Läsanvisningar

Datorarkitektur - TDDI03

In order to complete the course and enrich your knowledge in the subject area you should read all the course material: textbook and lecture notes.

The following materials will be directly covered by the written examination: this material you have to understand and, at the same time, know how to apply to solve problems:

1. Lecture notes: all the material presented in the lecture notes may appear in the examination.
2. Textbook: you find below chapters and paragraphs from Stallings’ book “Computer Organization and Architecture” (ninth edition), which are directly related to the examination topics.

Chapter 4. Cache Memory
   4.1 Computer Memory System Overview
   4.2 Cache Memory Principles
   4.3 Elements of Cache Design
   4.4 Pentium 4 Cache Organization
   4.5 ARM Cache Organization

Chapter 8. Operating System Support
   8.3 Memory Management

Chapter 14. Processor Structure and Function
   14.1 Processor Organization
   14.2 Register Organization
   14.3 Instruction Cycle
   14.4 Instruction Pipelining
Don’t forget lecture one!!! There we discussed several issues which are supposed to be known by you from previous courses you have taken. If this is not exactly the case for you, you have to look into one or several of the following chapters:

**Chapter 2. Computer Evolution and Performance**
- 2.1 A Brief History of Computers
- 2.2 Designing for Performance

**Chapter 3. A Top-Level View of Computer Function and Interconnection**
- 3.1 Computer Components
- 3.2 Computer Function
- 3.3 Interconnection Structures
- 3.4 Bus Interconnection
Chapter 5. Internal Memory
   5.1 Semiconductor Main Memory

Chapter 6. External Memory
   6.1 Magnetic Disk
   6.3 Solid State Drives
   6.4 Optical Memory
   6.5 Magnetic Tape

Chapter 7. Input/output
   7.1 External Devices
   7.2 I/O Modules
   7.3 Programmed I/O
   7.4 Interrupt-Driven I/O
   7.5 Direct Memory Access
   7.6 I/O Channels and Processors

Chapter 12. Instruction Sets: Characteristics and Functions
   12.1 Machine Instruction Characteristics
   12.2 Types of Operands
   12.4 Types of Operations

Chapter 13. Instruction Sets: Addressing Modes and Formats
   13.1 Addressing Modes
   13.3 Instruction Formats

The maximal number of points for the exam will be 40.
In order to pass the exam you have to collect a total of minimum 21 points.