

ESE/CSE 346 Syllabus
Spring 2017

Prof. Thomas Robertazzi, Instructor
Phone: 2-8412/8400 Office, Email: thomas.robertazzi@stonybrook.edu
Room 219 Light Eng.

Course Objective: To give students a broad background in computer networking technology and an introduction to performance evaluation.

Texts:

(A) Networks and Grids: Technology and Theory, 1st ed. by Thomas Robertazzi, 2007. Publisher: Springer (www.springer.com).

(B) Basics of Computer Networking, 1st ed. By Thomas Robertazzi, 2011. Publisher: Springer (www.springer.com). It is not necessary to buy this book as a manuscript (pdf file) version of the work is available on the professor's department home page under Books for free download and also available on Blackboard.

Week 1: Probability Review and Transmission Media

Week 2: Performance Evaluation

Week 3: Algorithms (Error Codes, Routing and Quantum Key Distribution).

Week 4: Algorithms (continued)

Week 5: IEEE Local Area Network Standards (Ethernet, 802.11 Wireless LAN, 802.15 Bluetooth)

Week 6: IEEE Local Area Network Standards (continued) **EXAM 1 (date is approximate)**

Week 7: IEEE Local Area Network Standards (continued)

Week 8: Infiniband, MPLS and Fiber Optic Networking (including SONET and WDM).

Week 9: Software Defined Networks. Networks on Chips.

Week 10: Space Networks

Week 11: Grids, Clouds and Data Centers. **Exam 2 (date is approximate)**

Week 12: AES and Quantum Cryptography.

Grading: Quizzes (five) 20%, Exam 1: 25%, Exam 2: 25%, Projects (two at 15% each): 30%. No final. Total is 100 points.

Note: If you have a physical, psychological, medical or learning disability that may impact on your ability to carry out assigned course work, I would urge you to contact the staff in the Disabled Student Services office (DSS) 631-632-6748. DSS will review your concerns and determine with you what accommodations are necessary and appropriate. All information and documentation of disability are confidential.