EE6733 – Simulation and Analysis of Digital Signals

COURSE OUTLINE
Section FR01B – Winter 2014-15
http://www.ece.unb.ca/Courses/EE6733/DM/

Class Times:	M 2:30-4:30
Class Room:	GWC111
Tutorial:	N/A
Lab:	T 10:30-12:20 when scheduled

Instructor:	Dr MacIsaac
Office:	ITD 418
Office Hours:	M1:30-2:30, W8:30-9:30
Email:	dmac@unb.ca (tag: {EE6733})

Course Description   [3ch]

This course is intended for a wide audience including electrical, computer and software engineering students as well as *geodesy and geomatics*, *computer science*, *science* and *kinesiology* students. The primary objective of this course is to prepare students to complete a well-formed graduate-level research project. Emphasis is placed on sound computer application development in the context of research, but rigor in all aspects of research is discussed.

A secondary objective of this course is to expose students to basic signal theory in the context of biomedical engineering. It is secondary because not all students in the class may find it particularly relevant which is acceptable given the diverse nature of students in the class. Thus, while the learning outcomes related to the primary objective are ambitious, the learning outcomes related to signal theory are relatively tame. Learning opportunities related signal theory are forthcoming in the course but it is left to the student to decide whether or not to exploit them.

Opportunities in the context of simulation and data analysis will be provided for students to practice simple but sound software engineering techniques to ensure quality in research oriented software development. All simulation and analysis will be performed in Matlab. Opportunities will be made available for both skilled and novice programmers to enhance their software development skills. Students with strong signals background can focus their efforts on complicated simulation and analysis problems. Students with limited signals background can focus on simple problems, automated data manipulation in context of their own discipline, and statistical analysis of digitally manipulated data.

Attending Lectures and Labs

Students are responsible for all material presented and all announcements made in lectures. If you have to miss a lecture for any reason, it is your responsibility to obtain any information missed. **Only students who attend lectures and/or labs regularly will be allowed to seek additional assistance from instructor during alternate hours.**

This course has a large seminar-based component. Seminars are only effective if the audience is sufficiently interested to participate. Thus, you will be expected to contribute to other seminars, just as you expect others to contribute to yours.

Tentative Marking Scheme

▪ Student grades will be tallied according to:

Regular Exercises:	4-6	25%
Research Project:	Algorithm Review and Code	25%
	Seminar and Report	25%
Final Test	(take-home)	25%
Log Book:	(up to)	-10%

▪ Numerical Grade Conversion:

A+	90-100	B+	76-79	C+	60-69	D	40-49	F <40
A	85-89	B	73-75	C	50-59			
A-	80-84	B-	70-72					

Email Etiquette

All communications regarding this course must be conducted in a professional manner. Always use your UNB email address when emailing an instructor. Also <u>make sure your subject line contains the tag {EE6733}</u>. Punctuation, spelling, and greetings must all be professional, and sign the email with your full name and student number. Unprofessional emails will not be acknowledged.

Behavior

Details regarding expected general behavior and regarding plagiarism can be found **in the Appendix** of this document. All cases of cheating, plagiarism and/or serious general misconduct will be reported to the university. It is your responsibility to ensure that you understand these details. If you do not, seek assistance from your instructor.

Of special note in this class is that plagiarism includes "**knowingly representing as one's own work any idea of another**." Collaboration on assignments is beneficial to a point that does not violate the authorship of the work and cross over into plagiarism ('copying'). Students 'working in groups' on assignments should be careful that the answers they submit are indeed their own. Good advice: 'Think together, write apart'.