Modern Telecommunications

TCOM 500 Section 002

Spring 2010

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Time and Place Thursday, 4:30-7:10pm, Innovation Hall, room 203.

Office Hours Tuesday 3:30-4:30 pm and Thursday 3:00-4:00 pm or by appointment.

Required Textbook B.A. Forouzan, *Data Communications and Networking, 4th Ed.*, McGraw Hill, 2007.

Recommended Further Reading Warren Hioki, *Telecommunication, 4th Ed.*, Prentice-Hall, 2001 .

Homework will be assigned every week and is due the following week. You are encouraged to work on the assignments in small groups.

Two Midterm Exams and a Final Exam will be given during the semester. Make-up exams are rarely given. In case of an emergency, contact the instructor as soon as possible and always *before* the exam. Failure to take an exam, will result in no credit for the exam.

Project A semester project will be assigned early in the semester and will be due near the end of the semester. The project will be an individual research project on a topic relevant to this class.

Class Attendance and active participation is expected. Let the instructor know ahead of time if you cannot attend class.

Honor Code All assignments are conducted under the rules and regulations of the **Honor Code** (see University Catalog).

On-line Class Material Class and lab material will be distributed electronically via the World-Wide Web. Use a browser to find the TCOM 500 homepage at URL:

`http://www.spec.gmu.edu/~pparis/classes/tcom500.html`. Additionally, course material is maintained on Blackboard; log in with your Mason e-mail ID and password.

I will also correspond with you through your Mason e-mail account - check your e-mail regularly.

Final Grades are determined by a weighted average of homeworks, projects, exams, and class participation in the following manner:

Attendance and Participation	10%
Homework	15%
Midterm Exam (each)	15%
Final Exam	30%
Project	15%

Tentative Class Schedule

Part I Digital Representation of Information

Week 1: Introduction and perspective

Week 2: Representing information in digital form

Week 3: Introduction to Compression and Cryptography

Week 4: Principles of Error Correction and Error Detection

Week 5: Midterm 1

Part II Digital Transmission of Information

Week 6: Introduction to digital transmission of information

Week 7: Digital baseband transmission: line codes

Week 8: Digital passband transmission: wireless communications

Week 9: Understanding the wireless communications channel

Week 10: Midterm 2

Part III Data Link Layer

Week 11: Multiplexing and multiple access

Week 12: Random Multiple Access

Week 13: Framing, Addressing, and Error Control

Week 14: Examples, Summary, and Outlook

Tuesday May 6, 4:30pm–7:15pm: Final Exam