Dyson School of Design Engineering

DE1 – EA 1.3 Electronics Module Report 2016 - 2017

Peter Cheung, 16 July 2017

This document is both a report and a reflection on how the module went in the current academic session. The goal is to provide an assessment on what went well and what can be improved next year.

I original planned this module with very clear objectives and learning outcomes as defined in two documents: "*Course Design for Year 1 Design Engineering EEE Module*" (1 Feb 2015) and "*Planning for DE1.3 2016-17*" (27 April 2017). I think I have improved this module from the previous year.

General Course Organisation

The philosophy of this module is as follow: I planned the capstone Team Project with three milestones; the Team Project defines what students need to learn in four Lab Experiments in order for them to acquire the necessary knowledge and skills; I then design the lectures to teach them the theory with the necessary depth to instill rigour and mathematical understanding. Six problem sheets were written to support the lectures, and these are discussed at class tutorials.

Lecture Delivery

Students liked my lecturing style, the Labs and the tutorials. The lectures and tutorials were delivered in Room 408, EEE's main lecture theatre. This is a particularly well-designed space and is nice for both lecturer and students.

Being the second time delivering this module, the pacing this year is better than last year. I also managed to cut some materials out of the course (in particular, the topic of phasors). Some students said that they would have like me to include this in "optional" lectures, but I think it is overall a good decision.

Lecture attendance was very good, although it dropped off a bit towards the end. Most lectures had around 60%-80% attendance.

Tutorial Sessions

My tutorials are basically going over some problems in the problem sheets. Since I provided full solutions, I used the tutorial to expand on some of the solutions to highlight some pitfalls that students often made. Overall tutorials are successful in that most students found them useful and attendance were good.

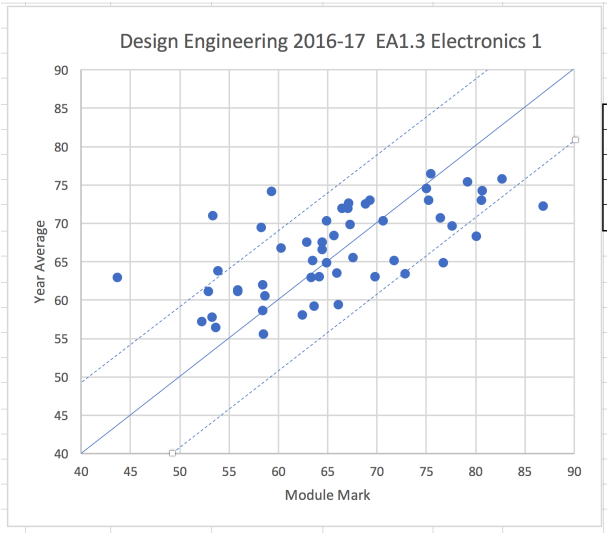
Laboratory Sessions and Team Project

The practical component is perhaps the most successful components of this module. Student engagement was excellent. This year, there were some absences. Each individual who did not attend Lab session was chased by me unless they have valid excuses and inform me ahead of time. Nevertheless, a couple of students missed more than one Lab session!

The Team Project was equally successful. I changed Milestone 2 from last year, and introduce the new component of "Moon rover that sniff rocks", which is a much more interesting task than last year's task. Overall, this is a great success.

Module Marks

The following plot and tables summarize the class's performance in this module. Both the average class mark and the distribution are close to what is intended.



	Lab Oral	Project	Exam	Overall
AVERAGE	66	68	65	66
MAX	85	81	96	87
MIN	48	51	34	44
STD	8.2	6.8	14.4	9.3

Grade	Count	Proportion
A	15	29%
B	22	42%
C	14	27%
D	1	2%

Student Feedback

The SOLE results for this module is summarized below. This SOLE results is even better than last year's results with many very positive comments.

Individual Lecturer Feedback (Professor Peter Cheung)

1) The lecturer explained the material well					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
24	5				
2) The lecturer generated interest and enthusiasm					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
26	2	1			
3) The lecturer was approachable					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
23	6				
4) Overall, I am satisfied with this lecturer					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
27	2				

Module Feedback - Engineering Analysis 1.3 - Electronics (DE1-EA1E)

1) The content of the module is well structured					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
21	7	1			
2) The content of the module is intellectually stimulating					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
24	5				
3) Where applicable, I have received helpful feedback on my work submitted so far					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
21	4	3			1
4) Overall, I am satisfied with the quality of the module					
Definitely Agree	Mostly Agree	Neither Agree or Disagree	Mostly Disagree	Definitely Disagree	Not applicable
21	7	1			

Lessons learned and Planned Changes for next year

1. Allocate only one week (and not two) for Lab 1, so that they can start Team Project earlier. This may push the lectures out of synchronization – hence must be careful.
2. Provide more explanation in the solutions to problem sheets so that they are more self-sufficient.
3. Many Team Project groups "hacked" together their vehicle using tapes or hot glue guns. I should encourage them to apply what they learn in design by assessing also the design elements in their Team Project outcomes.

In summary, this module is in very good shape and, as one student commented in SOLE, " … don't think there is much that should be changed".