Joint Department Briefing for CEG2

10 August 2017, 12pm @ LT3

A/Prof Bharadwaj Veeravalli elebv@nus.edu.sg
CEG Year 2 Coordinator
Joint Academic Committee (JAC)
Department of Electrical & Computer Engineering
PwC Prize for Whole Leadership

Donated in 2015 by PwC Singapore, the cash prize is awarded to two Year 2 Computer Engineering students, who demonstrated academic and non-academic excellence.

Please look out for the call for self-nomination in end-May 2018 (after sem 2, AY17/18 results release).

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

Full Degree Programme Requirements
(for AY2016/17 Direct intake)

<table>
<thead>
<tr>
<th>Programme Requirements</th>
<th>University Level Requirements</th>
<th>Unrestricted Elective Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>125 MCs</td>
<td>1 x General Education Module (GEM) from: • Human Cultures GEH1xxx • Quantitative Reasoning GER1000 • Thinking and Expression GET1xxx • Singapore Studies GES1xxx • Asking Questions GEQ1000 20 MCs (5 x 4 MCs each)</td>
<td>16 MCs, drawn from various modules offered across NUS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total MCs = 161</td>
</tr>
</tbody>
</table>

Class of Honours: determined by CAP
http://www.ceg.nus.edu.sg/students/FFG_Checklists.html
# Programme/ Major Requirements

## Faculty Requirements
- CS2101 Effective Comm for Computing Professionals
- EG2401 Engineering Professionalism
- ES1531 Critical Thinking & Writing
- 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

## Core Modules
- CG1001 Intro to Comp Engrg
- CG1108 Electrical Engrg
- CG2023 Signals & Systems
- CG2271 Real-time OS
- CG3207 Computer Arch
- CS1010 Prog Methodology
- CS1020 Data Struct & Alg I
- CS1231 Discrete Structures
- CS2103T 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

## Projects
- CG3002 Embedded Systems Design Project
- EE3031 Innovation & Enterprise I
- CG4001 B.Eng. Dissertation

## Technical Electives
- Minimum 12 MCs; at least two technical Depth electives (from any concentration)

## Total MCs for Programme Requirements
125

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### Possible Schedule for CEG AY2016/17 Direct Intake (with compulsory IA)

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

http://www.ceg.nus.edu.sg/students/studyschedule.html
Due to curriculum revamp, the following modules will no longer be offered:

- CG1001
- CG1108
- EE2021 (replaced with EE2027)

They will cease to be offered after AY17/18:

- EE2020 (scheduled for AY17/18, sem 1)
- EE2024 (scheduled for AY17/18, sem 2)

Please plan properly to ensure that you clear the Year 2 core modules without any delay. Affected students will be advised (old-new modules’ mappings) accordingly.
### Three Differentiated Pathways

**Internship FYP Pathway requirements**

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Internship</th>
<th>FYP</th>
<th>Pathway requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPP</td>
<td>Technical work</td>
<td>CG4001</td>
<td>CS2103/T &amp; EE3031</td>
</tr>
<tr>
<td>iDCP</td>
<td>Startups</td>
<td>Refer to iDCP site <a href="http://www.eng.nus.edu.sg/edic/programme-requirements.html">http://www.eng.nus.edu.sg/edic/programme-requirements.html</a></td>
<td></td>
</tr>
<tr>
<td>RfP</td>
<td>Research institutions or lab</td>
<td>Research-based FYP</td>
<td>TE #1: CS4/CS5/EE5 modules TE #2: CS4/EE4/CS5/EE5 modules</td>
</tr>
</tbody>
</table>

If keen in:
- iDCP, will need to take a couple of design-related modules (as UEM).
- RfP, highly recommended to take CS2309 [CS Research Methodology](http://example.com) or EG2605 Undergraduate Research Opportunities Programme, as UEM (to help in decision-making).

Refer to the pathway mappings for CEG AY2016/17
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

<table>
<thead>
<tr>
<th>Grade Point (GP)</th>
<th>A+/A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>D+</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.0</td>
<td>4.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
<td>2.5</td>
<td>2.0</td>
<td>1.5</td>
<td>1.0</td>
<td>0</td>
</tr>
</tbody>
</table>

Cumulative Average Point (CAP)

(Σ MC x GP) / (Σ MC)

Honours Classification
- Honours (Highest Distinction) CAP ≥ 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
Probation and Dismissal Policy

From 3rd semester onwards:

<table>
<thead>
<tr>
<th>CAP &lt; 2.0 for current semester*</th>
<th>Probation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAP &lt; 2.0 for 2 consecutive semesters*</td>
<td>Dismissal</td>
</tr>
</tbody>
</table>

*excluding special term

Grade Point System

Breadth/Depth Electives

- 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** electives provide **broad understanding** of concepts while **depth** electives provide greater **depth & coverage**.
Breadth/Depth Electives
(Sample)

<table>
<thead>
<tr>
<th>Embedded Computing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breadth</strong></td>
</tr>
<tr>
<td>CS2010 Data Structures &amp; Algorithms II</td>
</tr>
<tr>
<td>CS2104 Programming Language Concepts</td>
</tr>
<tr>
<td>CS2107 Introduction to Information Security</td>
</tr>
<tr>
<td>CS3108 Introduction to Media Computing</td>
</tr>
<tr>
<td>CS3109 Computer Networks Practice</td>
</tr>
<tr>
<td>CS3218 Multimodal Processing in Mobile Platforms</td>
</tr>
<tr>
<td>CS3239 Design &amp; Analysis of Algorithms</td>
</tr>
<tr>
<td>CS3235 Computer Security</td>
</tr>
<tr>
<td>EE3206 Introduction to Computer Vision and Image Processing</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
</tr>
<tr>
<td>CS4212 Compiler Design</td>
</tr>
<tr>
<td>CS4222 Wireless Networking</td>
</tr>
<tr>
<td>CS4236 Cryptography Theory &amp; Practice</td>
</tr>
<tr>
<td>CS4238 Computer Security Practice</td>
</tr>
<tr>
<td>EE4210 Computer Communications Networks II</td>
</tr>
<tr>
<td>EE4214 Real-time Embedded Systems</td>
</tr>
<tr>
<td>EE4216 Embedded Hardware System Design</td>
</tr>
<tr>
<td>EE4415 Integrated Digital Design</td>
</tr>
</tbody>
</table>

You can choose technical electives from any concentrations
- AY16: 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/MasterlistCEGTechnicalElectivesAY14Intake_nAfter_Jul17.pdf

Advisory to help you, not mandatory; refer to

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

Refer to CEG TE page for the complete/updated list of modules.
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 Scheme

(For AY2016/17 intake and after)

- Exercise S/U option for up to 32 MCs in the first two regular semesters and if not fully utilised, 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:**
  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) 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 will start in late-Sept; please look out for the email blast.

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

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Normal Candidature Period(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Degree/Joint Degree Programme (120 MCs)</td>
<td>6 consecutive semesters</td>
</tr>
<tr>
<td>Single Degree/Joint Degree Programme (160 MCs)</td>
<td>8 consecutive semesters</td>
</tr>
<tr>
<td>Concurrent Degree Programme (CDP) / Double Degree Programme (DDP)</td>
<td>9 consecutive semesters</td>
</tr>
</tbody>
</table>

(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

Tuition Fees 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 degree

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

- Refer to http://www.nus.edu.sg/registrar/education-at-nus/undergraduate-education/fees.html#TuitionFeebeyondNormalCandidature
Tuition Fees beyond Normal Candidature

Keep track of your own academic progress.

- If you fail any module(s), you should re-work your study plan/semestral workplans, e.g. take modules in the special term, so as to reduce the likelihood that you may extend beyond 4 years.
- Pay more attention to your academic progress and be responsible for your studies.

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/
Academic Advisors

• Each CEG student has an Academic Advisor (AA)
  • 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 system 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 modules and are keen to volunteer their time to help the juniors
  • ECE Caregroup (alternate weeks) - Goal setting, making new friendships, coping with exam stress
    • If keen, email Ms Nicole Phua @ elepwqn@nus.edu.sg
• Faculty of Engineering
  • Mr Martin Nonis, Student Support Manager @ engnmm@nus.edu.sg
• School of Computing
  • Ms Adele Chiew, Student Support Manager @ comcmla@nus.edu.sg
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.html
Q&A