

MT5880: Topics in Management of Technology

Description:

The topics for the module may be revised each time it is offered. In general, the topics will be in the area of Management of Technology, with a focus or bias on more recent developments in this area and/or topics that are specialized in nature. Example topics include “Techno-Economics” and different types of innovation.

For AY09/10, the topic to be covered is “Techno-Economic Systems”. The focus will be on the understanding of the general framework of techno-economics, and numerical analysis of techno-economic systems taking actual empirical case analyses.

Syllabus:

The goals of this module are set for learning the fundamentals of strategy in business, technology and IP, as well as the skill training of information/intelligence analysis. This module assigns projects to participants and evaluates their learning outcomes both in knowledge and skill, which include:

Topics to be covered for “Techno-Economic Systems”:

- Technological innovation, growth
- Productivity, technological progress, competitiveness
- Socio-economic systems and innovation
- Accumulation of technological knowledge
- Diffusion of technology
- Globalization and localization of innovation
- Effects of learning
- Technology spillover
- Rate of return to R&D investment
- Optimal trajectory of R&D investment
- Formation process of characteristics of technology
- Advancement of information technology and its impacts on technopreneurial strategy
- New stream of technology policy, technopreneurial strategy, and techno-economics

References:

Main text: C. Watanabe, “Techno-Economic Systems” (Sosei-sha Publishers, Tokyo, 2007)

Class materials to be supplemented by relevant literatures and news, to be announced by the lecturer.