

**FACULTY of ENGINEERING and INFORMATION TECHNOLOGY
DEPARTMENT of ENGINEERING**

ENGN6612 Digital Signal Processing and Control

Tutorial B: Research Paper – Semester 2, 2005

1. Introduction

This tutorial activity will give you the opportunity to learn about an aspect of DSPC technology. This activity also gives you experience in reading and understanding a research paper, summarizing it and presenting it to others in written and verbal form.

<u>2a. Aims and Objectives</u>	<u>2b. Mode of Operation</u>
<i>Tutorial B – DSPC research paper</i> <ul style="list-style-type: none">• to acquaint students with modern applications of DSPC• to develop in students the ability to<ul style="list-style-type: none">○ read and understand a DSPC research paper○ self-learn○ find, analyse and evaluate information○ interpret information and communicate via written report and verbal presentation	<i>Tutorial B – DSPC research paper</i> <ol style="list-style-type: none">1. introduce research paper2. provide any required background3. discuss and investigate paper4. distill information5. write report6. deliver presentation

3. Paper

Unless students have a suitable alternative research paper, I propose one of the following papers:

G. David Forney, Jr., The Viterbi algorithm. *Proceedings of the IEEE*, March 1973, vol. 61, no. 3.

OR

L. M. Jalloul and J. M. Holtzman, “Performance analysis of DS/CDMA with noncoherent M -ary orthogonal modulation in multipath fading channels,” *IEEE Journal on Selected Areas in Communications*, vol. 12, no. 5, pp. 862–870, June 1994.

Your first task will be to obtain a copy of the paper from the library.

4. What is expected in the report?

1. Up to 20 pages in length.
2. Quality professional standard presentation using word processor.
3. A clear summary of the main ideas in the paper.
4. A discussion of the nature of the theory used and developed in the paper.

5. A description of how the results of the paper are used in DSPC applications.
6. All source material must be fully acknowledged and documented. Students are reminded of the University's plagiarism policy: *copying of material from books, magazines, internet or anywhere else is strictly prohibited*. What you write must be in your own words.

5. What is expected in the presentation?

1. Duration to be specified.
2. Quality professional standard presentation using computer projection.
3. Clear and concise discussion of your group's scope (see below).

6. Assessment

The assessment weighting for this part of the course is as follows:

Tutorial B	ENGN6612
DSPC Research Report	10%
DSPC Research Presentation	10%

In order to receive marks for this part of the course, students must

- attend at least 80% of the presentations.

The presentation will be marked by members of the audience.

7. Groups

Students may work in *groups of up to 3 people*. It is the responsibility of group members to ensure that all members participate in a fair and equitable manner. In general, all members of a group will receive the same mark, though this may be moderated in cases of poor participation. Any difficulties should be resolved early in the semester.

For the presentations, groups should organize among themselves (negotiate) the scope of each presentation. This is to facilitate good coverage of material and avoidance of repetition. In determining scope, groups may consider

- selection of technical/theoretical issues
- selection of applications and context for the results of the paper.

8. Due Dates

1. Week 13 – report due.
2. Weeks 12-13 – presentations will be scheduled

9. Use of Scheduled Tutorial B Time

This is up to you. It can provide a minimum amount of contact among group members. I will be available for consultation during these times. I would expect there to be numerous technical issues to discuss.

Here is what I recommend:

1. weeks 2 – 5:
 - formation of groups
 - determination of relevant background material needed to understand the paper
2. weeks 5 – 12:
 - investigation of background material
 - detailed consideration of the paper
 - preparation of report
 - preparation of presentation