



UMEÅ UNIVERSITET

Final report: 5KE195HT21 Molecular Spectroscopy and Diffraction

Unit code: 5KE195

Name of course: Molecular Spectroscopy and Diffraction

Credits: 7.5 hp

Pace: 100%

Semester: Fall 21 (30/08/21 -- 29/09/21)

Unit coordinator: Andy Ohlin

Delivery (campus/online-remote): Online (due to COVID-19 restrictions)

Indicate if the unit is part of a program: Part of BS in Life Sciences.

Number of registered students	19 students registered. 17 students completed the lab. 15 passed the first exam.	
Number of responses on unit evaluation	18 responses (of 19) (5 LISC, 12 ERASMUS, 1 other)	
Final Grade Exam / Course	#	%
Fail (U)	4*	21
Pass (G)	6	32
High Pass (VG)	9	47
Grade 3	-	
Grade 4	-	
Grade 5	-	
Completes		
Incompletes		
LISC Life Science TYCBT Biotechnology NGBIG Bio. and Earth Science LYAGY Teacher/Secondary	* One student passed Module 1, but failed Module 2. One student passed Module 2, but failed Module 1. Two students failed both modules.	13/10/2021



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Course evaluation

<<See appendix>>

Comment by unit coordinator:

This was the second time the course was given.

Two evaluations were carried out -- one after instruction had finished, but before the final was given, and one after the final had been given, focussing only on the final.

Comments and ratings are overall very positive -- see appendix. Only the negatives are addressed here.

Things that need to be addressed are:

- Not all students felt that what they learned in either module of the course will be useful in the future. This needs to be addressed.
- The molecular spectroscopy lab rated poorly, and the students found it hard to understand what was expected of them. This is something we'll need to work on.
- The material for the lectures in the diffraction section needs to be streamlined

Written evaluations have been removed from the appendix (4 pages). Those responses are summarized below.

Summary of comments by the students:**Q: 'What aspects of the course are you MOST satisfied with?'**

Common reponses:
The book for the first section, the organization of the course, the workshops, that workshops were recorded, daily quizzes

Q: 'What aspects of the course are you LEAST satisfied with?'

The lab for the Molecular Spectroscopy section (difficult to understand what was expected; video instructions slightly different from written instructions), expected more information about analytical techniques whereas focus was on theories behind the techniques, issues with sourcing the book for the Diffraction module, as well as the book itself (note: this book rated very highly 5KE195HT20)

Q: 'Anything else you'd like to add?'

Overall positive comments and 'thank you's.

Summary of changes introduced after the last time the course was delivered



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Molecular Spectroscopy section

- Daily quizzes
- New crystal field theory videos
- New instructions for the Mol. Spec. lab, including video
- Some material, especially on selection rules, reworked for the Mol. Spec. section.

Diffraction section

- The three workshops were adapted to an online format
- New Diffraction computer-based workshop for visualization of crystal structures and XRD pattern simulation

Summary of suggested changes prior to the next time the course is delivered

See above

Final report created 15/10/2021, by Andy Ohlin



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Appendix.
Course evaluation 5KE195HT21

Comments by students have been removed.



Course evaluation 5KE195HT21

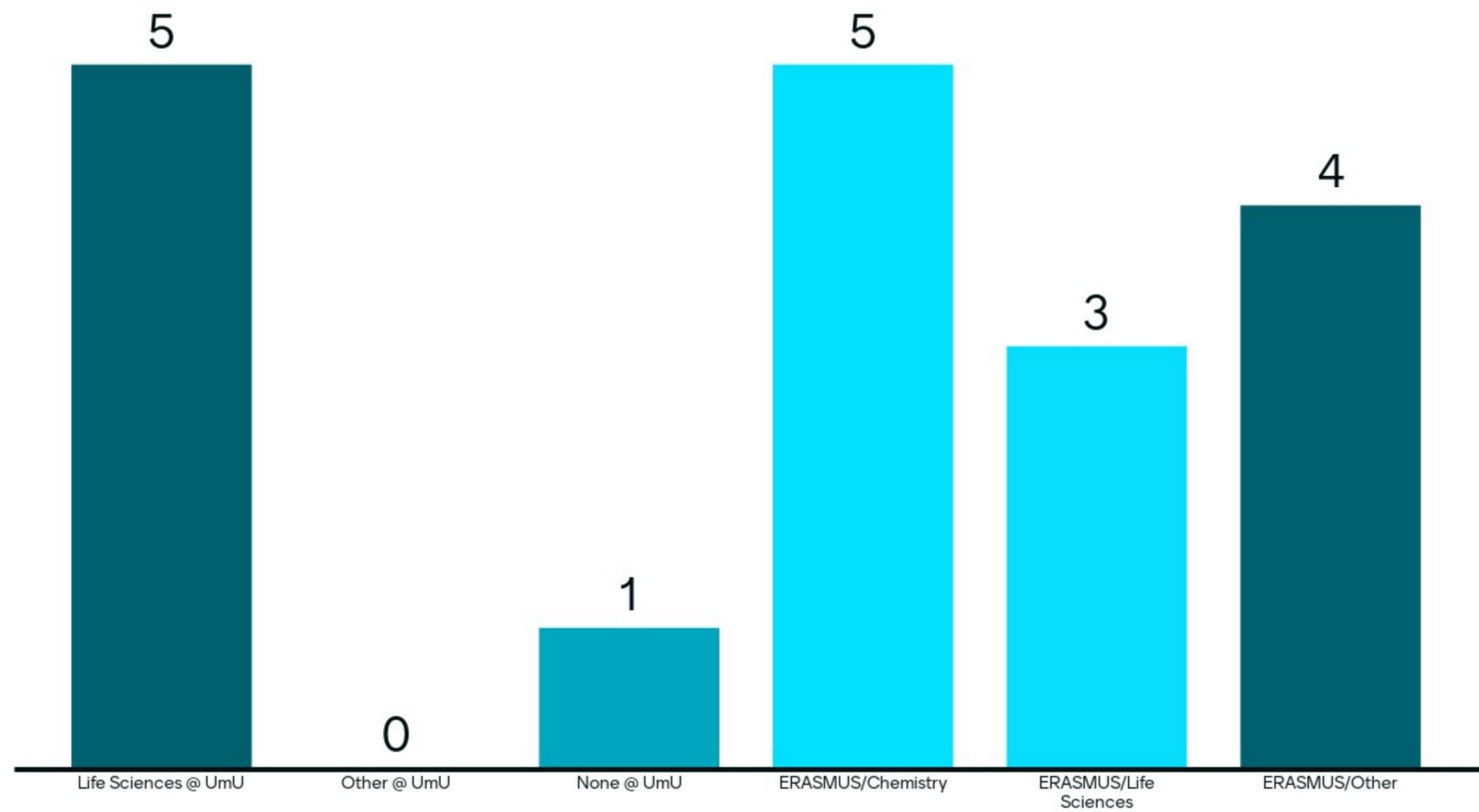
This is the second time we give the course, and we're still working on filing down the rough edges and improving the material. Your opinion is important!

A summary of the non-textual answers will be shared with the class afterwards.

The survey is 14 pages long, but most questions don't require a written answer, and four pages are title slides.

Note: you will have the opportunity to give feedback on the **final** later.

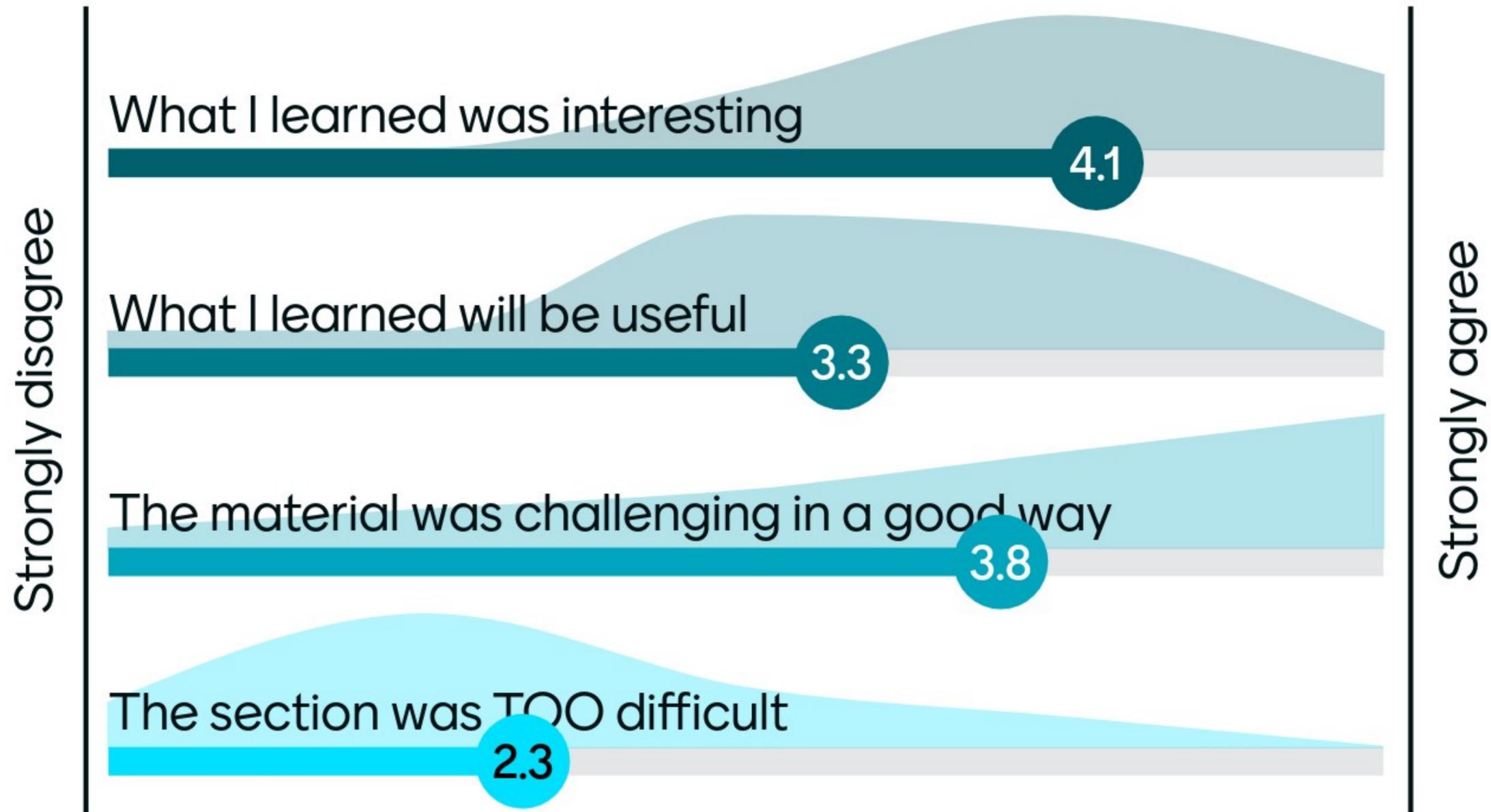
Which program are you in?



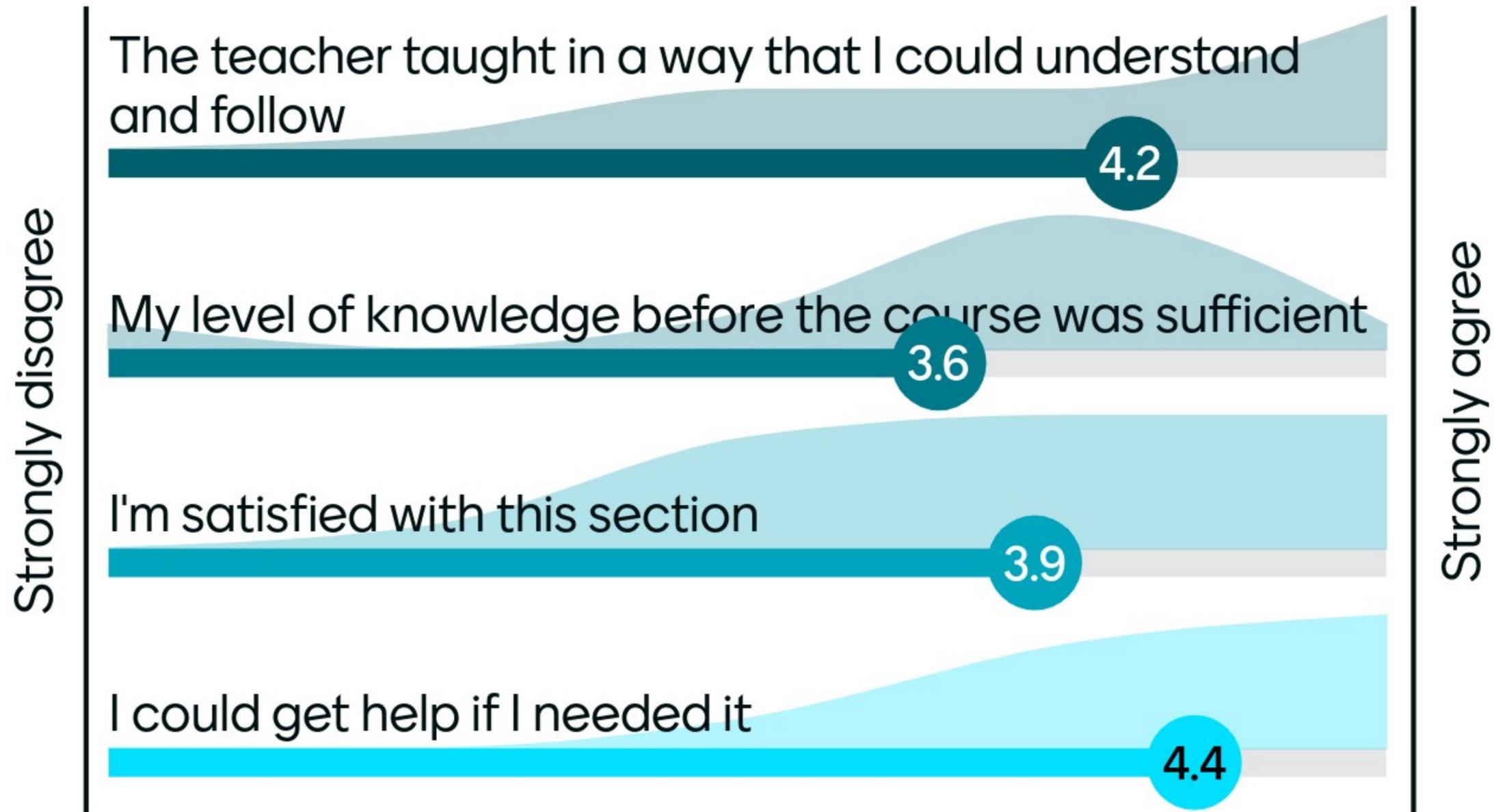


Section 1: Molecular Spectroscopy

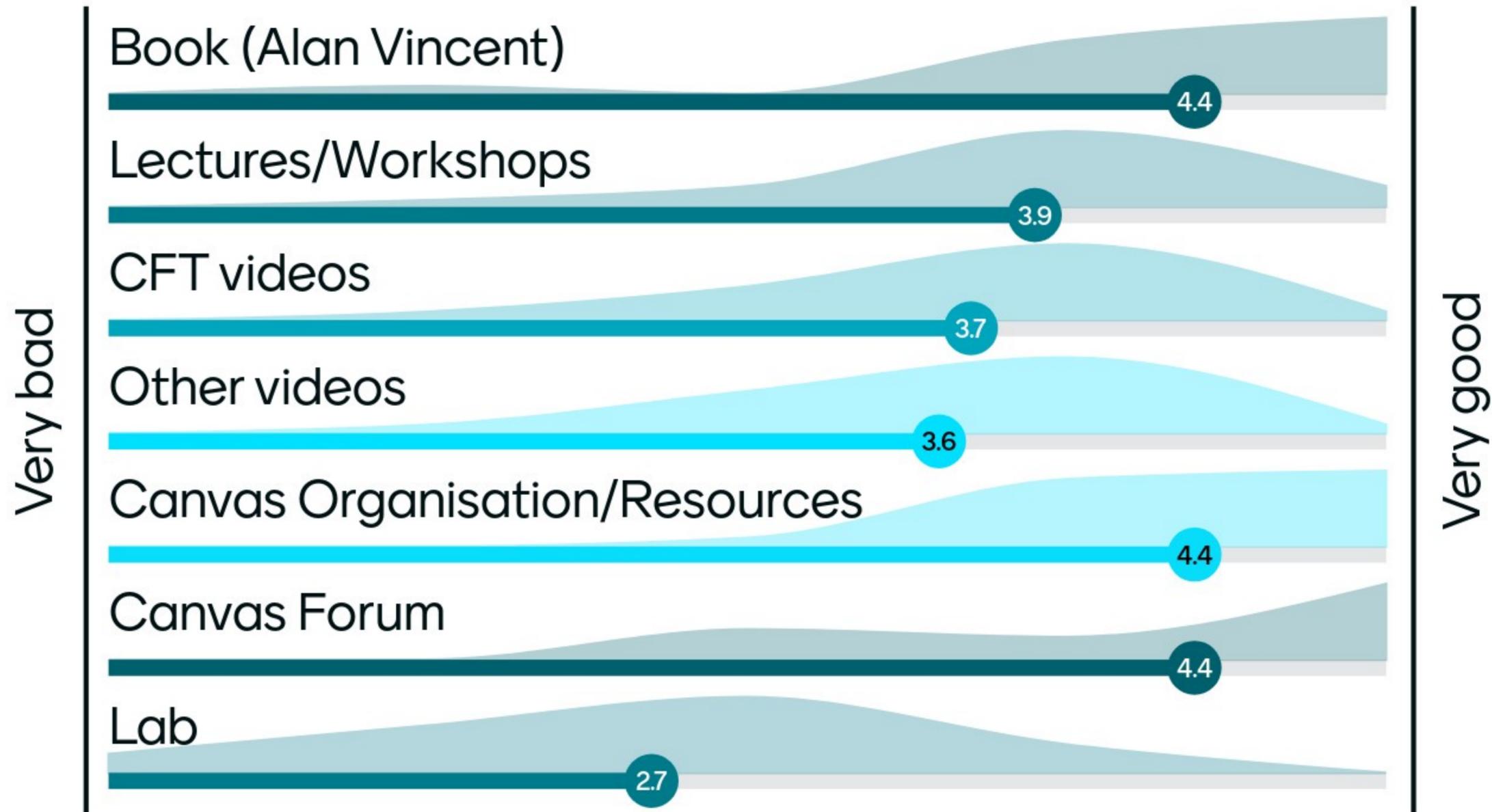
Rate the Section



Rate the section



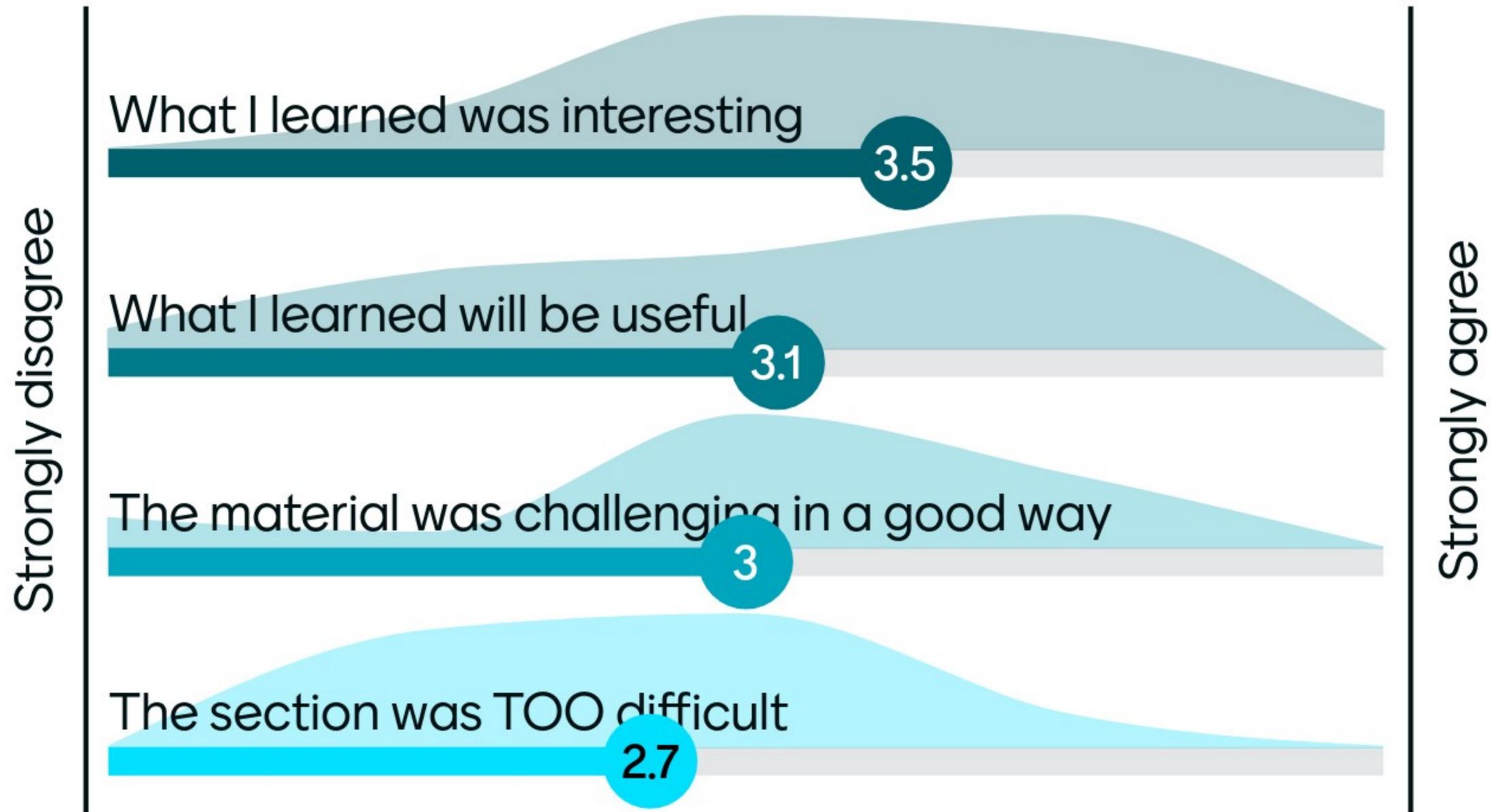
Rate the resources for this section



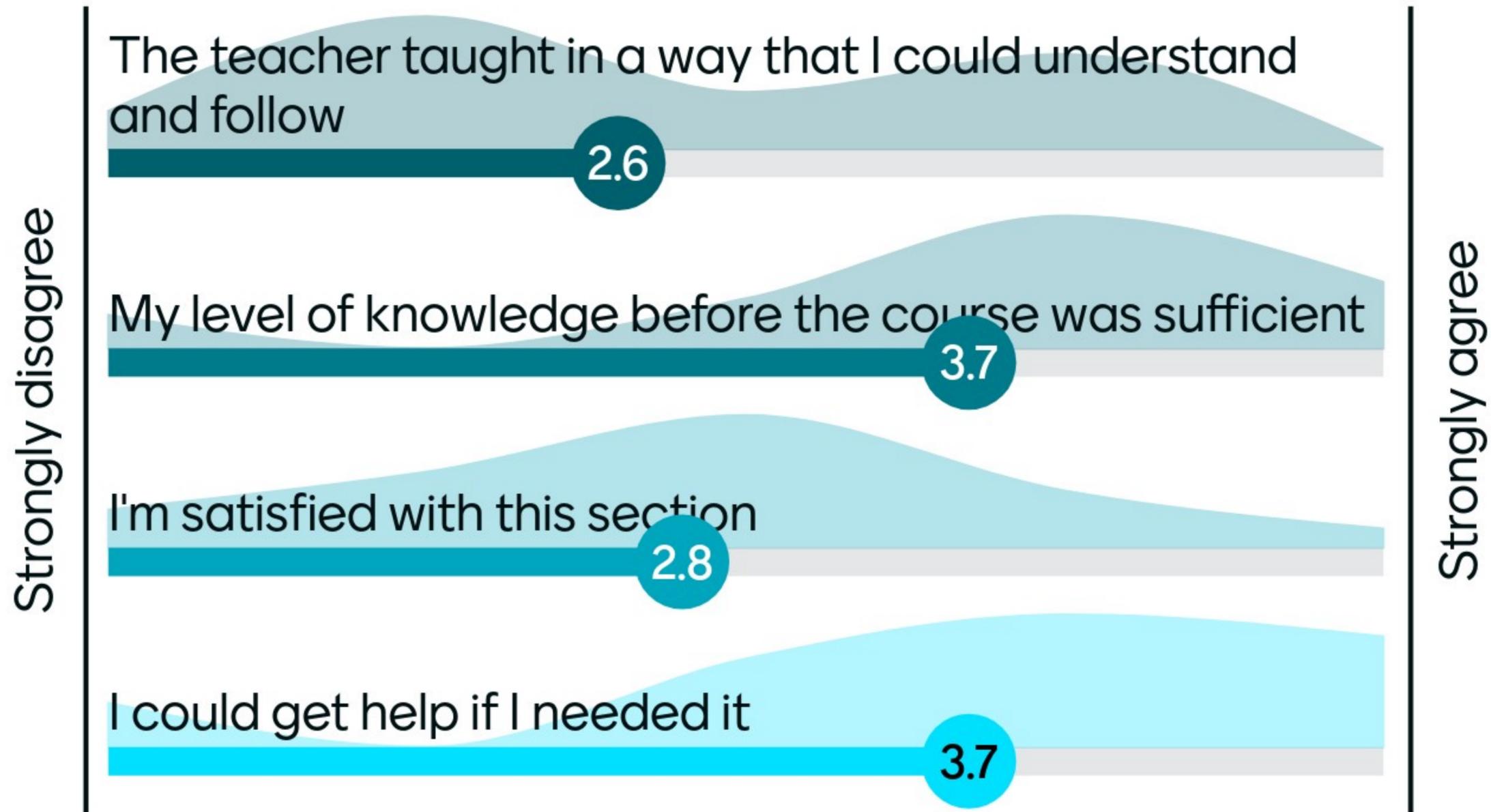


Section 2: Diffraction

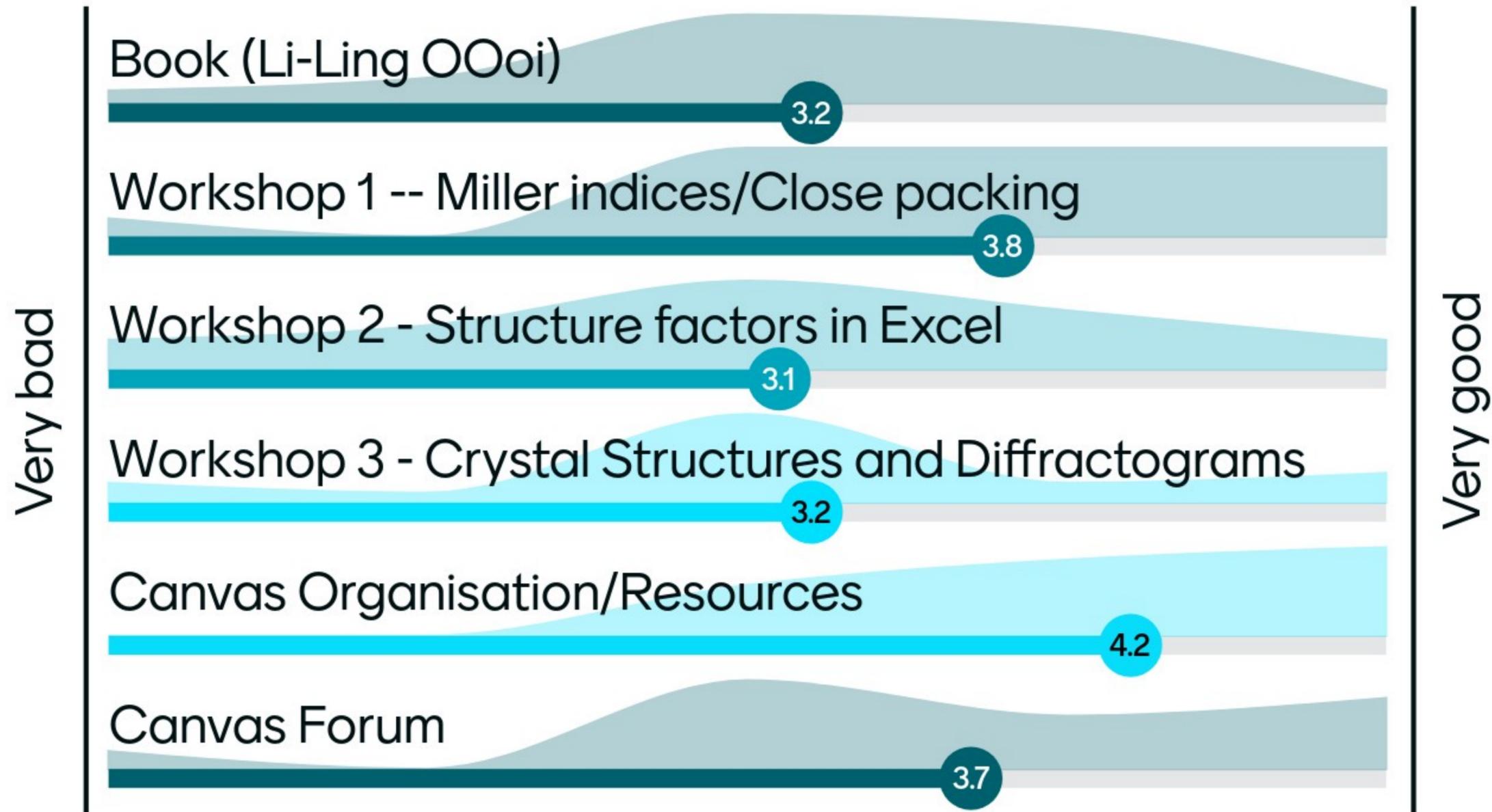
Rate the Section



Rate the section

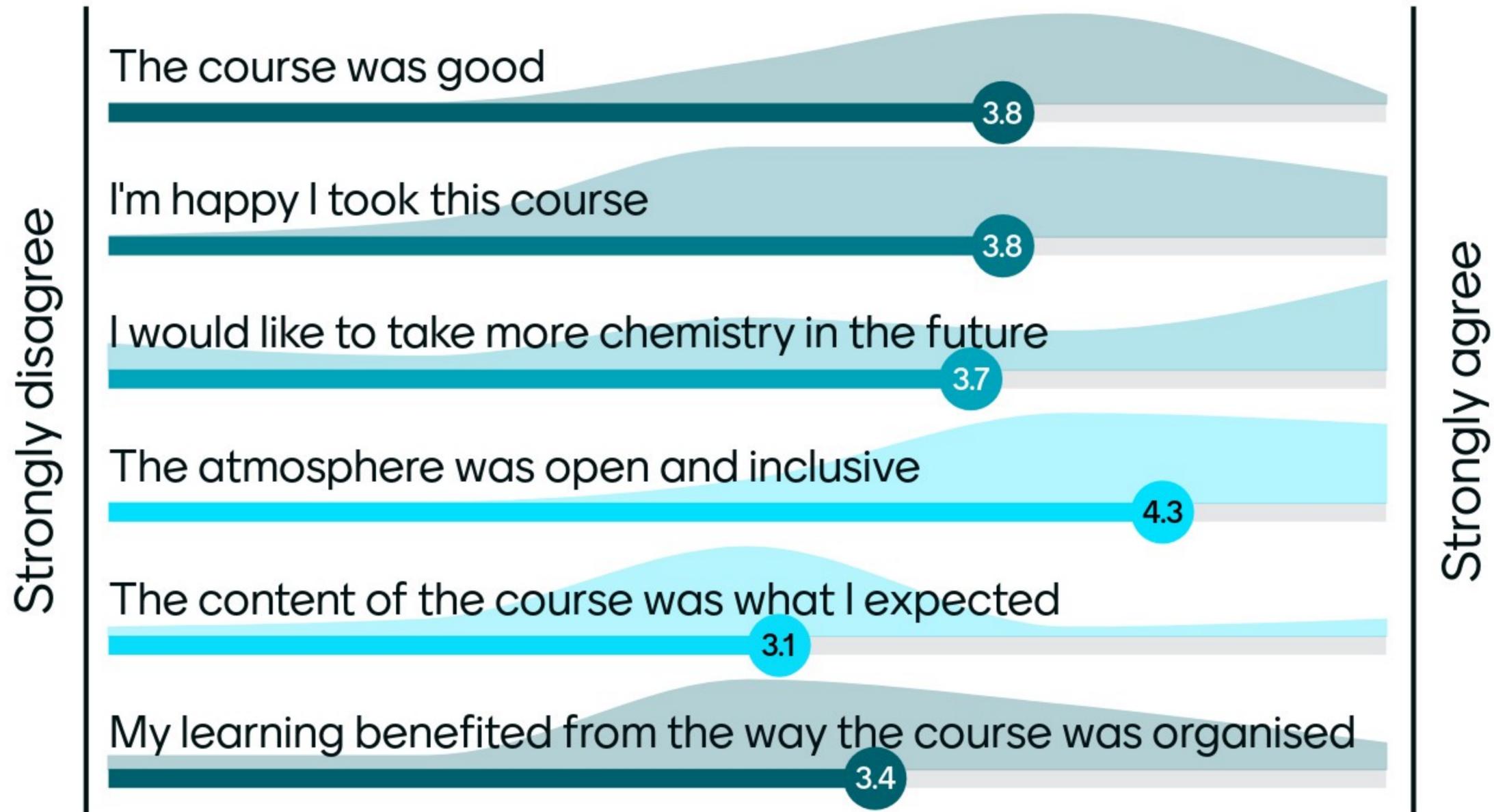


Rate the resources for this section



Overall opinion of the course

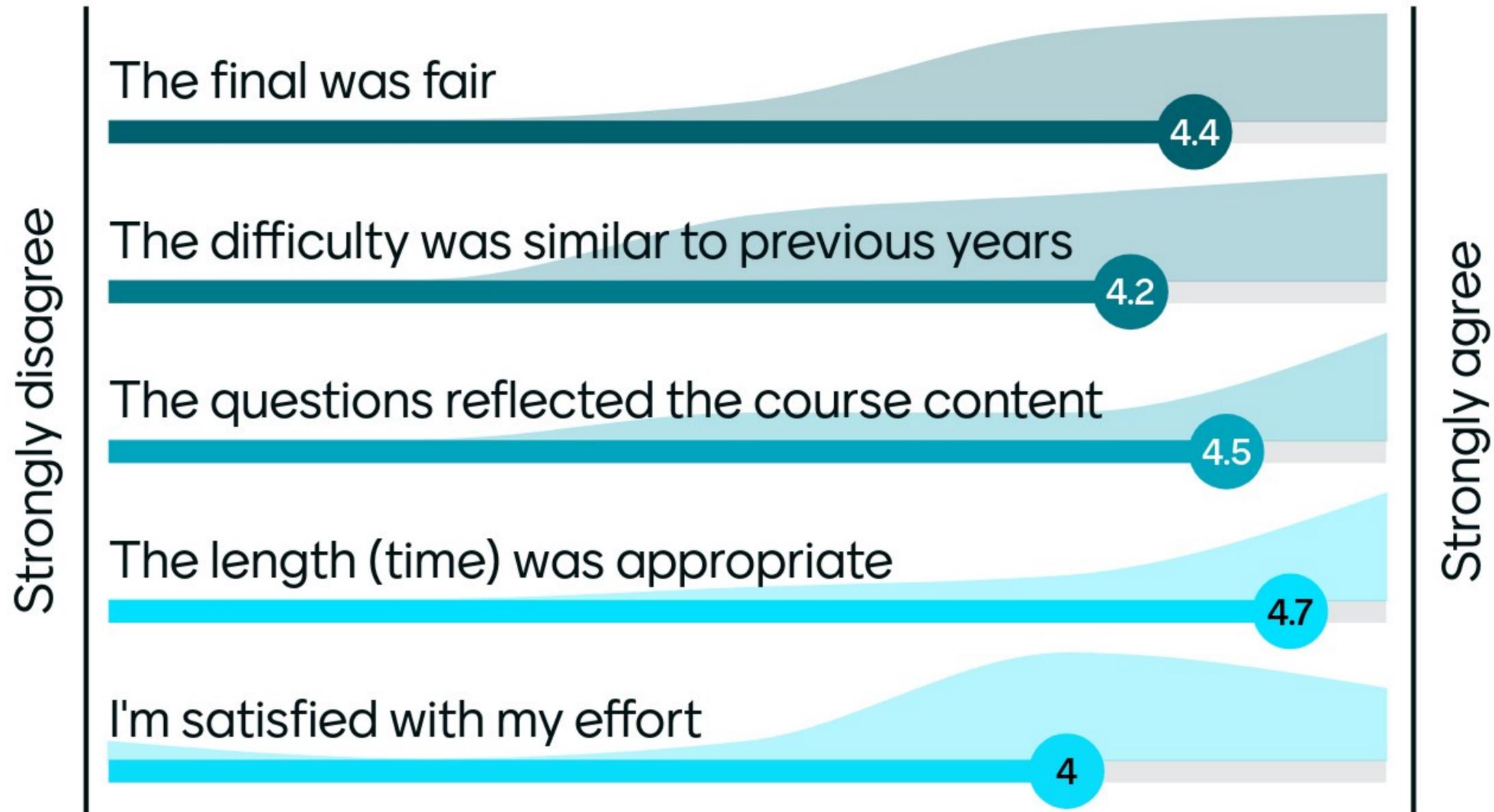
Rate the course



Evaluation of the Final

Each section is evaluated separately, and you will have the opportunity to write a short comment at the end

Molecular Spectroscopy



Diffraction

