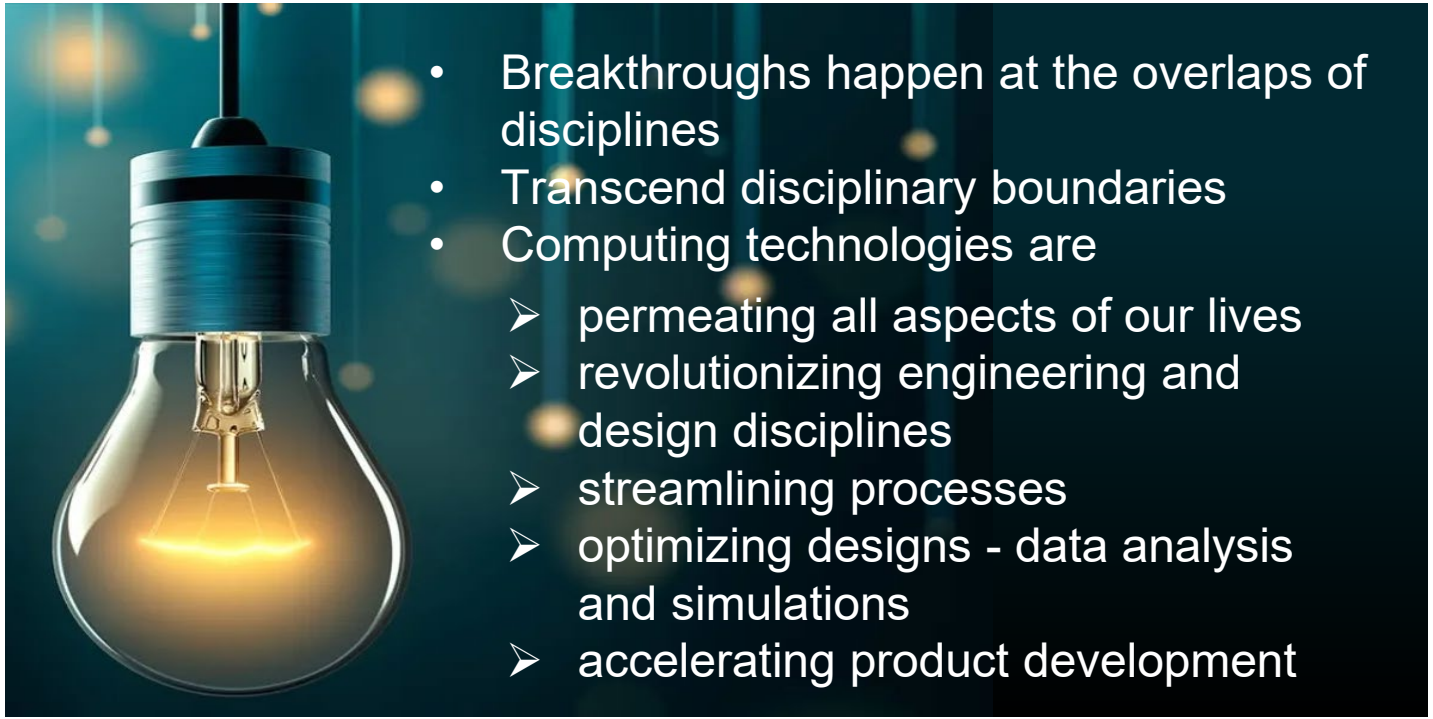
The formula for your future is simple. You + CDE

NUS National University of Singapore | College of Design and Engineering

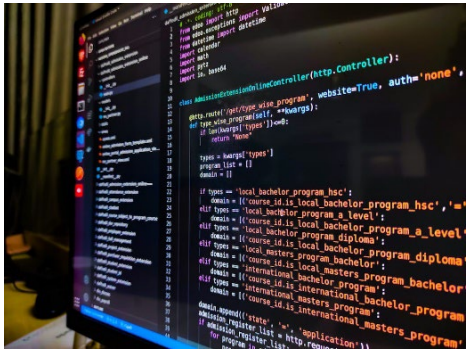
Computing (Design & Engineering)

By: Dr. Rajesh Panicker

Why?


• Breakthroughs happen at the overlaps of disciplines
• Transcend disciplinary boundaries
• Computing technologies are
➢ permeating all aspects of our lives
➢ revolutionizing engineering and design disciplines
➢ streamlining processes
➢ optimizing designs - data analysis and simulations
➢ accelerating product development

+



Computing (D&E)

- Better clarity - enhancing quality of work
- Improving career prospects

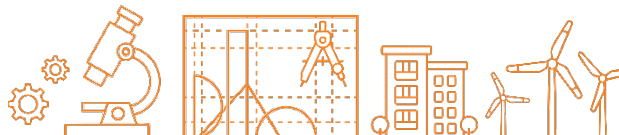
Highlights

- Hosted by Dept of Electrical and Computer Engineering (ECE).
  Jointly curated by CDE and the NUS School of Computing (SoC)
- Open to all CDE primary majors except Computer Engineering (CEG)
  Not open to 2nd major/minor in CS (SoC)

- Focuses on skillsets for solving design and engineering problems, to prepare the next generation of designers and engineers
- A wide range of discipline-relevant electives
- Not a dual degree – reflected in the transcript, but not degree scroll

Getting In

- Students may apply at the point of admission
  - ➢ Selection based on university admission score and/or proficiency in mathematics
- In-flight students must apply during the prescribed application window via EduRec
  - ➢ Restricted second major / minor - students will NOT be able to declare themselves via Academic Plan Declaration Exercise (APAD)
  - ➢ A very good grade in CS1010E and a good GPA are needed to increase the chances of admission to these programs



Second Major in Computing (D&E)

College of Design and Engineering
14/15 Majors*

+

Second Major: Computing (Design and Engineering)

Elective	Elective 3	Elective 4
	Elective 1	Elective 2
Core	CS2103DE Software Engineering	EE2211 or CDE2212 CDE AI Pillar
	CS2040DE Data Structures and Algorithms	CS2100DE Computer Organisation
	CS1010% Programming Methodology	CS2030DE Programming Methodology II

*Computer Engineering major students are precluded

- Up to 16 units (40% of the unit requirements for the Second Major) may be double counted to meet other requirements!

Minor in Computing (D&E)

College of Design and Engineering
14/15 Majors*

+

Minor: Computing (Design and Engineering)

Elective		
	Elective 1	Elective 2
	CS2030DE or CS2040DE or CS2100DE or CS2103DE	
Core	CS1010% Programming Methodology	CS2030DE or CS2040DE or CS2100DE or CS2103DE

- Up to 8 units (40% of the unit requirements for the Minor) may be double counted to meet other requirements!

Electives

Biomedical Engineering
- Bioengineering Data Analysis
- Computational Biomechanics
- Serious Games for Health

Architecture
- Digital Modelling and Simulation
- Building Information Modelling
- Spatial Computational Thinking

Industrial Design
- Digital Design & Fabrication
- Computing for Design

Electrical Engineering
- Robotics & Automation
- Data Science & Engineering
- Computer Networking
- Computer Vision
- Embedded Systems

Mechanical Engineering
- Microprocessor Applications
- Automation

Industrial Engineering
- Simulation
- Machine Learning for Industrial Engineering

Full list of electives from all disciplines at the Second Major/Minor webpage

Possible Roles and Careers

Design Technologists

Computer Hardware Engineer

Computational Materials Engineer

AI/Data Engineer

Computational Mechanics Engineer

Digital Manufacturing Engineer

Digital Architect

Games Developer

Process Optimization Engineer

Robotics / Automation Engineer

Verification & Validation Engineer

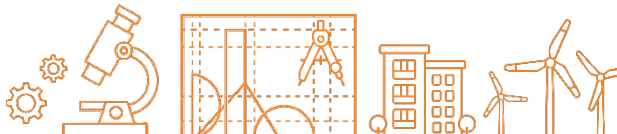
Smart Building Designer

Virtual/Augmented Reality Architect

Software Engineer

Biomechanics Engineer

UI/UX Designer



The formula for your future is simple. You + CDE

NUS National University of Singapore | College of Design and Engineering

This Could be You!

Teoh Xu En
EE, 2025; Minor in Computing (D&E)
Product System Engineer, ST Engineering

Joshua Yap Tian Qi
Architecture, 2028; 2nd Major in Computing (D&E)
1st Place at the BECC 2026 National Built Environment Case Competition

Abdulhusein Jabir Poonawala
ME, 2021; Minor in Computer Science
Founder, MaajTek Pte Ltd (Engineering Automation and Robotics)

The formula for your future is simple. *You* + CDE

NUS National University of Singapore | College of Design and Engineering

To find out more visit:

cde.nus.edu.sg/ece/second-major-in-computing-design-and-engineering

cde.nus.edu.sg/ece

askECE@nus.edu.sg

Computing (D&E)