SmartEvals!

THE GEORGE WASHINGTON UNIVERSITY

Shankar Kulumani Teaching MAE 3145 Undergraduate Orbital Mech & Space Dynamics Lecture sec: 10 2017 Fa

There were: 23 possible respondents.

	Question Text	N	Top Two	My Avg	MAE Avg	MAE SD	Sch Avg	Sch SD	Gen Ed Req	Maj/Prog Req	Interest	Instructor	Fits Schedule	Advisor Rec	Friend Rec	Other		
1	Primary reasons for taking course	17							53%	88%	71%	0%	12%	6%	6%	0%		
									Not At All - 1	2	3	4	Completely - 5	N/A				
3	Covered objectives	16	80%	4.1	4.5	0.8	4.5	0.9	0%	6%	13%	44%	31%	6%				
									Lectures	Discussions	Clickers	Activities	Homework	Labs	Project/Folio	Teamwork	Presentations	Gues Lectur
4	Contributed to learning	18							83%	17%	0%	0%	89%	0%	83%	6%	0%	0%
									Yes	No								
6	Academically prepared	18	78%	0.8	0.8	0.4	0.8	0.4	78%	22%								
									1 Hour Or Less	1-2 Hours	3-4 Hours	5-6 Hours	7-8 Hours	9-10 Hours	11-13 Hours	13-15 Hours	15+ Hours	
7	Time on coursework outside of class	18							0%	0%	0%	0%	6%	28%	17%	11%	39%	
									Memorizing	Applying Basic	Synthesizing	Judgments	Applying New	Solve Problems	Thinking	Teamwork	Reading	Presenta
8	Significant aspects	18							33%	78%	39%	39%	89%	83%	33%	6%	6%	0%
									Not At All - 1	2	3	4	Very - 5	N/A				
10	Intellectual challenge	18	89%	4.7	3.9	1.0	3.9	1.0	0%	0%	11%	11%	78%	0%				
									Little - 1	2	3	4	Lot - 5	N/A				
11	How much learned	18	83%	4.3	3.9	1.1	4.0	1.1	0%	0%	17%	39%	44%	0%				
									Str Disagr - 1	2	3	4	Str Agree - 5					
12	Did best work possible	18	94%	4.7	4.1	0.9	4.2	0.9	0%	0%	6%	17%	78%					
									Str Disagr - 1	2	3	4	Str Agree - 5	N/A				
15	2D Orbital analysis	18	94%	4.6	4.7	0.6	4.7	0.6	0%	0%	6%	28%	67%	0%				
16	3D orbital analysis	18	78%	4.3	4.5	0.8	4.5	0.8	0%	17%	6%	11%	67%	0%				
17	Newtonian physics	18	94%	4.6	4.6	0.6	4.6	0.6	0%	0%	6%	28%	67%	0%				
18	Patched conics	18	67%	4	4.3	0.9	4.3	0.9	6%	0%	28%	22%	44%	0%				
19	Impulsive orbital maneuvers	18	72%	4.2	4.5	0.8	4.5	0.8	0%	0%	28%	28%	44%	0%				
20	Orbital position	18	83%	4.3	4.5	0.7	4.5	0.7	0%	6%	11%	33%	50%	0%				
21	Three-body problem	18	53%	3.4	4.1	1.1	4.1	1.1	11%	22%	11%	17%	33%	6%				
22	Matlab STK	18	15%	2	3.6	1.5	3.6	1.5	44%	6%	11%	0%	11%	28%				
									Not At All - 1	2	3	4	Very - 5	N/A				
23	Knowledgeable (Kulumani)	18	89%	4.7	4.6	0.8	4.6	0.8	0%	6%	6%	6%	83%	0%				
									Low - 1	2	3	4	High - 5	N/A				
24	Enthusiasm (Kulumani)	18	71%	3.9	4.3	1.0	4.4	1.0	6%	11%	11%	22%	44%	6%				
									Str Disagr - 1	2	3	4	Str Agree - 5	N/A				
25	Treats students with respect (Kulumani)	18	56%	3.4	4.4	1.0	4.5	0.9	6%	22%	17%	33%	22%	0%				
									Not Fair - 1	2	3	4	Very Fair - 5	N/A				
26	Fair grading (Kulumani)	18	61%	3.6	4.2	1.1	4.3	1.0	0%	11%	28%	56%	6%	0%				
									Not At All - 1	2	3	4	Excellent - 5	N/A				
	Feedback																	

27	Feedback (Kulumani)	18	67%	3.5	4.2	1.1	4.2	1.1	11%	0%	22%	61%	6%	0%				
									Poor - 1	2	3	4	Excellent - 5					
28	Overall rating of instructor (Kulumani)	18	50%	3.2	4.1	1.1	4.1	1.1	17%	17%	17%	33%	17%					

Questions	Text Responses
Question: If you selected Other as significant aspect of effort, please comment.	Learning a new computer program and using code to solve problems.
Question: If you selected Other as significant aspect of effort, please comment.	Coding
Question: If you selected Other as significant aspect of effort, please comment.	Creating computer programs to compute orbital elements
Question: Use this space for comments on strengths of the course.	I absolutely loved this class, as I got to learn about orbital mechanics and write codes that can predict orbits of satellites given real data. Learning Python has help
Question: Use this space for comments on strengths of the course.	This course provides an amazing introduction to space travel and mechanics of how spacecraft behave in space. This course covers everything needed to identify reference frames that you need to classify the characteristics and much more.
Question: Use this space for comments on strengths of the course.	Taught a lot, showed how to use this math to find the actual location of spacecrafts, a useful tool going into aerospace concentration. But everything that I learned through homeworks. The professor did not do any direct examples to help with solving any problems.
Question: Use this space for comments on strengths of the course.	The course material was relevant and interesting
Question: Use this space for comments on strengths of the course.	"Teaches" Python through hard work
Question: Use this space for comments on strengths of the course.	Lots of information, good lectures
Question: Use this space for comments on strengths of the course.	I learned a lot, including useful skills such as coding in python. Instructor was a good lecturer. Material was interesting and was often tied into real world problems really enjoyed this class and it was one of my favorites I've taken at GW
Question: Use this space for comments on strengths of the course.	I learned a lot from this class, but all outside of the classroom
Question: Use this space for comments on strengths of the course.	I learned more in this class than at any other class at GW. The material was very interesting and the instructor was clearly qualified to teach this class.
Question: Use this space for comments on strengths of the course.	Very well taught, organized, and effective. Felt like I learned alot.
Question: Use this space for comments on strengths of the course.	The material is very interesting and is my first taste as aerospace engineering so it was great to be able to learn about something I care about
Question: Use this space for comments on strengths of the course.	be reasonable in signing homework, we tend to fail other classes because of the time spent on hw
Question: Use this space to provide suggestions on how to improve this course.	Lower the workload, providing homework/projects that are more related to the subject matter and closely correlate to the exams
Question: Use this space to provide suggestions on how to improve this course.	The homework assignments were incredibly long and sometimes repetitive. I understand that difficult homeworks are essential to fully understanding the material, too many questions. At some point, more homework problems leads to stress and does not help me learn. Though I appreciated learning python, I would have ap learned most of the language through trial and error, and lots of googling. For the most part, I taught Python to myself and it would have saved me time and effort syntax.
Question: Use this space to provide suggestions on how to improve this course.	I think this course is at a good level. It has a lot of work associated with it, but the work is all meaningful and I didn't ask myself "why are we learning this, this seer for this class really brings a best outcome situation.
Question: Use this space to provide suggestions on how to improve this course.	20% of our grade in this class is projects that require python coding. 35% is homework that can only fully be done creating python codes, outside of the time being relying on coding knowledge, python should have been taught to us. Instead of just telling us something was due in python code, spending a few lectures teaching been extremely beneficial. A few slides on blackboard about how to print a line of code is not equivalent to printing plots and matrices. This was not a reasonable taught by Shankar, I would much rather learn how to do the actual math than how to code it.
Question: Use this space to provide suggestions on how to improve this course.	We really needed more lectures about Python -- I really struggled with it and not enough help was given. Even just a "intro and basics" would have helped...
Question: Use this space to provide suggestions on how to improve this course.	Treat the course like the 3 credit course it is, not a 12 credit course. The amount of work involved including learning a new coding language in our own time was to took hours and hours of work not to mention they were all stacked on top of one another. I also think doing projects before homeworks that would then implement more sense
Question: Use this space to provide suggestions on how to improve this course.	Frankly, a lot of things need to change to make this course viable/legitimate. The professor treats this 3 credit course as a 6 credit course. There is an absolute ins work on homework or projects during my other classes simply because I didn't physically have the time otherwise. I will say that we tried to compromise with the p did listen, but it dro pped the amount of time necessary to work on his assignments from maybe 18 to 15 per week. The professor also made copious amounts of to have found his mistakes because we read the textbook or found similar note online. I can't stand behind the concept of not being able to trust the notes of my p impossibly high expectations of his students. Of a roughly 20 person class, only 2 or 3 knew Python. Despite this, he required us to complete entire projects in the nothing about. He also expected us to understand all the material the second we learned it; as in, "here is how you do this basic problem, now do this immensely professor laid on his empathy with the students. He said he understood that we had other classes, yet still expected us to perform like the only class we were takir would always answer questions when possible and kept his officer hours longer than he said. This made the course a pinch better.
Question: Use this space to provide suggestions on how to improve this course.	Way too much homework and projects. I spent more time per week on this class than all of my other classes combined.
Question: Use this space to	There was way too much work required for this course. I, and many others, were consistently spending 10+ hours a week outside of class working on homework a this, the instructor insisted that we just weren't efficient and procrastinating. He seemed to think that the grade we get doesn't really matter, only how much we lea

Question: Use this space to provide suggestions on how to improve this course.	affects our GPA. While the homework and projects were interesting, they required too much work and were often fairly difficult as well. The textbooks were ok, but being taught in the course. It would have been helpful if the instructor posted his lecture notes. Sometimes, there are errors in the notes, homeworks or equation s time teaching the course). We were not given enough time to finish the midterm.
Question: Use this space to provide suggestions on how to improve this course.	If coding will be at minimum 20% to 55% of the overall grade in this class, learning how to code should be part of every lesson. We were only given short slide sho teach ourselves how to plot an orbit which took students hours, on top of the normal hw we had. Also, only one person was able to finish the midterm exam on tim be high, but not so much that they struggle to complete and do correctly every assignment
Question: Use this space to provide suggestions on how to improve this course.	First, the instructor of the course needs to have more experience with teaching. His lecturing abilities are very poor, and despite him being helpful if you go to him the information or learning comes from not from when you set up a time to meet personally. I always had to go see Shankar, because his lectures weren't clear, or
Question: Use this space to provide suggestions on how to improve this course.	Spending 20 hours a week on one class, when I have 4 other classes is not only ridiculous for an undergraduate course, but also just plain inappropriate and rude because they don't have time to spend on other classes, it's too much. When problems take too long to warrant proper, done-out examples in a 1 hour and 15 min be tested on in that time, and B.) to be given more than 2-3 as homework. Another issue we had was that in addition to learning the material and the hand calcula language for all of the projects. Each project took around 10-12 hours (minimum) and the bulk of that was spent on Stack Overflow using trial and error methods t Comp Sci major, I should not be turning in 500+ line, multi function, multi module project programs every two weeks.
Question: Use this space to provide suggestions on how to improve this course.	It is a very challenging course, while the subject matter is inherently challenging, being taught python ahead of time would have greatly helped.
Question: Use this space to provide suggestions on how to improve this course.	This class was taught as if it was a 12 credit course. On top of being given ridiculously long homework assignments that each took at least 8 or 9 hours to do, we projects in the class due at similar times as the homework, so I spent at least 15 hours per week on JUST THIS ONE CLASS!!! Not to mention all 5 of my other cla routinely found myself putting in little effort to other classes simply because this class required almost all of my time. This class seriously hurt my grades in other c caused me to have a terrible semester. I would not recommend this class to anyone.
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	linear algebra, calculus
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Engineering Mechanics Calculus I Calculus II Calculus III Engineering Computations
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Calc 3 and Physics
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	My courses in physics and analytical mechanics, and calculus 3.
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Calc 1-3, physics, engineering computations
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Dynamics and Physics, partially C Programming
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Physics, Calculus, Dynamics, Linear Algebra, Engineering computations While I was very prepared for the academic portion of this class, I was not prepared for th does not do a good job of preparing its engineering students to do useful coding, especially in high level languages like Python and Matlab
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Physics Calculus
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Calculus, Physics
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	Physics, Multivariable calculus, Linear Algebra
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	I had taken all the perquisites required for this course, and performed well in them. I have a very good understanding of calculus as well as programming in variou
Question: You indicated that you were academically prepared to take this course, what prepared you for this class (which prior courses, which topics)?	I took dynamics class. but doing python was hard for me
Question: You indicated that you were not academically prepared to take this course, please comment on issues with prerequisite courses, or what could have been done differently so that a future student like yourself would be better prepared to take this course?	As MAE majors, we are taught C programming and are required to take a course in it. Then we are switched into python and are not even given the basics on how MATLAB, none of our professors have ever taught us how to use it. They assume we know how to use it, but the one class where were supposed to learn it in did and arithmetic, but I was not at all prepared for the large portion of this class work that required coding.
Question: You indicated that you were not academically prepared to take this course, please comment on issues with prerequisite courses, or what	As engineers, we have to take C programming, but in this class we have to code in python which uses completely different syntax adn were nver taught before ha complex coding needed to creat e the desired paths

could have been done differently so that a future student like yourself would be better prepared to take this course?	complex coding needed to create the desired paths
Question: You indicated that you were not academically prepared to take this course, please comment on issues with prerequisite courses, or what could have been done differently so that a future student like yourself would be better prepared to take this course?	An introduction into Python or even general computing methods would have been nice. It's sad that I had to spend 15-20 Hours a week learning python in a class primary course objective. SEAS uses MATLAB and it is free for all students. Use that in the future.

assignments (10) basics (6) calculation (10) class (52) code (15) competent (6) engineering (6) fantastic (8) helpful (6) information material (30) not (17) physics (7) problematic (6) professor (9) project (12) python (16) requirements (10) stude time (12) too (7) understanding (6)