

CLASS PLAN

TELE25892: Wireless Network Principles

Fall 2016

A. Preamble

This plan is a 'living document'. While the intention is to follow this plan as best we can, the plan is flexible and the document will morph as the semester evolves. Thus, the timelines are only approximate, and content and deliverables can vary according to our progress. Students will be given ample notification of any significant changes by the professor in class or/and with updates to this document as posted on SLATE.

B. Professor

Dr. Tarek El Salti

Office: S401

Office hours: Thursdays from 11 AM to 12 PM

Contact: tarek.elsalti@sheridancollege.ca

C. Course Outline

Please see the course outline on the Course Outline database.

Check for:

- Program Context
- Critical Performance
- Learning Outcomes
- Detailed Course Description
- Evaluation Plan
- Topical Outline

D. Textbook and Reference Books

Text:

[COL3] Coleman, D., Westcott. D., CWNA Certified Wireless Network Administrator, Official Study Guide, 3rd Ed, Sybex, 2012.

ISBN: 978-1-118-12779-7 (Available in [Safari](#))

OR

[COL4] Coleman D., Westcott D., CWNA Certified Wireless Network Administrator, Official Study Guide, 4th Ed, Sybex, 2014.

ISBN: 978-1-118-89370-8 (Available in [Safari](#))

Reference:

[SAUT] Sauter M., From GSM to LTE, John Wiley & Sons, 2011.

ISBN: 978-0-470-66711-8 (Available in [Safari](#))

[COXC] Cox C., An Introduction to LTE: LTE, LTE-Advanced, SAE, VoLTE and 4G Mobile Communications, 2nd Ed, John Wiley & Sons, 2014.

ISBN: 978-1-118-81803-9 (Available in [Safari](#))

[BART] Bartz R., CWTS: Certified Wireless Technology Specialist Official Study Guide, 2nd Ed, Sybex, 2012.

ISBN: 978-1-118-35911-2 (Available in [Safari](#))

[HUCA] Hucaby D., CCNA Wireless 640-722 Official Cert Guide, Cisco Press, 2014.

ISBN: 978-1-58720-562-0 (Available in [Safari](#))

E. Evaluation Scheme

Items	Weight
Test1	20%
Test2	20%
Test3	20%
Tests Total*	60%
Hands-on Exercises/Labs/Activities (3)	10%
Assignments (2)	20%
Research Paper	10%
Subtotal	40%
Grand TOTAL	100%
*A student must average at least 50% on the tests combined in order to receive credit for this course	

F. Evaluation Policies and Practices

1. For submission of assignments, the professor will specify, in writing:
 - due dates and special instructions for submissions
 - unless otherwise stated, late deductions will be 10% per day
 - no submissions will be accepted after one week
2. All assignments/labs must be completed as individual efforts unless the professor states otherwise in writing.
3. Unless otherwise stated in the handout or SLATE, all labs/activities are to be performed and/or demonstrated in the classroom/lab, during class hours. To get any mark in the lab, a student must demonstrate his/her lab work before leaving the lab. Time management is essential. There will be **NO MARKS** without in-class demonstration.
4. Tests must be written as scheduled by the professor. Students who have an acceptable explanation for their absence, or students who provide acceptable documentation, such as a medical certificate, explaining their absence may be given exemption from a test.
5. A student must average at least 50% on the tests combined in order to receive credit for this course.
6. Professors reserve the right to adjust the number of activities, assignments, etc. in the specified ranges.
7. Medical documentation **must be presented within 5 business days of the missed evaluation (e.g., assignments, labs, and tests).**

G. Weekly Schedule^{*1}

Week# Week of	Lecture/Topics	Mandatory Reading Assignments ^{*2}	Activities/ Labs	Evaluation Item/ Due this week
WK1 Sep 9	Introduction <ul style="list-style-type: none"> • Introduction to the course • Wireless standards • Organizations • Fundamentals 	<ul style="list-style-type: none"> • [COL3]: Ch 1 • Handouts^{*3} 		
Wk2 Sep 16	RF Fundamentals <ul style="list-style-type: none"> • RF characteristics • RF behaviour 	<ul style="list-style-type: none"> • [COL3]: Ch 2 • Handout 		
Wk3 Sep 23	<ul style="list-style-type: none"> • RF Fundamentals (continue) • Power Units 	<ul style="list-style-type: none"> • [COL3]: Ch 2, Ch 3 	<ul style="list-style-type: none"> • Activity 1 	
Wk4 Sep 30	RF Measurement <ul style="list-style-type: none"> • RF components • RF power measurement • RF mathematics • Antenna concepts 	<ul style="list-style-type: none"> • [COL3]: Ch 3, 4 Handouts 	<ul style="list-style-type: none"> • Activity 2 	Assignment 1 is posted
Wk5 Oct 7	Test 1: Oct 6 (Tuesday) General discussions regarding your topic.			Test 1 <ul style="list-style-type: none"> • Topics covered Ch 1 to Ch 3 + General things from Ch 4
Wk6 Oct 14	<ul style="list-style-type: none"> • IEEE Standards • ISM Bands 	<ul style="list-style-type: none"> • [COL3]: Ch 5 + 6 • Handouts 	<ul style="list-style-type: none"> • Activity 3 	<ul style="list-style-type: none"> • Assignment 1 due

Wk7 Oct 21	<ul style="list-style-type: none"> WLAN Topologies 	<ul style="list-style-type: none"> [COL3]: Ch 7 Handouts 	Activity 3B	
Break Wk	No classes: Oct. 24 – 28, 2016			
Wk8 Nov 4	<ul style="list-style-type: none"> Spread Spectrum IEEE standards WLAN topologies 	<ul style="list-style-type: none"> [COL3] Ch 5, Ch 6 and Ch 7 Handouts 		
Wk9 Nov 11	Test 2: Nov 9 (Monday)			Assignment 2 is posted Test 2 <ul style="list-style-type: none"> Topics covered in Wk 5, 6, 7
Wk10 Nov 18	<ul style="list-style-type: none"> 802.11 Media Access 	<ul style="list-style-type: none"> Handouts [COL3] Ch 8 	Bonus lab (2%)	
Wk11 Nov 25	Cellular Networks Fundamentals <ul style="list-style-type: none"> Standards and Evolution Cellular principles Frequency allocation GSM, GPRS Mobility Management <ul style="list-style-type: none"> Location management Handover 	[SAUT] Ch1 and Ch 2	Activity 3	<ul style="list-style-type: none"> Assignment 2 due
Wk12 Dec 2	3G Systems <ul style="list-style-type: none"> UMTS HSPA Beyond 3G Systems <ul style="list-style-type: none"> Long Term Evolution Architecture 	<ul style="list-style-type: none"> [SAUT] Ch 3 and 4 Handouts 		<ul style="list-style-type: none"> Research report due

	<ul style="list-style-type: none"> Air interface 			
Wk13 Dec 9	Final Review Self study – review IMPORTANT: Resolve all pending issues regarding marks of all grade items (excepting Test3 and research paper)			<ul style="list-style-type: none"> Research Presentation
Wk14 Dec 16	Test 3: Dec 14 (Monday)			Test 3 <ul style="list-style-type: none"> Topics covered in Wk 9, 10, 11, 12, 13

*1: Any change to this schedule will be posted in the web version in SLATE. Make sure to visit our SLATE home regularly.

*2: Focus of reading should be the relevant sections of the corresponding chapter, as in some cases, the whole chapter is not covered in the course. In addition to the indicated chapters of the text book, students are expected to study the class notes, handouts/powerpoints and posted web material (video, news etc.).

H. Classroom Policies

Attendance	<ul style="list-style-type: none">• Attendance is not mandatory, but is highly recommended• It is your responsibility to catch up any missed material
Behaviour	<ul style="list-style-type: none">• Please be polite and consider others• If you distract or disturb others, you will be asked to leave the room
Late Arrival	<ul style="list-style-type: none">• Please take your seat quietly• It is your responsibility to catch up any missed material
Mobile Devices	<ul style="list-style-type: none">• For lectures in class, mobile devices should be on silent mode• For in-class activities, mobile devices are allowed.• If mobile devices are on, please use headphones and low volume.
Food	<ul style="list-style-type: none">• Not allowed, if you bring in food you will be asked to leave• Please finish your food outside, then come inside