

UNIVERSITY OF SOUTHERN CALIFORNIA

COMPUTER ENGINEERING

SCREENING EXAMINATION

EE 649

Stochastic Network Optimization

SUGGESTED READING

1. “Stochastic Network Optimization with Application to Communication and Queueing Systems” by M. J. Neely. Morgan & Claypool, 2010

- Queue stability (Chapter 2.1)
- Scheduling for stability, capacity regions (Chapter 2.3)
- Linear programs (Chapter 2.3, Chapter 3)
- Energy optimality (Chapter 3.2)
- Opportunistic scheduling (Chapter 2.3, Chapter 3, Chapter 4.6)
- Lyapunov drift and optimization (Chapter 4.1.0-4.1.2, 4.2, 4.3)
- Inequality constraints and virtual queues (Chapter 4.4)
- Drift-plus-penalty algorithm (Chapter 4.5)
- Performance and delay tradeoffs (Chapter 3.2, 4.5)
- Backpressure routing (Ex. 4.16, Chapter 5.2, 5.3)

Please be aware that these references are for guidance in BASIC knowledge. Ph.D. candidates are screened on the basis of talent, course knowledge, independent reading and experience.
