

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

Coordinator Office Hours: by appointment

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

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 %

Quizzes 0 %
Other 0 %

Additional information: