(Introduction to) Network Analysis 2023/24

Week	Date	Lectures	Labs	Coursework
1	Feb 19th	Networks motivation, graph theory vs network science, graphology	Recitation on *NetworkX* library, *Pajek* format etc.	
2	Feb 26th	Networkology, network representations & data, Erdos-Renyi model	Network representations, basic network algorithms	Homework #1 out
3	Mar 4th	Configuration model, small-world networks & model, scale-free networks	Advanced network algorithms, random graph models	
4	Mar 11th	Scale-free networks & preferential attachment models, some applications	Small-world & scale-free models, graphs vs networks	
5	Mar 18th	Node position & measures of centrality, link analysis algorithms	Measures of node centrality, PageRank algorithm	
6	Mar 25th	Link importance & measures of bridging, perspectives & course projects	Link betweenness, node similarity, errors & attacks	Homework #1 due
7	Apr 1st	Community structure, community detection & graph partitioning	Community structure & detection, project consultations	Homework #2 out
8	Apr 8th	Node equivalence & blockmodeling, core-periphery structure	Blockmodeling, block models, k-core decomposition	

9	Apr 15th	/	/	
10	Apr 22nd	Node mixing in networks, fragments & frequent subgraphs	Node mixing by (not) degree, graphlet degrees	
11	Apr 29th	/	/	Homework #2 due
12	May 6th	Network sampling & comparison, backbones & (convex) skeletons	Random-walk sampling, network comparison	
13	May 13th	Node layout & network visualization, course challenges, some applications	Wiring diagram & block models, project consultations	
14	May 20th	Network inference & link prediction, graph machine learning	Node embeddings & classification, link prediction	
15	May 27th	Selected applications & research topics, tentative invited talks	*(Q&A)*	Course project due