

Entrepreneurship and Intellectual Property (096815)

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Time: Lecture: Sundays 17:30-20:20
Location: Faculty of Industrial Engineering and Management Room # TBD
Credit points: 3 (a Technion Elective course - available for students from all faculties)
Students: Technion graduates and 3rd & 4th year undergraduates (Maximum 60 students)

Course overview:

Creating new technologies and commercializing them into new products and services is a key competitive advantage of Israel. The Technion is the main source of managers, researchers and entrepreneurs in the Israeli high tech industry. The high tech entrepreneurial process involves the creation of a new technology, the discovery of the business opportunity for the technology, protecting the intellectual property and organizing the resources (people, capital and social network) to exploit the opportunity. The course will provide students with an understanding of all these early stages of the entrepreneurial process through the study of theory, real-world examples and practical exercises. Moreover the course will give the students insights on their own entrepreneurial capabilities and motivations.

Objectives of the course:

1. Understanding the entrepreneurial process and its different phases;
2. Understanding intellectual property from legal, policy and management points of view;
3. Learning and applying Patent Search and Patent Filing;
4. Getting acquainted with the high tech industry and infrastructure in Israel;
5. Learning to prepare a Budget for a new startup firm;
6. Learning to write a Business Plan (BP) and make investor Presentations;
7. Gaining insight on personal entrepreneurial capabilities and motivations;
8. Learning about your own entrepreneurial capabilities and motivation for entrepreneurship career;
9. Learning by doing;
10. Learning from experienced entrepreneurs and practitioners.

Outline of the course:

Teams of 4-5 students each (maximum 12 teams) will create and develop an idea for a new business which must be high-tech. During the course, the teams have to make a business plan for the commercialization of their idea and present it at end of the course. Those teams, who cannot invent an interesting business idea, can choose a patent out of the Technion Patent portfolio and develop a business plan for this patent, coached by the Technology Transfer Office of the Technion (ISKIT). Teams will apply the concepts taught in the course in their business plan, which is to commercialize the patent or their invention through technology assessment of the invention, patent search, discovering possible applications of the technology, developing a first cut business model and a resource plan. Teams are expected to gather information on the technology, industry and markets by interviewing potential customers, competitors, and searching public databases. Students will write an executive summary and present a final business plan presentation.

Students will be offered the opportunity to develop the business plan and the course TA will meet those students who are interested by appointments out of the lectures' hours.

Course Assignments:

1. Patent Search and Assessment (team grade)

Each team will develop and select one idea for a business of a new product/service, based on its new idea/patent, or on one of the Technion patents that will be chosen for the business plan. Selection of an idea to be finalized, submitted and approved **3 days before Session 5.**

Use tools learned in lectures on patents to run a patent search on your idea.

Invest at least 3 hours in the patent search and answer the following questions:

1. Is it patentable?
2. Enclose your patent search results and analyze and describe the relevant patents to your patent/idea. To what extent they may limit your patent/idea?
3. What potential competitors have you found?
4. Can you think of at least 2 additional applications of your patent/idea?

Due: 3 days before Session 7.

[*] Grading for this assignment will be as follows:

Q1:	30%
Q2:	30%
Q3:	20%
Q4:	20%

2. Executive Summary of a Business Plan for a new startup (team grade)

During the course the teams will have to develop an Executive Summary of a Business Plan covering the various necessary topics learnt in class.

Each team will submit its Executive Summary in English, (between 2-5 pages), covering the various necessary topics, plus supporting material (the sources for the data), due latest by **2 weeks after Session 13.**

[*] Grading for this assignment will be:

Executive Summary:	80%
Supporting Material	20%

3. Business Plan Presentation (team grade)

Each team has to prepare a PPT presentation of its Business Plan to be presented in class in **Sessions 11 & 12** in presence of a Panel of Venture Capital Investors and the students.

The presentation will have 12-15 slides written in English and will be presented in English language too. Each team will have 15 minutes to present its startup and an additional 10 minutes for questions and feedback by the Panel.

In reality it is recommended to have one or two presenters; however, in this course each team member must present at least one slide and must be well familiar with all the other slides.

Due: **1 day before the presentation in Session 11 or 12.**

In addition, each team has to prepare its Elevator Pitch (up to 150 words) and One Pager and submit it by **1 day before Session 10.**

[*] Grading for this assignment will be:

Elevator Pitch and One Pager:	5%
Power Point Presentation:	95%

4. Personal Assessment of Entrepreneurial Capabilities and Motivations (individual grade)

Each student will complete two Electronic questionnaires on Entrepreneurial Characteristics. The first one to be completed and submitted by **4 days before Session 3** and the second one to be submitted by **4 days before Session 13** (the last session of the course). Students will receive the results of the questionnaire on Moodle and have to bring hard copy of their results to class in **Session 13**. During this Session a discussion will be conducted on average group results of the questionnaires and their implications.

At the end of the course each student has to submit by **2 weeks after Session 13** a paper in English (maximum two pages) on his/her reflections and assessment of his/her entrepreneurial capabilities and motivations by answering the following questions:

- 1) When evaluating your Questionnaire's results and the material you have learned during the course, do you intend to pursue a career as: (a) a founder/entrepreneur in a start-up; or, (b) a technical/management career in an established firm?
- 2) Describe the reasons and argue why you have chosen (a), or (b)?
- 3) Describe the subjects you would like to learn more about, and the capabilities you have to develop further, in order to succeed in your chosen career path.

Grading for this assignment will be as follows:

Questionnaire 1 st Run:	5%
Questionnaire 2 nd Run:	5%
* Q1:	30%
* Q2:	40%
Q3:	20%

* Note: Q1-Q2 could be answered only if student has run 1st and 2nd questionnaires.

Course grading:

Attendance in all lectures is highly recommended since best learning is by interaction in class (minimum 11 out of 13 are compulsory, while sessions #11 and #12 are mandatory).

Assignment 1: Patent Search and Assessment (team grade)	15% [*]
Due: Idea Selection – 3 days before Session 5	
Q1-Q4 – 3 days before Session 7	
Assignment 2: Executive Summary of a Business Plan (team grade)	30% [*]
Due: Executive Summary – 2 weeks after Session 13 (80%)	
Supporting Material – 2 weeks after Session 13 (20%)	
Assignment 3: Business Plan Presentation (team grade)	35% [*]
Due: Elevator Pitch and One Pager - 1 day before Session 10 (5%)	
PPT Presentation – Sessions 11 & 12 (95%)	
Assignment 4: Personal Entrepreneurial Assessment (individual grade)	15%
Due: 1 st Questionnaire Run – 5 days before Session 3 (5%)	
2 nd Questionnaire Run – 5 days before Session 13 (5%)	
Q1-Q3 – 2 weeks after Session 13 (90%)	
Participation & Contribution in Class: (individual grade)	5%
 <u>Total:</u>	 <u>100%</u>

[*] Note: A **bonus of up to 10 points** will be given to students who will submit good Assignment, based on an innovative and patentable idea, which thus could be a candidate for a foundation of a new venture.

Reading material for course: All references and reading material will be posted on Moodle.

Recommended Reading:

-*The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, By Eric Ries

- *Finding fertile ground: identifying extraordinary opportunities for new ventures*, By Scott Shane

Student teams must schedule to meet with instructor or TA at least once between sessions 8 -10 to review business plan idea and progress.

Session 1: Introduction and Basic Definitions

Lecture

- Course overview;
- Course requirements;
- Start Team Formation in class;
- Prominent definitions of entrepreneurship and entrepreneurs;
- Business idea/opportunity discovery process;
- The Entrepreneurial Process;
- Introduction to BizTec;
- Introduction of Technion Entrepreneurship Center Website;
- Introduction to Entrepreneurship Questionnaire.

Reading material:

- "יש לך רעיון – מה הלאה?" - Pages 25-27, קו הזינוק
- "התחלה – הקמת המיזם" - Pages 32-47, חברות סטארט-אפ

Session 2: Intellectual Property

Lecture

Guest Lecture- Senior Patent Attorney:

- Intellectual Property and Patents;
- Lecture on intellectual property and different types of patent filing and patent law in the US, Europe, Israel and the Far East;
- The lecture will provide students with an understanding of technology assessment, intellectual property and the tools used to prepare invention for patent filing by patent attorneys;

Reading material:

- "הון לא-מוחשי וקניין רוחני" - Pages 117-130, חברות סטארט-אפ

Session 3: Intellectual Property: Patents Strategy and Patent Searching

Lecture

Guest Lecture- Senior Patent Attorney:

- Patent Strategy;
- From invention to patent;
- The Patent Structure;
- Patent Search;
- Demonstration and explanation of public databases used in patent searches;
- Why a patent search is necessary?
- Online examples and exercises by the student teams;
- Q&A on students' ideas with a patent attorney.

Reading material:

- הגנה על פטנטים - Pages 29-33, "קו הזינוק"

Students to bring their laptops and check connectivity to the Technion's WiFi internet service before class.

Session 4: Business Plan**Lecture**

- Introduction to Business Plan, Business Models and Revenue Models;
- The purpose of the Business Plan, what should be included and what should not?
- The format of a Business Plan and the requirements for the course project;
- The Executive Summary;
- The Business Plan Presentation;
- The Investor Pitch;
- Sources of information.

Reading material:

- תוכנית עסקית - Pages 35-39, "קו הזינוק"
- התוכנית העסקית - Pages 85-88, "חברות סטארט-אפ"

Session 5: Business Plan (cont): Business & Revenue Models**Lecture**

- Business Models and Revenue Models in different industries.

Session 6: Business Plan (cont): Marketing 1**Lecture**

- Marketing Definitions & Introduction;
- The Marketing Mix (the 4 P's: Product, Price, Promotion and Place);
- High-tech Marketing; B2B and B2C;
- Diffusion of Innovation;
- Market & Product Life Cycles.

Session 7: Business Plan (cont): Marketing 2

Lecture

- Marketing Research & Analysis;
- Marketing Strategy
 - Definitions;
 - The STP Process
 - Market Segmentation of High-tech Products
 - Defining your First Product
- Marketing Plan

Session 8: Business Plan (cont): Budgeting & Financial Projections

Lecture

- Finance and Entrepreneurship;
- Accounting and finance fundamentals
 - Developing revenue projections;
 - Developing cost projections;
 - Income statement, Cash-flow Statement, and Balance sheet;
 - Break-even analysis.

Reading material:

- התכנון הפיננסי והעסקי, "Pages 48-72, חברות סטארט-אפ"

Session 9: Presenting Business Plan & Raising Funds

Lecture

- Financing Rounds of new firms
- Valuation of few firms
- How to Present a Business Plan and Raise Venture Capital?
- The process of raising Venture Capital
 - Preparing the Business Plan and the Executive Summary;
 - What investors look for?
 - What is a sustainable competitive advantage?
 - The VC presentation;
- The VC industry.

Reading material:

- כיצד להכין מצגת מוצלחת? "Pages 41-42 קו הזינוק"
- גיוס הון ראשוני, "Pages 51 -58, קו הזינוק"
- היבטים מעשיים של גיוס הון סיכון, "Pages 151-158, חברות סטארט-אפ"

Session 10: Guest Lecture VC; Rehearsals- Pitching your Venture

Guest Lecture -Venture Capitalist:

- What investors are looking for?
- Teams will meet with instructor for final dress-run and feedback.

Rehearsals- delivering your Elevator Pitch and discuss it in class

Session #11 and #12: Practicing Presenting your Venture

- Final Presentations
 - Each team will present its startup for VC/Angel funding;
 - Every team member needs to participate in presentation;
 - Submit and present a 12-15 PowerPoint slides of Business Plan;
 - Teams will present for 15 minutes;
 - Investors Panel and audience will have 10 minutes for questions and feedback.

ATTENDANCE IN SESSIONS 11 AND 12 IS MANDATORY FOR ALL STUDENTS.

Session 13: Motivations & Traits; Students' Personal Questionnaire

Lecture

- Motivations and Traits of Entrepreneurs

- Students will receive personal feedback on questionnaire results before class meeting;
- Discussion in class of the results of the questionnaire and their implications;
- The individual personal assessment assignment;
- Course Wrapping up.