

ENTS 699L Independent Studies: LTE Network Protocols Testing Equipment Lab

Fall 2017 Syllabus

Course Description: Students will learn to perform device-to-device mobile testing, using the Spirent Wireless Test Station, WTS 122. Student will learn to use Spirent's Elevate Test Framework, which allows the performance evaluation for IMS, VoLTE and RCS protocol messaging and signaling. Students will also learn to use the ProLab Testing Suite, which enables the student to perform basic and automation tests, and verify proper protocol implementation in equipment; it is designed to simulate concurrent voice and video calls in IP, IMS/VoLTE and 3G-324M network environments.

Pre-requisites: ENTS653 or ENTS656; and permission from instructor

Time and place of lecture: AVW 1324, Thursdays 10AM

Instructors:

[Zoltan Safar](mailto:zsafar@umd.edu) (zsafar@umd.edu, office: AV Williams Building 1361)

[Michael Dellomo](mailto:mdellomo@umd.edu) (mdellomo@umd.edu, office: AV Williams Building 1363)

[Alejandra Mercado](mailto:mercado@umd.edu) (mercado@umd.edu, office: AV Williams Building 1365)

Office Hours: check on-line for individual instructor office hours on their respective web pages

Logging in to the Course for announcements, instant messaging, documents, articles, etc.:

Go to <http://elms.umd.edu>. Login with your Maryland Directory ID and password.

Grading

4 Projects @ 25% each

Total	100%
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Final Grading will be determined using the following scale based on the overall average score:

Threshold for A-, A, A+	90 %	Threshold for C-, C, C+	70 %
Threshold for B-, B, B+	80 %	Threshold for D-, D, D+	60 %
		Threshold for F	everything else

- A± denotes excellent mastery of the subject and outstanding scholarship.
- B± denotes good mastery of the subject and good scholarship.
- C± denotes acceptable mastery of the subject and the usual achievement expected.
- D± denotes borderline understanding of the subject and marginal performance.
- F denotes unsatisfactory performance.
- XF denotes failure due to academic dishonesty

Tentative Course Schedule

The instructors reserve the right to make schedule changes based on the needs of the students and class progress.

Week Number	Date	Lecture Topic from text
1	Aug 28	Overview LTE, IMS Architecture
2	Sept 4	SIP, RACH & RRC
3	Sept 11	First Lab Setup & internet: ELEVATE gui
4	Sept 18	ProLab
5	Sept 25	Project 1 due
6	Oct 2	VoLTE & video
7	Oct 9	ProLab
8	Oct 16	Project 2 due
9	Oct 23	
10	Oct 30	
11	Nov 6	Project 3 due
12	Nov 13	Python & modifying scripts
13	Nov 20	Thanksgiving – no class
14	Nov 27	Scripts
15	Dec 4	Project 4 due
16	Dec 11	Presentations
16	Dec 12	Reading Day (no lectures)
	Dec 13 - 19	Finals week (no final exam)

A. Requirements

Students are expected to be on time, attend all class meetings and lab sessions, and complete all assignments and all assessments of their knowledge and understanding of the class material.

B. Assignments

Any assignment that is turned in should be complete, and represent the student's individual and original work. Turn in your assignment at the *beginning* of the class. Late assignments will not be accepted, as this would place an unfair burden on students who hand in their work in a timely manner.

C. Make-up Policy

In the case of an excused absence (such as a disabling medical emergency with a letter from a physician on official letterhead, or a death in the immediate family with proper documentation), the instructor will redefine the grading distribution in accordance with what assessment was lost.

Excused Absence: If you miss an assessment (test or project), contact me as soon as possible. You may receive an excused absence for such things as: medical emergencies, or death of an immediate relative. Unexcused absences will result in a grade of zero for the missed assessment.

Religious Observance: The student should inform the instructors at the beginning of the semester about any absences due to religious observances. We will make appropriate arrangements for the missed assessment. This must be NO LATER than the second week of classes.

D. Audit Policy

Audit students must participate fully in the course and follow all policies and procedures to audit the course. Exception: exams and reports are not required.

E. Academic Integrity

The maintenance of the highest standards of intellectual honesty is the concern of every student and faculty member at the University of Maryland. Plagiarism, which is defined as appropriating or closely imitating another person's work or ideas and representing them as one's own original work, is strictly prohibited. Use of phones, tablets or other electronic devices during a test is not allowed. Talking or whispering during exams or quizzes is never allowed.

Academic Dishonesty or Misconduct can occur in many ways. Some examples are:

- a) Plagiarizing from written, video, or Internet resources

- b) Forgery
- c) Submitting materials that are not the student's own work, such as Python code
- d) Taking examinations in the place of another student, including assessment tests
- e) Assisting others in committing academic dishonesty
- f) Copying from another student during an examination or on a homework assignment.

Failure to abide by the rules of Academic Integrity (which, in addition to the described above is detailed in <http://www.president.umd.edu/policies/docs/III-100A.pdf>) will result, *at the very least*, in a grade of XF: the grade appears on the student's transcript with the notation "Failure due to academic dishonesty," as well as further disciplinary actions.

F. Taping and/or Distributing Course Materials Forbidden

All course materials (lecture slides and other materials provided to you) are to be considered copyrighted by the University of Maryland – and may not be reproduced for anything other than personal use without written permission from your instructor and the College Dean. Video-taping, photographing, or audio-taping lectures is forbidden. If you publicly post or share course materials, and especially any solutions for homework, exams, quizzes, project, etc., you will be in violation of U.S. Copyright Law, University of Maryland policies, as well as the Code of Academic Integrity.

G. Support Services

Disability Support Services (DSS): Any student who may need an accommodation due to a disability should contact DSS offices at 0106 Shoemaker Building (301.314.7682) A letter from DSS authorizing your accommodations will be needed. For a complete list of other student support services, please refer to the Student Handbook.

H. Cancellation of Classes

If inclement weather forces the campus to suspend classes or close, public service announcements will be provided to local radio and television stations as early as possible. Assume that classes will be held unless you read or hear otherwise from the university web page or radio or television.

You may also call check the UMCP web page at http://www.umd.edu/emergencypreparedness/weather_emer/

Check the canvas (ELMS) course site frequently and always before coming to campus for lecture, as instructor will post announcements there about class cancellations or other course-related matter.

CONTACTS:

Students learn best from each other when studying together. Also, class contacts are useful in the event you miss a class. In that vein, I encourage you to meet your neighbors, and get some contact information.

Name: _____ Name: _____

Email: _____ Email: _____

Phone: _____ Phone: _____

Name: _____ Name: _____

Email: _____ Email: _____

Phone: _____ Phone: _____

Contact the instructor: The best ways to reach me is via email. Please only use your UM email address; due to privacy issues I will not read mail from personal email addresses.

VETERANS

If you are a veteran or on active or reserve status and you are interested in information regarding opportunities, programs and/or services, please visit the University of Maryland Veterans Program Office website at <http://registrar.umd.edu/veteran-benefits.html>