TCOM 500 (DL1 and PO1),
Spring 2022

Wednesdays 4:30 – 7:10 pm

The online section DL1 will be able to use the asynchronous delivery of this course on Blackboard

Prof. Andre Manitius

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Preliminary Syllabus and Course Schedule,

- Students should attend the classroom or online sessions regularly, each week combined with your study of the online pre-recorded material. Many points discussed in the virtual class may not be on posted slides. Just only reviewing slides or videos is not enough to pass the course with a good grade. There will be weekly HomeWorks and periodic Quizzes, Tests, and Student Projects.
- HomeWorks should be submitted in the Blackboard. They are always due the next week just before the class begins. Late homework submissions are given a reduced or even a zero credit.
- Topics covered in the course will include a selection of the material contained in the textbook. "Telecommunications", 4-th ed., by Warren Hioki, Prentice Hall, 2001. Chapters 7, 8, 9 and 10 od that textbook will be de-emphasized or skipped. Look online for discount copies.
- The schedule shown below is tentative. There may be later variations in the dates.

Course schedule

Date	Topics
Jan 26	Introduction to Modern Telecommunication: Chapter 1, 6 + additional slides
Feb 2	Fundamentals: Signals, noise, Analog Modulations: AM, FM, PM Chapter 2, 3 and 4.
Feb 9	Digitization and Modulation: Chapter 5.
Feb 16	Digital Transmission Overview and Different Transmission Media.
Feb 23	**TEST1** + Continuing Digital Transmission topics
March 2	Error detection and correction: Chapter 17.
March 9	Communication Media standards: Serial transmission Chapter 8 + extra material
March 16	Spring Break No class
March 23	Telephone system + Chapter 11 + additional material + Chapter 12
March 30	Modems, Cable modems, modulation. Chapter 13 + slides
April 6	Optical Fiber Communication, Chapter 15 + slides
April 13	DWDM, Submarine Cables Wireless Communications basics, 2G and 3G. Chapter 16
April 20	**TEST 2** + Continuation of wireless fundamentals.
April 27	Wireless Communications: 4G and 5 G. Wi-Fi standards, Bluetooth, other wireless technologies. WLANS
May 4	Review and Project presentations
May 11	FINAL EXAM 4:30 pm – 7:15 pm ONLINE

- **Course requirements**:
  - There will be weekly homework (HW) to be submitted to the course website at mymason.gmu.edu (Blackboard). Homework should be typed in MS Word or they can be scanned into a .pdf document, or scanned. However, they should not be merely photo shots of handwritten HW.
  - Each student will have to develop a project and make a brief class presentation, that will be evaluated on the technical content and on the quality of presentation. Projects should address some of the latest technological developments in Telecommunications. Based on library and Wed references. Presentations should be developed individually by students and should not be copies of presentations available on the Web or given by other students in previous semesters or in other classes. Honor Code applies. Details on the HC requirements will be discussed in class.
  - **Credit for course**:

    HW 15%, Test1: 20%, Test 2: 20%, Projects with presentations 30%, Final Exam 15%

  - Student presentations on the latest Telecommunication technology topics will be given on specific days. These days may be subject to change and notifications of changes will be sent prior to the days of presentation over Mason email.
  - The two tests and the final exam are required. Students who skip a test or an exam without prior arrangement will earn zero credit for the test or exam.
  - Arrangements for Tests and Exam for the DL section will be announced separately.
- **Academic Integrity expectations**: *Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work***.** Please read more at: http://oai.gmu.edu/
- **Anti-racism statement** is attached (next page).
- **Special accommodations through the Office of Disability Services:**
  http://ods.gmu.edu/
  University Policies: http://universitypolicy.gmu.edu/
- **Faculty contact information**
  My preferred mode of communication with students is e-mail. Please write to amanitiu@gmu.edu
  Face to face discussions: preferably during my office hours, or by appointment.
  Office: ENGR 3245 Telephone: 703-993-5771
  Office hours: by appointment, Wed 3:00 – 4:00 pm online (ZOOM) . Please ask for an appointment.
  Other information
  University Catalog: http://catalog.gmu.edu/

ANTI-RACISM STATEMENT

As a member of the George Mason University community, the CEC Department of Electrical and Computer Engineering plays an integral role in building an educational environment that is committed to anti-racism and inclusive excellence. An anti-racist approach to higher education acknowledges the ways that individual, interpersonal, institutional, and structural manifestations of racism against Black individuals and other people of color contribute to inequality and injustice in our classrooms, on our campuses, and in our communities, and it strives to provide our community members with resources to interrupt cycles of racism so as to cultivate a more equitable, inclusive, and just environment for all of our students, staff, faculty, alumni, and friends, regardless of racial background.

We believe that the work of anti-racism starts with everyone, and that in cultivating an anti-racist approach to research, scholarship, and practice, our students will build a skillset rooted in principles of equity, inclusion, and justice that they will carry with them throughout their lives.

For more information on how to continuously cultivate the practice of anti-racism, see this guide from the National Museum of African American History and Culture on how to be anti-racist: https://nmaahc.si.edu/learn/talking-about-race/topics/being-antiracist

[This is an excerpt from the antiracism statement prepared by Dr. Charles Chavis, Assistant Professor in the Jimmy and Rosalyn Carter School of Peace and Conflict Resolution]