (practitioners), tenure-track, and clinical faculty will be critical for success as it will be essential to provide both a strong core of instruction across The Minor. As half of the courses in the revised minor are new, and given the expected growth rate for this minor, the participating Departments and Colleges will need to support additional tenure-track and/or clinical faculty as required. In short, there is a compelling need to hire tenure-track and/or clinical faculty with expertise relevant to entrepreneurship and innovation within and across the participating colleges.

If the demand for the required courses exceeds the staffing ability of either the Department of Design or the College of Engineering the Fisher College will offer courses with similar content in place of MECHENG 5682 or Design 2700.

VII. TRANSITION PLAN

For students who began their coursework under the current curriculum and who are currently enrolled in The Minor, The Fisher College of Business will facilitate an easy, efficient process for the approximately 50 or so students. These individuals will be allowed to complete their curriculum under the previous rules and will be offered the opportunity to substitute any of the new courses in place of old courses. Every effort will be made to make sure that all current students will be allowed to fulfill their Minor requirements on schedule.

VIII. ADMINISTRATION, STAFFING & ADVISING

Advising
Students will be advised in their respective home programs. Additionally, the faculty directors for the program will serve as mentors to the students and over the course of this academic year, and an industry mentors program will be evolved to support students in The Minor beginning in Autumn 2014.

Staffing
While current enrollment levels will require eight to twelve instructors (six to ten instructors from the College of Business, and one each from the Department of Design within the College of Arts & Sciences, and from the Department of Mechanical Engineering within the College of Engineering), and one program director. We anticipate rapid growth within The Minor over the course of five years, both in the number of sections of each of these courses offered and in additional college/industry-based electives to be added to the program. For this reason, we will control growth with the number of sections of offered in the first few years of the program.

Program Review, Metrics & Success Criteria
Success of this program will be determined according to the following key performance indicators:

- Number of students enrolled in The Minor annually
- Growth in the completion rate of the minor
- Student satisfaction as collected via survey
- The number of successful, new businesses incubated

Integration with related co-curricular and extra-curricular programs and experiences
Upon the approval and successful marketing and launch of revised Minor, work will begin on the development of a concurrent and integrated, trans-disciplinary experience and programming for Entrepreneurship & Innovation. This will include curricular development that is consistent with the undergraduate Minor at both the graduate level and executive education levels of The Fisher College's programming. As we have done with the undergraduate minor, we intend to integrate the educational experience by developing an interdisciplinary curriculum involving these and other colleges.

We intend to create an integrated experience for students that extend beyond the curricular and into co-curricular and extra-curricular programming. This programming will provide both a holistic learning experience and a seamless transition into professional work experiences. While a number of these programs (i.e. student organizations, symposiums, internship programs, case competitions) currently exist, they are neither integrated with the curriculum, nor offered consistently across tracks. Furthermore some of the programming actually competes for resourcing and is therefore underfunded.

When designed as an integrated program, and envisioned in its optimal state, a student would interact with both a college advisor and an industry mentor who would coach the student not only on curriculum or a particular project but in the pursuit of an integrated Entrepreneurship and Innovation experience. By way of example, a undergraduate business major with a passion for Technology Commercialization would be coached, mentored and advised in a consistent fashion on not only which electives to take within the minor, but moreover, which student organization to join, which related philanthropic activity to participate in, and which case competition in which to compete. As importantly, this hands-on approach would expose the student to highly related, integrated opportunities such as scholars programs (the Entrepreneurship & Innovation Living Experience) and career track advising to determine the optimal E&I track to match his/her interests with short-term employment and long-term career opportunities. Again, many of these opportunities currently exist but most lack consistent execution across tracks and are often underfunded and lacking in the size or dimension required to serving a student population of our size

Finally, this development of an integrated Entrepreneurship & Innovation program will extend to our Centers of Excellence and Initiatives in order to create a financially solvent business model that generates self-sustaining revenues. An integrated offering would bring together the corporate community, the venture capital community and serial inventors and entrepreneurs in a manner that engenders meaningful excitement and support from both

individual alumni and donors and from our corporate partners. This requires scale sufficient to produce events that garner national and international attention, integrated offering and a reduction in redundant, under-funded programming. Instead, we envision an internationally recognized, self-sustaining enterprise which positions The Fisher College, The College of Engineering, The College of Arts & Sciences and The Department of Design and our forthcoming partners from The College of Food, Agriculture and Environmental Sciences and Human Ecology as integral, world renowned leaders in Entrepreneurship and Innovation. Finally, we believe this effort, the foundations of which are rooted in solid, high quality undergraduate curriculum, extends to both our University's Technology Licensing & Commercialization effort and to job creation in both the Greater Columbus region and across Ohio. To accomplish this the programs must be integrated and scaled sufficiently, and this revised Minor is the first step.

IX. COURSE SEQUENCING

Suggested Curriculum

Year	Autumn	Spring
1		
2		BUSMHR 3510.01 New Venture Creation
3	DESIGN 2700 Intro to Design Practice	MECHENG 5682 Fundamentals of Product Development & Engineering or BUSADM 3520 Fundamentals of Product Development
4	BUSADM 353X E&I Elective Track Course	BUSADM 4510 E&I Practicum

X. APPENDICES LIST

A. BUSADM 3510 Entrepreneurship & Innovation: New Venture Creation Syllabus
B. DESIGN 2700 Introduction to Design Practices Syllabus
C. MECHENG 5682 Fundamentals of Product Development Syllabus
D. BUSADM 3520 Fundamentals of Product Development Syllabus
E. BUSADM 3531 General Entrepreneurship Syllabus
F. BUSADM 3532 Corporate Entrepreneurship Syllabus
G. BUSADM 3533 Technology Commercialization Syllabus
H. BUSMHR 5530 Social Entrepreneurship Syllabus
I. BUSADM 4510 Entrepreneurship and Innovation Practicum Syllabus
J. Letter of Support from the Department of Design
K. Revised Minor Sheet

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

BUS-ADM 3510

Entrepreneurship and Innovation: New Venture Creation

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Core business course in the 9 credit foundation and part of the 15 credit minor

Course Objective

Develop the skills necessary for creating and evaluating new products and ventures, both as an entrepreneur and in an established business. Become proficient in the tools for designing and evaluating new ventures.

Learning Objectives

Students will understand and apply the strategic process of creating new ventures by:

- Development of critical thinking skills required to discover, create, assess and shape opportunities
- Assessing risk and understanding how to increase likelihood of success
- Significant exposure to theories and tools associated with entrepreneurship and innovation
- Understanding the components to successfully pitch an idea
- Recognizing the factors leading to the emergence of innovation and entrepreneurship as critical to growth

Topics

This course contains 3 modules and 15 topics.

Module 1: Value Creation: Identifying Customer Needs and Generating Ideas

Topic I: Defining Entrepreneurship and Innovation (history, results, context and trends - change from R&D, rise in consumer authority, design thinking and tech explosion)

Topic II: Theory of Disruptive Innovation

Topic III: Foreseeing What Customers Want and Market Opportunities

Topic IV: Generating New Ideas, Products and Venture and Entrepreneurship as Imagination and Creativity
Topic V: Assessing Idea Potential and Entrepreneurship as Imagination, Creativity and Entrepreneurship as Alertness or Discovery
Topic VI: Demand Estimation - Assessing Customer and Market Demand
Topic VII: Assessing the Industry and Entrepreneurship as Management

Module 2: Value Capture: Determining Potential
Topic VIII: Evaluating Feasibility - Separate the Great from the Good (competitive differentiation, barriers to entry, strategic relevance)
Topic IX: Developing the Value Proposition
Topic X: Business models revenue models and cost infrastructure and Entrepreneurship as Judgment
Topic XI: Commercialization estimating key resource and partner requirements

Module 3: Value Delivery: Organizing for Growth Leadership and Finance
Topic XII: Art of the Pitch
Topic XIII: Venture Financing
Topic XIV: Staffing, Leadership and Working in Uncertainty and Entrepreneurship as Charismatic Leadership and Entrepreneur as Management
Topic XV: Oral and Written Presentations

Learning Outcomes

- Recognition of the theories and tools of innovation and entrepreneurship behavior in new and existing products, services or firms as evidenced by preparation of a business case
- Oral and written presentations will demonstrate students ability to generate, assess and capture value from innovative ideas
- Business case will demonstrate understanding of Value Delivery mechanisms including pitching, funding and leadership

Readings

Course textbook: Knott, Anne Marie (2008) Venture Design

Required Coursepack: Case studies and articles that illustrate theories (TBD)

Department of Design
The Ohio State University

DESIGN 2700: Introduction to Design Practices[2]
INSERT TIME/DAY OR WEEK
INSERT LOCATION

INSERT INSTRUCTOR INFORMATION

DESCRIPTION
This course will provide an overview of what designers do and how they think, work, and theorize their understanding of people and their needs and desires. It will also address how design thinking relates to and encourages innovative outlooks and practices. By looking at critical design theories and developments throughout modern history as well as key recent developments in approaches to contemporary design practices, the impact of social, economic, and technological factors on design expressions and solutions will be analyzed.

FORMAT
This course will be offered with a blended delivery: on-line content/lessons will be completed by students who will attend discussion sessions to clarify information, to compare strategies and responses, and to present the results of experimentation.

LEARNING OBJECTIVES
Students who complete this course will be able to:

1. Recognize the potential of design's role in culture and society
2. Summarize the connections between relevant psychological, social, and cultural theories to design thinking and practice
3. Employ the phases of the design process and the significant impact of each phase on the design outcome
4. Practice techniques that enhance idea generation and creative thinking
5. Use graphic thinking and drawing to express ideas
6. Recognize the role of purposefulness and intentionality in design conceptualization and decision making
7. Express the value of criticism and evaluation as steps for improving design innovations

TEXTBOOKS
Tim Brown, *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation* (2009, ISBN 006 1766089)(Required)
Tom Kelley & Jonathan Littman, *The Art of Innovation* (Recommended)

PARTICIPATION AND ATTENDANCE
Students in this course are required to complete on-line learning modules according to the schedule provided. Attendance of discussion sessions is required. Only excuses documented in writing from an acknowledged relevant official (medical professional, clergy, legal representative, etc.) will be accepted. More than one unexcused absence will result in a reduction by one half a grade (from A to A-, From A- to B+, etc.). More than three unexcused absences will result in an inability to receive a passing grade.

GRADING AND EVALUATION

[2] Credit earned via EM testing may not be used in place of letter-graded enrollment in Design 2700.

Students will be evaluated on the basis of the quality of their submitted assignments, their performance on the mid-term and final examinations, and on their participation in discussion. Assignments will be evaluated based on their ability to successfully address the stated objectives and directions that are unique to each. Originality, thoroughness, and craft/presentation of ideas are always critical evaluation criteria. Assignments, exams and participation will be weighted as follows:
Assignment 1: 10%
Assignment 2: 10%
Assignment 3: 10%
Mid-Term examination: 25%
Final examination: 25%
Participation/attendance: 20%

ACADEMIC MISCONDUCT
Academic misconduct is defined as "any activity that tends to compromise the academic integrity of the institution, or subvert the educational process." Please refer to rule 3335-31-02 in the Student Code of Conduct for examples of academic misconduct. Any cases of academic misconduct will be referred to the Committee on Academic Misconduct (see http://oaa.osu.edu/coam/home.html).

SAFETY CONSIDERATIONS
Please do not work alone in university facilities. If you are the last person remaining in a work area or studio space, please vacate to ensure your safety. Please never share access codes to locked spaces with persons who are not part of the group currently approved to use the space.
Escort services for evening courses are available by calling 292-3322.

SPECIAL ACCOMMODATIONS
Disability Services: Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated. Students should inform the instructor of their needs as soon as possible. The Office of Disability Services is located in 150 Pomerene Hall, 1760 Neil Ave; Telephone 292-3307, TDD 292-0901; http://www.ods.ohio-state.edu/.

COURSE TOPICS BY WEEK

1. What is design? The impact of evolution from amateur to professional practice
   Learning objectives:
   A. Recognize the difference between design and art
   B. Acknowledge the relationship between innovation and replication
   C. Relate key developments in the evolution of professional design practices to emerging frames of reference in corporate traditions and manufacturing systems
2. Understanding human perception and behavior
   Learning objectives:
   A. Describe gestalt theory and its applicability to understanding designed objects and environments
   B. Explain the relationship between nonverbal communication, proxemics and spatial design concerns in public settings such as workplaces
   C. Consider the impact of semiotics on human perceptions of design
3. Exploring the social and cultural context for design innovations
   Learning objectives:
   A. Translate how the study of theories of taste and consumption influence the development of design ideas

B. Explain the applicability of actor-network theory to understanding designs

4. Key moments in design history

   Learning objectives:

   A. Explain the impact of new materials and sources of power
   B. Articulate the impact of partnerships between art and industry
   C. Describe the significance of new models of production and distribution on design
   D. Evaluate the role of globalization on design

5. Stimulating innovation: design thinking

   Learning objectives:

   A. Explain how design thinking promotes new way of seeing situations and conditions
   B. Articulate what is meant by taking a human-centered approach to problem solving and identify the advantages of doing so
   C. Demonstrate what is meant by the concept of converting need to demand…

6. Understanding the design process: acceptance, analysis and problem definition

   Learning objectives:

   A. Illustrate the importance of be aware of the consequences and implications of decisions and proposals
   B. Recognize the value of a range of constraints
   C. Identify the potential of patterns to influence predicted possibilities

7. Idea generation: overcoming creative blocks

   Learning objectives:

   A. Practice creative behaviors
   B. Recognize the influence of fear on the construction of blocks to creativity

8. Understanding the design process: ideation and selection

   Learning objectives:

   A. Practice brainstorming technics as a means of collaborative ideation
   B. Use metaphors, analogies and intuitive thinking to conceptualize design ideas
   C. Evaluate possibilities and execute hierarchies to identify design ideas worth pursuing

9. Communicating design ideas: visualization and graphic thinking

   Learning objectives:

   A. Review and assess the usefulness of a range of image production—sketching and rapid visualization
   B. Explore the potential of abstract representation in the form of diagrams and graphic thinking
   C. Conceptualize objects and spaces in orthographic projection (plans, elevations, sections)

10. Communicating design ideas: storytelling, narrative and interaction

    Learning objectives:

    A. Explore the usefulness of stories and narratives to convey design ideas

B. Apply the principles of human-centered design to understand the role of interactivity in designed scenarios and products

11. Critical review as design practice: how we talk about design

    Learning objectives:

    A. Examine the role of the criticism in design development and evaluation
    B. Practice expressing constructive insights in response to design proposals

12. Understanding the design process: evaluation

    Learning objectives:

    A. Investigate the role of evaluation in product and service development
    B. Practice constructing and interpreting critical feedback

13. Emerging design cultures: sustainable practice/universal design practice

    Learning objectives:

    A. Analyze the potential of Victor Papanek's "Design for the Real World" philosophy
    B. Apply the principles of "Cradle to Cradle" design to a systems and products
    C. Employ the principles of universal design practices to environments and products

14. Emerging design cultures: collaboration and integrated practices

    Learning objectives:

    A. Examine the significance of collaboration in the historic practice of the Eames
    B. Review the role of integration in multidisciplinary practices such as IDEO

COURSE SYLLABUS
MECHANICAL ENGINEERING 5682
FUNDAMENTALS OF PRODUCT DEVELOPMENT

INSTRUCTOR

Blaine Lilly
488 Scott Lab
lilly.2 @ osu.edu

GOALS

This course is intended to give you a thorough understanding of the entire product development process, from the first stages of problem definition to the finished product rolling off of the factory floor. Although this is a course offered by mechanical engineering, what we typically consider to be engineering design is only one component of the product development process. Designing products that actually succeed in the marketplace requires the participation of experts from many different and quite diverse disciplines, as we'll see throughout the semester. The goal of 5683 is expose you to some of these other disciplines so that you'll have a better idea of how they approach the difficult problems inherent in designing and building successful products.

In this course our focus will be on actual artifacts: devices and systems that exist in the marketplace. We'll spend a considerable amount of time in analyzing different products and thinking about why designs look the way they do, and why so few products are actually successful. Along the way, my intent is to challenge you to think about some questions that don't typically come up in other engineering courses. We're going to take a critical look at the world you're about to enter, and discuss some of the major trends and forces that are changing that world.

This course is unusual for an engineering course, because it requires some reading. There's really no way you can take anything useful away from this course unless you're willing to put in some time and read what's assigned. I put a lot of time into finding current articles that I think will be relevant and interesting to you, but if you decide to rely simply on the class discussion, rather than reading the material yourself, your grade will reflect that.

TEXTS

Required*:*

682 Course Readings The course readings are some articles that we'll be discussing this semester. I can't post these on Carmen without violating the copyright law, so you have to buy them. They're only available at SBX, at 14th and High Street, ***not*** at Uniprint.

The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer, by Jeffrey Liker. This is available used on Amazon.com for about $10, so I haven't ordered it through the bookstores. I won't require you to read the entire book, though I strongly recommend that you do that. We won't begin discussing this book until November, so you have some time to purchase it.

Recommended, if you intend to work in product design:

Manufacturing Processes for Design Professionals, by Rob Thompson. Currently $57 on Amazon – a steal. This book is the best single reference I know of for understanding manufacturing processes, in the context of product design.

Materials and Design, by Mike Ashby and Kara Johnson. A cheaper alternative to Thompson's book, but also a good introduction to a lot of materials you might want to consider. About $40 on Amazon.

GRADING

Midterm Exams	55%
Final Exam	35%
Discussion Participation	10%

EXAMS

There will be two midterm exams for this course, each of which will take the entire lecture period. The midterm exams generally occur during weeks six and eleven. Each midterm exam will only cover material since the previous exam; the final exam is cumulative, and covers material from the entire semester.

PARTICIPATION

Ten percent of your grade in this class is based on your willingness to participate in the class discussion in a meaningful way. Consistently showing up for the lectures (but not talking) will typically earn you 85% of the lecture participation points – you're going to have to talk to get more than that. Even in a class as large as this one, I make a real effort to learn everyone's name as quickly as I can, so by the midpoint of the semester I'll have a good idea of who's coming to class and who's not. I will definitely know the names of the people who are talking in class.

WEBSITE

The course website is at **www.carmen.osu.edu.** The lecture slides for the coming week will generally be available by Sunday evening, with some minor exceptions.

I will post the slides as pdf files in three different formats – two, three, or four slides per page – to give you different options for printing them.

I'm always looking for additional reading material and videos for the course, to keep things up to date. Whenever I add something new at the last minute, I'll send an email to alert you, but I generally do not attach files to the emails – you'll need to log into Carmen to fetch them.

The website is set up by week, with separate folders for the lecture slides, the required reading, and then the extra things that I won't test you on, but which I put there for the folks who are interested in what we're talking about. ***You will not be tested on anything labeled 'optional' on Carmen***.

ACADEMIC MISCONDUCT

This course is focused around developing product designs through structured concept generation and iteration. It is very common for product designs to borrow heavily from earlier designs: this goes on every day in the real world. However, any work that you turn in for this course and claim to be your own must be exactly that. You are free to borrow from any source you can find; all I ask is that you tell us where your ideas came from. Give credit to the sources of your ideas–people will respect you for it.

DISABILITY SERVICES

Course materials and exercises can be made available in alternative formats. Please contact the instructor or the Office for Disability Services (ODS) at 292-3307 for further information

TENTATIVE LECTURE SCHEDULE

Week	**Lecture Topics**
1	Course Intro Objectified *video*
2	Context and Constraints
3	**Labor Day** Intellectual Property
4	Product Opportunities Information in Design
5	Distilling Information Product Ideation & Evaluation
6	**Midterm I** Design Evolution
7	Specs and Benchmarking Product Portfolios
8	Product Architecture
9	Design for Humans
10	Design for Assembly
11	**Midterm II** Processes and Materials
12	Processes and Materials
13	**Veterans Day** Lean Production Systems
14	Lean Production Systems
15	Designing the Future **Thanksgiving**
16	Designing the Future

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

BUS-ADM 3520

Fundamentals of New Product Development

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Core business course in the 9 credit foundation and part of the 15 credit minor

Course Objective

This course is intended to provide an understanding of the entire product development process, from the first stages of problem definition to the finished product. Designing products that actually succeed in the marketplace requires the participation of experts from many different and quite diverse disciplines. The goal of this course is to expose you to a variety of disciplines so that you'll know how each approaches the difficult problems inherent in designing and building successful products.

Our focus will be on devices and systems that exist in the marketplace. We'll spend time analyzing different products and thinking about why designs look the way they do, and why so few products are actually successful. We're going to take a critical look at and discuss some of the major trends and forces that are changing that world.

There's really no way you can take anything useful away from this course unless you're willing to put in some time and read what's assigned.

Learning Objectives

Students will understand the stages in the development process, including:

- Opportunity identification & understanding constraints
- Concept generation & evaluation
- Design & development
- Production & Assembly

Topics

This course contains the following topics:

1. Context & Constraints
2. Intellectual Property
3. Product Opportunities & Information in Design
4. Distilling Information & Product Ideation + Evaluation
5. Design Evolution
6. Specifications, Benchmarking & Product Portfolios
7. Product Architecture
8. Design for Humans
9. Design for Assembly
10. Processes & Materials
11. Lean Production Systems
12. Designing the Future

Readings

Required Coursepack: Case studies and articles that illustrate theories (TBD)

Required Book: *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*, by Jeffrey Liker.

Recommended, if you intend to work in product design:

- *Manufacturing Processes for Design Professionals*, by Rob Thompson.
- *Materials and Design*, by Mike Ashby and Kara Johnson.

THE OHIO STATE UNIVERSITY
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BUS-ADM 3531

Entrepreneurship and Innovation: General, Startup based Entrepreneurship

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- General Start up Entrepreneurship track course is part of the 15 credit minor and fulfills elective track requirement
- Prerequisites: successful completion of BUS MHR 3510 Entrepreneurship & Innovation: New Venture Creation, Design 2700 Introduction to Design Practice and ME/ISE 5682 Fundamentals of Product Development & Engineering

Course Description

The subject of the course is the innovative transformation of knowledge captured through creative, person-centered design into conceptual, viable, commercial concepts in the area of general entrepreneurship, including but not limited to; for profit based retail concepts, food service, service provider base businesses and other "general" types of entrepreneurial startups that are differentiated from Intellectual property based technologies, social entrepreneurship or corporate entrepreneurship within large, pre-existing businesses. The course will examine a variety of business models appropriate for commercializing these product/service based conceptualizations. Cross-disciplinary teams of students will assess a mix of real and hypothetical enterprises for their commercial potential in terms of development. The course begins by examining concepts associated with successful startups. Concepts are introduced that improve and accelerate the commercialization process, from decisions made by product designers, marketers and financial experts, through the development, patenting, and licensing of new trade dress, to the formation of entrepreneurial enterprises.

The objective of the course therefore is to provide students across multiple disciplines with the opportunity to develop skills and understanding of theories and their application to the development of new ideas and viable new businesses within this category of entrepreneurship.

Learning Objectives

Students will understand and be able to apply the strategic process of general startup based entrepreneurship by:

- Understanding the critical and unique differences between general, startup based entrepreneurship and other types of entrepreneurship.
- Creating processes supportive of innovation within a startup
- Identifying multiple forms of general start-ups
- Assessing the environment within an service based start-up in terms of how much it supports or constrains growth
- Creating, capturing and delivering value to consumers or customers through a culture, org structure, incentive program and marketing strategy that garners intended results

Learning Outcomes

There are five expected learning outcomes:

- Successfully assess the commercial potential of both real and hypothetical start-up ventures.
- Develop and analyze market concepts surrounding new ventures.
- Design scalable business models associated with capturing value around their innovative concepts.
- Present oral and written arguments regarding the commercialization strategy and the underlying business model.
- Display understanding and command of the unique aspects of general startup - based entrepreneurship.

Topics

This course contains 3 modules and 28 Sessions.

Module 1 General Entrepreneurship Creating Value through effective ideation and development

Session 1: Introduction: The Changing Nature of the Strategic Challenge
Session 2: The Concept of Entrepreneurial design of new businesses
Session 3: Unique Characteristics of general, startup based entrepreneurship
Session 4: Interim team check ins - progress deliverable / A Framework for Understanding the Obstacles to Success
Session 5: Guest Expert or Case Retail

Module 2: Processes for Successes Value Capture Mechanisms

Session 6: Technology Push vs Market Pull
Session 7: Recognizing and Assessing Emerging Business Opportunities
Session 8: The role of the customer and consumer in the general, startup category
Session 9: Marketing strategies
Session 10: Funding accessing capital for general entrepreneurial concepts in today's economy
Session 11: Guest Expert or Case intangible, service based enterprise CEO
Session 12: Setting Goals and Strategies for each stage of growth

Session 13: IP Issues and Midterm Exam
Session 14: Embracing New Business Models
Session 15: Guest Expert Food service
Session 16: Interim team check ins - progress deliverable Evaluating Value - Innovation Reviews and Opportunity Selection
Session 17: Transitioning successfully from early stage to middle and late stage growth

Module 3: Value Delivery Mechanisms
Session 18: Function and Organization of New Ventures
Session 19: Open vs Closed Organizations - Reaching Outside for Innovation Partners; Accelerators, Acquisitions, and Matchmakers
Session 20: Forms of Corporate Ventures
Session 21: Guest Expert or Case CPG/FMCG - HR
Session 22: Innovation Leadership; Resistance to Change and Fear of Failure
Session 23: Creating a Culture that facilitates continued growth and entrepreneurial spirit
Session 24: Guest Expert or Case Product based Manufacturing - production expert
Session 25: Interim team check ins - progress deliverable Venture Capital Investment Returns
Session 26: Role of Incentives and Reward Structures
Session 27: Teams' Present "Innovation" Assignments
Session 28: Final Exam

Assignments & Grading Weighting:

Interim Progress Presentations: (10% each) 30% of overall, final grade
Midterm Exam: 20% of overall grade
Final Exams: 25% of overall grade
Team Assignment: 25% of overall grade

Readings

These topics are addressed by a combination of the course text, chapter excerpts from supporting texts, case studies, three academic articles and five general interest articles. There are also individual assignments and a team assignment.

1.) Primary Course Text: *"The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty"* Rita Gunther McGrath, Ian C. MacMillan
2.) Course packet of readings and Case Studies

THE OHIO STATE UNIVERSITY
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BUS-ADM 3532

Entrepreneurship and Innovation: Corporate Entrepreneurship

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Corporate Entrepreneurship track course is part of the 15 credit minor
- Prerequisites: successful completion of BUS ADM 3510 Entrepreneurship & Innovation: New Venture Creation, Design 2700 Introduction to Design Practice and ME/ISE 5682 Fundamentals of Product Development & Engineering

Course Objective

"The only future source of profit, the only reason to invest in companies in the future, is the ability to innovate and their ability to differentiate."
-Jeffery Immelt, GE

CEOs have recognized an innovation imperative: the development of sustainable top line revenue growth is critical to the competitive viability of corporations. The efforts of the individual or team of entrepreneurs who are responsible for this activity become even more complex when the setting is inside an existing business. The objective of the Corporate Entrepreneurship course is to provide students across multiple disciplines with the opportunity to develop skills and understanding of theories and their application to develop new ideas and viable new businesses within an established firm. The course will address the development of an internal culture of innovation, processes for reviewing ideas and developing concepts, strategic analysis, positioning for competitive advantage, forms of corporate ventures, and the qualities of corporate entrepreneurs.

Learning Objectives

Students will understand and be able to apply the strategic process of corporate entrepreneurship and innovation by:

- Understanding the critical issues in corporate entrepreneurship and difference between corporate and start-up entrepreneurship
- Creating processes supportive of innovation throughout an established organization
- Identifying multiple forms of corporate venturing
- Assessing the environment within an established company in terms of how much it supports or constrains entrepreneurship
- Gaining an understanding of the connection between corporate strategies and innovation

Topics

This course contains 3 modules and 28 Sessions.

Module 1: Corporate Entrepreneurship

- Session 1: Introduction: The Changing Nature of the Strategic Challenge
- Session 2: The Concept of Entrepreneurial Intensity (EI); Differences Between Entrepreneurship And Corporate Entrepreneurship
- Session 3: The Organizational Life Cycle; Who is the Corporate Entrepreneur?
- Session 4: A Framework for Understanding the Obstacles to Successful Innovation within Firms
- Session 5: Guest Expert or Case

Module 2: Corporate Entrepreneurial Processes

- Session 6: Managing NPD Inside Corporations; Technology Push vs Market Pull
- Session 7: Recognizing and Assessing Emerging Business Opportunities
- Session 8:Technology Management and Corporate Entrepreneurship
- Session 9: Marketing and Corporate Entrepreneurship
- Session 10: Purchasing and Corporate Entrepreneurship
- Session 11: Guest Expert or Case
- Session 12: Setting Goals and Strategies
- Session 13: Technology Acquisition and IP Issues
- Session 14: Embracing New Business Models
- Session 15: Guest Expert
- Session 16: Evaluating Value - Innovation Reviews and Opportunity Selection
- Session 17: Managing Corporate Innovation Portfolios

Module 3: Forms of Corporate Entrepreneurial Ventures and Culture

- Session 18: Function and Organization of New Ventures - Corporate Incubators
- Session 19: Open vs Closed Organizations - Reaching Outside for Innovation Partners; Accelerators, Acquisitions, and Matchmakers
- Session 20: Forms of Corporate Ventures
- Session 21: Guest Expert or Case
- Session 22: Corporate Innovation Leadership; Resistance to Change and Fear of Failure
- Session 23: Creating a Culture that isn't an Idea Vulture
- Session 24: Guest Expert or Case
- Session 25: Corporate Venture Capital Investment Returns
- Session 26: Role of Incentives and Reward Structures
- Session 27: Teams' Present "Innovation Opportunity" Assignments
- Session 28: Teams' Present "Innovation Opportunity" Assignments (Con't)

Readings

These topics are addressed by a combination of the course text, chapter excerpts from supporting texts, case studies, three academic articles and five general interest articles. There are also individual assignments and a team assignment.

1.) Primary Course Text: Morris, M. H, Kuratko, D.F. and Covin, J.C. Corporate Entrepreneurship and Innovation, 2nd Edition, Mason, Oh
2.) Semlar, Ricardo (1995), Maverick: The Success Story Behind the World's Most Unusual Workplace, New York; Warner Books
3.) Course packet of readings and Case Studies

THE OHIO STATE UNIVERSITY
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BUS-ADM 3533

Technology Entrepreneurship Syllabus

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Technology Entrepreneurship track course is part of the 15 credit minor
- Prerequisites: successful completion of BUS ADM 3510 Entrepreneurship & Innovation: New Venture Creation, Design 2700 Introduction to Design Practice and ME/ISE 5682 Fundamentals of Product Development & Engineering

Course Description

The subject of the course is the innovative transformation of knowledge captured in scientific discoveries into conceptual, viable, commercial products and services. Furthermore, the subject will examine a variety of business models appropriate for commercializing those product/service conceptualizations. Cross-disciplinary teams of students will assess real technologies for their commercial potential in terms of licensing and/or for venture development. The course begins by examining concepts associated with technology commercialization. Concepts are introduced that improve and accelerate the commercialization process, from decisions made by scientists at the research bench, through the development, patenting, and licensing of new technologies, to the formation of entrepreneurial enterprises. The Course is led by practitioners of technology commercialization and wherever possible case studies will be used from The Ohio State University's own commercialization experiences in life sciences, information technology, alternative energy, and nanotechnology (among others).

Learning Objectives

The course has five objectives.

1. To understand the key concepts and options in technology commercialization.
2. To understand how to assess technologies for their commercialization potential.
3. To understand the steps that a technology goes through in the journey from the laboratory to the marketplace.
4. To explore the roles that intellectual property protection, and licensing play in the commercialization process.
5. To put this new understanding to practice in the evaluation and conceptual development of one or more live technologies.

Learning Outcomes

There are four expected learning outcomes.

1. Student teams will assess the commercial potential of "live" technologies.
2. Student teams will develop and analyze product-market concepts surrounding new technologies.
3. Student teams will design scalable business models associated with capturing value around their innovative product-market concepts.
4. Student teams will present oral and written arguments regarding the technology commercialization strategy and the underlying business model.

Required Materials

- Technology Entrepreneurship: Creating, Capturing, and Protecting Value, Duening, Hisrich and Lechter.
- Other required readings will be available on Carmen or distributed in class.

Assignments

There are two major and one minor assignment in this course.

1) First Look Technology Assessment Project (Major)

Students will form teams to screen and evaluate a very early stage technology, and perform a "First Look Technology Assessment". This technology will be "real", a technology that students bring to class themselves or chose from a short list of Ohio State University technologies prepared by the faculty for this assignment. The assignment will involve both primary and secondary research.

The goal of a First Look Technology Assessment is to get an early indication of commercial interest in an idea, invention, or area of research. The primary benefits of the reports are the potential partners/licensees that can be found along with a basic understanding of the worth of the technology. In cases where inventions are not well received by the commercial marketplace, the reports can give early warning signals that the proposed area of research or proposed patent may be a non-starter and further investigation is needed prior to funding either more research or a patent submission.

Teams will be provided with a detailed description of the content of a First Look Technology Assessment and guidelines for the team presentations. Each team will submit a written version of the First Look Technology Assessment Project and make a 10-minute presentation to the class.

2) Elevator Pitch Assignment (Minor)

Students will be required to prepare and give, without notes, a two minute "elevator pitch" in which they are using a chance encounter in an elevator with an investor of the student's choosing who just happens to be the perfect person to invest in the company that is developing the technology that is the subject of the First Look Venture Assessment. The investment can be at any stage of the company's life cycle start-up, venture-stage or IPO. We will discuss the elevator pitch and give out assignments in Session # 10 for students to prepare and pitch to the class in Session #12.

3) First Look Venture Assessment Project (Major)

Students will form teams to screen and evaluate a technology, and perform a "First Look Venture Assessment". This technology will be "real", either a further more in depth look at the technology that was the subject of the First Look Technology Assessment, or a technology that students bring to class themselves or another technology chosen from the list of Boston University technologies prepared by the faculty for this assignment. Your First Look Venture Assessment Project will be due by Session #14 (see Course Calendar).

The goal of a First Look Venture Assessment is to get an early indication of commercial interest in technology to determine whether it is indeed the basis of a fundable company. The financial and human commitments involved in establishing a new venture substantially exceed those required for an affirmative decision to commercialize a technology through other means, and a much more in depth investigation is necessary. If the conclusion is indeed a "go", then the output will be the core of the venture's first business plan.

Teams will be provided with a detailed description of the content of a First Look Venture Assessment and guidelines for the team presentations. Each team will submit a written version of the First Look Venture Assessment Project and make a 20-minute presentation to the class in Session 14 with written reports due by 4 o'clock that day.

Team Learning

One of the core concepts behind the course is the need for different skill sets to come together to successfully commercialize a technology scientific, marketing, financial and legal. The chemistry of the team must gel, and there must be a mutuality of interest life sciences versus high technology, versus software versus internet, etc.

Students will start to form teams in Week two and the teams will then select their technology for the First Look Technology Assessment Project in Week 3. The same teams will perform their First Look Venture Assessment Project together in the second half of the course.

Sources of Technology

Students will be provided with a listing of the Ohio State University technologies from which to select a technology to evaluate for the First Look Assessments. These technologies will be drawn from a variety of scientific disciplines. Students will be given access to the faculty inventor in order to gain the benefit of their insights and perspectives as part of their research into the technology.

Students are highly encouraged to use the same technology for both First Look Assessments or may evaluate two different technologies. If they choose the latter course, the workload will be considerably higher, as they will need to carry out a full First Look Technology Assessment on their First Look Venture Assessment technology before proceeding to the venture assessment portions.

Alternatively, students may bring a technology of their own choosing to the class and attempt to recruit other students to join a team to evaluate the technology. The student themselves or someone else may be the inventor of this technology. For this to be viable, the student must have the agreement of the inventor to make available an enabling description of the technology to the team, who will be asked to sign a confidentiality agreement with respect to the technology. The rest of the class will be asked to sign a confidentiality agreement with respect to what the team discloses about the technology in the class presentation.

Case Studies

Some classes will start with a case study. A major part of this part of the session will be devoted to following the fortunes of Vermeer Technologies, a software company that successfully rode the first wave of the internet. Other case studies include Intellectual Ventures, a novel IP management start-up founded by the Director of Research for Microsoft, Targecept, a spin-out from R.J. Reynolds which develops therapeutic applications of nicotine and a number of BU spin-out companies.

Participation

Class participation is a key to success in this course. Since we learn more through active involvement, students are expected to prepare all assignments before class and make thoughtful contributions to discussions. The goal of participation is to help the class effectively explore the topics presented through integrating concepts from your experience, from the text, and from outside sources in your discussions. Because much of the work we will do in the class involves teamwork and collaboration, participation is a very important tool to help us accomplish our goal of learning more about the commercialization process.

It is particularly important for students to participate actively in the Case Studies which will lead off each class, whether they are an assigned presenter of the case or participating in the subsequent class discussion.

You are expected to attend every class. If you miss a class, you are responsible for the material covered. In the event that you must miss a class please let your team members know and be sure to check with your colleagues to insure you have any changes in schedule, assignments, etc. Failure to attend class whether excused or not, can & will affect your participation grade.

Written Work

The written work for this course is 2 assignments. The first project is the First Look Technology Assessment Project and the second is the First Look Venture Assessment Project. Both projects require one paper / presentation per team. All written work is due on the date scheduled unless other arrangements have been made in advance with the instructor.

Ideas must be expressed clearly and concisely. Papers will be graded on content and style, with content providing approximately 70% of the overall grade. Content includes the quality of information and conclusions, support for conclusions, and the logic and flow of the information presented. Style includes grammar, spelling, punctuation, and word usage.

All students must pledge confidentiality regarding their classmates' projects. If you have a "conflict of interest," you must explain it to us in writing. If we do not receive written notification of such a conflict, we will assume that none exists. Conflict of interest may come from students analyzing companies/technologies they are working with, on, in their labs, or on behalf of professors.

University policies on grading and academic honesty are supported in this class. It is your responsibility to know and understand these policies.

Grading

The grades for this course will be based on the following point system.

First Look Technology Assessment Project
- Team Written report 20%
- Team Presentation 10%

First Look Venture Assessment Project
- Team Written Report 20%
- Team Presentation 20%

Elevator Pitch 10%
Participation 20%

An "A" represents truly superior work; a "B" reflects good, solid graduate level work. Grades are based on a standard, not on a curve, so that, if earned, everyone can get an A.

Point Distribution:

90	100 =	A
80	89 =	B
70	79 =	C
60	69 =	D
Below 60 =		F

Grades for individual students may be adjusted (up or down) to account for differences in performance of individual members of a project team. Peer evaluations may be used as one of the tools to assess individual contributions to team efforts. University policy on Academic Dishonesty will be followed in this course.

Course Schedule

Week 1

Introduction of Instructor and Students
Background
Overview of the Course

- Review Syllabus
- Objectives
- Course assignments.
  1. Introduction
  2. First Look Technology Assessment Project
  3. First Look Venture Assessment
  4. Elevator Pitch
  5. Faculty Introductions
  6. Grading

Assessment Methodology and Tools:
This class will focus on how we go about confirming (or, equally important) disproving the initial ideas of where a technology will find acceptance in the market and how much "breathing room" from competition it can expect the market to give it. The order of the techniques sounds backwards first we look at the information disclosed in the scientific discovery documents, then we examine secondary sources of information, i.e., what information already exists. Armed with that, we then turn to primary sources, contacting potential customers, suppliers and competitors.

Secondary Sources
Primary Research Techniques and Tools

Week 2

Case Discussion: Vermeer Technologies (**A**)
Intellectual Property
Every new technology entering the market needs some breathing room from competition, to allow it time to develop and gain acceptance. Technologies usually rely on Intellectual property protection to provide this room to grow. This class will discuss two of the most important barriers to competitive entry, copyrights and patents.

Copyrights
Lecture by Howard G. Zaharoff
Partner, Morse, Barnes-Brown & Pendleton, P.C.
Patents
First Look Technology Assessment Project

1. Overview of assignment
2. Timeline/ Expectations
3. Technology assignment

Team Formation

Students will start to identify their skill sets and interests and coalesce into the teams of complementary skills needed to perform the First Look Technology Assessment Project and First Look Venture Assessment Projects

Week 3

Technology Start-up Companies

Established companies can be very resistant to new technologies that threaten to make their existing investment in plant, people and patents irrelevant. History is full of examples of existing companies that were put out of business by new technologies that they had the opportunity to control and rejected. Often the inventor's only option is to start a new company to develop the technology. Start-ups are exciting and can make a lot of money for the founders, but the road can be fraught with pitfalls.

Sources of Technology Part 1 -- Universities
The Bayh-Dole Act of 1980 was a pivotal event in the role of universities in the innovation economy. Prior to Bayh-Dole, the government owned any inventions which had resulted from federally funded research and was miserable at licensing them. The Bayh-Dole Act allowed universities to own the patents and gave them complete freedom in licensing. The Act provided no funding for these activities but provided a powerful incentive to universities to invest in technology transfer. Universities responded to the incentives and the Act has been spectacularly successful.

Week 4 **Licensing Intellectual Property**

In addition to the protection of intellectual assets, the successful management of intellectual property also involves prowess in trading intellectual assets. This class examines this topic by reviewing the basic legal and managerial dimensions of licensing intellectual property. Topics covered include: introduction to the legal framework for licensing in the United States and internationally; procedures for licensing out intellectual property; procedures for licensing in intellectual property; cross-licensing, cooperation and competition; linking licensing strategy to intellectual property protection; and, linking licensing strategy to overall corporate strategy.

Technology Valuation
Lecture by Ashley Stevens
How do you know how much to ask for a technology? This talk will discuss standard methodologies and will provide students with practical tools for valuing technologies.

Week 5 **Case Discussion: Vermeer Technologies (B).**

Sources for Technology Part 2 Large Companies

The role of large companies in the technology commercialization process is ambivalent. On the one hand, large companies have enormous research and development budgets and frequently develop novel technologies that don't fit within the company's market or manufacturing core competencies and the challenge is to develop systems to allow these opportunities to be capitalized on.
On the other hand, large companies do not have a good record of disruptive innovation within their core competencies and are increasingly receptive to partnering with young companies to bring new technologies to market.

This class will explore both of these facets of the role of large companies.

"Spinning a new company out of a large company"

Week 6 **Case Discussion: Vermeer Technologies (C).**

First Look Technology Assessment Projects Presentations

- 1 page summary to be distributed in class to all attendees.
- 10 minute PowerPoint presentation per team. Rehearse it and time it no overages allowed!

Email summary and presentations to the instructor by end of day.

Week 7 **Sources for Technology Part 3 National Laboratories**

The US' system of national laboratories perform around a third of the federally funded research performed in the US. They are brimming with technologies for development. However, their closeness to the federal government subjects them to distinctive challenges as a source of technology.

Introduction to First Look Venture Assessment Project

1. Overview of assignment
2. Timeline/ Expectations
3. Technology assignments

Strategizing Technology Commercialization

The most important issues in technology commercialization is to carefully develop a strategic plan to follow. This class will focus on two of the most important issues for a new venture the commercialization pathway that will be followed start-up company, licensing, etc. and how development of the technology will be financed. This lecture will also cover the company's capitalization table and how this changes as the company evolves.

Commercialization Pathways

Week 8 **Review of the proprietary TEC Protocol for the evaluation of startup opportunities for University-based technologies**

The award-wining TEC Protocol will be reviewed along with an introduction to the accompanying Course Pack. Evaluations include nested problems, CMO's, value propositions; market needs assessment, voice of customer, business modeling, strategic and functional analyses, etc.

Problem and Solution

In this area, it is critical that you clearly identify the problem you are solving. It is important that the problem not be defined in terms of the capabilities of your technology. Rather, a problem is defined in terms of the pain - very specific pain - it causes your intended customer (end user). When you isolate the pain, you can quantify the economic, social, or environmental impact of the problem you are trying to solve. Quantifying the pain gives you an estimate of the "value" of your solution, an idea of how eager customers are to adopt your solution, and the price a customer may be willing to pay.

Customer Segments

There are three actors in customer segments that you need to be aware of, and you must be cognizant of how each actor impacts the definition of "customer" for your venture. A customer can be an end user (the person or organization that actually uses the product and is responsible for its primary application),

the purchaser (the person or entity that actually pays for your product, who typically has the most influence over whether or not the product is purchased) and the intermediary or influencer (the person or organization that sets the terms or standards by which the product or service is purchased).

Week 9 **Value Propositions**

Key Resources and Activities

Building the operational infrastructure of the business begins with a solid understanding of the key resources needed to establish and maintain a strong competitive position for your products and services in your targeted market. These resources are not the list of resources that everyone needs to compete in your market, but rather the key resources that enable you to create and maintain a sustainable competitive advantage. For example, maybe your value proposition is that you can reduce the costs of an expensive product line. You need to understand exactly how you will maintain a lower cost position and how you intend to defend that position over time. Your key resources can be physical, financial, intellectual or human.

Building the Management Team

One of the early challenges of a start-up company is to find individuals with the complementary skills needed to round out the management team. How do you find them, how do you excite them and how do you get incentivize them?

Week 10 **Introduction to a Business Plan**

The heart and soul of a new venture either free standing or within an existing company is a its business plan. Written as much to force discipline on its writers as for its intended audience of potential investors, a business plan must identify the opportunity, the risks, the rewards and the resources necessary to achieve success. It must identify the exit the vehicle by which the investors in the technology will realize their financial return. And above all, it must be a living, breathing document that is continually adapting to the company's learning and the market's evolution.

Elevator Pitch Introduction

No matter how exciting an opportunity, the entrepreneur must be able to communicate it succinctly. The concept of the "Elevator Pitch" originated with the need to be prepared to capitalize on the captive audience you might have if you found yourself visiting a company to pitch an idea and found yourself riding an elevator to the top of a bank skyscraper with the company's.

Week 11 **Case Discussion: Surface Logix**

Entrepreneurial Finance

A start-up company isn't on the path to stability until it is cash flow positive and has eliminated the burden of raising further investment capital. It must not only be at breakeven on its operations, it must be through the phase of heavy investment in production capacity and in inventory build-up. Developing financial projections for a company that hasn't been created yet is one of the great managerial challenges of technology commercialization. In this class we will cover the core operating statements a company needs P/(L), balance sheets and cash-flow, and then review approaches and tools to generate them. A key concept is fixed versus variable costs and developing the sales level at which breakeven will be reached.

Entrepreneurial Resources
How do you meet up with the various resources that will be needed to make a technology commercialization project a success investors, lawyers, advisors, partners and so forth. Social capital is just as important as financial capital, and successful innovation clusters like Massachusetts are full of networking organizations and opportunities.

Week 12 **Top Ten Mistakes in Start-Up Technology Companies**

Those who ignore history are destined to repeat it. From the 8 Track to the Betamax, the streets are littered with stories of failed technology commercialization projects. We should learn from these mistakes. In this class, one of the law firms serving the entrepreneurial sector will share some of the most common causes of commercialization failure they've observed.

Negotiating Strategies
Life is a negotiation they say, and the fundamental principles of negotiation are one of the fundamental business skills.

Introduction, case activity in pairs, analysis of outcomes.

Week 13 **Project Planning**

Teams Meeting time for preparation of final presentation and report.

Week 14 **First Look Venture Assessment Project presentations (Round 1)**

Teams will make presentations on their First Look Venture Assessment Project.

- 1 page summary to be distributed in class to all attendees.
- 20 minute PowerPoint presentation per team. *Rehearse it and time it – no overages allowed!*

Email summary and presentations to the instructor by 4:00pm on class day.

Week 15 **First Look Venture Assessment Project presentations** (**Round 2**)

Teams will make presentations on their First Look Venture Assessment Project.

- 1 page summary to be distributed in class to all attendees.
- 20 minute PowerPoint presentation per team. *Rehearse it and time it – no overages allowed!*

Email summary and presentations to the instructor by 4:00pm on class day.

Course Wrap Up

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

BUS-MHR 5530

Value Creation in Social Entrepreneurship

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Social Entrepreneurship track course is part of the 15 credit minor and fulfills elective track requirement
- Prerequisites: successful completion of BUS ADM 3510 Entrepreneurship & Innovation: New Venture Creation, Design 2700 Introduction to Design Practice and ME/ISE 5682 Fundamentals of Product Development & Engineering

Course Description

Social entrepreneurship is a rapidly developing and changing business field in which business and nonprofit leaders design, grow, and lead mission-driven enterprises. As the traditional lines blur between nonprofit enterprises, government, and business, it is critical that business students understand the opportunities and challenges in this new landscape. Through guest speakers, case discussion, lecture, and student presentations this course will explore this emerging field. Students will be expected to develop a business plan for a social enterprise. Because the field of social entrepreneurship is interdisciplinary and in its infancy, the course will be introductory in nature and will draw heavily from cases and speaker experience. The course will be structured around three elements that will be interwoven throughout:

1. The field of social entrepreneurship.
2. The players and business structures used by social entrepreneurs.
3. The mechanics, tensions, and realities of starting and/or managing a social enterprise.

When looking at a social venture or discussing a social entrepreneur we'll examine the following elements:

- Sustainability - How are social entrepreneurs funding their enterprises? How is the enterprise sustaining itself financially?
- Impact and Performance - What is the impact of the enterprise? Which tools are available to measure the impact and effectiveness of social enterprises?
- Innovation-Social entrepreneurs are innovators who create change. How do they create and spread this innovation and change?
- Leadership--What are the characteristics of social entrepreneurs' leadership?

Learning Objectives

At the end of the course, students can expect to:

- Have gained an understanding of the field of social entrepreneurship and understand many of the opportunities, challenges, and issues facing social entrepreneurs
- Have met leading social entrepreneurs who are using business skills to address complex social problems.
- Develop a business plan for a social venture

Assignments & Grading Weighting:

There are five items that will comprise your grade. All assignments need to be turned in on-time. Details on the assignments will be distributed separately:

1. Social enterprise summary. Due on the second class. (5% of grade).
2. Conceptual proposal of business plan. Due on the third class (5% of grade).
3. Case presentations and business plan progress reports. Each student team will be responsible for one group case presentation and a weekly update of progress on business plan development (15% of grade for case presentation and 15% for progress reports).
4. Business plan and class presentation. Presentations will take place on week 9 and written plan is due on week I 0 (35% of grade).
5. Class participation (25% of grade}.

Attendance and Participation:

This class will rely heavily on the interaction between the students, me, and the guest speakers. As such, it is critical that you come to all classes well-prepared and ready to contribute. Please spend time prior to each class session completing web research on the speaker for that evening. It is expected that you will attend all class sessions. If you must miss a session, please arrange with me in advance. Missing more than one class session may adversely affect your class participation grade.

Readings:

Collection of readings and cases that are listed under individual class sessions.

Bomstein, David. *How to Change the World: Social Entrepreneurs and the Power of New Ideas* (Oxford University Press, 2004}. You will need to order this from Amazon or other bookseller.

Collins, Jim. *Good to Great and the Social Sectors: A Monograph,* (Harper Collins, 2005, ISBN 097732640).

Recommended:

Raising the Bar: Integrity and Passion in Life and Business: The Story ofC/ifBar, Inc., By

Gary Erickson.

LaPiana, David. Play to Win: The Nonprofit Guide to Competitive Strategy. Jossey-Bass,

2005.

Topics

Week 1: Introduction to Social Entrepreneurship

Week 2: Nonprofits

Week 3: Government

Week 4: Philanthropy and Driving Change

Week 5: The challenges of scale

Week 6: Midterm

Week 7: Capital/Funding/Financing

Week 8: Competition and Measuring and Managing Performance

Week 9: For-profit Social Venture Models

Week 10: Marketing

Week 11: The tensions/challenges

Week 12: Partnerships/Change

Week 13: Wrap - up

Week 14: Final Presentations

Week 15: Final Presentations

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

BUS-ADM 4510

Entrepreneurship and Innovation: Practicum

Context

- 14 weeks, 3 hours per week
- 3 credits
- Target: Undergraduate students seeking a minor in Entrepreneurship and Innovation, across colleges and majors
- Last of four required courses and part of the 15 credit minor - fulfills final requirement in sequence
- Prerequisites: successful completion of BUSADM 3510 Entrepreneurship & Innovation: New Venture Creation, Design 2700 Introduction to Design Practice and ME/ISE 5682 Fundamentals of Product Development & Engineering and one of the following four electives: BUSADM 3531 General Startup based Entrepreneurship, BUSADM 3532 Corporate Entrepreneurship, BUSADM 3533 Technology, and/or BUS MHR 5530 Entrepreneurship Social Entrepreneurship.

Course Description

The objective of the course is to provide students with the opportunity to practice the tools and to apply the theories of entrepreneurship and innovation taught in the prerequisite courses to real-world projects, and in the process to garner hands-on applied learning experiences through the creation of new ventures.

Students from various colleges and areas of study, but who selected and enrolled in a specific track elective (Social Entrepreneurship, Technology Commercialization, General Startup based Entrepreneurship or Corporate Entrepreneurship), will form heterogeneous teams working on real life projects, either of their own ideation or as selected from a list of existing, real life utilities (products, services or other intellectual property). As a team, students will execute all phases of entrepreneurship and innovation process taught throughout the preceding, required and elective courses beginning with Value Creation, followed by Value Capture and finally by the third and final phase of Value Delivery. Over the course of 14 weeks the students will demonstrate their understanding and command of the theories and tools of entrepreneurship and innovation through the ideation of viable new ventures, products and services including strategic recommendations regarding the target customer, market segmentation and sizing, macro socio-political trends substantiating and supporting market demand and unmet needs, growth strategies, and an assessment of the competitive landscape. The project will also require the team to develop and deliver a comprehensive business plan including all pertinent financial planning, marketing strategy (including base level positioning), estimated performance, growth trajectory and market niche and penetration and a plan for accessing and raising necessary capital. Finally students will provide specific recommendations of the mechanisms required to successfully launch the venture into the marketplace and to maintain the entrepreneurial and innovative mindset within the burgeoning organization including recommended go-forward cultural standards, incentives, organizational structure and leadership style of the new venture. The final will be deliverable comprised of the business plan and a "roadshow" presentation that will be presented via group presentations during the final week of the course.

Learning Objectives

Students will understand strategic concepts and processes by:

- Demonstrating an understanding and command of theories of entrepreneurship and innovation
- Effectively and correctly applying tools of entrepreneurship and innovation
- Properly executing all three phases of Entrepreneurship & Innovation; Value Creation, Value Capture and Value Delivery mechanisms

Learning Outcomes

There are five expected learning outcomes including:

- Development of a comprehensive and effective business plan
- Development of a detailed marketing plan
- Preparation of a persuasive roadshow

Topics

Week One: Assignment Review, Review of Phase One: Value Creation activities and concepts
Week Two: Initiate Phase One: Value Creation activities ideation, target customer, trends,
Week Three: competitive landscape, conceptualization, collaborative development
Week Four: Team Check ins with instructor review of progress to date
Week Five: Refinement of Phase one deliverables including marketing concepts, naming, identity, etc.
Week Six: Review of Phase Two: Value Capture activities and concepts
Week Seven: Team Check - ins and Initiate Phase Two: Value Creation activities: Business Plan Development
Week Eight: Marketing Plan Development
Week Nine: Capital and Fundraising Plan including development of elevator pitch and roadshow presentation
Week Ten: Team Check-ins and Review of Phase Three: Value Delivery processes and activities
Week Eleven: Initiate and complete Phase Three: Value Delivery process and activities including recommendations regarding organizational structure, leadership, culture and incentives.
Week Twelve: Final Business Plans submitted
Week Thirteen: Recommendations and Refinements
Week Fourteen: Final "Roadshow" Presentations

Assignments & Grading Weighting:

- **Interim Check-ins** completion of assignment to date 10 each and 30% overall grade
- **Business Plan** 30% of overall grade
- **Marketing Plan and strategy** 15% of overall grade
- **Roadshow final presentation** - 25% of overall grade

THE OHIO STATE UNIVERSITY

Department of Design
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108 N Oval Mall
Columbus OH 43210
614-292-6746 Phone
614-292-0217 Fax

November 15, 2013

Vice Provost W. Randy Smith
Council on Academic Affairs
Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
Columbus, OH 43210

Dear Randy Smith,

I am writing this letter in support of the revision to the Entrepreneurship and Innovation minor being proposed by the Fisher College of Business in partnership with the College of Engineering and my own department, Design. I have been involved with the re-tooling of this interesting and potentially very popular minor program since joining the faculty at Ohio State on August 1st. In that time, it has become clear to me that this multidisciplinary alliance is important and strong due to its potential to enrich students majoring in each of the three departments/colleges as well as those from external majors. By "marrying" design and creative thinking with savvy business strategies and current and future-oriented technical knowledge, this minor program offers crucial knowledge to students wishing to serve as leaders in their chosen professions. The program is also valuable in the manner in which it offers balanced viewpoints to students as a means of modeling healthy collaboration. I am anxious to participate as I believe that adding new voices and perspectives to our sometimes too "siloed" modes of learning will enrich the experiences of both students and professors. As I understand it, this newly revised program has great potential to yield successful completion for the students who participate and I intend to encourage all of the students in the design department to give it serious consideration. Perhaps that serves as the greatest evidence of the strength of my endorsement.

Sincerely,

Mary Anne Beecher, Ph.D.
Professor and Chairperson, Department of Design
The Ohio State University
beecher.17@osu.edu

The Ohio State University
Fisher College of Business

Undergraduate Interdisciplinary Minor in Entrepreneurship & Innovation

Fisher College of Business, Undergraduate Programs and Advising Office, 120 Schoenbaum Hall, 210 Woodruff Avenue, Columbus, Ohio 43210; 614-292-2715; fisherundergrad@fisher.osu.edu

The Undergraduate Interdisciplinary Minor in Entrepreneurship is offered through a collaboration of the following colleges: Fisher College of Business, Arts and Sciences Department of Design, and the College of Engineering. Designed for capturing the economic value in creative ideas for commercially viable products and services, this educational program enhances a student's understanding of and appreciation for entrepreneurship and innovation, this program encourages exploration into personal career opportunities through entrepreneurial studies and develops specific competencies in the creation, growth and leadership of entrepreneurial enterprises.

This minor requires the successful completion of a minimum of 15 hours and five courses. Credit hours and prerequisites for each course are listed following the course title.

Required Courses

BUSMHR 3510.01 – New Venture Creation
Credits: 3

DESIGN 2700 – Introduction to Design Practice[1] (or equivalent)
Credits: 3

ISE ME 5682 – Fundamentals of Product Design & Engineering
Credits: 4

or

BUSADM 3520 – Fundamentals of Product Design
Credits: 3

BUSADM 4510 – Entrepreneurship & Innovation Practicum
Credits: 3; Prerequisite: 3510.01, 2700, 5682 and one of the Elective Track courses

Elective Courses

The minor requires students to successfully complete one of the following elective-track courses.

BUSADM 3531 – General Entrepreneurship
Credits: 3 Prerequisites: BUSMHR 3510.01, DESIGN 2700, ISE ME 5682

BUSADM 3532 – Corporate Entrepreneurship
Credits: 3 Prerequisites: BUSMHR 3510.01, DESIGN 2700, ISE ME 5682

BUSADM 3533 – Technology Commercialization
Credits: 3 Prerequisites: BUSMHR 3510.01, DESIGN 2700, ISE ME 5682

BUS-MHR 5530 – Value Creation in Social Entrepreneurship
Credits: 3 Prerequisites: BUSMHR 3510.01, DESIGN 2700, ISE ME 5682

[1] Credit earned via EM testing cannot be used to substitute for DESIGN 2700.

Undergraduate Interdisciplinary Minor in Entrepreneurship Guidelines

The following guidelines govern the minor:

Required for graduation: No

Credit hours required: Minimum of 15

Transfer credit hours allowed: A maximum of 3

Overlap with the major
Not allowed and
- The minor must be in a different subject than the major
- The same courses cannot count for the minor and for the major

Overlap between minors Each minor completed must contain 12 unique hours.

Grades required
- Minimum C- for a course to be listed on the minor.
- Minimum 2.00 cumulative point-hour ratio required for the minor.
- Course work graded Pass/Non-Pass cannot count on the minor.

Minor Approval
The Entrepreneurship and Innovation Minor does not have an application process. In order to graduate with an Entrepreneurship & Innovation Minor, you must meet the guidelines listed on the curriculum requirements. Upon completing the requirements, a student needs only to file the Entrepreneurship & Innovation Minor Program Form with their college office. No approval from Fisher College of Business is required.

Filing the minor program form
The minor program form must be filed at least by the time the graduation application is submitted to the college.

Changing the minor
Once the minor program is filed in the college office, any changes must be approved by the academic unit offering the minor

College of Arts and Sciences
Curriculum and Assessment Services
154 Denny Hall, 164 W. 17th Ave.
http:artsandsciences.osu.edu

Update 3/26/13 DH