



## *The Hebrew University of Jerusalem*

### *Syllabus*

## *Technology in Israel - from the laboratory in the academy to the production line - 55429*

*Last update 10-08-2020*

*HU Credits: 3*

*Degree/Cycle: 1st degree (Bachelor)*

*Responsible Department: Business Administration*

*Academic year: 0*

*Semester: 1st Semester*

*Teaching Languages: English*

*Campus: Mt. Scopus*

*Course/Module Coordinator: Abraham (Avi) Domb*

*Coordinator Email: [avid@ekmd.huji.ac.il](mailto:avid@ekmd.huji.ac.il)*

*Coordinator Office Hours: by appointment*

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Teaching Staff:

Prof Abraham Domb

Course/Module description:

The course will include 10 sessions of 3 academic hours, starting with an introductory session on the structure of the academic research, high/bio-tech in Israel, and the components involved in moving from the academic bench to a company. The next eight sessions will be devoted to technologies initiated in the academic bench and being adopted by a production company. Each of these sessions will start with an overview of the science behind the technology, followed by scientist and company representatives who will talk about the technological developments towards the marketed product, fundraising, and business aspects involved with technology development from day one. The course will contain 11 meetings, one of which will be a trip to technology sites.

Course/Module aims:

Familiarization with the contribution of academic research to the economic development of Israel by following the process of moving an idea from the academic bench to the production line. The technologies involved with wet-labs (such as chemistry, biology, bio- and chemical engineering, etc.) require established laboratories, advanced equipment, and many years of intensive work by experts and experienced scientists available in academic institutions. It is, thus, not surprising that many of the chemistry/biology related technologies and products have begun as academic research.

The objective of this course is to highlight the connection between academic research and industrial products initiated at universities in Israel.

Learning outcomes - On successful completion of this module, students should be able to:

Course participants will have an acquaintance with the elite industry and personal entrepreneurship and the way to promote an academic venture into a commercial product. Meetings with entrepreneurs and companies from a variety of fields will inspire learners to think and understand work processes and implement a product idea.

Attendance requirements(%):

70

Teaching arrangement and method of instruction: lectures and small group

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meetings (using ZOOM)

Course/Module Content:

*From the bench to the clinic from the academic viewpoint  
Technology transfer, Filing patents, Incubator  
3D printing, Digital Ceramic glass printing Technol.  
Dip-tech Company  
Plant genetic engineering  
Collagen production from plants  
Medical implants, irradiation treatment  
Tissue separation for safe irradiation  
Orthopaedic applications, Orthospace Company  
Bioprotect Company  
Regional drug therapy  
Antimicrobial coatings, Polypid company  
Antimicrobial coatings, Peptide coatings  
Bioactive nanoparticles  
Nanoparticles, metal oxides, Nanosono company  
Food-technologies  
Engineered synthetic meat, Aleph Farms  
Trip to companies  
Jerusalem: Mobileye, Dexcel, A to B accelerator  
Biological drugs, immunology  
Water purification technologies  
Portable water supply system, Strauss Water*

Required Reading:

*will be provided*

Additional Reading Material:

*will be provided*

Course/Module evaluation:

*End of year written/oral examination 60 %  
Presentation 10 %  
Participation in Tutorials 0 %  
Project work 0 %  
Assignments 30 %  
Reports 0 %  
Research project 0 %*

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Quizzes 0 %  
Other 0 %

Additional information: