School of Computing

Undergraduate Programmes

2020/2021

Professor JAIN, Sanjay
Vice Dean, Undergraduate Studies
Outline

• Degree Requirements
• Module Registration via MogReg@EduRec Platform
• Academic Challenge and Academic Advice
• Useful Information
• Teaching in Semester 1
Degree Programmes

Undergraduate Programmes:

- B.Comp. (Honours) in Information Security
- B.Comp. (Honours) in Computer Science
- B.Comp. (Honours) in Information Systems
- B.Eng. (Honours) in Computer Engineering
- B.Sc. (Honours) in Business Analytics

InfoSec
- CS
- IS
- CEG
- BZA
Co-operative Programmes

- Business Analytics
- Information Security

More details will be shared at the Programme briefing via zoom webinar sessions conducted by the Departments in the afternoon on 13 July 2020 2.30 pm.

Please apply with SoC UG Office (email: comajy@nus.edu.sg) by 20 July 2020 5.00 pm using the prescribed application form as these students are required to follow the recommended study schedule throughout their candidature.
This course briefing is meant for students pursuing the Bachelor of Computing and Bachelor of Science in Business Analytics degrees.

Course briefing for Bachelor of Engineering in Computer Engineering will be delivered by the CEG Joint Academic Committee from both Faculty of Engineering and School of Computing.
This course briefing touches on general information relevant to studying in the School of Computing.

- It will not cover detailed information about individual programmes.

- Please attend the Programme Briefing via zoom webinar session conducted by the Departments on 13 July 2020 at 2.30 pm to find out more information.
### Module - I

<table>
<thead>
<tr>
<th><strong>Module Code</strong></th>
<th>CS3235</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module Title</strong></td>
<td>Computer Security</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>The objective is to provide students with an in-depth understanding of computer security with some applications. This module covers the following topics: system security, authentication, access control, firewall, intrusion detection, and application security, for example.</td>
</tr>
<tr>
<td><strong>Module Credit</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Workload</strong></td>
<td>2-1-0-3-3</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>(CS2105 Introduction to Computer Networks or EE3204 Computer Communications and Networks I) and (CS2106 Introduction to Operating Systems or CG2271 Realtime Operating Systems) and CS2107 Introduction to Information &amp; System Security.</td>
</tr>
</tbody>
</table>

**Workload of a module**

- 4MC = ~ 10 hrs/wk
- 5MC = ~ 12.5 hrs/wk

**Lectures-Tutorials**

Must pass these modules before taking CS3235. Usually good idea to do level 1000 in Year 1, level 2000 in Year 2 for pre-req purposes.
<table>
<thead>
<tr>
<th>Module Code</th>
<th>CS1231</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Title</td>
<td>Discrete Structures</td>
</tr>
<tr>
<td>Module Credit</td>
<td>4</td>
</tr>
<tr>
<td>Workload</td>
<td>3-1-0-3-3</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>A-level Mathematics or MA1001 or MA1301FC or MA1301X</td>
</tr>
<tr>
<td>Preclusions</td>
<td>MA1100</td>
</tr>
<tr>
<td>Cross-listing</td>
<td></td>
</tr>
</tbody>
</table>

Must not have taken MA1100 before
Modes of Module Taking

1. Taking with Grade
   - Obtain a letter grade at the end of the course:
     A+, A, A-, B+, B, B-, C+, C, D+, D, F
   - Included in the calculation of your performance

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.00</td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
</tr>
<tr>
<td>A-</td>
<td>4.50</td>
</tr>
<tr>
<td>B+</td>
<td>4.00</td>
</tr>
<tr>
<td>B</td>
<td>3.50</td>
</tr>
<tr>
<td>B-</td>
<td>3.00</td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Modes of Module Taking

1. Taking with Grade

2. Taking CS/CU modules
   - Pass/fail (completed satisfactorily/completed unsatisfactorily)
   - Not an option with student

3. Taking the S/U Option
   - Enhanced Grade Free Scheme (see: https://myportal.nus.edu.sg/studentportal/academics/ug/su-homepage.html)
   - Encourage students to try modules outside their fields of study
   - Option to choose with student
Enhanced Grade-Free Scheme - I

- Grade free scheme to encourage students to try modules outside their fields of study
  - Obtain either a Satisfactory (S) or an Unsatisfactory (U) record
  - Not included in the calculation of your performance
  - Three day window to decide on S/U after release of results
  - Irrevocable!!
Enhanced Grade-Free Scheme - II

• **S/U Option is limited to**
  – level 1000 modules, and
  – level 2000 modules without NUS modules as pre-requisites
  – level 2000 Communication and Ideas & Exposition modules offered by CELC and UTown
  – Language modules at all levels offered by FASS’ Centre for Language Studies and Yale-NUS College

• **Cannot exercise this option on modules:**
  – a. dropped with a “F” grade during the semester
  – b. in which a student has been found to plagiarize
  – c. in which a revised grade had been prescribed by the Board of Discipline
Enhanced Grade-Free Scheme - III

- Available for incoming undergraduates admitted from AY2018-19 onwards.
- May exercise the S/U option for up to 32 MCs in the first two regular semesters; if this is not fully utilised, the remaining S/U option may still be exercised in subsequent semesters, for up to max of 12 MCs.
- Variations on the limit of S/U options that can be exercised may apply for specific groups of students, such as the following:
  
  i. Students without prior university experience but are granted 20 or more Advanced Placement Credits (APCs) at the point of admission to NUS may exercise the S/U option for up to 20 MCs in the first two regular semesters; if this is not fully utilised, the remaining S/U option may still be exercised in subsequent semesters, for up to max of 12 MCs.

  ii. Students with some prior university experience (which are being recognised towards the NUS degree) may exercise the S/U option for up to 12 MCs anytime during their candidature, including the first two regular semesters.

  iii. Students with a prior university degree are not eligible for the grade-free scheme.
Continuation Requirement

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
<th>Third Semester Onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students progress</td>
<td>Advisory for students found to be performing poorly despite the grade-free scheme</td>
<td><strong>Probation</strong> if CAP &lt; 2.00 for current semester; <strong>Dismissal</strong> if CAP &lt; 2.00 for two consecutive semesters</td>
</tr>
</tbody>
</table>
Grade, Grade Points and S/U Option

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
<th>S/U Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>A‐</td>
<td>4.50</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>4.00</td>
<td>Satisfactory (S)</td>
</tr>
<tr>
<td>B</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>B‐</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
<td>Unsatisfactory (U)</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

Note: A candidate who has obtained a D or higher grade cannot repeat the module.
Cumulative Average Point (CAP)

\[
\text{CAP} = \frac{\text{sum (module grade point } \times \text{ modular credits)}}{\text{sum (modular credits)}}
\]

rounded up to 2 decimal places

• Note:

To graduate, a student MUST obtain a CAP of at least 2.00
## CAP and SAP calculations (Example)

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Name</th>
<th>Grade</th>
<th>MC</th>
<th>Grade Point</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS1101S</td>
<td>PROGRAMMING METHODOLOGY</td>
<td>A</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>CS1231</td>
<td>DISCRETE STRUCTURES</td>
<td>B-</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>ES1103</td>
<td>ENGLISH FOR ACADEMIC PURPOSES</td>
<td>B-</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>MA1521</td>
<td>CALCULUS FOR COMPUTING</td>
<td>B</td>
<td>4</td>
<td>3.5</td>
<td>14</td>
</tr>
<tr>
<td>IS2101</td>
<td>BUSINESS &amp; TECHNICAL COMMUNICATION</td>
<td>D+</td>
<td>4</td>
<td>1.5</td>
<td>6</td>
</tr>
<tr>
<td>GER1000</td>
<td>QUANTITATIVE REASONING</td>
<td>S</td>
<td>4</td>
<td>null</td>
<td>null</td>
</tr>
</tbody>
</table>

**Total**

**CAP = 64/20 = 3.2**

**SAP (Semester Average Point) = 64/20 = 3.20**
Degree Structure

- **University Level Requirements (ULR)**
  - Common for all programmes in NUS unless in University Town College Programme or University Scholars Programme

- **Programme Requirement**
  - Programme Essentials
  - Essentials specific to the programme
  - Programme Electives
    - If you fail an elective, you may retake or read another elective

- **Unrestricted Electives (UE)**
General Education/University Level Requirement

• Students are to read 5 modules – one from each pillar.
• Students are strongly encouraged to complete the GE modules within the first 2 years of their candidature.
General Education/ULR

• Modules that lay the foundation for important life skills

• Five pillars
  ▪ GEH – Human cultures
  ▪ GEQ – Asking questions
  ▪ GER – Quantitative Reasoning
  ▪ GES – Singapore Studies
  ▪ GET – Thinking and Expression
• Do one GE module from each pillar
• UTown Programme students replace the ULR curricular space meant for 4 GE pillars (besides Quantitative Reasoning pillar) by other requirements.
• GER1000 is a graduation requirement for 2020 cohort for ULR for UTown residential programme students.
# USP Modules and GE Mapping

## Applicable to 2020 Cohort

<table>
<thead>
<tr>
<th>GE Pillar</th>
<th>Fulfilled by the Following USP Module Designations/Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking and Expression</td>
<td>UWC, UAR, ULT, UPI, USE, UHB, UCV, UQF</td>
</tr>
<tr>
<td>Human Cultures</td>
<td>ULS, UNL, UPC, UQR, UBM, UIT</td>
</tr>
<tr>
<td>Asking Questions (Q module)</td>
<td>USS, USR, USP</td>
</tr>
<tr>
<td><strong>Singapore Studies</strong></td>
<td>Singapore Studies (<a href="http://www.usp.nus.edu.sg/curriculum/acad-structure/fulfilling-singapore-studies.html">http://www.usp.nus.edu.sg/curriculum/acad-structure/fulfilling-singapore-studies.html</a>)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE Pillar</th>
<th>To be read by all NUS students</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Quantitative Reasoning</em> (QR module)</td>
<td>GER1000</td>
</tr>
</tbody>
</table>
Exceptions, Exemptions, Exclusions

• **University Scholars Prog (USP) & UTown College Prog (UTCP)**
  - Required to read QR module
  - The rest of the GE requirements are fulfilled by USP/UTCP modules.
  - Can use UWC module to replace either CS2101 or IS2101

• **Ridge View Residential College**
  - Allowed to read GEQ1917 in fulfilment of the Asking Questions pillar
  - Allowed to read ES1601 in fulfilment of CS2101 or IS2101.

• **All students who are required to read GER100 and/or GEQ1000 will be preallocated**
  the modules by the Office of Senior Deputy President and Provost (SDPPVO)

  Hall Freshmen will attend their tutorials at their Halls:
  (a) GER1000 in Year 1 Sem 1;
  (b) GEQ1000 in Year 1 Sem 2

* Diversity by track will apply for tutorial group allocation.
ULR: QR and Q modules

- Students are pre-allocated the Quantitative Reasoning (QR) module GER1000 or Asking Question (Q) module GEQ1000 in either first or second semester of their first year of study in random by the Office of the Senior Deputy President & Provost (SDPPVO) unless otherwise specified for their degree requirements.
The Office of the Senior Deputy President & Provost (SDPPVO) will preallocate the modules below:

<table>
<thead>
<tr>
<th>Major</th>
<th>YEAR 1</th>
<th></th>
<th>YEAR 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sem 1</td>
<td>Sem 2</td>
<td>Sem 1</td>
<td>Sem 2</td>
</tr>
<tr>
<td></td>
<td>GER</td>
<td>GEQ</td>
<td>GER</td>
<td>GEQ</td>
</tr>
<tr>
<td>USP</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Analytics</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Information Security</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Other Majors (CS, IS) Non-Hall</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Hall</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend**

- **X**: the module will be pre-allocated in the Semester indicated.
- **O**: the module will be pre-allocated on a random basis over the Semesters indicated.
Useful Links & Contacts for QR and Q modules

<table>
<thead>
<tr>
<th></th>
<th>GER</th>
<th>GEQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appeals/Inquiries</td>
<td>Submit Appeals/Inquiries in ModReg@EduRec</td>
<td></td>
</tr>
<tr>
<td>Enquiries</td>
<td><a href="mailto:QRadmin@nus.edu.sg">QRadmin@nus.edu.sg</a></td>
<td><a href="mailto:AskQ@nus.edu.sg">AskQ@nus.edu.sg</a></td>
</tr>
<tr>
<td>Tutorial Registration schedule</td>
<td>Ballot for a tutorial slot at <strong>Select Tutorials : Round 1 and Round 2.</strong></td>
<td></td>
</tr>
<tr>
<td>Tutorial Balloting info</td>
<td><a href="https://wiki.nus.edu.sg/pages/viewpage.action?pagId=194740263">https://wiki.nus.edu.sg/pages/viewpage.action?pagId=194740263</a></td>
<td></td>
</tr>
</tbody>
</table>
• ULR

• Programme Requirements

• Unrestricted Electives

  – Modules from SoC/other Faculties to make up total modular credit requirement
Programme/Major Requirements

Programme Essentials

− Core Modules/Computer Science Foundations/ ... 
− Must pass all of them with letter grades (unless with permitted S/U option)
− Include at least two to three programming modules depending on programme of study
  − CS1010/CS1010J/CS1010S/CS1101S Programming Methodology
  − CS2030 Programming Methodology II and CS2040 Data Structures and Algorithms (for IS and BZA), CS2030S/CS2040S (for CS)
  − CS2040C Data Structures and Algorithms (for InfoSec)

Programme Electives

− Each programme has its own list of elective modules
− Allow you to choose modules from a basket
Degree Requirements - I

- Pass at least 160 MCs (approx. 40 modules) comprising:
  - University Level Requirements – pass 20 MCs
  - Programme Requirements
    - Fulfil Programme Essentials, Programme Electives
  - Unrestricted Electives
- CAP must be at least 2.00.
No more than 60 MCs at level-1000.

Residency requirement: must Complete $\chi$ MCs at NUS, where $\chi$ is:

- 50% of required MCs for degree requirement must be at NUS
- These MCs must be earned from NUS modules with assigned grades, or modules with an ‘S’ or ‘CS’ grade.
Polytechnic Graduates:

- Advanced Placement Credits:
  - 20 MCs from Unrestrictive Electives
    (not included in computation of 60-MC limit of level-1000 modules)
  - Up to 20 MCs from programme requirement
Other Requirements - I

- Normal Candidature for our undergraduate programmes: 4 Years
- Maximum Candidature for 4-year Programme: 5 Years
- Maximum Candidature for Double-degree Programme: 6 Years
Other Requirements - II

- Number of MCs to read every semester:
  - at least 18 MCs

- Completed the programme in the 8th semester or earlier, but want to do either an additional Regular semester or Special Term to pull up your CAP?
  - Possible with permission from UG Office
  - Must take at least 18 MCs
  - Must take only level-3000 or above modules

- Max permissible workload for 1st semester of study (no waiver allowed)
  - No more than 23 MCs (for Single degree students with or without minor/second major)
  - No more than 27 MCs (for students who are enrolled in USP or, DDP, CDP)
<table>
<thead>
<tr>
<th>Honours Classification</th>
<th>CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honours (Highest Distinction)</td>
<td>4.5 – 5</td>
</tr>
<tr>
<td>Honours (Distinction)</td>
<td>4.0 – 4.49</td>
</tr>
<tr>
<td>Honours (Merit)</td>
<td>3.5 – 3.99</td>
</tr>
<tr>
<td>Honours</td>
<td>3.0 – 3.49</td>
</tr>
<tr>
<td>Pass</td>
<td>2.0 – 2.99</td>
</tr>
<tr>
<td><strong>Fail</strong></td>
<td><strong>Below 2.0</strong></td>
</tr>
</tbody>
</table>
Adam is into his final semester. His CAP is 3.35, and his total MC accumulated is 142. He intends to take 20MC of modules in this semester. What should be his average grade for the final semester in order to get a CAP of 3.50? (Assuming no S/U options.)

\[
\frac{142 \times 3.35 + 20 \times G}{162} \geq 3.50
\]

\[
G \geq \frac{(162 \times 3.50 - 142 \times 3.35)}{20} = 4.57
\]

Examples:
- 4 A- (4.5) and 1 A (5.0) \(\rightarrow G = \frac{23}{5} = 4.6\)
- 2 B+ (4.0), and 3 A (5.0) \(\rightarrow G = \frac{23}{5} = 4.6\)
- 1 B (3.5), 1 B+ (4.0), and ... \textbf{No Way!!}
Zack’s CAP is 1.49, and his total MC accumulated is 40. He intends to take 20MC of modules in the coming semester to achieve a CAP of at least 2.0. What should be his average grade for the coming semester in order to achieve that? (Assuming no S/U options.)

\[
\geq \frac{(60 \times 2.0 - 40 \times 1.49)}{20} = 3.02
\]

Examples:
- 4 B- (3.0) and 1 B (3.5) \(\rightarrow\) 15.5/5 = 3.1
- 2 C+ (2.5), 1 B- (3.0), 1 B (3.5), 1 B+ (4.0) \(\rightarrow\) 15.5/5 = 3.1
Academic Warning, Probation and Dismissal

To continue in a programme, a student must not have:

– CAP below 2.00 for two consecutive semesters

Student receiving academic probation must receive counselling from academic advisors.

To restore to good standing before reaching the state of dismissal:

Bring CAP to the level of 2.00 in the following semester

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5</td>
</tr>
<tr>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>A-</td>
<td>4.5</td>
</tr>
<tr>
<td>B+</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>B-</td>
<td>3</td>
</tr>
<tr>
<td>C+</td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D+</td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>
Can I drop a module after securing it?

<table>
<thead>
<tr>
<th>Action</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add new modules</td>
<td>By end of week 1</td>
</tr>
<tr>
<td>Drop modules without grade penalty</td>
<td>By end of week 2</td>
</tr>
<tr>
<td>Drop modules with “W” grade</td>
<td>Week 3, Day 1 to last day of recess week</td>
</tr>
<tr>
<td>Drop modules with “F” grade</td>
<td>Week 7, Day 1 onwards</td>
</tr>
</tbody>
</table>
What do Employers look for

www.comp.nus.edu.sg/~sanjay/Google.mp4
Activities in SoC

• University education consists of more than just attending classes
• Develop a network of life-long friends
• Explore and find out what you are passionate about
Activities in SoC

• SoC/NUS offers
  o Internships for work experience
  o Entrepreneurship programme
  o Design-Your-Own-Module (DYOM) [http://www.nus.edu.sg/registrar/education-at-nus/undergraduate-education/design-your-own-module.html](http://www.nus.edu.sg/registrar/education-at-nus/undergraduate-education/design-your-own-module.html)
  o Open source and volunteer work
  o Leadership programme
  o Student clubs and activities
  o Student exchange programme
  o Research experience
  o Competitions
  o Teaching experience
Advanced Technology Attachment Programme (ATAP)
Industry Internship Programme (IIP)

- Course credit for 6 month internship

Student Internship Programme (SIP)

- Course credit for 3 month summer internship

Students also go on overseas internship (see Project Intern at the end of this briefing)

- Google
- Facebook
- Microsoft
- ...

Compulsory internship. Details during afternoon briefing.
What do Employers look for ...

Project Intern

How you too, can land an internship with Google, Microsoft, Facebook and the like.

http://ymichael.github.io/projectintern
What do Employers look for ...

www.comp.nus.edu.sg/~sanjay/KPMG.mp4
Oversea Experience

Student Exchange

- University of British Columbia
- University of California
- University of Melbourne
- University of Illinois, Urbana-Champaign
- Technische Universitat Wien
- University of Copenhagen
- Tsinghua University
- Ecole Superieure D' Electricite
- University of Stuttgart
- Tokyo Institute of Technology
- Korea Advanced Inst of Sci & Tech
- University of Stockholm
- King's College London
Entrepreneurship

Courses on Digital Entrepreneurship
- CP2201 Journey of the Innovators
- IS3251 Principles of Technology Entrepreneurship

VaSCo (Validating Startup Concept)
Up to $10,000 to develop idea

Full one year or 6-month in a start-up with NUS Overseas College (NOC).
Meet compulsory internship requirement.
Enough mapping for most students to complete degree in 4 years

Incubation center at SoC.
Open Source and Volunteer Work (CP3107 and CP3110)

Build systems for volunteer organisations and gain course credit

Get paid by Google for doing open source work and gain course credit

Google Summer of Code and Computing for Voluntary Welfare Organisations can be mapped to 3-month internship (SIP).
Independent Software Development Project (Orbital)

• Every SoC student should have the confidence to
  – propose their own project
  – learn what is necessary to do the project
  – deliver what was promised

• For 1st year students
  – Over the long vacation (May—July 2020)
  – Work in pairs
  – Basic project – web app in Python
    • Option to propose more advanced project
  – 4 MCs independent work (graded as CS/CU basis under CP2106)
Student Club/Interest Groups

NUS Computing Club

NUS Student Chapter of the ACM

NIJS

GDG

NUS GREYHATS

NUS BIZIT

NUS HACKERS

... and others
Outline

• Degree Requirements
• Module Registration via EduRec@EduRec Platform
• Academic Challenge and Academic Advice
• Useful Information
• Teaching in Semester 1
How to Get the modules you want?

- **Module Registration via EduRec (aka Education Records System) Platform**
  
  employs a rules-driven priority-based engine to allocate modules to students based on Curricular needs; Seniority in the programme; and Module preferences
  
  Details at: [http://www.nus.edu.sg/ModReg/](http://www.nus.edu.sg/ModReg/)

- **Navigation**
  
  myEduRec > Academics > Module Registration

- **Priority Score of module(s)**
  
  \[ A^m \times B^m \times C^m \]

- **User Guide**
  
Priority Score of module(s) = $A^m \times B^m \times C^m$

<table>
<thead>
<tr>
<th>Programme Requirements Category (in descending order of points) – $A^m$</th>
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<tbody>
<tr>
<td>UTown/USP modules</td>
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<tr>
<td>Major core and Major Specialisation modules</td>
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<tr>
<td>Major modules</td>
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<tr>
<td>Second Major Specialisation modules</td>
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<tr>
<td>Faculty Requirement modules</td>
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<tr>
<td>Second Major modules</td>
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<tr>
<td>Restricted/Direct Minor modules</td>
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<tr>
<td>Unrestricted Elective / General Education modules</td>
</tr>
</tbody>
</table>
Priority Score of module(s) = $A^m \times B^m \times C^m$

**Students’ Seniority (in descending order of points) – $B^m$**

- Year 4/GLB Year 3/Graduating Year 3
- Year 3
- Year 2/E-Scholars Programme Year 1
- Year 1
Priority Score of module(s) = \( A^m \times B^m \times C^m \)

<table>
<thead>
<tr>
<th>Rank Preference of Modules (in descending order in descending order of points) – ( C^m )</th>
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<tbody>
<tr>
<td>Rank 1</td>
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<td>Rank 8</td>
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# Tie-breakers (in descending order of consideration)

<table>
<thead>
<tr>
<th>Tie-breakers</th>
<th>Description</th>
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<tbody>
<tr>
<td>Students who have not attained minimum workload</td>
<td></td>
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<tr>
<td>Student’s home faculty is module host faculty</td>
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<tr>
<td>Remnant CORS points (applicable for AY2019/2020 only)</td>
<td></td>
</tr>
<tr>
<td>Module feedback points</td>
<td></td>
</tr>
<tr>
<td>Random balloting</td>
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</tbody>
</table>
Outline

• Degree Requirements
• Module Registration via EduRec@EduRec Platform
• **Academic Challenge and Academic Advice**
• Useful Information
Academic Challenge: Double and Concurrent Degrees

- CS/IS with Business Admin/Accountancy
- CS with Maths.Applied Maths
- IS/BZA with Economics
- IS with Masters in Engineering and Tech Innovation Management in CMU
- Self designed DDP with another NUS Faculty
- French Grandes Ecoles
- BZA with Business Admin
- CS/IS with Masters in Management with NUS Business School
- French Grandes Ecoles
Undergraduate Research Opportunity Programme (UROP)

Summer research attachment with MIT, Imperial College, King’s College
Brown University, Tsinghua

Chris Chua

www.comp.nus.edu.sg/~sanjay/SandCanvas.mp4
Academic Challenge: University Scholars Programme
Breadth and Interdisciplinary Studies

Students in the Scholars Programme must read and pass:
- 3 compulsory foundation-tier modules worth 12 MCs
- 8 Inquiry-tier modules worth 32 MCs
- 1 reflection-tier module worth 4 MCs
Which includes GER1000 module worth 4 MCs

**FOUNDATION-TIER**
Writing and Critical Thinking
Quantitative Reasoning Foundation
University Scholars Seminar

**INQUIRY-TIER**
Humanities and Social Sciences
Sciences & Technologies

**REFLECTION-TIER**
Senior Seminar
Academic Challenge: Double-Major Programmes, Minor Programmes

- Double-major Programmes
  - Double major in Management
  - Double major in Statistics
  - Double major from many faculties

- Minor Programmes offered by other faculties
  - Math, Statistics, Economics, Management, ...
Questions you may have:

– Should I do a DDP, USP, FDDP, CDP, SEP, specialisation, minor, second major, etc.?
– I want to be an entrepreneur. How do I go about it?
– What courses should I do to help prepare for a career as a software engineer, consultant, etc.?
– I am interested in research. How do I go about getting research experience?
– Should I do a PhD?
– I am struggling academically. How should I study? What courses should I select next semester?

Talk to an academic advisor!

Faculty Mentor

- You can talk to an academic advisor any time you need academic advice
- Perhaps you want to have a closer mentorship relationship with
  - Someone who has started a company and can advise you about entrepreneurship?
  - Someone who teaches or does research in a particular area so that you can get advice about the area?
  - Someone who interacts actively with mentees in his or her group using the social media?
  - Senior students with the same mentor who can also act as peer mentors?
- All freshmen will be assigned a mentor. 😊
- Your mentor will contact you to meet you online.
Career Advisor

• Venue: COM1 01-23

• Some questions you may have for the Career Advisor:
  – How to I plan for my career?
  – How do I write a good CV?
  – How do I prepare for my interview?
  – How do I network with people during my internship?
  – What are the resources I can use to get a job?
  – I failed to secure an internship this semester. What did I do wrong? How can I do better next semester?
Advice on Passing a Module

Perform consistently in Continual assessment (CA) and examination.

CA

- Assignments
- Tutorial Attendance
- Mid-term Tests/Quizzes

If you miss your examination due to medical reason, make sure you ask the doctor to fill up the Form for Application for Special Consideration, and submit the form online via EduRec. Login to EduRec and navigate to My Homepage > Academics > Examinations > Access Special Consideration > Make Submission for Current Semester.
**NUS EXAMINATIONS: APPLICATION FOR SPECIAL CONSIDERATION (RO.160 /08)**

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<thead>
<tr>
<th>Name: ______________________________</th>
<th>Faculty/School: ______________________________</th>
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<tbody>
<tr>
<td>Student No.: ______________________</td>
<td>Course &amp; Level: ____________________________</td>
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<tr>
<td>NRIC/PP No.: ______________________</td>
<td>Contact No.: ________________________________</td>
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<tr>
<td>Email: ____________________________</td>
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**ELIGIBILITY**

A student whose performance in an examination has been affected by illness or other causes may apply for special consideration. Such causes may include:
Academic Problems

• Every year, around 5% of freshmen face academic problems
  – CAP below 2.00 (C average)
  – Have to see an academic advisor

• You don’t want to be one of them.

• What got them into academic difficulties?
Why they did badly ... and what they did to improve ...

• No real difficulties, I just didn't study. I was lazy and just wanted to enjoy university life.
• *I started studying and taking interest in programming.*

• I am not trying to blow my own trumpet, however, the first time I did it, I didn't do any work at all. That is to say, I didn't attend lectures, tutorials recitation nothing of sorts. So if I may say so, the prime reason for coming down in the particular course was rather a complete negligence on my part ...... Especially when I had come directly after A levels this sudden influx was a bit hard to grasp, inspite of being warned that uni would be like this. =)

• *Stuck to the basics, attend lectures, tutorials and recitations more than I did the first time. Started the labs earlier .......*
Why they did badly ... and what they did to improve ...

• Firstly, I had difficulty understanding programming as a whole since I had no background in computing when I first took CS1010. Therefore, learning C Programming is almost the same as learning a new language.
• Secondly, I didn't really know how to apply basic algorithms to solve problems (labs).
  • I attempted all tutorial questions and clarified my doubts during tutorials.
  • I exchanged ideas on how to solve problems and weigh their complexity or efficiency with my tutorial mates.
• Increase my self-confidence, really.
Why they did badly ... and what they did to improve ...

- Complacency and adaptability. CS1010 is a module that I took in the first semester. Besides adapting to a brand new school, I also need to juggle between the new social life and a completely different (from JC) way to study a module. I think the main problem is not sure how to go about studying this module, no computing background, unsure how to go about asking question and that the nature of the module has a very huge snowballing effect once you lag at the very beginning of the course.

- *Practice, be consistent and keep asking questions (both to yourself and the lecturer), keep the programs that you practise, realised your mistake, remember them and keep going on.*
Advice for Grade-Free modules

• Reduce stress of transition to university

• Observed issues
  – Take too many difficult modules
  – Too relaxed at till mid-semester, then too late to catch up

• Learn your basics well – you will continue to need it
If you think you may struggle ...

1. **Try not to overload yourself.** Generally, doing more than 5 modules a semester is not a good idea for struggling students.

2. **Try to work consistently through the semester,** rather than cramming at the end. In particular, try to ensure that you do all the tutorial exercises.

3. **Work in a group** if possible. Students who study in a group tend to do better.

4. Other than compulsory modules, try to pick modules that **suit your strengths.**

5. **Do some research on the modules** before signing up for them.

You can drop a module with ‘W’ grade **before the end of the recess week** if you think that you cannot cope. **Min workload per semester must be maintained.**
Module and Workload Waivers

• Waiver of Module Prerequisite Chains
  Appeals must be provided with strong justifications
  - Submit Appeals/Inquiries in ModReg
  CS Dept appeal procedure for CS and IFS coded modules at:
  https://dochub.comp.nus.edu.sg/soc_wiki/ug_wiki/course_planning/notes_on_cs_pre-requisite_waiver
  Appeal procedure for BT and IS coded modules: email A/P Tan Chuan Hoo at tancho@comp.nus.edu.sg

• Waiver of class/exam time-table clashes:
  Not supported by the School

• Workload per semester: At least 18 modular credits (MCs)

• Workload increase for freshmen:
  Will not be supported for first semester of study
  Do not file any such request/appeal via ModReg@EduRec
Outline

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SoC Office of Undergraduate Studies

• Vice Dean: Prof JAIN, Sanjay
• Assistant Deans: Assoc Prof CHAN Chee Yong
  Assoc Prof KAN Min-Yen
  Assoc Prof SETIONO, Rudy
  Assoc Prof Aaron TAN
• Deputy Director: Ms TOH Mui Kiat
• Associate Director: Ms Pamela LIM
• Manager: Mr LOW Mun Bak
• Manager: Ms Diana WONG
• Executive
  Ms Ang Jia Ying
  Ms Ivy Ng

Office of Undergraduate Studies is located at:

COM1 Level 2 Room 19

Email: socug@comp.nus.edu.sg
SoC Office of Student Life

• Vice Dean: Assoc Prof Gary TAN
• Assistant Dean: Assoc Prof WADHWA, Bimlesh
• Assistant Dean: Dr TAN Wee Kek
• Manager: Ms Adele CHIEWS
• Asst Manager: Ms Nur Arifah

SoC Student Life Office is located at COM1, Level 2 Room 19

Contact details: SoCFamily@comp.nus.edu.sg

Student Life team aims to foster student success by providing students with access to broader experiences that would provide them with a balanced university life both within and beyond the classroom.

Details at: http://www.comp.nus.edu.sg/studentlife/
SoC Office of Industry Relations

- **Vice Dean:** Assoc Prof NG Teck Khim
- **Assistant Dean:** Assoc Prof HUANG Zhiyong
- **Assistant Dean:** Dr Anand Mohan RAMCHAND
- **Associate Director:** Ms Jane LIM
- **Executives:** Mr John Elijah TAN & Ms Vel TAN

SoC Office of Industry Relations is located within Dean’s Office at COM1, Level 3 Room 27. It liaises with companies to provide internship opportunities ([https://www.comp.nus.edu.sg/studentlife/intern/](https://www.comp.nus.edu.sg/studentlife/intern/)) and organises career fairs for our undergraduates and graduates.

Contact details:

*internship@comp.nus.edu.sg*
Useful Information


- UG Wiki [https://wiki.nus.edu.sg/display/SUW/SoC+UG+WIKI](https://wiki.nus.edu.sg/display/SUW/SoC+UG+WIKI) has informal information that is useful to SoC undergraduates.

- You will be informed on how to participate in ATAP, SIP, and NOC at the appropriate periods. In addition, ad hoc job postings can be found at [https://share.nus.edu.sg/soc/Lists/Jobs/AllItems.aspx](https://share.nus.edu.sg/soc/Lists/Jobs/AllItems.aspx) (you may subscribe using to the list). Similarly, you may want to subscribe to industry related announcements at [https://share.nus.edu.sg/soc/Lists/Industry%20related%20announcements/AllItems.aspx](https://share.nus.edu.sg/soc/Lists/Industry%20related%20announcements/AllItems.aspx).
Useful Information

- **ModRegWebsite:** [http://www.nus.edu.sg/ModReg/index.html](http://www.nus.edu.sg/ModReg/index.html)
- **NUSMods:** Students can now search and view the module and timetable information from [NUSMods](http://www.nus.edu.sg). Information on pre-requisites and preclusions of a module, whether they have S/U option, lab-based, independent-study modules or SkillsFuture funded can be found.

- **Course Briefing Slides to be deposited:**

- **Computer Accounts**
  - **NUSNET account**
    - Given out during registration
    - Email address: exxx@u.nus.edu
  - **SoC UNIX account**
    - Email address: socrocks@comp.nus.edu.sg

- **Enquiries:** SOCUG@comp.nus.edu.sg
Outline

- Degree Requirements
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SoC: Current Plans

- As situation is evolving, we may need to change plans
- For example: Singapore speeded up start of phase 2. If situation improves later in the semester, then we may allow for more F2F classes.
- Our main aim is to ensure safety for all, along with giving quality education subject to constraints
Teaching in Sem 1

Some Basic Principles for restarting NUS

• Safety
• Containment in case of spread
• Maintain quality of education
Students must declare their temperature online twice daily (both am and pm) via uNivUS app for daily healthy declaration and NUSafe entry. Temperature declaration must be made first before coming to campus.

More information of declaration systems/NUS/MOH circulars on COVID-19 measures/information can be found at https://emergency.nus.edu.sg/

Students should come to campus only if they have classes on the day.

Not too many students in a class (<= 50 in any room); all classes > 50 will be via e-learning.

Safe distancing (2m distance between students)

All the rooms are marked to indicate where students can sit given the safe distancing constraint.

If you have any COVID symptoms, do not come to class, go to University Health Centre (UHC) or a qualified medical doctor.
Campus Zoning for Containment of COVID-19

- NUS divided into 5 zones
- 3 zones in the main campus
- School of Computing is in Zone C
- Business School, FASS also in Zone C
- UHC is zoneless (all students can go to UHC)
Campus Zoning for Containment of COVID-19
• School of Computing (SoC) students are in Zone C.
• Besides F2F classes in SoC, you can also attend any F2F classes in Business school and FASS.
• You are not allowed to cross to other zones (other than the zone your hall of residence resides) to attend F2F classes. For examples, F2F classes in Science and Engineering.
• You can eat in Zone C canteen only.
• The zone you are in is based on your home faculty resides.
F2F and e-learning

• Lectures/Tutorials/Labs/recitations which are of \( \leq 50 \) size may be either F2F or e-learning or hybrid

• It is possible that Lectures are in e-learning mode, whereas Tutorials are in F2F mode (as tutorial size is usually smaller)

• Some cases maybe hybrid, for example there maybe two F2F tutorials groups, and one is online

• If there are students who are not able to attend due to reasons beyond their control (e.g. zoning, international travel restrictions, SHN, etc.), course materials will be made available online.

• Lecture recordings (asynchronous) or Zoom lectures (synchronous) may be used along with reading materials/answer sketches etc.
Assessments and Exams

• 100% CA for some modules
• Current plan: for modules which have final exam, it will be e-exam
• To maintain integrity of the e-exams, students need to follow honour code and the protocols as laid down by the University and the lecturers.
• Strict action will be taken against those who violate the honour code and exam protocols.
• Students should read and familiarize themselves with the code of conduct document from NUS
• Please read E-Exam SOP for Students via mySoC -> Academic
  link: [https://mysoc.nus.edu.sg/academic/e-exam-sop-for-students/](https://mysoc.nus.edu.sg/academic/e-exam-sop-for-students/) using NUSnet account
Meeting Etiquette for Webinar Sessions (both faculty and dept briefings) on 13 July 2020

• Please check your audio settings.
• Your microphone is muted with video switched off by default upon joining the webinar session.
• You may post your questions via the webinar during the Q&A segment. The most “voted” ones will be answered first.
• This session will be recorded. If you choose to participate in this webinar, you are presumed to have given your consent of your video/audio text comments in these recordings and the recordings will be shared.
Thank you!

Q & A