Electrical Engineering

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Teaching Dossier

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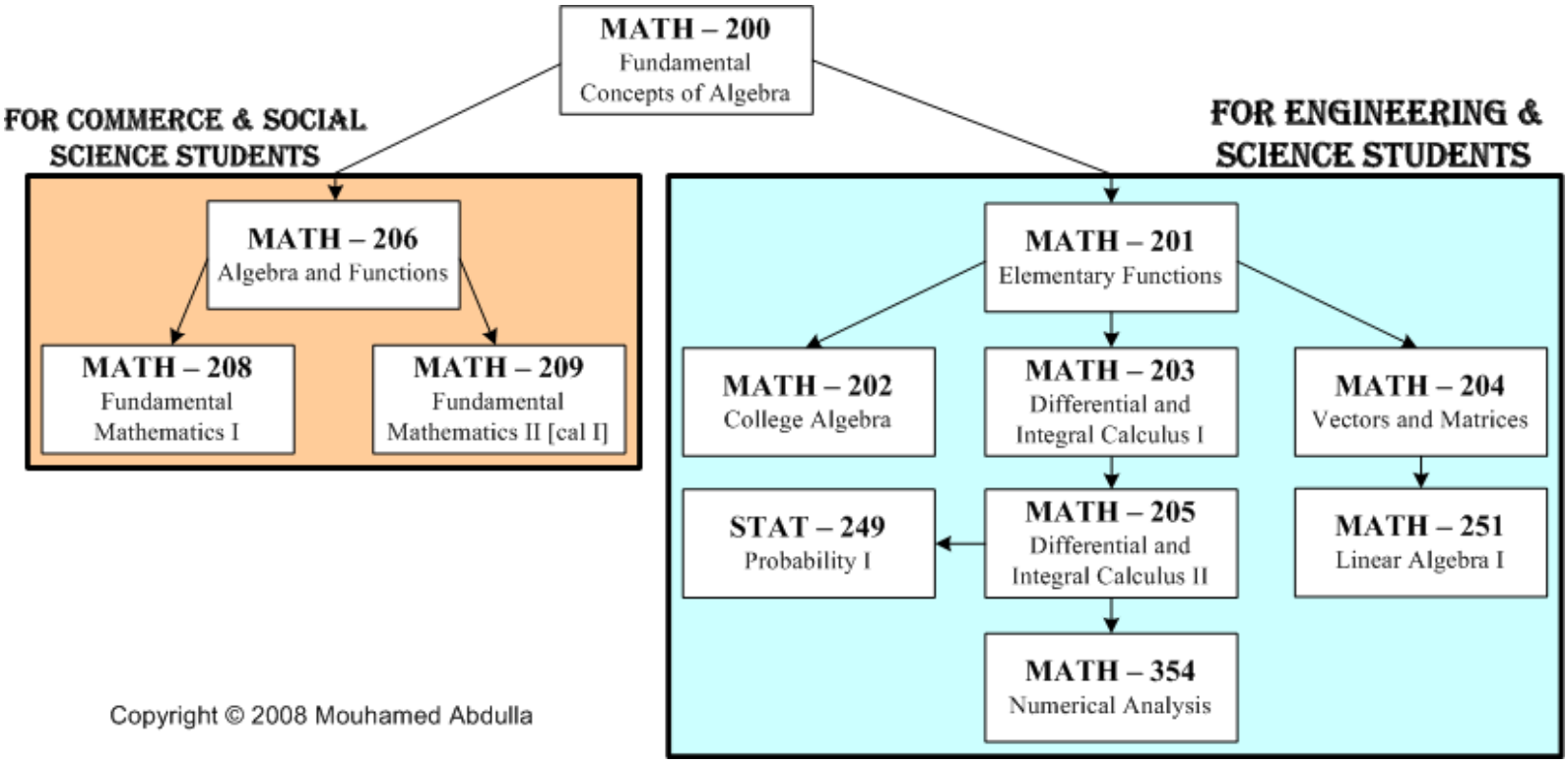
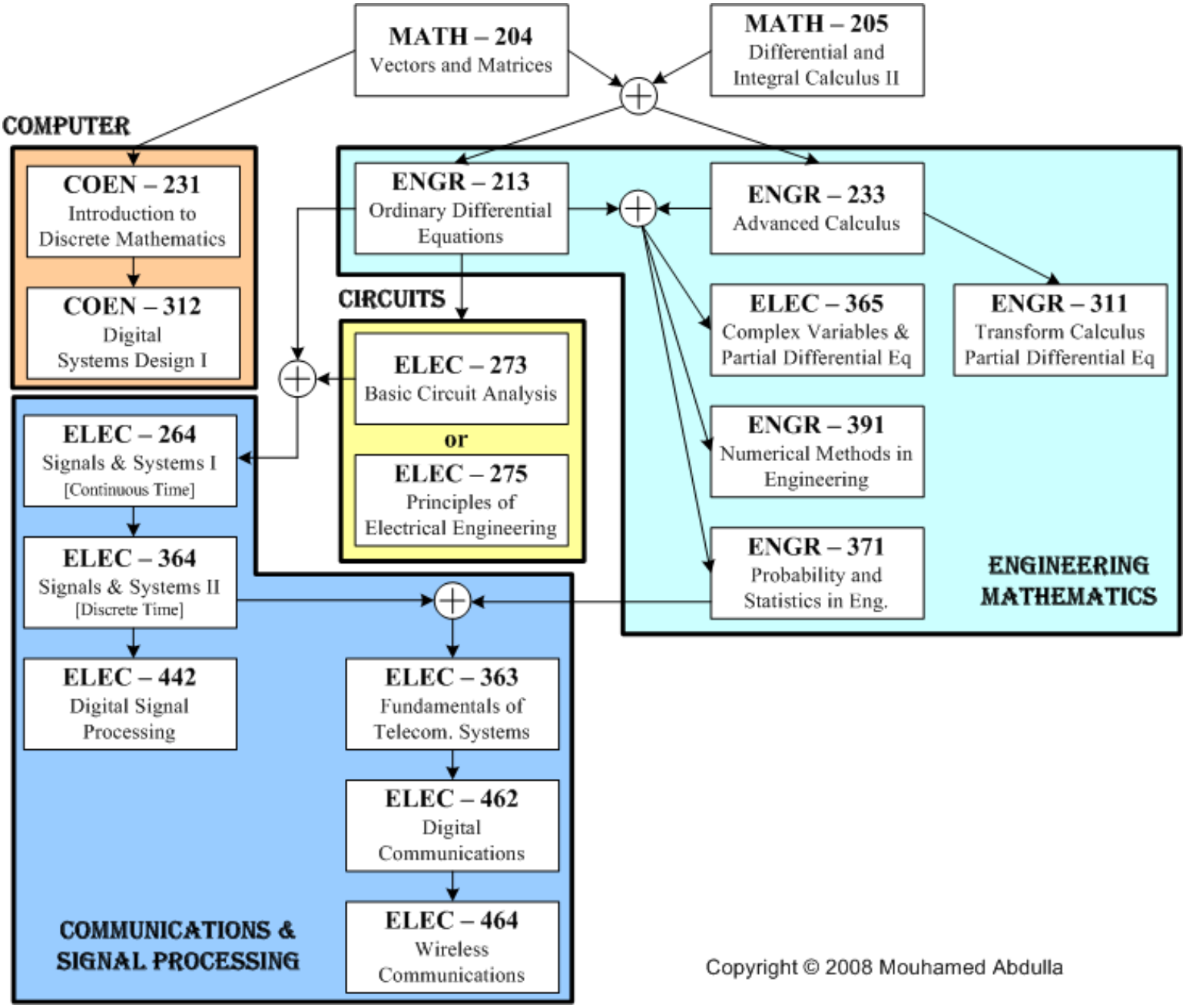
TUTORING SERVICES

Since December-2006, I was officially registered as a tutor with Concordia University Dean of Students Office. In fact, courses that I support are from the Faculty of Arts and Science and the Faculty of Engineering and Computer Science. Specifically, these courses are:





CONTRIBUTIONS TO TEACHING

• Publication – Refereed Conference Proceeding
Y.R. Shayan, M. Abdulla; "Design Based Teaching for Science and Engineering Students"; the Fifth Canadian Design Engineering Network (CDEN) Conference; Halifax, Nova Scotia, Canada; July 27-29, 2008.

Paper: http://users.encs.concordia.ca/~m_abdull/teaching/CDEN08.pdf
Slides: http://users.encs.concordia.ca/~m_abdull/teaching/CDEN08_PPT.pdf
Websites: https://cden-08.dal.ca | http://www.cden.ca

• Avionics Made Simple | 8-Chapters | 173-Pages
In December-2005, I completed a book [not officially published] that explains logically the most famous avionic systems. Since the Fall-2006, this text has been adapted at Concordia University "Avionic Navigation Systems" course for both undergraduate [MECH-482] and graduate [ENGR-6461] students. So far, the book has been getting good reviews from specialists and students.

Download: http://users.encs.concordia.ca/~m_abdull/teaching/my_avionics_book.pdf

TEACHING WORKSHOPS

• Stimulating Attention & Learning with "Clicker" Technology
On August-27-2008, I attended this workshop organized by Center for Teaching and Learning Services [CTLS]. The session was coordinated by Dr. Janette Barrington and Dr. Danielle Morin. The purpose was to introduce an interactive teaching tool using "Clicker Technology". Essentially, it is a small handheld remote control that each student or member of an audience can use while questioning during a presentation or a lecture. This technology seems great because it immediately provides real-time response from those attended, it grabs students attention, and it encourages participation. And better than all, it gives on the spot feedback to the lecturer on his/her performance in delivering the materials of a course or topic.

• Copyright Implications for University Teaching
On May-05-2008, I attended this workshop organized by Concordia University Libraries to discuss copyright issues. We were explained the general definition, the approach, and the laws governing copyrights in general and specifically in teaching.

• Getting the Most Out of Multiple-choice Questions
On April-25-2008, I attended this workshop organized by CTLS and facilitated by Dr. David DiBattista. The workshop showed strategies in writing a smart multiple choice exam. Also, we were introduced to the IF-AT sheet; which is an excellent tool in multiple choice examination because it gives immediate feedback to students!

• Classroom of the Future: Human Interaction in an Age of Technology
On April-10-2008, I attended this workshop organized by CTLS and facilitated by Dr. Calvin S. Kalman. The workshop focused on practical strategies for effective teaching of science and engineering courses. We also studied the importance of reflective writing [or free writing], critical thinking, and collaborative groups.

• ENCS Health and Safety Workshop
In December-2007, I attended this workshop organized by Environmental Health & Safety Office [EH&S] to prepare Concordia University faculty members and staff in case of an emergency while teaching and monitoring an engineering lab. We were also exposed to EH&S university policies, programs, and legislations.

• Ph.D. Seminar in University Teaching
In the Fall-2006, I attended a 10 week seminars organized by CTLS aiming to prepare Ph.D. engineering students for an academic career. The workshop dealt with issues such as: exploring various teaching strategies, planning lessons, preparing effective course syllabus, and preparing a personalized teaching philosophy statement.

• Teaching Assistant Orientation
In August-2006, I attended this workshop also organized by CTLS to learn about TA's roles and responsibilities. I was also present in sessions dealing with the supervision of a laboratory as well as promoting professionalism in university teaching.

TEACHING PHILOSOPHY STATEMENT

Learning

Every task that exists in life has a systematic approach toward achieving it, and the task of learning is no exception. In fact, over the past decade or so that I have spent as a university level student, I came up with a learning model that has been proven to be successful. The model consists on following the steps listed below:

– *Read the relevant chapters assigned by the professor.*

– *Take note of all-important scientific and engineering facts while reading the book.*

– *Go through the professor's class notes and write down materials absent in the book, if any.*

– *Now that you have created your own set of "rough" notes based on the book and class notes, arrange the topics in a logical form and "re-write" it in a clear and clean fashion.*

– *When the time comes for a quiz, midterm, or final, you could simply review the notes that you have created yourself in matter of minutes.*

If a student would follow the five steps above, there is no doubt in my mind that he/she would achieve a minimum grade of "*A*-". In simple terms, this learning model is bulletproof. That is, it will work on all type of students: fast-learners, slow-learners, visual-learners, or audible-learners.

Teaching

There is a flaw in the model above; it is time consuming! Students are usually taking many courses simultaneous, and would be discouraged, and bored in following the model above. And this where professors or their TA should try to alleviate or facilitate the learning process by filtering essential and crucial information from side topics usually found in books. Teachers/TA should not simply copy what is already available in the book and call it class notes. What they should rather do is create a sort of a self-contained mini-book that contains important engineering facts in a logical, optimized and straight to the point format.

In other words, professors/TA should take the initiative to write this mini-book such that it covers the goal of the course while keeping it easy to read with an efficient organization.

Goals for Students

Now that students have a practical tool for learning, namely the mini-book, they could focus on the most important aspect in engineering; which is to sharpen their problem solving skills. In fact, from my personal experience I've realized that students enjoy this, because it gives them an insight into what is expected of them as future engineers.

Implementation

The majority of humans are procrastinators by nature. For example, students would only get serious about studying few days before the exam; and obviously this is not great. We should encourage students to have a steady pace in their learning process. The logical way toward that would be to create individual activities such as periodical assignments and quizzes; and group activities such as projects. But we should be careful not to over do it, because let's not forget that students have 3 or 4 other courses taken simultaneously.

Also, I believe that teachers/TA should be professional in all the aspects in which they partake. After all, they are role models of what an engineer should be. They should encourage students to be critical and to think out of the box. Furthermore, they should help students connect the course that they are presently studying with previous courses that they have done and future courses that they will eventually do through practical engineering examples. In other words, professors/TA should explain to their students why they are doing this specific course, and why it is important for them to master its material, and how it will be useful once they reach the workforce. This will highly motivate and add excitement in the learning process.

Personal Growth

The field of engineering is continuously evolving. Therefore, to ensure self-growth teachers/TA should stay updated with emerging innovations. This should be done by say reading journal papers, and also by performing academic research. Moreover, there is another aspect to personal growth; and that is, professors/TA need to be dynamic in their teaching methodology, and to be flexible to adjust if required.

TEACHING ASSISTANT EXPERIENCE

In the Fall-2006 and Winter-2007, I worked closely with my supervisor Dr. Y. R. Shayan as a TA for both undergraduate and graduate communication courses; namely, ELEC-462/6831 "Digital Communications" and ELEC-464/6141 "Wireless Communications". My task consisted on preparing and reviewing materials from notes, to providing solutions to assignments, midterms, and finals.

PAST TEACHING EXPERIENCE

From February-1998 to June-1999, I participated in the peer tutoring program administered by the Dawson College Learning Centre. My task consisted to assist students majoring in sciences who required extra help in college level mathematics, physics, and chemistry.

TESTIMONIALS

“Mouhamed has a way of identifying my weaknesses quickly. He then adapts his teaching method to me, rather than re-presenting the same material in the same way that it was in class.”

– Mike McAlpine
Mechanical Engineering Student

"I have never had any other tutor as down to earth and as friendly as Mr. Abdulla. His knowledge in the subject matter is excellent; he can prove everything and anything! He provides a relaxed learning atmosphere and will make sure you understand the subject before you leave. After all is done he will even provide you with after hours support if need be. Great guy!"

– Michael Kawall
Mechanical Engineering Student

"My tutor explained the material in a way that I could understand and provided additional examples to make sure I understood. He was very helpful, patient, and friendly. He showed me how to find perspective in approaching the problem and how to build on previous work. I was encouraged to ask a lot of questions. The best part was that he made me feel smart!!"

– April B.
Commercial Bank Analyst
Bachelor of Commerce Student