

Class	Date	Topic	Readings	Lead / Due / Notes	
1	29-Aug	Mon	Course Introduction and Overview	none	Skupin
	5-Sep	Mon	No class - Labor Day		
2	12-Sep	Mon	Toward a Science of Science	Atlas: 50-51	No lead
			Basic Anatomy, Units, Linkages of Science	Atlas: 52-55	Davidson 1
			Properties, Indexes, Laws, Dynamics of Science	Atlas: 58-59	Schmidt 1
			Data Acquisition, Preprocessing, Analysis, Modeling, Layout	Atlas: 60-63	Du 1
			Visualization Layers, Scholarly Marketplaces	Atlas: 64-69	Granovskaya 1 Meseck 1
			Demo: GIS&T BoK2 project	http://www.ucgis.org/priorities/education/modelcurriculumproject.asp	Stowell 1
			Assign Further Discussion Leads	none	Skupin
3	19-Sep	Mon	Network Analysis	Börner et al (2007) Network Science	
			Demo: Pajek	http://pajek.imfm.si/doku.php	
			Demo: CShell, Network Workbench Tool, Sci2 Tool	http://cishell.org/home.html http://nwb.cns.iu.edu/ https://sci2.cns.iu.edu/	
			Wikipedia map	Atlas: 166-169	
			Overview and assignment of studio projects	none	Skupin
4	26-Sep	Mon	Mapping Scientific Frontiers	Papers by Chaomei Chen, Kevin Boyack	
			Demo: Citespace	Atlas: 162-165	
			Global maps of science	Atlas: 106-109, 136-139, 170-173, Bollen (2009)	
			Processing - Feedback		Everyone
5	3-Oct	Mon	Graph Modeling of Concepts: Networks, Hierarchies, Similarity	Widdows (2004) Geometry and Meaning (Chapters 2-4)	
			Demo: WordNet		
				Atlas: TBD	
			Overview and assignment of studio projects	none	
6	10-Oct	Mon	Semantic Web and Ontology Visualization	TBD	
			Demo: Protégé		
			Demo: Stylus Studio 2011		
7	17-Oct	Mon	Vector Space, Concept Lattices	Widdows (2004) Geometry and Meaning (Chapters 5-8, Conclusions)	
			Demo: ?		
8	24-Oct	Mon	Self-organizing maps	Skupin & Agarwal (2008) What is a SOM?	
			SOM-based Visualization and Alternative Conceptualizations	Skupin (2002, 2005, 2009)	
			Demo: SOM_PAK, SOM Analyst		
			"In Terms of Geography"	Atlas: 102-105	
9	31-Oct	Mon	Uncovering Semantic Structures: Topic Models	Steyvers and Griffiths (2006), Rebich (2011)	
			Studio		Concept Paper Due
10	7-Nov	Mon	Studio		
11	14-Nov	Mon	Studio		
12	21-Nov	Mon	Studio		
13	28-Nov	Mon	Studio		
14	5-Dec	Mon	Project Presentations (15+5 mins)		Project Reports Due