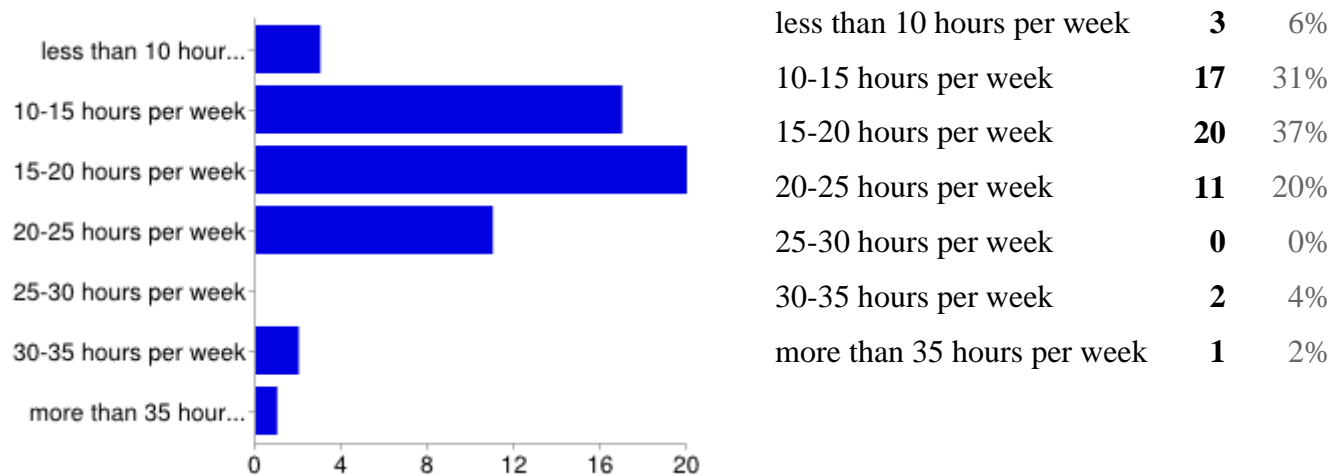


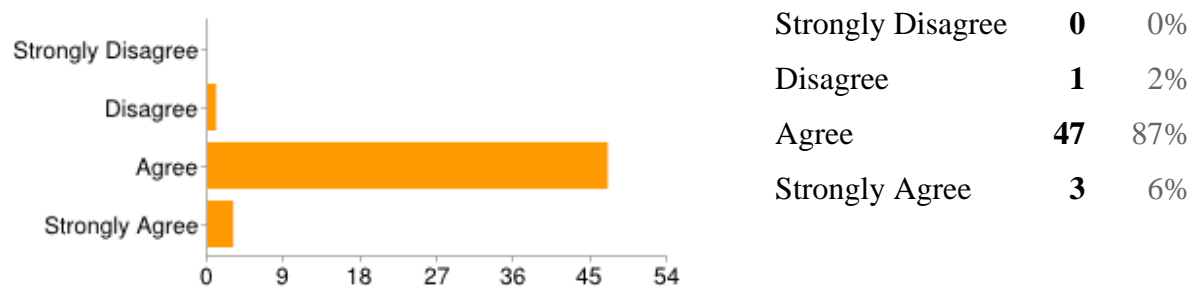
## Section 1: Overall Course Set-up

1. Estimate how much time you spent PER WEEK on this course (including lectures, labs and homework).

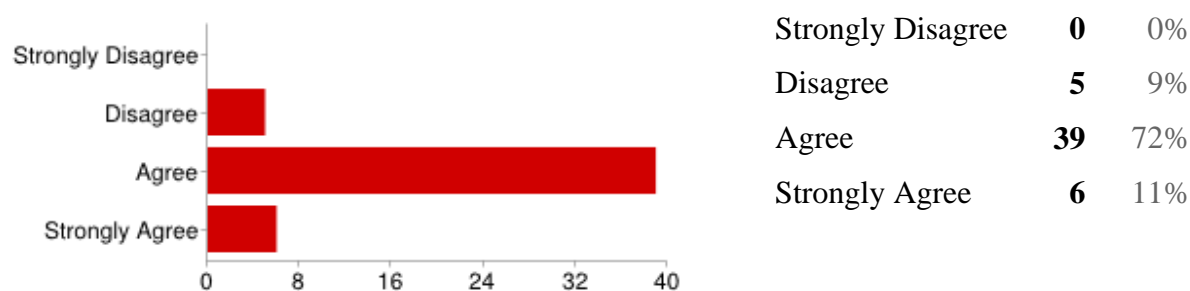


2. The stated learning goals for the course...

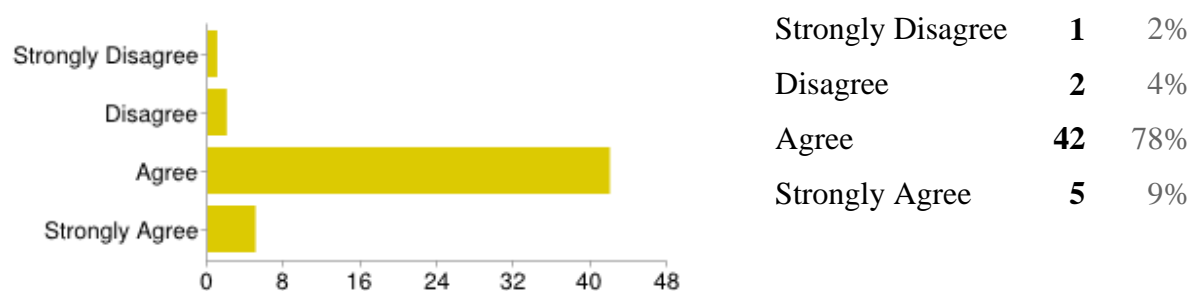
2a) ... corresponded well to the course content [2]



2b) ... were well supported by the course materials and handouts

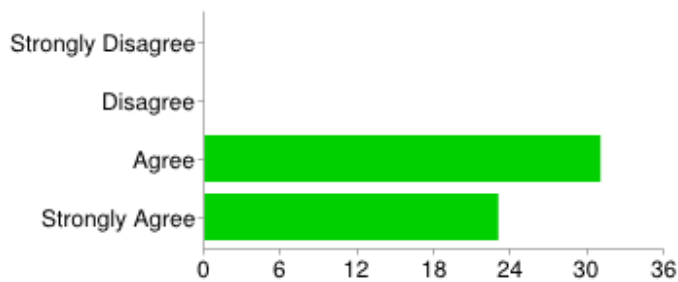


2c) ... were well supported by the way the course was organised.



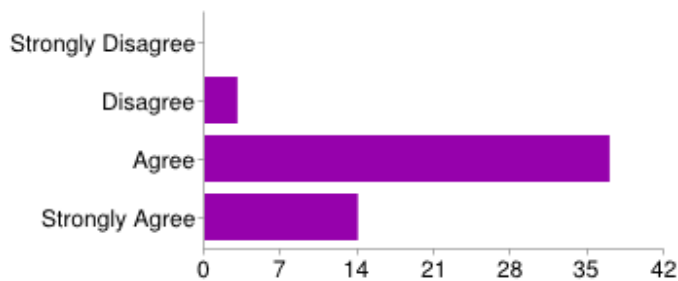
**3. The LAB content was...**

**3a) ... relevant to the course and improved my understanding.**



Strongly Disagree	<b>0</b>	0%
Disagree	<b>0</b>	0%
Agree	<b>31</b>	57%
Strongly Agree	<b>23</b>	43%

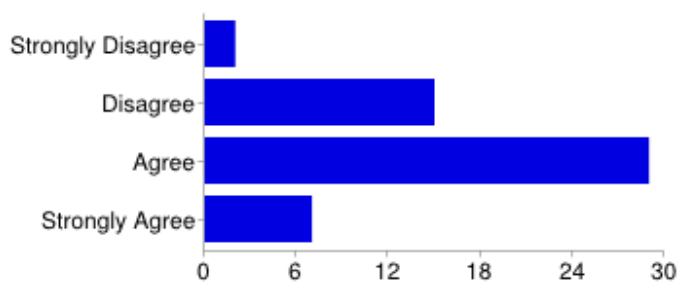
**3b) ... in pace with the course material / lectures**



Strongly Disagree	<b>0</b>	0%
Disagree	<b>3</b>	6%
Agree	<b>37</b>	69%
Strongly Agree	<b>14</b>	26%

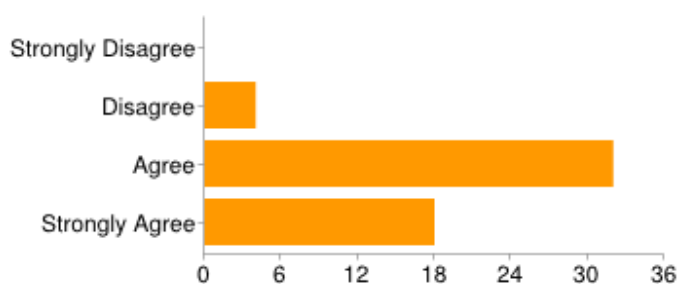
**4. The course...]**

**4a) ... had a reasonable workload.**



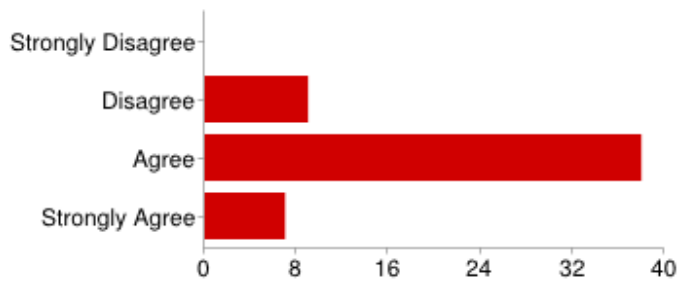
Strongly Disagree	<b>2</b>	4%
Disagree	<b>15</b>	28%
Agree	<b>29</b>	54%
Strongly Agree	<b>7</b>	13%

**4b) ... was intellectually challenging.**



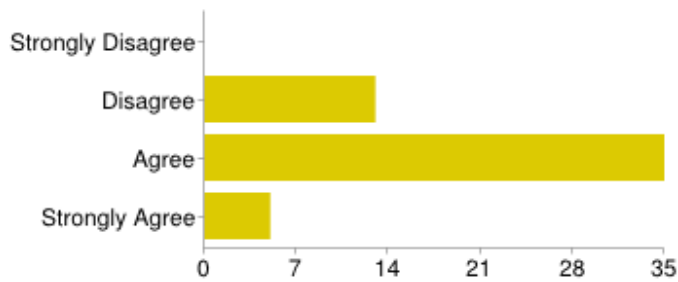
Strongly Disagree	<b>0</b>	0%
Disagree	<b>4</b>	7%
Agree	<b>32</b>	59%
Strongly Agree	<b>18</b>	33%

4c) ... has developed my problem-solving skills.



Strongly Disagree	<b>0</b>	0%
Disagree	<b>9</b>	17%
Agree	<b>38</b>	70%
Strongly Agree	<b>7</b>	13%

4d) ... has sharpened my analytical skills.

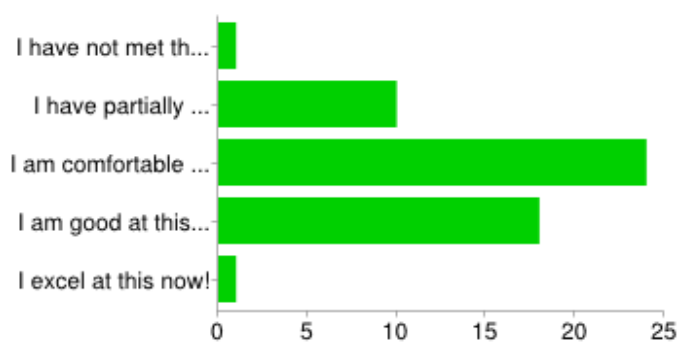


Strongly Disagree	<b>0</b>	0%
Disagree	<b>13</b>	24%
Agree	<b>35</b>	65%
Strongly Agree	<b>5</b>	9%

## Section 2a: Course-specific Learning Objectives

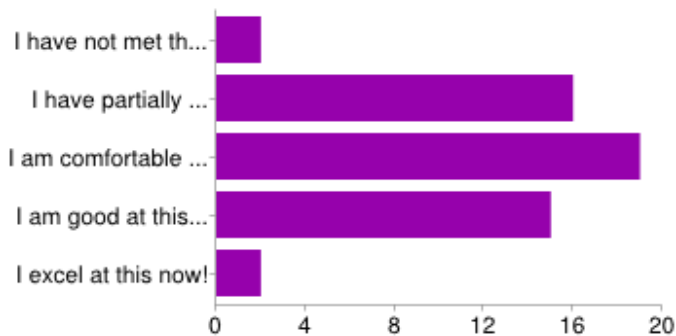
5. Based on the learning objectives laid out in the Course Plan, please choose the option that best describes YOUR accomplishment of each objective.

5a) provide examples of existing embedded systems based products and describe the special requirements placed in developing such systems.

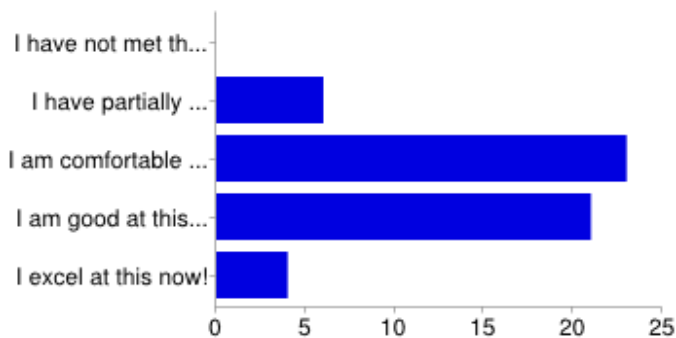


I have not met this objective	<b>1</b>	2%
I have partially met this objective	<b>10</b>	19%
I am comfortable with this now	<b>24</b>	44%
I am good at this now	<b>18</b>	33%
I excel at this now!	<b>1</b>	2%

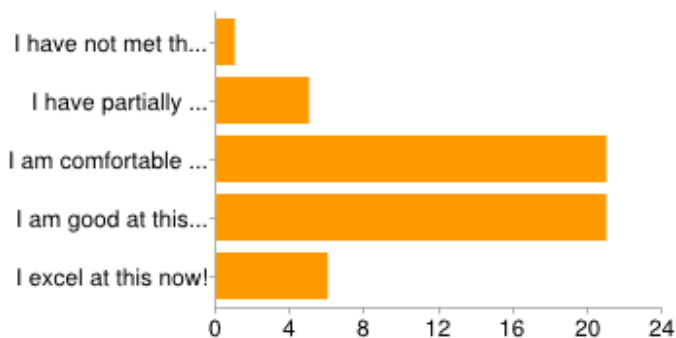
54/54 responses (survey handed out in class)

**5b) use modern integrated development environments for microcontroller programming and their features for testing and debugging.**

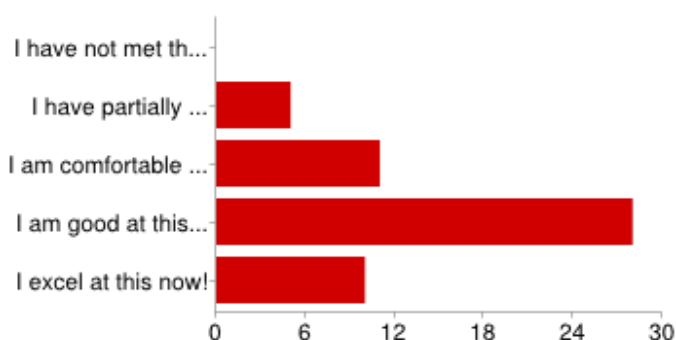
I have not met this objective	<b>2</b>	4%
I have partially met this objective	<b>16</b>	30%
I am comfortable with this now	<b>19</b>	35%
I am good at this now	<b>15</b>	28%
I excel at this now!	<b>2</b>	4%

**5c) understand the basics of Model-Based Development, and apply it in the context of embedded systems development**

I have not met this objective	<b>0</b>	0%
I have partially met this objective	<b>6</b>	11%
I am comfortable with this now	<b>23</b>	43%
I am good at this now	<b>21</b>	39%
I excel at this now!	<b>4</b>	7%

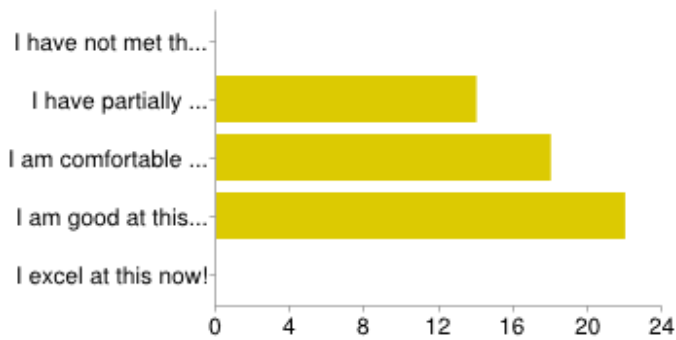
**5d) describe and explain the basic operation of microcontrollers, their internal features and peripherals**

I have not met this objective	<b>1</b>	2%
I have partially met this objective	<b>5</b>	9%
I am comfortable with this now	<b>21</b>	39%
I am good at this now	<b>21</b>	39%
I excel at this now!	<b>6</b>	11%

**5e) develop basic microcontroller programmes for mechatronics applications**

I have not met this objective	<b>0</b>	0%
I have partially met this objective	<b>5</b>	9%
I am comfortable with this now	<b>11</b>	20%
I am good at this now	<b>28</b>	52%
I excel at this now!	<b>10</b>	19%

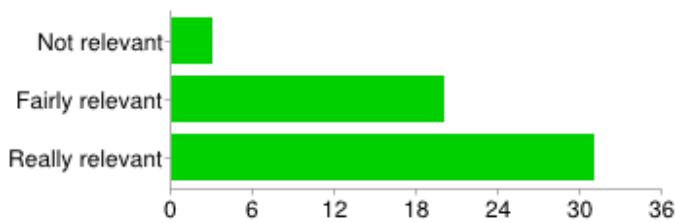
5f) describe, explain and apply some of the basic communication protocols



I have not met this objective	<b>0</b>	0%
I have partially met this objective	<b>14</b>	26%
I am comfortable with this now	<b>18</b>	33%
I am good at this now	<b>22</b>	41%
I excel at this now!	<b>0</b>	0%

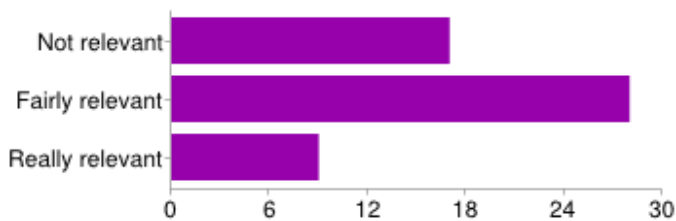
6. How relevant did you find each theme for YOUR education?

6a) Introduction to AVR32 [



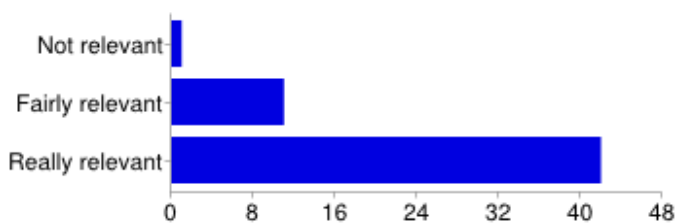
Not relevant	<b>3</b>	6%
Fairly relevant	<b>20</b>	37%
Really relevant	<b>31</b>	57%

6b) Programming is a Craft



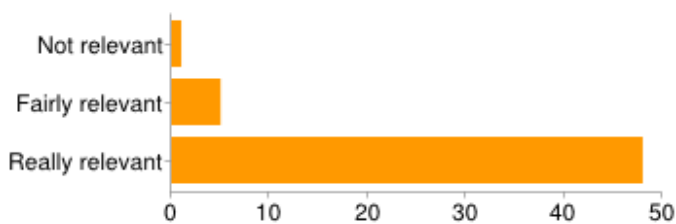
Not relevant	<b>17</b>	31%
Fairly relevant	<b>28</b>	52%
Really relevant	<b>9</b>	17%

6c) Power Management



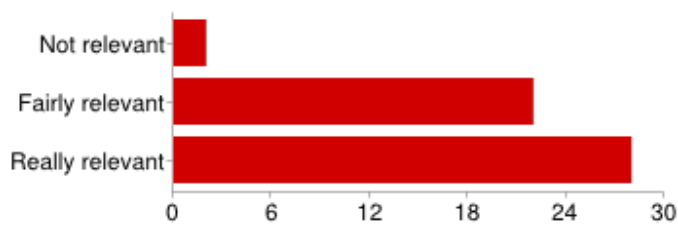
Not relevant	<b>1</b>	2%
Fairly relevant	<b>11</b>	20%
Really relevant	<b>42</b>	78%

6d) Distributed Systems



Not relevant	<b>1</b>	2%
Fairly relevant	<b>5</b>	9%
Really relevant	<b>48</b>	89%

6e) Model Based Development

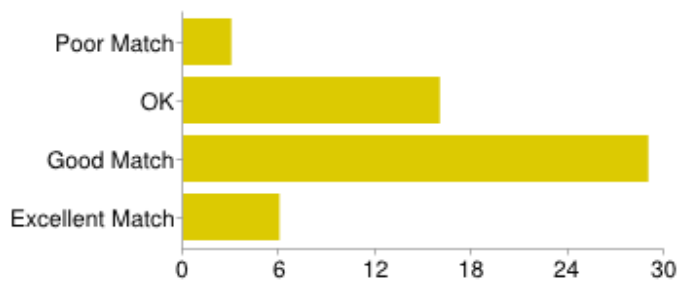


Not relevant	2	4%
Fairly relevant	22	41%
Really relevant	28	52%

## Section 2b: Course Content

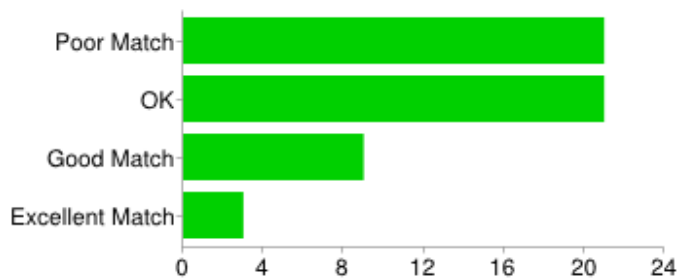
7. How did the content meet your initial learning expectations?

7a) Introduction to AVR32



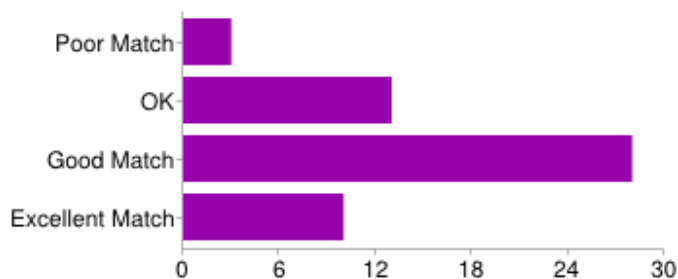
Poor Match	3	6%
OK	16	30%
Good Match	29	54%
Excellent Match	6	11%

7b) Programming is a Craft



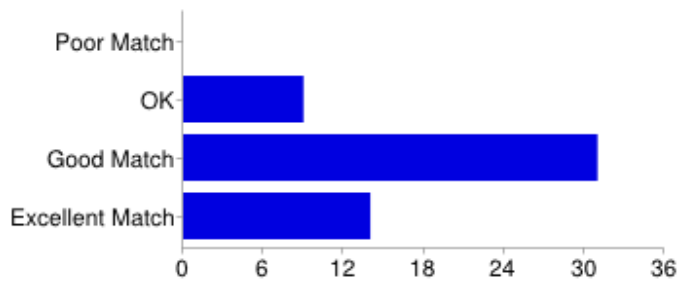
Poor Match	21	39%
OK	21	39%
Good Match	9	17%
Excellent Match	3	6%

7c) Power Management

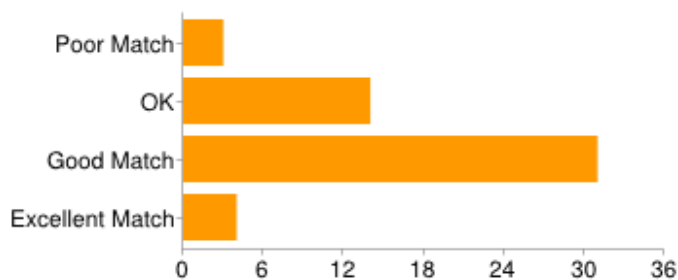


Poor Match	3	6%
OK	13	24%
Good Match	28	52%
Excellent Match	10	19%

54/54 responses (survey handed out in class)

**7d) Distributed Systems**

Poor Match	<b>0</b>	0%
OK	<b>9</b>	17%
Good Match	<b>31</b>	57%
Excellent Match	<b>14</b>	26%

**7e) Model Based Development**

Poor Match	<b>3</b>	6%
OK	<b>14</b>	26%
Good Match	<b>31</b>	57%
Excellent Match	<b>4</b>	7%

**8. Do you have any suggestions for improvements for the 5 themes?****8a) The Introduction to AVR32 could have been better if...**

was pretty basic, I think most of us are allusrumed to MC-programming already

The Fim course covered quite a lot of the above stated points, however since I've heard it will be less practical - the level of this course might be good. (OBS! This was written in the general field of Q8. NOT in 8a.)

Add video lectures, Video tutorials, group project

I think that it's better if this course start in the first period and give us more time to digest. Wee need more exercise to practice each theme. (OBS! This was written in general under 8. NOT in 8a!) 8.a)Have more practical implementation

more thorough for the exchange studets

good

It was more debuggin learning

8 ) More basic concepts 8a)more labs

I think its perfect as it is now

Assign pre-study materials before the course starts

8: Better guest lectures 8a:----

8)Guest lectures could be more yeufic ,modern mietated 8a)

**8b) The Programming is a Craft theme could have been better if...**

not included

The PIAC module is homendous. Teach us how it works before resring us.

we could have lecture and/or group work before the quize, since it was there I learned

exmine after lab assigment

more couse

redesigning the PIAC content. Have a lecture, use examples. It was to much fumbling in the dark for us

Work with piac before the quiz

There is some exercise about it

PIAC module needs to be better. It was way to confusing. It was way to confusing with abstract concepts good

Better reading material was provided, if we would have known what we were expected to learn. Give the students a possibility to see the quiz from the last year so they realise what they are expected to get out of the text.

Someone actually taught us something

we have at least one "normal" lecture which the basic knowledge is explained and then the work in group.

Change the way of teaching PIAC. a groupwork without having seeing any of it before is not useful

There was a lecture about it before the quiz and group work

We had a lecture on how to apply the techniques described in the articles. Also, the seminar should have been presented in smaller groups so that everyone feels comfortable enough to ask questions and share thoughts.

Add video lectures, Video tutorials, short movies: documentary and other genre

There are less literature reading

### **8c) The Power Management theme could have been better if...**

It is ok as it is

Teacher could have been a bit more prepared

more examples

The lectures were better prepared and more relevant to the analysis of the lab, to understand the purpose of the lab

Teacher can give us more explanation on the basic concept

it did not felt so obvious

More learning materials are assigned per failed working principle

It felt rushed. Take it earlier in the course

more explanation

Add video lectures, Video tutorials, short movies: documentary and other genre

### **8d) The Distributed Systems theme could have been better if...**

Have more practical implementation

It is ok as it is

more course

good

remove noise from the thing on wall

Add video lectures, Video tutorials, short movies: documentary and other genre

Its good

There are more lectures and well-organised literature given

### **8e) The Model Based Development theme could have been better if...**

Have more practical implementation

We had more time

More using example

more complex

good

Add video lectures, Video tutorials, short movies: documentary and other genre

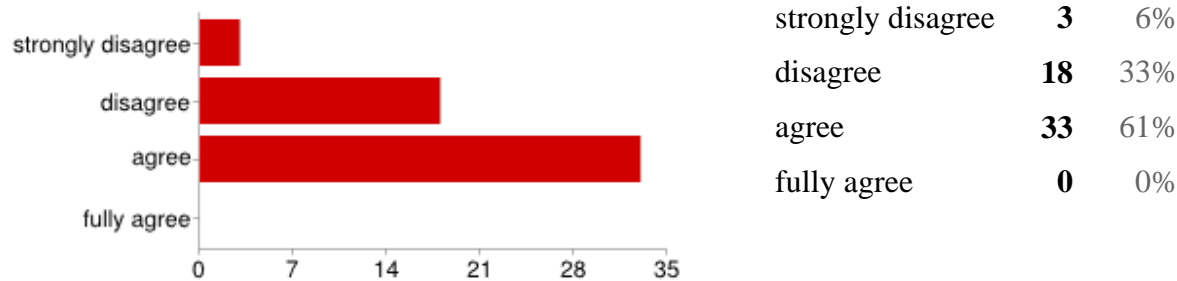
check



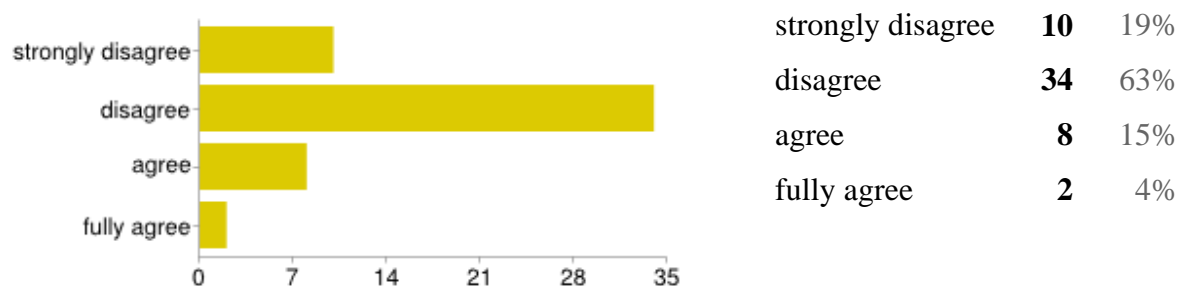
## Section 3: Your Thoughts on the Learning Experience

9. Looking back over the course and labs as a whole, please rate your feelings about the following statements.

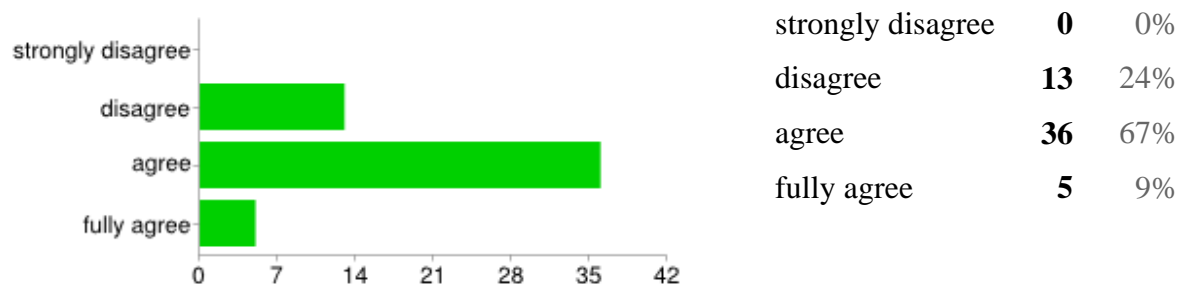
9a) I received a lot of valuable feedback on my progress and achievements



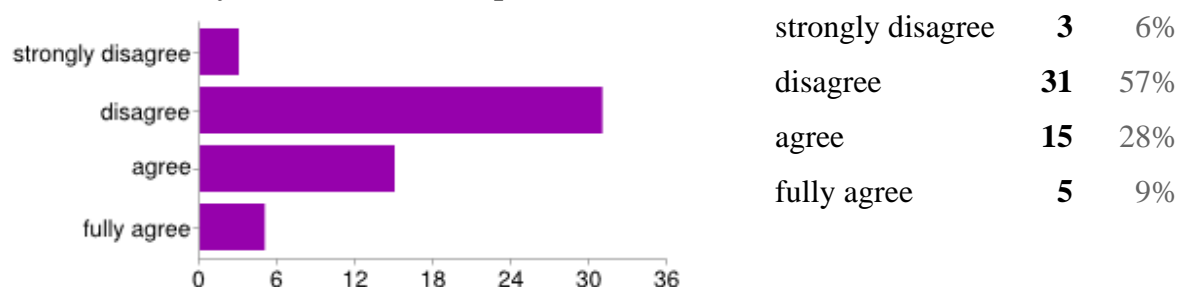
9b) To do well in this course, all you need is a good memory.



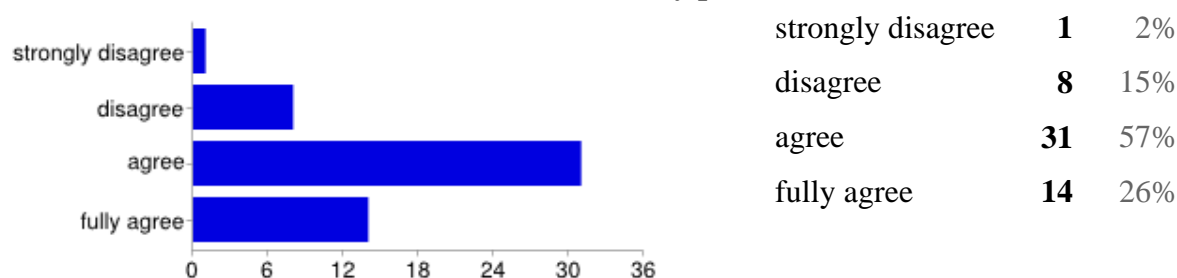
9c) The course has made me feel more confident about tackling new and unfamiliar problems



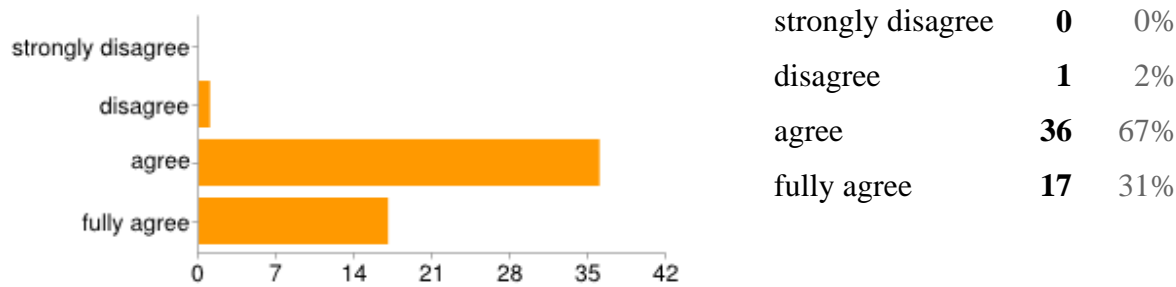
9d) It was always clear what was expected of me in this course



9e) The staff made a real effort to understand any problems we had



54/54 responses (survey handed out in class)

**9f) This course has contributed to my overall education****10. What did you enjoy LEAST about this course?**

PIAC this part needs to be reviewed unclear waht was expected of us to learn

IBM Rhapsody

The PIAC seminar. Seemed like almost nobody knew what it was about and the presentations felt awkward. Also, it would have been great if the class was divided into two parts with different lab occasions, so that everyone gets a computer in the mechatronics lab.

The PIAC-module

The old computers

a lot of text to read, mostly for PIAC. The literature is not too good, to much text in relation to the context

PIAC

programming si a craft

The temperature in von Neumann

the PIAC-module and PM module

Programming is a craft

Too much pressure because of Laboratory-work and reading many documents and even doing small exams while there are other courses and of course unexpected problems!

Too much labs workload

**11. What did you enjoy MOST about this course?**

Distributed Systems

Discussion example of importaint features for e-b syst. Such as that htey work in real time

CAN labs the most practical for me

MODEL-BASE

lab assignments

Effective Lectures and Tutorials, Group work, Project work, Guest Lecture, Cooperation, and helpful assistants.

As a whole, that was a dynamic course!

Well organised learning materials

the implementations done in the lab

Understanding the can way works

Power Management and MBD, eventhough I don't know if MBD will be very relevant for me in the future it was an interesting tool

CAN-lab 2