

# 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>

This information is provided for students and staff at the University of Edinburgh: **you may not redistribute or reuse it without permission**. If you would like the information in another format or want to use it in your own publication then please contact the Informatics Teaching Organisation at <http://www.inf.ed.ac.uk/teaching/contact>

## **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 2C - Introduction to Computer Systems [INFR08027\_20-21\_SV1\_SEM1\_ONLINE\_CACORE19] -

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

- All these information about different topics - before I knew little about how computer actually worked, but now I understand so much about it. Also, I found the Q&A session very valuable and engaging - they demonstrate how passionate the lecturer is about this course.
- Boris proficiency in giving lectures  
the Office hours are helpful
- Boris was passionate about the course, this made it much better to watch the lectures and he seemed very happy to be doing them. The coursework helped consolidate learning.
- Boris; fantastic lecturer.
- Content is new and interesting, charismatic lecturer, well-organised syllabus
- Content is very engaging. Boris is a very good lecturer.
- Courseworks, as they were directly connected to the content. After watching lectures/doing readings I had a general understanding of the topic, but courseworks allowed me to deepen it.
- Deepening understanding of computers
- Different topics covered throughout the course.
- Having the syllabus on learn made it easier to see what was happening each week.
- How it challenged my resilience.
- I enjoyed the content, I liked learning how the computer works. I personally prefer more coursework and quizzes over exams. Courseworks are a practical way of deepening my understanding. Quizzes ensured you were up-to-date on the past fortnight of the course.
- I enjoyed the first assignment as I thought there were plenty of resources to help us complete it to a high standard but at the same time it was very intellectually challenging.
- I found myself good at self studying
- I learnt a lot about how computer processors are implemented.
- I learnt many things that I have not seen before.
- I particularly like our learning on how a processor works
- Improve my self study skills
- It really forces you to think about the practical implications of the programs you are building, rather than just rudimentarily applying a concept.
- Learned a lot about programming in different languages.
- Lectures and coursework.
- Office hours and quizzes. Office hours helped clarify doubts in cw and the course content, and quizzes had quite challenging questions which helped understand the topic better.
- Resource list.
- The content of the course was interesting because we learnt how a computer works at a very low level
- The content was very interesting and challenging.
- The content. I feel it covers a big range of key really interesting aspects.
- The content fits my interests mainly
- The course goes through the most important concepts of Computer Systems and cover them quite deeply. I like that I can learn the exact details on my own while doing the coursework.
- The coursework is indeed the part where I learnt the most, even though sometimes it's hard to get started, because it is always confusing on how and where to start.  
I also enjoy tutorials a lot, even though the online classroom is not the best one.

Lectures are pretty interesting.

- The courseworks were very challenging and gave his practice both in coding, but also on the topics we were studying.
- The labs, tutorials and especially courseworks are well fitted to the course, enforcing the knowledge over and over again  
The TA for the first cw is good and the one for the last cw is awesome
- The lectures were thorough and the slideshows provided great detail about topics covered
- The readings are useful
- The teacher's enthusiasm and the way he went about teaching the course made it easy for me to learn.
- The way the course built from the fundamentals up to more complicated topics involving the OS
- The wide range of topics covered. Stimulates thinking! The courseworks and quizzes were challenging and fun to do.
- This course has been a great introduction to both computer architecture, and low level programming, as well as the intersection between the two. Through the high workload practical programming courseworks provided over the semester, I have gained confidence in using C, particularly the infamous memory management it is well known for, as well as an understanding of assembly code, both in terms of how to understand and write it, but also how assembly is broken down and executed by the coursework.  
  
Boris' lectures were extremely useful, and I only wish we had the opportunity to be in the lecture hall with him, He also provided two hour long Q&As per week, which were hosted in an appleton lecture theatre, which could be attended both in person (pending social distancing guidelines) and online, which was the most time available to us out of all the informatics courses this semester, and was greatly appreciated.
- This course provides us with a chance to understand how the hardware and CPU work
- Tutorials were definitely very helpful!
- Understanding the how computer is designed
- Very useful and insightful course as to how the computer developed over time, as well as the way programmes were written back in the early days. Definitely very useful general knowledge to have. If I had to pick a specific topic it would be how binary is displayed and processed, from bits to bytes to words to pages, very interesting to me as I have a bit of an interest in cybersecurity.
- ability to learn more about what happens at a low level in regards to data processing
- comprehensive content about computer system
- fascinating area of computing with brilliant application of the theoretical content we are learning in the coursework, a perfect blend between theoretical and application. very much enjoyed the course overall, the main lecturer was fantastic loved watching him teach, (loved the riddles too)

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

- A little warning on how fast the course is.  
The courseworks were really nice but contained few mistakes it'd be great if they were released on a day before Friday so doubts could be cleared as most students tend to do courseworks on weekends. And it'd be great if piazza questions got answers as nicely as in CW3. The scoreboards were really what made the course better!  
It was tough to transition between professors. Boris was the best and it was tough to understand the others as well as he taught the course.  
It'd have been great to have a more organised quiz date system.  
Learn dates and information were slightly confusing.
- Better explanation of the practical aspect (programming) before the courseworks.
- Better feedback on coursework
- Courseworks are sort of all or nothing as in you can easily end up with 0 which made them stressful. Especially in CW1 where we are given basic tests on the scoreboard. CW2 gave
- During the lectures, we could not hear what the student questions were, we could not see the whiteboard and we could not see the pointer.
- Extremely important information like coursework announcements should be announced using the "Announcements" tab, not in a hidden piazza email hidden under the "Other" tab.
- Further feedback on courseworks
- Get feedback more readily, have an automated marking system that you can check whenever instead of the scoreboard only being updated every 4 hours
- I found the lectures at times difficult to follow and it would have been helpful if the tutorials focussed slightly more on the subjects covered by the quizzes and the coursework's. I also found it took me at least a few hours to set up each coursework so more advice on doing that would have been very helpful.
- I think the way the course is graded is absurd. The coursework's although relative to the lecture content, are very difficult to even begin after covering all the lecture content and reading. The quizzes I feel are the best way to test knowledge however with minimal questions, if you answer incorrectly for 1 question you lose a lot of marks and I don't feel this to be a fair show of knowledge and understanding of the course content.  
The quizzes being released for only 24 hours without prior notice is perhaps lacking understanding of us students who have to work part time to support ourselves financially. It is extremely challenging to fit in a graded quiz within 24hours with no notice and a bunch of other modules to be studying as well
- I think we needed to have more labs before we attempt the coursework as the coursework were quite challenging.
- I won't make any improvements. The course was very good.
- I would add a second C lab, to bring it up with the two MIPS labs available. This is mainly due to the fact that whilst you eventually pick it up, I struggled when starting the two C courseworks due to a lack of experience with C, particularly with memory allocation, and had there been an additional C lab earlier in the semester, when things across all courses were quieter, I would have been able to spend more time later in the semester focusing on the contents of the coursework, rather than trying to grapple with the language.
- If the board was used in the recordings, get an image of it.
- If the lecture can be more connected to the coursework itself, it can help a lot to start the coursework.
- Instead of using TopHat for office hours maybe switch to BlackBoard or MS Teams to be more engaging. Also the sound quality of some office hours streaming were not the best.  
For the first coursework include the person marking not only the auto markings.
- It is a big gap between this course and previous course as we have not learn hardware before. It is hard for a beginner to understand this course clearly.
- It is great!
- Make an announcement section on Learn. Improve lab sheets and practical teaching in general. Inform students that the coursework will be based on Git and GitLab, and prepare introductory videos on how to use these platforms, since not everyone is familiar with them and we are not expected to be. This caused a lot of unfairness in courseworks, since people who weren't familiar with the platform may have spent a lot of the assigned time for the coursework trying to figure out how to use these.  
ALSO, major point. The courseworks were made specifically to be completed on a Linux machine (such as DICE) or a Mac. For this reason Windows users had to figure something out. But nobody had told us that this would be the case before the CW was released or even during, since we had to figure that something didn't work well since our programs didnt work on Windows even if they were correct. Especially during Covid times, where we are expected to work from home, they should be clear on this from early on!! I only found out that I wasn't able to complete my work on my own machine only 2 days before the deadline.
- Make lectures that correlate to the courses structure as opposed to using them from last year when there was an exam at the end of the year. Labs should be focused more on the coursework materials. Courseworks feel under explained and poorly put together.  
They're also very difficult especially considering how much work you can put in to get zero. The introduction of people actually reading your code and marking it would be nice opposed to just being machine marked.
- Marks for partial solutions to coursework rather than "all-or-nothing" marks

- Maybe pick a larger time window for how long we have to complete a quiz? Not the amount of time to answer questions, mind you, but the window of time we have from knowing that the quiz is out, to when the quiz is due.
- Maybe please make new videos instead of using last year's?
- New lectures instead of last years would have been better.
- No automarker without the students having partial access to the results of the tests before submission deadline, the way it worked in CW1.
- None
- Not using last years video lectures because I felt detached from the lectures. Also the assessment I found too harsh. In the quizzes I would have liked for instance to have more questions so that not everything depended on very few questions. Also I think the coursework should consist of a reflective part as well so that not the entire mark depended on the automarker.
- Online tutorials could have been of better quality. Labs could have been more accessible.
- Personally felt that the part of the course referring to processors (both single-cycle and multi-cycle) weren't very easy to understand, specifically the control signal part. It was a bit hard to grasp the chronological order of the steps happening, the signals, etc. what happens when the output signal is ignored, etc. Though that might just be a weakness on my part.

I think the courseworks could be a bit more organized. It appeared as though CW3's original deadline was later than expected, but could not really be shifted earlier due to students needing extensions for CW2. Perhaps some reorganizing is needed there. Apparently previous years had combined CW2 and CW3 (or rather this year's CW2 and 3 were split from last year's CW2) and i'm not sure why, it seems as though it's feasible to do CW2 and 3, maybe some kind of system where CW2 and 3 are 1 project with 2 submissions? You have to submit one part by a deadline and then you can start the next segment right away without having to wait.

Regarding CW2 specifically, and to a lesser extent, CW3, it wasn't immediately clear what we were expected. Perhaps it's because we were new to the idea or maybe expected a little bit more guidance but it really took a while to figure out that we had to fill in the functions in a specific way (and break up the control signals a specific way). Not that we shouldn't be able to do so, but it felt very different and had much less help compared to what CW1 felt like (whether it was due to the differences in the languages or requirements or the CW themselves).

It also would be more useful if we knew a markscheme of sorts, though it's definitely not necessary for coursework completion. Something like maybe how many % of marks are attributed to automarking, how much is due to organization, etc.

- Please provide comments for the codes for coursework to help understanding! Please, please, please!
- Provide solutions to assignments
- Slower introduction to single/multi cycle processors -- it took me doing the coursework to get what the diagrams represented
- Support for the students was poor, questions on piazza took way too long to be answered by instructors and some were not even answered.  
The courseworks were not explained properly and we had a hard time understanding what we had to do.  
Some of the office hours were not done by the lecturer himself so at times questions were not answered correctly.  
The lecturer didn't make new lecture videos for this year and used the recordings from last year so we couldn't see when he was writing stuff of the board and sometimes the recordings ended too early when he was in the middle of explaining something. The lecturer had said in the introductory lecture that he didn't make new videos because he wanted to spend his time improving our experience in other ways, however in practice we didn't really see any other improvement, so it would have been more useful to spend his time on the videos instead.
- The TA for the second coursework is not quite responsible and professional, doesn't really help much in clearing the ambiguity and the scoreboard he promised just somehow disappeared with no explanation at all
- The amount of coursework mixed with random 24 hour quizzes is completely overwhelming and I felt very unprepared for the courseworks' content. The courseworks were so work heavy that I couldn't attend any lectures, tutorials or labs which then made it harder to understand what I needed to know. I spent a lot of the courseworks' time teaching myself how things worked and what I actually needed to know. It's very isolating as you can't talk to anyone because of the risk of plagiarism and it feels like you're just struggling on your own.
- The course has very poor feedback and the lectures are too advanced for me
- The release of sample solutions for courseworks as a means for students to get an idea of different ways to solve the problems and to learn.
- The teaching team could have done a couple of videos to complement the past lectures, especially parts that weren't recorded rather than expecting students to make up for the lost teaching themselves.
- The tutorials are not well organized (although this can be mostly contributed to the current pandemic). It was unclear on what week the tutorials are running. This situation was better at the end of the semester but at the beginning it was a big problem.
- Too much coursework
- more help and guidance with MIPS programming. I really struggled getting my head around it which really set me back in the course. When going to drop-in labs, sometimes early on in coursework release, instructors said they hadn't been briefed in the coursework or hadn't had a proper look at it which meant the help they were able to provide me when i really needed it was not helpful.
- n/a

- strongly suggest that we should be given lecture notes for each part of the contents.
- the second coursework doesnt really match the material taught in the c lab
- thought the course was badly organised, almost every deadline for handing back results the organisers missed often with little update with when the release would actually happen.  
also gave us broken coursework's, one of the template code given to us didn't even compile.

## 2. Informatics 2C - Introduction to Computer Systems -

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

- Achieve a 40% is enough, be happy and relax.
- Be prepared on 3 intense courseworks...
- Be prepared to spend a lot of time on the coursework, especially if you do not have experience programming with C and MIPS assembly. All the courseworks are intense, and as such take a lot of time, but they are deeply rewarding so keep at it - they not only improve your software engineering skills, but force you to gain a deep understanding of the parts of the course they cover. Had there been an exam, I suspect 90% of my revision time for this course would have been spent on the 3-4 weeks that were not covered by any of the courseworks.
- Be prepared to spend fair amount of time for each coursework, but you will definitely learn a lot from them.
- Be prepared to spend lots of time on the coursework.
- Check piazza. They don't update the "Announcements" tab with announcements.
- Do the reading for the coursework.
- Do the readings, especially at the early stage of the course, they are highly relevant to the course. The readings and lectures clarify each other whenever there is any ambiguity  
Tutorials help a lot as well, do attend them and do the tutorial sheet carefully, some of them are really good
- Enjoy it, its the best course I had so far at uni.
- Ensure you complete all three help labs to a high standard, start the coursework early and 100% use the drop in labs as they are so helpful.
- Find someone that you can message directly to ask questions and get help, because the piazza forum for this course is really inefficient.
- Get started on the coursework early, it's very very difficult and you will need a lot of time to ask questions and figure out what you're supposed to do.
- I hope better feedback could be provided to the students
- It's a very interesting course but very difficult.
- Keep on top of the work load for a rewarding experience.
- Learn how to code in assembly and C in advance of taking this course.
- Make sure that you keep up to date with the lecture material - it is imperative to be able to answer the coursework and to tutorial question.
- Make sure to read the textbook as well as the lectures. The textbook isn't boring and a very enjoyable read.
- Make sure to understand what is going on.
- Make sure you don't fall behind. Start your courseworks as early as you can because they will take a lot of time, especially the first one.
- Practice. The concept introduced in the course is hard to understand but with practice (coursework, tutorial, etc) the concept become clear.
- Read the accompanying resources.
- Seek and you shall find, it's a tough but very manageable course.
- Start courseworks early as they are not difficult, but require time. There's very little coding for e.g. multi-cycle processor, but it may take a while of thinking just to understand step by step what's going on, meaning you can't just rush through questions.
- Start courseworks early.
- Start the coursework early, practice using git before starting the course, install Ubuntu or learn how to use DICE remotely.
- Start working on the coursework as early as possible. It is much harder than coursework in year 1. You will need to spend much time learning and doing coursework, but it is worth it. You are going to learn a lot!
- The lecture content is interesting but the coursework's will probably leave you baffled, persevere and ask questions on piazza and hopefully you'll make it to the other end
- The material can be quite challenging sometimes but it is worth spending some time to understand it because once you get the idea, separate topics connect with each other and hence it becomes really interesting.

- There is a lot of new terms that you are going to be introduced, so be ready.
- This is recommended for students who like hardware and software but strongly not recommended to those who likes AI and programming only.
- To continuously work throughout the course and ask a lot of doubts and understand the concepts better.
- Try not to get behind on the material and start working on the courseworks as soon as possible.
- Try to do the reading, it really helps with the understanding - but do not try to understand everything in the book, the lectures should show you how much details you need to understand. But especially if a lecture is confusing, the book is my first place to look.
- Very good course, very educational and enlightening, even if you've learnt this stuff before because at the very least it's organized in a way that makes it easy to see the motivations for every step.

Having said that, this was probably the hardest course of Y2S1 and you definitely need to put in the work to at least watch the recordings and read or make notes, and definitely do the readings as much as you can. It's very easy to fall behind in this course. There's only so much I can stress the fact that you should be much more active in this course than others over text.

- Work hard and start early
- do lots and lots of MIPS programming and C programming to get your head around them and be comfortable using them
- it
- its hard but in a good way, very interesting in an area of computer science people know very little about. overall a fantastic course if you can get past the disorganisation
- keep up with the coursework, start early
- ther mips stuff takes a few tries to get a hang of, the c programming lab doesnt seem relevant but at least have a look at c syntax before the cw2



## 3. Informatics 2C - Introduction to Computer Systems -

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

- Appreciated the tutorial sheets and Michael Steuwer was great and explaining everything and probably the reason why I actually understood anything in this class.
- Did not find the format of the drop-in labs useful as most of the time I spent hours waiting to be seen. One time I waited the entire 2 hours just for the instructor to send a message to the waiting room to say that they won't get around to seeing everybody. In crucial times, such as coursework and especially approaching the deadline, there needs to be a way for students to get quick help on their code, especially as we aren't allowed to share snippets of code on piazza.
- I didnt go so cannot comment
- I often struggled with the questions provided for the tutorials, but the various tutors were always able to clearly explain and generally help me out. The questions were well designed to aid in understanding of the material. Many thanks to Dr Vijay Nagarajan, who spent half an hour one tutorial helping me one to one work through the tutorial when I had fallen behind due to deadlines from other courses.
- I only found the labs helpful for the coursework material. The lab sheets were not helpful at all for me. The exercises on them are not of the standard that is expected for a complete beginner on the topic. And, also, since this is the only practical material that we receive in this course for learning to program in the languages that we are assessed on during courseworks, I believe that the lab sheets should be longer and more comprehensible. Also, the solutions should be made accessible. Otherwise, students struggle a lot with the courseworks.
- I only tried to attend a lab once when I had some problems with my coursework, however, it was overcrowded and I couldn't get an answer to my question. For tutorials, I attended all of them but there were only a few participants all of the time and not all of them had microphones, so sometimes it was really hard to communicate with them and hence I occasionally felt really unmotivated to study.
- I skipped all of them, as I don't like the online format.
- I think more labs would be useful because the courseworks were so challenging. Perhaps also solutions to the labs would be helpful.
- I was the only one to turn up for the tutorials for weeks and we were presented with the answers and no explanation. My questions were never answered, was just told to look at answers.
- I wasn't able to attend most of them as I had a lot of coursework but the ones I went to were helpful, if a little isolating because of the social distancing but that's to be expected.
- In total we only had three labs overall - 2 on MIPS and 1 on C. given 2 out of 3 of the coursework's were on C I think it would have been beneficial for us to have done more work on it. The MIPS coursework's were very useful to the first assignment, however, I had to attend multiple help labs as I thought the instruction sheets did a poor job of explaining what we were to do.
- Labs were so helpful!!! Probably the most helpful stuff on this course....Thanks a lot to the lab instructors, especially the TA who helped me debug for one hour, but generally all the instructors, so patient and helpful. My tutorial tutor was trying to do his best too, but unfortunately because of his strong accent and my bad internet so I did not get much information, which is a shame.
- My tutor explained really well(never rushed) and stimulated interesting discussions which were not part of the tutorial as well. I feel labs should be better organised. Maybe have 1hr 30 min tutorial to encourage more discussion.
- Never attended tutorials. Labs were helpful.
- Not so much. Especially as I would have preferred to have some example solutions to see how actual C code should look like.
- Online tutorials and labs kinda hard for me to follow
- Since everything happens online, it feels less guilty to not attempt tutorial live meetings and therefore it is more likely to not attend them.
- The questions were sufficient in their coverage and their difficulty definitely made them engaging, but at the same time it did not feel like there was much time for discussion, it feels like a very well-organized tutorial would barely have enough time to cover all the questions in sufficient detail, and it's not easy to organize tutorials at that level over the internet.  
  
Perhaps some adjustment (an increase?) of tutorial time is needed; it's barely enough time to cover the questions and go into a discussion (if any).
- We were not provided with the answers for the labs so we didn't know what we did wrong. It took way too long to talk to a demonstrator in the drop in labs and sometimes we didn't even get to talk to a demonstrator at all, so it would be useful if there were more demonstrators in every lab to cater to more questions. The labs on MIPS and C assumed that we had previous knowledge of the languages, which we didn't, and so we didn't really gain anything from them and it was very hard to do the courseworks on a language that we were never really taught in practice.
- most lab sessions had such a queue for help that it wasn't time efficient to wait around to get your question answered
- no
- the tutorials were hard to go to and confusing due to covid and then they wernt available on the learn page so most the time i did them whenever i could manage and then asumed i did okay but would prefer to have a clear lab structure

## 4. Informatics 2C - Introduction to Computer Systems -

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

- A larger introduction to git and GitHub would be nice seeing as it is very important with the course. Maybe do a lab dedicated to it?
- A lot of times the announcements for the course, or important information regarding courseworks was delivered only through the Piazza forum for the course. This was not at all helpful, as I am not expected to check Piazza on a daily basis. The course organizer, Boris, should have made an Announcements section in Learn, or at least send emails for every important announcement, eg. when a coursework is released and where to find it, or that the office hour will take place in a different 'online venue' on that day. (yes, these happened in real).
- At first I was disappointed that we were given lecture recordings from previous year, but actually they were really good! The only drawback is that we couldn't see what lecturer was writing on the board or to what he was pointing in the screen. Accessibility was proper.
- Could have recorded the lectures again like other subjects.
- I had no issues with the use of lectures recorded last, they were good recordings, and as the material covered didn't change, there was no need for new recordings to be made. However, in making up for the lack of interactivity from recorded lectures, Dr Grot went above and beyond, by hosting two live Q&A's a week, twice as many hours as any other informatics course, and hosted them in person in an appleton lecture theatre, so people could either attend online, or in person (in line with social distancing). I find this especially impressive, as despite running twice the amount of interactive Q&A sessions, unlike every other course, INF2C was only taught by one lecturer, with teaching for every other course split between two lecturers across the semester.
- I personally feel like the lectures are a bit dependent on the course book: they make perfect sense and are self-contained without, but they become so much more natural to follow as well as to understand why each design decision is made.
- It was nice having the lectures all in the same place online and labelled clearly - this helps a lot during quizzes and coursework. I would however have liked if, like my other modules, the course had made use of the 'Announcements' tab on Learn as although I know we still had announcements on Piazza and email it is definitely nicer to have all the announcements in one place to ensure you don't miss anything.
- It's very good that the videos and lectures are replayable, since there's a lot of content and it's not always all absorbed the first time a lecture is watched. Very relevant especially with a content-heavy course like this.
- No PowerPoint provided which is incredibly not friendly.  
The lectures are recordings from last year... they are ok but just gave me a feeling of the lecturer did not pay much intention about this year's course... and the q&a session time is not friendly for students overseas, and it's not interactive so not very helpful. Although I can see Dr.Boris was trying to do his best...
- Terribly recorded lectures.
- The lecture recording is from last year and there is not subtitles. Sometimes the lecturer wrote their things in the whiteboard and we cannot see it. Sometimes the lecturer haven't finish the class but the recordings stop. We also can't hear the questions asked by the students. It is hard to learn by using lecture recordings from last year.
- The material was easily accessible and I was overally happy.
- The syllabus on learn was useful and the git repo for coursework was accessible and easy to submit to.
- The syllabus page on learn was pointless and confusing because the format was so different from our other courses. For example, some of the courseworks were in the assessment page and some were only in the syllabus page, so it was hard to find everything. But then the lecture recordings were not in the syllabus and only in course materials, which doesn't really make sense.
- The use of the 'syllabus' page keeps everything in one chronological place and makes everything very easy to find.
- Two lecture recordings are missing the final bits but that doesn't affect much, the recordings can be moved to learn page itself instead of travelling all the way to media hooper replay
- Was all good apart from the office hours.
- Well structured, I found everything.
- no
- struggled with some of the lecture videos as lots of working out and examples were done on the whiteboard in the room at the time of filming, but the cameras were not able to pick it up as it wasn't in frame, meaning I struggled to grasp what was going on
- use of github was great, taught me to use it +very easy to get document updates. learn page also organised well

## 7. Informatics 2C - Introduction to Computer Systems -

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

- As I have already described above, I have had no issues with the hybrid teaching style of this course, and in fact think that the combination of two recorded lectures a week, plus the two weekly Q&As led to a much greater opportunity to interact and ask questions with the lecturer that would normally be available. However, it did seem a shame that we were unable to attend in person lectures with Dr Grot, as not only were they highly engaging, but also seemed to have a great atmosphere
- Being able to plan out my own timetable and decide when to listen to lectures and go at my own pace (watch ahead when there's less work or miss a couple of lectures when there's deadlines and make up for it fairly easily)
- Build my self-study ability
- Having a syllabus.
- Having the lectures all online ahead of schedule allowed me to watch lectures for a week ahead of schedule and spend more time on it when I had free time rather than having to wait for them to get uploaded. I liked this a lot.
- Having to watch the lectures on my own pace helps me a lot
- I am allowed to organize my own time, so I can spend more time on parts that I find challenging and take it easier on parts where I already understand
- I found the tutorial tasks very interesting but, as it was online and with other students, I felt uncomfortable asking a tutor to keep explaining what he/she meant as other students were silent so I felt like I was using up all the time.
- I understood that having online lectures is more convenient - you can pause and think about what was said and hence it is easier to understand the material. However, I think that is the only thing that was better to have it online than in-person.
- I'm ok with hybrid teaching.
- I've enjoyed the flexibility of hybrid learning and with most of my courses being 100% coursework this term, I have found I have actually learnt a lot more without the pressure of exams.
- If you stick to the proposed schedule, you will be able to stay afloat with the course volume.
- It has been an experience that I would repeat, personally, I found it really efficient, but at the same time I do miss being on the lecture theatres
- It is hard to understand the material of the lectures by watching the lecture recordings, including hard to listen to the words pronounced and also hard to see what is going on in the lecture recordings. I would prefer the lecture delivered not from the previous year lecture recordings.
- It worked very badly. I was behind for the majority of time. Hybrid teaching means poor teaching.
- Lectures and Q&As.
- Lectures pre-recorded waaaaay in advance
- Nice to have in person Q&A
- Not a lot
- Not much. Nothing particularly about this course alone but I hate the online learning this year. I know there isn't much that can be done about it so can't really complain. New lectures could have been recorded. Readings are useful
- Overall everything worked great!
- See next field.
- The Platform can be problematic at times that I sorted that out later in the course
- The ability to prioritise what I do, and when I do it.
- The drop in labs are so much better online than in person as you get one-to-one help and the queue system on Zoom means everyone gets seen.
- The flexibility to watch lectures at my own timing; one of the issues or things I disliked about last year is how all the lectures for informatics were at the start of the day. I personally am more active and learn better at night, when it's more peaceful.
- The playback system is generally stable for me.
- Tutorials and labs
- Was all good.
- Was good to pause lectures to take notes since there is a lot of content.

- Watching lectures when I wanted to.
- enjoyed being able to attend in person tutorials. I felt more engaged with the course and syllabus that way
- fine
- hybrid is a strong word for 1 hour a week in person, takes me longer to get to my in person stuff than I am there so its a waste of my day.  
over all my courses i have only 1 hour a week in person and that's in this course. hybrid learning is just a misleading term
- most of the lecture spacing, and quiz structure worked really well, lab arrangements were more difficult but can get help if you needed and tutorial arrangements were confusing
- sticking to the lecture dates

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?

- Could have recorded the lectures again like other subjects.
  - Don't do hybrid teaching. It will be always worse than in-person.
  - Fixed timetable for the quizzes.
  - I feel very isolated and left to fend for myself as you're just given a torrent of unstructured info every week with very little in person or live interaction and expected to complete load of courseworks with overlapping deadlines on top of your normal weekly work which is all very overwhelming. I've felt very stressed this semester.
  - I felt slightly disconnected during the lectures as they are from last year and a lot of the questions were hard to hear etc. and obviously there was no interaction between anyone from this year at all. The tutorials are helpful but I feel really sad for the tutors sometimes as nobody really puts their cameras on. I personally haven't come back to Edinburgh and a lot of the time tutorials are the only human interaction I get in a week, I would however feel awkward about being the only one with my camera on and I wonder if making it mandatory to have cameras on should be considered, as I also think it would help people participate and talk more as well.
  - In-person activities cover the same things as online activities, so maybe try to think of some additional tasks to give students that come to Edinburgh, so they can say it's worth it to actually come here.
  - In-person tutorials are so much better than online ones - many people don't go to online tutorials and also it is really hard to communicate with people when they don't have microphones. I felt that some encouragement (for example, 5% of the final grade) was needed for people to actively participate in tutorials.
  - It was a scramble at the start to get all our tutorials and slots across all the courses, this isn't a CS thing so much as an informatics thing but it would be useful if there were a better display for the courses available. This is in regards to tutorial slot timing selection at the start of the course. Overall very good.
  - It would have been great if the lectures were not just the ones from last year as it is different to watch a lecture when the lecturer is in your own time.
  - Lectures
  - Lectures were reused from last year without adjustments to make sure they're suitable for online viewing, e.g., laser pointers that weren't visible, or blackboard writing that was offscreen.
  - Some lectures without Boris can be rerecorded
  - The volume of individual lectures are unstable. Sometimes the professor writes on the whiteboard but it is not recorded.
  - There wasn't enough encouragement to join in-person tutorials and other in-person activities, so most students didn't really experience the advantages of hybrid teaching.
  - There's not really anything you can improve, online learning just sucks in general
  - Would've preferred re-recorded lectures to really engage us in the course. I struggled to engage in some of the lectures since either it was cut short, or things happening weren't visible on screen as they were out of the camera frame.
- Also quiz releases sometimes didn't happen when they were scheduled to. One day I waited the whole day for it to be released and it was released at 4pm which I found to be an annoying time for an assignment release - especially as it is a 24hour release. It was inconvenient not having a time as you wait around for it or alternatively, also inconvenient being given a time and it not being stuck to.
- n/a
  - no
  - the lectures were good as i saw them last year but the blackboard is incredibly useful when explaining and its cut out, some concepts do require the detailed analysis and breakdown when explaining

## 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.

- I am glad I have free tuition fee status and don't need to pay for such low quality content
- I don't really feel in a place to be able to comment on any of the people above as I feel I do not know them in the slightest. Personally I started this course really enjoying it as I found the first assignment a good balance of challenge and achievable, however, I feel there was a distinct lack of resources for the second assignment and I really struggled with it. The third assignment was set to be released on a Tuesday however we got a message saying it would be released the following Friday which I felt very happy about as it gave me more time to revise the material, however, I noticed that after somebody complained on Piazza it suddenly got released in the middle of the night on Tuesday/Wednesday. I understand that everyone is struggling in these times of great uncertainty, however, I struggle to comprehend how our deadlines are so unbelievably strict - 0% if you submit after the deadline - and yet our coursework deadlines change at the drop of a hat, for a lot of students who are struggling mentally at this time even small changes such as this can really throw them off and I just ask that you take that into consideration for the future. Lastly, I understand that last years lecture recordings were used for us this year so that the course supervisors could spend more time on other parts of the course. However, from what I have heard the coursework is pretty much the same as last year so I'm just slightly confused as to what the time therefore went into. I understand that there were office hours once/twice a week, however, when you have coursework from 4 different modules each week sadly time to watch the office hours is hard to find. I understand that everyone has a lot on their plate, however, lectures are a really great way to feel like you are actually involved in the course, watching last years I felt like a outsider and actually felt quite sad to see the experience last years class had and what we were missing out on.
- Well, I don't know the other two lecturers at all, are they in this course?
- While I don't think I'll continue with computer systems classes, I enjoyed the learning in the class immensely. Thank you course organisers!
- fantastic course just small complaints but that doesn't mean the course wasn't fantastic