

CS1231S Discrete Structures

AY2026/27 Semester 1



CS1231S (AY2026/27 Sem1)
QnA



Welcome to CS1231S

1. Coordinator/Lecturer



Langkawi, February 2026

A/P Tan Tuck Choy, **Aaron**

Office: COM1-03-12

Email: tantc@comp.nus.edu.sg

Admin appointment:

Assistant Dean

(Undergraduate Studies
& Student Life)

Running



Used to have weekly runs with students every week (pre-Covid days)



Full marathon

Cantonese opera



Choir



Joy Chorale

Wing Chun



Singing



SoC Gala Dinner 2018



SoC 25th Anniversary
July 2023



Computing 50th Anniversary
1st August 2025

1. Lecturers



Weekly
Jogging



Board
Games



Cycling



Dr **Ashish** Deepak Dandekar

Office: COM2-03-58

Email: dcsashi@nus.edu.sg

Classical
Music



Hiking



Traveling



Welcome to CS1231S

1. Lecturer (CS1231R)



Dr **Maciej** Lukasz Obremski

Office: COM2-02-16

Email: cqtmlo@nus.edu.sg

Stabbing
people



Meerkats!!!!



Professional
first aid model



Happiest day of
my life



Amateur pirate



CS1231R

- For students who find CS1231S too easy and are looking for more challenges!
- CS1231R – 1 unit, credited in the NEXT semester if you complete it.
- Additional lectures will be conducted by Dr Maciej Lukasz Obremski. (Time slot to be decided later – we will do a poll.)
- Additional assignments will be given out.
- Some possible topics (may subject to changes): Analysis of algorithms (recurrences); Cryptography (fields/groups (mod arithmetics), polynomials, Chinese reminder theorem, encryption, secret sharing); Randomness (union bounds, probabilistics proofs).



Dr Maciej Obremski
Research Assistant Professor
Works on theoretical CS,
mostly cryptography.

- **Limited spots, thus there might be an entrance test!**
- **Plan:**
 - Sign-up (+ test): week 2, (Test: Friday 16-18.00)
 - Lectures start in week 3, Friday 16-18.00

1. Tutors



**Dr Eldon
Chung**



**Prof Frank
Stephan**



**Theodore
(lead TA)**



**Brian
Cheong**



**Ben
Robinson**



**Sherwin
Chang**



**Chwa
Channe**



**Duan
Yuhan**



**Dylan
Tay**



**Hoang
Cong Duc**



**Ivan
Adrian**



**Michael
Cenreng**



**Mikhalchuk
Valentin**



**Ng
Ting Hui**



**Nguyen
Phuc Truong**



**Praneeth
Suresh**



**Raisa
Nishat**



**Rajavel
Aishwarya**



**Rishav
Gupta**



**Saswata
Mukherjee**



**Ser
Yi Zhe**



**Sue
Zheng Yong**



**Tze Tzun
(Joseph)**



**Thu
Rein**



**Toh
Jun Yee**



**Too
Justin**



**Tse
Henry**



**Vu
Dang Khoa**



**Yeoh
Khang Sian**



**Zhou
Haoran**



**Zhu
Jiahang**

2. Objectives

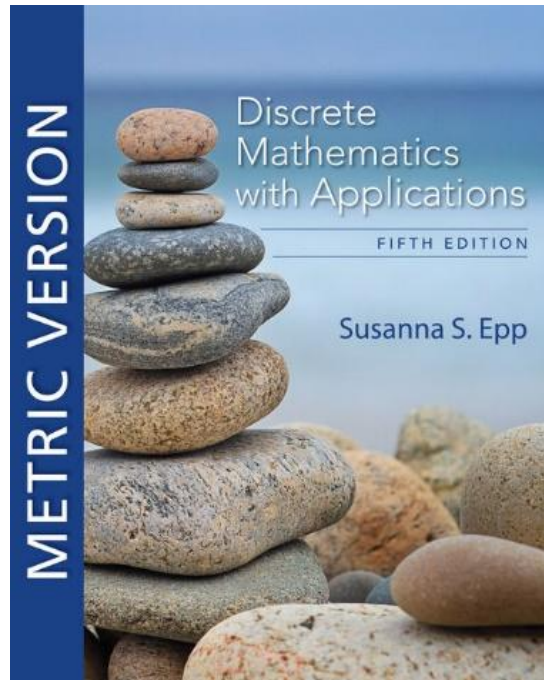
1. To develop **mathematical maturity** – the ability to formalize concepts, work from definitions, think rigorously, reason concisely, and construct a theory.
2. To provide basic mathematical prerequisites relevant to **Computer Science**.

3. Topics

Topics include:

1. Propositional logic and predicate logic
2. Proof techniques
3. Sets
4. Relations
5. Mathematical Induction
6. Functions
7. Cardinality
8. Counting and Probability
9. Graphs and Trees

4. Reference Books



Discrete Mathematics with Applications

5th Edition

Author: Susanna S. Epp

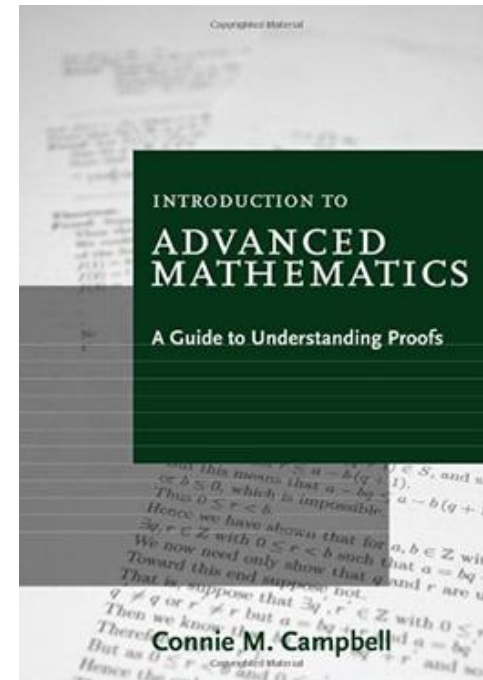
Publisher: Cengage Asia

ISBN-13: 9780357114087

ISBN-10: 0357114086

[Online resource](#)

It's ok if you get
the 4th edition.



Introduction to Advanced Mathematics:

A Guide to Understanding Proofs

Author: Connie M. Campbell

Publisher: Cengage Asia

ISBN-13: 9780547165387

ISBN-10: 0547165382

5. Online Resources (1/3)

Canvas: <https://canvas.nus.edu.sg>

The screenshot displays the Canvas LMS interface for the CS1231S course. The left sidebar contains navigation links: Account, Dashboard, Courses (highlighted), Calendar, Inbox, History, Commons, Studio, and Help. The main content area shows the course title 'CS1231S > Modules' and a 'Student view' toggle. Below this, there are buttons for 'Collapse all', 'View progress', 'Export Course Content', and a '+ Module' button. The course content is organized into a list of modules under the heading 'WELCOME'. Each module has a green checkmark and a plus icon. The modules listed are: 'Welcome to CS1231S', 'Zoom and QnA links', 'Meet the Teaching Team', 'Schedules', 'Important Dates', and 'Assessments'. At the bottom, there is a 'Miscellaneous' section. On the right side, the 'Course status' is shown as 'Published' with a green checkmark. Below this, there are buttons for 'Unpublish', 'Import Existing Content', 'Import from Commons', 'Choose home page', 'View Course Stream', 'New Announcement', 'New Analytics', and 'View Course Notifications'. A 'Coming up' section indicates 'Nothing for the next week' with a 'View calendar' link. A 'Course chat' section is visible at the bottom right, featuring a question mark icon.

CS1231S > Modules

[2210] 2022/2023 Semes...

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Collapse all

View progress

Export Course Content

+ Module

WELCOME

Welcome to CS1231S

Zoom and QnA links

Meet the Teaching Team

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Import Existing Content

Import from Commons

Choose home page

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Coming up

View calendar

Nothing for the next week

Course chat

5. Online Resources (2/3)

CS1231S module website:

<https://www.comp.nus.edu.sg/~cs1231s>



← → ↻ comp.nus.edu.sg/~cs1231s/

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School of Computing
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CS1231S
Discrete Structures
Friday, 4 August 2023

Course Info...
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- **Welcome to CS1231S!**
- Course materials are uploaded onto [Canvas](#) progressively. This CS1231S website serves as a backup in case Canvas is down.
- Please check out the Canvas announcements and discussion forums when the semester commences.
- QnA: <https://sets.netlify.app/module/62cead6a77b77a15b5b4762b>

Hits since 29-May-14: 118954. Accesses today: 14. [Statistics](#)

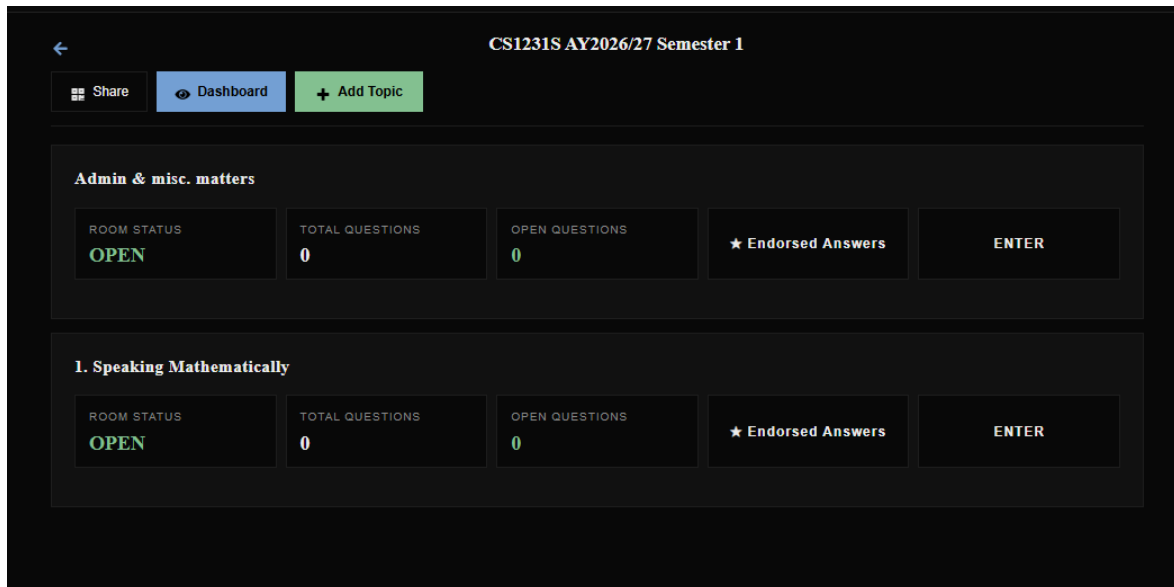
As backup in case
Canvas is down.

5. Online Resources (3/3)

We will call it **QnA** for simplicity

<https://setsify.com/space/6a0532f67be1d8eac8fddaf9>

Post your questions here. More rooms will be created as we progress.



CS1231S (AY2026/27 Sem1)
QnA

6. Assessments

CA component	Date	Weightage
Tutorial attendance	-	5%
2 assignments & 3 in-tutorial quizzes	See https://www.comp.nus.edu.sg/~cs1231s/1_course_info/sched.html for assignment deadlines	20%
Midterm test	7 Oct (Wed) 6:30 – 8pm	25%
Final exam	26 Nov (Thu) 9 – 11am	50%

- Non-graded: [Canvas > Quizzes](#) – for your own practice/check.
- **Midterm test and final exam are open book.** More details will be given out later.
- Please post on “Canvas > Discussions > Midterm Test” by end of August if the [CS1231S midterm test clashes with your other test](#). Please provide details (such as the other module code and timing).

7. Lecture Plan (See CS1231S website for latest updates)

https://www.comp.nus.edu.sg/~cs1231s/1_module_info/sched.html

Week	Lecture topics
1	Speaking Mathematically; The Logic of Compound Statements
2	The Logic of Quantified Statements
3	Methods of Proofs
4	Sets
5	Relations
6	Modular Arithmetic and Partial Orders
Recess	
7	Mathematical Induction and Recursion
8	Functions
9	Cardinality
10	Counting and Probability
11	Counting and Probability (cont'd); Graphs
12	Graphs (cont'd); Trees
13	Filler

Lectures are
webcast; recording
will be published
on [Canvas >
Videos/Panopto >
Web Lectures](#)

8. Tutorial Schedule (Refer to CourseReg site)

- Tutorials start in **week 3** (24 August).
- See tutorial schedule as at 13 August (this is dynamic and subject to changes) on the following CS1231S web page: https://www.comp.nus.edu.sg/~cs1231s/1_module_info/sched.html or refer to NUSMODS (<https://nusmods.com/>) for the most up-to-date schedule.
- Please do **NOT email us** (acad staff) on requests such as adding you to a group or moving you to a different group. We are not permitted to do this. **All requests/appeals should be sent to the CourseReg** where dedicated admin staff will handle and process your requests. Sending your requests to us will just cause further delay as we could at most forward your request to the admin.
- I will be monitoring the situation on my side and will post updates via **Canvas announcements**.

9. Blended Learning

- CS1231S has been selected to go semi-Blended Learning mode.
 - Students are to view the lecture slides and previous semester's lecture recordings before the lecture.
 - Students are to post questions on the topics to be discussed in the coming week.
 - The process will evolve over time as we experiment.

10. Why is Discrete Mathematics Important?

Discrete Math (DM) is important, especially for Computer Science.

It is the backbone of CS.

Concepts and notations from DM are useful in studying the describing objects and problems in all branches of CS, such as algorithms, programming languages, theorem proving and software development

Every field in CS is related to discrete objects – databases, neural networks, automata, etc.

Modeling with DM is an extremely important problem solving skill.

Useful for algorithms modules:

CS2040 (Data Structures and Algorithms), CS3230 (Design and Analysis of Algorithms), etc.

Logic part is useful in CS2100 (Computer Organisation).

11. Plagiarism

- Use or close **imitation** of the **language** and **thoughts** of another author and the representation of them as one's own original work.
- Plagiarism by students, professors, or researchers is considered **academic dishonesty** or **academic fraud**, and offenders are subject to **academic censure**, up to and including **expulsion**.
- Do **not plagiarise** or **commit any acts of dishonesty**.
- Further information:
 - <https://www.comp.nus.edu.sg/cug/plagiarism/>
 - [NUS-Plagiarism-Policy.pdf](#)

12. CS1231S Policy on Assignments

- You are to do the assignments on your own.
- No AI tools are allowed.
- No discussion with anybody else is allowed.
- If you have queries about the assignment questions, post them on QnA. Do not post your answers or partial answers there.



Every semester, many students were caught committing academic offence and were reported to the school. Depending on the severity, penalty includes awarding zero mark for the assignment, failing the whole course, and harsher penalty.

Note that academic offence is not limited to direct copying or sharing of answers.

In programming courses, there were many instances when students claimed that they merely discussed their ideas/algorithms (which was allowed) but ended up with highly similar code due to the detail level of discussion. There were instances when two students were detected with similar answers, even though they do not know each other, but separately used AI tool (which gave the same answer). All these reasons would not vindicate you of the offence.

13. CS1231S Tagline



What have you heard about CS1231S
from those who have taken it before?

Challenging

Boring

Interesting

Depressing

Killer module

Prepare to S/U

I can do it!

Heard nothing

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