Course Title: Estimation Theory for Signal Processing

Auxiliary Title: 

Course #: ECE: 7440  Course Section: 

Course Objectives:
To understand and apply digital techniques for estimation of deterministic and stochastic signals and parameters. Both classical and Bayesian approaches to digital estimation theory will be presented.

Contact Hours
3 Hours/Week  1 Lectures/Week  _________ Slot  ____________ Room #

Prerequisites
Undergraduate courses on Probability Theory and Digital Signal Processing.

Course Content
- Least squares estimation
- Properties of estimators
- Maximum likelihood estimation
- Estimation of random parameters
- State Estimation and Kalman filtering
Evaluation Component

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<th>Component</th>
<th>No.</th>
<th>%</th>
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<td>Seminar(s)</td>
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<tr>
<td>Final Exam</td>
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<td>TOTAL (100%)</td>
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Instructor

Instructor(s) Name: Sherif Sherif

Office #: E3 - 557
Phone #: (204) 474-6893
Email: Sherif.Sherif@umanitoba.ca

Text


Recommended Reference Books

- Statistical Signal Processing by L. L. Scharf (Prentice-Hall, 1990)

Course Website:

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

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 in examinations or term tests (e.g. crib notes) is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty."