

**Graduate Course Evaluation for Daniel Arovas  
Department of Physics**

PHYS 210B - Nonequilib/Statistical Mechans  
Section ID 785068  
Section Number A00  
Fall 2013

**Number of Evaluations Submitted: 15**  
**Number of Students Enrolled: 24**

1. What is your reason for taking this class?

3 (20.0%): Core Course Requirement  
1 (6.7%): Subject Area Requirement  
4 (26.7%): Elective  
7 (46.7%): Interest

2. The Instructor was clear about course expectations.

3 (20.0%): Strongly Agree  
8 (53.3%): Agree  
3 (20.0%): Neither Agree Nor Disagree  
1 (6.7%): Disagree  
0 (0.0%): Strongly Disagree

3. The Instructor was well-prepared for class.

5 (33.3%): Strongly Agree  
7 (46.7%): Agree  
1 (6.7%): Neither Agree Nor Disagree  
2 (13.3%): Disagree  
0 (0.0%): Strongly Disagree

4. The Instructor organized class activities in a way that promoted learning.

4 (26.7%): Strongly Agree  
5 (33.3%): Agree  
4 (26.7%): Neither Agree Nor Disagree  
2 (13.3%): Disagree  
0 (0.0%): Strongly Disagree

5. The Instructor promoted and encouraged questions and discussion.

6 (40.0%): Strongly Agree  
5 (33.3%): Agree  
3 (20.0%): Neither Agree Nor Disagree  
1 (6.7%): Disagree  
0 (0.0%): Strongly Disagree

6. The Instructor provided feedback (written/oral) in a way that promoted learning.

4 (26.7%): Strongly Agree  
6 (40.0%): Agree  
4 (26.7%): Neither Agree Nor Disagree  
1 (6.7%): Disagree  
0 (0.0%): Strongly Disagree

7. The Instructor was accessible to students outside of class (office hours, e-mail, etc.).

4 (26.7%): Strongly Agree  
9 (60.0%): Agree  
2 (13.3%): Neither Agree Nor Disagree  
0 (0.0%): Disagree  
0 (0.0%): Strongly Disagree

8. I would recommend this instructor overall.

8 (53.3%): Strongly Agree  
4 (26.7%): Agree  
3 (20.0%): Neither Agree Nor Disagree  
0 (0.0%): Disagree  
0 (0.0%): Strongly Disagree

9. What is your overall rating of the Instructor?

8 (53.3%): Excellent  
5 (33.3%): Above Average  
2 (13.3%): Average  
0 (0.0%): Below Average  
0 (0.0%): Poor

10. General comments about the Instructor's performance

- Arovas is a solid teacher who actually cares about teaching, which in my experience at UCSD is rare. Its obvious that he puts a lot of time into his homework and notes, and it shows.
- Dan the Man
- Prof. Arovas is a very good teacher, but he was overly ambitious with the scope of this course. His lecture notes are superb, and he has a great sense of humor. His teaching style is a bit math-heavy for my tastes, but as noted below, that may be because we did not spend enough time on each topic to really get into the physics of it.
- Too much stuff was covered in a short time. Since the instructor was taking this course after a long time, he shouldn't have tried to go through so many topics. Due to the same reason and due to the technical nature of the subject, the instructor stumbled a lot. Also, I felt the stress was more on technical details rather than the physics.
- Very enthusiastic and humorous.
- Very intelligible, enthralling and life-asserting lectures! Careful choice of elucidating and fun HW! Very sensible!

11. I would recommend this course overall.

6 (40.0%): Strongly Agree  
5 (33.3%): Agree  
2 (13.3%): Neither Agree Nor Disagree  
2 (13.3%): Disagree  
0 (0.0%): Strongly Disagree

12. What is your overall rating of this course?

6 (40.0%): Excellent  
4 (26.7%): Above Average  
5 (33.3%): Average  
0 (0.0%): Below Average  
0 (0.0%): Poor

13. What were the particular strengths of this course?

- Applicable to many fields of physics.

- Arovas' notes were great, though perhaps not as well done as in 210A.
- clarity
- Great set of notes. Good emphasis on examples in lecture. Wonderful instructor.
- Prof. Arovas is an enthusiastic and knowledgeable instructor.
- Taught by Dan the Man.
- The depth of coverage.
- The lecture notes. I will probably refer to these over and over again in the future, along with the referenced books and/or articles. The course also introduced me to a lot of very useful mathematics and to a lot of different topics.
- There are a lot of interesting materials.

#### 14. What suggestions do you have for making this course more effective?

- I hope there are more discussion about concepts before we dive into doing the math. I learned to do math in this course, but I am unclear why we did all this math. It would be very useful if reading about concepts in this course is provided somewhere. I used mostly the lecture note and found myself very confused about the overall concepts behind all the calculations.
- I would probably have found helpful seeing some more applications to concrete physical problems in between the abstract lectures on stochastic calculus.
- Less focus on the nitty gritty, particularly when presenting the stochastic calculus formalism.
- Maybe more physics intuition
- More physics-y. The technicalities can be learnt from a book.
- More Puns
- Simply put, the course tried to cover far too much. It could easily be spread over two quarters, which would allow us to really study the material in some detail rather than rushing through topic after topic, as we were forced to do. Taking time with these topics is especially important, since many of them are very mathematical, and physical intuition cannot be developed until the student is comfortable with mathematical methods. I do not feel I have developed much intuition about the topics that we discussed, but had we spent some more time on each, I would have.
- The course overall is good. Though, sometimes, I found it's not that easy for me to get the concept for what we are doing and the purpose to solve this and that equations...,etc., and eventually getting lost in the course. While I go back to read the notes, I will get lost in the math again. More explanation and interpretation of physics / quantitative pictures would help us to understand the essence for these stochastic problems.

#### 15. What one concept did you take from this class that will shape your future?

- Differential Chapman-Kolmogorov equation, I guess. Presumably the most ubiquitous equation ever.

- Fokker-planck Equation
- Good to see the connection between the Master, Focker-Planck, and Langevin equations explained in a concise way. First time seeing stochastic calculus.
- stochastic
- The power and generality of the generating function approach. I had been exposed to generating functions in probability theory before, but had never actually used them to solve equations.

16. Do you have any other comments to add to your evaluation?

*Please provide any additional constructive comments*

- Hope Prof. Arovas can talk about spin dynamics.
- I liked the fun topics. I think scaling analysis by itself is important enough to warrant a good discussion, but much time wasn't spent on that.
- Overall great!

Please note that any responses or comments submitted by evaluators do not necessarily reflect the opinions of instructors, Physics, Academic Affairs, or UC San Diego. Responses and comments are made available without auditing or editing, and they may not be modified or deleted, to ensure that each evaluator has an opportunity to express his or her opinion.