

# Advanced Embedded Systems

## (고급내장형시스템)

March 5, 2013

### ■ Course Goal

This course introduces key architectural components of embedded systems in the graduate level (using ARM architectures as an example), and explores various design optimization issues of embedded systems in depth (in particular various high-performance and low-power design techniques). We also study embedded software issues related to NAND flash-based storage systems.

### ■ Instructor/TA

Instructor: Jihong Kim (Room 328 at Building 302)

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Office hours: T 17:00 – 18:00 @302-328 (or by appointment)

TAs: 송욱, 한상욱 (Room 315-2 at Building 302)

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Office hours: TBD @302-315-2 (or by appointment)

### ■ Class Hours & Course Homepage

➤ TTH 9:30 – 10:45 @302-208

➤ Course homepage: [http://davinci.snu.ac.kr/courses/emb/2013\\_1](http://davinci.snu.ac.kr/courses/emb/2013_1)

### ■ Prerequisites

Undergraduate-level Computer Programming, Computer Architecture & Operating Systems

### ■ Recommended (but NOT Required) Books:

[Overview of Embedded Systems]

W. Wolf, *High-Performance Embedded Computing*, Morgan Kaufmann, 2007

W. Wolf, *Computers as Components*, Morgan Kaufmann, 2001

[ARM Architecture & Programming]

A. Sloss, D. Symes & C. Wright, *ARM System Developer's Guide*,  
Morgan Kaufmann, 2004

[Low Power Design Techniques]

S. Kaxiras & M. Martonosi, *Computer Architecture Techniques for Power-Efficiency*,  
Morgan & Claypool, 2008

■ **Grading**

- Attendance: 5%
- Exam: 25%
- Assignments: 70%

■ **Assignment Submission Policy**

- All the assignments SHOULD be turned in before the due date. Late submissions are accepted *for the following two cases only* with large penalties:
  - If your assignment was late *by less than 8 hours*, the penalty is 30% of the TOTAL assignment points.
  - If your assignment was late *by less than 24 hours*, the penalty is 60% of the TOTAL assignment points.

■ **Cheating Policy**

For any type of cheating (e.g., copying others' assignments/programs, stealing an examination), if found, a grade of F will be assigned. For further disciplinary actions, the College of Engineering will be notified of the cheating activity.