

5.2 Graph Theory and Networks

Heckman Library 406C

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Keywords agent-based modeling, social sciences, computational methods

1. SESSION A (LECTURE)

Graph Theory and Networks

- Overview of graph theory concepts: nodes, edges, and connectivity.
- Introduction to network analysis: centrality, clustering, and community detection.
- Applications: social networks, information diffusion, and epidemic modeling.

 [Graph Theory and Networks \(Slides\)](#)

2. SESSION B (LAB)

Gephi Tutorial: Network Visualization and Analysis

- Introduction to Gephi: interface and basic functionalities.
 - Importing and visualizing network data.
 - Performing basic network analysis: calculating centrality measures and detecting communities.
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