

Informatics Student Course Feedback 2017/18

<http://www.inf.ed.ac.uk/teaching/surveys/2017-18>

This report contains feedback from students about a course taught in the School of Informatics during the 2017/18 academic year, in response to the following questions:

- What would you say to students interested in taking this course?
- What did you find most valuable about the course?
- What improvements, if any, would you make to the course?
- Please add any other comments you have about workshops and tutors

Each course organiser receives this report as well as statistics on multiple-choice responses. All these reports, together with student feedback about individual members of teaching staff, are collected and sent to the Director of Learning and Teaching.

Please note that these are personal responses from individual students: some courses only have a few responses and a small sample can be unrepresentative.

Stereotyping and bias, especially unconscious bias, is a serious concern in any survey gathering personal responses. All students received the rubric below before completing the surveys, and you can read a brief introduction to issues of unconscious bias on the university web pages at <http://edin.ac/2iypZBv>

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Rubric given to all students taking the end-of-course feedback survey

We value your opinions on the courses you take here at the University, as they allow us to shape future delivery and development. We welcome constructive comments about your courses, whether positive or negative, and ask you to give details about any issues in order to help the course organiser to understand and address them.

We encourage you to be aware of the potential for bias in the completion of these questionnaires, so we have developed resources which may be helpful to you:

- Equality, Diversity and Unconscious Bias (<http://edin.ac/2iypZBv>)

You also have a responsibility to provide feedback in a manner which does not breach the University's Dignity and Respect Policy:

- University of Edinburgh Dignity and Respect Policy (<http://edin.ac/1Cq0VZY>)

The results of the questionnaires will never be analysed in a way that seeks to identify individual students from their responses. However, should you wish to remain anonymous, please do not identify yourself in your answers to the survey questionnaire implicitly or explicitly.

Comments Report

What advice would you give to a student taking this course in future?

- Buy the book on Amazon, don't wait to get copies from Blackwell's.
- Do Proofs and Problem Solving in first year instead.
- Do all the coursework: even though it's worth only 15% of the grade, it's worth more than you think. The deadlines for other courseworks in the 2nd year might make you "ignore" DMMR for a while. At least do the reading on time! When the exam period comes, there will be too much new information to process at once if you leave it unopened until then.
- Do not take DMMR unless you are required to.
- The lecturers are not very responsive on Piazza, so don't expect much help. Lots of self-study.
- Do the reading.
- Don't hesitate and take this course. Best course ever.
- Don't take this course unless you have to (if you are a informatics student you kinda have to), poorly taught, too fast.
- Expose yourself to proofs more.
- Get comfortable with some of the content before starting the course.
- Go to all tutorials and hand in the tutorial question every week. Learn how to partition time in exam!
- If possible, definitely attend all lectures and tutorials. Start revision early, you will have plenty of assignments but doing textbook problems (even if it's just a few) every week will really help you solidify anything you are finding more difficult on the course.
- If you are interested in maths, do several variable calculus or probability. This is the worst maths course in the world. If you are paying £21k to STUDY HERE AND ACTUALLY LEARN STUFF you may as well put in the drain.
- If you are studying pure maths it is probably better to take another informatics course like Inf1/2 but otherwise treat it as an opportunity to practice proofs.
- If you can take the Proofs and problem solving do it, because people take it were actually able to do DMMR.
- If you can, start looking up tutorials on YouTube for the material as the lectures were useless to me.
- If you took PPS and/or Probability, don't take this course (unless you want 20 easy credits).
- It is unfortunate for the Informatics students as it is a compulsory course for them. However, if they had a choice I would recommend them to take PPS instead of DMMR. Most of the topics in PPS are covered again in DMMR but more precisely and the tutorial is also 2 hours in a small group. Even DMMR is compulsory for Informatics Students, I would recommend the students to take PPS in their first year and take DMMR again in the second year to ease their learning process.
- Its content is quite similar to the content of 'Proofs and Problem Solving'
- Only take this course if it's mandatory. Otherwise take PPS it's much better.
- Only take this course if you have taken Proofs and Problem Solving, a mathematics course taught by the School of Maths in your second semester of first year. A lot of the topics covered in that course will be covered in this course, and there's no better place to learn maths than by The School of Maths. If you haven't taken PPS, try your best not to take this course. If you can, move to a CS+Maths degree, pass the first semester of second year, then move back to your current degree. That way you don't have to put yourself through this terribly organised course and terribly taught course.
- Please please do the reading, I think it is crucial so that during class everything becomes clear and easier to understand. Tutorials are very helpful as well, but I think early reading is the key.
- Read the textbook as you go along and you'll be fine.
- Start reading ahead from the beginning. And do a lot of practice as especially involving proves

Comments Report

What advice would you give to a student taking this course in future? (continued)

- Stay on top of the course. There's a lot of context.
- Take notes on lectures, make sure you do all the tutorials by yourself (yes even the non-marked ones) and be prepared to solve completely new problems. If this is an elective course, drop it now.
- Taking PPS in first year makes this course a lot easier to tackle.
- The course is definitely useful and rewarding although not the most interesting course available
- This is a fairly challenging course if you haven't done proofs and problem solving. Keep on top of reading, the course gets interesting when you get past the basics.

Comments Report

What did you find most valuable about the course?

- Actual algorithms presented in some sections (as it should be in an Informatics course).
- Applications of mathematics to computer science
- Cryptography was an interesting topic. Tutorial sheets were helpful with learning. Good that it's open book this year.
- Deeper understanding about things that I learned during A-Level
- Finding out about how particular topics in discrete maths can be directly applied to programming problems today, and learning about more interesting data structures and some simple algorithms on how to traverse them (graphs and trees).
- Graded homework questions
- I took this course to learn new theory such as Graph theory and indeed the theory was interesting.
- Inspirational speeches of Colin and Kousha. They managed to engage entire class during the lectures and convey their knowledge into our minds.
- It helps your problem solving skills.
- It's an enjoyable and interesting course, said NOBODY ever
- It's a good idea to gear a maths course towards informatics students.
- Learning about key maths concepts for informatics in my later years
- Learning how to prove things mathematically.
- Mathematical skillset and learning about their practical applications in computer science.
- My tutor was great!
- Nothing Much
- Piazza discussion forum as feedback from tutorials and lectures was lacking quality, though not quantity.
- Problem solving and challenging questions.
- The course provided a lot of detailed information on topics I only knew briefly until that point.
- The lectures
- The slides are very well explained.
- The syllabus itself is useful for computer scientists. Not the way it is taught though.
- My tutor was also really good, much more passionate and much more approachable than the professors themselves.
- The textbook is quite ok. I have found some YouTube videos so that was helpful?
- The tutorials were great and really helped me in my understanding of the material.
- Kyriakos Katsamaktsis is a great tutor.
- The weekly assignments and the book which is very good.
- The weekly assignments were sometimes quite challenging which ensured that I kept on top of the reading
- The whole section of graphs was really interesting. It's something I've vaguely prodded before, but the course really helped solidify my understanding

Comments Report

What did you find most valuable about the course? (continued)

- This is the worst course I have ever experienced in my life.
- Tutorials were helpful and one of the tutors was really active on Piazza (Ivan)
- Tutorials.
- slides with textbooks

Comments Report

What improvements, if any, would you make to the course?

- 1. Change the style of the lectures: they are literally just copied and pasted book material. No interactive material whatsoever, only theorems and their proofs.
- 2. Lecturers rarely make use of the board, and for a maths class, they REALLY should.
- 3. Turn the tutorials into workshops.
- 4. Change the course organiser.

- 1. Taught in a much better way
- 2. Closed Book Exam
- 3. Lectures are way too fast, Slow down please!

- Can we do groups/algebraic structures? Pretty much every course whose textbook contains such a chapter has stopped just before it and I feel I'm missing out! Even one "just for fun" lecture would have made my day :).

On a slightly more serious note, the first half of the course did have a reasonable amount of overlap with proofs and problem solving. That being said, these courses are part of different degree programs so I guess it isn't a major issue - most people won't have done both.

- Colin's slides are not very useful for revision, they act more as an aid to the lecture. The tutorials don't prepare you well for the level of the exam.

- Comparing this course to PPS (Proof and Problem Solving) it is badly structured. There are few points to be made
 1. This course does not allow me to use some notations from PPS which is also a maths course eg) 6 marks were taken off from my tutorial worksheet because I wrote hcf instead of gcd. Both means the same thing but my tutor seems like he does not understand the notation. David Jordan who was a lecturer from America used hcf as well. So I am still not sure why hcf is not acceptable in this course. eg) why is zero included as a natural number. Mathematically, zero is an Integer and it is not a natural number

2. Most of the maths courses do not use slides to introduce theorems or ideas. For example in Introduction to Linear Algebra or Proof and Problem Solving, they were all done in the piece of paper. The lecturer proved most of the theorems on the spot and ensured every student understands the proof. But DMMR relies heavily on the slides which were written few years back and lecturer just reads through the slides in a monotone. Even the lecturer Kousha was confused with the proofs whether it is correct or wrong. Additionally, the slides are just another copy of the book as it holds the same content and word phrasings.

- 3. The notion of Open Book.

I am not sure if Open Book means we are only allowed to bring Rosen's book. Many students who took PPS in year 1 are still holding onto the Martin Liebeck's Concise introduction to Pure Mathematics. I am not sure why we are not allowed to bring other books. If the fairness is a matter, it should be an closed book exam or simply be Open Note exam. p.s. This book was written by a British guy using British Maths notations such as hcf instead of gcd as well.

- 4. On Piazza, most of the questions were answered by Ivan Lau instead of the lecturers Collin and Kousha.

Lecturers are the one who are teaching the course so they should be more interested in knowing students' problems. Since student problems are appearing obviously on forums such as Piazza, we hope lecturers answer it using LaTeX (otherwise they are so hard to read) and emphasis on the points that they mention during the lecture again. For any reference, take a look at the video recordings of Don Sanella and Ian Stark lectures and their piazza forum (they are lecturer of inf1 FP and inf DA respectively). They are more engaging and many students attend their lectures too.

- Format the tutorials like ILA and CAP. Two hours long and have problems especially made to work on in groups in the tutorials.

- Have the cleaning staff lecture us, it would save the university a lot of money, we weren't taught that well anyway. But in all seriousness, this course is a disaster, the informatics department is so much worse at teaching maths than the school of maths.

- I don't think this course should be open for people who have studied proofs and problem solving as I don't feel I have covered much new material only new questions with the exception of graph theory cryptography and algorithms.

- I know the exam was changed to open book, but I feel like that didn't solve the actual problem. In my opinion, the closed book was alright, as long as you'd put 30 more minutes in the exam. You don't even have time to look in the book so it makes no sense to have it open book. Just 30 minutes longer with no open book would be ideal.

- I think the reading list and study guide need to be updated so that students can know what is examinable or not. Give us some textbook questions that might be useful for understanding the materials and for examinations as well. I found myself not motivated to do the reading, partly because of the very general study guide compared to the Maths courses for the last 2 semesters. Thus affecting my understanding during class as I was not prepared for it (partly my fault for being lazy sorry)

Comments Report

What improvements, if any, would you make to the course? (continued)

- Instead of only grading the last question on the tutorial sheet, grade the whole sheet. It's disheartening when you can do the other 4 questions but you can't do the last one.
- Lectures feel uninspired. Workshops, like those in first year math courses, would be more beneficial than computer-science style tutorials. Most of the material covered in the course is also covered in Proofs and Problem Solving, yet it was often presented in ways that were so confusing that it made me doubt whether I really understood it at all. To be honest, I would probably just drop this course and make everyone in CS do Proofs and Problem Solving in year 1 instead, replacing DMMR with a course that dives deeper into algorithms and graphs.
- Make a closed book exam for this course. There is just no time to use book, but questions got significantly harder.
- Make the course closed book again. Writing this feedback after having taken the exam, I can definitely say that the questions were extraordinarily more challenging and I didn't have time to open the book anyway so I used the knowledge that I had memorised anyway to solve questions.
- More challenging problems, less content from Probability and PPS courses.
- More practical goals, not just theoretical proofs and proving theorems which we will not use. Too much proving is not good for us.
- N/A
- None. The fact that now the exam is open book was actually very helpful.
- Seems like there is a lot of overlap with probability at the end of the course and probability in semester 2.
- Some questions appear to involve a deep level of insight in order for you to be able to answer them. You cannot expect that of a student with only 2 months experience.
- Tell black wells the number of the books required they will need in stock so that we do not have to wait for 2 and a half month to do reading.
A more detailed study guide for the first half of the course.
Maybe more interaction in the lectures would be better.
More examples of proves done in lectures.
Using the board wasn't helpful because of the design of the lecture theatre. Using a document camera would be beneficial for people in the back and for recordings.
- The course needs restructured, it is very difficult to determine what is happening and what it is for.
The new rule for "open book exam" is great, however increasing the difficulty due to this without increasing the time for the exam is unacceptable, I do not know anyone who managed to fully finish the exam this year.
- The course webpage is terrible. The exam papers and solutions are terribly structured — are you trying to save paper by fitting it all on one or two pages?!
- The deadline for the weekly assignments is not convenient for those who have their tutorial on Monday or Tuesday, since we can't go over it during the tutorial, and the week after there's little time to do it.
- The exam format was supposed to change this year and the question about how it is going to look on the exam was heavily avoided. As a result the exam was a total mess and extremely difficult compared to previous years. Also, the instructors just disconnected from us on Piazza after the last lecture despite being a week just before the exam. One of them wasn't online for over a month... The lectures were boring and were a really bad example of how not to teach maths. All that was done was a bunch of formulas and theorems were displayed on the slides. Pretty much no examples or solutions were showed during most lectures. Overall I found the material to be interesting but the way it was taught was terrible and the exam is extremely difficult leaving this as one of the worst courses (on average exam results) in the entire school of informatics.
- The lectures are terrible, they don't talk about anything that is not in the textbook, moreover their explanations were not helpful. In the lectures they sometimes used the blackboard which you can't see from back of the class. They also did not respond to my request for a proper reading guide as the current one was very general and did not make clear what topics we will cover at all. Overall this course failed to engage me at all and I think I am going to fail it. Somehow I don't feel bad about it.

Comments Report

What improvements, if any, would you make to the course? (continued)

- To make this course better the lectures should not be so focused on the slides. I can read them myself. Some of the best lectures for this course were when Dr Etessami or Prof Stirling would give full proofs of the theorems which we were learning by hand. And not just reading of poorly formatted slides.
In addition, the tutorials are not useful. This course NEEDS two hour workshops each week so that students can work together on solving exam like problems with supervision from a tutor.
- Would be good to update the slides felt cluttered and not in a consistent format throughout the course (tree slides have been copied a pasted).
Introduce a clicker questions as they are helpful to understand the classes understanding
Have weekly quizzes (like CAP and ILA) to allow students to compound their knowledge for the week.
- The solutions of tutorials could be shown with some signs of mark point.

Comments Report

Please add any other comments you have about workshops and tutors

- Absolutely terrible. Please, compare yourselves to the School of Maths.

Here's an overview of what they do:

* They run workshops, not tutorials.

** Workshops have their own set work (worksheets given out during the session)

** This is a weekly 1.5 hour session, done in Appleton M2 teaching studio

** Each table has a tutor, and each workshop is supervised by a "supertutor" (with individual tutors handling each group/table) ** this allows students to discuss the set work (for that particular workshop)

* They have weekly assessments that count for credit (similar fashion to the current tutorials)

** This is handed in to their tutor each week (at their workshop)

** Only nine out of eleven assessments are counted for credit, allowing some leeway for sick days or forgotten submissions

- Good tutor!
- I like that we went through all the questions in the tutorial with the tutor.
- I think in place of the one hour tutorials, if possible, longer workshops (similar to Year 1 Linear Algebra and Calculus and its Applications) would be more helpful as we could cover more questions as I found the tutorials helpful but hard to follow at times.
- Ivan was amazing because a couple days before the exam he was really active on Piazza and we could still get some answers because of him.
- Kyriakos Katsamaktis did a great job in explaining things and answering questions. Furthermore, he pointed out useful strategies for proofs which weren't explicitly mentioned in the lectures which was really helpful.
- Move the assignments deadline to the weekend perhaps so everyone during the week can talk about it during the tutorials.
- My tutor is a genius. But sometimes I have difficulty understanding him because his explanations are too complex for me, and his accent is hard to follow, too.
- My tutor was always angry during the workshops.
- My tutor was great - he always had his own notes and explained things well.
- My tutor was wonderful, no complaints.
- Some tutors were not active and didn't provide help outside class and were unreachable, whereas others (like Ivan Lau) even took time to answer piazza questions during exam period.
- The tutor I had was very helpful and knew how to explain everything very well.
- The tutor is good but the tutorial structure makes no sense for a maths course. They should be more similar to workshops where people work together on questions.
- The tutor was useless. I can't blame him cause he too had to put up with DMMR. Like I said before informatics just can't teach maths. They shouldn't try, they just need to give up and let maths department take over.
- Tutor was good, format is not very suitable for maths.
- Tutor was poorly organized. It not understand his reasoning when I asked him a question.

Comments Report

Please add any other comments you have about workshops and tutors (continued)

- Tutorials should be replaced with workshops like the workshops in ILA and CAP. They would be more useful than listening to someone go through the answers to the tutorial sheet. We need more time to practice the course content.
- Tutors seemed confused on what is to be done apart from just writing the solutions on to a whiteboard
- Tutors should make sure everyone in the tutorial is following. It would be helpful if they do not just explain and show the answer but ask different people to contribute and build the answer together.
- Would be good for Tutors to be able to provide more feedback than just a mark for the CW submitted. Also preferred ILA and CAP set up