

# Embedded System & Applications

4190.303C

2010 Spring Semester

## 1. Introduction

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# Course Introduction

- Undergraduate course that covers embedded systems design
- Schedule
  - Tuesday and Thursday, 2:00 PM to 4:00 PM
- Instructor
  - Prof. Naehyuck Chang
  - [naehyuck@snu.ac.kr](mailto:naehyuck@snu.ac.kr)
  - Phone: 880-1834
  - Office: 301-506
- TA
  - Jooyeon Lee (이주연) [jylee@elpl.snu.ac.kr](mailto:jylee@elpl.snu.ac.kr)
  - Phone/Office: 880-1836/301-551(ELPL)



# Course Introduction

- Homepage
  - <http://etl.snu.ac.kr>
- Language
  - Korean
- Evaluation
  - Mid exam (20%)
  - Final exam (30%)
  - Experiment (20%)
  - Project (30%)



# Course Introduction

## ● Prerequisites

- Computer System Design , Operating System

## ● Textbook

- No single textbook for this course

## ● References

### ● Manuals

- Frank Vahid and Tony Givargis, Embedded System Design (A unified hardware/software introduction), Wiley, ISBN 0-471-38678-2

- TA will post some documents

## ● Course materials

- PDF format slides will be uploaded soon



# What to Cover

- Memory system interface
- Communication port interface
- Digital I/O interface
- Dynamic memory interface
- Network interface
- Data conversion and LCD display
- Porting real-time operating systems



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## History of Embedded Systems Design

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# History

- Computer system design

- Before 1997

- After 1997

- Course track

- Computer system design

- Embedded system design

- Evolution

- MC68030 pre-designed hardware platform

- MC68000 universal board design + FPGA

- ARM926 pre-designed board + FPGA

- Xilinx Virtex-II Pro PPC embedded evaluation platform

- xilinx Virtex-II Pro platform w/Microblaze soft-microprocessor



# Feature

- Hands-on experience
- The first step toward the professional design environment
- Summary of CSE course work
  - Design of a computer system from scratch

