

### FALL 2009 ENTREPRENEURSHIP COURSES

#### Biomedical Engineering Design

##### - 3 Units [Simulated]

E62 ENGR 401	1	M-W----	8:30 AM	10:00 AM	Klaesner/ Vin
E62 ENGR 401	2	M-W----	8:30 AM	10:00 AM	Klaesner

#### Business Planning for New Enterprises [The Hatchery]

##### - 3 Units [Action and Outcomes]

B53 MGT 424	1	-T-----	4:00 PM	6:00 PM	Holekamp
B63 MGT 524	1	-T-----	4:00 PM	6:00 PM	Holekamp

#### Economic History and Entrepreneurialism in Modern Western Civilization

##### - 3 Units [Perspectives]

L22 HIST 115	1	M-W----	3:00 PM	4:00 PM	Hause
L22 HIST 115	A	---T---	2:00 PM	3:00 PM	[TBA]
L22 HIST 115	B	---T---	3:00 PM	4:00 PM	[TBA]
L22 HIST 115	C	----F--	2:00 PM	3:00 PM	[TBA]
L22 HIST 115	D	----F--	3:00 PM	4:00 PM	[TBA]

#### Engineering Practice and Professional Values

##### - 3 Units [Perspectives]

E60 ENGR 450	1	M-----	4:00 PM	5:30 PM	Yoak/ Ballard
E60 ENGR 450	A	--W----	4:00 PM	5:30 PM	Ballard
E60 ENGR 450	B	--W----	4:00 PM	5:30 PM	Yoak
E60 ENGR 450	C	--W----	4:00 PM	5:30 PM	Pereau

#### Entrepreneurship

##### - 3 Units [Perspectives]

U44 BUS 232	1	M-----	6:00 PM	8:30 PM	Coen
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#### From Concept to Market - The Business of Biomedical Engineering

##### - 3 Units [Perspectives]

E62 BME 201	1	---T---	3:00 PM	6:00 PM	Calcaterra
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#### Great Economists: Text and Tradition

##### - 3 Units [Perspectives]

L93 HUM 201B	1	-T-T---	10:00 AM	11:30 AM	Clancy
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#### Improvisation

##### - 3 Units [Skills]

U21 DRAMA 233	1	M-----	4:00 PM	6:30 PM	Mohr
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#### Intellectual Property and Business Formation Legal Clinic

##### - Varies [Action and Outcomes]

W74 LAW 711C	1	-T-T---	3:00 PM	4:30 PM	Deal/Ruger
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#### Introduction to Entrepreneurship

##### - 3 Units [Simulated Experience]

B53 MGT 430	1	M-W----	10:00 AM	11:30 AM	Holekamp
B63 MGT 521	1	-----S-	9:00 AM	5:00 PM	Poldoian

#### Life After Art School Seminar

##### - 1 Unit [Perspectives]

F20 ART 387	1	--W----	4:30 PM	6:00 PM	[TBA]
F20 ART 487	1	--W----	4:30 PM	6:00 PM	[TBA]

#### Managing the Innovation Process

##### - 3 Units [Simulated Experience]

B53 MGT 550B	1	[TBD]	[TBD]	[TBD]	[TBD]
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#### Social Entrepreneurship (8wk1)

##### - 3 Units [Simulated Experience]

U44 BUS 410	1	-T-T---	6:00 PM	8:30 PM	Levine
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#### Technological Entrepreneurship

##### - 3 Units [Skills]

T55 ETEM 584	1	-T-----	5:30 PM	8:30 PM	Podlesny
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### COURSE DESCRIPTIONS

#### E62 401 - Biomedical Engineering Senior Design

A design project experience to prepare students for engineering practice. Working individually or in small groups, students will undertake an original design or redesign of a component or system of biotechnological significance. The design experience will require application of knowledge and skills acquired in earlier classes and laboratory work; it will incorporate engineering standards and realistic constraints that include most of the following considerations: economic, environmental, ethical, manufacturability, sustainability, health and safety, social and political. Students will prepare written reports and present their designs orally to their classmates and panels of faculty members and industrial representatives. Prototype construction is not generally required but may be encouraged subject to available time, financial and material resources. Prerequisite: BME 301A, BME 301B and senior standing

#### B53 424/B63 524 - Business Planning for New Enterprises [The Hatchery]

In this course, students form teams to pursue their own or an outside entrepreneur's commercial or social venture. The first session will feature a "Team Formation" event where students and community members pitch their ideas and opportunities to the class. During the semester, the teams are supported and advised by the Instructor, Executive Coach, and Mentor(s) as they research and develop startup plans. Academic deliverables include two presentations to a panel of judges and a complete business plan for commercial ventures or sustainability plan for social ventures. The course is open to students from all disciplines and degree programs. Most of the work will be done outside the classroom with the support of the coaches, mentors, advisors and instructor. Classes will be held once per week for the first half of the semester. Workshops and rehearsals will be required in the second part of the term. Prerequisite requirements: MGT 424-Instructor discretion for all undergraduates from all degree types. MGT 524-Instructor discretion for all graduate students except MBA's enrolled in the Olin Business School. MBA- Completion of fall semester core requirements.

#### L22 115 - Economic History and Entrepreneurialism in Modern Western Civilization

This introductory course surveys Western Civilization (predominantly European history, but with a component of American history) from the seventeenth century to the present, focusing on economic history and the rise of entrepreneurialism. The course begins by considering the economic structures and doctrines of the pre-capitalist world, such as Christian teachings of "the just price," the working of the guild system, and pre-capitalist doctrines such as mercantilism. Subsequent classes explore the transformation of the western economy through such experiences as the slave economy and the factory system, through such theories as laissez-faire capitalism and Marxism, and the development of western entrepreneurialism (including "social entrepreneurialism" and non-profit ventures). The course will stress the analysis and discussion of original documents and excerpts from classic works, supported by a large visual component depicting economic history. No mathematical or statistical skill will be needed, but some topics will rely on the presentation

of evidence in the form of data--tables, charts, and graphs. DISCUSSION SECTION IS REQUIRED.

#### **E60 450 - Engineering Practice & Professional Values**

A participatory course exploring the professional and ethical responsibilities of working as an engineer. These responsibilities range from personal and corporate conduct to societal and global concerns. The course aims to challenge your assumptions, raise awareness of the value problems inherent in engineering practice, develop methods for their analysis, and provide tools for defining and resolving them. Through guest lectures, discussion sections, case studies, and assignments, a broad range of topics will be treated. A short and mixed selection of examples includes professional and corporate codes of conduct, the safety and welfare of the public, environmental concerns, engineering in the face of uncertainty, classic engineering mistakes, moral heroes, bribery, whistle blowing, product liability, intellectual property, data integrity and security, and engineering decisions vs. managerial decisions. Satisfies a humanities requirement.

#### **U44 232 - Entrepreneurship**

This course explores, at a practical and introductory level, the issues, concepts, and processes associated with entrepreneurship. The course is divided into three sections: the entrepreneurial environment; the required toolkit for entrepreneurs; and practical applications of entrepreneurial strategies and processes. The instructor, along with other experienced entrepreneurs, teaches the key stages of a new business venture including techniques to develop and implement a concept, methods of financial modeling, marketing plans, and raising money. Finally, we outline best practices for growing a business and ways to transition wealth from the business to the entrepreneur. The course is ideal for students interested in starting a business, or for those who wish to apply concepts and practices of entrepreneurship to their current work.

#### **E62 201 - From Concept to Market-The Business of Biomedical Engineering**

This seminar course will introduce students to the fascinating and complex process of bringing new medical technologies from the concept stage to the market place. The course draws on experiences of successful entrepreneurs and industry professionals to address some of the most important elements of the technology life cycle. Topics include the theory, practice, challenges and opportunities of business strategy development, FDA regulations, product development, finances, sales and marketing, patents and intellectual property protection, team and corporate culture and professional ethics. The course exposes students to the real-world experiences of guest speakers with diverse backgrounds including practicing engineers, entrepreneurs, attorneys, investors, industrial psychologists, team development professionals, career development coaches and other relevant professionals. The course provides fun, thought-provoking and interactive learning throughout the semester, culminating in presentations by student groups at the end of the semester in lieu of a final exam. Student teams each conceive a hypothetical medical product and develop and present a complete business plan addressing issues covered throughout the course. Students bring remarkable creativity and imagination to the final project, bringing the course to a rousing conclusion. Business, arts and sciences and other non-engineering students are encouraged to join the course and take advantage of the value it offers. Pre-

requisite: BME 140 or permission of the instructor

#### **L93 201 B - The Great Economists: Text and Tradition**

Political economy dates back to a time when economics, politics, and sociology were not distinct disciplines. The "worldly philosophers", as Robert Heilbroner called them, studied markets and trade not merely as forms of rational behavior, but also as forms of political and social organization. This course will examine the writings of the great political economists, the problems they sought to solve, the historically-conditioned assumptions that they brought to their work, and the social and moral issues they raised. The class will read from the works of Adam Smith, Ricardo, Malthus, Marx, Veblen, Weber, Schumpeter, Keynes, and others. The readings will be complemented by selected texts on the social and moral issues of their times. Although we will focus on readings from the eighteenth to the early twentieth centuries, the course will conclude by looking at the place of political economy in modern social and economic thought. Open to Text & Tradition students only.

#### **U21 233 - Improvisation**

This course introduces students to the fundamentals of improvisation. Students are provided with the tools and techniques to develop their artistic voice, both individually and within an ensemble, through various theatre games, exercises, and techniques. Students will build self confidence, develop creativity, hone presentation skills, and have fun through working collaboratively in an ensemble. Both actors and non-actors are encouraged to take this class.

#### **W74 711 C - Intellectual Property and Business Formation Legal Clinic**

Students who are interested in participating in this clinic should follow the clinic pre-registration instructions noted at the beginning of the course directory and should also submit a: 1) STATEMENT OF INTEREST (explaining why you want to take this clinical course), and 2) RESUME to Carol Wibbenmeyer (Room 589, cawibbenmeyer@wulaw.wustl.edu, 935-6419), as part of their pre-registration clinic materials. This clinic is for J.D. students; however there may be very limited spots available for students in the IP LL.M. program - LL.M. students should contact Prof. Deal to discuss possibilities.] The IP/BF Legal Clinic will provide law students with opportunities to work with qualified IP counsel in providing early stage legal advice to innovators both within the University and in the wider community, to collaborate in interdisciplinary experiential learning activities with students from the Olin School of Business and the Department of Biomedical Engineering, and to provide IP and business formation legal services to clients who might otherwise not have access to competent legal counsel. The Clinic's activities will be devoted to four program areas, each of which will involve teams of two students, who will: 1) Participate in interdisciplinary innovation and entrepreneurship courses, such as the Senior Design Course in the Department of Biomedical Engineering and the Olin School's Hatchery course; 2) Work with St. Louis area IP attorneys to provide early stage legal advice to other innovators and entrepreneurs at the University and in the wider community, with a particular focus on business incubators in the St. Louis area; 3) Work with non-profit orgs.

#### **B53 430/B63 521 - Introduction to Entrepreneurship**

This course covers the life dynamics surrounding the early stages of starting a business. Based upon a series of "experiential simu-

lations", students will be involved in both individual and team competitive gamesmanship situations that replicate real world start-up environments. Students will learn to identify characteristics of promising start-up industry environments and markets; to understand the process of early stage company formation and some of the options open to founders; to understand some of the team dynamics and behaviors that might occur in a startup and to have some fun. Prerequisites: junior or senior standing with priority given to seniors and permission of instructor.

#### **F20 387/388/487/488 - Life After Art School**

This is a seminar for advanced students, which focuses on the challenges of, and opportunities for, establishing a career as an artist. Course content includes reflective thinking, career expectations, job prospects, resume and artist statements, portfolio development, exhibition opportunities, business practices, studio operations, health hazards, legal issues and resources, grants, fellowships, exhibition venues, artists' residencies, and continuing educational opportunities. This course is designed to provide strategies as one makes the transition from student to emerging artist.

#### **B63 550 B - Managing the Innovation Process**

The course takes the perspective that innovation is a core business process associated with survival and growth of the organization, and it should be managed as such. We view innovation broadly as a process of knowledge creation. Innovation creates new possibilities through combining different knowledge sets. This process is multi-stage and takes place under highly uncertain conditions. The course objective is to help develop for our students the needed managerial skills in managing the multi-stage process of innovation. We focus on the systematic management of innovation processes through careful resource commitment and management of involved uncertainties.

#### **U44 410 - Social Entrepreneurship**

This course links the passion of a social mission with the discipline and skills of successful business performance to explore the issues, concepts, and processes associated with social entrepreneurship. Students learn to design an economically sustainable business model that also addresses an existing social problem. In learning to apply skills and strategies that produce a successful bottom line, both financially and socially, each student develops a business plan for a social entrepreneurial venture or evaluates the business model of an existing social entrepreneurial business venture.

#### **T55 584 - Technological Entrepreneurship**

How the technological entrepreneur can start, manage, and capitalize a small business; creating feasibility reports for new products or services; constructing the business plan; contacting venture capital sources; operational systems: personnel, marketing, financial administration, R&D, production, and control. Prerequisite: senior or graduate standing or permission of instructor.