

“Resource Allocation in Networks”

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Outline:

1. Introduction:

Overview
Resources
Good Allocations
Summary

2. Utilities & Choice:

Utilities
Social Choice
Mechanisms
Summary

3. Network Economics:

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Externality, Free-Riding
Routing Games
Net Neutrality
Security
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Summary

4. Distributed Algorithms:

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Backpressure
Wireless Backpressure
Switches
P2P
Energy
Summary

5. Pricing & Auctions:

Pricing Theory
Price of Simplicity
Time-Shifting
Auction Theory
(1/n³) Optimality
Summary