

Economic Networks: Theory and Empirics  
Giorgio Fagiolo  
AA 2011-2012  
(3 CFU, 30 hrs)

## **Syllabus**

- What is a network
- Examples of networks
- Why networks in economics and social sciences
- Networks and graphs
- Measures and metrics on networks
- Distribution of metrics and measures in large networks
- Models of network formation
- Null statistical network models
- Tutorial #1: Network data and network visualization
- Tutorial #2: Network measures and metrics
- Tutorial #3: Distributional analysis and network randomization
- Economic applications

## **Textbooks**

The main textbook is Newman, M.E.J. (2010), *Networks: An Introduction*, Oxford University Press. Additional material will be discussed in class. Here is a list of additional useful textbooks:

- Caldarelli, G. (2007), *Scale-Free Networks: Complex Webs in Nature and Technology*, Oxford University

Press.

- Dorogovtsev, S. Mendes, J. F. F. (2003), Evolution of Networks: From Biological Nets to the Internet and WWW, Oxford University Press.
- Easley, D. and Kleinberg, K. (2010), Networks, Crowds, and Markets: Reasoning About a Highly Connected World, Cambridge University Press.
- Goyal, S. (2009), Connections: An Introduction to the Economics of Networks, Princeton University Press.
- Jackson, M.O. (2008), Social and Economic Networks, Princeton University Press.
- Newman, M. E. J. , Barabási, A.-L. and D. J. Watts (2006), The Structure and Dynamics of Networks, Princeton University Press.
- Wasserman, S., Faust, K. (1994), Social Network Analysis: Methods and Applications, Cambridge University Press.