

ESE 546 Networking Algorithms and Analysis
Fall 2021

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Online synchronous lectures will be given via Zoom, below use the meeting URL to access to the class

<https://stonybrook.zoom.us/j/98667125573>

Text:

Required books:

T. Robertazzi, Networks and Grids: Technology and Theory, 1st edition. Springer, 2007.

J. MacCormick, 9 Algorithms that Changed the Future, Princeton University Press, 2012.

T. Robertazzi, Planning Telecommunication Networks, 1st edition, Wiley, 1999.

Optional book:

T. Robertazzi, Computer Networks and Systems: Queueing Theory and Performance Evaluation, 3rd edition, Springer, 2000.

Grading:

Test 1 (35 pts), Test 2 (35 pts), Test 3 (30 pts).

Algorithms	Queueing Theory
Search	Continuous Time Queues
Error Codes	Discrete Time Queues
Data Compression	
Digital Signatures	
Public Key Cryptography	

Network Planning

Mathematical Programming for Planning
Network Algorithms for Planning
Routing
Flow and Congestion Control
Related topics as time permits.

Network Technology

Multiple Access Performance
Teletraffic Modeling
Switching Elements and Fabrics

Academic Honesty

Any academic dishonesty on a written homework or lab will result in a zero grade for the assignment for all parties involved.

All exam work must be entirely your own with no collaboration or outside materials/information. Any academic dishonesty on the midterm exams or the final exam will result in failing the course. The case will be submitted to the College of Engineering's Committee on Academic Standing and Appeals.

Electronic Communication Statement

Email and especially email sent via Blackboard (<http://blackboard.stonybrook.edu>) is one of the ways the faculty officially communicates with you for this course. It is your responsibility to make sure that you read your email in your official University email account. For most students that is Google Apps for Education (<http://www.stonybrook.edu/mycloud>), but you may verify your official Electronic Post Office (EPO) address at <http://it.stonybrook.edu/help/kb/checking-or-changing-your-mail-forwarding-address-in-the-epo>.

If you choose to forward your official University email to another off-campus account, faculty are not responsible for any undeliverable messages to your alternative personal accounts. You can set up Google Mail forwarding using these DoIT-provided instructions found at <http://it.stonybrook.edu/help/kb/setting-up-mail-forwarding-in-google-mail>.

If you need technical assistance, please contact Client Support at (631) 632-9800 or supportteam@stonybrook.edu.

Student Accessibility Support Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@Stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Academic Integrity Statement

Each student must pursue their academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Critical Incident Management Statement

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Until/unless the latest COVID guidance is explicitly amended by SBU, during Fall 2021 "disruptive behavior" will include refusal to wear a mask during classes.