Welcome!
CS Department

Today’s Plan
Welcome from Department Chair (Prof. Lee Wee Sun)
Short briefing (A/P Seth Gilbert)
Welcome from your seniors
Questions
The disastrous events that would break the internet

How Facebook Fact-checking Can Backfire
By Brian Feldman

Sorry But Your Favorite Viral Story is Probably Fake
By Madison Malone Kircher

The Internet’s Future Is More Fragile Than Ever, Says One Of Its Inventors
Vint Cerf, the co-creator of tech that makes the internet work, worries about hacking, fake news, autonomous software, and perishable digital history.
Who’s Who:

Dean
Mohan
KANKANHALLI

Vice Dean (Undergrad)
Sanjay
JAIN

Vice Dean (Student Life)
Gary TAN

Assistant Deans (Undergrad)
CHAN Chee Yong
KAN Min Yen

Department Chair
LEE Wee Sun

Rudy SETIONO
Aaron TAN

I TEACH
WHAT'S YOUR SUPERPOWER?
University Life (?)

- classes
- socializing
- extracurriculars
University Life (?)

- classes
- socializing
- extracurriculars
“What should I do now?”
BComp(CS) Degree Requirements

CS Program Requirements

80 MCs

SoC Common Core

40 MCs

40 MCs

Unrestricted Electives

BComp(CS) Degree Requirements

80 MCs

CS Program Requirements

36 MCs (9 modules)
CS Foundations

32 MCs (~7 modules)
Breadth & Depth

12 MCs (3 modules)
Industrial Experience

Unres Elec

Math & Sci

CS Foundations

The Beginning

CS1101s Programming Methodology
CS1231s Discrete Structures

Algorithms and Theory

CS2040S Data Structures & Algorithms
CS3230 Design & Analysis of Algorithms

Programming and Software Engineering

CS2030S Programming Methodology II
CS2103T Software Engineering
CS2101T Effective Communication

Computer Systems

CS2100 Computer Organization
CS2106 Intro to Operating Systems

AI & ML

CS2109S Intro to AI and Machine Learning
BComp(CS) Degree Requirements

Unrestricted Electives: 40 MCs

SoC Common Core:
- 4 MCs (1 module)
  - Ethics: IS1108 Digital Ethics and Privacy
- 24 MCs (6 modules)
  - University Pillars
- 12 MCs (3 modules)
  - Interdisciplinary/Cross-Disciplinary Modules
BComp(CS) Degree Requirements

University Pillars

Cultures and Connections  Critique and Expression  Data Literacy  Digital Literacy  Singapore Studies  Communities and Engagement

ES2660 fulfills Critique and Expression.

CS1101S fulfills digital literacy.

For the other four: choose from the available options.
BComp(CS) Degree Requirements

Interdisciplinary / Cross-disciplinary Modules

• Choose three modules from the specified module lists.
• At least two must be interdisciplinary.

Interdisciplinary = integrates more than one discipline

Cross-disciplinary = a field different from CS that has interesting connections to CS.
BComp(CS) Degree Requirements

Examples: Interdisciplinary Modules

• IS1128 IT, Management and Organisation
• IS2238 Economics of IT and AI
• HSH1000 The Human Condition
• HSI2001 Scientific Inquiry & Health: Good Science, Bad Science
• HSI2011 The World of Quantum
• DTK1234 Design Thinking
• EG2501 Liveable Cities
• IE2141 Systems Thinking and Dynamics
• PF1101 Fundamentals of Project Management
BComp(CS) Degree Requirements

Examples: Cross-disciplinary Modules

• DAO2703 Operations and Technology Management
• EL1101E The Nature of Language
• SPH2002 Public Health and Epidemiology
• NUR1113A Healthy Ageing and Well-being
• EG2201A User-Centred Collaborative Design
• EG2310 Fundamentals of Systems Design
• Any Chemistry, Physics, or Biological Sciences (PC, CM, or LSM coded)
Tell me my schedule?
When to take what?

**Year 1:**
Begin foundation modules. Begin Common Core modules.

**Year 2:**
Finish foundation modules. Finish Common Core modules. Begin focus area.

**Year 3:**
Focus area modules. Industrial experience.

**Year 4:**
Focus area modules. Breadth and depth.
## CS Foundations

### The Beginning
- CS1101s Programming Methodology
- CS1231s Discrete Structures

### Algorithms and Theory
- CS2040S Data Structures & Algorithms
- CS3230 Design & Analysis of Algorithms

### Programming and Software Engineering
- CS2030S Programming Methodology II
- CS2103T Software Engineering
- CS2101T Effective Communication

### Computer Systems
- CS2100 Computer Organization
- CS2106 Intro to Operating Systems

### AI & ML
- CS2109S Intro to AI and Machine Learning
When to take what?

**Year 1:** (critical)

CS1101S: Programming Methodology

CS1231S: Discrete Math
When to take what?

Year 1 OR Year 2:

CS2030S: Programming Methodology II
CS2040S: Data Structures and Algorithms
CS2100: Computer Organization
IS1108: Privacy and Ethics
When to take what?

Year 2: Paired: take the same semester

CS2103T: Software Engineering
CS2101: Effective Communication
CS2106: Operating Systems
CS2109S: Introduction to AI and Machine Learning
CS3230: Design and Analysis of Algorithms

Core Focus Area Modules
When to take what?

**Year 1 or Year 2:**

MA1521: Calculus

MA2001: Linear Algebra

ST2334: Probability and Statistics
When to take what?

**Year 1:**
Begin foundation modules. Begin Common Core modules.

**Year 2:**
Finish foundation modules. Finish Common Core modules. Begin focus area.

**Year 3:**
Focus area modules. Industrial experience.

**Year 4:**
Focus area modules. Breadth and depth.
What else should I think about?
What else should I think about?

Research
→ Urop
→ FYP
→ Turing Program
What else should I think about?

Research
  → Urop
  → FYP
  → Turing Program

Summers
  → Orbital
  → CVWO
  → Internships
  → And more...
What else should I think about?

Research
→ Urop
→ FYP
→ Turing Program

More?
→ NOC
→ DDP
→ Minors
→ Teach!

Summers
→ Orbital
→ CVWO
→ Internships
→ And more...
What else should I think about?

Research
- Urop
- FYP
- Turing Program

Clubs
- NUS Computing Club
- NUS Hackers
- NUS GrayHats
- NUS Game Development Group
- NUS BiZiT
- NUS Fintech Society

More?
- NOC
- DDP
- Minors
- Teach!

Summers
- Orbital
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- Internships
- And more...
A few words of advice…

Computer science is super exciting!

- Cutting edge...
- Fast changing…
- Always something new to learn…

Computer science involves many different skills!

- Math and logic…
- Creativity and design…
- Implementation skills and technical knowledge…
- Teamwork and communication…
A few words of advice…

So what to learn in university?

Learn fundamental principles that never (?) change…
Learn how to solve problems…
Learn how to work with others…
Learn how to learn…

What to optimize for?

Skills, knowledge and expertise (not grades)…
Cooperation (not competition)…
How to get things done (not rote knowledge)…
Welcome!

Questions?