

This is an important document containing a lot of information about the course. Please refer to this study guide before emailing your lecturer with course-related inquiries; you may find that your questions are answered here!

Welcome!

COMPSCI 120 introduces basic mathematical tools and methods needed for computer science. We develop elementary mathematical skills for defining, analysing and reasoning with abstracts objects used in programming. Topics include integer arithmetic, strings and sets, methods of proof (including induction), the study of algorithms and functions, and elementary introductions to graphs, trees, counting and probability. You will encounter a collection of topics:

- integers, primes and divisibility, modular arithmetic, other number systems
- sets and strings
- basics of combinatorics and probability
- introduction to algorithms and their running time, functions, and limit techniques
- basic of graphs, trees.
- direct proofs, proof by cases, proof by contradiction, proof by construction, and proof by induction

Lecturers

The teaching team is as follows:

Role	Name	Office	Email
lecturer, coordinator	Simone Linz	303S-481	s.linz@auckland.ac.nz
lecturer	Jonny Stephenson	303E.234	jonny.stephenson@auckland.ac.nz

Office hours will be announced in class. Please visit your lecturers in their office hours if you have any questions or problems; we want to help you to succeed!

Timetable — Lectures and Tutorials

Lectures:

- Wednesday: 2:00PM to 3:00PM, Sci Maths & Physics, Room G23
 - Thursday: 1:00PM to 2:00PM Sci Maths & Physics, Room G23
 - Friday: 1:00PM to 2:00PM Sci Maths & Physics, Room G20
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Tutorials:

You will also have a tutorial time on Student Services Online; tutorials take place once a week. Every tutorial is 90 min long. Tutorials start in week 2 of the semester. There will be no tutorial in week 6 and week 7 (the last week before and the first week after the break). There will be 9 tutorials in total. You must attend the tutorial that you signed up for on Student Services Online. If you are unable to do so due to illness/family emergencies/other extenuating circumstances, email your course coordinator as soon as you can.

For the most up-to-date information on lecture and tutorial rooms, please check Student Services Online at www.studentservices.auckland.ac.nz. Rooms may change at the beginning of the semester!

Expectations & Workload

COMPSCI 120 is a 12 week, 15 point course. The University of Auckland asks each point of a class to correspond to ten hours of work; therefore, we are expecting the average student in COMPSCI 120 to spend 150 hours overall, or about 10-12 hours a week on the course.

We recommend staying on top of the course material as it is covered, and in particular studying for tests and starting work on your assignments well in advance. An hour of study each day for a week is almost always more efficient than ten hours of study the night before a test.

There is a tremendous amount of help available for you (see Getting Help, below.) Make use of all of it.

Course Book

A course book containing the lecture notes for 2019 is available from Canvas.

Prerequisites & Restrictions

The expected background of a student enrolling in COMPSCI 120 is 13 credits in Mathematics at NCEA Level 3, or equivalent, such as: a pass in MATH 102, a D or better in Cambridge A2 Mathematics, a C or better in CIE AS Mathematics, or a pass in International Baccalaureate Mathematics.

COMPSCI 120 cannot be taken after COMPSCI 225 or MATH 255.

Diagnostic Quiz

To help you decide whether or not you have the expected background to succeed in COMPSCI 120, we have set up a diagnostic quiz with 20 questions on Canvas. This quiz is worth 1% of your final mark. You will get the full 1% for completing the quiz no matter how well you do, so don't use a

calculator, WolframAlpha, or any other online/offline tool! Instead, the point of this quiz is for you to learn what you do not know, so that we can advise you as to whether you're well-prepared for COMPSCI 120.

If you find that you were only able to answer 13 or less of the questions correctly in this quiz, talk to your lecturer or course coordinator! According to our studies, students whose scores fall below this threshold are more than twice as likely to fail COMPSCI 120 as students who are better prepared.

If you fall into this group, we strongly recommend that you take MATH 102 before enrolling in COMPSCI 120. MATH 102 will give you the mathematical background needed to succeed in COMPSCI 120, and is well worth taking if your mathematical background is shaky!

Do not close your browser while you are taking the quiz; Canvas does not save your progress and will discard everything you've done so far.

Finally, even if you did reasonably well in this quiz, make sure to review the questions that you get wrong. Canvas will show you all of the problems you answered incorrectly after you hit submit. For each incorrect answer, you'll see a small explanation for what likely went wrong, along with a link to a revision page and some practice quizzes to help you fill in any small gaps in your understanding. Do this when you get a chance, as the skills described here are ones we're assuming you have when you enter this paper / are critical for success in COMPSCI 120!

The quiz is already open on Canvas (i.e. you can take the quiz before the lectures start on July 24) and we ask you to complete it before the end of July 31st! If you complete it after this deadline, it does not count towards your final grade.

DELNA (Diagnostic English Language Needs Assessment)

All students in their first year at the University of Auckland (no matter what your background is) are required to do the Screening component of DELNA. The Screening is a quick health check of your academic English skills, details can be found on the website www.delna.auckland.ac.nz. If you have any questions regarding DELNA, please contact the DELNA office directly or email delna@auckland.ac.nz.

Resources

Official announcements will be made in class and on Canvas (<https://canvas.auckland.ac.nz/>). Additionally, all course material (including assignments, lecture notes, access to lecture recordings) will be available from Canvas.

Students are strongly encouraged to attend lectures; we have designed our classes to offer numerous opportunities to ask questions and interact with the lecturers and material. Data has consistently shown that the more lectures you attend in person, the higher your final grade. Skipping lectures in favour of watching online recordings is not a good idea!

Calculators

No calculators are permitted on the exam or test. Please note that the test and exam are designed so that a calculator is unnecessary; if you can add and multiply single-digit numbers, you will be capable of performing any of the calculations present.

Getting Help

- Ask questions in lectures and tutorials!
- Visit your lecturers during their office hours.
- Get help and advice from the tutors in the Mathematics Assistance Room (location 302.170)
- Post questions on Piazza, an online forum you can find on the Canvas page for COMPSCI 120.

All students are asked to discuss any impairment related requirements privately, face to face and/or in written form with the course coordinator, lecturer or tutor.

Collaborating & Cheating

You are encouraged to discuss problems with one another and to work together, but you must not copy another person's work. All coursework is there to enhance learning, so by cheating, you are also cheating yourself of a learning opportunity. Assignment, tutorial and test marks contribute to the final mark you receive in this course and must reflect your own work, not the work of others. We view cheating on coursework as seriously as cheating in an examination.

Acceptable forms of collaboration are:

- getting help in understanding from staff and tutors;
- discussing assignments and methods of solution with other students.

Unacceptable forms of collaboration ('cheating') are:

- copying all or part of another student's assignment, or allowing someone else to do all or part of your assignment for you;
- allowing another student to copy all or part of your assignment, or doing all or part of an assignment for somebody else.

If you are unsure about whether your collaboration is OK please discuss it with your lecturer. If you think that your collaboration will be viewed as cheating, you are probably correct, but we are more than happy to help clarify edge cases.

In order to educate students on the subject, there is a University online Academic Integrity Course (composed of 5 modules). This course can be found at www.academicintegrity.auckland.ac.nz and it is a requirement that all new students complete the course.

Harassment & Complaints

Complaints about marking should be taken to your lecturers who are in a position to do something about it. More general complaints can be taken up by your class representative.

Assessment

4 Assignments	20%	(5% each)
9 Tutorials	9%	7 best out of 9
1 Test	20%	
1 Exam	50%	
1 Diagnostic quiz	1%	

Assignments

Assignments will be due on the following days and times. They will be posted on Canvas at least 7 days before they are due:

A1 Friday, August 2nd, 4pm

A2 Friday, August 16th, 4pm

A3 Friday, September 27th, 4pm

A4 Friday, October 18th, 4pm

Late assignments will not be accepted. If you are concerned that you may be unable to turn in an assignment due to illness/family matters/other issues, please contact the course coordinator as soon as you can.

The most important part when submitting an assignment is the coversheet. Coversheets must be generated on Canvas. Each coversheet contains a personalised QR-Code with your information, unique to that particular assignment.

Please make sure that your QR-Code is complete, machine readable, not resized and not corrupted. The Student Resource Centre needs this QR-code to scan, track and process assignments in a timely manner. Furthermore, each coversheet has a declaration on it which you must date and sign.

Assignments without a coversheet cannot and will not be recorded. Assignments with an outdated, non-Canvas coversheet also cannot be recorded. In addition, you may be penalised for failing to sign and date the declaration.

Late assignments and those in a wrong box will not be marked.

Tutorials

Tutorials are weekly and start in week 2. There is no tutorial in weeks 6 and 7 (the last week before and the first week after the break). Every tutorial is worth 2 points:

- 1 point for showing-up;
- 1 point for participation.

More on points can be found in the Tutorial guide that is available on Canvas.

To get your tutorial mark, you must attend the tutorial that you signed up for on Student Services Online.

Test

The test is one hour long. It will be held from **6.00 pm** on **August 28th**. The test covers all material from the first five weeks of class. It will contain 8 multiple-choice questions and 1 free-response question. Check Canvas announcements for locations, times, and more information closer to the test date.

Exam

The exam is two hours long. It covers material from the entire course. The exact date of the exam is not available until around the middle of the semester.