

ECEn 528

Study Guide – Activity Factor Reduction

- Read Chapter 4 of *Computer Architecture Techniques for Power-Efficiency*
 - Things to focus on
 - Table 4.1 is an excellent summary of what the chapter contains
 - Focus on the goals of the different techniques introduced rather than all of the hairy details.
 - Clarifications
 - none
 - Answer the following questions:
 1. What are the sources of excess switching activity?

Idle-Unit, idle-width, idle-capacity, parallel, cacheable, speculative, value-dependent

2. What kinds of structures can be dynamically resized for power?

Instruction queue, issue width, caches

3. What problems may dynamic resizing cause?

Mispredictions or simply turning off too much can result in worse performance