

## MODULE REPORT

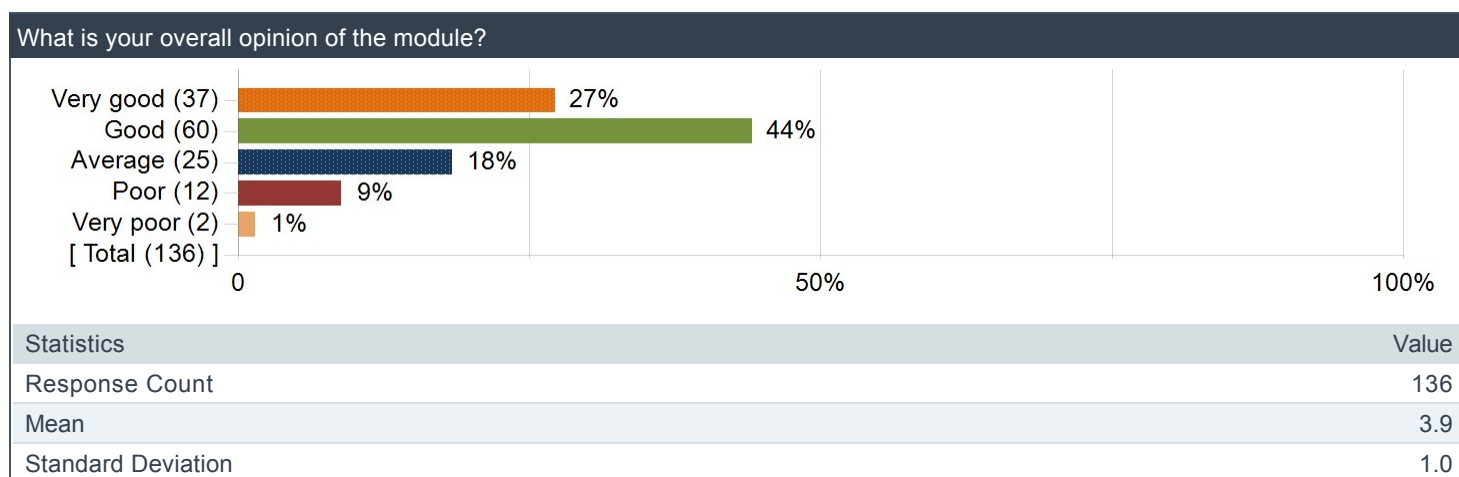
Module	CS1010 - PROGRAMMING METHODOLOGY
Academic Year/Sem	2020/2021 - Sem 1
Department	COMPUTER SCIENCE
Faculty	SCHOOL OF COMPUTING

Note: Class Size = Invited; Response Size = Responded; Response Rate = Response Ratio

Raters	Student
Responded	136
Invited	257
Response Ratio	53%

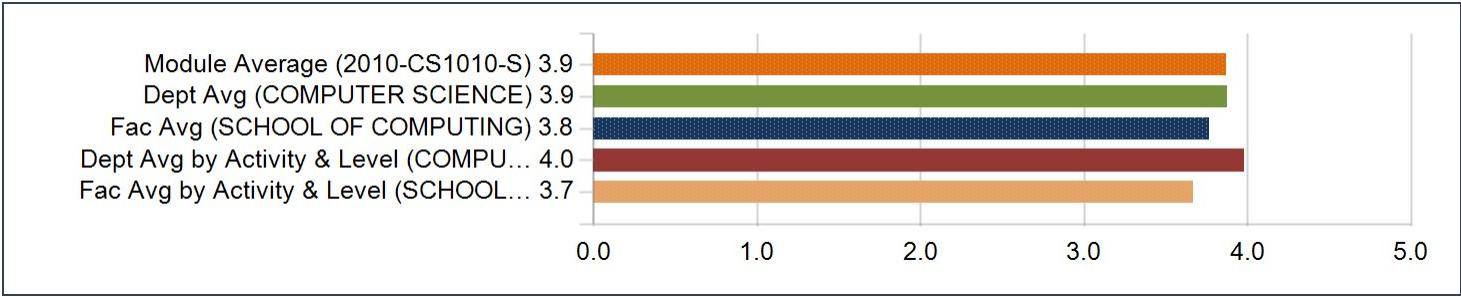
### 1. Overall opinion of the module

Distribution of Responses



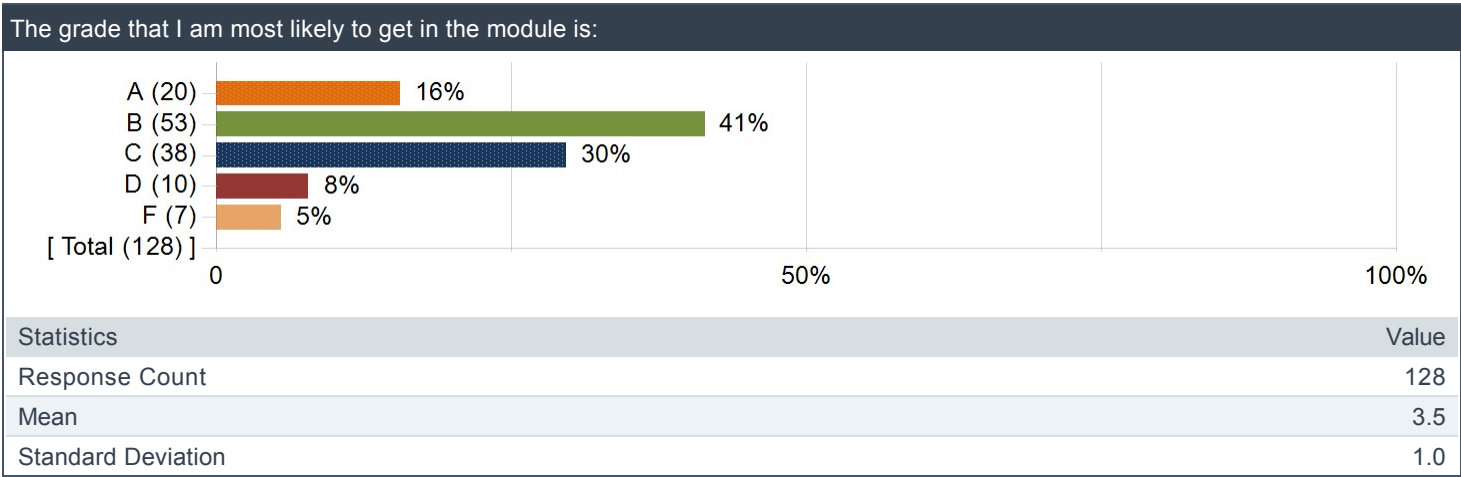
Rating Scores

Question	Module Average (2010-CS1010-S)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 1000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 1000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
What is your overall opinion of the module?	3.9	1.0	3.9	1.0	3.8	1.0	4.0	0.9	3.7	1.2



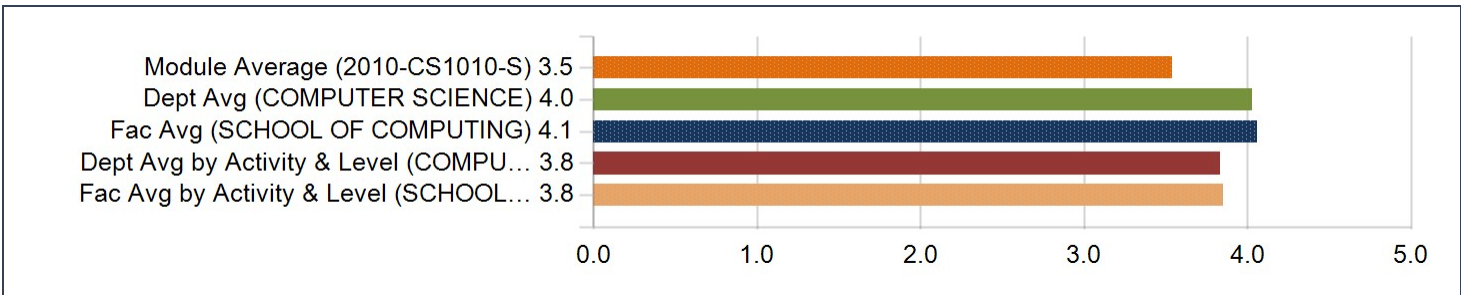
## 2. Expected Grade

Distribution of Responses



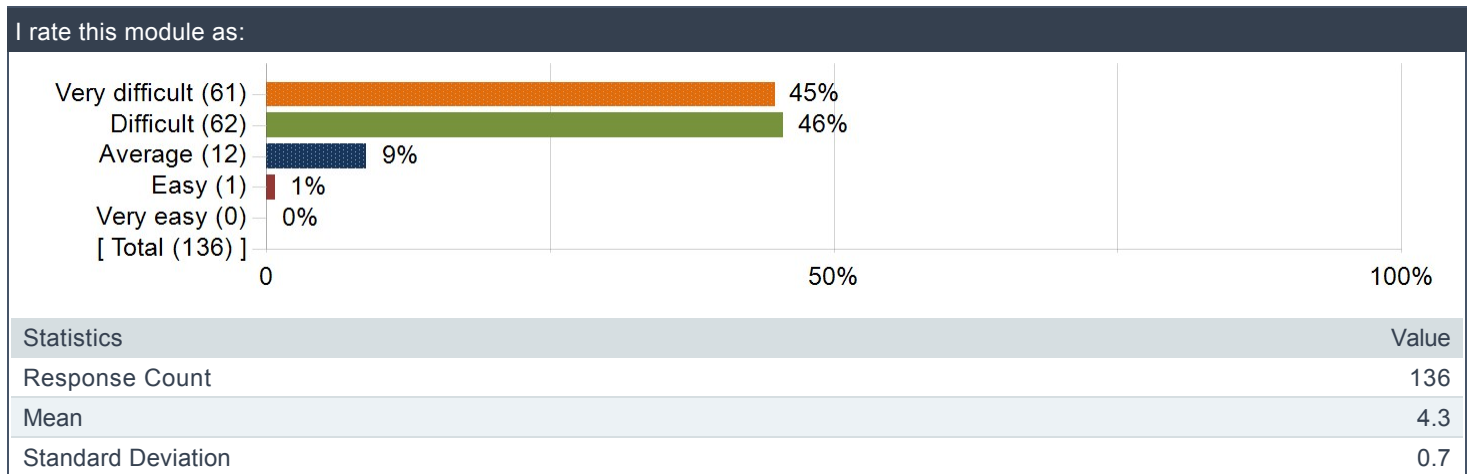
Rating Scores

Question	Module Average (2010-CS1010-S)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 1000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 1000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
The grade that I am most likely to get in the module is:	3.5	1.0	4.0	0.8	4.1	0.8	3.8	0.9	3.8	0.9



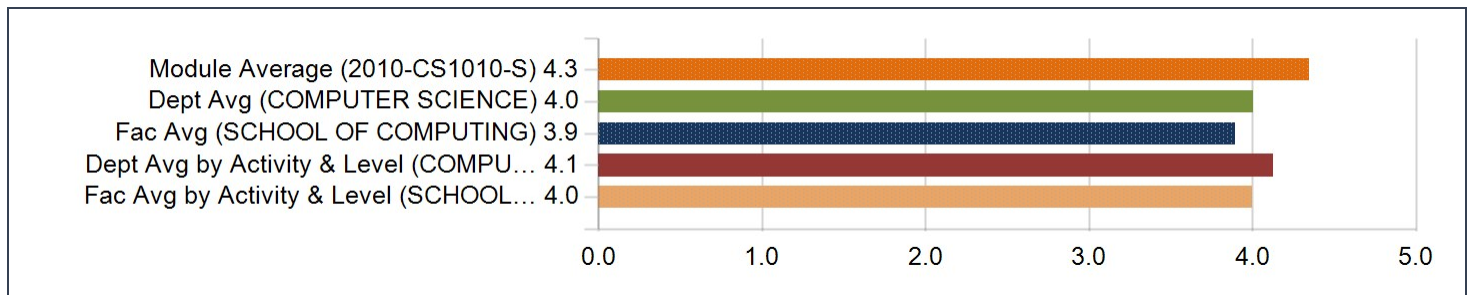
### 3. Difficulty Level of the module

Distribution of Responses



Rating Scores

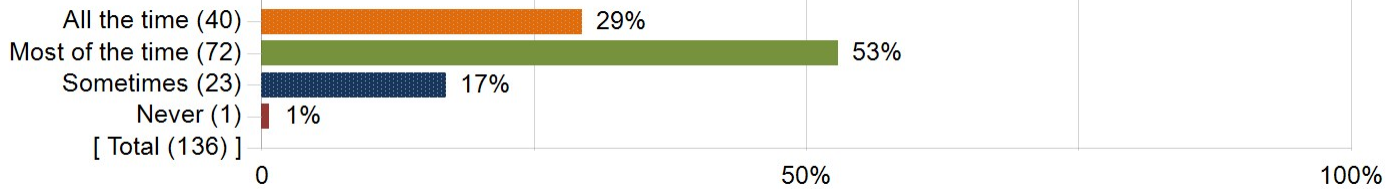
Question	Module Average (2010-CS1010-S)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 1000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 1000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
I rate this module as:	4.3	0.7	4.0	0.8	3.9	0.8	4.1	0.8	4.0	0.8



## MODULE LEARNING OUTCOMES

### 1. Understanding and applying the basic concepts of computational thinking.

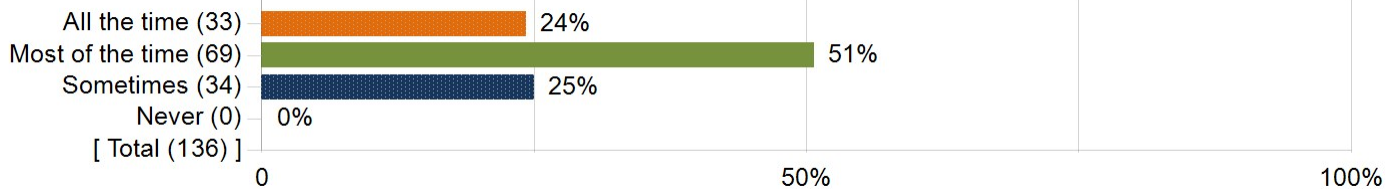
Understanding and applying the basic concepts of computational thinking.



Statistics	Value
Response Count	136
Mean	3.1
Standard Deviation	0.7

### 2. Analyse the specifications of a given problem and come up with an algorithmic solution for the problem.

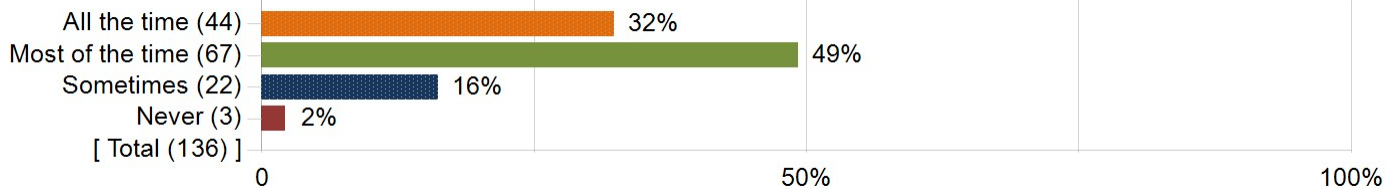
Analyse the specifications of a given problem and come up with an algorithmic solution for the problem.



Statistics	Value
Response Count	136
Mean	3.0
Standard Deviation	0.7

### 3. Use software tools to write, compile and execute programs.

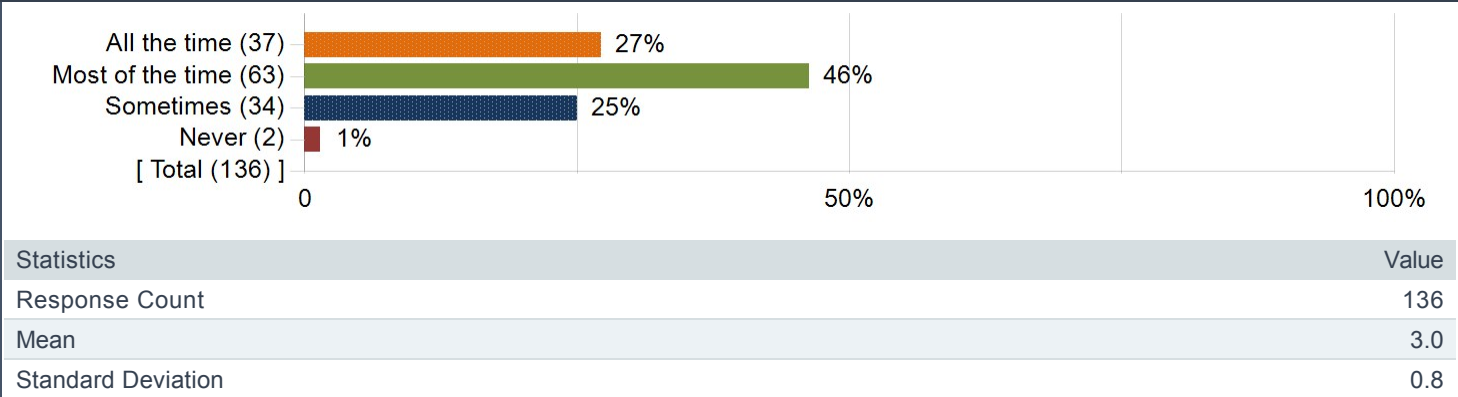
Use software tools to write, compile and execute programs.



Statistics	Value
Response Count	136
Mean	3.1
Standard Deviation	0.8

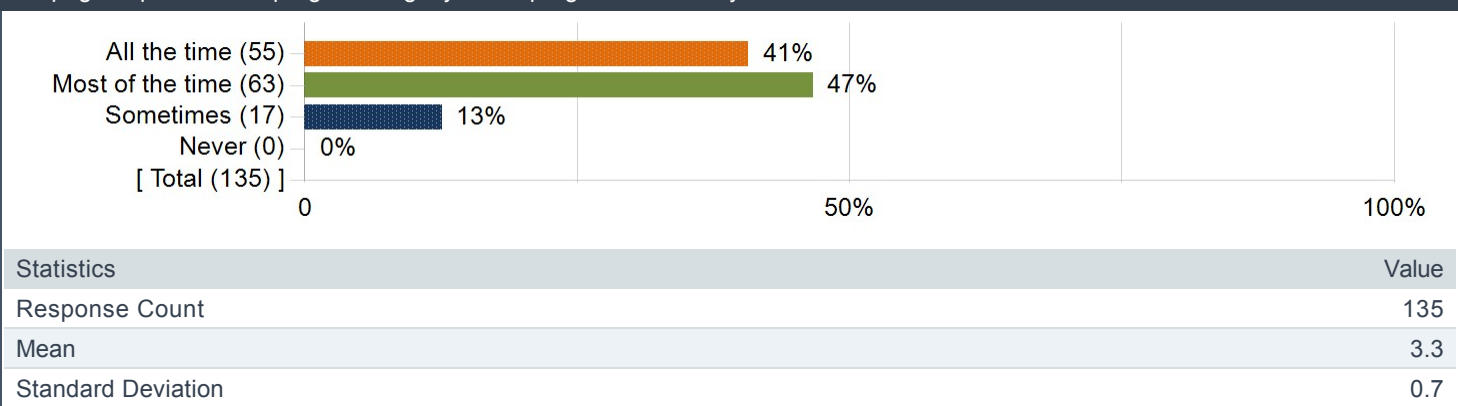
**4. Trace programs and apply techniques of testing and debugging to verify the correctness of programs.**

Trace programs and apply techniques of testing and debugging to verify the correctness of programs.



**5. Adopt good practices of programming style and program modularity.**

Adopt good practices of programming style and program modularity.



**WHAT I LIKE / DISLIKE ABOUT THE MODULE**

**What I liked about the module:**

Comments
It gives me some basic understanding of coding.
Much room for growth especially as someone with zero background in coding/computing. Even better when the profs don't focus on rote learning
Assignments were interesting and fun.
Introducing VIM editor was a good choice. Helps in speedy text editing.
CLI stuff was good primer also.
Challenging problems to solve which give a sense of satisfaction when solved.
NIL
It was comprehensive in the sense that we were forced to learn many other advanced concepts of programming (not taught in the module) to solve the assignments. This has its pros and cons as it prepares us better for what is to come but also increases workload
I learnt new creative techniques for problem solving and really learnt many things i never thought i would
I learnt the basic of coding
I just really enjoyed learning the module, it engages the problem solving skills and logical thinking

Comments
Really challenge my mental ability to apply concepts taught to the assignments and exams.
Good pacing and organisation of content. Piazza is a good platform for questions and collective learning.
New coding concepts
Programming assignments (opportunity to get my hands dirty with programming, despite the difficult assignments).
Using Piazza as a platform where we can ask questions anonymously is very helpful. The Profs and TAs also frequented the site often and provided help where needed (quickly, most of the time).
This module was generally fun. Especially the way Prof conducted his lessons. I would imagine it to be more fun if it was a real life class.
I liked that there was a proper lesson flow and structured curriculum.
Enhanced my learning of C language
nope
Assignments – Really challenging and good exposure for future
This module gave me a lot of assignments and some of them are quite challenging. I like these challenging problems.
It was interesting.
Provided a good introduction to CS concepts and also how to code in C. Also the use of vim: I found it really tedious at first but now I appreciate having this skill just in case I ever need it in the future
The assignment is very challenging. I like the creativity of the professors as they can think of some very interesting computational problems for us to solve. Thank you profs!
interesting
–
it was interesting and fun to learn how to code, really pushed me to learn hard and fast, but still not too good...
Assignments were creative and fun.
–
I liked how the profs forced us to use vim during take-home assignments so that we can acclimatize to practical exam conditions.
The assignments challenged my entire idea of programming, allowing me to learn things I did not foresee myself learning. Also, as it was an introductory module, the handholding gave me confidence to solve future programming problems.
I love how challenging it is, pushing me to really think on my feet and really learning a lot about computational thinking by trial and error.
It was fun solving the assignments
Buildup of knowledge is done properly with good learning curve. Explained concepts that were previously required before moving on to a topic which required that prior knowledge e.g. pointers before the standard I/O of C.
Thought many basics about C language.
I like that it started from the very beginning, so that it was catered to beginners like me. Also i like how well thought out the module was, and i think that the lecturers did a very good job of trying their best to help us learn in a way that will be most effective to us. I also like the materials provided and all the cs1010 library that they made for us in order to aid our learning. All these things made the module easier to understand and also more enjoyable. I really like both lecturers and think that they did a very good job.
eye opener, interesting questions, professors are good
it is a very new thing to me and interesting as well
makes me think critically, enhances my problem solving skill
Challenging module that tests problem solving skills, custom library makes it easier for those with no prior programming experience
Trained my problem solving skills when facing a seemingly impossible assignment question. Allowed me to think out of the box and break down problems to finally solve it
It has weekly assignments and quizzes that overall help to solidify the knowledge of the concepts taught in the particular week.
The module is structured in a very different way compared to other online tutorials about C. It was confusing at first, when I was taught recursion before loops, and hello world in the last lecture. But I came to realise the habits and thinking that I was instilled will bring me a long way. The assignments really pushed me beyond my limits and this is one mod I would say I have learnt a lot. Vim was really difficult to get into at the start but I can't get away from Vim now.
Some of the assignments were fun
assignments were quite fun when they pass the test cases

Comments
None.
my tutor
very interesting. the cs1010 website notes are also very clear and easy to understand for the 1st half. the VIM workshop website also has very easy to understand notes. piazza is also a godsend.
organization of module materials like notes, recorded lectures, etc is very good.
get to learn coding coming from someone without any prior experience
Nil
The flow of the module's curriculum was clear and the contents were linked together nicely.
Its difficulty has toughened me for future obstacles
The module teaches me a lot of fundamental skills in C language.
I personally like coding
interesting application question
About as CA as CA can get – many chances to pull up our score, even if we mess up a single component. Also greatly appreciate the Makefile. The github website as a repository for notes and information really helps with organization as well (much better than Luminus). And fast response times on Piazza are very appreciated.
Learning basic concepts and interesting applications through the assignments and problem sets
Theres fun in it when you solve a programming question by yourself. Satisfaction.
While this course was extremely challenging, it was also quite fulfilling and it certainly helped me develop better coding habits. In addition, I also learnt to break down larger problems into smaller problems. Eventhough, the assignments were tough and time consuming, the problem sets were actually quite relevant which helps us see real life applications on the things we learn in this module. Also, unlike other coding courses, this mod doesn't just teach you the code syntax but also goes through how the machine processes and compiles the code which was nice.
It provides us with adequate exercises/assignments to train our coding skills and computation thinking.
Helped me built my fundamentals
Interesting problem solving scenarios and useful knowledge imparted.
Fun and interesting
it was intellectually simulating learning something really brand new even though im taking this as an UE (regret)
Interesting topics covered – important for the foundation of Computing majors.

### What I did not like about the module:

Comments
It is too hard
Quite difficult questions set for assignments and exams :( please go easier on the students... There is too much of an unfair advantage for students with background in the subject
Assignments are very time consuming, and total amount of time I invest in this module is much more than what I invest in a 6MC module.
Very steep learning curve, even for "veteran beginners" who have some programming experience. Totally not a mod for beginners. Beginners would just hate programming. There needs to be a pre-cs1010 workshop in addition to the UNIX workshop.
But understandable for the steep learning curve given the very short amount of time to cover so much content.
Assignments become difficult exponentially, PE2 was also unrealistically difficult given the time constraint.
Very Difficult, ridiculously difficult
The frequency of assignments are high, every week. Would admit workload is pretty intense for a first-sem module. Had no programming experience before this, was a little rough in the beginning.
Too many hours spent on easy assignments
The difficulty and that the assignments tested test topics that are covered in the next week.
it is tough
I generally did not really like the quizzes as sometimes technical issues really cost me a lot of unnecessary stress and wasted time

## Comments

Workload is very heavy especially with weekly assignments and a short timeline to complete the assignments. Module is very difficult for students with no prior knowledge, especially for topics covered after midterms. The practical exams are set in such a way so that there is very little time to think of the solution and implementing the solution, which is a huge disadvantage to students who don't have prior knowledge.

Very time consuming.

Hard for beginners

No comments.

Some topics are harder to understand (advanced recursion, struct) and may be tough for us to thoroughly understand before the PE2 and Final exams. (I'm suggesting... more time to be spent on such topics?) The weekly coding assignments started out as fun challenges but did get exhausting towards the end. Would have liked to have slightly lighter assignments nearer to the end, but I can see how the current assignment questions are useful.

Personally, for a "entry" level programming mod, its very tough. I understand that the Prof wanted to make us think in terms of computation. However, for beginners it is really tough. The assignments were generally tough, but doable, maybe he could extend the duration of the assignment due date(maybe to 1 week).

Sometimes its really depressing when studying for this mod, as I have other friends that are taking other variants of CS1010, their course content is way more manageable as compared to ours. I understand why Prof is teaching the way he is teaching, but he could possibly tone down on the content of the course. If any future students are reading this, don't feel depress, you should be able to pass this module, and yes even if u did not do well for midterms, PEs, and finals, just keep a positive attitude with learning and all would be good. :)

I did not like that the assignment and exam standard was much higher than when explained during lectures. These caused me to face a lot of difficulty through the module, and I felt like I was lagging behind a lot despite putting in a lot of effort. There were a lot of issues I faced especially during PE, as it did not reflect my ability in the subject as I am new to programming all together and require more time to solve the questions.

Tough exam, hard to juggle when there are little resources due to covid restrictions

not taught properly

None

It was hard to follow at times, since I have no coding background.

High workload, also in my opinion the gap between lectures to the kinds of questions in the theory exams is a bit too big. Also, some of the assignment questions were also too tough with respect to the content that we just learnt that week in lecture (especially the ones in the last few weeks of the semester involving concepts like the backtracking recursion and efficiency). Would be good to have more stepping stones in the middle, as well as partial marks for correctness of some functions in the code for assignments even if we fail the test cases

No doubt this module is just an introductory course but I feel like the content was too fundamental but assessment is really unrealistic. I am personally not a fast thinker so I didn't do too well with the exams. I hope that this will be better for future Cs mods but I'm not really optimistic

I think it would be the practical exam is somehow too difficult.. haha

difficult

Weekly assignments. I understand the point but some of them really take >10 hours to think of a solution, resulting in me neglecting my other modules. Furthermore, the time taken for the profs to grade them is maybe 1.5–2 weeks, and the practical exam grading takes an unknown amount of time (sat for PE1 on Week 6, it is now Reading week and we've only gotten back 3 out of 5 questions), so the feedback is not timely :(

This module is a trying to do too much within too short span a time. the learning curve is insane, it does not make sense at all. no prior programming knowledge is required is a farce. i seriously believe that educators should rework the time allocation of this module. Assignments are also super hard. as a student with no knowledge at all, the struggle is real. i was regularly putting in more than 30+ hours a week on this module, and all for a C...

i understand that programming is really important and the university wants us to be proficient at it asap, but there should be better methods then forcing us through this horrific cs1010

supposedly "BEGINNER-FRIENDLY" course.

the most terrible thing is that lectures are really simple, and very understandable, but the assignments are really difficult and seem like there is no link between what we learned from the lecture and what we have to apply in the assignment.

especially for beginner students, it would have been nice for a more in-depth lecture or maybe a resource database for us to do deeper self-learning on the lectures so that we can understand more about the concept the lecturer was trying to teach us, so that the assignment would be more manageable.

there is no point at all in making a student waste 20+hours just staring at a screen and searching online for the answer to the



## Comments

assignment or finding youtube videos to expand their knowledge on this subject when the prof can give more in depth explanations.

self-learning? i think its more like torture

Assignments usually took more than intended time, as it required knowledge taught outside lecture.

Too difficult for a completely new programmer...

NIL

The learning curve is too steep so it is extremely difficult to keep up with the pace of the module especially when the student has no prior experience. Moreover, the workload is quite heavy.

luminus quiz have many format require for us

nil

It can be really really stressful when you are new to coding and i feel that maybe more guidance from the professors and TAs could be offered at the start.

My brain was severely taxed

Too many assignments, very steep learning curve

Exams were over the top difficult with midterms average being a fail if I remembered correctly

The difficulty of the questions. Many of the assignment questions were of higher levels. Understand it is to challenge us, however for people with no prior experience, the learning curve is too steep. Furthermore, many of the notes do not show how certain functions can be implemented. There were very little examples. It will be better if the logic of computational thinking was taught first, rather than giving us may examples and let us infer the logic from these examples the logic. Examples are Nqueens problem and permutations. For people with no prior experience, it is hard to break down the problem easily. Furthermore, chapters like complex recursion and pointers was not being taught in depth (brief explanation during lectures). Yet, it is demanded of us to display our knowledge through tough assignment questions. Exams for this semester was also way tougher than last year's exams, not sure why but it is really demoralizing and almost impossible for people like us to do considering the little experience we have in coding.

I don't like that it is very time consuming, I honestly think it is quite heavy especially for beginners who are trying to adapt as fast as possible. While there are attempts to ease us in, it is still quite a big jump. Mostly due to the many assignments and quizzes, the lecturers predicted about 10 hours per week on this module but honestly a lot of us spent a lot more time than that.

can be hard for people without coding background, the exams for this year also significantly harder than 18/19 so doing past year papers aren't really helpful (gives false confidence)

Affecting my other modules and making it hard especially the week where exercises, assignments and tutorial came in at the same time. I was still learning how to code and there were too many things to do at that point of time

too much time spent on this module, even though the contents are understandable the exams were relatively difficult, time given for PE

Time-consuming, spent around 2 days or more every week just to do the assignments

the learning curve was quite steep due to the introduction of VIM and UNIX along with the actual language itself. The weekly assignments also took up quite abit of time due to the lack of debugger tools and due to the new coding environment

The weekly assignments although helpful left very little time for the other exercises, I would appreciate if solutions were provided for some of the harder assignments as some questions were extremely hard for me to wrap my head around so having solutions would provide a certain level of insight to resolving these questions in an efficient manner.

Very steep learning curve

This module is just not really suited for online lessons but i guess we have no choice

Some of the assignments took a lot of time

Practical examinations for an intro. mod are too difficult, also loop invariants are painful

The REALLY heavy workload. Please profs, for later batches please reduce the workload, therefore already good student at this mod can focus on other modules that they are interested in, and the weaker students able to catch up. I, personally is not good at this module, but the weekly workload and PEs are really demanding, cannot catch up at all. On the other hand, I have other modules to take care of. The whole university life is not just focused on this mod only cmon prof please spare us some time and effort

It was painfully difficult and doing it online was not helpful at all

very difficult. i spend a lot of time on the weekly assignments and still make a lot of mistakes.

Pace of learning is way too fast for people that do not have prior programming experience. If one does not have experience, it is practically impossible to obtain an A grade even if he/she works hard.

the jump from lectures to assignments are too large. Many including myself resorted to googling to find solutions and this was not due to us not understanding the lecture material, but rather the lecture material were too basic that when we encountered a tough problem it was hard for us to think of a solution.

## Comments

i feel this module also did not really emphasise on how to approach a problem and the thinking behind it, rather lecturers throw us a nqueens problem without tracing through the entire code and only teach snippets of it. i felt very lost as the lecturer was jumping straight into the problem and not begin at the top where everyone can follow.

The assignments were too cramped and the concepts taught were too fast paced fro 13 weeks

Learning was not as conducive as I spent more time doing up assignments than learning.

Nothing

Took too much time on this module and could not focus on other modules.

steep learning curve steeper PEs and demoralizes us with difficult questions instead of allowing us to think creatively

Perhaps for CS1010 Assignments, instead of 1 every week, we could instead have 1 every 2 weeks, but with a slightly higher weightage? That might help us better manage our workload.

Steep learning curve and the assignments requires rather deep application of the week's topics. I find that the only students who would not struggle with this module are those who are already well-versed in basic C before coming into this module. Even with basic knowledge of C up to the topic on memory management an pointers, the assignments still felt extremely demanding with a tight deadline.

TOo much to pickup in each lecture and they overload us with weekly assignments, quizzes, tutorials, reading materials plus prep for exams. Too much to do in a week and this module eats up most of the time in a week.

Work Load way too heavy. Assignments were too difficult and not possible to solve with just the simple lecture content each week. Examinations were way too difficult as well. Overall, a demoralising module.

The learning curve is extremely steep and the module is especially unforgiving towards newbie programmers. Assignments coming every week also means having to spend 10–15 hours every week trying to solve them and sometimes to no avail. Also, I feel that assignments should be given method marks too because some students get the algorithm almost right but are unable to obtain any correct outputs and they end up getting 0.

Assignment difficulty varies but deadline usually stays the same (6 days), can be insufficient for the more difficult module

I understand the importance of weekly assignments, but personally being completely new to coding, some of the assignments took a lot of my time every week and gave me a lot of stress. This time consuming factor also compromised my workload in other modules at certain points during the semester.

As a completely new student to programming, I found the learning curve too steep and I found it very difficult to keep up, especially with weekly assignments. I took this module thinking it was a introductory module.

The prof did not give my friend extra time for PE2, could be more flexible

i suffer the 5 stages of grief every 2hours doing assignments 16hours a week

It is a bit too fast-paced for me at some points in time.

I really dont know how i fare against the rest of the cohort as the PE1 and PE2 are set with the intention that most people would not be able to complete. I felt that this is still a 1k mod even though it is a CS module (i assume it would be tough), so there is no need for the harsh sorting, or else you will scare off people who genuinely wants to experience programming while being from a non-programming background (unless that is what this module is about – to insinuate a harsh rigor so as to shed light on the higher modules, may be a heads up would be nice)

Content was not the easiest – tutorials and assignments were fairly challenging.