

Dyson School of Design Engineering

DE 2 Electronics 2

Final Laboratory Oral Examination Guidelines (2022)

Peter Cheung, version 2.0

Assessment on Lab 5, Lab 6 and the challenges will be in the form of a 15-minute oral examination in pairs of lab partners together with one of four Lab Demonstrators on Tuesday 22 March 13.30 to 14.00. If you or your partner are unable to attend the Lab Oral at the appointed time, please find another pair willing to swap with you and inform me via email. A schedule for the examination is shown below. **This is a formal assessment, and you are REQUIRED to be present at the allotted time.** The Lab Oral will take place in Level 3 Studio/Lecture Room.

The purpose of the Oral examination is to establish how much you have learned with respect to the learning outcomes of the two Lab Sessions, and how much you have achieved in the Challenges. Questions will be asked which aim to establish your level of understanding and how effectively you have conducted the experiments including the effective use of your logbook for Labs 5 & 6. During the oral, you are also expected to show what you have achieved for the challenges. **I strongly recommend you take short videos of the challenge outcome with your phone, instead of demonstrating live.** You are also required to complete the following two tasks by 9pm on Tuesday 22 March 2022:

1. Zip up your challenge code using filename with group number and one of your surnames. E.g. Group 11 is Barbara Guth and Daisy Jones. Zipped file of your code could be 11Guth.zip. You must then upload this to the Teams
2. Complete a contribution survey form at this URL:
<https://forms.office.com/r/tfF1SPHjpp>

The learning outcomes for each Lab are summarized below. It is helpful if you consider to what extent you have understood with respect to this list of learning outcomes.

Lab 5: Motor speed measurement & Polling vs interrupt

Explain how motor speed can be measured using Hall effect sensors; demonstrate understanding of the difference between polling and interrupt and their relative advantages and disadvantages; explain how MicroPython can be used to set up various interrupt mechanisms so that interrupts happen; explain what is an interrupt service routine and how to write a good one.

Lab 6: Buffering and Beat Detection

Explain how timer can be used to determine and control the collection of real-time audio data at a fixed sampling rate; show how to use memory of the microcontroller to capture and store a block of data; instantaneous energy can be used to determine the beat of music; suggest possible improvement in the skeleton algorithm provided.

Tuesday 22 March 2022

Group No	Member 1	Member 2	Time	Assessor
11	Barbara Guth	Daisy Jones	13.30 - 13.45	Assessor 1
36	rory Bateman	Thomas Kingnan	13.30 - 13.45	Assessor 2
2	Alexander Themistocleous	Ozan Sanon	13.30 - 13.45	Assessor 3
28	Loveen Omar	Ragavi thavayoganathar	13.30 - 13.45	Assessor 4
3	Amelia Bryant	Laura Bastos	13.45 - 14.00	Assessor 1
24	Kiran Scott de Martinville	Rojeanne Stoffer	13.45 - 14.00	Assessor 2
12	Bert Edwards	Joe Johnson	13.45 - 14.00	Assessor 3
34	Rita Yammine	Riya Kataria	13.45 - 14.00	Assessor 4
35	Romana Choi	Lucas Won	14.00 - 14.15	Assessor 1
7	Anusha Narayan	Clemence Sulmont	14.00 - 14.15	Assessor 2
20	Felix Brochier	Keion Ing	14.00 - 14.15	Assessor 3
42	Zachary Baylis	Yangran Ning	14.00 - 14.15	Assessor 4
26	Liang Yang	Yankai Zhou	14.15 - 14.30	Assessor 1
29	Ludo Franchi	Ludovica Marzocco	14.15 - 14.30	Assessor 2
15	Ciara Bates	Molly Clifford	14.15 - 14.30	Assessor 3
18	Emmeline Bolton	Eva Brazier	14.15 - 14.30	Assessor 4
23	Isaac Winson-Bushby	James Howells	14.30 - 14.45	Assessor 1
13	Chen Jiayi	He Junqiu	14.30 - 14.45	Assessor 2
14	Chinene Chukwuma	Chloe Groff	14.30 - 14.45	Assessor 3
22	Hu Mingzhe	Xinyan Zhou	14.30 - 14.45	Assessor 4
4	Amy Smith	Zyque So	14.45 - 15.00	Assessor 1
9	Arturo Cano Amoros	Theo Bui	14.45 - 15.00	Assessor 2
10	Avi Tripathi	Sarthak Das	14.45 - 15.00	Assessor 3
37	Tee Punpipatpaiboon	Sunny Tangtrongchit	14.45 - 15.00	Assessor 4
31	Mila Robins	Rohil Dave	15.00 - 15.15	Assessor 1
38	Shirley Zhao	Wang enqi	15.00 - 15.15	Assessor 2
39	Wang Yiyang	Yawei Zhang	15.00 - 15.15	Assessor 3
30	Max Matthews	Rosie Davies	15.00 - 15.15	Assessor 4
17	Divya Parthipan	Lauren Chong	15.15 - 15.30	Assessor 1
1	Adrien Lefevre	Oriane Bui	15.15 - 15.30	Assessor 2
41	Louis Cutner	Ruby Grut	15.15 - 15.30	Assessor 3
8	Archie Bond	Benjamin Lovell	15.15 - 15.30	Assessor 4
16	Cosmin Vonsovici	Ivan Revenga-Riesco	15.30 - 15.45	Assessor 1
5	Amy Walter	Tharany Mathivannan	15.30 - 15.45	Assessor 2
25	Lavinia Bocaniala	Michela Puglia	15.30 - 15.45	Assessor 3
27	Lily Owuye	Tanya Ahmed	15.30 - 15.45	Assessor 4
6	Andrea Contri	Julia Perotti	15.45 - 16.00	Assessor 1
21	Harris Mier	Jack Beaumont	15.45 - 16.00	Assessor 2
19	Fan Aaron	Xianghao Wang	15.45 - 16.00	Assessor 3
40	Owain Pills	Ken Mah	15.45 - 16.00	Assessor 4
33	Neil Patel	Saian Patel	TBD	
32	Mohit Mohan	William Jiang	TBD	

DE2 Electronics 2 – Final Week Lab Oral
Feedback Form 2021

Name of Student:

Oral Grade:

Name of Assessor:

Performance on the Lab Experiments

1. Logbook Quality and Effectiveness

Highly effective	Effective	OK	Contrived	Poor
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2. Ability to answer questions from the logbook

Excellent	Good	OK	Poor	Very poor
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3. Effort in completing Lab 5 to 6

Fully engaged Strong evidence	Good engagement Good evidence	Acceptable Engagement	Below expected Engagement	V. poor Engagement
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4. Achievement on the Challenges (tick all boxes that apply)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level 4 & beyond Challenges 5 or above	Level 3 Challenges 3&4	Level 2 Challenge 2	Level 1 Challenge 1	Did not attempt

Understanding and Learning Outcomes

5. Explanation on theories behind experiments

Excellent	Good	OK	Poor	Very poor
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6. Examiner's opinion on candidate's depth of understanding in general

Broad & deep	Good	Average	Less than average	Poor
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FEEDBACK TO STUDENT:
