Prof. Dr. Roderich Tumulka , Foundations of Quantum Mechanics, Prof. Dr. Roderich Tumulka Prof. Dr. Roderich Tumulka JNIVERSITAT TUBINGEN Foundations of Quantum Mechanics Fachbereich Mathematik WiSe 21/22(MAT-65-15-WS2122) Erfasste Fragebögen = 15 Anzahl der versendeten TANs (Online) = 39 Rücklaufquote (Online) = 38.5 Auswertungsteil der geschlossenen Fragen Legende Relative Häufigkeiten der Antworten Std.-Abw Mittelwert Median n=Anzahl mw=Mittelwert md=Median s=Std.-Abw. E.=Enthaltung 0% 50 0% 25% 25% Fragetext Linker Pol Rechter Pol 3 Skala Histogramm Qualitätsindex Der Mittelwert liegt unterhalb der Qualitätsrichtlinie. • Der Mittelwert liegt im Toleranzbereich der Der Mittelwert liegt innerhalb der Qualitätsrichtlinie. Erklärung der Ampelsymbole • Qualitätsrichtlinie. 1. Note The department is conducting evaluations of modules in order to improve teaching quality. You are therefore asked to fill this form, possibly for several modules. Your data will stay anonymous. Thank you for your cooperation. 2. Your Course ^{2.1)} 1.1 What is your major subject? n=15 Mathematics 26.7% Mathematical Physics 40% Physics 33.3% 2.3) 1.2. What is your degree course? n=15 B.Ed. 0% 33.3% B.Sc. M.Ed. 13.3% M.Sc. 53.3% ^{2.5)} 1.3 Which semester are you in? n=15 1-2 26.7% 60% 3-4 0% 5-6 7-8 0% 9-10 13.3% 0% >10

3. Lecture



80% - 100 %

60% - 80%

0%

0%

5. Overall impression

^{5.1)} Beside lecture and exercise class, I work the following number of hours per week on this course:



n=14

strongly disagree

mw=1,3 md=1,0 s=0,5

Profillinie

Teilbereich:

Fachbereich Mathematik

Name der/des Lehrenden:

Prof. Dr. Roderich Tumulka Titel der Lehrveranstaltung: Foundations of Quantum Mechanics (MAT-65-15-WS2122) (Name der Umfrage)

Verwendete Werte in der Profillinie: Mittelwert

3. Lecture

3.1)	The course aims have been clearly defined.	strongly agree	_		strongly disagree	n=15	mw=1,3	md=1,0	s=0,5
3.2)	The instructor presents the material in a comprehensible way.	strongly agree	$\left \begin{array}{c} \\ \\ \end{array} \right $		strongly disagree	n=15	mw=1,1	md=1,0	s=0,3
3.3)	The aims and the structure of the course are clear.	strongly agree			strongly disagree	n=15	mw=1,3	md=1,0	s=0,6
3.4)	The speed of lecturing is	too high			too low	n=15	mw=2,9	md=3,0	s=0,6
3.5)	The instructor appeared to be well prepaired.	strongly agree			strongly disagree	n=15	mw=1,1	md=1,0	s=0,4
3.6)	The instructor stimulates active participation.	strongly agree			strongly disagree	n=15	mw=1,7	md=2,0	s=0,6
3.7)	The instructor encourages independent treatment of the issues.	strongly agree			strongly disagree	n=15	mw=1,6	md=1,0	s=0,7
3.8)	Attending the course has been useful to me.	strongly agree	-		strongly disagree	n=15	mw=1,1	md=1,0	s=0,3
4.	Exercises								
4.1)	Attending the exercise class has been worthwhile.	strongly agree			strongly disagree	n=15	mw=2,7	md=3,0	s=1,4
4.2)	The exercises have encouraged me to further engage in the contents of the lecture.	strongly agree			strongly disagree	n=14	mw=1,6	md=1,5	s=0,7

The exercises have encouraged me to further engage in the contents of the lecture.

4.3) The exercises match the current content of the lecture. strongly agree

5. Overall impression

5.2)	I think this amount is	high			 low	n=15	mw=2,9	md=3,0	s=0,9
5.3)	In this course, it is always clear to me, what I need to do.	strongly agree			 strongly disagree	n=15	mw=1,5	md=1,0	s=0,6
5.4)	The course has increased my interest in the subject matter.	strongly agree	\vdash		 strongly disagree	n=15	mw=1,4	md=1,0	s=0,5
5.5)	The degree of difficulty of the course is	high			 low	n=15	mw=2,7	md=3,0	s=1,0
5.6)	I give this course the following grade:	very good			 insufficient	n=15	mw=1,2	md=1,0	s=0,4

Auswertungsteil der offenen Fragen

2. Your Course

^{2.2)} Other:

M.Sc. Astro- and Particle physics

^{2.4)} Other:

Es wird keine Auswertung angezeigt, da die Anzahl der Antworten zu gering ist.

3. Lecture

^{3.9)} You can put further comments here.

- The course is well structured and the prof provides additional study materials. The mathematical is part is quite difficult for me but it lies with my lack of knowledge.
- The class is very demanding and I need to study a lot for it aside from just attending the lecture. It is especially hard for me because it builds on a lot of previous knowledge from different areas of mathematics. However, I think that is also a great thing about this lecture it finally puts all the previous basic knowledge to use. It's also a great opportunity to revise all basic lectures.
- To me, ist seems that there are so many topics to cover, that sometimes one topic is only covered very briefly but then there is another one very specific topic that is covered in very much detail.

4. Exercises

- ^{4.5)} You can put further comments here.
- I think the difficulty of the exercises varies very much. On one hand, some are quite easy but on the other hand there are some that are incomprehensible even after some consideration. But I think that's just because QM is a complicated topic.
- The Exercises really help a lot in the mathematical comprehension of the topics discussed in the lecture!
- To me it is not always clear how the exercises especially the very mathematical ones relate to the content of the lecture

Also, I don't think the hybrid-format is well executed for the exercise class

5. Overall impression

- ^{5.7)} You can put further comments here.
- The course is an amazing combination of Physics, Maths and Philosophy!

6. Overall impression free text

- ^{6.1)} What do you like about this course?
- The lectures are really enjoyable
- considering topics from different angles
 - comparison with other interpretations of QM
 - reading assignments (help deepen the understanding and extend lecture in a very good way)
 - essay questions (help deepen the understanding and lets one check if the topics are truly understood. They also show which parts may no have been understood as much)
- hybrid lecture during COVID
- competent professor
- competent tutor
- I especially like that we can choose for ourselves how to attend the lecutre in person, online or asynchronous. It allows flexibility and also for students to stay at home if they are showing symptoms of sickness. The combination of writing on a tablet and projecting that writing on the wall works very well

The lecture notes are also great and very helpful for revising the content of each lecture, especially because they are not exactly the same as what is written in class.

Prof. Tumulka's command of the English language is also great and listening to him is very pleasing. His enthusiasm for the subject matter makes the lecture very enjoyable

- I find it very fascinating and love how it goes through the various topics of quantum mechanics that have always intrigued me
- I like the content of the couse. Its a mixture of mathematics, physics and philosophy. This variation keeps the course lively.
- I really like, that this course teaches many topics quite phenomenological and not with many calculations. And it tries to give an understanding of "why" things happen. That's kind of different from other physics courses.
- ^{6.2)} What do you dislike about this course?
- The hybrid model in the exercise classes didn't really work well
 The presentation of the solutions in the exercises was often too fast
- It would also be nice if more of the basic mathematics needed for this class would be recapitulated brievly
- Nothing so far
- ^{6.3)} How could this be improved?
- For an insomniac (like me) the time of the lecture is a huge problem. However, it is still worthwhile attending the lecture in person, no matter the time
- More example problems could be provided so that it would be supportive for solving the assignment problems.