

# Physics and Astronomy Student Union



## Introduction

The Physics & Astronomy Student Union (PASU) represents all undergraduate students enrolled in PHY and AST courses. To find out more about PASU, drop by their office in MP 217.

Editor

## AST 101H1S THE SUN AND ITS NEIGHBOURS

Instructor(s): B. Abraham; M. van Kerkwijk

Enr: 556	Resp: 190							Retake: 74%
	1	2	3	4	5	6	7	Mean
<b>Abraham:</b>								
Presents	0	0	1	2	15	40	39	6.2
Explains	0	0	0	4	17	38	38	6.1
Communicates	0	0	1	2	9	32	53	6.3
Teaching	0	0	1	3	14	39	40	6.1
<b>van Kerkwijk:</b>								
Presents	1	2	11	19	28	23	12	4.9
Explains	2	5	13	23	27	20	6	4.6
Communicates	3	4	7	24	30	16	13	4.8
Teaching	1	3	11	20	26	30	6	4.8
<b>Course:</b>								
Workload	2	5	17	59	9	5	0	3.8
Difficulty	1	7	19	50	13	5	2	3.9
Learn Exp	1	0	3	29	27	25	12	5.1

Students were enthusiastic about Abraham's teaching both the material presented and his enthusiasm.

Students generally found van Kerkwijk's lectures to be enjoyable, although a few found him a little hard to understand at times.

## AST 121H1S ORIGIN AND EVOLUTION OF THE UNIVERSE

Instructor(s): R. Abraham

Enr: 106	Resp: 58							Retake: 88%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	0	10	26	63	6.5
Explains	0	0	0	5	17	34	43	6.2
Communicates	0	0	0	1	0	17	81	6.8
Teaching	0	0	0	0	3	40	56	6.5
Workload	1	15	18	48	12	3	0	3.6
Difficulty	0	6	12	36	29	12	3	4.4
Learn Exp	0	0	0	4	16	44	34	6.1

Everyone found the course interesting and found Abraham to be an excellent teacher. Abraham was helpful, enthusiastic and interesting.

## AST 201H1S STARS AND GALAXIES

Instructor(s): R. Abraham

Enr: 664	Resp: 126							Retake: 80%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	2	16	35	45	6.2
Explains	0	0	0	0	17	37	42	6.2
Communicates	0	0	0	1	7	39	51	6.4
Teaching	0	0	0	1	16	37	43	6.2

## ASSU ANTI-CALENDAR 181

Workload	2	1	20	57	10	3	4	4.0
Difficulty	1	2	15	60	10	4	4	4.1
Learn Exp	0	0	0	25	24	24	24	5.5

Many students found the course very fun, interesting and informative. Abraham was an enthusiastic instructor who gave clear lectures that were very enjoyable. Students found the weekly online quizzes helpful for keeping them on top of their studies.

Instructor(s): M. van Kerkwijk

Enr: 664	Resp: 104							Retake: 81%
	1	2	3	4	5	6	7	Mean
Presents	0	0	3	15	22	32	24	5.6
Explains	0	0	10	15	27	23	22	5.3
Communicates	0	0	5	13	33	20	25	5.4
Teaching	0	0	2	10	31	28	25	5.6
Workload	5	0	18	55	11	6	2	4.0
Difficulty	4	2	12	56	14	7	2	4.1
Learn Exp	0	0	0	18	21	29	30	5.7

van Kerkwijk was a good instructor overall, but some found him hard to comprehend at times.

## AST 210H1F THE HISTORY AND NATURE OF ASTRONOMICAL DISCOVERY

Instructor(s): W. Clarke

Enr: 123	Resp: 84							Retake: 84%
	1	2	3	4	5	6	7	Mean
Presents	1	0	4	12	24	40	17	5.5
Explains	1	1	1	7	20	45	22	5.7
Communicates	1	0	1	4	15	41	35	6.0
Teaching	0	0	1	7	15	53	22	5.9
Workload	6	8	19	54	7	3	0	3.6
Difficulty	1	6	21	60	6	2	1	3.8
Learn Exp	0	0	1	39	29	20	9	5.0

Clarke was a very good instructor.

## AST 210H1S THE HISTORY OF NATURE OF ASTRONOMICAL DISCOVERY

Instructor(s): W. Clarke

Enr: 161	Resp: 82							Retake: 92%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	7	31	37	23	5.8
Explains	0	0	0	6	22	35	35	6.0
Communicates	0	0	0	4	17	34	43	6.2
Teaching	0	0	1	6	13	42	36	6.1
Workload	4	6	20	64	3	0	0	3.6
Difficulty	3	7	10	60	15	1	0	3.8
Learn Exp	0	0	0	26	29	28	15	5.3

Students were consistently appreciative of the instructor's ability to explain difficult concepts clearly, and the overall opinion of the students (science and non-science) was very positive.

Some students did suggest that the overheads used in class be put on the web.

## AST 221H1F SOLAR SYSTEM AND STELLAR ASTRONOMY

Instructor(s): Y. Wu

Enr: 39	Resp: 30							Retake: 81%
	1	2	3	4	5	6	7	Mean
Presents	0	0	10	10	20	48	10	5.4
Explains	0	7	14	21	42	10	3	4.5
Communicates	3	0	3	3	25	57	7	5.5
Teaching	3	0	0	10	34	44	6	5.3
Workload	0	0	3	34	44	10	6	4.8
Difficulty	0	0	0	32	28	21	17	5.2
Learn Exp	3	0	11	30	30	15	7	4.6

## 182 PHYSICS & ASTRONOMY

### AST 222H1S GALACTIC AND EXTRAGALACTIC ASTRONOMY

Instructor(s): J. Dubinski

Enr: 29	Resp: 14							Retake: 92%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	14	50	21	14	5.4
Explains	0	0	0	7	50	35	7	5.4
Communicates	0	0	0	0	35	50	14	5.8
Teaching	0	0	0	0	57	35	7	5.5
Workload	0	0	14	64	14	7	0	4.1
Difficulty	0	0	0	57	28	14	0	4.6
Learn Exp	0	0	0	38	53	7	0	4.7

### AST 251H1F LIFE ON OTHER WORLDS

Instructor(s): C. Matzner

Enr: 71	Resp: 40							Retake: 75%
	1	2	3	4	5	6	7	Mean
Presents	2	0	15	10	32	32	17	5.4
Explains	0	2	2	22	40	22	10	5.1
Communicates	2	2	2	15	17	41	17	5.4
Teaching	0	0	2	22	22	37	15	5.4
Workload	0	2	12	62	10	10	2	4.2
Difficulty	0	0	15	65	12	5	2	4.2
Learn Exp	2	0	2	35	23	26	8	4.9

Matzner was thought to be engaging and knowledgeable by most students. Students felt that the slides should have been more visually appealing and available on the web prior to or right after the lectures. Many students agreed that the midterm did not cover relevant class material and was harshly marked.

### AST 251H1S LIFE ON OTHER WORLDS

Instructor(s): C. Matzner

Enr: 93	Resp: 54							Retake: 78%
	1	2	3	4	5	6	7	Mean
Presents	0	0	1	5	25	48	18	5.8
Explains	0	0	1	9	29	44	14	5.6
Communicates	0	0	1	3	18	40	35	6.0
Teaching	0	0	0	5	22	56	15	5.8
Workload	0	3	24	57	9	1	3	3.9
Difficulty	0	1	20	50	16	7	3	4.2
Learn Exp	0	0	4	32	22	26	14	5.1

Matzner was very enthusiastic and approachable. Students also found the material very interesting.

### AST 320H1S INTRODUCTION TO ASTROPHYSICS

Instructor(s): A. Boothroyd

Enr: 16	Resp: 12							Retake: 50%
	1	2	3	4	5	6	7	Mean
Presents	0	0	25	8	41	16	8	4.8
Explains	0	16	25	41	8	0	8	3.8
Communicates	0	0	0	33	25	33	8	5.2
Teaching	0	0	8	50	33	0	8	4.5
Workload	0	0	0	16	41	33	8	5.3
Difficulty	0	0	0	16	16	25	41	5.9
Learn Exp	11	0	11	55	11	11	0	3.9

The instructor was organized and prepared for lectures. He seemed to be very knowledgeable in the subject area. The material taught was too difficult for an introductory class. The pace of lectures was very quick and more examples were needed. Having tutorials and a TA would have been very useful. The midterm was too long for the allotted time.



### AST 325H1Y PRACTICAL ASTRONOMY

Instructor(s): S. Mochnacki

Enr: 15	Resp: 9							Retake: 88%
	1	2	3	4	5	6	7	Mean
Presents	0	0	22	33	22	22	0	4.4
Explains	0	0	11	22	44	11	11	4.9
Communicates	0	0	0	0	11	44	44	6.3
Teaching	0	0	0	11	33	44	11	5.6
Workload	0	0	11	55	22	11	0	4.3
Difficulty	0	0	11	66	22	0	0	4.1
Learn Exp	0	0	0	16	50	33	0	5.2

Students appreciated Mochnacki's knowledge and enthusiasm.

### AST 420H1F TOPICAL ASTROPHYSICS

Instructor(s): R. Carlberg

Enr: 8	Resp: 5							Retake: 100%
	1	2	3	4	5	6	7	Mean
Presents	0	0	20	60	20	0	0	4.0
Explains	0	0	0	20	40	40	0	5.2
Communicates	0	0	0	0	0	40	60	6.6
Teaching	0	0	0	20	40	40	0	5.2
Workload	0	0	60	40	0	0	0	3.4
Difficulty	0	20	0	80	0	0	0	3.6
Learn Exp	0	0	20	40	0	40	0	4.6

### PHY 100H1F THE MAGIC OF PHYSICS

Instructor(s): V. Deyirmenjian

Enr: 120	Resp: 73							Retake: 84%
	1	2	3	4	5	6	7	Mean
Presents	0	0	1	4	19	30	44	6.1
Explains	0	0	1	9	8	30	73	6.2
Communicates	0	0	0	4	4	9	81	6.7
Teaching	0	0	0	4	8	30	56	6.4
Workload	0	0	9	69	9	8	2	4.2
Difficulty	0	1	6	47	29	11	4	4.5
Learn Exp	0	0	1	16	25	27	29	5.7

Students all enjoyed the instructor's enthusiasm. Many commented on the difficulty of the material, but the instructor made the course enjoyable and accessible.

### PHY 110Y1Y BASIC PHYSICS

Instructor(s): R. Logan

Enr: 140	Resp: 39							Retake: 32%
	1	2	3	4	5	6	7	Mean
Presents	7	7	10	38	17	12	5	4.1
Explains	7	2	18	34	18	13	5	4.1
Communicates	0	0	2	25	23	25	23	5.4
Teaching	5	2	10	17	25	25	12	4.8
Workload	0	5	15	61	12	2	2	4.0
Difficulty	0	7	10	53	17	7	2	4.2
Learn Exp	0	3	14	46	17	14	3	4.4

Most students felt Logan was very nice, caring and funny. Although most students found lectures enjoyable, some commented that Logan had poor communication skills and made the material confusing.

The labs were generally considered useless and unrelated to the course material.

Instructor(s): R. Logan

Enr: 96	Resp: 14							Retake: 38%
	1	2	3	4	5	6	7	Mean
Presents	7	7	14	42	14	0	14	4.1
Explains	7	14	7	50	14	7	0	3.7
Communicates	0	14	7	14	28	21	14	4.8

Teaching	14	0	7	28	21	21	7	4.4
Workload	0	7	14	42	7	28	0	4.4
Difficulty	0	14	0	28	21	35	0	4.6
Learn Exp	15	0	7	38	7	23	7	4.2

Suggestions for improvement included: the addition of a website, more repetition regarding the intuitive "meaning" of difficult equations, and more in-class demonstrations of physics in action. Students also felt the lab material was not sufficiently related to the lecture material.

Also, some expressed dissatisfaction with the testing method; they felt multiple choice did not allow for marks when some ability to partially solve a problem was demonstrated.

### PHY 138Y1Y PHYSICS FOR THE LIFE SCIENCES I

Instructor(s): V. Deyirmenjian

	Resp: 691							Retake: 25%
	1	2	3	4	5	6	7	Mean
Presents	0	1	3	13	33	31	16	5.4
Explains	1	2	8	17	29	27	14	5.1
Communicates	0	0	0	3	8	24	62	6.4
Teaching	0	0	2	13	31	32	18	5.5
Workload	0	1	4	48	22	17	6	4.7
Difficulty	0	0	0	11	27	35	25	5.7
Learn Exp	5	7	16	41	17	7	3	4.0

Deyirmenjian was very enthusiastic and readily available to help. However, the term test was extremely difficult and students felt that it did not accurately reflect the students' understanding. Also, some students would have liked more examples done in class.

Instructor(s): T. Key; W. Trischuk

	Resp: 348							Retake: 34%
	1	2	3	4	5	6	7	Mean

#### Key:

Presents	1	2	5	22	32	27	8	5.0
Explains	2	1	6	20	32	24	11	5.0
Communicates	0	0	1	10	29	33	24	5.6
Teaching	1	0	3	13	26	34	18	5.4

#### Trischuk:

Presents	2	3	8	21	26	25	12	4.9
Explains	1	2	11	26	31	19	7	4.7
Communicates	2	5	10	30	27	15	7	4.5
Teaching	1	2	9	25	31	20	8	4.8

#### Course:

Workload	0	0	2	39	39	12	4	4.7
Difficulty	0	0	0	21	32	29	14	5.3
Learn Exp	2	4	13	48	19	7	4	4.2

Students felt that Key had excellent notes and was readily available for consultation outside of class. However, some felt that he made too many mistakes in lectures and on tests.

Student thought Trischuk spoke too quickly at times, and Powerpoint was not an effective teaching tool.

### PHY 140Y1Y FOUNDATIONS OF PHYSICS

Instructor(s): S. Morris

	Resp: 115							Retake: 75%
	1	2	3	4	5	6	7	Mean
Presents	2	5	7	26	26	24	6	4.7
Explains	3	1	9	22	23	22	16	4.9
Communicates	0	0	0	2	5	16	75	6.7
Teaching	0	0	0	13	21	33	27	5.7
Workload	0	0	0	30	27	25	15	5.2
Difficulty	0	0	0	19	27	38	14	5.5
Learn Exp	0	2	3	17	26	40	10	5.3

Most found Morris very approachable and extremely funny. Students felt that more examples were needed. "Prof Morris puts the fun in fundamental forces!"

Instructor(s): M. Luke

	Resp: 85							Retake: 67%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	14	26	35	23	5.7
Explains	1	1	6	13	24	31	21	5.4
Communicates	0	0	2	3	24	40	27	5.9
Teaching	0	0	3	8	27	31	28	5.7
Workload	0	0	1	15	20	35	27	5.7
Difficulty	0	0	1	7	22	28	39	6.0
Learn Exp	0	1	5	16	25	28	22	5.4

Luke was a good instructor. Students felt the problem sets and midterm were too hard.

### PHY 238Y1Y PHYSICS FOR THE LIFE SCIENCES II

Instructor(s): T. Antimirova; R. Serbanescu

	Resp: 19							Retake: 94%
	1	2	3	4	5	6	7	Mean
<u>Antimirova:</u>								
Presents	0	5	0	27	27	16	22	5.2
Explains	0	5	21	15	10	26	21	4.9
Communicates	0	0	21	5	10	26	36	5.5
Teaching	0	10	5	15	10	31	26	5.3
<u>Serbanescu:</u>								
Presents	0	0	0	0	15	31	52	6.4
Explains	0	0	0	10	5	31	52	6.3
Communicates	0	0	0	5	10	36	47	6.3
Teaching	0	0	0	5	5	26	63	6.5
<u>Course:</u>								
Workload	10	10	15	52	10	0	0	3.4
Difficulty	5	15	15	47	15	0	0	3.5
Learn Exp	0	0	0	54	9	36	0	4.8

Students generally liked the course but thought Antimirova's lectures were sometimes hard to follow. They would have also liked to see more example problems.

Most students said Serbanescu was a great instructor and enjoyed the course.

### PHY 252H1S THERMAL PHYSICS

Instructor(s): A. Peet

	Resp: 42							Retake: 78%
	1	2	3	4	5	6	7	Mean
Presents	0	0	0	9	14	42	33	6.0
Explains	0	2	0	14	40	33	9	5.3
Communicates	0	2	0	7	11	50	28	5.9
Teaching	0	0	2	4	23	52	16	5.8
Workload	2	0	7	30	40	14	4	4.7
Difficulty	2	2	2	19	31	26	14	5.1
Learn Exp	0	0	0	21	40	16	21	5.4

Peet was a very good, enthusiastic and organized instructor.

### PHY 255H1F OSCILLATIONS AND WAVES

Instructor(s): R. Marjoribanks

	Resp: 53							Retake: 90%
	1	2	3	4	5	6	7	Mean
Presents	0	2	0	6	40	32	18	5.6
Explains	1	1	0	7	19	45	23	5.7
Communicates	2	0	0	4	16	55	22	5.9
Teaching	2	0	0	4	36	48	0	5.6
Workload	1	0	3	60	27	5	0	4.3
Difficulty	1	0	1	62	27	5	0	4.3
Learn Exp	0	0	2	48	15	23	10	4.9

Students generally enjoyed Marjoribanks' enthusiasm, especially his use of examples. Some thought that the problem sets were not reflective of the course and some material was summarized from the textbook.

## 184 PHYSICS & ASTRONOMY

### PHY 305H1F ELECTRONICS LAB I

Instructor(s): K. Strong

	Enr: 7							Mean
	1	2	3	4	5	6	7	
Presents	0	0	16	0	16	50	16	5.5
Explains	0	0	16	16	16	50	0	5.0
Communicates	0	0	0	0	33	33	33	6.0
Teaching	0	0	0	16	16	50	16	5.7
Workload	0	0	0	16	50	16	16	5.3
Difficulty	0	0	16	50	16	16	0	4.3
Learn Exp	0	25	0	25	0	25	25	4.8

Students felt that Strong was a very helpful and thorough lecturer. However, some lecture topics covered too much material that was not always relevant to the labs. Students agreed the course was essential to their education of physics.

### PHY 307/407H1F INTRODUCTION TO COMPUTATIONAL PHYSICS

Instructor(s): B. Holdom

	Enr: 27							Mean
	1	2	3	4	5	6	7	
Presents	0	7	0	7	37	33	14	5.3
Explains	0	0	7	25	29	18	18	5.1
Communicates	0	0	11	33	14	22	18	5.0
Teaching	0	0	0	7	34	38	19	5.7
Workload	3	15	23	30	19	3	3	3.7
Difficulty	0	14	22	25	29	3	3	4.0
Learn Exp	9	0	4	13	40	18	13	4.9

Holdom was very helpful. The textbook was not useful and more time was needed to complete the labs.

### PHY 308H1S TIME SERIES ANALYSIS

Instructor(s): B. Milkereit

	Enr: 15							Mean
	1	2	3	4	5	6	7	
Presents	0	12	50	12	12	12	0	3.6
Explains	0	37	50	12	0	0	0	2.8
Communicates	0	0	12	75	0	0	12	4.2
Teaching	0	0	37	25	37	0	0	4.0
Workload	0	0	12	75	0	12	0	4.1
Difficulty	0	0	12	50	37	0	0	4.2
Learn Exp	0	0	28	42	28	0	0	4.0

### PHY 315H1S RADIATION IN PLANETARY ATMOSPHERES

Instructor(s): K. Strong

	Enr: 10							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	0	20	60	20	6.0
Explains	0	0	0	0	40	40	20	5.8
Communicates	0	0	0	0	0	60	40	6.4
Teaching	0	0	0	0	20	60	20	6.0
Workload	0	0	0	60	40	0	0	4.4
Difficulty	0	0	0	80	20	0	0	4.2
Learn Exp	0	0	0	33	0	66	0	5.3

### PHY 341H1S PHYSICAL SCIENCE IN CONTEMPORARY SOCIETY

Instructor(s): S. Morris

	Enr: 9							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	0	87	12	0	5.1
Explains	0	0	0	12	50	25	12	5.4
Communicates	0	0	0	0	42	42	14	5.7
Teaching	0	0	0	0	25	75	0	5.8
Workload	0	0	12	75	12	0	0	4.0
Difficulty	0	0	12	75	0	0	12	4.2

Learn Exp	0	0	0	0	50	37	12	5.6
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Students found the course interesting, and liked Morris' teaching style.

### PHY 346H1S INTERMEDIATE BIOPHYSICS

Instructor(s): K. Norwich

	Enr: 13							Mean
	1	2	3	4	5	6	7	
Presents	0	0	22	22	11	11	33	5.1
Explains	0	11	11	33	11	0	33	4.8
Communicates	0	0	11	1	111	22	44	5.8
Teaching	0	0	11	22	22	11	33	5.3
Workload	0	0	11	55	22	11	0	4.3
Difficulty	0	0	11	33	22	11	22	5.0
Learn Exp	0	11	11	44	11	11	11	4.3

### PHY 351H1S CLASSICAL MECHANICS

Instructor(s): T. Shepherd

	Enr: 72							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	3	26	40	28	5.9
Explains	0	0	5	13	32	36	11	5.3
Communicates	0	1	3	19	25	38	11	5.3
Teaching	0	0	1	7	21	56	11	5.7
Workload	0	1	1	28	36	25	5	5.0
Difficulty	0	0	1	23	34	32	7	5.2
Learn Exp	0	0	7	29	31	19	12	5.0

Students felt that Shepherd spoke too quickly at times. The required textbook was useless.

### PHY 353H1S ELECTROMAGNETIC WAVES

Instructor(s): E. Poppitz

	Enr: 32							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	4	33	47	14	5.7
Explains	0	0	4	0	33	42	19	5.7
Communicates	0	0	0	4	0	28	66	6.6
Teaching	0	0	0	4	9	52	33	6.1
Workload	0	0	4	13	45	18	18	5.3
Difficulty	0	0	4	42	28	19	4	4.8
Learn Exp	0	0	0	26	21	31	21	5.5

Poppitz was thought of as one of the best in the department.

### PHY 355H1F QUANTUM MECHANICS I

Instructor(s): J. Sipe

	Enr: 89							Mean
	1	2	3	4	5	6	7	
Presents	0	0	4	8	22	32	32	5.8
Explains	1	1	10	10	29	22	22	5.3
Communicates	0	0	0	0	2	24	72	6.7
Teaching	0	0	1	5	14	39	39	6.1
Workload	0	0	5	31	31	22	9	5.0
Difficulty	0	0	1	9	22	36	29	5.8
Learn Exp	1	0	5	18	30	35	10	5.2

Almost every student commented on Sipe's enthusiasm and his clarity. Despite the difficult nature of the course, students did not hesitate to praise him, calling him "amazingly amazing" and "the best prof ever".

Several students thought the tutorial was not very useful and the course should have 3 lecture hours a week as opposed to 2.



**PHY 357H1S NUCLEAR AND PARTICLE PHYSICS**

Instructor(s): B. Orr

	Resp: 16							Retake: 80%
	1	2	3	4	5	6	7	
Presents	0	6	6	13	40	33	0	4.9
Explains	6	0	13	6	40	33	0	4.7
Communicates	0	0	0	0	0	53	46	6.5
Teaching	0	0	0	14	7	78	0	5.6
Workload	0	0	0	75	6	18	0	4.4
Difficulty	0	0	0	40	33	13	13	5.0
Learn Exp	0	0	0	40	33	26	0	4.9

Students felt that the lecture notes should have been posted sooner. The material was very interesting.

**PHY 358H1S ATOMS, MOLECULES AND SOLIDS**

Instructor(s): A. Griffin

	Resp: 25							Retake: 100%
	1	2	3	4	5	6	7	
Presents	0	0	0	12	40	28	20	5.6
Explains	0	0	0	4	32	24	40	6.0
Communicates	0	0	0	0	4	28	68	6.6
Teaching	0	0	0	0	16	44	40	6.2
Workload	0	0	16	60	24	0	0	4.1
Difficulty	0	4	12	44	28	12	0	4.3
Learn Exp	0	0	0	15	36	10	36	5.7

Many students said that Griffin was the best instructor they have ever had and even pleaded for him not to retire.

**PHY 359H1S PHYSICS OF THE EARTH**

Instructor(s): J. Mound

	Resp: 11							Retake: 70%
	1	2	3	4	5	6	7	
Presents	0	0	0	0	36	54	9	5.7
Explains	0	0	0	18	18	45	18	5.6
Communicates	0	0	0	18	9	18	54	6.1
Teaching	0	0	0	9	18	63	9	5.7
Workload	0	18	9	63	9	0	0	3.6
Difficulty	0	18	9	72	0	0	0	3.5
Learn Exp	0	10	20	10	40	10	10	4.5

Mound was very enthusiastic. Students felt that a textbook would have enhanced the course.

**PHY 409H1S QUANTUM METHODS USING COMPUTER ALGEBRA**

Instructor(s): P. Savaria

	Resp: 13							Retake: 41%
	1	2	3	4	5	6	7	
Presents	0	8	8	25	25	33	0	4.7
Explains	0	0	27	9	36	27	0	4.6
Communicates	0	0	0	8	16	75	0	5.7
Teaching	0	0	0	18	9	63	9	5.6
Workload	0	0	0	54	18	27	0	4.7
Difficulty	0	0	9	72	9	9	0	4.2
Learn Exp	0	0	0	37	12	37	12	5.2

**PHY 457H1F QUANTUM MECHANICS II**

Instructor(s): M. Luke

	Resp: 30							Retake: 86%
	1	2	3	4	5	6	7	
Presents	0	0	3	3	7	28	57	6.3
Explains	0	0	3	3	17	37	37	6.0
Communicates	0	0	0	3	10	39	46	6.3
Teaching	0	0	3	7	3	25	60	6.3
Workload	0	0	0	26	26	33	13	5.3

Difficulty	0	0	0	24	34	34	6	5.2
Learn Exp	0	0	4	9	13	40	31	5.9

Luke was considered excellent by most of the students. Luke was very well-organized and available for consultation. The problem sets were generally considered too long and difficult.

**PHY 459H1F MACROSCOPIC PHYSICS**

Instructor(s): P. Peltier

	Resp: 10							Retake: 20%
	1	2	3	4	5	6	7	
Presents	0	10	10	0	40	40	0	4.9
Explains	0	0	30	30	30	10	0	4.2
Communicates	0	0	0	0	11	77	11	6.0
Teaching	0	0	10	30	30	30	0	4.8
Workload	0	10	0	40	10	0	40	5.1
Difficulty	0	0	0	0	10	20	70	6.0
Learn Exp	0	11	11	44	22	11	0	4.1

Solutions to the problem sets never became available. The evaluations were unfair and mark distributions were skewed.

**PHY 460H1S NONLINEAR PHYSICS**

Instructor(s): T. Shepherd

	Resp: 9							Retake: 100%
	1	2	3	4	5	6	7	
Presents	0	0	0	12	0	75	12	5.9
Explains	0	0	0	12	12	62	12	5.8
Communicates	0	0	0	12	37	25	25	5.6
Teaching	0	0	0	0	25	50	25	6.0
Workload	0	0	0	37	62	0	0	4.6
Difficulty	0	0	0	0	44	44	11	5.7
Learn Exp	0	0	0	0	66	22	11	5.4

Shepherd was a very good instructor who clearly explained material in a well-organized manner. He was very enthusiastic. At times, he lectured too quickly.

**PHY 480H1S BASIC STATISTICAL MECHANICS**

Instructor(s): M. Walker

	Resp: 18							Retake: 94%
	1	2	3	4	5	6	7	
Presents	0	0	5	0	22	50	22	5.8
Explains	0	0	5	0	27	50	16	5.7
Communicates	5	0	0	0	44	44	5	5.3
Teaching	0	0	0	5	22	55	16	5.8
Workload	0	16	38	38	0	5	0	3.4
Difficulty	0	5	27	38	16	11	0	4.0
Learn Exp	0	7	0	46	7	30	7	4.8

**PHY 483H1F RELATIVITY THEORY I**

Instructor(s): C. Dyer

	Resp: 23							Retake: 80%
	1	2	3	4	5	6	7	
Presents	0	6	56	12	12	12	0	3.7
Explains	0	0	31	43	18	0	6	4.1
Communicates	0	0	0	0	25	37	37	6.1
Teaching	0	0	0	25	50	18	6	5.1
Workload	0	0	0	53	33	13	0	4.6
Difficulty	0	0	6	13	53	20	6	5.1
Learn Exp	0	0	0	35	28	35	0	5.0

It would have been useful if more notes had been available online.

## 186 PHYSICS & ASTRONOMY

### PHY 487H1S CONDENSED MATTER PHYSICS

Instructor(s): A. Griffin

	Resp: 10							Mean
	1	2	3	4	5	6	7	
Presents	0	0	10	0	40	10	40	5.7
Explains	0	0	0	0	10	50	40	6.3
Communicates	0	0	0	0	0	10	90	6.9
Teaching	0	0	0	0	0	40	60	6.6
Workload	0	0	11	77	11	0	0	4.0
Difficulty	0	0	11	66	11	11	0	4.2
Learn Exp	0	0	0	25	12	37	25	5.6

Griffin was an excellent instructor.

### PHY 489H1F INTRODUCTION TO HIGH ENERGY PHYSICS

Instructor(s): W. Trischuk

	Resp: 7							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	28	28	28	14	5.3
Explains	0	14	0	28	42	0	14	4.6
Communicates	0	0	0	28	0	57	14	5.6
Teaching	0	14	0	14	42	14	14	4.9
Workload	0	0	33	66	0	0	0	3.7
Difficulty	0	0	33	66	0	0	0	3.7
Learn Exp	0	0	16	50	0	16	16	4.7

Students generally enjoyed this course. However, they found the overheads difficult to follow. Students lost focus and had trouble taking notes due to the speed of the lectures. On the plus side, grade expectations were high according to students.

### PHY 491H1S CURRENT INTERPRETATIONS OF QUANTUM MECHANICS

Instructor(s): J. Sipe

	Resp: 7							Mean
	1	2	3	4	5	6	7	
Presents	0	0	0	0	14	42	42	6.3
Explains	0	0	0	0	50	33	16	5.7
Communicates	0	0	0	0	0	42	57	6.6
Teaching	0	0	0	0	28	42	28	6.0
Workload	0	0	14	14	42	14	14	5.0
Difficulty	0	0	0	14	0	57	28	6.0
Learn Exp	0	0	0	0	14	28	57	6.4

Sipe knew the material well. Students would have preferred less use of overheads. The written course notes were quite good, however, it would have been nice to have course notes for all the material covered.

