

**Intensive PhD course on Economic Modeling and Inference
Aarhus University, Denmark, August 9-13, 2010**

The course covers identification and estimation of stochastic dynamic programming models. Sources of error (measurement error, imperfect control, random utility) are treated. Issues of discrete versus continuous time, finite versus infinite horizon, and discrete versus continuous states and controls are considered. Applications are drawn from a variety of fields. Macroeconomic applications: Consumption, labor demand and supply, asset pricing, time to build, time inconsistency of optimal plans, money. Labor: Job search, retirement, wage distribution, unemployment, absenteeism, schooling and occupational choice. Finance: Option pricing, portfolio choice, hedging, asset allocation, term structure analysis, stochastic volatility and jumps, volatility forecasting. Marketing applications: Advertising campaigns, cost of price adjustments, direct mailing of catalogs, purchase histories. Microeconomic applications: Patents, engine maintenance and replacement, fertility and child mortality, scrapping subsidies. Econometrics: Cross-section, time series, and panel data methods.

Teacher: Bent Jesper Christensen, Professor, Aarhus University
(web-page: <http://www.econ.au.dk/about-us/people/faculty-vip/christensen-bent-jesper/>)

Form: 20 hours of lectures with occasional exercises in one week. There will be an opportunity (but no requirement) for participants to present their own current research. At the end of the week participants will be given a take-home exam assignment, and they will have to submit their solutions within a few weeks (the exact deadline will be discussed during the lectures). The evaluation is on a pass/fail basis (graduation on the Danish 7-scale may be obtained if necessary). The course workload corresponds to 5 ECTS.

Schedule: The course begins around 10:00 on August 9 and ends at around 15:00 on August 13. Lunches and coffee during breaks will be provided. There will be a course dinner for all participants in the evening of August 9.

Literature: Christensen, Bent Jesper, and Nicholas M. Kiefer (2009): *Economic Modeling and Inference*. Princeton, N.J.: Princeton University Press. ISBN13: 978-0-691-12059-1. Publisher's link: <http://press.princeton.edu/titles/8903.html>. In addition articles.

Prerequisites: Participants are assumed to have completed a course in Econometrics at the advanced MSc or PhD level, as well as a course at the same level in at least one of the following areas (depending on interest): Macroeconomics, Labor, Finance, Marketing, or Microeconomics. Some familiarity with basic utility theory and equilibrium concepts, random variables and stochastic processes, and estimation techniques (OLS, GMM, ML) is required.

Participants and fees: PhD students enrolled at Nordic universities and MSc students at Danish universities participate free of charge. For PhD students from other countries there is a participation fee of 200 Euros to cover lunches, coffee breaks, and the course dinner. For practitioners there is a participation fee of 1000 Euro. Participants have to arrange and pay for accommodation and travel on their own.

Sponsors: School of Economics and Management at Aarhus University; Danish Graduate Program in Economics; Danish Doctoral School of Finance.

Registration: To register for the course send an e-mail to Margit Sommer at msommer@econ.au.dk no later than June 15, 2010. Please include information about your current student status or employment. In case of excess demand for participation, preference is given to Nordic PhD students and MSc students enrolled at Aarhus University.