#	Programme
1	Welcome Address by A/Prof Colin Tan Chair, Joint Academic Committee (JAC)
2	Academic Matters by Dr Rajesh C Panicker CEG Year 2 Coordinator
3	NUS Overseas Colleges (NOC) Talk – Start-up your Experiential Learning with NOC!
4	Talk by Goh Li Ze, Career Advisor, Centre for Future-ready Graduates (CFG)
5	Refreshment

Joint Department Briefing for CEG2

18 July 2024, 10am, SR1

Dr Rajesh C Panicker rajesh@nus.edu.sg

CEG Year 2 Coordinator

Note: Dr. Sangit Sasidhar taking over

Joint Academic Committee (JAC)
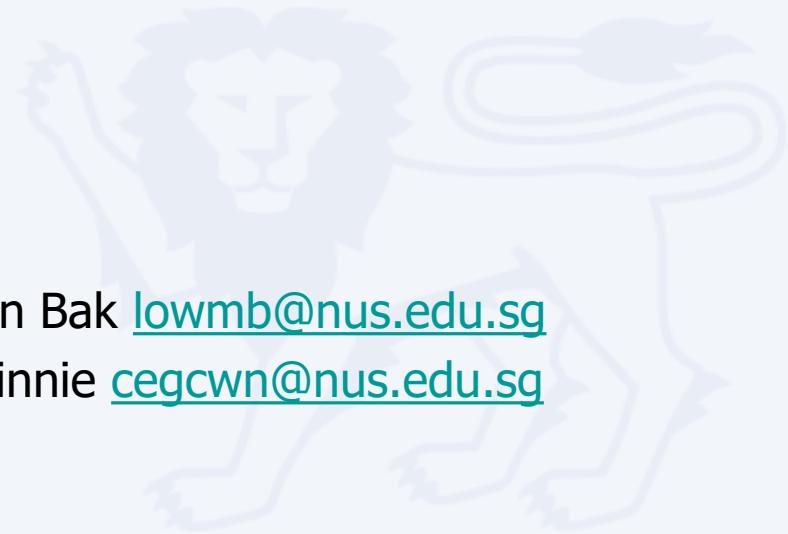
Department of Electrical & Computer Engineering

Calling for Achievements & News in Competitions, Projects, Sports, etc., so that we can ~~brag~~ broadcast!

Refer to https://ceg.nus.edu.sg/students/achievements/

CEG1 & CEG2 students: Email Mun Bak lowmb@nus.edu.sg
CEG3 & CEG4 students: Email Winnie cegcwn@nus.edu.sg

B.Eng. (Computer Engineering)

2nd Major / Minor	2nd Major / Minor	2nd Major / Minor	2nd Major/Spec/ Minor	2nd Major/Spec/ Minor
2nd Major / Minor	2nd Major / Minor	2nd Major/Spec/ Minor / Elective	2nd Major/Spec/ Minor / Elective	2nd Major/Spec/ Minor / Elective
Major **Real-Time OS**	Major **Computer Networks**	Major **Software Engg & OOP**	Major **Digital Design**	**CEG Eng. Principles & Practice I**
Major **Discrete Structures**	Major **Data Structs & Algos**	Major **DigCircuits&CompOrg**	Major **Signals & Systems**	**CEG Eng. Principles & Practice II**
Modelling & Simulation	Modelling & Simulation	Professionalism	Internship	
Design Thinking	Maker Space	Systems Thinking	Artificial Intelligence	Integrated Project
Sustainable Futures	Communities & Engagement	Creating Narratives	Project Management	
Singapore Studies	Cultures & Connections	Critique & Expression	Digital Literacy	Data Literacy

Unrestricted

Major

Common

Full BEng(CEG) Degree Requirements
(for **AY23/24** intake)

Programme Requirements	General Education Courses	Unrestricted Elective Requirements
96Units	24 Units in total, comprising of : Communities and Engagement (GEN) Cultures and Connections (GEC) Critique and Expression (ES2631) Digital Literacy (CS1010) Data Literacy (GEA1000) Singapore Studies (GESS)	40 Units, drawn from courses offered across NUS (including ES1000/ES1103, if not exempted)
Total Units = 160		

Honours Degree Classification is determined by GPA

Programme Components	Courses	CEG AY23/24 intake	Units
Common Curriculum Requirements	▪Singapore Studies ▪Cultures and Connections ▪Communities and Engagement ▪Critique and Expression ▪Digital Literacy ▪Data Literacy ▪Design Thinking	▪Maker Space ▪Systems Thinking ▪Artificial Intelligence ▪Sustainable Futures ▪Creating Narratives ▪Project Management ▪Integrated Project (8Units)	60
Programme Requirements	<u>Engineering Core (20 Units)</u> ▪MA1511 Engineering Calculus (2 Units) ▪MA1512 Diff Eqns for Engrg (2 Units) ▪MA1508E Linear Algebra for Engrng ▪EG2401A Engrg Professionalism (2 Units) ▪CP3880 ATAP (12 Units) or EG3611A (10 Units) <u>CEG Major (40 Units)</u> ▪CG1111A EPP1 ▪CG2111A EPP II ▪CG2023 Signals & Systems	<u>CEG Major (continued)</u> ▪CG2027 Transistor level Digital Circuits (2 Units) ▪CG2028 Computer Organisation (2 Units) ▪CG2271 Real-time Operating Syst ▪CS1231 Discrete Structures ▪CS2040C Data Structures & Algo ▪CS2113 Software Engrg & Object-Oriented Programming ▪EE2026 Digital Design ▪EE4204 Computer Networks	60
Unrestricted Electives	• CEG Technical Electives • Build Your Own Degree		40
	Total Units for Programme Requirements		**160**

Possible Schedule for AY23/24

RECOMMENDED STUDY SCHEDULE for CEG AY2023 INTAKE
CEG AY2023/24 Direct Intake (with 6-months Industrial Attachment in Year 3)

Sem 1	Sem 2	Sem 3	Sem 4	Sem 5	Sem 6	Sem 7	Sem 8
CG1111A EPP1	CG2111A EPP2	CS1231 Discrete Structures	CG2023 Signals & Systems	CP3880 ATAP (12 Units) OR EG3611A IA (10 Units)	CG2027 (2 Units) and CG2028 (2 Units)	CG4002 CEG Capstone Project (8 Units)	UE6
CS1010 Programming Methodology	DTK1234 Design Thinking	CS2040C Data Structures & Algorithms	CS2113 Software Engrg & OOP		CG2271 RTOS		UE7
EG1311 Design and Make	MA1508E Linear Algebra for Engrg	GEC1xxx Cultures and Connections	EE2026 Digital Design		CDE2000 Creating Narratives	EE4204 Computer Networks	UE8
MA1511 Engrg Calculus (2 Units)	PF1101 Fundamentals of Project Mgmt	IE2141 Systems Thinking	EE2211 Introduction to Machine Learning	EG2401A Engrg Profsm (2 Units)^	GESS1xxx Singapore Studies	GEN/C&E pillar Communities & Engagement	UE9
MA1512 Diff Eqn for Engrg (2 Units)	GEA1000 Quantitative Reasoning with Data	ES2631 Critique and Communication of Thinking and Design	EG2501(recoded to CDE2501) Liveable Cities	UE2^	UE4 e.g. ST2334	UE5	UE10
ES1103* OR UE1				UE3^ (2 Units, if took ATAP)			
20 Units	**20 Units**	**20 Units**	**20 Units**	**20 Units**	**20 Units**	**20 Units**	**20 Units**
TOTAL (MINIMUM) GRADUATION REQUIREMENTS = 160 Units							

^Students on Industrial Attachment (IA) are allowed to take (up to) 20 Units workload, including course that are offered in the evenings (subject to approvals and availability). Depending on the preferred semester for IA, the course for sem 5 & 6 may be mutually swapped. Students who prefer not to/are unable to take evening course(s) during IA, should take course(s) in the Special Terms (so as not to delay graduation).

Important:
- The three General Elective Courses (GE) and ten Unrestricted Elective Courses (UE) can be taken in any semester; the above serves as a guide
- Students are encouraged to use the UEs, totalling 40 units, to fulfil Specialisation (SPN) / Technical Elective (TE) / 2nd Major / Minor, etc. You will need to plan in advance, in order to fulfil the pre-requisite(s) of the courses required for your intended SPN / TE / 2nd Major / Minor.
* If not exempted.

https://ceg.nus.edu.sg/students/studyschedule/

Possible Schedule for CEG AY23/24 Poly intake

RECOMMENDED STUDY SCHEDULE for CEG AY2023 INTAKE

CEG AY2023/24 Poly Intake

Sem 1	Sem 2	Sem 3	Sem 4	May – Jul	Sem 5	Sem 6
CG1111A EPP1	CG2111A EPP2	CG2027 Transistor-level Digital Circuits (2 Units)	CG2023 Signals & Systems		CG4002 CEG Capstone Project (8 Units)	CDE2000 Creating Narratives
CS1010 Programming Methodology	CS2040C Data Structures & Algorithms	CG2028 Comp Org (2 Units)	CG2271 RTOS			GESS1xxx Singapore Studies
MA1301 Introductory Math (UE1)	EE2026 Digital Design	CS2113 Software Engrg & OOP	PF1101 Fundamentals of Project Mgmt	CP3200 Student Internship Programme OR EG3612 Vacation Industrial Attachment 6 Units (UE)	CS1231 Discrete Structures	EE4204 Computer Networks
ES1103* OR PC1201 Fundamentals of Physics (UE2)	GEA1000 Quantitative Reasoning with Data	IE2141 Systems Thinking	EE2211 Introduction to Machine Learning		GEN/C&E pillar Communities & Engagement	UE4 (2 Units, if completed SIP/VIA)
GEC1xxx Cultures and Connections	MA1508E Linear Algebra for Engrg	ES2631 Critique and Communication of Thinking and Design	PC1201 (if not exe from ES1103) OR EG2501(recoded to CDE2501) Liveable Cities		UE3 e.g. ST2334	UE5 (if did not do SIP/VIA)
		MA1511 Engrg Calculus (2 Units)			EG2401A Engrg Profsm (2 Units)	
		MA1512 Diff Eqn for Engrg (2 Units)				
20 Units	**20 Units**	**20 Units**	**20 Units**	**6 or 0 Units**	**22 Units**	**14 or 20 Units**
TOTAL (MINIMUM) GRADUATION REQUIREMENTS = 160 Units#						

#including Advanced Placement Credits (APCs) for DTK1234, EG1311, IA (10 Units) and UE (20 Units)

Important:
- Poly students are required to take MA1301 (if not exempted) as bridging Math and PC1201 as bridging Physics.
- Poly students who are exempted from MA1301, will take MA1511 and MA1512 in place, AND will need to take additional UE (to make up the 4 Units shortfall).
- Students are encouraged to use the Unrestricted Elective Courses (UE) to read CEG Technical Elective (TE) / Specialisation (SPN) / Minor. You will need to plan in advance, in order to fulfil the pre-requisite(s) of the courses required for your intended TE / SPN / Minor.
-* If not exempted.

https://ceg.nus.edu.sg/students/studyschedule/

CourseReg Matters / Updates

GPA	Max Workload (Rd 0 - Rd 2)	Max Workload (Rd 3 onwards)
4.5 – 5.0	23 units	32 units
4.0 – 4.49	23 units	28 units
3.0 – 3.99	23 units	26 units
2.0 – 2.99	23 units	24 units
< 2.0	23 units	20 units

Please cc
Mr. Low Mun Bak (CEG2)
or
Ms. Winnie (CEG3)
when you email the CEG 2 & 3 coordinator

o As EG2401A is scheduled for Year 3, higher priority (to Select Course) goes to Engrg Year 3 students (Round 1). Year 2 students can only select from Round 3, subject to quota availability.

o Another briefing on IA-related matters and technical electives will be conducted for CEG2 students (AY23 intake) in February 2025.

o Priority to read EE2026 in sem 1 goes to EE students, as per their recommended schedule. If still keen to read, CEG AY23 intake may try to select EE2026 from Round 3 (5 Aug), subject to quota availability

o CG2028 and CG2271 are now co-requisites for CG4002 - you can take them together. CG2028 is now in the first half and CG2027 is in the second half

24 Units

Aims:
- Broaden students' intellectual horizons
- Develop critical and creative thinking skills
- Promote spoken and written articulacy

Cultures & Connections	Singapore Studies	Communities & Engagement	Critique & Expression	Digital Literacy	Data Literacy
4 Units GEC1xxx	4 Units GESSxxx	4 Units GEN1xxx	4 Units ES2631	4 Units CS1010	4 Units GEA1000

Unrestricted Elective Courses

40 Units

Aims:
- Explore greater breadth/depth in students' discipline
- Read complementary or contrasting minor/Second Major

Students may use the UE space:
- to read more technical electives
- to take up Specialisations, Second Major or Minors

- Minor
- Second Major
- Double Degree

Look up the details on host dept's websites & email them/look out for e-blast on application e.g. Second Major in iDP or Minor in Data Engineering

Poly graduates are exempted from 20 Units UE (as APCs).

Unrestricted Elective Courses

Minor Programmes (20 Units)
- List of Minor Programmes (more than 50 Minors offered)
  - http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/special-programmes/minor-programmes

  - Up to 8 Units (40% of the Units requirements for a Minor) may be used to meet (i) the Minor requirement and (ii) another requirement, e.g., College, Faculty, Major, Second Major, Minor, Specialisation or other requirement.

Double Major / Second Major (40 Units)
- List of Second Majors (more than 25 Second Majors offered):
  - http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/special-programmes/double-major-programmes

  - Up to 16 Units (40% of the Units requirements for a Second Major) may be used to meet (i) the Second Major requirement and (ii) another requirement, e.g., College, Faculty, Major, Second Major, Minor, Specialisation or other requirement.

Advisory on Minor programmes

- 'Open' type:
  - Students can <u>declare</u> their intention to do an open minor via Academic Plan Declaration without any prior approval from the Host Dept, no later than the end of the fifth semester of study.

- 'Restricted' type:
  - Students are required to <u>apply</u> to the Host Dept and obtain approval (either via Acad Plan Declaration OR email/offline), no later than the end of the fifth semester of study. If approved, Host Dept will then request to update record(s) backend.

Note: Refer to the <u>table</u> in the website given earlier, under "Type" column

Advisory on UE space

- Start taking steps to plan how you could use the UE space meaningfully

- You should consider/review how to use your UE now

- If you do not intend to do a Minor/Second Major, suggest to use your UE space to read more technical elective (TEs) and/or take up a FYP; this will help to make you a more effective engineer.

Unrestricted Elective Courses

You can also use UE space to take 1 Unit course under Roots & Wings 2.0 that train students on soft skills

For Sem 1, AY23/24,
- PLS8001 Cultivating Collaboration
- PLS8002 Cultivating the Self
- PLS8003 Cultivating Resilience
- PLS8004 Optimizing Performance
- PLS8005 Evaluating Interpersonal Communication

Refer to Roots & Wings 2.0 website
http://www.fas.nus.edu.sg/psy/r&w/index.html#faq

If keen to read (in subsequent semesters), Select Course via CourseReg from Round 1.

Mapping of RVRC and UTCP courses to fulfil GE Pillars

RVRC PROGRAMME

THE FOUR COURSES IN THE RVRC PROGRAMME CURRICULUM ARE DESIGNED TO MAP DIRECTLY TO FOUR OF THE SIX GE PILLARS. RVRC STUDENTS WHO READ THE FOUR COURSES WILL FULFIL THE REQUIREMENTS OF THE FOLLOWING GE PILLARS:
- CULTURES AND CONNECTIONS
- CRITIQUE AND EXPRESSION
- SINGAPORE STUDIES
- COMMUNITIES AND ENGAGEMENT

RVRC STUDENTS WILL READ THE REMAINING TWO GE PILLARS OF DATA LITERACY AND DIGITAL LITERACY OUTSIDE THE RVRC PROGRAMME, AS OFFERED BY THE UNIVERSITY OR THEIR HOME FACULTY.

UTCP

THE UTCP IS DESIGNED AS AN ALTERNATIVE PATHWAY TO THE GE PROGRAMME AT NUS. UTCP STUDENTS WHO READ THE FOUR UTCP COURSES (A JUNIOR SEMINAR, AN IDEAS & EXPOSITION COURSE AND TWO SENIOR SEMINARS) WILL FULFIL THE REQUIREMENTS OF THE FOLLOWING FOUR GE PILLARS:
- CULTURES AND CONNECTIONS
- CRITIQUE AND EXPRESSION
- SINGAPORE STUDIES
- COMMUNITIES AND ENGAGEMENT

THE DATA LITERACY AND DIGITAL LITERACY PILLARS WILL NOT BE OFFERED BY THE RCS AND UTCP STUDENTS MAY READ THESE COURSES WITH THEIR FACULTIES.

Specialisations (at least 20 Units)

- ## Specialisations
  - **Internet of Things**
  - **Robotics**

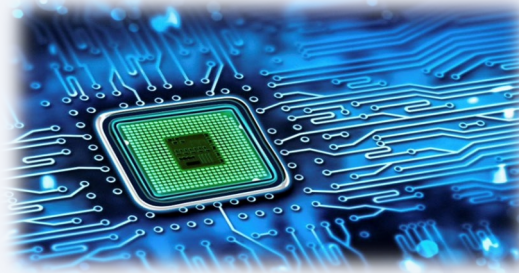- ## Minor in Data Engineering
  Techniques, infrastructures, frameworks and services to tease insights from the myriad of data streams being generated
  - ➢ enables intelligent decision making and sense-making

New Specialisations wef AY2022/2023 (at least 20 Units)

New **Specialisations**:

- Advanced Electronics

- Industry 4.0

- Space Technology

Limit on Level-1000 courses

- Should **not** read more than 60 Units of level 1000 courses (including Programme/Major, GEs and UEs)
  - The 60 Units limit EXCLUDES CFG1002 Career Catalyst (2 Units), ES1103 English for Academic Purposes (4 Units), courses under DYOM initiatives and 20 Units UE APCs (for Poly graduates).

- Any Units over this limit will not be counted towards the Units required for graduation (160 Units). However, they will still be counted/used towards GPA computation.

Core Courses – General remarks

- Refer to CEG programme - Almost all the Common Curr and Programme requirements are covered in Year 1 & 2

- Year 2 courses provide you a solid foundation for different areas in CEG;

- Most courses will have Labs + Assignments ⟹ (Time + work) demanding

- *Challenging to maintain your GPA!*

Breadth/Depth Electives

- Currently, the technical Breadth/Depth electives are grouped into six concentrations, as follows:

  Communications & Networking
  Embedded Computing
  Large-Scale Computing → Breadth level (3xxx)
  Intelligent Systems → Depth level (4xxx)
  Interactive Digital Media
  System-On-a-Chip Design

- Breadth electives provide broad understanding of concepts while depth electives provide greater depth & coverage.

- Refer to CEG TE page (for AY17 intake & After) - **https://ceg.nus.edu.sg/curriculum/electives-ay21/**

Breadth/**Depth** **Electives**

Also encouraged to attend industry talks organised by CS/ECE Department, NUS College of Design and Engineering, School of Computing and/or NUS Centre for Future-ready Graduates.

Always refer to CEG TE page, at the start of a semester, for the complete/updated list of courses.

Grade Point System

Grade Point (GP)

A+/A	A-	B+	B	B-	C+	C	D+	D	F
5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0

Cumulative Average Point (GPA)

$(\Sigma \text{ Unit}_i \times \text{GP}_i) / (\Sigma \text{ Unit}_i)$

Degree/Honours Classification: refer to RO page

Honours (Highest Distinction)	GPA ≥ 4.5
Honours (Distinction)	GPA 4.0 to 4.49
Honours (Merit)	GPA 3.5 to 3.99
Honours	GPA 3.0 to 3.49
Pass	GPA 2.0 to 2.99

GPA for Continuation and Graduation

For students admitted from AY16/17 onwards:
To graduate, an undergraduate student must have a minimum GPA of 2.00.

To remain in good academic standing, and to continue in an undergraduate programme, a student may not have GPA below 2.00 for two consecutive semesters.

From third semester onwards ☹

	Academic Standing
GPA ≥ 2.0	Passed/Proceed
GPA < 2.0 for current semester*	Academic Probation
GPA < 2.0 for two consecutive semesters*	Dismissal

*excluding special term

S/U Grading Option / Grade-free Scheme

(For AY2016/17 intake and after)

- Exercise S/U option for up to **32 Units** (or up to 20 Units for Poly graduates) in the first year 1 (i.e. **first two regular semesters and Special Term of first year of study**) ; if this is not fully utilised, the S/U option may still be exercised after the first year, for up to **12 units**.
- Once an 'S' or 'U' grade is assigned to a course, it will count towards the 32 Units limit that can be taken on an S/U basis.

The S/U option can be exercised on:

- All level 1000 courses (except for the English for Academic Purposes courses)
- Level 2000 courses with no other NUS courses as pre-requisites (unless otherwise stipulated by the Facs/Depts)
- Must have obtained grade D and above

...

i.e. CANNOT exercise S/U option on technical electives

https://myportal.nus.edu.sg/studentportal/academics/ug/su-homepage.html

UROP

- You may want to consider doing 'Undergraduate Research Opportunities Programme (UROP)' through either CDE (EG2605) or SoC (CP3209)

  CDE: EG2605 (4 Units)

  https://cde.nus.edu.sg/undergraduate/build-your-own-degree/enhancement-courses/undergraduate-research-opportunities-programme-eg2605-urop/

  Eligibility: Year 1 to 3 Engineering students

  SoC: CP3209 (8 Units)

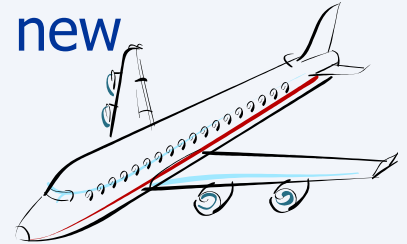 https://www.comp.nus.edu.sg/programmes/ug/project/urop/

  Eligibility: A student must have passed (at least) 60 Units, with a minimum GPA of 3.8

SEP

Student Exchange Programme (SEP) is designed for students to go to overseas partner universities and

- experience different academic environment, new country & new culture
- make new friends and stay connected.

SEP for CEG students is administered by SoC UG Office

Students who are keen in going for SEP in Year 3, should apply in Year 2. Round 1 application *may* start in mid/late Sept; please look out for the email blast from Ms Diana Wong.

https://ceg.nus.edu.sg/sep/

Tuition Fee beyond Normal Candidature
- Applicable for Undergraduates admitted in AY2016 & After

- Students who take longer than the normal candidature period*
  to complete their degree requirements will have to pay partial
  non-subsidized fees, culminating in full non-subsidized fees,
  during the extended semesters.

  *Defined as 8 consecutive semesters for BEng degrees

- MOE tuition grant only covers up to the normal candidature
  period.

- Refer to http://www.nus.edu.sg/registrar/administrative-policies-procedures/undergraduate/undergraduate-fees -> Tuition Fee
  Policy

Tuition Fee beyond Normal Candidature

Keep track of your own academic progress.

- If you fail any course(s), you should re-work your study plan/semestral workplans, e.g. take courses in the special term, so as to reduce the likelihood that you may extend beyond four years.

- Pay more attention to your academic progress and be responsible for your studies.
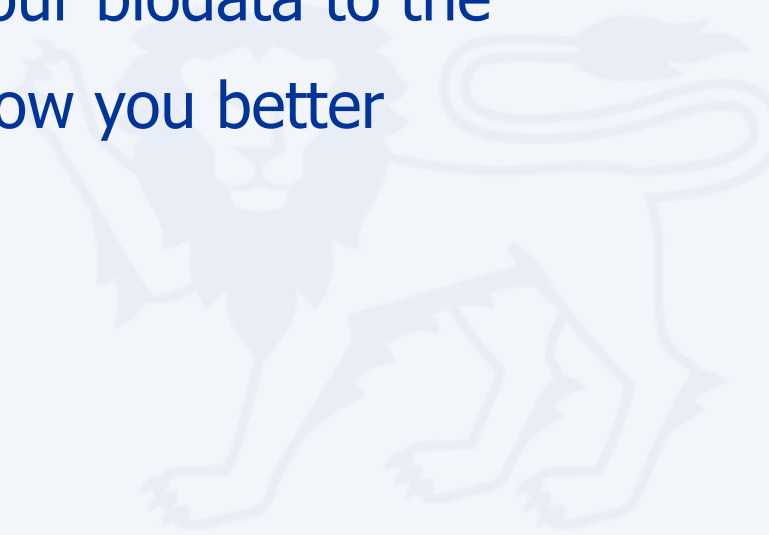
- Seek help and clarifications early.

Academic Dishonesty - Plagiarism

➢ All students share the responsibility for upholding the academic standards and reputation of the University. Academic honesty is a prerequisite condition in the pursuit and acquisition of knowledge.

➢ Academic dishonesty is any misrepresentation with the intent to deceive or failure to acknowledge the source or falsification of information or inaccuracy of statements or cheating at examinations/tests or inappropriate use of resources.

➢ There are many forms of academic dishonesty and plagiarism is one of them. Plagiarism is generally defined as 'the practice of taking someone else's work or ideas and passing them off as one's own'

➢ *The University does not condone plagiarism.*

https://www.comp.nus.edu.sg/cug/plagiarism/

Academic Advisors

- Each CEG student has an Academic Advisor (AA)/mentor
  - Offers academic advice & even counselling
  - Can write letters of recommendation
- Try to meet your Academic Advisor regularly
- You are encouraged to upload your biodata to the AA portal to allow your AA to know you better

Academic and Emotional Support

- Department

  - Peer Tutoring Scheme - Interested junior students will be paired with passionate seniors who had performed well in year 1 & 2 core courses and are keen to volunteer their time to help the juniors

    [If keen, email Ms. Nicole Phua nicolep@nus.edu.sg]

- Student Support Manager @

  - College of Design and Engineering - Ms Priya, Mr. Jerrel Kwan, Ms Vivian Lee

  - School of Computing - Ms Adele Chiew

University Health Centre

Emotional & Psychological Well Being

• Anxiety, Depression
• Mental Health, Self-Worth, Shyness, Stress
• Eating Disorders
• Sudden Loss and Grief
• Feelings, Loneliness

Relationship Issues

• Abusive Relationships, Family Stress, Managing Conflicts, Surviving a Breakup

Personal Effectiveness

• Decision Making, Motivation, Test Anxiety, Time Management, Challenges of University Life

http://www.nus.edu.sg/uhc/services/mental-health/student

Q&A