ELEC 546 – Mapping of DSP Algorithms onto Processor Arrays

Jan-Apr 2016 (CRN: 24264)

Instructor
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Office Hours
Days: Everyday
Time: Drop in but phone first
Location: EOW 451

Lectures
Days: Tue & Wed
Time: 3:30 – 4:50
Location: COR A132

Course Objectives

Learning Outcomes
Upon completion of this course you will acquire the following skills:

1. Know the factors that can improve processor performance
2. Different types of parallel computers
3. Different types of algorithms
4. Explore the available design space for a given algorithm
5. Gain knowledge of how to explore design space of a given algorithm

Syllabus
1. Overview
2. Enhancing processor performance
3. Parallel computers
4. Shared memory multiprocessors
5. Interconnection networks
6. Ad hoc techniques for parallel algorithms
7. Nonserial-parallel algorithms
8. \( Z \)-transform analysis
9. Dependence graph analysis

Required Text
Assessment

<table>
<thead>
<tr>
<th>Activity</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic Selection</td>
<td>2 %</td>
</tr>
<tr>
<td>Progress Reports (#1, #2, #3)</td>
<td>18 %</td>
</tr>
<tr>
<td>Design Implementation</td>
<td>30 %</td>
</tr>
<tr>
<td>Final Presentation</td>
<td>20 %</td>
</tr>
<tr>
<td>Final Report</td>
<td>30 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100 %</strong></td>
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The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

http://web.uvic.ca/calendar/GRAD/FARo/Grad.html

Accommodation of Religious Observance

http://web.uvic.ca/calendar/GI/GUPo.html

Policy on Inclusivity and Diversity

http://web.uvic.ca/calendar/GI/GUPo.html

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour in current Undergraduate Calendar, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult entry in current Undergraduate Calendar for the UVic policy on academic integrity.

http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.