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Expected workload in the next weeks

discussion posted about a month ago by [Hryhorchuk](#)

I spent about 30 hours this week on the lectures, finger exercises and homework. And I'm yet to review some of the recitations. This was probably the most time consuming week of all MM SDS courses for me. Not that the material was particularly difficult; just too much of it for a single week.

Does anybody know if the rest of the units are as intensive as this one? Thanks.

Related to: [Unit 3 Methods of Estimation:Homework 6: Maximum Likelihood Estimation and Method of Moments / 6. Maximum Likelihood Estimation for a Multivariate Standard Normal](#)

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[markweitzman](#) (Community TA)
about a month ago

While I didn't spend nearly that much time on this weeks material - about 15 hours in total, which is a lot for me, I do agree that there was too much material for this week, some quite unnecessary in my opinion. Additionally there is too much repetition in the finger exercises, constantly having to read the same material over and over again. And unfortunately there was much more form/notation than substance in the material. Much of the material is actually quite easy if you can read well and handle the notation.

One of the great flaws in this course in my opinion is that it is too much like a survey course, exploring way too much but often in a shallow way - illustrated by the Professor's recommended textbook "All of Statistics - Wasserman. You can't and shouldn't try to cover all of a field in an introductory course. Better to cover less and go deeper. In my opinion, there was absolutely no need for the lecture on M-estimation in this weeks lectures. Maximum likelihood and Method of Moments was more than enough. The lack of slides and problems further reinforces that M-estimation was just an extra add-n on a pet/recent technique, that while it might be useful is not necessary in a first course.

...

@markweitzman, you mentioned that you took this course in its first run. Do you think the next sections are as time-consuming as this week's section? Many thanks.

posted about a month ago by [Hryhorchuk](#)

...

I really don't remember them, I was so busy as a staff member with QM 8.06x at the time. I left this course shortly after the midterm, did only about 2/3 of unit 4 through lecture 14. But I suspect this week will be about par for the course for the rest of the course. Take a look at the syllabus.

posted about a month ago by [markweitzman](#) (Community TA)

...

Clear enough, thank you for the answer.

posted about a month ago by [Hryhorchuk](#)

...

I've done most of the problem set so far without doing any of Lecture 12. Agree that there was a lot of repetition.

posted 29 days ago by [iSchoning](#)

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+

[arsenyspb](#)

30 days ago

...

...and you are one of the savviest among us, - I constantly see you engaged on the forums. This course is disproportionally intense load to the level (...and quality) of learning. I didn't take statistics in the university and a lot of the material is brand new. Thanks for raising this question. No rest for the wicked.

I would've really liked to see the Method of Moments happen earlier in the course.

posted 28 days ago by [Downchuck](#)

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[Majdiet](#)

29 days ago

This is my fourth and last course on this program and I confirm that this class is time consuming. Today, I am multi-tasking between my full-time work and progressing on this course.

I made a similar feedback before.

I did feel the workload was more (as the week before it seemed less) but some assignments were relatively easy compared to other homeworks (or perhaps the hard work in weeks before are paying off). Having said that I think the goal of this week's homework was partly a repetition to prepare for midterm 1, so I have a feeling next homework won't be so time consuming.

posted 29 days ago by [brothorn](#)

@Majdiet: How is it the ML course?

(a) Does it rely a lot on the material from this course?

(b) Is python skills needed at a relatively high level or just the basics?

(c) How "real time" require per week ?

posted 28 days ago by [Lobianco](#)

@Lobianco, my thoughts about 6.86x:

(a) I'd say, no. Being familiar with probability theory is enough to proceed with 6.86x. Most of the topics concerning statistics will be explained within 6.86x "from scratch". Two notable exceptions: logistic regression (but I think it is beyond the scope of 18.650x either) and PCA (is in the scope of 18.650x).

(b) projects were the most time consuming part of 6.86x, IMO. The more comfortable you are with Python - the less you will suffer with the projects. It is important to have some understanding of object oriented programming. And it is absolutely crucial to be familiar with Numpy. If I were to name the sole success factor for programming part of the course - that would be Numpy. Surprisingly for me, Pandas was not required.

(c) Before this week, I would say 6.86x is slightly more time consuming than 18.650x. From this week on, I'm not sure anymore. I used to spend 15-20 hours per week on 6.86x, while I was spending c.a. 15 hours on 18.650x.

A more general remark about 6.86x: there were a lot of gaps between the lecture content and homeworks / projects. Unless the course is substantially modified before the next run, be prepared to spend quite some time to search the web and read additional literature.

posted 27 days ago by [Hryhorchuk](#)

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[ericwang_usa](#)

29 days ago

If we can have some clean and concise PDFs about theorems that professor mentioned, I think it will be much easier for us. Especially when we do not have a exactly followed textbook.

Nothing prevents you from making your own notes. Several students from the first run of the course made very detailed $LATEX$ notes.

posted 29 days ago by [markweitzman](#) (Community TA)

If someone is willing to do my other jobs and projects (if you know tensor learning maybe you can), I can write my own note, of course.

Anyway, it does not prevent the course from being more efficiently arranged.

Meanwhile, can you share their notes for us?

posted 28 days ago by [ericwang_usa](#)

Add a comment

[AndresGarzon14](#)

29 days ago



I had the same problem with the probability course and my conclusion is that you definitely need a textbook so that you can sort "adjust" your intuition on the different topics and in some cases see things from a different angle.

Add a comment

[Jayakrishnankk](#)

28 days ago



I had a fight with my wife for not spending enough time with her, and being always in front of laptop. Go figure!



I feel you. My husband's been doing all the housework this week and we've cancelled our weekend hiking trip. Still, doing work for this course has been the most exhilarating experience I've had recently. Same with 6.431x.

posted 28 days ago by [maitnguyen85](#)



same here... plus 3 kids under 4 !! If my wife doesn't kill me, she's a saint!

posted 28 days ago by [Lobianco](#)



Keep going, don't give up :) It's worth it.

posted 28 days ago by [maitnguyen85](#)



I agree. It is definitely rewarding.

posted 27 days ago by [Jayakrishnankk](#)

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[robweatherston18](#)

28 days ago



There is **far** too much material. I am exhausted from this course, too exhausted for even quite simple questions in the homework. This Micromasters is supposed to be targeted at working professionals. I have a full time job and a full time family, and it is too much to expect to put in 20+ hours a week for this, every week, for 10 weeks. The other courses were intensive, but I could manage it. This one is a real problem.

I am not sure if this is just because I am very tired, but I feel like the questions are an enormous amount of fiddly algebra with very little practical payoff.



While I empathize with everyone who feels similar to what you have articulated, I tell myself that this is clearly a recording of a live classroom course from MIT. If the kids at MIT are able to do this then either we have to accept that they are way smarter/hard-working than we are, or that it really takes effort and we can put in the requisite effort as well. Compared to the first course in this MM (science of uncertainty), this course does not synthesize the big ideas well. It is up to us to go over the material once to understand the details and then a second time to form a big picture understanding - why are we doing this; how does it all connect etc. That is time-consuming for sure.

I tell my kids when they complain about a hard piece of music when learning piano - if it were easy then everyone would be Mozart/Beethoven. Sometimes it is worthwhile because it is hard.

posted 28 days ago by [lushgreen](#)

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[karenechu](#) (Staff)

28 days ago



This course is ambitious and covers more advance material in the second half. This is exactly the same pace and content as on the campus course, and students on campus are also working very hard on it. We hope that at the end of it you will have learned a lot and find the time worthwhile.



Is this a graduate or undergraduate level course?

posted 28 days ago by [Shota_Natenadze](#)

18.650/18.6501 is listed as both an undergraduate and graduate level course on MIT/OCW - but I would say this course is basically an advanced undergraduate level course - junior/senior level, that is also taken by graduate students..

posted 28 days ago by [markweitzman](#) (Community TA)

This is a graduate level course for Masters that are not mathematics.

posted 28 days ago by [karenechu](#) (Staff)

Thank you for the answer, @karenechu.

You mentioned this is a graduate level course for non-mathematics. Is the MIT Stats course for mathematics available anywhere on the web? Thanks.

posted 28 days ago by [Hryhorchuk](#)

The courses I listed above are all on OCW in the mathematics department (18) - there are several versions including this course as well. You might be interested in 18.655 Mathematical Statistics.

18.440	Probability and Random Variables (Spring 2014)	Undergraduate
18.445	Introduction to Stochastic Processes (Spring 2015)	Graduate
18.465	Topics in Statistics: Statistical Learning Theory (Spring 2007)	Graduate
18.465	Topics in Statistics: Nonparametrics and Robustness (Spring 2005)	Graduate
18.650	Statistics for Applications (Fall 2016)	Undergraduate
18.650	Statistics for Applications (formerly 18.443) (Spring 2015)	Undergraduate
18.650	Statistics for Applications (formerly 18.443) (Fall 2006)	Undergraduate
18.650	Statistics for Applications (formerly 18.443) (Fall 2003)	Undergraduate
18.6501	Statistics for Applications (Fall 2016)	Graduate
18.655	Mathematical Statistics (Spring 2016)	Graduate

posted 28 days ago by [markweitzman](#) (Community TA)

I mean, the more advanced graduate level course in statistics, not 18.650/18.651.

posted 28 days ago by [Hryhorchuk](#)

See the bottom course 18.655, or 18.S997 High Dimensional Statistics.

posted 28 days ago by [markweitzman](#) (Community TA)

Unfortunately, these two courses go without video, and I will hardly be able to get the understanding based on the lecture notes. Anyway, thank you, @markweitzman.

posted 28 days ago by [Hryhorchuk](#)

@karenechu; could you please elaborate on what "more advanced" means? Is the second half more advanced in terms of mathematical prowess needed to understand the concepts; or is it just that we will dive deeper into the concepts covered so far? I see the upcoming units are on Hypothesis testing and Bayesian Statistics.

I am assuming the linear regression units at the end will use a lot of Linear Algebra? Could you just make a few pointers to which concepts of linear algebra will be most utilised for this; as I would like to brush up on them until then?

posted 27 days ago by [marijas_data_kitchen](#)

Add a comment

[es87f6es87f6](#)

28 days ago

I join the request. This course is pretty unbalanced in terms of load. I've asked the MIT staff how many hours per week this Data Science course will take. 14 hours a week was the answer. The Probability course in these terms was balanced really well. With this course, it looks like staff guys just mind their own KPIs and don't bother to remember that many of this course students are full-time employees with families. Not students that can eat and study 25 hours/day.

Especially nice was that the last lecture and homework were added during the weekend or so. So all business and personal planning were just ruined.

I would gladly accept this course to take a month more with this amount of topics. I hope the staff will listen to find a way to plan more thoroughly. At least that next time most of the course participants will have more than one night to get ready for the exam.

They have given 12 hours extension.

posted 28 days ago by [pradhi21](#)

...

The reality is that as mentioned in a thread above, that this course is basically a 15 hour per week course at MIT. And I also find myself taking about that much time. Now as a practical matter most of the individuals here do not have the training or ability of most MIT students, so one would expect the average student here to spend more time say anywhere from 20-30 hours a week which seems reasonable.

The great advantage and reputation of MITx is that for the most part (and I do see some small indications to the contrary for both the probability and this course), they don't dumb down the courses for the "masses"- their courses are almost the same as the ones taken by MIT students. And remember that most MIT students take 4-5 equally difficult course a semester. So while many here work and have kids they also (if they are sane) are taking only one course.

posted 28 days ago by [markweitzman](#) (Community TA)

...

That is true for the other courses in this programme too, and they were paced much more reasonably. 6.501x and 14.301x were easy to handle, and 6.431x was a stretch but nowhere near as demanding as this course.

posted 28 days ago by [robweatherston18](#)

...

I only took the probability course - and I would say it is comparable to this course, except for the fact that this course builds on the probability course - so my usual house of cards argument applies - those who are 100% solid in probability will probably find the workload here quite reasonable, those who aren't may struggle. Some here may even think (and I tend to agree - at least for the first part of this course) that this statistics course is easier than the probability course. But I think it is a little more time consuming because many students asked for more problems, more exercises etc. Anyway, in any program there will be easier and harder courses.

posted 28 days ago by [markweitzman](#) (Community TA)

...

My personal feeling: Other courses in this micromaster: concepts easy, however problems can be tricky and lengthy. Manageable. This course: concepts easy but being conveyed sometimes in a chaotic and unclear manner and pace(prof has too much to say I guess). To compensate, great recitation appears and we need time to watch it. In addition, problems are not that hard but quite time consuming, double jeopardy and error-prone. Plus, way too many in-class exercises for me.

Result: you will need time.

Contrast to mark's opinion, I don't think the ability of mit students matter. The long time of studying mathematics and related fields on campus will definitely increase the efficiency of the brain to learn the material under same field. You cannot ask a full-time worker who only do math during weekend to have such smoothness to learn. We also lose the academic environment around. I personally miss the library in my university a lot especially when my wife and boss have to bother me from time to time.

Besides, I do not think expressing such implicit discriminating words is a right choice even what mark said may be true. People have potentials and they come here because they trust that. It is good to hear there is no difference between classes on campus and here but we do not need to hear there is difference between students.

posted 28 days ago by [ericwang_usa](#)

Even though you express disagreement with what I said, in actuality I think we mostly agree, my main point was that students at MIT have the proper preparation, training, and environment (along with being the very top students in general) to quickly learn and absorb this material, as well as easily calculating the problems etc.

posted 28 days ago by [markweitzman](#) (Community TA)

@markweitzman - you seem to spend your 15 hours a week helping people on the discussion forum - i don't know where you find the time to actually study ;). I also did find this week longer than normal (by about 25-30% which is a lot) - but think that's mostly due to my shaky multivariate calculus and linear algebra memories - so not upset at the course content or balance as such. If anything, while i liked probability, i think this class is making the concepts come together for me and click into place.

posted 27 days ago by [stelstoy](#)

Thank you, when you are retired and just sweat the stock market, you have plenty of time to waste on discussion forums. To be honest most of the time for me in the course is make work - they make you work through the finger exercises, which are often trivial, but still require time reading etc. The problems also are often easy but still require time to read with their many parts - the actual calculations often are quite quick to preform.

The recitations although good require an hour to watch, whereas (at least until recently) if they had notes they would take only 5 minutes to read. Remember the solved problems in the probability class, instead of watching the often 15-20 videos of each problem, I could read the solution in 1 minute. That is the major flaw in this course a lack of a set of detailed notes - the slides are too many and disorganized to be useful.

But I sort of wish that many of the students here who complain about workload etc. would take a course like 8.06x, then they would see what a really difficult and time consuming MOOC is like. The major problem for students here is not really a lack of time, but a deficiency in mathematical prerequisites. When your math is weak, naturally you will spend a lot more time on the material than a mathematically prepared student.

Just venting as my Mac Pro (early 2009) has crashed again, and it looks like I will soon have to replace - not looking forward to that eventuality. :-)

posted 27 days ago by [markweitzman](#) (Community TA)

Another perspective. Although long, in the end, it was nice to have a number of problems to review MLE before the exam. To be fair, many were things we had done before. I say this as someone who can afford to put significant time in this week. Its also probably good for us to shake off the calculus and linear algebra cobwebs. I'm wondering if there is a way to make fewer problems graded or something of that nature. If anything, I wish we had more linear algebra problems and a few M estimation ones. I also wish the M estimation lectures had more practice problems. Again, ungraded would be fine. I would hate to lose the ability to review by having less problems available.

posted 27 days ago by [jtourkis](#)

I found the course also challenging this week (plus job, plus kids). The course might be balanced a bit better or altogether might be better adapted to online training, true. However, I appreciate very much the higher level of the courses in this program. Other trainings for working people, in class or online, most often don't get beyond the very basics. How often did I think that I should go back to Uni for specific topics and lessons, which is not feasible. Here I can do it and it is much more fun than learning from books only.

posted 27 days ago by [MonikaJaeger](#)

But I sort of wish that many of the students here who complain about workload etc. would take a course like 8.06x, then they would see what a really difficult and time consuming MOOC is like.

I think I'm one of the guys to whom this was addressed, so feel like I should clarify. I'm not "complaining" really. Even though I spent quite a lot of time this week, I can afford it now, and I started this thread just to understand the expected future workload and plan my time accordingly.

I admit that my slow pace is explained by some "rust" in math. After all, I barely had any practice with calculus after my last class in math 17 years ago. I accept that and I don't need to take a Quantum Physics course just to get an additional proof)

posted 27 days ago by [Hryhorchuk](#)

Definitely not addressed at anyone in particular - just a general remark. And by the way many of the students in that class also complained at the workload, and the amount of advanced math/physics required.

The conflict is that the content in this course is mathematical (though not high level), and many (maybe most) of the people here are essential people looking at certain paths to employment/business etc. Consequently there is this combination of weak math skills and many looking for some pot of "Gold" in the business/technology world.

posted 27 days ago by [markweitzman](#) (Community TA)

An additional thought. I am doing DEDP alongside SDS and DEDP tends to be much easier/less time consuming (I can finish the lectures and homework in under a day usually) and more practical (if not repetitive). You still learn statistics and programming skills in R. There is further exploration of utility functions for those of you who have taken Machine Learning and liked reinforcement learning. So, not all MIT classes require hours and hours of work. This course is particularly rigorous. I actually think the two micromasters work very well together. I would have hated to forget the more practical skills in the flurry of math that followed Data Analysis for Social Scientists in SDS. Math skills aside. Given that this is a certification, I wish we were given more real world examples. I'd hate to leave this course understanding the Math but not how to apply it to be a better statistician. I doubt an employer will give me an exponential formula and ask me for the estimator. And if they might, I'd like to know under what real world situation I can utilize that skills. I think you can put more emphasis on the practical without sacrificing strengthening our math. I think it would make the material stick better. Finally, I wonder why we aren't given practice exams and a class to review the exams. Do they not do that at MIT?

posted 27 days ago by [jtourkis](#)

They probably have regular recitations at MIT covering problem solving, exams etc., that usually are not part of online classes. Material on exams for similar courses is available on MITOCW. For example exams with solutions - see links below:

[Exams with solutions: 18.650 Spring 2015](#)

[Exams 18.650 Fall 2006](#)

posted 27 days ago by [markweitzman](#) (Community TA)

Thanks I'll take a look. On the first problem in the practice exam, the solutions finds the Fisher Information/Asymptotic Variance w.r.t n samples rather than 1. We will be sticking to one, correct? i.e. Taking the second derivative of the PDF not the product of n PDFs. Also, you wouldn't happen to know of any practice exams covering covariance matrixes and the linear algebra parts in more depth. I'm finding it difficult to find examples there.

posted 27 days ago by [jtourkis](#)

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