

PwC Prize for Whole Leadership

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Look out for the call for
self-nomination
in late-May
(after sem 2 results release)

Refer to: http://www.ceg.nus.edu.sg/students/awards_commcement.html

#	Programme
1	Welcome Address by Prof Tulika Mitra, Chair, Joint Academic Committee (JAC)
2	Academic Matters by Assoc Prof V Bharadwaj, CEG Year 2 Coordinator
3	Industrial Attachment by Dr C P Rajesh, CEG IA Coordinator
4	Experience Life at a Start-up by Ms Mak Hui Min, NUS Overseas Colleges
5	Design-Centric Programme by Assoc Prof AP Loh, DCP Director
6	Cohort Representative Election by Mr Shi Bohan, ECE USC

Full Degree Programme Requirements (for AY2015/16 Direct intake)

Programme Requirements	University Level Requirements	Unrestricted Elective Requirements
124 MCs	1 x General Education Module (GEM) from: <ul style="list-style-type: none"> • Human Cultures GEH1xxx • Quantitative Reasoning GER1000 • Thinking and Expression GET1021 • Singapore Studies GES1xxx • Asking Questions 20 MCs (5 x 4 MCs each) 	16 MCs, drawn from various modules offered across NUS
Total MCs = 160		

To Graduate

Class of Honours: determined by CAP

http://www.ceg.nus.edu.sg/students/FFG_Checklists.html

CEG AY2015/16 Direct intake Programme/Major Requirements

Programme Components	Modules	MCs
Non-technical requirements common to all B.Eng. students	<ul style="list-style-type: none"> ▪ CS2101 Effective Comm for Computing Professionals ▪ HR2002 Human Capital in Organizations ▪ EG2401 Engineering Professionalism 	10
Core Modules	<ul style="list-style-type: none"> ▪ CG1001 Intro to Comp Engrg ▪ CG1108 Electrical Engrg ▪ CG2023 Signals & Systems ▪ CG2271 Real-time OS ▪ CG3207 Computer Arch ▪ CS1010 Prog Methodology ▪ CS1020 Data Struct & Algor I ▪ CS1231 Discrete Structures ▪ CS2103 Software Engrg ▪ EE2020 Digital Fundamentals ▪ EE2021 Devices & Circuits ▪ EE2024 Prog for Comp Interf ▪ EE3204 Comp Comm Netw I ▪ MA1505 Mathematics I ▪ MA1506 Mathematics II ▪ PC1432 Physics IIE ▪ ST2334 Probability & Statistics ▪ Industrial Attachment 	80
Projects	<ul style="list-style-type: none"> ▪ CG3002 Embedded Systems Design Project ▪ EE3031 Innovation & Enterprise I ▪ CG4001 B.Eng. Dissertation 	22
Technical Electives	Minimum 12 MCs; at least two technical Depth electives (from any concentration)	12
Total MCs for Programme Requirements		124

Possible Schedule for CEG AY2015/16 Direct Intake (with compulsory IA)

Depending on the preferred semester for IA, the modules for sem 5 & 6 may be mutually-swapped.

Sem 1	Sem 2	Sem 3	Sem 4	Sem 5	Sem 6	Sem 7	Sem 8
CG1001 Intro to Comp Engrg (2 MCs)	CG1108 Electrical Engineering	CS2101 Effective Comm for Computing Professionals	CG2023 Signals & Systems	CG3002 Embedded Systems Design Project (6 MCs)	CP3880 ATAP or EG3601 IAP (12 MCs)	CG4001 B.Eng. Dissertation	CG4001 B.Eng. Dissertation
CS1010 Programming Methodology	CS1020 Data Structures & Algorithms I	CS2103T Software Engrg	CG2271 Real-Time Operating Syst	CG3207 Computer Architecture		HR2002 Human Capital in Organizations (3 MCs)	Depth Elective
CS1231 Discrete Structures	MA1506 Math II	EE2020 Digital Fundamentals (5 MCs)	EE2024 Programming for Computer Interfaces (5 MCs)	EE3204 Computer Comms Networks I		Breadth Elective	Depth Elective
MA1505 Math I	PC1432 Physics IIE	EE2021 Devices & Circuits	ST2334 Probability & Statistics	EG2401 Engrg Profsm (3 MCs)	EE3031 Innovation & Enterprise I	UEM	UEM
GER1000 Quantitative Reasoning	GET1021 Critical Thinking & Writing	GES1xxx	GEH1xxx	GEQ1xxx	UEM ^A	UEM	
ES1102*							
18 MCs	20 MCs	21 MCs	21 MCs	21 MCs	20 MCs	21 MCs	18 MCs
TOTAL (MINIMUM) GRADUATION REQUIREMENTS = 160 MCs							

<http://www.ceg.nus.edu.sg/students/studyschedule.html>

Possible Schedule for CEG AY2015/16 Common Engr students streamed to CEG2 in AY2016/17

Depending on the preferred semester for IA, the modules for sem 5 & 6 may be mutually-swapped.

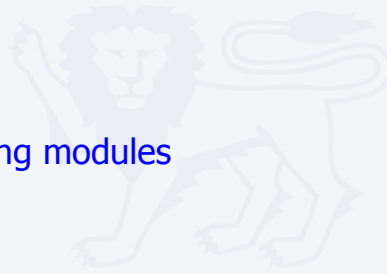
Sem 1, AY15/16	Sem 2	Sem 3, AY16/17	Sem 4	Sem 5	Sem 6	Sem 7	Sem 8
MA1505 Math I	CS1010E Programming Methodology (map to CS1010)	CG1001 Intro to Comp Engrg (2 MCs)	CG2023 Signals & Systems	CG3002 Embedded Systems Design Proj	IA ^A (12 MCs)	CG4001 B.Eng. Dissertation (6 MCs)	CG4001 B.Eng. Dissertation (6 MCs)
PC1431 (UEM 1)	EG1108 Electrical Engrg (map to CG1108)**	CS1020 Data Structures & Algorithms I	CG2271 Real-Time Operating Syst	CG3207 Computer Architecture		HR2002 Human Capital in Org. (3 MCs)	Depth Elective
MLE1101 (UEM 2)	MA1506 Math II	CS1231 Discrete Structures	CS2101 Effective Comm for Computing Professionals	EE3204 Computer Comms Networks I		Breadth Elective	Depth Elective
EG1109 (UEM 3)	PC1432 Physics IIE	EE2020 Digital Fundamentals (5 MCs)	CS2103T Software Engrg	ST2334 Probability & Statistics	EE3031 Inno & Enterprise I	GEQ1xxx	UEM 5
GER1000 Quantitative Reasoning	GET1021 Critical Thinking & Writing	EE2021 Devices & Circuits	EE2024 Prog for Computer Interfaces (5 MCs)	GEH1xxx	EG2401 Engrg Profsm	UEM 4 (2 MCs)**	
ES1102*		GES1xxx					
20 MCs	19 MCs	23 MCs	21 MCs	22 MCs	19 MCs	19 MCs	18 MCs
TOTAL (MINIMUM) GRADUATION REQUIREMENTS - 160 MCs							

**EG1108 is 3 MCs but CG1108 is 4 MCs; need to top-up with UEMs (i.e. required to take at least 17 MCs UEMs) OR take 5 MCs module (e.g. CS3216/7) so that the total graduation MCs is at least 160.

<http://www.ceg.nus.edu.sg/students/studyschedule.html>

Considerations for Planning -- Core Modules

- Core Modules can be harder than Electives
- Planning for 'borderline' cases
- Special Terms
- Industrial Attachment
May take (up to) two evening modules



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 (CAP)

$$(\sum MC_i \times GP_i) / (\sum MC_i)$$

Honours Classification

Honours (Highest Distinction)	CAP \geq 4.5
Honours (Distinction)	CAP 4.0 to 4.49
Honours (Merit)	CAP 3.5 to 3.99
Honours	CAP 3.0 to 3.49
Pass	CAP 2.0 to 2.99



Borderline Case

Start	CAP=1.8; MCs=40	CAP=1.8; MCs=40
Module1	C+	C+
Module2	C+	C+
Module3	C+	C+
Module4	C+	C+
Module5		C
End	CAP=2.0; MCs=56	CAP=2.0; MCs=60

Breadth/Depth Electives

- Specialization in CEG fields may be achieved through 12MCs of technical **breadth/depth** electives from following concentrations:
 - Communications & Networking
 - Embedded Computing
 - Large-Scale Computing
 - Intelligent Systems
 - Interactive Digital Media
 - System-On-a-Chip Design
- **Breadth** electives provide **broad understanding** of concepts while **depth** electives provide greater **depth & coverage**.

Breadth/Depth Electives

You can choose technical electives from **any** concentrations
- AY15: Add up to at least 12 MCs AND at least two **Depth** electives

Master-list of TEs listed in the six concentrations:

http://ceg.nus.edu.sg/students/documents/MasterlistCEGTechnicalElectivesAY13Intake_nAfter_Jul16.pdf

Advisory to help you, not mandatory; refer to

http://www.ceb.nus.edu.sg/students/documents/Advisory_NewCEGConc_23Jul13.pdf

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

CEG Technical Electives

(refer to CEG website for the complete list)

Communications & Networking

CS2010 Data Structures & Algorithms II
CS2107 Introduction to Information Security
CS3103 Computer Networks Practice
CS3230 Design & Analysis of Algorithms
CS3235 Computer Security
EE3131C Communication Systems
CS4222 Wireless Networking
CS4226 Internet Architecture
CS4236 Cryptography Theory & Practice
CS4238 Computer Security Practice
EE4113 Digital Communications & Coding
EE4114 Optical Communications
EE4210 Computer Communications Networks II

Embedded Computing

CS2010 Data Structures & Algorithms II
CS2104 Programming Language Concepts
CS2107 Introduction to Information Security
CS2108 Introduction to Media Computing
CS3103 Computer Networks Practice
CS3218 Multimodal Processing in Mobile Platforms
CS3230 Design & Analysis of Algorithms
CS3235 Computer Security
EE3206 Intro to Computer Vision & Image Processing
CS4212 Compiler Design
CS4222 Wireless Networking
CS4236 Cryptography Theory & Practice
CS4238 Computer Security Practice
EE4210 Computer Communications Networks II
EE4214 Real-time Embedded Systems
EE4218 Embedded Hardware System Design
EE4415 Integrated Digital Design

<http://www.ceb.nus.edu.sg/curriculum/electives.html>

CEG Technical Electives

(refer to CEG website for the complete list)

Large-Scale Computing

CS2010 Data Structures & Algorithms II
 CS2102 Database Systems
 CS2104 Programming Language Concepts
 CS2107 Introduction to Information Security
 CS3210 Parallel Computing
 CS3211 Parallel & Concurrent Programming
 CS3230 Design & Analysis of Algorithms
 CS3235 Computer Security
 CS3223 Database Systems Implementation
 CS4211 Formal Methods for Software Engineering
 CS4212 Compiler Design
 CS4221 Database Applications Design & Tuning
 CS4223 Multi-Core Architectures
 CS4224 Distributed Databases
 CS4231 Parallel & Distributed Algorithms
 CS4345 General-Purpose Computation on GPU
 EE4210 Computer Communications Networks II

Intelligent Systems

CS2010 Data Structures & Algorithms II
 CS3240 Interaction Design
 CS3243 Introduction to Artificial Intelligence
 CS3244 Machine Learning
 EE3206 Introduction to Comp Vision & Image Processing
 EE3331C Feedback Control Systems
 EE3731C Signal Processing Methods
 CS4244 Knowledge-based systems
 CS4246 AI Planning and Decision Making
 CS4248 Natural Language Processing
 EE4212 Computer Vision
 EE4213 Image Processing
 EE4305 Introduction to Fuzzy/Neural Systems
 EE4307 Control Systems Design & Simulation
 EE4308 Advances in Intelligent Systems & Robotics

<http://www.ceg.nus.edu.sg/curriculum/electives.html>

CEG Technical Electives

(refer to CEG website for the complete list)

Interactive Digital Media

CS2108 Introduction to Media Computing
 CS3240 Interaction Design
 CS3241 Computer Graphics
 CS3242 3D Modeling & Animation
 CS3247 Game Development
 CS3249 User Interface Development
 EE3206 Intro to Comp Vision & Image Processing
 EE3331C Feedback Control Systems
 EE3731C Signal Processing Methods
 EE3701 Digital Media Technologies
 CS4243 Computer Vision & Pattern Recognition
 CS4247 Graphics Rendering Techniques
 CS4249 Phenomena & Theories of HCI
 CS4347 Sound & Music Computing
 EE4212 Computer Vision
 EE4213 Image Processing
 EE4604 Biological Perception in Digital Media
 ME4245 Robot Kinematics, Dynamics and Control

System-On-A-Chip Design

EE3407 Analog Electronics
 EE3408C Integrated Analog Design
 CS4223 Multi-Core Architectures
 EE4214 Real-time Embedded Systems
 EE4218 Embedded Hardware System Design
 EE4415 Integrated Digital Design
 EE4505 Power Semiconductors Devices & ICs

<http://www.ceg.nus.edu.sg/curriculum/electives.html>

CEG Technical Electives

Other modules hosted by CS or ECE may be used to fulfill CEG Technical Elective (TE) requirements.

Generally, a CS/EE level 3000 module will count as CEG TE **Breadth**, while a CS/EE level 4000 will count as CEG TE **Depth**.

The following level 2000 modules may count as CEG TE **Breadth**:

EE2011 Engineering Electromagnetics
EE2025 Power Electronics
IE2110 Operation Research I
IE2130 Quality Engineering I

Recommended to take more technical electives, and declare the 'extras' as UEM.

S/U Grading Option / Grade-free First Semester (For AY2014 & AY2015 intakes)

- Exercise S/U option up to 20 MCs in the first semester, and up to 12 MCs in subsequent semesters
- Once an 'S' or 'U' grade is assigned to a module, it will count towards the 32 MCs limit that can be taken on an S/U basis.

The S/U option can be exercised on:

- All level 1000 modules (except for the English for Academic Purposes modules)
- Level 2000 modules with no other NUS modules as pre-requisites (unless otherwise stipulated by the Facs/Depts)

...

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

UROP

- You may want to consider doing 'Undergraduate Research Opportunities Programme (UROP)' through either FoE (EG2605) or SoC (CP3208 & CP3209).

FoE: <http://www.eng.nus.edu.sg/undergrad/epmc/urop.html>

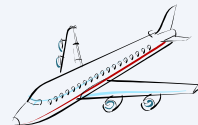
Eligibility: Year 1 to 3 Engineering students

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

Eligibility: A student must have completed at least 60 MCs, attained a minimum CAP of 3.8 and obtained approval from CS dept.

SEP

Student Exchange Programme (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 will start in late-Sept; please look out for the email blast.

<http://www.ceg.nus.edu.sg/sep/>

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.*

www.comp.nus.edu.sg/cug/plagiarism/
www.eng.nus.edu.sg/ugrad/SI_plagiarism.html

Fee Rebate Policy

- Applicable for Undergraduates admitted in AY2014 & After

Students who complete their undergraduate degree programmes within the normal candidature period (as defined in below table), and have taken NUS modules prior to^(a), and/or Special Term modules during, their undergraduate candidature, are likely to have paid tuition fees in excess of the fees commensurate with the normal candidature period. Under the new fee rebate policy, such students will be eligible for a rebate on the excess tuition fees paid.

Degree Type	Normal Candidature Period ^(b)
Single Degree/Joint Degree Programme (120 MCs)	6 consecutive semesters
Single Degree/ Joint Degree Programme (160 MCs)	8 consecutive semesters
Concurrent Degree Programme (CDP) / Double Degree Programme (DDP)	9 consecutive semesters

a) Examples of NUS modules taken prior to the undergraduate candidature are: NUS iBLOC; NUS H3 subjects; NUS modules taken as NUS High School students; and NUS modules taken under the Polytechnic Advanced Placement Programmes.

b) The normal candidature period is defined here to include all approved Leave of Absence (LOA) periods, except those given for medical reasons.

<http://www.nus.edu.sg/registrar/education-at-nus/undergraduate-education/fees.html#TuitionFeeRebate>

Cohort Representative

- In Sep 2014, the ECE Dept established the ECE Undergraduate Student Council (USC) comprising primarily of
 - EE and CEG cohort reps,
 - ECE scholars,
 - Presidents of the ECE Club, IEEE NUS Student Branch and the IEEE-HKN NUS Chapter.
- In accordance with the USC Constitution, from last year onwards, cohort reps will be elected by the student body within the first 2 weeks of Semester 1.

Cohort Representative

- Existing cohort reps and deputy reps are to continue their positions till the new reps have been elected. They are welcome to run for elections if they aspire to keep their positions.
- Candidate elected as cohort rep or deputy rep will represent his/her cohort on class matter.
- Only the Cohort Reps will be awarded USC memberships and will be involved in the broader mission of the USC.

Please look out for more information in the emails from ECE USC.

Resources

Department

- Peer tutoring programme
- ECE Caregroup (alternate weeks): goal setting, making new friendships, coping with exam stress
- Email Ms Nicole Phua elepwqn@nus.edu.sg if interested

Faculty

Mr Martin Nonis engnmm@nus.edu.sg,
Student Support Manager

University

Counselling and Psychological Services (CPS) @ UHC

University Health, Wellness & Counselling 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/>




NUS
National University
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Counselling & Psychological Services

Open House 2016 For Students

COME JOIN US



Relaxation Workshops
Stress Management Activities & Games
Polaroid Photobooth
Souvenir Caricature
Free Snacks & Finger Food
Surprise Freebies

11th August
Thursday
10.00am - 4.00pm

<http://www.nus.edu.sg/uhc/cps/>



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Q&A

