

MIDDLE EAST TECHNICAL UNIVERSITY

Dpt of Science and Technology Policy Studies

Spring 2015

STPS 555

Research Commercialization and Knowledge Intensive Entrepreneurship

Instructors: V. Sinan Tandoğan and M. Teoman Pamukçu

Tuesday, 13.40-16.30

Location: TBA

Course description

Research, innovation and entrepreneurship are the three critical pillars of the knowledge economy. Research and technology commercialization, or more specifically, knowledge-based entrepreneurship becomes one of the most important issues for the economic growth in the 21st century. However, there are many complexities and uncertainties in the linkages between scientific invention and business development. This course will focus on the recent developments concerning the knowledge transfer approaches including the new role of universities, public incentives in commercialization, improvements in intellectual property rights and mediator agencies between the academic and the industrial worlds. The distinct features and industrial dynamics of knowledge-based entrepreneurship will also be elaborated.

This course is designed to contribute to the program by providing the insights to analyse the knowledge transfer mechanisms and technology commercialization in universities and industries.

During the course, the participants are expected to acquire: i) understanding of the concept of knowledge transfer ii) Insights about the financing innovation iii) basic stages of knowledge based entrepreneurship; iv) functionality of technology transfer office at universities.

By the completion of “title of this course” the participants will: i) have a clear view of the objectives and basic elements of technology commercialization ii) be able to analyse university-industry cooperation iii) become more capable of valuating research outputs.

Course Outline

Week 1: Introduction and overview

Week 2: Financing of R&D and Innovation

Week 3: Technology-based entrepreneurship: Theory (1)

Week 4-5: Technology-based entrepreneurship: Theory (2)

Week 6: Presentation and discussion of case studies

Week 7: Academic entrepreneurship

Week 8: Knowledge transfer from university to industry

Week 9: Presentation and discussion of case studies

Week 10-12: Progress report presentations on term paper assignment

Week 13-14: Presentations made by two experts in the field

Course conduct and grading

The course will be conducted via one-hour lecture and a two-hour class. Participants of the course will be informed about the reading material of the week in advance. All the participants are expected to read the related material prior to the lectures. Class discussion, ranging from informal talks to organized discussion days, will be an important part of the class.

Interim presentation: %20

Term paper: %60

Presence and class participation: %20

Selected reading list

Aldridge, T.T. and D. Audretsch (2011). The Bayh-Dole act and scientist entrepreneurship, *Research Policy*, 40, 1058-1067.

Audretsch, D.B., Falck, O., Heblich, S. and A. Lederer (eds.) (2011), *Handbook of Research on Innovation and Entrepreneurship*, Edward Elgar, Cheltenham.

Bach, L. and Matt, M. (2002). "Rationale for science and technology policy. L. Georghiou, & J. Rigby" in *Assessing the socio-economic impacts of the Framework Programme*. Brussels: DG Research.

Bercovitz, J. And M. Feldman (2008). "Academic entrepreneurs: Organizational change at the individual level", *Organization Science*, 19, 69-89.

BTYK. (2012). TÜBİTAK BTY Politikaları BTYK 23. Toplantısı, 8 Eylül 2004. TÜBİTAK: <http://www.tubitak.gov.tr/sid/1079/cid/1365/index.htm>, last accessed at December 2010

Clarysse, B., Tartari, V. and A. Salter (2011). "The impact of entrepreneurial capacity, experience and organization support on academic entrepreneurship1, *Research Policy*, 40, 1080- 1092.

Duening, T. D., Hisrich, R. D., Lechter, M. A. (eds.) (2010), *Technology Entrepreneurship: Creating, Capturing and Protecting Value*, Elsevier, North Holland, Amsterdam.

Ergas, H. (1986). *Does Technology Policy Matter?* Centre for European Policy Studies.

Freeman, C. and Soete, L. (2003). *Yenilik iktisadı*. Ankara: TÜBİTAK Yayınları.

GIB. (2009). *Law 5746 related to the support of research and development activities*. Ankara: Gelir İdaresi Başkanlığı.

Hahn, Y. and Yo, P. (1999). "Towards a new technology policy: the integration of generation and diffusion", *Technovation* , 177-186.

Hall, B. H. (2002). "The financing of innovation", *Oxford Review of Economic Policy*, 35-51.

Lamoreaux, N. and Sokoloff, K. L. (2007). *Financing Innovation in the United States,1870 to the Presents*. MIT Press Books.

Lerner, J. (1999). "The government as venture capitalist: The long-run impact of SBIR Program", *Journal of Business*, 285-318.

Libecap, G. D. (ed.) (2005), *University Entrepreneurship and Technology Transfer: Process, Design, and Intellectual Property*, Elsevier, North Holland, Amsterdam

OECD. (1998b). *Technology, productivity and job creation; Best policy practices*. OECD Publication

Thérin, F. (ed.) (2007), Handbook of Research on Techno-Entrepreneurship, Edward Elgar, Cheltenham.

Ulin, J., Drillion, D. and F. Lasch (eds.) (2007), Entrepreneurship, Cooperation and the Firm. The Emergence and Survival of High-Technology Ventures in Europe, Edward Elgar, Cheltenham.