This course is organised to give students the necessary knowledge and tools to understand innovation, technology and economic development dynamics. The course consists of three parts. Part I is an introduction on the creation and the diffusion of knowledge and technology, characteristics of technological knowledge and issues like path-dependence and technological lock-in. Part II is an introduction to economic growth. We start with Neo-classical growth and continue with models that incorporate endogenous knowledge and technology. Part III is organised as special topics that are related to the economics of technology and innovation. A comparison of Neo-classical and systemic view and how to orient policy in both views are essential in understanding the dynamic interplay between, innovation, technology and economic development. The role of international organisation, globalisation, institutions and culture in innovation are extensions that enhances our understanding of science and technology.

**Functioning**

PART I, II and III involve teaching. I expect participation of students to the discussion. At the end of each class there will be about 15 minutes brainstorming session on the topic of the next week. PART III will be based on introduction to special topics. The outline below is just a sketch. Depending on the discussions we may not be able to cover the given material in one week.

**Grading**

Midterm 30-40%
Final 40-50%
HW (?) 15-20 %
Participation 10%

**PART 1: INTRODUCTION**

**Introduction – WEEK 1**


**Key concepts in science, technology and innovation – WEEK 2**

See Lecture notes


**Science, Technology and Knowledge – WEEK 3**


**Lock-in and path-dependence – WEEK 4**


**Measurement of Innovation – WEEK 5**

See lecture notes

**PART II: INNOVATION AND GROWTH**

**Schumpeter, entrepreneur and evolutionary economics – WEEK 6**


**Diffusion of technology – WEEK 7**


**Long-waves, Kondratieff waves – WEEK 8**


**MIDTERM WEEK 9 (23rd of November)**

**F106 – 9:40-11:30**
Mainstream: Solow model and neo-classical growth – WEEK 10

model, main idea, main ingredients and empirics


Technology and Growth: Endogenous growth – WEEK 11


Technology and Growth: Endogenous growth – IF TIME PERMITS


PART III: SPECIAL TOPICS

System approaches to innovation – WEEK 12


Patel, P. and Pavitt, K (1994), National innovation systems: why they are important and how they might be measured and compared, Economics of Innovation and New Technology, 3, 77-95.


Policy: Neo-classical versus evolutionary perspectives – WEEK 13

This session will be a brief introduction to two theories. The students are expect to bring policy tool examples to class and we will try to merge two taxonomies in to one in an interactive way.


**WRAP UP – WEEK 14**