

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, binary, rationals.
- Basic functions, functions.
- Strings and sets.
- Basic of graphs, trees.
- Direct proofs, proof by cases, proof by contradiction, proof by construction, proof by Induction.
- Basics of combinatorics, basics of probability.

Lecturers

The teaching team is as follows:

Teaching Team:

Role	Lecturer	Office	Email
Lecturer, coordinator	Sudeep Stephen	303.211	sudeep.stephen@auckland.ac.nz
Lecturer	Tanya Gvozdeva	303-467	t.gvozdeva@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: All lecture are in room **LibB28/109-B28** .

Monday	Tuesday	Wednesday
3-4 pm	3-4 pm	12-1 pm

Occasionally rooms can change. So check the lecture rooms before lectures start through Student Services Online: see www.studentservices.auckland.ac.nz.

For students doing the course remotely, all lectures will be recorded for you to access on Canvas page. These lecture recordings would be available for you to access on the same day, usually within 2-4 hours of the normal teaching schedule.

Tutorials: You will also have a tutorial time on Student Services Online; tutorials take place once a week. Tutorials start in week 2 of the semester. There will be only **no** tutorial in week 7 (the first week after the break). There will be 10 tutorials in total.

Every (in class) tutorial is 90 min long. 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.

*Students who are approved to take this course **remotely** will have a similar arrangement made. This will be made known to you by the end of Week 1.*

Note: Students (studying on campus and remotely) will also have an option of doing the tutorial online. Tutorial sheet will be available on Canvas on Wednesdays every week. Those doing the tutorial online must then submit your solutions to the tutorial problems on Canvas by Friday. We recommend you to avail this facility only in case of illness/family emergencies/other extenuating circumstances.

Expectations & Workload

COMPSCI 120 is a 6 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. We want you to succeed!

Course Book

A course book containing the lecture notes is available from Canvas page. It can also be purchased from The Student Resource Centre for 10\$.

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 MATHS 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 can not 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 got 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 March 2) and we ask you to complete it before the end of January 13th! 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) 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

All announcements made in class will also be made on Canvas (<https://canvas.auckland.ac.nz/>). You can download assignments, lecture notes and access other resources (e.g. class recordings) 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 immediately. More general complaints can be taken up by your class representative. You may also approach the Head of Department or the Departmental Manager for Mathematics.

Assessment

4 Assignments	20%	(5% each)
10 Tutorials	9%	8 best out of 10
Quiz	1%	for completing the quiz
Test	20%	
Exam	50%	

*Students who are approved to take this course **remotely** will have alternative arrangements made for tutorials, mid-semester test, and exam.*

Assignments will be due on the following days and times.

A1 Friday, August 14th, 23.59pm

A2 Friday, September 11th, 23.59pm

A3 Friday, October 9th, 23.59pm

A4 Friday, October 30th, 23.59pm

Late assignments are typically not able to 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.

All assignments should be submitted through Canvas. You should submit via Canvas a single **PDF** file containing the answers to the questions. A scanned handwritten submission is acceptable if and only if it is very neatly written. If typing the assignment, do the best you can with mathematical symbols. For exponents, write something like

2^n

if using plain text. Use LaTeX if you really want it to look good.

Tutorials are weekly. You will also have a tutorial time on Student Services Online. Tutorials start in week 2 of the semester. There will be only **no** tutorial in week 7 (the first week after the break). There will be 10 tutorials in total. Every tutorial is worth 2 points. The points are awarded for your engagement with the material. 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 students submitting the tutorial online, we would also like to remind you that to get the full mark for the tutorial, you don't need to provide correct solutions. To earn the points, you have to attempt about 2/3 of the questions.

The **Test** is one hour long. It will be held from **6:30 pm** to **7:35 pm** (including 5 minutes reading time) on **September 22, 2020**. You are strongly advised to arrive to your room at least 15 minutes before the start of the test. The test covers all of the material from the first six weeks of class.

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.

For students taking the course remotely, online test/exam will be arranged and can be time limited. Online tests may be scheduled with a simultaneous start time to the on-site version. The final decision on the completion mode for a test or examination, and remote invigilation arrangements where applicable, will be advised to students at least 21 days prior to the scheduled date of the assessment, or in the case of an examination when the examination timetable is published. Extra time will be added for students with approved special conditions sitting time-limited tests of 30 minutes or longer. A post-deadline window of 15 minutes must be available for students sitting online tests to allow for technical difficulties.