

#	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) Start-up your Entrepreneurial Experience with NOC
4	Talk by Ms Lee Poh Suan, Career Advisor, Centre for Future-ready Graduates (CFG)
5	Refreshment

Joint Department Briefing for CEG2

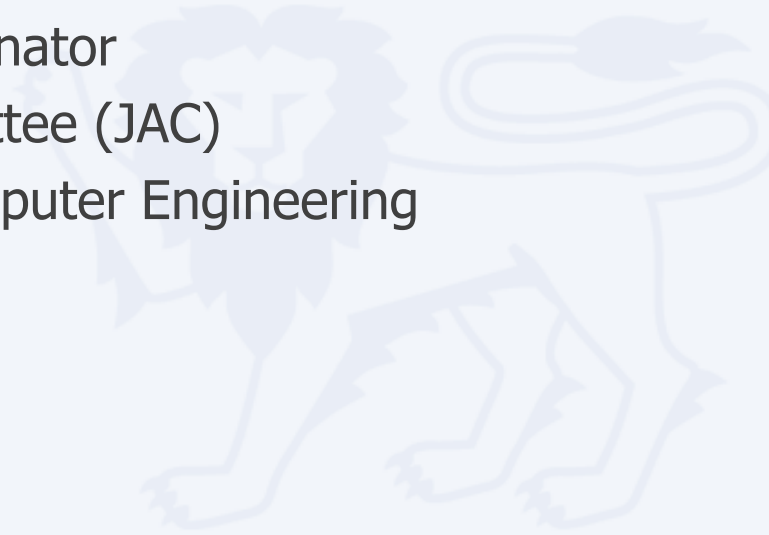
18 July 2023, 10am, LT15

Dr Rajesh C Panicker rajesh@nus.edu.sg

CEG Year 2 Coordinator

Joint Academic Committee (JAC)

Department of Electrical & Computer Engineering



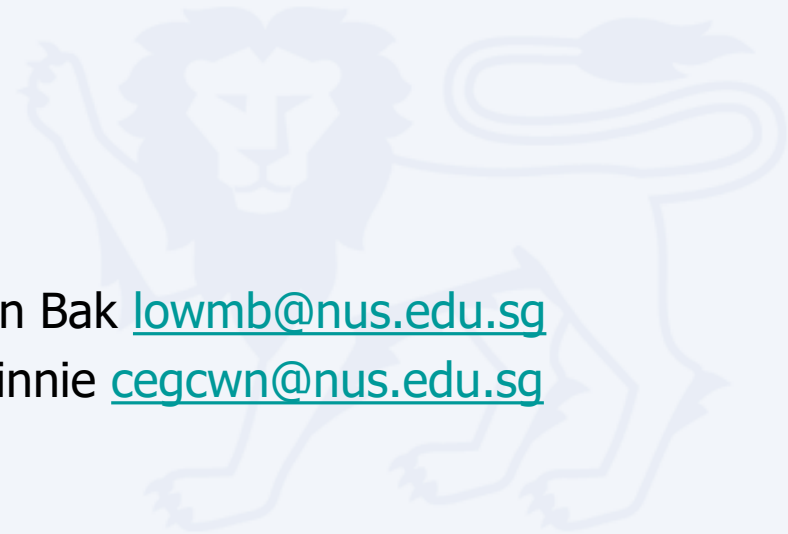


Calling for Achievements & News in
Competitions, Projects, Sports, etc.,
so that we can brag broadcast!

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)

Unrestricted	2 nd Major / Minor	2 nd Major / Minor	2 nd Major / Minor	2 nd Major/Spec/Minor	2 nd Major/Spec/Minor
	2 nd Major / Minor	2 nd Major / Minor	2 nd Major/Spec/Minor / Elective	2 nd Major/Spec/Minor / Elective	2 nd Major/Spec/Minor / Elective
Major	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	
Common	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

Full BEng(CEG) Degree Requirements

(for **AY22/23** 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 AY22/23 intake		Units
Common Curriculum Requirements	<ul style="list-style-type: none"> ▪ Singapore Studies ▪ Cultures and Connections ▪ Communities and Engagement ▪ Critique and Expression ▪ Digital Literacy ▪ Data Literacy ▪ Design Thinking 	<ul style="list-style-type: none"> ▪ Maker Space ▪ Systems Thinking ▪ Artificial Intelligence ▪ Sustainable Futures ▪ Creating Narratives ▪ Project Management ▪ Integrated Project (8Units) 	60
Programme Requirements	<p><u>Engineering Core (20 Units)</u></p> <ul style="list-style-type: none"> ▪ 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) <p><u>CEG Major (40 Units)</u></p> <ul style="list-style-type: none"> ▪ CG1111A EPP1 ▪ CG2111A EPP II ▪ CG2023 Signals & Systems 	<p><u>CEG Major (continued)</u></p> <ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> • CEG Technical Electives • Build Your Own Degree 		40
Total Units for Programme Requirements			160

Possible Schedule for AY22/23

RECOMMENDED STUDY SCHEDULE for CEG AY2022 INTAKE

CEG AY2022/23 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 MCs) OR EG3611A IA (10 MCs)	CG2027 (2 MCs) and CG2028 (2 MCs)	CG4002 CEG Capstone Project (8 MCs)	UEM6
CS1010 Programming Methodology	DTK1234 Design Thinking	CS2040C Data Structures & Algorithms	CS2113 Software Engrg & OOP		CG2271 RTOS		UEM7
EG1311 Design and Make	MA1508E Linear Algebra for Engrg	GEC1xxx Cultures and Connections	EE2026 Digital Design		ESxxx Creating Narratives	EE4204 Computer Networks	UEM8
MA1511 Engrg Calculus (2 MCs)	PF1101 Fundamentals of Project Mgmt	IE2141 Systems Thinking	EE2211 Introduction to Machine Learning	EG2401A Engrg Profsm (2 MCs) [^]	GESS1xxx Singapore Studies	GEN/C&E pillar Communities & Engagement	UEM9
MA1512 Diff Eqn for Engrg (2 MCs)	GEA1000 Quantitative Reasoning with Data	ES2631 Critique and Communication of Thinking and Design	EG2501 Liveable Cities	UEM2 [^]	UEM4 e.g. ST2334	UEM5	UEM10
ES1103* OR UEM1				UEM3 [^] (2 MCs, if took ATAP)			
20 MCs	20 MCs	20 MCs	20 MCs	20 MCs	20 MCs	20 MCs	20 MCs
TOTAL (MINIMUM) GRADUATION REQUIREMENTS = 160 MCs							

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

Important:

- The three General Elective Modules (GEM) and ten Unrestricted Elective Modules (UEM) can be taken in any semester; the above serves as a guide
- Students are encouraged to use the UEMs, totalling 40 MCs, 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 modules required for your intended SPN / TE / 2nd Major / Minor.

* If not exempted.

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

Possible Schedule for CEG AY22/23 Poly intake

Tagged as "CEG2" after passing 36 Units
Tagged as "CEG3" after passing 72 Units

RECOMMENDED STUDY SCHEDULE for CEG AY2022 INTAKE CEG AY2022/23 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 MCs)	CG2023 Signals & Systems	CP3200 Student Internship Programme OR EG3612 Vacation Industrial Attachment 6 MCs (UEM)	CG4002 CEG Capstone Project (8 MCs)	ESxxxx Creating Narratives
CS1010 Programming Methodology	CS2040C Data Structures & Algorithms	CG2028 Comp Org (2 MCs)	CG2271 RTOS		GESS1xxx Singapore Studies	
MA1301 Introductory Math (UEM1)	EE2026 Digital Design	CS2113 Software Engrg & OOP	PF1101 Fundamentals of Project Mgmt		CS1231 Discrete Structures	EE4204 Computer Networks
ES1103* OR PC1201 Fundamentals of Physics (UEM2)	GEA1000 Quantitative Reasoning with Data	IE2141 Systems Thinking	EE2211 Introduction to Machine Learning		GEN/C&E pillar Communities & Engagement	UEM4 (2 MCs, 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 Liveable Cities		UEM3 e.g. ST2334	UEM5 (if did not do SIP/VIA)
		MA1511 Engrg Calculus (2 MCs)			EG2401A Engrg Profsm (2 MCs)	
		MA1512 Diff Eqn for Engrg (2 MCs)				
20 MCs	20 MCs	20 MCs	20 MCs	6 or 0 MCs	22 MCs	14 or 20 MCs
TOTAL (MINIMUM) GRADUATION REQUIREMENTS = 160 MCs*						

* including Advanced Placement Credits (APCs) for DTK1234, EG1311, IA (10 MCs) and UEM (20 MCs)

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 UEM (to make up the 4 MCs shortfall).
- Students are encouraged to use the Unrestricted Elective Modules (UEM) 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 modules required for your intended TE / SPN / Minor.

-* If not exempted.

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

General Education Courses/ University-Level Requirements

24 Units

Aims:

- Broaden students' intellectual horizons
- Develop critical and creative thinking skills
- Promote spoken and written articulatory

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.

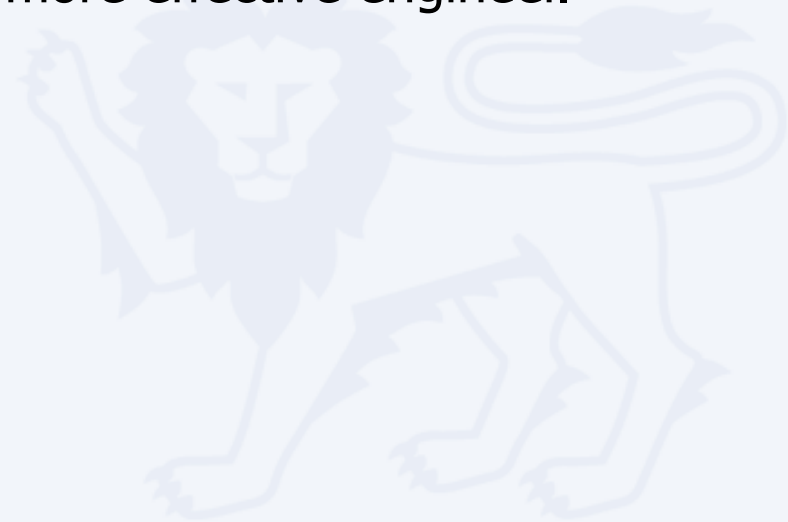
Advisory on Minor programmes

- **'Open' type:**
 - Students can declare 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 apply 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 [table](#) 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**

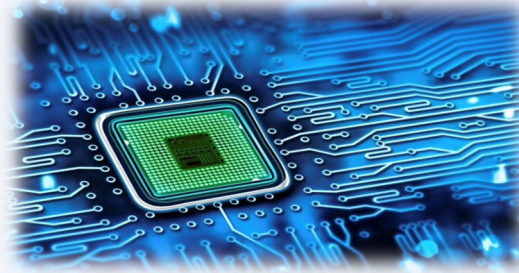
Techniques, infrastructures, frameworks and services to tease insights from the myriad of data streams being generated

- 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

Intelligent Systems

Interactive Digital Media

System-On-a-Chip Design

Breadth level (3xxx)

Depth level (4xxx)

- 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.



Some important points

- 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, subjected to quota availability.
- Another briefing on IA-related matters and technical electives will be conducted for CEG2 students (AY22 intake) in **February 2024**.



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)

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

Degree/Honours Classification: refer to [R0 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 \geq 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)

...

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)

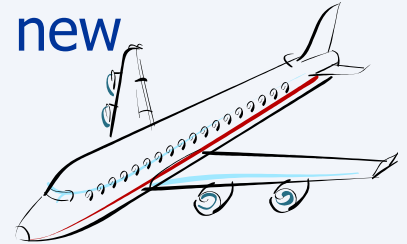
<https://www.comp.nus.edu.sg/programmes/ug/project/urop/>

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.



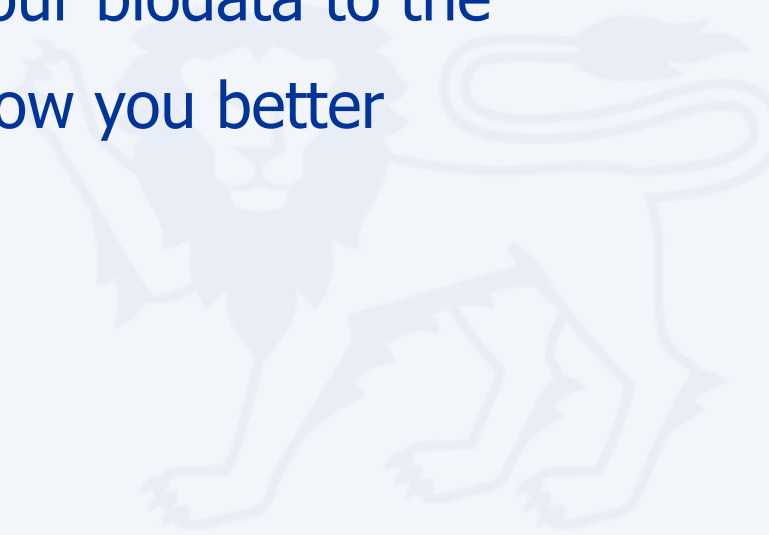
Academic Dishonesty - Plagiarism

- 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 Dr DJ Chua elechuad@nus.edu.sg]
- Student Support Manager @
 - [College of Design and Engineering](#) - Ms Priya
 - [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

