

## APPENDIX 2. FULL SURVEY QUESTIONNAIRE

**Title:** Redesigning an Interface Sciences and Engineering Module

Post-topic Questionnaire

### Code number:

1. Are you an NGS student who is currently taking the “Interface Science & Engineering” module?
  - Yes ---> Please go to question 2.
  - No ---> Please do not complete this questionnaire because it is focused on NGS students taking the “Interface Science & Engineering” module. Thanks anyway for agreeing to participate.
2. What was your undergraduate discipline of study?
3. What is your current topic of research?
4. At what faculty or institute are you currently doing your research?
5. At what stage of your PhD are you?
  - Pre-QE
  - Post-QE
6. Did you attend any course(s) on interdisciplinarity prior to joining NGS?
  - Yes ---> **Please go to question 7.**
  - No ---> Please go to question 8.
7. The prior interdisciplinary course(s) motivated me to select the NGS PhD programme.

1	2	3	4	5
Strongly Disagree	Agree	Neutral	Agree	Strongly Agree
8. How difficult was Topic 1, “Introduction to Interdisciplinarity”?
  - Very difficult
  - Somewhat difficult
  - Not very difficult
  - Not at all difficult

9. How difficult was Topic 2, “Global Environmental Problems”?
- Very difficult
  - Somewhat difficult
  - Not very difficult
  - Not at all difficult
10. How difficult was Topic 3, “Power of Omics”?
- Very difficult
  - Somewhat difficult
  - Not very difficult
  - Not at all difficult

Next, we want to know how you feel about the blended learning format of Topic 1 (“Introduction to Interdisciplinarity”) versus the traditional learning format of Topic 2 (“Global Environmental Problems”) or Topic 3 (“Power of Omics”). Please indicate your degree of agreement or disagreement with each item using the following scale: (1) strongly disagree, (2) disagree, (3) agree, or (4) strongly agree. (Circle one response for each item.)

		Strongly <u>Disagree</u>	<u>Disagree</u>	<u>Agree</u>	Strongly <u>Agree</u>
11.	The microlectures were clear	1	2	3	4
12.	The microlectures were effective in discussing the topic of interdisciplinarity	1	2	3	4
13.	I think some important ideas from the microlecture were: ..... ..... ..... ..... .....				
14.	The microlecture format of Topic 1 was more effective than the traditional lecture format of Topic 2 or 3	1	2	3	4
15.	I like the microlecture format more than traditional lectures	1	2	3	4
16.	The instructions on the IVLE lesson plan were clear	1	2	3	4
17.	The housekeeping lecture was useful in facilitating group discussions	1	2	3	4
18.	We should be graded on formative aspects (class participation mark, outline mark) as well as summative ones (final presentation)	1	2	3	4
19.	I think formative assessments help my learning	1	2	3	4
20.	Formative assessments help me think about the interdisciplinary research process	1	2	3	4

21.	Having formative assessments fosters collaboration between group members	1	2	3	4
22.	The "Lecturer Evaluation Rubric" for our presentation was clear	1	2	3	4
23.	The components in the "Lecturer Evaluation Rubric" were relevant to interdisciplinary research	1	2	3	4
24.	i. My learning style changed after Topic 1.	1	2	3	4
	ii. Briefly explain why you chose your answer to 24 (i):				
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25.	i. I learnt better through the blended learning format of Topic 1 than through the traditional format of Topic 2 or 3.	1	2	3	4
	ii. Briefly explain why you chose your answer to 25 (i)				
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26.	Compared to the traditional format, the blended format encouraged me to take ownership of my learning.	1	2	3	4
27.	The workload for the week with blended learning was much higher than for the week with traditional lecture	1	2	3	4
28.	The online forum is a good platform for collaboration	1	2	3	4
29.	The online forum is an effective platform for interdisciplinary discussions	1	2	3	4
30.	I spent more time on discussion for Topic 1 than for Topic 2 or 3	1	2	3	4
31.	I liked having discussions on the discussion forum	1	2	3	4
32.	When contacted, the instructor provided assistance in a timely manner	1	2	3	4
33.	Forum discussions should be mandated for other Topics (2-5) too	1	2	3	4
34.	The instructor's feedback on the presentation outline was helpful	1	2	3	4

35.	The instructor's feedback on the presentation outline helped guide us toward more interdisciplinary thinking	1	2	3	4
36.	I spent: (A) More time preparing for the presentation for Topic 1 than for Topic 2 or 3. (B) More time preparing for the presentation for Topic 2 or 3 than for Topic 1. (C) A similar amount of time preparing for both presentations	A	B	C	
37.	i. I felt the quality of my presentation was better for: (A) Topic 1 (B) Topic 2 or 3	A	B		
	ii. Briefly explain why you chose your answer to 25 (i): ..... ..... ..... ..... ..... .....				
38.	I welcome feedback from my peers	1	2	3	4
39.	The questions submitted by the other group prior to the group presentations were helpful	1	2	3	4
40.	My group provided good questions for our partner group to consider	1	2	3	4
41.	Questioning our partner group made me reflect on the interdisciplinary aspect(s) of our own project	1	2	3	4
42.	My group discussed our partner group's work	1	2	3	4
43.	My group gave feedback to our partner group seriously	1	2	3	4
44.	The feedback provided by the other group prior to the group presentations was helpful	1	2	3	4
45.	Having partner groups review each other's work was helpful	1	2	3	4
46.	My group reflected on how to make our project more interdisciplinary after giving feedback to our partner group	1	2	3	4
47.	My group modified our project based on our partner group's feedback	1	2	3	4
48.	The "Placemat Consensus Diagram" handout was clear	1	2	3	4
49.	Placemat consensus diagrams helped us organise our thoughts in an interdisciplinary way	1	2	3	4
50.	My preparation for the Topic 2 or 3 group presentation would have been better if the lecturer had provided feedback prior to the presentation	1	2	3	4

51.	My preparation for the Topic 2 or 3 group presentation would have been better if my peers had provided feedback prior to the presentation.	1	2	3	4
52.	I utilised what I learnt in Topic 1 in Topic 2 or 3	1	2	3	4
53.	I tried to offer insights from my own discipline to my Topic 1 group	1	2	3	4
54.	I tried to contribute ideas from my own discipline to my Topic 2 or 3 group	1	2	3	4
55.	It was easier to provide ideas from my own background in Topic 1 than in Topic 2 or 3	1	2	3	4
56.	More could be done to help us foster collaboration and interdisciplinary exchange for Topic 1	1	2	3	4
57.	The activities in Topic 1 helped me to see interdisciplinarity links better than in Topic 2 or 3	1	2	3	4
58.	Only lecturers should be allowed to grade us, not our peers	1	2	3	4
59.	If there were no peer evaluations, my group mates would be less motivated to contribute	1	2	3	4
60.	The "Peer Evaluation Rubrics" were clear	1	2	3	4
61.	My peers' feedback about me on the peer evaluation was fair	1	2	3	4
62.	Peer evaluations should be done for all modules with group work	1	2	3	4
63.	If there were no peer evaluation, I would be less motivated to contribute	1	2	3	4
64.	The blended learning experience in Topic 1 better prepared me for my work in Topic 2 or 3	1	2	3	4
65.	The interdisciplinary approach taught in Topic 1 helped me in my project for Topic 2 or 3	1	2	3	4
66.	Overall, blended learning is more suitable for the Interface Science & Engineering module than traditional lectures	1	2	3	4

67. What was the most effective aspect of the blended learning course?

68. What was the least effective?

69. Is there anything that you would like to add for us to think about?

**END OF QUESTIONNAIRE**