Continuous-Time Macroeconomics

**CRN:** 20431  
**Course Number:** 528  
**Department (unused):** ECON  

**Description:**  
This course provides a survey of some of the basic methods and recent advances in continuous-time macroeconomics. It begins with a brief introduction into continuous-time stochastic processes and Itô calculus, optimization with Hamiltonians and Hamilton-Jacobi-Bellman equations, and Kolmogorov backward and forward equations. We then explore examples of continuous-time macroeconomic models through the lens of different research topics, such as growth, firm size, risk sharing, credit frictions, and financial intermediation. If there is time at the end of the course, we cover several advanced topics and techniques, such as Mean Field Games, robustness, and filtering.

**Instructor Name (manual entry):** Michael Sockin  
**Instructor(s):** Michael Sockin  
**Subject Code (deprecated):** ECON  
**Subject Number (unused):** ECON528  
**Meeting Pattern (deprecated):** Th 2.00-5.00  
**Term Code:** 202001  
**Session (deprecated):** 01

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