Initial Report

Last Modified: 11/10/2014

1. I took the course in

#	Answer	Bar	Response	%
1	2013		20	26%
2	2012		10	13%
3	2011		11	14%
4	2010		10	13%
5	2009		12	16%
6	2008		6	8%
7	2007		8	10%
	Total		77	

Statistic	Value
Min Value	1
Max Value	7
Mean	3.44
Variance	4.14
Standard Deviation	2.04
Total Responses	77

2. My level of computer-math experience prior to taking this course was

#	Answer	Bar	Response	%
1	1 = No prior experience		28	36%
2	2		33	42%
3	3		13	17%
4	4 = Extensive prior experience		4	5%
	Total		78	

Statistic	Value
Min Value	1
Max Value	4
Mean	1.91
Variance	0.73
Standard Deviation	0.86
Total Responses	78

3. My level of computer-math facility after finishing this course was

#	Answer	Bar	Response	%
1	1 = Inadequate for needs I encountered later		1	1%
2	Click to write Choice 2		8	10%
3	Click to write Choice 3		31	40%
4	4 = Adequate for needs I encountered later		38	49%
	Total		78	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.36
Variance	0.52
Standard Deviation	0.72
Total Responses	78

4. Completing this course benefited my work in later courses

#	Answer	Bar	Response	%
1	1 = Not really		6	8%
2	Click to write Choice 2		6	8%
3	Click to write Choice 3		23	30%
4	4 = Significantly		42	55%
	Total		77	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.31
Variance	0.85
Standard Deviation	0.92
Total Responses	77

5. Completing this course benefited my work in later research

#	Answer	Bar	Response	%
1	1 = Not really		7	9%
2	Click to write Choice 2		7	9%
3	Click to write Choice 3		31	40%
4	4 = Significantly		32	42%
	Total		77	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.14
Variance	0.86
Standard Deviation	0.93
Total Responses	77

6. Completing this course led me to take more advanced science course(s) that I might not otherwise have considered

#	Answer	Bar	Response	%
1	1 = Not really		16	21%
2	Click to write Choice 2		11	14%
3	Click to write Choice 3		19	24%
4	4 = Really		32	41%
	Total		78	

Statistic	Value
Min Value	1
Max Value	4
Mean	2.86
Variance	1.37
Standard Deviation	1.17
Total Responses	78

7. Completing this course contributed to making broader career decisions

#	Answer	Bar	Response	%
1	1 = Not really		11	14%
2	Click to write Choice 2		12	16%
3	Click to write Choice 3		19	25%
4	4 = Really		35	45%
	Total		77	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.01
Variance	1.20
Standard Deviation	1.09
Total Responses	77

8. Completing this course conferred skills that made me more attractive to research labs and/or graduate programs

#	Answer	Bar	Response	%
1	1 = I don't think so		5	6%
2	Click to write Choice 2		14	18%
3	Click to write Choice 3		19	25%
4	4 = I think so		39	51%
	Total		77	

Statistic	Value
Min Value	1
Max Value	4
Mean	3.19
Variance	0.92
Standard Deviation	0.96
Total Responses	77

9. [Optional] Elaborations on these answers, answers to other questions that should have been asked.

Text Response
Just really briefly: There are a lot of classes at Penn that give students the standard experience. Intro Bio, Organic Chem, Calculus, etc. This course (by far one of the best I've ever taken) accomplished an impressive synthesis of high-level biology and physics, acquainting me with the real power of interdisciplinary academia. Courses like this one should be highly encouraged.
I have difficulty assigning a lot of credit specifically to this course for all of the research endeavors I've made and advanced classes I've taken, but it was still undoubtedly a great course that fostered curiosity about biological applications of math and physics.
I would have never pursued the biophysical sciences if I had not taken this class. I am now in a PhD program in biophysics because of how much I loved this class. Prof Nelson was an excellent instructor, and his classes taught me to think in completely different ways about science. I often call the class my most influential class while at Penn.
Will never forget it! Top class I took at penn!
The skills and principles I learned about allowed me to excel at multiple pharmaceutical internships. My expertise is in experimental lab chemistry but the statistics and matlab experience I gained in phys280 allowed me to branch out and do some other experiences in computational chemistry. This class was extremely formative in my science career and I take forward things I learned into my PhD
The skills and principles I learned about allowed me to excel at multiple pharmaceutical internships. My expertise is in experimental lab chemistry but the statistics and matlab experience I gained in phys280 allowed me to branch out and do some other experiences in computational chemistry. This class was extremely formative in my science career and I take forward things I learned into my PhD
I'm now a graduate student in ecology and evolutionary biology at Princeton University. My expertise is in fieldwork and empirical science; this course significantly helped me in three ways: by helping me to better and more easily grasp statistical models of data "from the bottom up" (i.e. based on a fundamental understanding of the probability distributions that are the foundation for the model); by providing me with the computational skills to dabble in simulation and theory to my hearts' content; and by encouraging me to look at the messy biological world conceptually using tractable models.
I'm now a graduate student in ecology and evolutionary biology at Princeton University. My expertise is in fieldwork and empirical science; this course significantly helped me in three ways: by helping me to better and more easily grasp statistical models of data "from the bottom up" (i.e. based on a fundamental understanding of the probability distributions that are the foundation for the model); by providing me with the computational skills to dabble in simulation and theory to my hearts' content; and by encouraging me to look at the messy biological world conceptually using tractable models.
Really loved this class. Continue to recommend it to current students. Nelson is a great professor.
Quick dimensional analysis has saved so much time (and so many points) in future classes!
In particular, the skills in building physical models and my understanding of probability/statistics greatly improved my understanding of later courses, as well as proficiency with mathematical computations using programs like MATLAB.
It was difficult to answer some of these questions because my general feelings about the material I learned in biophysics and science in general did not change significantly after the course. I had a high respect for the physical methods in biology before the course and the course only confirmed these feelings. Perhaps if I had taken the course as a freshman it would have had the chance to have an impact on my interests but by the time I took it as a senior my interests had already crystallized in the physical sciences as they relate to biology and therefore there was not much work left to be done. Overall, in my opinion, the single greatest factor in the value of a course is how strongly the instructor is able to make an impress upon the students the importance of the subject matter and to inspire them to work hard to master it. Dr. Nelson succeeded in both of these objectives and therefore I rate the course highly in my mind. My only regret is that I did not have more time my senior year at Penn to devote to mastering the material.
This was absolutely the best class I have ever taken. Phil made me believe in the scientific method and rekindled the purpose and goals of basic research for me.
It was a challenging and engaging course that I am very glad I took -- although I'm not a biology or physics student, I found the material interesting and well-explained.
Most useful class I took at Penn!
To this day, I continue to tell people that PHYS 280 with Phil Nelson was one of my favorite courses in my whole time at Penn (finished a bachelor's and master's)
It was really good to take a computer based science course and it did inspire me to take CIS 120 which I may not have taken otherwise. However, MATLAB is not that common in my field as I assume it is in Biophysics. It might be useful to let physicists with different backgrounds develop with their own preferred language. Although I understand the preference for being able to design problems in a language that you know has a solution that is accessible to Sophomores. In addition, in my year(2011) , we spent an incredible amount of time on statistics. I think it would be more useful to give a broader overview of biophysics than drilling into our heads what the mean and variance of the Poisson distribution is.
Still remember the things we went over in this class. The statistics portion was great as was the brief intro to Matlab. Very helpful as a medical student having a quantitative background on some of the physiology we're learning.
My early exposure to Matlab made me more qualified for my research that I am doing currently as well as for other courses I took later on in my undergraduate career.
My valuation of computer-math skills are on the lower end, but that is because I regularly use Matlab on a near daily basis now and Phys 280 was just the first step towards where I am today.
I developed a familiarity and confidence with MATLAB - especially using it to tackle large analysis problems - which still benefits me tremendously today, as a medical student pursuing a master's in clinical research.
Phys 280 was the most useful course I have ever taken. I currently work in predictive marketing analytics, and use the Poisson Process, which was covered in Phys 280 everyday at work. Dr. Nelson framed the course in terms of MLEs and the fundamentals of probabilistic modeling. This framework enabled me to extend my knowledge and derive new statistical models later in my academic career and into my professional career. I also had no knowledge of programming before the course, and now program in R and SQL everyday at work. I learned to program in Phys 280.
While I was drawn to this course because it is about biophysics (which was, and is, my primary scientific interest), the main benefit I took away was the introduction to MATLAB, which has been invaluable to me in my research (I am now a physics Ph.D. student studying biophysics at UCSB).
Having a "mini-introduction" to the course during the few weeks before class starts may be helpful for those that do not have extensive computer-math backgrounds.
Re: 2nd question, I felt more prepared but not entirely prepared for programming applications encountered in later research endeavors, but this is not a fault of the course, the course served as a brief introduction to these skills
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
Phys280 introduced to some extremely important concepts that have become central to my thinking in recent years. No other course I took in the department covers bayesian

reasoning --- an increasingly essential tool.
This was a good course, very unique in its set-up and the accompanying textbook written by the professor (available for free as PDFs, presumably bc it was a work in progress) was very clear and well-written, unlike most actually assigned textbooks which tend to contain weird filler content or be ambiguous, etc. I also enjoyed learning a little Matlab, it was quite fun. I did have some issues applying the knowledge from the class and homeworks to exams. I also remember one of the assignments had us using Matlab to manipulate an image of Dr. Nelson's cat, which is one of the ways the course was particularly charming/endearing (I don't know if this is an appropriate way to describe the course nor if this is helpful commentary).
I am a math / bio major and this was one of
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
This was a fantastic course.
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
This is one of the most rewarding courses I have taken at Penn. This course not only gave me the confidence to take more advanced science classes in the future but also helped inform me on what classes I would find interesting. Since this class emphasized concepts and ideas over facts, my level of retention for this class was a lot higher than for any other class I have taken.
Thanks; this was one of the most enjoyable courses I took at Penn and was very influential in directing the type of graduate study I decided to pursue.

Statistic	Value
Total Responses	36