Embedded control systems, 15 (10) credits

- **Goal:** to develop, implement and test embedded control systems for mobile robots in LEGO
- **Course format:** project course, team work
- **Course duration:** teaching period 2
- **Examination:** presentation, demonstration and written rapport in English (ends 13 of January)

**Instruction:**
- Alexander Medvedev, general course responsibility, control engineering
- Karl Marklund, software, hardware, computer science
- Vasileios Spiliopoulos, LEGO programming
- Egi Hidayat, control engineering, modeling
- Olov Rosén, control engineering, estimation

Assignments 2010

- **Anomaly Detection (6-8 persons)**
  - Demands modeling and estimation background
  - Advanced programming in network
  - Builds up on solutions from the last year

- **Cooperative control (4-5 persons)**
  - Demands control and modeling work
  - Focus on synchronization

- **Iterative learning control (2-3 persons)**
  - Demands control and modeling work
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- **Collision avoidance (3-4 persons)**
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Plan of actions

- Build groups, 2-8 persons each
- Select assignment
- Elect project manager
- Get a computer
- Set up the computer
- Get Lego box/boxes
- Introductory lectures on LEGO hardware/software
- Analyze state-of-the-art
- Suggest an approach/solution
- Get OK to carry on
- Work, work, work
- Project presentation and demonstration, second week in January