Course Outline: Networks are important in shaping behavior in many social, political and economic environments. Networks affect the outcomes of wars when different militant groups form alliances and conflicts can spread across national boarders. Economic production and supply chains are organized as networks, and the properties of these networks are important for the stability of the economy against shocks. Through networks of research and development (R&D) collaborations between firms new technologies are discovered and diffuse in the economy. Similarly, coauthorship networks in academic research are a crucial component in the process of scientific discovery and knowledge production. The many aspects that are governed by networks make it critical to understand how they impact behavior, which network structures are likely to emerge, and how they affect welfare in the society. This course offers an introduction to social and economic networks, drawing on the latest findings in economics, sociology, physics, computer science and mathematics. It provides empirical background on networks and their regularities, and discusses random graph-based models as well as strategic models of network formation. The goal of this course is to help students understand outcomes and behaviors in networked societies, and to be able to evaluate real world policy instruments in this context.

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Course Schedule:

Monday, 12th of June 2017, Room SOF-G 21
- 09:00-10:30, Lecture 1
- 10:30-11:00, Break
- 11:00-12:30, Lecture 2
- 12:30-14:00, Lunch break
- 14:00-16:00, Lecture 3

Tuesday, 13th of June 2017, Room SOF-G 21
- 09:00-10:30, Lecture 4
- 10:30-11:00, Break
- 11:00-12:30, Lecture 5
- 12:30-14:00, Lunch break
- 14:00-16:00, Lecture 6

Friday, 16th of June 2017, Room SOF-G 21
- 09:30-11:00 Exam

\(^1\)http://www.econ.uzh.ch/faculty/koenig.html.
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2. Characterization of Networks
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     – Graph Laplacian
     – Line Graph
     – Nested Split Graphs and Double Nested Graphs
   • Network Measurements
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     – Assortativity and Nearest Neighbor Connectivity
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   • Generalized Random Graphs
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  – Deregulation, Tax Benefits for Start-Ups and Cost of Entry
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  – Rankings of Authors and Departments
  – Optimal Research Funding
• Networks in Conflict
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  – Rent Dissipation and the Cost of War
  – Weapons Embargoes, Bilateral Reconciliation and Targeting of Groups
Literature

Core Literature:


Additional Literature:


