Course Name: Economic Growth (Videregående vækstteori)
Chronology: M.Sc. **ECTS:** 7½ ECTS
Teacher: Christian Groth, Chr.Groth@econ.ku.dk
Time and Place:
Lectures: Tuesday 12-14 CSS 22.0.19
Class: Niklas Brønager, Thursday 8-10 CSS 25.01.53

Academic aims
To provide students with the skills needed to function as a trained economist working on the problems of economic growth in an international organization, business environment, government or non-governmental organization or pursuing a research degree.
Intended learning outcomes:
By the end of the course the students should be able to:
1. Explain and apply major theoretical growth models and discuss their relevance to the understanding of the economic growth process.
2. Apply the concepts and analytical tools of growth theory to specific questions related to technical change and evolution of productivity.
3. Appreciate the key empirical regularities concerning technical change and evolution of productivity.
4. Apply knowledge of econometrics to articles that conduct quantitative analysis in the context of economic growth.
5. Comment in an enlightened way upon key debates among economists concerning factors that matter for economic growth.
A perfect score of 12 at the final exam is given if the student is able to demonstrate -- in a clear, concise and convincing way - to have obtained thorough competence in dimensions 1. to 5.

Course contents
We study what factors determine productivity levels and productivity growth in the longer run. We regard productivity as an endogenous variable evolving over time in response to human capital accumulation and research and development. The emphasis is on understanding the long-run behaviour of the industrialized world. We also address models and current issues related to technology transfer, inequality, natural resources, environment, induced technical change and global warming. There will be an emphasis on formal models (understanding them, being able to evaluate them from both a theoretical and empirical perspective, and to use them to analyse specific questions). Calculus intensity is high.

Themes:
1. How is the world income distribution evolving?
2. Do countries converge towards steady state paths and, if so, how fast?
3. Why do growth rates differ over long periods?
4. How rapidly do marginal returns to produced inputs diminish?
5. How can the rise of new product qualities and new production methods be modelled?
6. What is the relative importance of input quantities, technical knowledge, and institutions for productivity and growth?
7. Is continued economic growth compatible with sustainable economic development?
8. With a view to the climate change problem, what should the discount rate be in long-term social investment?

Syllabus: Acemoglu, *Introduction to Modern Economic Growth*, Princeton University Press, 2009. In addition lecture notes and journal articles, available for students with access to the course pack at the course website.

Language: English.
Prerequisites: Knowledge of basic macro and growth models at a level corresponding to David Romer, Advanced Macroeconomics, and of mathematical techniques such as differential equations, phase diagrams, and some optimal control theory. Useful reading before the course is taken includes the mentioned book by David Romer (chapters 1-3) and for example Charles Jones, Introduction to Economic Growth, 2. ed., Norton 2002.

Teaching and Work Forms: Lectures and class exercises, including required assignments (to be answered in groups up to four students).
Formal Requirements: One assignment in the middle of the semester must be completed and accepted for access to the final exam.
Examination: Three hours closed book exam (conditional on required assignments being accepted). Can be answered in English or Scandinavian.