

Schedule ES1 2010

Version 2010-08-26

Comments

Rooms and addresses:

V34 = Teknikringen 76, 2nd floor

V22 = Teknikringen 72, 1st floor

M33 = Brinellvägen 64, 1st floor

M-Lab = Mechatronics Lab, Brinellvägen 83, 1st floor

Lec/Tut/Lab/Ex = Lecture/Tutorial/Lab/Examination

All Lectures and Tutorials start 15 min after the hour (08.15, 10.15). Laborations are drop-in/drop-out-based, according to space and computer availability. Examinations starts on the hour (08.00, 10.00).

MG = Martin Grimheden, JEK = Jad El-Khoury, MP = Magnus Persson, SQ = Staffan Qvarnström, PM = Per Mackegård

Day/time	Room	Le/Tu- /La/Ex	Activity	Note
Week 1			AVR32 HW	
Aug 30, 15-17	M-lab		<i>Extra session – welcome to the Mechatronics master program</i>	MG, JEK, SQ, PM, MP
Aug 31, 08-10	V34	Lec	Course introduction, getting started AVR32, The IDE, Basic functionality	MG, JEK
Aug 31, 10-12	M-Lab	Tut	Registration, login, check out personal lab equipment, getting started AVR32-Lab 1	MG, JEK, SQ, PM
Sep 1, 10- 12	V22	Lec	The AVR32, programming modes, debugging, drivers, software framework	MG
Sep 1, 13- 15	M-lab		<i>Extra session</i> Open house – getting started Installation issues. Aim: writing your first program	MG, JEK, SQ, PM
Sep 2, 13- 15	M-Lab	Lab	AVR32-Lab 1, cont.d IDE, debugging, GPIO, PWM, A/D	MG, PM

Sep 2, 15-17		Lab	Individual lab work	
Week 2			Prog Design and Dev	
Sep 6, 10-12	V34	Lec	Introduction to model based development, UML, state machines, activity diagrams	JEK
Sep 7, 08-10	V34	Lec	Model based development continued.	JEK
Sep 7, 10-12	M-lab	Tut	Walk-through Rhapsody	JEK, PM
Sep 8, 10-12	M-lab	Lab	Modelling-Lab 1 Systems modeling	JEK, PM
Sep 9, 13-15	M-lab	Lab	Individual lab work	
Sep 9, 15-17	M-Lab	Lab	Deadline report AVR32-Lab 1 Individual lab work	PM
Week 3			CAN 1, Communication	
Sep 13, 10-12	M-Lab	Lab	Individual lab work	
Sep 14, 08-10	V34	Lec	Communication with AVR32, SPI-interface, EVK1100-details, introduction to CAN and the MCP2515-chip	MG
Sep 14, 10-12	M-Lab	Tut	CAN-Lab 1 Connecting MCP2515 to EVK1100, CAN protocol, CAN API, registers, SPI, CAN King	MG, PM
Sep 15, 10-12	V22	Lec	CAN in detail Guest lecture: CAN in industrial applications	MG
Sep 16, 13-15	M-Lab	Lab	CAN-Lab 1 AVR32 and CAN	MG, PM
Sep 16, 15-17	M-Lab	Lab	Deadline report Modelling-Lab 1 Individual lab work	PM
Week 4			CAN 2, Distributed systems	
Sep 20, 10-12	V22	Lec	Communication in general, distributed systems, other protocols, wireless issues, Ethernet	MG

Sep 21, 08-10	M33	Lec	Cont.d.	MG
Sep 21, 10-12	M-Lab	Tut	CAN-Lab 2 Distributed systems with state machines, multiple roles and nodes	MG, PM
Sep 22, 10-12	M-Lab	Lab	CAN-Lab 2	MG
Sep 23, 13-15	M-Lab	Ex	KS, group 1	MG, JEK
Sep 23, 15-17	M-Lab	Ex	KS, group 2	MG, JEK
Week 5			Power Mgmt	
Sep 27, 10-12	M-Lab	Lab	Individual lab work	
Sep 28, 08-10	V34	Lec	Power management, power vs frequency	MP
Sep 28, 10-12	M-Lab	Tut	AVR32-Lab 2 AVR32 sleep modes	MP, PM
Sep 29, 10-12	V22	Lec	Power management cont.d Guest lecture: power management in pace maker design	MP
Sep 30, 08-10	M-Lab	Lab	AVR32-Lab 2, cont.d	MP, PM
Sep 30, 10-12	M-Lab	Lab	Deadline report CAN-Lab 1+2	PM
Week 6			Advanced AVR32	
Oct 4, 10-12	M-Lab	Lab	Individual lab work	
Oct 5, 08-10	M33	Lec	Control system architecture, multitasking, AVR32 peripherals	MG
Oct 5, 10-12	M-Lab	Tut	AVR32-Lab 3 AVR32 peripherals, the evaluation kit (display, USART etc), filters, arithmetics	MG
Oct 6, 10-12	V34	Lec	Advanced AVR32 functionality, arithmetics, math.h etc.	MG
Oct 7, 08-10	M-Lab	Lab	AVR32-Lab 3, cont.d	MG
Oct 7, 10-12	M-Lab	Lab	Deadline report AVR32-Lab 2 Individual lab work	MG

Week 7			Individual work	
Oct 11, 10-12	M-Lab	Lab	Individual work	*
Oct 12, 08-10	M-Lab	Lab	Individual work	*
Oct 12, 10-12	M-Lab	Lab	Individual work	*
Oct 13, 10-12	M-Lab	Lab	Individual work	*
Oct 14, 08-10	M-Lab	Lab	Individual work	*
Oct 14, 10-12	M-Lab	Lab	Individual work	*
Oct 15, 08-10	M-Lab	Lab	Deadline report AVR32-Lab 3 Individual work	*
Week 8			Exam	
Oct 21, 14-18	V32, V34	Ex	Exam	

* Lab assistants will be available on demand