

Green Entrepreneurship

Entrepreneurship in Cleantech Industry – From idea to a Start-up

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Course Objectives:

- 1. Providing knowledge and business skills in establishing and managing innovative and technological ventures in the Cleantech and Sustainability industry.
- 2. Providing perspective of an entrepreneur and a senior executive in planning, design, implementing and managing a business strategy from idea to an established business entity.

A Brief Description of the Course:

Even the best idea needs someone that will be able to realize and fulfill its full business potential. This process is not as simple as it might look (even if very common in our places). For an idea or technology to be successfully realized, it is necessary to carefully combine and coordinate between a number of factors and critical steps such as: IP protection (patent writing, for example), proper evaluation of the market need and market potential; writing a comprehensive and applicable business plan; raising capital, establishing a company, recruiting people and most of all, **proper and professional management.**

So far, apparently, all well-known and might even be familiar to some of us from own personal experience. However, the world of life sciences, biotechnology and Clean-technology has unique characteristics that make entrepreneurship in these areas so special and significantly different from other businesses, including hi-tech and even the medical device industry. These differences and uniqueness are the subject matter of this course.

The course will deal with the challenges faced by entrepreneurs and executives in the Green Technology industry in its various aspects and segments (e.g., water technology, agricultural biotechnology, alternative energy, environmental sustainability etc.). Students will be exposed to the various critical issues involved in establishing and managing a successful venture in the field of clean technology. In addition to frontal lectures, students will meet with guest speakers and entrepreneurs from the field, analyze case studies and gain handson experience in practical work of setting up an enterprise.



Teaching methods:

Frontal lectures, guest speakers, analysis of case studies in groups, students' presentations.

Participation in class: According to Faculty "Classroom Guidelines"

Course Grading:

- 1. Group pitch in Session 8 40%
- 2. Opportunity Evaluation 30%
- (Submitted for evaluation and presented in class, in groups) 3. Vision/Mission statement – 20%
 - (Submitted for evaluation and presented in class, in groups)
- 4. Active participation and involvement in class -10%

Course Outline and Schedule*:

Week -1

Session 1: Course Overview, Introduction to Green Entrepreneurship, -

<u>Session 2</u>: Opportunity screening and evaluation

Week - 2

Session 3: Opportunity screening and evaluation

(Presentation by students to the class, in groups);

<u>Session 4</u>: Establishing a company, Skill Sets and team building;

The Founders Dilemmas; Guest speaker – Technology Transfer Officer of Haifa University

Week – 3

<u>Session 5</u>: Financing a Clean Tech Enterprise; the business plan – Guest speaker from VC/Incubator

Session 6: Growing your Business; Company Management Life Cycle; Guest Lecture by Cleantech Entrepreneur.

Week-4

Session 7: The AqWise Case Study – Discussion in Class Session 8: Guest lecture and open conversation with a cleantech entrepreneur

<u>Week - 5</u>

<u>Session 9</u>: The Business presentation and "Pitch";

Students' presentation of the Vision and Mission of their Project.

Session 10: Presentations of projects "Pitch" by the Students

to the class and a panel of professional

* The schedule may be subject to variation.



Course material - Literature and Suggested reading:

- Meyers A.D. and Price C. 2012. The Life Science Innovation Roadmap Getting your ideas to Market. Logos Press.
- Salgaller M.L. 2010. Biotechnology Entrepreneurship From Science to Solutions. Logos Press
- 3. Aibel J. and Mardis W. 2003. Creeping Over the Chasm: Biotech's Perilous Managerial Transitions. Essential Business Intelligence.
- Entrepreneurship Boot Camp, 2012. Journal of Commercial Biotechnology, Vol. 18 (2), April 2012. Thinking Biotech LLC, Washington DC.
- 5. Hourd P.C. and Williams D.J. 2006. Success in healthcare technology business: Coordinating the value milestones of new products introduction, financial stakeholders and business growth. Innovation: management, policy & practice.
- 6. Life Sciences in Israel. 2011. State of Israel, Ministry of Industry, Trade and Labor, Investment Promotion Center.
- Meseri O. and Maital S. 2000. University Technology Transfer in Israel Evaluation of Projects and Determinants of Success. Samuel Neeman Institute for Advance Studies in Science and Technology.
- 8. Wasserman N. 2012. The Founder's Dilemas Anticipating and Avoiding the Pitfalls That Can Sink a Startup. Princeton University Press, Princeton & Oxford.
- R&D in Biotechnology- the management challenges Journal of Commercial Biotechnology. Vol. 10. No. 4. 301–303. June, 2004 (<u>http://commercialbiotechnology.com/index.php/jcb/article/download/86/86</u>)
- 10. Vinod Khosla's Gugelberg lecture: Green Tech Must Make Sense at: <u>http://www.gsb.stanford.edu/insights/vinod-khosla-green-tech-must-first-make-economic-sense</u>
- 11. Angel Financing (Stanford GSB) http://www.gsb.stanford.edu/ces/resources/angel_financing.html
- 12. VC Financing http://www.gsb.stanford.edu/ces/resources/venture_capital.html
- 13. Test your Business Plan: http://apps.configworks.com/sat/chooseLightOrPro.jsp
- 14. How to pitch to a VC by David Rose: http://www.ted.com/talks/lang/eng/david_s_rose_on_pitching_to_vcs.html
- 15. Additional links:
 - a. http://www.greentechmedia.com/
 - b. <u>http://cleanedge.com/</u>
 - c. http://www.greentechmedia.com/cleantech-investing
 - d. http://www2.cleantechopen.org/
 - e. http://israelnewtech.gov.il/English/Pages/default.aspx
 - f. <u>www.cleantech.com</u>
 - g. <u>http://www.greentechmedia.com/articles/read/Running-Lean-Versus-</u> <u>Starving-a-Startup</u>

