ECE 7060 – Power System Protection

COURSE OUTLINE – FALL 2014

COURSE DESCRIPTION:
History and philosophy of power system protection; typical protection schemes; instrument transformers; protection hardware and applications; hardware testing techniques; Software models and their use in simulation studies

COURSE OBJECTIVE:
To learn fundamental principles of power system protection and instrument transformers; To understand construction and operation of modern numerical relays, To apply overcurrent, distance and differential protection for various power system elements

PRE-REQUISITES:
ECE4300 or Equivalent course

CONTACT HOURS:
3 Hours/Week (1 Lecture/Week)

COURSE CONTENT:
1. Philosophy of power systems relaying
2. Protection principles
3. Instrument transformers
4. Relay technologies
5. Overcurrent protection applications
6. Distance protection applications
7. Differential protection applications
8. Relay testing
9. New trends in power system protection

TEXTBOOK:
EVALUATION:

Your final course grade is determined by your performance in assignments, term test, and a final examination. The weighting of each of these components is as follows:

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<th>COMPONENT</th>
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<th>DETAILS / ADDITIONAL INFO</th>
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<td>Seminars</td>
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INSTRUCTOR INFO:

Name  Dr. Athula Rajapakse
Office: SPC 307
Tel: 204 480 1403
Email: Athula.Rajapakse@umanitoba.ca

Office Hours: By Appointment

VOLUNTARY WITHDRAW:

Wednesday, Nov. 12, 2014

REQUIREMENTS/REGULATIONS

- **Student Responsibilities**: It is the responsibility of each student to contact the instructor if he/she is uncertain about his/her standing in the course and about his or her potential for receiving a failing grade. Students should also familiarize themselves with Sections 4 and 6 of the Regulations dealing with incomplete term work, deferred examinations, and attendance and withdrawal.
  - Lectures: Attendance at lectures is essential for successful completion of this course. Students must satisfy each evaluation component in the course.

ACADEMIC INTEGRITY:

Students are expected to conduct themselves in accordance with the highest ethical standards of the Profession of Engineering and evince academic integrity in all their pursuits and activities at the university. As such, in accordance with the General Academic Regulations and Requirements of the University of Manitoba, Section 7.1, students are reminded that **plagiarism* or any other form of cheating** is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university) regardless of media

- examinations
- assignments
- laboratory reports
- term exams

A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty

**Plagiarism**: to steal and pass off (the ideas or words of another) as one's own; use (another's production) without crediting the source