

CS1231S Discrete Structures

AY2021/22 Semester 2



NUS
National University
of Singapore

School of
Computing

1. Lecturer



Running



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



Cantonese opera



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

Office: COM1-03-12

Email: tantc@comp.nus.edu.sg

Admin appointment:

Assistant Dean

(Undergraduate Studies)

Singing



SoC Gala Dinner 2018

Wing Chun



Pottery



1. Tutors



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AY2021/22 Semester 2 Module Information - Staff

Lecturers:



A/P Aaron Tan (Module coordinator)
Office: COM1-03-12
Email: tantc @ comp.nus.edu.sg
Tutorial groups: TBA

Tutors:



A/P Leong Hon wai
Email: leonghw @ comp.nus.edu.sg
Tutorial groups: TBA



Mr Wu Biao, Ben
Email: wubiao @ comp.nus.edu.sg
Tutorial groups: TBA



Mr Goh Siau Chiak
Email: e0014940 @ nus.edu.sg
Tutorial group: TBA



Mr Theodore Leebrant
Email: theodoreleebrant @ u.nus.edu
Tutorial group: TBA



Ms Fang Xinyu
Email: fangxinyu @ u.nus.edu
Tutorial group: TBA

2. Objectives

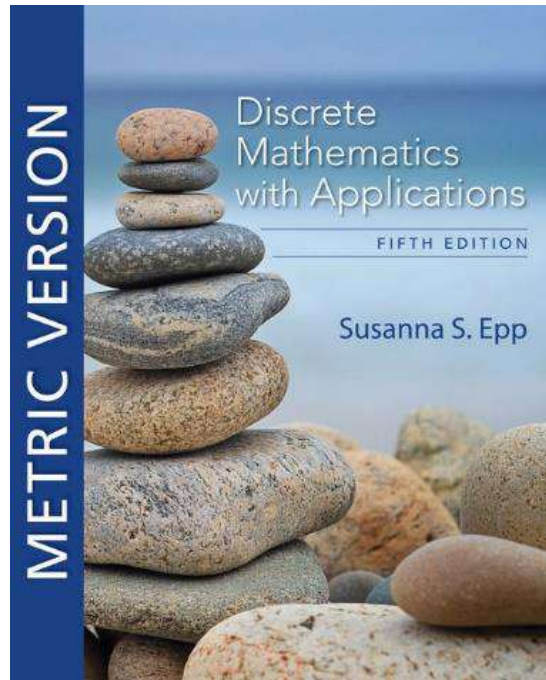
1. To develop mathematical maturity – the ability to formalize concepts, work from definitions, think rigorously, reason concisely, and construct a theory.
2. To provide basic mathematical prerequisites relevant to Computer Science.

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

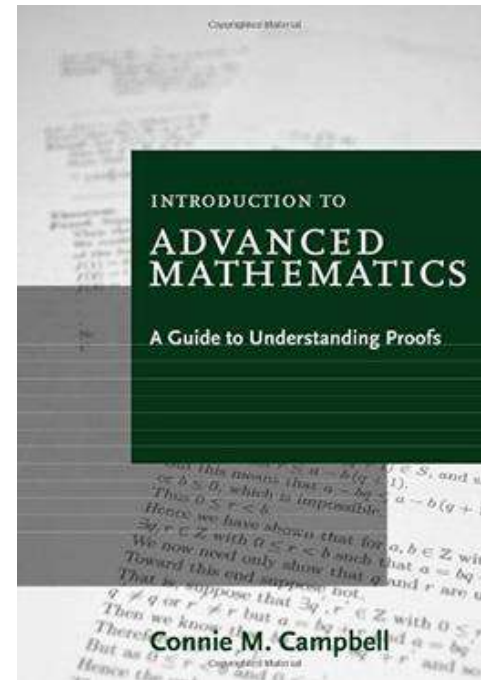
Publisher: Cengage Asia

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 (1/2)

LumiNUS: <https://luminus.nus.edu.sg>

The screenshot shows the LumiNUS interface for the CS1231S Discrete Structures module. The top navigation bar includes links for MY MODULES, MODULE SEARCH, CONTENT BANKS, RESEARCH RECRUITMENT, GENIUSWORLD, and STUDENT FEEDBACK. The user is logged in as Tan Tuck Choy, and the current session is AY2020/2021, Special Term II, Week 3.

The left sidebar lists the following options:

- CS1231S
- Discrete Structures
- [2110] 2021/2022 Semester 1
- Owner
- Module Overview (selected)
- Module Settings
- Module Details
- Class & Groups
- Attendance
- Task Report
- TOOLS
- Announcements
- Chat Room
- Conferencing
- Consultation
- Files
- Forum
- Gradebook
- Multimedia

The main content area displays the module overview for CS1231S Discrete Structures, including the semester, school, and dates. A placeholder for adding more content is visible with the text "Add Module Overview".

A callout box highlights the following resources available in the Tools section:

- Lecture recordings (Multimedia)
- Announcements
- Files
- Forum
- Gradebook
- etc.

5. Online Resources (2/2)

CS1231S module website:

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



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- **Welcome to CS1231S!**
Please take some time to go over this website.
- Course materials are uploaded onto [LumiNUS](#) progressively. This CS1231S website serves as a backup in case LumiNUS is down.
- Please check out the LumiNUS announcements and discussion forums when the semester commences.

Hits since 29-May-14: 68807. Accesses today: 9. [Statistics](#)

As backup in case
LumiNUS is down.

6. Assessments

CA component	Date	Weightage
Tutorial attendance	-	5%
Two assignments	Due: weeks 6 & 12	20%
Midterm test	8 Mar (Tue) 6:30-8:30pm	25%
Final exam	27 Apr (Wed) 5-7pm	50%

- Midterm test and final exam are open book and face-to-face. More details will be given out later.
- Please post on “LumiNUS > Forum > Midterm test” by [28 Jan](#) 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 online, recorded over Zoom, and published on LumiNUS.

8. Tutorial Schedule (Refer to ModReg site)

- Information on the next slide is subject to changes as tutorial registration is dynamic and last-minute changes may be made (groups removed/deleted, etc.) Please refer to ModReg for the most up-to-date information.
- 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 official system 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 **LumiNUS announcements**.

8. Tutorial Schedule (Refer to ModReg site)

- See tutorial schedule as at 12 January (as mentioned, 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
- Tutorials start in week 3 (24 January) and are face-to-face.
- (For students who are unable to attend tutorials face-to-face with valid reasons)
 - We will provide online tutorial for you.
 - Send me an email (tantc@comp.nus.edu.sg).
 - Please go ahead with the tutorial registration as normal. We will make arrangement after you have secured your tutorial group.

9. 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).

10. Plagiarism

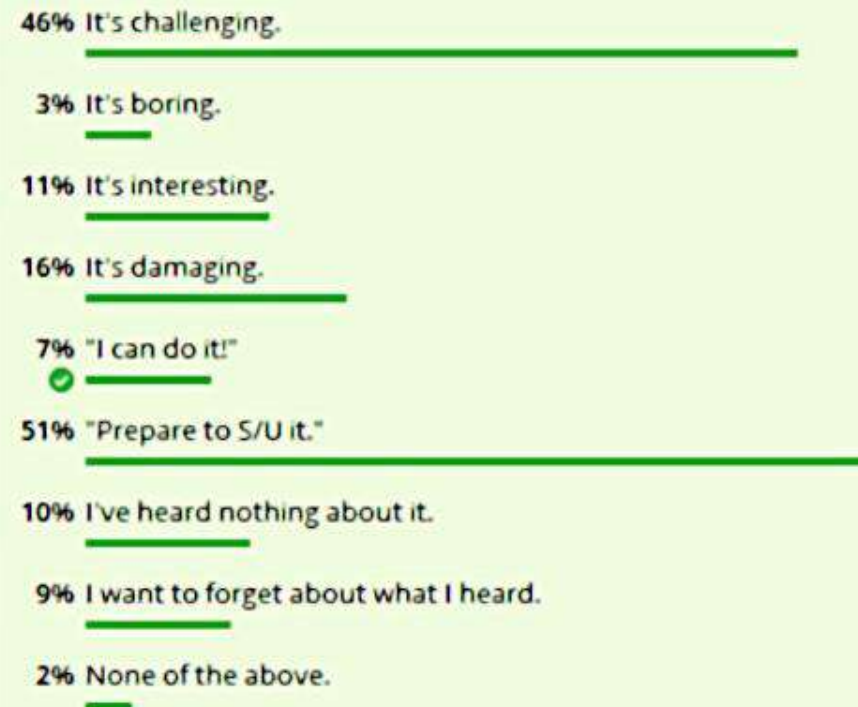
- Use or close **imitation** of the **language** and **thoughts** of another author and the representation of them as one's own original work.
- Plagiarism by students, professors, or researchers is considered **academic dishonesty** or **academic fraud**, and offenders are subject to **academic censure**,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

11. CS1231S Tagline



What have you heard about CS12315 from those who have taken it before?

Anonymous Poll



77 votes

7:42 PM ✓✓

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