

Introduction to Entrepreneurship

Dr. Jack M. Wilson, Distinguished Professor of Higher Education, Emerging Technologies, and Innovation



Professor

- Dr. Jack M. Wilson (jack_wilson@uml.edu)



- Ph.D. Physics (Physics of Liquid Crystal Displays)
- Distinguished Professor of Higher Education, Emerging Technologies, and Innovation
- Formerly the J. Erik Jonsson '22 Distinguished Professor of Physics, Engineering Science, Information Technology, and Management at Rensselaer Polytechnic Institute (RPI).
- Formerly Professor, Department Chair, Dean, Research Center Director, Provost, Vice President and President
- Founder, CEO, and Chairman of [ILINC](#) Corporation
 - 1993-2000 \$500 million market cap software company
- Founding Chair of the Massachusetts Green High Performance Computing Center
- Board memberships: UMass Memorial Healthcare system, Advanced Cyber Security Center, Mass. Innovation Institute Investment Advisory Committee Chair, Riverhawk Venture Forum (Chair), and others. Formerly: Mass Life Science Center, Mass Clean Energy Center, National Security Advisory Board to the FBI, CIA, and Homeland Security, DoE FIPSE (Fund for the Improvement of Post-Secondary Education), and many others.

Jack M. Wilson

- Pasteur 414
 - Tue., Thur.: 1:30PM – 3:00PM By Appointment (request by email)
 - other times upon special arrangement
- Jack_Wilson@uml.edu
 - Please use email as the primary form of contact.
- Main Wilson Website: <http://www.jackmwilson.net>
- Course schedule & syllabus :
 - <http://www.jackmwilson.net/Entrepreneurship/Principles/JMW-Principles-syllabus-F2016.htm>
- Links to other Entrepreneurship Resources:
 - <http://www.jackmwilson.net/Entrepreneurship/index.html>
- 978-934-2850 (Main Office)
 - Please note that I do not accept messages on my office phone. Leave all messages by email.

Course Objectives

- Understand and articulate the impact of innovation and entrepreneurship on economic development;
- Develop an awareness and understanding of entrepreneurship and the entrepreneurial process;
- Integrate entrepreneurial thinking and problem-solving into their academic and professional aspirations;
- Articulate the different pathways to entrepreneurship including lifestyle businesses, high-tech/high growth entrepreneurship, corporate entrepreneurship and social entrepreneurship.
- While this course cannot make you into an expert on any one of these issues, it is designed to give you enough familiarity, sensitivity, and motivation to allow you to further explore these issues in other courses or on your own in your career.

Textbook:

- *Innovation and Entrepreneurship*, 3rd ed.,
 - by John Bessant and Joe Tidd - ISBN: 978-1-118-99309-5

- Online:

<http://www.jackmwilson.net/Entrepreneurship/Principles/JMW-Principles-Syllabus-F2016-Doc.pdf>

How to read the text and online materials: This is **very important**. Read the online materials first. I will draw my test questions primarily from the materials that are online. After reading the online materials, you should then read the text and use the text to help understand materials on the web site. Many materials in the text are a bit outdated and (in some cases) use some terminology that is used in Europe rather than the US. In my online materials, I give the more usual US terms to equip you to understand the US approach.



Course Organization

- Two Classes per Week (Tue/Thur) of 1:15 minutes in length.
 - 12:30 pm -1:45 pm
- Most classes will include a reading assignment due, lecture, discussion, and a case discussion.
 - Prior to class: assignment complete
 - First: lecture and discussion
 - Second: case presentation.
 - Third: case discussion
 - Finally: instructor led summary and discussion.
 - Classes will vary in timing and content as described in the detailed schedule.
 - <http://www.jackmwilson.net/Entrepreneurship/Principles/JMW-Principles-Schedule-F2016.htm>
- Three exams: week 6 (Oct. 1) and week 11 (Nov. 10) and final.
 - These exams will be multiple choice, true-false, and/or matching questions, and will be one hour in length. Each will count 20% toward your grade.

Individual proposal for a hypothetical venture (10%) and Elevator Pitch (5%)

- Each individual will pick an entrepreneurial idea. It may be their own idea or it may be something they get from others.
- You will use the techniques in this class: feasibility studies, business models, business plans, marketing, finance, etc. to analyze this entrepreneurial activity to create a one page proposal due on September 29.
- You will then create 2 minute Elevator Pitch (aka Rocket Pitch) to be presented on October 20.
 - The form of the Elevator Pitch is given on slides 12-14 of:
 - <http://www.jackmwilson.net/Entrepreneurship/Principles/9-DevelopingAPlan.pdf>
 - See https://www.uml.edu/docs/2016FinalRocketPitchTemplate_tcm18-231731.pdf for details of the Difference Maker approach to the Rocket Pitch.
- The Elevator pitch is intended to give the listener, often a potential funder, a quick but accurate picture of what it is you wish to do and how you intend to do it. You cannot include everything in the pitch, so part of the evaluation is how well you selected those things that you present and how concisely, persuasively, and accurately you present them.
- After these are presented on October 20, I will ask you to form teams of 3-6 persons to prepare a ten page summary business plan. Usually you will pick one of the individual projects to work together on.

Class Team Projects and Presentations (20%)

- Students will form teams of 3-6 persons to prepare a project plan. As a team you are to prepare a 10 page project paper (summary business plan) that does an analysis of a potential new venture. This is worth 10% toward your semester grade.
- As part of that, you will create a **Business Model Canvas**.
- You may form your own teams, or I will form them for you. I will be available for discussion of ideas. The idea is most likely to be fleshing out one of the individual project proposals above.
- Use the text and the syllabus to prepare an analysis that covers everything such as opportunity recognition, feasibility, industry and competitor analysis, business model, legal issues, financial analysis, team selection, getting funding, marketing, intellectual property, and strategies for growth and overcoming challenges.
 - The Difference Maker Toolkit will help you plan the final project paper.
 - https://www.uml.edu/docs/2016%20Toolkit%20Worksheets_tcm18-231203.pdf
 - https://www.uml.edu/docs/2016%20Final%20Idea%20Plan%20Template_tcm18-231734.pdf
- Each team will present a 5 minute) presentation at a class near the end of the semester. (additional 10%)
 - See https://www.uml.edu/docs/2016FinalRocketPitchTemplate_tcm18-231731.pdf
 - for details of the Difference Maker approach to the Rocket Pitch.

Grading Rubric

| | Points |
|--|----------------------------------|
| (1) Class Participation in discussion | 5% |
| (2) Exams: two exams and final | 20%-20%-20% =60% |
| (3) Individual Proposal for a New Venture | 10% |
| (4) Elevator (or Rocket) Pitch: Describing your proposed business venture | 5% |
| (5) Team Project and Presentation (10% each) | 20% |
| (deduct) Attendance* Missing more than two classes will result in 2% point deductions for additional classes. | Possible point deductions |
| Total: | 100% |

Tell me who you are?

- Name, Major, Year, Next Goal in Life, and any other interesting fact about you?
- If you were going to start a new venture (profit, non-profit, social, internal corporate, etc.) what do you think that would be?
- Have any of you started a new venture already?

Interesting Entrepreneurs

- Bill Gates –Microsoft
- Harvard Dropout
- Computer whiz
- Wrote operating system for IBM
 - Because IBM was too cheap to license CPM
- Signed Giving Pledge and Created the Gates Foundation



Interesting Entrepreneurs

- **Mother Teresa**
- Agnes Gonxha Bojaxhiu
- Albanian
- Born in Macedonia
- Father an entrepreneur in construction and trading
- Social entrepreneur in India
- Founder of the Order of the Missionaries of Charity
- Jim O’Keefe, GE, Image systems, ILINC President, visited her during GE period and called Jack Welch to tell him how she had created an incredible charitable enterprise with amazing entrepreneurial skill.
- “As the ranks of her congregation swelled and donations poured in from around India and across the globe, the scope of Mother Teresa's charitable activities expanded exponentially. Over the course of the 1950s and 1960s, she established a leper colony, an orphanage, a nursing home, a family clinic and a string of mobile health clinics.”
- “By the time of her death in 1997, the Missionaries of Charity numbered over 4,000 -- in addition to thousands more lay volunteers -- with 610 foundations in 123 countries on all seven continents.” -<http://www.biography.com/people/mother-teresa-9504160>



Interesting Entrepreneurs

- Larry Ellison
- Founder of Oracle
- Dropout of both the University of Illinois and the University of Chicago
- Worked at various computing companies in California and then founded Software Development Laboratories -> Relational software
->Oracle.
- Signed Giving Pledge along with Bill Gates, Warren Buffet and others.



Interesting Entrepreneurs

- Richard Branson
- 4th Richest in the UK
- Severe Dyslexic
- Virgin Records->Virgin Megastore
- Virgin Atlantic Airline
- Virgin Trains, Virgin Galactic
- Helped form and fund “The Elders” with Nelson Mandela and others who solve world problems.



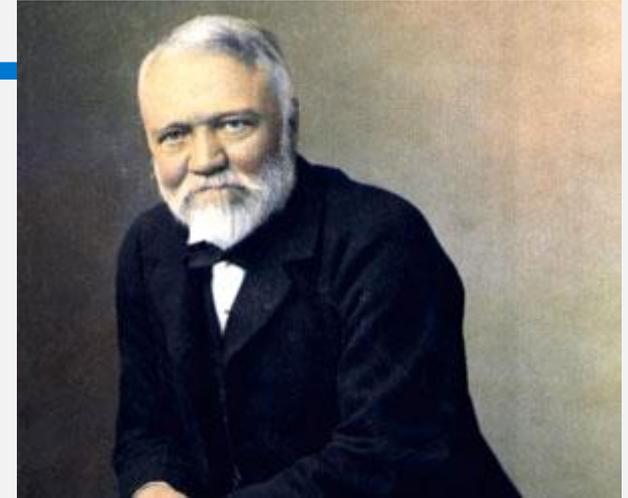
Mark Zuckerberg

- Harvard dropout
- FaceMash
- Always a computer geek
- Gamer
- Some say socially inept
 - Others disagree
- Signed the Giving Pledge
- \$100 million to Newark Schools



Andrew Carnegie

- Born in Scotland
- Moved to Pittsburgh, PA
- Worked for what became the Pennsylvania Railroad.
- Carnegie Steel Corporation -> US Steel
- Made his wife sign a pre-nuptial agreement in which she acknowledged that he intended to give away his fortune rather than keep it in the family.
- Carnegie Libraries
- Carnegie Institute of Technology ->Carnegie Mellon University
- Carnegie Endowment for International Peace.



Muhammad Yunus

- Bangladesh
- Chittagong College
- Dhaka College
- PhD Economics Vanderbilt
- Professor Economics in Bangladesh
- Founded profitable packaging company
- Invented microcredit and microfinance
- Nobel Peace Prize
- Founder of Grameen Bank
 - In the late 1980s, Grameen started to diversify by attending to underutilized fishing ponds and irrigation pumps like deep tube wells.[21] In 1989, these diversified interests started growing into separate organizations. The fisheries project became Grameen Motsho ("Grameen Fisheries Foundation") and the irrigation project became Grameen Krishi ("Grameen Agriculture Foundation").[21] In time, the Grameen initiative grew into a multi-faceted group of profitable and non-profit ventures, including major projects like Grameen Trust and Grameen Fund, which runs equity projects like Grameen Software Limited, Grameen CyberNet Limited, and Grameen Knitwear Limited,[22] as well as Grameen Telecom, which has a stake in Grameenphone (GP), the biggest private phone company in Bangladesh.[23] From its start in March 1997 to 2007, GP's Village Phone (Polli Phone) project had brought cell-phone ownership to 260,000 rural poor in over 50,000 villages.[24]
 - The success of the Grameen microfinance model inspired similar efforts in about 100 developing countries and even in developed countries including the United States.[25] Many microcredit projects retain Grameen's emphasis of lending to women. More than 94% of Grameen loans have gone to women, who suffer disproportionately from poverty and who are more likely than men to devote their earnings to their families



Mary Kay Ash

- Born in Texas
- Successful in sales, but angry when men were promoted over her
- 1963 - business plan for **Mary Kay Cosmetics**
- Founded with two sons
- Pyramid models of sales representatives.
- More than 100,000 Pink Cadillacs given out
- 6th largest direct sales
 - \$2.9 billion
- Wanted to help women to advance by helping them to help others.



Steve Jobs

- *Don't let the noise of other's opinions drown out your own inner voice. And most importantly, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary.*
 - Steve Jobs
- Cofounder of Apple, NeXT, and Pixar
- Visionary of iPod, iPhone, iPad, iTunes, Macintosh, Apple II, etc.



Mark and Elisia Saab

- Mark and Elisia Saab ->
- UMass Lowell '81, Plastics Engineering
- Advanced Polymers -1989
- In 1988, Mark Saab '81 had a vision. A vision of a product that no one in the market was making: an ultra-thin walled medical tubing. Saab believed he could produce it and was confident the market would be there.
- And his wife Elisia believed in him.
- Sacrificing nights and weekends, while working two day jobs, she helped Mark turn his vision into one of the most respected companies in its field.
- Donor of over \$ million to UML Scholarships



Harish Hande '98 '00

- UML MS '98 renewable energy engineering
- UML PhD '00 in mechanical engineering (energy)
- co-founded Solar Electric Light Co. India in 1995.
 - As SELCO's managing director, he has pioneered access to solar electricity for more than half a million people. More than half the population does not have electricity, through lighting systems and innovative financing.
- Hande received the 2011 Magsaysay Award, widely considered Asia's equivalent of the Nobel Prize,
- One of 21 Young Leaders for India's 21st Century by Business Today
- Social Entrepreneur of the Year for 2007 by the Schwab Foundation for Social Entrepreneurship and the Nand and Jeep Khemkha Foundation.



Jim Dandeneau '80

- Jim Dandeneau – CEO & Owner
- UMass Lowell '80 Plastics Engineering
- Hockey Player
- Jim founded Putnam Plastics in 1984 and serves as President and CEO. Under Jim's guidance, Putnam Plastics has established itself as the leading source for complex extrusions and co-extrusions for the medical device industry
- Co-owner Connecticut National Golf Course
- Donor of over a \$ 1 million to UML scholarships



Gururaj “Desh” Deshpande

- Born in India
- Indian Institute of Technology
- PhD Queens University, Ontario
- Motorola
- 1990 Founded Cascade Communications (networking)
- Sold Cascade to Ascend Comm. for \$3.7 billion in 1999
- Founded Sycamore Networks in 1998 (\$18 B in 1999)
- Founded Tejas Networks and A123 Systems
- Founded MIT Deshpande Center with \$20 million donation
- The Deshpande Education Trust (DET) -the Master of Social Entrepreneurship program.
 - The Master of Social Entrepreneurship (MSE) is a two-year residential program affiliated with Karnatak University Dharwad India
- Founded Merrimac Valley Sandbox at UML
- Founded the *Deshpande Symposium for Innovation & Entrepreneurship in Higher Education* at UML.
 - <http://www.deshpandesymposium.org/>



John Pulichino '67

- John Pulichino-Joy Tong Building
- Industrial Management
- Polaroid
- American Tourister (President and CEO)
- Founded Innovation Luggage in 1993 –bankrupt in 2001
- Joy Tong, wife, founded Group Three International Limited (1984).
He became CEO and she Creative Director
- 2003 licensing agreement between Group III and Wenger, maker of the 100-year-old Genuine Swiss Army Knife brand,
 - has generated a company that, since 2003, has done more than \$400 million in sales. With offices in Florida, Taiwan and Mainland China, Group III now distributes more than 60 products through Target Stores alone.
 - Recently sold firm to private equity group.
- Donated about \$5 million to UML for scholarships and building



Robert “Rob” Manning ‘84

- Chairman and CEO of MFS Securities
- Credited with saving a company that nearly e
- “For the rare comeback story among money managers, look to MFS Investment Management, one of the oldest names in the mutual fund business but also one of the most battered after the Internet bubble popped in 2000.” –Institutional Investor
- “CEO Manning described his approach as the opposite of the star system used by some rivals. Employees are expected to work closely together and sacrifice their egos as necessary; even fund managers with terrific performance records will face bonus cuts if they do not treat other employees respectfully, he said.”
- Rob and Donna (Nursing ‘84) are \$5 million donors to UML



Charles Hoff '66

- Charlie and Josephine Hoff
- Shown (right) with \$23 million donors Jack and Shelly Blais
- Hoff received a bachelor's degree in industrial management at UMass Lowell and a master's degree from Northeastern University.
- He has been a senior vice president of operations for Bausch & Lomb and held senior management positions with Wang Laboratories, Polaroid and Gillette.
- From 1983 to 1986, he was president, CEO and owner of ARL Analytical Instruments Co., which generated more than \$100 million in worldwide sales.
- He then became owner, chairman and CEO of Universal/Univis, Inc., a group of designer eyewear companies.
- He and Josephine have donated over \$5.5 million to scholarships



Jack Blais

- Jack and Shelly Blais
 - With Nobel Prize winner Craig Mello, Chancellor Lazare, and President Wilson
- Private Investor in Precision Optics
- Founded 15 companies,
 - many of which he has since sold.
 - optical and optical-interference technologies for military, medical and commercial applications
- In 2001 Corning paid \$2.1 Billion to acquire NetOptix from him.
- Founder and president of Blais Co. of Framingham, a holding company specializing in high-technology firms, and an active partner in Capital Risk Management Inc., a management consulting firm.
- Founded a bank in Florida
- Now does Philanthropy with low profile
 - \$23 million to UMass Medical School for the Aaron Lazare Building and Blais Chair of Molecular Medicine for Nobel Prize winner Craig Mello.
 - \$21 million to Dana Farber by buying naming rights to Patriots Training Facility and donating them to Dana Farber.



John F. Kennedy

- UMass Lowell, BS, 1970
- UMass Amherst, MBA, 1976
- Nova Ventures Corp.
 - President and Chief Financial Officer (retired)
- Director, Datacom Systems, Inc.
- Director, Harvard Biocience, Inc.
- Donor for Scholarships to both UMass Amherst and UMass Lowell



Manijeh Nazari Goldberg

- UMass Lowell BS Engineering
- UML MS Computer Science
- MIT MBA
- Privo Technologies
 - MIT 100 K Award winner
 - Nano delivery of insulin by chewing gum
 - Nano Drug Delivery
- In a very tough area of raising money to commercialize.



Joe Lane

- Founder and CEO of SafePath Medical
- BS Engineering UMass Lowell
- MBA Babson



| SafePath Medical, Inc. Patent applications | | |
|--|---|------------|
| Patent application number | Title | Published |
| 20130041388 | APPARATUS AND METHOD FOR SUTURING TISSUE - A suturing device of the present invention is in the form a compact, light-weight handheld device that includes a needle and suture assembly, a mechanism for gripping and releasing the needle/suture (a "needle transfer mechanism" or "needle shuttle mechanism"), safely capturing the needle/suture upon exit from the patient's tissue, and returning the needle to a position such that the process of delivering additional sutures to the patient can be repeated. A safety shield mechanism ensures the user is protected from the needle at all times. The device of the present invention accommodates the right or left-handed user, rests comfortably in the user's hand, allows sufficient visualization of the procedure site, and permits the user to either control penetration depth of the needle or default to a device-determined depth. The present device permits the user to utilize a wrist-rotation (pivoting) suture delivery technique. | 02-14-2013 |

Diverse group with diverse motives.

- Now you can see that Entrepreneurs are a very diverse group.
- You can see that they are all motivated for a passion for changing something in the world.
- Some appear to be financially motivated and others seem to be socially motivated. Some were both!
- Many graduates of UMass Lowell have gone on to be successful entrepreneurs in a variety of fields.
- Entrepreneurship is often a global phenomena.
- All of the entrepreneurs have done something innovative:
 - Some were driven by technology.
 - Some created different ways of doing business –different business models
 - Some approached important social problems with innovative approaches
 - All faced and overcame obstacles as they followed their passion.