

Informatics Student Course Feedback 2020/21

<http://www.inf.ed.ac.uk/teaching/surveys/2020-21>

This report contains feedback from students about a course taught in the School of Informatics during the 2020/21 academic year, in response to the following questions:

- What advice would you give to a student taking this course in future?
- 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, tutorials or labs on this course
- Please add any other comments you have about the presentation of course materials online and their accessibility
- Reflecting on your experience of hybrid teaching and learning on this course, what has worked well for you?
- Is there anything else you'd like to tell us about your experience of hybrid teaching and learning on this course that would help us improve our approach?

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

1. Informatics 1 - Introduction to Computation [INFR08025_20-21_SV1_SEM1_ONLINE_CACORE19] -

1.7) What did you find most valuable about the course?

- Computational Logic - syllogisms, sequent calculus, FSM
- Course content was good, lectures were interesting, and my tutor is really nice. The fact there's a lot of place I could go for help calm my nerves, also it allow me to know how other progress too.
Recording of Q&A session also helps.
- Developed my computational skills a lot as well as introductint me to some of the theory behind it all. I throughouly enjoyed the FP side of the corse, specifically the tutorial assignments since they made me think in new ways and apply the weeks content straight away.
- FP Tutorials were extremely useful and engaging. FP Tutorials were, again, very engaging, focused, and helpful for progress.
- FP Tutorials were useful as the tutor went over the answers and helped people improve their code individually. This was very useful as the tutor could go through the tutorial assignment and describe how best to tackle questions.
- FP tutorial sessions with my tutor were definitely the best place to get help and ask questions
- Find out computing is so hard and interesting
- Gave me a different perspective on computing science and introduced to a new field in programming
- Haskell assignments
- I enjoyed the content of the course, and how challenging the tutorials were
- I found the concepts of functional programming extremely interesting and many have already become useful.
- I found the help from my peers to be of value.
- I found the most valuable parts of this course were the tutorial groups they gave me an oppertunity to discuss the course materials with my peers and develop my skills
- I opine, that we can the make most of our knowledge in computing only when we have the skills to relate it to our daily life. The whole purpose of technology has been to make human work easy and efficient. Thus, the most valuable thing about the course has been the tutorials that helped us to understand the application of our theoretical knowledge.
The other valuable part of the course, rather a platform provided to us, was Piazza. This platform helped us to convey our doubts and get an instant help from our Professors and peers. It is worth all the appreciation.
- Idea of the Functional programming and logic is really helpful
It is the fundamental concept for the computation.
- Inroduction to Haskell - interesting langauge that changed my ideas on how programming could work.
- It's introductory. What else can I say? I think this course definite teaches you some key ideas in computation basics that would be utilized extensively in the future.
- Lambda Man
- Learning Haskell and functional programming and logic skills through the cl side.
- Learning Haskell and getting good practice in logics concepts
- Learning about the interchangability of logic and computing in computer science as a field. It was, in my opinion, an amazing academic introduction.
- Learning functional programming
- Learning haskell was fun. I actually enjoyed both sides equally.
- Learning how to programme and reason with logic formally. That definitely opened my mind on how to programme.
- Learning how to use git and regex has been very applicable and useful as well as giving a good basis for logical thinking
- Learning the mindset required to switch from one language to another, learn its conventions, and apply programming knowledge in that language.
- Learning to think in the functional programming paradigm, sharpening my logic.
- Lectures, overlap between cl and fp (use of cl knowledge in fp etc)

- Lots of learning material
- Most valuable was getting to grips with a new form of programming paradigm that I had never experienced and also an understanding of logic and syllogisms.
- Nothing
- Now that I've finished the course I've found most of the things I've learned very interesting and useful; the insight into functional programming is a unique and interesting thing and the logic has been very stimulating also
- Programming skills
- Really enjoyed the programming side, found Computation and Logic really interesting although was definitely the more challenging of the two units :)
- Some new knowledge regarding logic and functional programming.
- The CL strand of the course gave a clear connection between logic and programming as well as the basic concepts in computer science.
FP gave me insight in the use and applications of Haskell and functional programming.
- The FP lectures were of a very high standard, I learnt a lot from them and they were extremely engaging
- The FP part teaches me how to construct Haskell programs in different ways, while the CL part of this course gives us an introduction to the field of logic, and many skills can be used among other courses and in the rest of our lives.
- The FP tutorials were structured very well in my opinion. The CL tutorials were also decent, although rather confusing at times. Those were also the parts of the course that taught me the most about the subject.
- The FP way of thinking, RegEx
- The codegrade is really helpful for the tutorial assignments.
- The coding part of the course.
- The content is very well-taught. Grading is flexible, and the staff respond to questions very quickly.
- The Haskell tutorial assignments were where I did most of my learning
- The high pace nature of the module combined with the amount of new information
- The in depth exploration of new and much more abstract concepts was both interesting and enjoyable
- The introduction of the functional programming paradigm, as well as an examination of practical applications and cross-referencing the CL material
- The kind of thinking required to solve some of the FP problems was very valuable. There was a lot of breaking down problems into smaller steps
- The logic part of the course although definitely the hardest part was the most interesting for me, and I believe that that knowledge definitely helped improve how I think and solve problems.
- The new skills and understanding I have gained about functional programming.
- The programming aspect really taught me some valuable lessons about writing good code.
- The programming exercises were enjoyable.
- The skill of Haskell programming
- The strong theoretical background.
- The tutorial assignments as they enabled me to test my knowledge with plenty of exercises to do.
- The tutorial sessions even though they were online they enabled you to ask questions and to go through anything you needed
- The whole CL part of the course
- Tutorials
- Tutorials were very helpful in applying what was taught in the lectures
- FP part is really good, it trains my brain and teaches me a lot
- I feel like in the end I learnt a lot, both hands-on knowledge and theory. It helps you reason
- It not only informs me of the logic behind programming but also helps me to become a functional programmer.

- Tutorials
- the assignments for the tutorials, the lectures
- writing codes in Functional programming (haskell) and some logic theory and derivations.

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

- - Add tutorial sessions early in the year for FP to help induct students into the Haskell language
 - Provide more additional support for Finite state machines
 - Provide additional advice on how to structure answers to exam questions
 - - Cut down/edit professor Wadler's lectures, in a similar vein to what Michael did this year. Makes them more accessible and useful in my opinion
 - Advertise the Discord and other help forums more actively on the website - seems like a very difficult to access community for such a useful thing
 - Flatten out the difficulty curve, especially for FP, as it feels very inconsistent - some tutorials were impossibly hard and some were nowhere near as bad, especially at the start of the course
 - Put all tutorials on the same platform! To me it seems that Teams is the best platform overall - look into that?
 - Make a proper, guided Haskell install tutorial, and push the Linux sub-system version right from the start! Seems silly to install the Windows version just to be forced to reinstall a few weeks in
 - A bigger focus on the relationship between the two branches of the course.
 - A real-time run-through with students about the basic problems faced with Haskell installation before tutorials instead of together with the tutorials would be nice.
 - As the first contact we have with Haskell is assessed (tutorials) and I didn't have experience with functional programming, I'd get stuck without knowing even what to ask and not being allowed to be too specific questions as it was assessed work. It would be helpful to have time with similar problems that are not assessed so we have freedom in our questions. A reading week would help too!
 - At the start, I think there should've been more assistance to getting used to things. I felt as though we were thrown into everything from week 1 when we barely knew how everything was working or how to get the set up ready. Once you'd fallen behind, it would be extremely difficult to catch up, I think there should be perhaps a week in the middle to allow a kind of "breather", so people who were behind could catch up. For the people already on task maybe they could be set like extra challenges etc. More opportunities for interactions with students, maybe setting up group work of some sort to create situations where we'd meet other students? This is difficult I understand to do in an online form but it can be very draining when you don't know anyone else doing the course.
 - Balance the difficulty between the CL and FP branches of the course, by possibly making FP harder.
 - Better adjustment to online learning. The tutorial assignments were often much harder than taught material and halted progress of consolidation.
 - Better organization, especially on the usefulness of Tutorials which often turned, didn't bring much learning value
 - Bigger assignments, Less Often.
- I do Informatics, so I also take ILA with the vast majority of students enrolled in the course.
 On a Wednesday I have 3-5 assignments due all on one day, these include: FP Tutorial assignment, FP Quiz, CL test, ILA Assessed quiz, ILA Homeworks.
 Communication between the schools needs to be improved.
- This has been a real struggle and the frequency of the assignments (multiple per week) makes time for reflection and understanding vanish.
 This needs to be sorted for future years.
- CL Tests: time limit was too short. Felt like I didn't have time to thoroughly consider the questions and my answers.
 CL Tutorials: 60 mins would have sufficed, rather than 90. Always ran out of discussion material within an hour.
 CL Tutorial Assignments:
 I feel like the tutorials were frequently quite difficult (and the later ones were very long), and it was only through the solutions given afterwards that I really digested the material, and learned how to approach the questions. But, by that point, the assignment already had been assessed. Basically, things felt sort of backwards, or like there should have been more intermediary steps for learning the content rather than just an immediately assessed assignment.
 - CL didn't feel very polished. The method of teaching didn't quite translate to the online format but it's to be expected in transitional times. I'd think some more work on the methods of presentation would go a long way. CL tutorials also felt much less engaging but that's strongly due to the marking scheme making them feel a lot less worthwhile. Some more resources to practice for the tests as well would be great. All in all FP felt mostly perfect as it but CL could really do with some streamlining.
 - Code grade doesn't work very well. Questions were frequently unclear. I find the faculty on piazza can be rather rude and dismissive at times.
 - Computation and Logic had very hard tutorial assignments of which no feedback was provided upon submission. The live tutorials were also not particularly useful as the tutors did not really go over the tutorial assignment and instead just directed us towards the solutions - where solutions were given but it would be much more helpful to have a tutor go through them. Because of this, the tutorials seemed particularly long and a chore. I would also prefer the solutions to the "challenge" questions to be released as well - as these are obviously the solutions we need most, since the questions were so hard.
 - Consider the workload of this course if it was combined from two courses.
 - Could you give more feedback of our tutorial homework?

- Due to Covid reasons, it has been quite challenging for the teachers and the students to cope with the hybrid learning. Many a time we had weeks where tests were conducted in all the subjects, and the dates used to clash, thus making it quite pressurizing and hectic for us. In my opinion, the weekly tests made us feel pressurized throughout the course! It could have been better if we had tests only during the mid terms and the finals, with only the tutorials and quiz during the course. It will help us to focus on learning and enjoying the course rather than completing our work under the pressure of the exams every week.

- During CL tutorials tutors should walk through every exercise
- Explanation of concepts involved in both modules need to be better.
- Feedback to CL tutorials would be nice - I have received none so far, same goes for CL tests
- For both parts of the course there have been occasions where there was a problem with the tutorial PDF or whatnot, and an official announcement about the correction was only made one day before the due date. People who handed things in early then had to go back and change their solutions. That's not very cool.

The workload is a little bit high. As someone striving to complete all the tutorials including the optional parts (most of which aren't actually optional, as we all know), I generally spend at least three days on CL (for watching the lectures, reading the readings, and completing the tutorials to the best of my ability) and two on FP. I work on a small part of my two other courses every day, and am able to do quite well in them despite the lesser workload. However I'd also say that the other two courses aren't nearly as interesting or well-taught as INF1A, so yeah. But it would be good if the tutorials can be a bit shorter, especially for CL.

Finally, I'm not a big fan of how the due date for the FP tutorials and the dates of all the CL tests fall on Wednesdays. This has a lot to do with the fact that all the weekly deadlines for Intro to Linear Algebra are also on Wednesday, and ILA is a mandatory course for Computer Science students. Sometimes there can be as many as five deadlines on the same day! My suggestion is to have the CL tests on Thursdays or Fridays instead.

- For the CL part of the course, it could be better by providing more sample questions before each test.
- Give access to the cl tutorials and the lectures a bit earlier, FP is released just after the previous weeks was due, cl is released two days later on Mondays when we are given lots of other work for other classes inc the lectures for comp as well as the FP tut due on the Wednesday,so it would be better if the tutorial would be released on the Saturday also to give a couple of days to spend extra.
- I feel a bit over loaded with the course work.
- I find the CL tutorials are not as productive as they can be? Maybe cause it's online and all
- I know this is specifically due to the pandemic, but I wish there were more in-person sessions throughout the course; it would have been great to allow for increased interaction with both the lecturers and my fellow students.
- I struggled with time at the start to get up to speed. Then everything follows on from this. It made it nearly impossible to keep up.
- I think if there was more of an opportunity to have more support. I know the q&a sessions which were very good as well as infbase which I used a lot. However sometimes when you don't understand a specific thing in one of the lectures it can be hard to pose a question on piazza. As well as this the books that we were told to get it would have been nice to know where to read in them and what chapters. As im dyslexic it was hard just reading the whole bit as some parts might not be needed and it would take me a while.
- I would change everything
- I would improve the quality of the CL lectures, reduce the difficulty and volume of work for the CL tutorials and give students some more time for the CL tests as they were very rushed.
- I would increase the amount of in person and synchronous learning. Most of the time I was just reading from a textbook or watching a lecture video failing to grasp the concepts of what was actually being presented to me. I found the language used throughout the course very inaccessible and the workload way too high.
- I would of preferred actual online classes instead of pre recorded videos. Also improve the typos and mistakes in tests and tutorials which easily leads to confusion and frustration when seeing later on that the question was not well formulated.
- I would plead that detailed feedback of tutorial assignments might be given. The online tutorials did not work at all, an improvement would be for these to be in person. For many of my tutorials, the entire group was silent, for up to an hour and a half, the 'group' I refer to including the tutor. I think that the CL lectures were pretty hard to follow, and whilst the actual content was good, the lectures felt like they had been put together in a rush. I'm not sure if the alternative of watching last year's pre-recorded lectures would be an improvement (that was what the lectures for FP were), but it may be worth consideration.
- I wouldn't mark homework. Instead, I would leave them as practice and then, during tutorials, I would give similar exercises that the group should work out collectviely. Then they would get the point if they get the right answer. This would incourage effective discussions
- If anything I hope the coronavirus epidemic ends. Also the freshly written textbook is neither well-phrased nor extensive enough to cover some of the course materials for this course, though I think it pertains to the course structure well.
- Improve the organisation of tests for the CL part of the course, we never received feedback on our mistakes, and thus kept repeating said mistake.
- Include Gödel's incompleteness theorem as an option
- It was difficult to focus while watching the pre-recorded lectures and I also didn't feel as invested as I could be in-person, but I

understand that this is unavoidable. Other than that I fell like in some cases it was not properly explained what the CL tests expect from students so I found exercises that I have not seen in neither the book nor the tutorials and lectures. I would make it clearer as to what skills we are expected to have.

- Just a massive man
- Listen to students and realise that if everyone is telling you the same thing, people are probably not saying it to get out of doing work. Also, stop being so rude to students on Piazza. You cannot, in the same breath, tell a student that they lack gumption, a personal insult, for having difficulty due to a mistake on your part and also to not be afraid to ask questions. Also, re version control; yes, it is expected you double check that your specific page references are up to date. especially if it is concerning assessed work.
- Make sure everything is completely organised and ready for semester start.

Pacing needs work - there were times where the work load would be insanely high for a week or two, only to drop to very little immediately after.
- Make sure that the difficulty level of tutorial work matches what is learnt during the week in lectures and reading. There were one cases where tutorial work became very difficult, beyond the point of challenging.
- More help with CL
- More of a live element to it, rather than recordings of lectures. In one lecture recording for FP, it was mentioned that people who watch lecture recordings learn worse than those who attend in person. While impossible this year to attend in person, having more of a live element to the lectures could've been useful.
- N/A
- Need more Lambda Man
- No Blackboard and improved tutorials
- No improvements, I think that the course was managed perfectly and when we did have problems they were resolved swiftly.
- Not many improvements, perhaps the only ones would be consistency in weekly workloads, some weeks I found tutorials/lectures to be far longer and time consuming than others.
- Possibly less Haskell in CL tutorials, but rather more questions. Makes revision for the five smaller exams also easier
- Some more clarity in the questions for tutorial assignments
- The FP course was much better than the CL course. My tutor for the CL course was very vague with his feedback in my opinion, and often it was just not worth attending any of the feedback classes.
- The auto marker of the fp tutorial should be enhanced
- The balance in difficulty between the two halves of the course seemed to be a bit off. FP could be made a bit more difficult, and CL could be made a bit easier in my opinion,
- The course could benefit from slower explanation of examples. Sometimes I feel that the examples are explained too quickly for me to follow
- The course was lacking in many areas, it's very much all or nothing some weeks I do the work and get full marks, but doing some of the work is rarely worth it so I either do all or none giving me a mix of 100% or 0% its a weird way to learn. Guidance is continually changed after the fact and very confusing. There is often error in tutorials solutions lectures etc. There is a distinct lack of compassion and understanding, other courses have offered reassurance and support this course however has taken a massive toll on my mental health. I think the course needs a lot of work to support students better, in all honesty, I think it needs to take continuous feedback from students and listen, a survey every week could be good and changes implemented.
- The fact that CL covers larger topics in a shorter period of time compared to FP is a bit stupid in my opinion id like to see some more time given for students to consolidate their knowledge in CL
- The online experience is awful, we want in-person tutorials like the math school does.
- The pace of the course is like launching rocket. Many parts of the knowledge can be more detailed and specific in order for us to have better understanding rather than rushing through them.
- The work load was far too much, the course required as much work as my other two courses combined
- The workload is way too intense for people with little programming experience. This course took up more of my time than my other two courses combined if not more than that. I understand that we were told we were only expected to do a few hours per assignment but when every single assignment counts for your final result its hard to just give up on it after a couple hours just because you've spent the recommended amount of time on it. Personally when i start doing something I find it difficult to stop before i finish it. I dont like feeling as though ive given up. I dont know what the format and grading of the assignments are like in any "normal" year but I would rather have not all the assignments worth a chunk of my result. A few assignments for larger proportions of the grade and more time to complete them in my opinion would be much more beneficial.
- There is no point of having a 1.5 hour long tutorial for CL just to "ask questions" about the assignment we have already done. If I have everything or almost everything correct, I want to learn something more or extra.

- To be able to see feedback on our CL tests
- Work load balance
- be more organised and easy to catch up for a student who misses the first two weeks
- course sources are limited, not friendly to students who didn't have any computing base knowledges.
- less logic, especially sequent calculus
- make the videos more informative and shorter. start the courses on Zoom instead on Collaborate.
- more tasks to do during the tutorials
maybe a better system of evaluation (Codegrade was fine overall though)
- more time for writing haskell codes.
- not put the tutorial deadline on the same day as CL tests
- some introductory notes or videos could be introduced for helping people installing ghci, using github and so on
- some tutorial session can be designed better. Maybe it should have some icebreaker activities at the start so we know about each other. Sometimes it end up being awkward silence with no much to talk about if we don't have so many questions.

2. Informatics 1 - Introduction to Computation -

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

- -
- - Focus on revision and understanding the material as well as the tutorials
 - Take advantage of the tutorial sessions too.
- Always attend the workshop, tutorials and computer lab.
- Always read the textbook chapters alongside the lectures. They tend to cover the same topic from slightly different angles, and clarify each other.
- Always try the optional reading and optional tutorial exercises if you can as this will expand your knowledge and have a deeper understanding of the material.
- Be careful
- Be organised and don't procrastinate. There will quite a workload you will need to be used to, along with your optional courses. So do a little bit everyday, also try to make friends, they can really help if you're stuck on questions.
- Be prepared and organised from the start, ask questions on piazza if something is unclear or ask your tutor in your tutorials. Find people that do your course so you don't feel too alone.
- CL tutorials may be much longer than they look like.
- Concentrate and do solid work. Never cheating is important.
- Consider not taking other optional courses alongside - this course will use up most of your time.
- Do assignments when they are released. It's less stressful to give yourself thinking space and it'll be better as a result.
- Do not fall behind on CL! If you don't understand something in a profound sense and how the different topics are linked together, make sure to ask your tutor or on piazza.
- Don't
- Don't be fooled, it's harder than it looks
- Don't fret about the little things, it will all piece together
- Don't stress about doing all the CL tutorial assignment questions as they are incredibly time consuming and often don't particularly help your understanding any further, especially if they consist of repetitive tasks like applying boolean algebra over and over. Focus on studying the textbook as it gives a good explanation of the topics and has more questions there too.
For FP: practice using the concepts learnt to program your own programs in Haskell to get a deeper understanding of the concepts.
- Don't have a life outside of computer science if you wish to pass with flying colours
- Enjoy Haskell it's very fun and make sure to take notes and listen.
- Functional programming is fun, but spend time looking over what you learn in CL, as it mostly ties in with itself
- Get directly onto the discord, filter through Phil's lectures to get to the important content and watch that a few times, use ZVON!
- Get familiar with Haskell before taking this course.
- Give enough time to digesting content in CL. Make use of asking questions to tutors and on Piazza.
- Haskell will start to make sense. Give it a few weeks. It will then probably stop making sense later in the course, but most of it is okay.
- Have a good amount of prior programming experience before starting the course.
- Have some basic knowledge before doing the course.
- I think it would be a lot better if the CL part of the course could be more clear, because it is sometimes not so clear as the FP part, in terms of what to do, tutorial works and videos content
another important thing is that collaborate blackboard is not good as Zoom or Teams, it is slower so I recommend using Zoom or Teams
- I would advise a future student to make the most of the help available from other students, and to try and not consider dropping out of the course twice a week, after the frankly appalling tutorials, as was the case for me.
- If students do not have very solid fundamental knowledge and experience in programming, it might be too challenging for them to choose this course. If they do, they can take it to widen their knowledge.
- If you do the tasks you are supposed to do - i.e. do the reading, watch the lectures, solve the tutorials, you will be fine and you will most probably enjoy the course.

- If you just started coding, you should spend all of your time on this course otherwise you will struggle.
- It would be much preferable to have a programming/computing background beforehand as the tutorials are quite challenging. However if one does not know anything related to programming/computing, they should still give this course a go and not give up after only looking through the first few tutorials/lectures as everything slowly becomes much clearer.
- Its not worth your time.
- Just don't cut corners as much as possible, small details are really important.
- Keep on top of all lectures and reading as the amount of work can increase very quickly
- Make a schedule/timetable of all the different due dates and times of your work and tutorials, first couple of weeks I struggled to keep track of deadlines and different tasks, as both sides of CL and FP have different tests/tutorial timings
- Make sure to understand the context well and ask questions if there is any confusion with the work. Not only are the lecturers and tutors there to help, but other students are incredibly useful in explaining concepts in ways that may be easier to understand. Also, keep on top of work and know when deadlines are coming.
- Make sure you get full marks on the early assessments as they are easier, and it takes the pressure off once you reach the end of the semester and the tests are harder.
- Make sure you have solid mental health, work hard at the beginning the first few tutorials are worth the same amount of marks as the last but leaps and bounds easier so the way to pass is to get the points right at the begging before you get burnout.
- Never do just the bare minimum, instead love this course
- Practice before CL tests, the time constraints are tight, and they get tighter in the later tests.
- Prepare for working 14-hours on a 7-day basis. Also buy a big monitor, that helped a lot with my eyes.
- Read up on Haskell before the semester starts so you have practice. If you haven't got experience in a functional language the course progresses very quickly for a beginner.
- Scheduling the work is very important since its very easy to be forced into working up untill 3AM to get things done in time. The videos are not usually worth watching in both subjects, if its possible, just read the textbook so you can get through it faster and more efficiently.
- Spend the extra effort getting full marks on the earlier tutorials as it gets you into better habits (learning more stuff faster which will become useful later on) as well as reducing the importance on getting full marks on the later, harder tutorials which take longer to complete. Note down in advance the dates for all the tests and make sure you stay on top of the lectures and reading as it gets harder to catch up if you fall behind
- Stay on top of things
- Take a look at the tutorial assignments as they are released, so you have an idea of how long they will take you - it varies.
- Take more time on this course is worthy
- Take notes, make plenty of friends who you can discuss course content with, and don't stress too much about missing up one particular assignment.
- The book is the most usefull reasource
- They really need to forget imperative programming language they probably learned before to learn Haskell
- They say it doesn't matter if you've done programming before. That's a lie and having experience with programming will absolutely help, especially with the tutorials. To be fair this wouldn't be an issue if the tutorial grades didn't matter, but they did for our year.
- To take notes during the lectures, so that they don't have to panic and watch all the lectures and study the entire material before the exam.
- Try and grasp the logic early on and do further reading. Really helps cement the course content
- Try and score as many marks in the easier, earlier on tutorials in this course since it will help you pass sooner. It will also give you a safety net for when the tutorials become more challenging.
- Try do very well in the early weeks as the course does get progressively more challenging
- Try to go for the optional parts of the tutorials early on in the course to pick up on the easy marks as the optional stuff gets more difficult towards the end.
- Try to practise more and start the assignment as soon as possible.
- Work on the tutorials as soon as possible.
- Work, and if you have a question ask it in the tutorial. Don't think this is an easy course as its not try and find others that are also doing the course.

- You need a huge amount of time for this course.
- You need to put much efforts on it
- You want to make sure you learn enough Haskell skills in the FP part, and that will make you handle many tutorial exercises easily.
- don't use the new book for a special year under C-19, no much pre-video for study. No other option for study
- if you can learn some programming beforehand, starting from zero was really hard
- make sure you are aware of what contributes to your final grade
- make sure you understand Haskell fundamentals
- sadge

3. Informatics 1 - Introduction to Computation -

3.2) Please add any other comments you have about workshops, tutorials or labs on this course

- Blackboard is a terrible platform for tutorials, they felt extremely disorganised and tutors gave very vague feedback.
- CL Tutorial 10: I was very lost in this tutorial, despite understanding the previous week's content. It wasn't awfully well explained, and was quite complicated and overwhelming.
- CL tutorials were especially unproductive due to its design. There was often no room for discussion
- Computational Logic tutorials could do with some work. Especially the tasks we're supposed to do in them. Either they're too easy and done very quickly or too hard and nobody knows how to approach them. And then sometimes not even the tutors know what the task wants us to do.
- FP tutorials were great and our tutor too, but CL tutorials felt completely useless.
- Fp tutorials were very good although Phil could have turned up a bit more during the first weeks! Cl tutorials were abysmal - far too long, awkward and pointless. Cut them down to an hour and a half and make them more similar to Fp tutorials!
- Great tutorials with lots of helps.
- I felt the fps tutorials very helpful. But for cl ones, since they are taken place on collaborate, I had very bad internet connect from China, thus had received very little information from those tutorials.
- I found them a bit useless. Please see my comment above on suggestions
- I only found the FP tutorials useful, as my tutor was great. Not the case for the CL course
- I personally felt that the tutorials were a bit of a let down, especially after spending so long on the assignments, the nature and use of time in the tutorials was less than beneficial. I feel like they could've been done much better in-person in a socially distanced space.
- I personally think the workshops, tutorials, and computer labs are not insightful enough for gaining extra knowledge beside the course materials already covered by textbooks and lectures. However Q&A sections are very good in that regard.
- I would have liked to receive a more detailed feedback for the tutorials assignments (not only the grade); otherwise, the feedback for the test was helpful, so were the Q & A sessions
- I've discussed CL tutorials in the improvements section and FP tutorials in the most valuable aspects section.
- I've only really had help with my learning from my FP tutor, have not found any other sessions beneficial. It is
- cool but I prefer on campus
- It's pointless to go over work that we have just been marked on and, in the majority of cases, taught ourselves. It would be more helpful to go over work pre-emptively. Perhaps have some questions centred around the material of the hand in due the next tutorial so we have some basis of knowledge provided by live classes
- Most people didn't turn up / weren't active for the CL tutorials
- My Computation and Logic Tutorials were very awkward online since most of the time my coursemates didnt want to speak on Collaborate . I tried provoking conversation but never got anywhere. Could've helped a lot having a collaborative tutorial group :)
- My FP tutorials were really useful, but CL was not helpful as my tutor often came unprepared, and our work was never marked on time for the tutorial, so I was unable to discuss or contribute during them.
- My Tutor who I had for both CL and FP tutorials was exceptional in his knowledge, his understanding of my issues, and ability to resolve them. He was also very approachable and willing to talk about the broader topics around the tutorials.
- My tutor is pretty great. Sometimes the workload is too high. CodeGrade can be really annoying.
- My tutors were great and they both put in a bunch of extra time to answer our questions even when they were beyond the scope of the course.
- Not enough guidance and tuition. Usually not sufficient activities to work on for the duration of the tutorial.
- Possibly not going over the solutions (since they were already published beforehand), but rather doing new questions or something related in the tutorials could work.
- Reduce the time for discussion
- The CL tutorials didn't feel like they had any structure. Other students didn't show up most of the time what made discussion challenging
- The FP labs seemed like they generally aren't needed. We didn't have much to talk about. The CL labs could have definitely been useful, though I though mine was a very ineffective tutor who didn't really answer questions. Also, not having the tutors around for the first half hour of the CL lab didn't work well.

- The format didn't seem to work for me. Lots of unsure students chatting online.
- The online tutorials are no good, not a substitute for in-person at all.
- The tutorial for CL was a bit longer than it needed to be as I found I was done the work required for it before the end of the tutorial session
- The tutorial work gave me a good base of knowledge but the tutorials themselves were pointless
- The tutorials are really the most helpful among them, both the exercises and the live sessions.
- The tutorials did not work for me, needed more time with tutors and better organisation.
- The tutorials for this course were all online, with barely anyone turning on their microphone or camera to explain things. I felt this didn't really help me learn much, the interaction with classmates was alright but nowhere near enough to actually let me understand what was being "taught". I eventually stopped going
- The tutors were nice, and it was the only opportunity to interact with anybody in the course. The CL tutorials answered a lot of my questions about the subject and helped me prepare for the exams, while the FP tutorial taught me a lot about how to make my programs neater.
- There is no point, the online tutorials were not helpful
- They need to change. The quality of communication from my tutors was exceptionally poor, my CL tutor never came prepared, was on occasion late, and generally unhelpful and disinterested.
- To complete the tutorials to get a good grade, it required a lot of time (more than that advised) as you needed to search for material beyond that suggested and required several attempts to arrive to the correct code.
- Tutorials haven't been particularly useful since all the work was individual assessed work we had already completed before the sessions, computer labs were for obvious reasons this year N/A, and I never attended a workshop
- Tutorials helped in understanding the material better and learning from mistakes.
- Tutorials themselves were very bad online. Unclear instructions on what to do, and no incentive for attending.
- doing more stuff other than the tutorials
- not pog
- really liked the workshops and tutorials!
- sometimes if students already know the last tutorials maybe the tutor can start some questions or start a new topic.
- tutorial group discussion didn't often give much understanding but it would help give a wider view on the subject and an understanding on how peers have been feeling about the work. Tutorial assignments really did help and were the major learning component of the whole course.
- tutorials can be design a little bit better.
Haven't had the chance for any computer labs this year.

4. Informatics 1 - Introduction to Computation -

4.1) Please add any other comments you have about the presentation of course materials online and their accessibility.

- Accessibility was good. Would have liked an option to watch lectures on YouTube as well.
- All materials are well presented and accessible.
- CL lectures were hard to follow however i enjoyed FP where we could see the Prof and felt like i was actually in a university course not watching difficult to understand YouTube videos it also helped to hear students asking questions during the live lectures as some where questions i personally had
- Clear
- Course material in the format of videos just doesn't work for me very well, as I am unable to focus properly. The CL videos were a bit confusing at times, and the FP videos, being lectures recorded last year, felt as if they were not targeted at me so I didn't feel very invested. I do not know how to make it better though.
- Course materials have been reasonably accessible, but there was just a steep learning curve in week one when getting used to the system.
- Course materials were easy to find and navigate through.
- For most of the first half of the semester, it was difficult to find where resources were, where assessments were, where assignment/tutorial handins were, where deadlines were, etc.
The latter half of the semester has been completely fine, though the textbook changing frequently has been confusing and at times frustrating to deal with.
- Generally quite good. Question in tutorials can often be unclear (and if you point that out on piazza you are told that you really should have been able to figure out what they actually meant...)
- I found the pre recorded lectures very helpful as i could pause, rewind, play at different speeds and view the subtitles of what the lecturers were saying it helped alot for when i was struggling to understand a concept. Philip and Michael were very interesting to watch and learn from their enthusiasm for the subject motivated me when I was finding the course difficult
- I really like how CL lectures are straight to the point and concise
- I think using youtube would be easier
- I wish that practice materials for tests could be made more accessible online and pertains more to the actual questions we are getting in real tests.
- It was great to learn from such renowned and cool professors. Michael and Philip are fantastic.
- It was hard to find everything felt like doing two courses spread out all over the place, piazza, blackboard , zoom , learn, email.
- It was sometimes confusing when the lectures for the week weren't all released at the same time as you wouldn't realise there were more lectures before starting the weekly assignment
- Maybe make a separate section for the textbook on the sidebar, took me quite a while to find it a couple of times!
- Myed page was very difficult to navigate in the first weeks and i missed deadlines because of it. Fp tests, especially the final, were poorly worded at times and i felt like i was made to do more work than necessary on some functions because of misunderstanding
- Online course materials were fine but I wish the lectures were live instead of recorded material from previous years
- Overall accessible, perhaps if every lecture (from cl sometimes) was released on Monday, that would have been great. When I some lectures are released on Monday I assumed they were all I needed to watch and so I planned my week accordingly, to later adjust it.
- Overall pretty organised, it is clear where to find the materials. However, sometime there's some breakdown on Learn which can be a bit annoyed.
- Some of the content in the FP lectures was irrelevant (previous years) and repetitive over the two lectures, it feels like this could have been re-recorded or edited to about 1hr of lectures. Also it was hard keeping track of what cl lecture i was watching as there was so many and the topics were scattered about, the titles of the lectures were also quite confusing
- Some of the prerecorded lectures were a bit unreliable to load, but they worked eventually.
- The CL lectures can be released in a similar form of FP lectures: two long lectures per week. The edited CL videos are not coherent and I often find myself lost when watching them.
- The autogenerated captions were bad, it made it extremely difficult to understand what was being said if the mic quality ever dipped. Considering the lectures used were prerecorded, it would be really good if there was proper captioning, even if only for the definitions.
- The course material is perfect. But it can be sometimes difficult to access the blackboard collabrate when I was studying from my home country. It is annoying as the connection is very poor and it can be better if zoom or Teams is used instead.

- The files could have been organised so much neater.
- The material was all easily available on Learn, which was used quite well.
- The occurrence of server fail are quite annoying, so maybe there should be an upgrade on this for future years. And as said previously I would of preferred real online classes instead of pre recorded videos.
- The online course materials were clunky, terrible quality, most of them FROM LAST YEAR, and poorly adapted to reflect the way we would be learning. Tasks assumed we had time that most of us didn't have, the textbook was an unreadable mess unless you'd already studied that stuff in high school, and overall totally inaccessible for a first timer. I was very dissapointed in the uni for their lackluster response to covid.
- The videos, pdfs and book were great.
- Videos need some work before they can really provide anything useful. Often its on the same level has just having someone read the book out when I could just read on my own pace instead. If onine learning is to continue you'll need to put more work into making the videos efficient and understandable.
- When learn was functioning properly, I had no complaints.
- lul
- resources are very convenient :)
- some introductory notes could be helpful
- some of the exercise doesn't relate to the text book or any materials uploaded in learn.

7. Informatics 1 - Introduction to Computation -

7.1) Reflecting on your experience of hybrid teaching and learning on this course, what has worked well for you?

- All online.
- Automatically graded assignments
- Balance needs to be skewed more toward the in-person aspect of hybrid learning; 100% of material in this course was delivered online, making it fairly useless to actually be in Edinburgh if we're looking at it from an academic point of view
- Being able to study whenever I need, so I can organise my own time.
- Calling it hybrid is inaccurate, but I really appreciate the lecturer's efforts to make the course interesting online. The Q/A sessions were well taken, and the textbook was really good. I feel having the recorded lectures were good from the FP side as it kept some of the energy that Phil Wadler has as a lecturer. The cropped and condensed style of CL also worked, however, there were some areas that were covered that aren't mentioned in the textbook, which made revising it a lot harder.
- Everything was online :(
- FP tutorials are really good because zoom allows for the tutor to edit your code - besides internet connection issues I'd say they simulated in person tutorials very well. As well, the tutor was very well focused with each of us individually.
- Flexibility to work at my own pace whenever I want
- Flexible lecture watching times.
- Hybrid teaching for Introduction to Computation didn't exist - I never saw so much as the option to do anything in-person, other than a small number of in-person talks unrelated to the course towards the end of the semester.
- I am overall satisfy with hybrid teaching. It works for me.
- I can't say for sure since I currently work 80+ hours a week just for three courses. If that says anything then I guess that's how it's working for me.
- I felt it was good having all the resources readily available it just felt quite distant from the course. I felt the best way to handle things was to start things as they came available and then increase the amount of time i was spending on things the closer to the due dates
- I found the online tutorials worked well, its easy for different students to share screens to show code/solutions or other pieces of work, and the use of breakout rooms were good for smaller discussions. Obviously online lectures are not as good as the real thing, but the recorded interactive videos, especially in CL, I found to be a good substitute.
- I have found hybrid learning quite difficult however tutorial sessions are quite useful to get a chance to ask questions
- I haven't had any in-person tutorials, so it's all been online. Personally I prefer it online because it gives me more flexibility with time and I feel more comfortable studying at home.
- I really dislike hybrid or online teaching. It really ruins all the experience and passionate vibe of an in person class.
- I was able to manage my time more effectively.
- I wouldnt personally have called it hybrid learning, anything in-person would have helped me so much and saved alot of hours of work and stress.
- IT allowed me to sort of explore the campus
- Infabase has been amazing.
- It was purely online which I did not enjoy.
- It worked very well for me, the content and teach styles made the material very easy to learn.
- Lectures and tutorial assignments
- Lectures are always easily at hand to re-watch.
- Managing my time carefully, not procrastinating, making use of Piazza and QnAs.
- N/A Course entirely online
- Nothing
- Online learning really works well for me, and considering the pandemic, I would strongly recommend focusing on online learning for a while.
- Pre-recorded lectures, however, not if they are from last year
- Reading the textbook before watching the lectures, as I found the lectures quite sporadic and more branched (as is expected).

- Recorded lectures, FP tutorials
- Teams and Zoom
- The ability to pause lectures and think about specific parts
- The ability to work in small groups with a tutor at hand if needed was very useful.
- The course has not really been hybrid as it was online only, which has made it difficult to find peers doing the subject, but I found having even just a small peer network invaluable. Piazza was also useful as the tutors responded quickly and other students were also helpful.
- The flexibility of the hybrid model has worked well for me, but very little else has been satisfactory, for me, or any of my peers.
- The lectures were fairly good.
- The online lectures were ok and tutorials were ok. This is difficult to do without being in person so I appreciate the work that has been put in to get to this level! The help available on piazza was great!
- The online live tutorials and Q&A sessions were useful in understanding the material better.
- The videos are good, especially the subtitles.
- The weekly assessments have been a great measure of progress and almost relaxing at times since there isn't any mounting pressure towards the end. The only area I could feel like I was missing out in was not being able to ask questions as I received the information but the Q&A areas helped where they could, still not perfect though. It's obvious that we get less out of an online lesson rather than in person and I could really notice myself not engaging with most lecture videos. Not really a problem that can be solved in the short term but it would be worth putting more effort into the presentation and robustness of the videos if online learning continues.
- There was no hybrid teaching on this course.. Serious shame as my hybrid teaching on other courses was very good
- There was none in-person teaching and online learning is ineffective
- To claim it hybrid teaching would be false, there was absolutely no physical teaching experiences, even when other subjects did have physical tutorials.
- Tutorials
- Tutorials have been carried out very efficiently and effectively.
- Weekly assignments were definitely helpful, they gave a structure to a course which was otherwise just pre-recorded lectures
- Weekly tutorials has kept me engaged and constantly learning
- What hybrid teaching, there was nothing in person there was no option and learn was confusing to understand I did not discover CL tests until after I missed the first one this I only found out about after talking to fellow students in an ILA in person tutorial.
- hybrid? this course was fully online.
- make the time more manageable
- not sure
- nothing
- piazza was a helpful tool to communicate with the instructors.
- the mandatory tutorials with tutor
- tutorials and q&as have worked well, i wish we had live lectures

- 7.2) Is there anything else you'd like to tell us about your experience of hybrid teaching and learning on this course that would help us improve our approach?
- .. Put some in
 - Actually give us in person learning and stop dragging your feet.
 - CL tutorials are just really bad.
 - Do something, anything in person
 - I definitely feel that any sort of in-person teaching would have made the world of difference. Piazza is a good concept, however if im really struggling to understand something id prefer to be able to go up to my lecturer and ask them personally face to face (socially distanced), not by piazza, email or a collaborate QandA in front of 200 people
 - I dislike online learning. But that's the current situation.
 - I found the tutorials were ok but making friends was harder, I think perhaps there should be a few mins at the start where we got to know each other or talked to the other students a bit more rather than them solely being for just the tutorial. In an in-person tutorial, I would assume I would've become friends with at least some of the other students in my tutorial but in this form, it was quite difficult as we'd start by talking about the work and then once we'd finished we'd all leave. In-person, we'd probably have more opportunities to make more conversations etc.
 - I hope the tutorials and other sessions could be automatically recorded instead of requiring TA's operation to record the session, since it sometimes happens that the lecturer or TA did not remember to begin recording the session until halfway through the entire session, which can be detrimental to those who couldn't make to the session on time.
I also wish that there could be more lecture-alike sessions instead of workshops since many students opt not to participate in them due to extensive workload, especially near the end of the semester.
 - I would have live classes instead of pre-recorded classes.
 - I would like to point out that Mr Wadler remarks in last year's lectures that turning up to an in-person lecture is important, and that he urged everyone to do that last year. It is quite frankly a waste of time. I hope very much that next academic year, there is absolutely no hangover of hybrid teaching.
 - I would release lectures at different times as it would happen in real life so that we somewhat have a more rigid schedule
 - Include some hybrid teaching? It's a difficult thing to do, but first of all when advertising as hybrid teaching it's probably not a bad idea to actually have some, and second of all it would've made the course more enjoyable than just sitting in my flat.
 - It has been really isolating, organising study groups where we don't risk disqualification to talk to each other about work would be great.
 - It's a bit mass ?
 - Live lectures
 - Maybe aim to have some in-person activities, which could include smaller groups or made optional.
 - N/A
 - No (2 Counts)
 - Not particularly, I just find online learning hard but I am learning to organise myself better.
 - Not very hybrid, which is understandable regarding the situation, but do not claim that it is hybrid when there is little point to us paying expensive rent in Edinburgh.
 - Partly as a result of the pacing, and partly as a result of every hand-in being assessed, it's been incredibly stressful (especially in the first few weeks) at times to keep up with work.
 - Perhaps adjusting tutorial sessions
 - Please focus on the quality of network services on university accommodations and improve the performance (stability) of the server.
 - Reduce the time for discussion
 - Scheduling is the only true challenge here. There is no reason to go outside anymore and I've only had a couple things a day and they are rarley even worth attending. Its difficult to draw a line between regular deadlines to keep us on schedule and arbitrary timing so that we can't do anything in our own rythim. An approach that ensures I have a little work every day could be much more beneficial than the possibility of things adding up together just before they're due.
 - Some focus on presentation and structure of answers would be useful.
 - Some of the lectures are just recordings from last year, so they included a lot of info about exam dates and such that wasn't applicable to us at all. Also there are issues like questions asked by the audience being inaudible, or it being unclear what the lecturer is talking about since the relevant slides aren't visible in the recordings.
 - The codegrade tool used to help us find errors in our code gave somewhat cryptic messages for someone with no experience.(same

with compiler)

Having help for this tool would be useful as it was often confining in its expected answers.

- The students desperately want in-person tutorials for semester 2. The online tutorials are antisocial, distant, non-engaging and frankly usually unhelpful.
- Try do more classes in campus as I felt it was more online than in campus and there wasn't a balance.
- Try to use less blackboard collabrate for tutorials, as it can be very hard for students who live abroad to connect to it (at least for me).
- Tutorials didn't work well. Many students sat their with their webcams off and their mic muted. Not helpful.
- Tutorials need improving upon.
- Weekly to do list was very helpful, particularly at the start as it was hard to figure out what exactly needed to be done
- Work load often seemed overwhelming compared to the amount of learning hours provided.
- everything has been online and has not worked well in my opinion. Definitely prevents effective learning.
- it doesn't feel like hybrid teaching, but mostly just online teachings.
- live lectures where possible would make the course more engaging. moreover starting with no prior knowledge of programming was really difficult, some introductory lectures/drop ins would have been helpful
- no frennds
- same as above.

11. Thank you -

11.1)

Thank you very much for taking the time to complete this questionnaire. Your response and comments will be fully considered.

Please provide any additional comments you may have about the course, the teaching on the course or the resources that support it in the box below.

- Although my feedback is largely negative i want to thank the teaching staff who have clearly tried hard n these difficult times, i just think how much the students are struggling is hard to get across over the internet but thank you for trying i look forward to seeing some of you in person.
- As this was a double stranded course with two different weekly assessments plus sometimes tests, there was no time to assimilate the material. It felt like a condensed pill of computer science, extremely interesting but hard to digest.
- Don't treat students like an inconvenience. And don't be surprised that people become confused and ask questions when the work isn't clear. The textbook is useful, but personally, it seems pointless to have exercises and no answers. We do them and then what? We have no idea if we did them correctly or not. Perhaps just a few answers here and there, but at least some.
- Dr Claudia-Elena Chirita has been a very good teacher! Instead, I found cl tutors to be unprepared (I know they are not supposed to know everything, but in my experience they knew basically nothing)
- Fantastic course :)
- I really enjoyed this course and have definitely learned a lot from it!
- I'd like to add that ive been attempting to correspond with Claudia/Michael about test results for a good 4 days now and still havent received a significant response - this score is important to me so its a shame that this correspondence is so poor.
- I've made a severe and continuous lapse in my judgment
- My FP tutor was the best tutor I've had all semester and really helped my understanding of Haskell.
- Nope.
- Out of all my classes this has been the most well adapted to the new system. I've really enjoyed FP and it is a true remainder as to why I'm studying computing and why I enjoy it. CL feels useful but when compared next to FP it seems fairly poorer quality. I know I'm getting a very incomplete picture but its all I can see from my room these days. This semester and the universities poor responses have been beyond testing but its been fantastic being able to do work that I really enjoy, especially since it would have been the deciding factor as to whether I continue to study during the pandemic.
- Please reach out to students, give us some help in organising our time, even just some activities about what we could expect in our course before term started would be great. I still don't know why we didn't learn that all our stuff would be online by the time we came here. I just dont understand any of this stuff and its making me miserable. I genuinley feel like I dont belong here because I dont understand what you're ""teaching"" us. Do better next time, and refund students.
- Prof Philip Wadler was extremely interesting and approached it from a beginners point of view and with great energy and teaching style i would have liked to be in person to ask about the lectures, however Prof Michael Fourman's lectures were annotated over and name dropped complex topics with no background for parts of his course these while interesting tangents didn't come up and were confusing. Also who is Dr Claudia-Elena Chirita, she just seemed to send me emails every few days some expiation would have been nice in the introductory lecture.
- Teaching was lovely, enjoyed it so much. The content is awesome, challenging and fulfilling. It's just a shame the course had to be delivered online.
- The new textbook is great. The tutorials work well. The tests are of good difficulty.
- This course is already doing a great job, keep it up:)
- Watching the pre-recorded lectures I felt like I was missing out by having to watch them at home instead, but what can one do?