School of Computing

Undergraduate Programmes

2017/2018

Prof JAIN, Sanjay
Vice Dean, Undergraduate Programmes
Outline

• Degree Requirements
• Pre- allocation, CORS
• Academic Challenge and Academic Advice
• Useful Information
Degree Programmes

Undergraduate Programmes:

Bachelor of Computing (Honours) in Information Security
Bachelor of Computing (Honours) in Computer Science
Bachelor of Computing (Honours) in Information Systems
Bachelor of Engineering (Honours) in Computer Engineering
Bachelor of Science (Honours) in Business Analytics
Co-operative Programmes

- Business Analytics
- Information Security

More details will be shared at the Programme briefing conducted by the Departments in the afternoon. Please apply with SoC UG Office by 31 July 2017 6.00 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 conducted by the Department this afternoon to find out more information.
## Module - I

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS2105</td>
<td>Introduction to Computer Security</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modular Credit</th>
<th>Workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2-1-0-3-3</td>
</tr>
</tbody>
</table>

### Workload of a module
- 4MC ~ 10 hrs/wk
- 5MC ~ 12.5 hrs/wk

Lectures-Tutorials-Lab-Field work-Preparation

### Prerequisites
- Must pass this module before taking CS3235.
- Usually good idea to do level 1000 in Year 1, level 2000 in Year 2 for pre-req purposes.

### Description
With the widespread use of computers and Internet as well as electronic commerce, computer security becomes more and more important. The objective of this module is to give students basic knowledge of computer security. This module covers the following topics: threats to computer systems, network security fundamentals, security in a layered protocol architecture, authentication in computer systems, access control, intrusion detection, security architecture and frameworks, lower layers security protocols, upper layer security protocols, electronic mail and EDI security, directory systems security, Unix systems security, security evaluation criteria.
Module - II

<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>Modular 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 Math</td>
</tr>
<tr>
<td>Preclusions</td>
<td>MA1100</td>
</tr>
</tbody>
</table>

**Description**


Must not have taken MA1100 before.
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!!

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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 in AY2017-18.
• May exercise the S/U option for up to 32 MCs in the first two regular semesters; if this is not fully utilised, the S/U option may still be exercised in subsequent semesters, for up to 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 S/U option may still be exercised in subsequent semesters, for up to 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>Satisfactory</td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>A-</td>
<td>4.50</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>B+</td>
<td>4.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>B</td>
<td>3.50</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>B-</td>
<td>3.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Unsatisfactory</td>
</tr>
</tbody>
</table>

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

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

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>CS1010</td>
<td>PROGRAMMING METHODOLOGY</td>
<td>B+</td>
<td>4</td>
<td>4</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 COMMUNICATIONS</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>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>20</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>

**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
  - (From 2015 onwards, GE curriculum)

- **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)**
• 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 beside Quantitative Reasoning pillar.
• GER1000 is a graduation requirement for 2017 cohort for ULR for UTown programme students.
## USP Modules and GE Mapping

### Applicable to 2017 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>Singapore Studies</td>
<td><a href="http://www.usp.nus.edu.sg/curriculum/acad%E2%80%90structure/fulfilling%E2%80%90singapore%E2%80%90studies.html">Singapore Studies</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>Quantitative Reasoning (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.

• **Ridge View Residential College**
  - Allowed to read GEQ1917 in fulfilment of the Asking Questions pillar

• **Students who reside in Halls will attend tutorials at their Halls**
  - only if they are reading GER1000 in Year 1 Sem 1
  - only if they are reading GEQ1000 in Year 1 Sem 2

* Kent Ridge :: Sheares :: Eusoff :: Raffles :: King Edward VII :: Temasek :: Prince George’s Park House
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 Provost unless otherwise specified for their degree requirements.
## QR and Q modules: Pre-Allocation Guidelines for SoC

<table>
<thead>
<tr>
<th>Major</th>
<th>QR</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Business Analytics</td>
<td>Year 1 Sem 1</td>
<td>Year 1 Sem 2</td>
</tr>
<tr>
<td>• Information Security</td>
<td></td>
<td>Year 2 Sem 1 or 2</td>
</tr>
<tr>
<td>All other Majors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hall Students</td>
<td>Year 1 Sem 1 or 2</td>
<td></td>
</tr>
<tr>
<td>Hall Students</td>
<td>Year 1 Sem 1</td>
<td>Year 1 Sem 2</td>
</tr>
</tbody>
</table>

*USP students will be pre-allocated QR in Year 1 Sem 1 regardless of Major*
## Pre-Allocation Guidelines: Hall Residents

<table>
<thead>
<tr>
<th>QR Semester 1</th>
<th>Q Semester 2</th>
<th>Read at</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER1000 E</td>
<td>GEQ1000 E</td>
<td>Eusoff Hall</td>
</tr>
<tr>
<td>GER1000 K</td>
<td>GEQ1000 K</td>
<td>Kent Ridge</td>
</tr>
<tr>
<td>GER1000 P</td>
<td>GEQ1000 P</td>
<td>Prince George Park House</td>
</tr>
<tr>
<td>GER1000 R</td>
<td>GEQ1000 R</td>
<td>Raffles Hall</td>
</tr>
<tr>
<td>GER1000 S</td>
<td>GEQ1000 S</td>
<td>Sheares Hall</td>
</tr>
<tr>
<td>GER1000 T</td>
<td>GEQ1000 T</td>
<td>Temasek Hall</td>
</tr>
<tr>
<td>GER1000 W</td>
<td>GEQ1000 W</td>
<td>King Edward VII Hall</td>
</tr>
</tbody>
</table>
Students are to **ballot** for tutorial classes for QR and Q modules:

- There is a **wide variety of timeslots** to choose from
- Allowed to rank up to **20 slots** (1 being highest priority)
- Tutorial Iteration 1: 14 to 18 Aug 2017
- 1 week earlier than majority of other modules
In Tutorial Iteration 1 (Rounds 1A & 1B), a quota is set for students from different Faculties.

Quota is available at [http://www.nus.edu.sg(cors/useful-info.html](http://www.nus.edu.sg/cors/useful-info.html)

<table>
<thead>
<tr>
<th>Month/Year</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 2017</td>
<td>14 Lectures Starts</td>
<td>15 Tutorial Iteration 1</td>
<td>16 Tutorial Iteration 1</td>
<td>17 Tutorial Iteration 1</td>
<td>18 Tutorial Iteration 1</td>
</tr>
</tbody>
</table>
# Useful Links & Contacts for QR and Q modules

<table>
<thead>
<tr>
<th></th>
<th>QR</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appeals</td>
<td>via CORS Appeals <a href="https://myaces.nus.edu.sg/cors/StudentLogin">https://myaces.nus.edu.sg/cors/StudentLogin</a></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>Module Websites</td>
<td><a href="http://goo.gl/nZ7QzB">http://goo.gl/nZ7QzB</a></td>
<td><a href="https://goo.gl/luqDmj">https://goo.gl/luqDmj</a></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 programming modules
  - CS1010/CS1010J/CS1010S/CS1101S Programming Methodology
  - CS1020 Data Structures and Algorithms I (IS and BZA) or CS2030 Programming Methodology II (CS)

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
- These MCs must be earned from NUS modules with assigned grades, or modules with an ‘S’ or ‘CS’ grade.
Degree Requirements - III

Poly 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 8 semesters, but want to spend the 9th semester to pull up your CAP?
  - Possible with permission for UG Office but pay higher fees in extended semester beyond normal candidature.
  - Must take at least 18 MCs
  - Must take only level-3000 or above modules
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.)

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

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

Example:
4 of grade A- (4.5) and 1 of grade A (5.0)
2 B+ (4.0), and 3 A

1 B (3.5), 1 B+, and ... **No Way!!**
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>
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.)

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

Example: 4 B- (3.0) and 1 B (3.5)
2 C+ (2.5), 1 B-, 1 B, 1 B+

<table>
<thead>
<tr>
<th>Grade</th>
<th>GPA</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>
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<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>Add new modules</th>
<th>By end of week 1</th>
</tr>
</thead>
<tbody>
<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 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
Internships

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.
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 in a start-up with NUS Overseas College. Meet compulsory internship requirement. Enough mapping for most students to complete degree in 4 years

Incubation center at SoC.
Open Source and Volunteer Work

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).
Outline

• Degree Requirements
• Pre-allocation, CORS, Streaming
• Academic Challenge and Academic Advice
• Useful Information
How to Get the modules you want?

- We get them for you
  - Module Pre-allocation
  - Module Preference Exercise (MPE) – from sem 2 onwards

- For modules that are not pre-allocated, you get them yourselves by BIDDING FOR THEM

- Course Online Registration System (CORS)
  - Auction system
  - Each student given a budget
  - Student decide how much a course is worth to have, and bid for the course
  - Higher chance for higher bid
Module Pre-allocation for this Semester

- Pre-allocate some of the modules for you
  - There is no need to bid for these modules
  - Arrange your other modules around these
  - Pre-allocated modules appeared when you log in to CORS
    - Each student may be different depending on your background and space availability
Module Preference Exercise (MPE)

- Inform us your preferred modules to study in the coming semester
- Gain pre-allocation of modules before the official course registration begins
- Exercise begins somewhere before the start of a new semester
CORS Lecture Bidding (In a Nutshell)

- **Every semester**, each student given bidding pts

**Decide module**

**Use Pts to Bid**

**If Bid pts > Your Peers = Secure Module**

Summary in this briefing: see http://www.nus.edu.sg/cors/using-cors.html for details before you start using CORS
Bidding Points

- Pts deposited for bidding of modules (every sem) into 2 accounts
  - **Programme (P)** account
    - for *modules within your major or faculty* (please refer to your faculty for the specific rules)
    - E.g. SoC student, CS1010
  - **General (G)** account
    - for modules that fulfill *university level requirements & unrestricted electives*
    - E.g. GEH/GEQ/GER/GET/GES modules, USP, minor/second major modules & etc
Bidding Queues

• Protection in bidding implemented through **bidding queues**

• Each module, there is a unique set of bidding queue:
  - \( P_r = \text{Returning} \) students can bid using \( P \) acct
  - \( P_n = \text{New} \) students can bid using \( P \) acct
  - \( G = \text{All} \) students can bid using \( G \) acct
Queue combined to maximize enrollment of modules
Bid at appropriate round, as round passes your chance of getting the module diminishes

Pr

Round 1A – 1B

Pr
Pr

Round 1C

Pr + G
Pr
G

Round 2A – 2B

Pn

Pr + Pn + G

Round 3

NO Protection to New Students!
Using Bidding Statistics to Help You Decide

• Published statistics at specific bidding stages
  – Lecture groups available for open stage bidding
  – Bidding statistics at end of open stage bidding
  – Bidding summary (end of round, per round)
  – Average bid pts info (end of round, accumulative)
  – Global bid activity history info (end of round, per round)

• [www.cors.nus.edu.sg](http://www.cors.nus.edu.sg) → Time-sensitive info → Latest Bidding Info
Tutorial Balloting (In a Nutshell)

• Your **module lecture class** must first be **registered**
• **NOT** first come first served
• **NO** bidding pts involved
• Allocation is completely **RANDOM**
Tutorial Balloting (In a Nutshell)

- Decide classes you want (up to 20)
- Rank the classes in order of importance (1=highest, 20=lowest)
- If class quota can meet demand, all get allocated
- If class quota cannot meet demand, ballot process happens
Outline

• Degree Requirements
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Academic Challenge: Double and Concurrent Degrees

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

www.comp.nus.edu.sg/~sanjay/SandCanvas.mp4

Sand Animation...

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

Chris Chua
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, specialization, 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?

- SoC has a voluntary mentorship scheme where both faculty members and students volunteer to be in the scheme

- We expect enthusiastic interaction as everyone in the scheme volunteered. 😊

- Watch out for announcement on how to participate in the matching process near the start of semester!
Career Advisor

• COM1 01-23

• Some questions you may have for the Career Advisor:
  – How do 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 pass the form to school as soon as possible.
Form for Application for Special Consideration

NUS EXAMINATIONS: APPLICATION FOR SPECIAL CONSIDERATION (RO.160/08)

Name: _______________________________  Faculty/School: ____________________________
Student No.: __________________________ Course & Level: ____________________________
NRIC/PP No.: __________________________ Contact No.: ____________________________
Email: ____________________________________________________

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 after one semester
  – 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.
Outline

• Degree Requirements
• Pre-allocation, CORS
• Academic Challenge and Academic Advice
• Useful Information
SoC Undergraduate Office

• **Vice Dean:** Prof JAIN, Sanjay
• **Assistant Deans:**
  - Assoc Prof KAN Min-Yen
  - Assoc Prof SETIONO, Rudy
  - Mr Aaron TAN

• **Senior Associate Director:** Ms TOH Mui Kiat
• **Senior Manager:** Ms Pamela LIM
• **Manager:** Mr LOW Mun Bak
• **Assistant Manager:** Ms Diana WONG

• **Management Support Officers:**
  - Mrs KWEK Wong Kay
  - Ms Rachel LUM

Office of Undergraduate Studies is located at:

**COM1 Level 2 Room 19**
socug@comp.nus.edu.sg
SoC Student Life Team

- **Vice Dean:** Assoc Prof Gary TAN
- **Assistant Dean:** Assoc Prof WADHWA, Bimlesh
- **Assistant Dean:** Assoc Prof Terence SIM
- **Asst Manager:** Ms Adele CHIEW
- **Management Support Officer:** Ms Nur Arifah

SoC Student Life Office is located at:

**within SoC UG Office (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.

Useful Information

- General Education [http://www.nus.edu.sg/registrar/gem/home](http://www.nus.edu.sg/registrar/gem/home)
- UG Wiki [https://docs.comp.nus.edu.sg/node/3668](https://docs.comp.nus.edu.sg/node/3668) 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

➢ CORS Website: [http://www.nus.edu.sg/cors](http://www.nus.edu.sg/cors)


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

➢ Enquiries: SOCUG@comp.nus.edu.sg
NUS Fee Rebate Policy

- to incentivize students who are admitted into an undergraduate degree under the modular system# in NUS from AY2014/2015 and to *graduate on time in the normal candidature period (as defined in the table below).*

<table>
<thead>
<tr>
<th>S/N</th>
<th>Degree Type</th>
<th>Normal Candidature Period*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single Degree/Joint Degree Programme (120 MC)</td>
<td>6 consecutive semesters</td>
</tr>
<tr>
<td>2</td>
<td>Single Degree/ Joint Degree Programme (160 MC)</td>
<td>8 consecutive semesters</td>
</tr>
<tr>
<td>3</td>
<td>Concurrent Degree Programme (CDP) / Double Degree Programme (DDP)</td>
<td>9 consecutive semesters</td>
</tr>
</tbody>
</table>

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

• Eligible to students who have taken NUS modules prior to their undergraduate candidature (e.g., iBLOC; NUS H3 subjects; as NUS High School students; and Polytechnic Advanced Placement Programmes) and/or Special Term modules during their undergraduate candidature and have paid tuition fees in excess of the fees commensurate with the normal candidature period.

• More details or FAQs can be found at: https://share.nus.edu.sg/registrar/student/info/FAQ-on-Fee-Rebate-Policy.pdf
Freshmen from CS Dept who are interested in CS1101S

- Attend CS Dept briefing to find out the difference.

DDP in Maths/Applied Maths students will be preallocated CS1101S instead of CS1010. If you prefer to do CS1010 instead, please let Ms Toh Mui Kiat (tohmk@comp.nus.edu.sg) know.
What do Employers look for ...

www.comp.nus.edu.sg/~sanjay/KPMG.mp4
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 2018)
  – Work in pairs
  – Basic project – web app in Python
    • Option to propose more advanced project
  – 4 MCs independent work pass/fail
Student Clubs

NUS Computing Club
Rag and Flag
Freshman Orientation
Sports Camp
Cyber Gaming

NUS Student Chapter of the ACM
NUS Hackers
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
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
Thank you.

Q & A.