Graph Theory and Networks
Course Schedule:
Monday August 16: Day 1

8:30 – 9:00 AM	Breakfast @ NIMBioS
9:00 – 9:30 AM	Welcome - Lenhart (NIMBioS) and Intro – Jungck
9:30 – 10:30 AM	Lecture - Food Webs, Interval Graphs, and Circular Arc Graphs – Cozzens
10:30 – 11:00 AM	Break
11:00 AM – Noon	Lab – Food Web Database and two software packages: BENZER and BioGrapher; Application to Systems Biology and DNA Microarray Analysis – Jungck
Noon – 1:00 PM	Lecture - Small-world Phenomena, Scale-free Networks, Connectivity - Ellis-Monaghan
1:00 – 2:00 PM	Lunch
2:00 – 3:30 PM	Lecture and Lab – Phylogenetic Trees and Networks - Jungck
3:30 – 4:00 PM	Break
4:00 – 5:00 PM	Lecture - Graph theoretical design strategies for self-assembling DNA Nano-structures: Biosensors, Drug delivery mechanisms, and Biomolecular Computing - Ellis-Monaghan
5:00 – 6:00 PM	Reception @ NIMBioS

Tuesday August 17: Day 2

8:30 – 9:00 AM	Breakfast @ NIMBioS
9:00 – 10:00 AM	Lecture - Modeling Influenza Dynamics Using Networks – Hartvigsen
10:00 – 10:30 AM	Break
10:30 - 11:30 AM	Lab –Building and analyzing network models using R – Hartvigsen
11:30 AM – 12:30 PM	Lecture - Social Network Graphs and Game Theory with Applications To Epidemiology and Viral Marketing - Cozzens
12:30 – 1:30 PM	Lunch
1:30– 3:30 PM	Lecture and Lab– Applications of Graphs to Student Enrollment and Yellowstone Wolves – Hartvigsen
3:30 – 4:00 PM	Break
4:00 – 5:00 PM	Lecture – Home Range Analysis – Cozzens

Wednesday August 18: Day 3

8:00 – 9:00 AM	Breakfast @ NIMBioS
9:00 – 10:00 AM	Lecture – Valuing Voronoi Visualization: Biological Image Analysis via Computational Geometry, Graph Theory, and Spatial Statistics – Jungck
10:00 – 10:30 AM	Break
10:30 - 11:30 AM	Lab – Biological Image Analysis – Jungck
11:30 AM – 12:30 PM	Discussion led by all four presenters: Cozzens, Ellis-Monaghan, Hartvigsen, and Jungck and feedback by participants
12:30 – 1:30 PM	Lunch
1:30 – 2:00 PM	Evaluation led by NIMBioS

Departure 2PM