Faculty of Science

Introduction to NUS Modular System and the Science Curriculum

19 July 2017

A/P Chua Tin Chiu
Associate Dean
Undergraduate Programmes
Faculty of Science

Vision
• Be among the world’s best in Science education and research

Mission
• Provide quality education, foster the spirit of enterprise and conduct leading edge research to advance knowledge in Science and Technology for the benefit of Singapore and the global community
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A/Prof Tok Eng Soon
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Management Assistant Officer
(Student Matters)

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## NUS Modular System

<table>
<thead>
<tr>
<th>What is a ...</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>A unit of study; has a unique module code e.g. CM1111, LSM1102, MA3205</td>
</tr>
<tr>
<td>Module Code</td>
<td>Consist of two- or three-letter prefix that denotes discipline, and four digits. The 1\textsuperscript{st} digit indicates the level e.g. MA3205 is a Level 3 module</td>
</tr>
<tr>
<td>Modular Credit (MC)</td>
<td>A unit of workload. 1 MC = 2.5 hrs of study and preparation per week.</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>The base of knowledge on which the subject matter of a particular module will be built. A student must complete the prerequisites listed before taking the module.</td>
</tr>
<tr>
<td>Preclusion</td>
<td>Modules that have similar emphases and may not be taken together with that particular module.</td>
</tr>
<tr>
<td>What is a ...</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Primary Major</td>
<td>To graduate, students must fulfil at least 1 major leading to a Bachelor’s degree with a minimum of 120 MCs and 160 MCs for a Bachelor’s degree with Honours</td>
</tr>
<tr>
<td>Second Major</td>
<td>This is optional and to qualify for a second major, a student must read modules equivalent to at least 48 MCs of which 16 MCs can be double counted towards the primary major’s requirements. A second major may be taken from within or outside the Faculty of Science and students will be awarded a single degree upon completion.</td>
</tr>
<tr>
<td>Minor</td>
<td>This is optional and to qualify for a minor, a student must read modules equivalent to at least 24 MCs and of which 8 MCs can be double counted towards the primary major. The minor may be taken from within or outside the Faculty of Science and students will be awarded a single degree upon completion.</td>
</tr>
<tr>
<td>Specialisation</td>
<td>A programme of study on a particular sub-discipline within its main discipline. Only available to specific primary majors in FoS.</td>
</tr>
</tbody>
</table>
Majors for B.Sc.

- Data Science and Analytics
- Chemistry
- Life Sciences
- Food Science & Technology
- Mathematics & Applied Mathematics
- Computational Biology
- Statistics
- Quantitative Finance
- Physics
Science Programmes

Inter-Disciplinary Courses

- Food Science & Technology
- Quantitative Finance
- Computational Biology (Strict 4-year Course)
- Data Science and Analytics (Strict 4-year Course)

Chemical & Life Sciences

- Chemistry
- Chemistry with Specialisation in Environment and Energy
- Chemistry with Specialisation in Materials Chemistry
- Chemistry with Specialisation in Medicinal Chemistry

- Life Sciences
- Life Sciences with Specialisation in Environmental Biology
- Life Sciences with Specialisation in Biomedical Sciences
- Life Sciences with Specialisation in Molecular & Cell Biology

Physical & Mathematical Sciences

- Mathematics
- Applied Mathematics
- Applied Mathematics with Specialisation in Mathematical Modelling and Data Analytics
- Applied Mathematics with Specialisation in Operation Research & Financial Mathematics

- Statistics
- Statistics with Specialisation in Data Science
- Statistics with Specialisation in Finance and Business Statistics
- Physics
- Physics with Specialisation in Astrophysics
- Physics with Specialisation in Nanophysics

Pharmacy

(Professional 4-year Programme)

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Minors

Environmental Chemistry
(jointly offered with the U of Toronto)

Environmental Biology
(jointly offered with the U of Toronto)

Analytical Chemistry

Aquatic Ecology

Biophysics

Engineering Materials
(jointly offered with Faculty of Engineering)

Financial Mathematics

Forensic Science

Geosciences
(jointly offered with Faculty of Arts and Social Science)

Life Sciences

Mathematics

Physics

Optical & Semiconductor Technology

Nanoscience

Medical Physics

Pharmaceutical Sciences

Statistics

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Double Degrees Programme (DDP)

- A double degree consists of two separate degrees from two discipline areas in the same Faculty or in two different Faculties
- Two types of DDPs: structured or student-designed
- Students may pursue either Honours in both degrees or only Honours in the first degree and non-Honours in the second degree
- Students can declare the intention to enrol for a double degree just after completion of between 60 MCs to 80 MCs
- A/P Wong Yan Loi at Science Dean’s Office will work with you on your programme requirements
- Minimum CAP of 4.0 at point of application
Double Degree

- Computer Science & Mathematics
- Science & Arts and Social Sciences
- Science & Business
- Computer Science & Applied Mathematics
- Law & Life Sciences
- Physics & Materials Science & Engineering
Grading System
## NUS Grading System

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, 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</td>
</tr>
</tbody>
</table>

### No Grade Points

<table>
<thead>
<tr>
<th>No Grade Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXE – Exempted</td>
<td>Awarded when candidate is exempted from and given credit for a module</td>
</tr>
<tr>
<td>IC – Incomplete</td>
<td></td>
</tr>
<tr>
<td>IP – In Progress</td>
<td></td>
</tr>
<tr>
<td>S – Satisfactory</td>
<td></td>
</tr>
<tr>
<td>U – Unsatisfactory</td>
<td></td>
</tr>
<tr>
<td>CS – Completed Satisfactorily for non-gradable module</td>
<td></td>
</tr>
<tr>
<td>CU – Completed Unsatisfactory for non-gradable module</td>
<td></td>
</tr>
<tr>
<td>W – Withdrawn</td>
<td></td>
</tr>
</tbody>
</table>
Cumulative Average Point (CAP)

- Academic progress of every student is tracked by the CAP
- Formula for calculating CAP:

\[
\text{CAP} = \frac{\text{Sum (module grade point x MCs assigned to module)}}{\text{Sum (MCs assigned to modules used in calculating the numerator)}}
\]
## How to calculate CAP

### Semester 1

<table>
<thead>
<tr>
<th>Module</th>
<th>MCs</th>
<th>Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM1111</td>
<td>4</td>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>CS1102C</td>
<td>5</td>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>MA1101R</td>
<td>4</td>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>MA1102R</td>
<td>4</td>
<td>B+</td>
<td>4</td>
</tr>
<tr>
<td>ST1232</td>
<td>4</td>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

### Semester 2

<table>
<thead>
<tr>
<th>Module</th>
<th>MCs</th>
<th>Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSM1102</td>
<td>4</td>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>MA1104</td>
<td>4</td>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>ST1232</td>
<td>4</td>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>GEK2505</td>
<td>2</td>
<td>B+</td>
<td>4</td>
</tr>
<tr>
<td>SSA2206</td>
<td>4</td>
<td>S</td>
<td>-</td>
</tr>
</tbody>
</table>

### CAP at the end of Sem 2

\[
CAP = \frac{(5 \times 4 + 3.5 \times 5 + 3.5 \times 4 + 4 \times 4 + 0 \times 4) + (5 \times 4 + 3.5 \times 4 + 0 \times 4 + 4 \times 2)}{(7 \times 4) + (1 \times 5) + (1 \times 2)}
\]

\[
= 3.13
\]

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**Objective of the Grade-free Scheme**

- Facilitate the transformation in students’ mindsets towards and learning in the university setting.
- Alleviate high stress levels brought about by unhealthy competition.
- Reduce students’ obsession towards grades.
- Enable them to leverage opportunities for a holistic education.

**General Rule**

Students 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**.
Grade-free Scheme

Satisfactory/Unsatisfactory (S/U) Option

S Grade
- Will be assigned to a module with ‘C’ grade or above
- Will also receive credit towards the degree

U Grade
- Will be assigned to a module with grade lower than a ‘C’ Grade
- Therefore has no impact on the student’s CAP
- However will not receive credit towards the degree
- Student needs to repeat an Essential module if U grade is exercised for that module

Eligibility – Can be exercised for
- All Level 1000 modules; and
- All Level 2000 modules without NUS modules as pre-requisites
Grade-free Scheme

Satisfactory/Unsatisfactory (S/U) Option

S/U option **cannot be exercised** for:

- All Level 2000 modules **with** NUS modules as pre-requisites
- Modules of Level 3000 and above
- Modules dropped with a ‘F’ grade during the semester
- Modules in which a student has been found to have committed plagiarism
- Modules in which a revised grade has been prescribed by the Board of Discipline

**When is the S/U declaration exercise:**

- Takes place immediately with the release of each semester’s exam results.
- Conducted over 3 days, starting from the day of release of exam results

- Once exercised, will be **irrevocable** for the module
Who are eligible to exercise 32 MCs of S/U option under the Grade-free Scheme?

Students of **Cohort Year 2016** and onwards under the following categories:

- Admitted to undergraduate programmes in FASS, BIZ, SoC, SDE, FoE, FOS, YSTCM, NUSMed (Nursing) and SCALE (BTech) **AND** have less than 20 MCs of Advanced Placement Credits (APCs) granted.

- Transferred from another University or Faculty on clean slate (i.e. no grade/credit transfer of any NUS module), with less than 20 APCs granted.

- Readmitted into NUS (with no grade/credit transfer of any NUS module), with less than 20 APCs granted.

- Are from Partner University (JDP, CDP, DDP) and whose first semester of study is at NUS.

- Detailed information on Grade-free Scheme available on RO website at [http://www.nus.edu.sg/registrar/edu/UG/graduation.html#SU](http://www.nus.edu.sg/registrar/edu/UG/graduation.html#SU).

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### Grade-free Scheme

#### Some Scenarios...

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Number of S/U MCs that can be carried beyond First Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student exercised 32 MCs of S/U option in Year 1</td>
<td>0 MCs</td>
</tr>
<tr>
<td>Student exercised 24 MCs of S/U option in Year 1</td>
<td>8 MCs</td>
</tr>
<tr>
<td>Student exercised 20 MCs of S/U option in Year 1</td>
<td>12 MCs</td>
</tr>
<tr>
<td>Student exercised less than 20 MCs of S/U option in Year 1 e.g. 16 MCs</td>
<td>12 MCs</td>
</tr>
</tbody>
</table>
Strategy to Maximise CAP when Exercising S/U

Students on a three-year course with 120 MCs to graduate (30 mods)

Scenario 1: Students obtained the following results in his 3-year 120MC course of study:

<table>
<thead>
<tr>
<th>1st Year 1st Semester Results</th>
<th>No of Mod with Grade</th>
<th>Grade</th>
<th>No of Mod with C+</th>
<th>CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade Point</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>Grade</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>D</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
<td>C+</td>
</tr>
<tr>
<td>Eg 1</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>D</td>
</tr>
<tr>
<td>Eg 2</td>
<td>S</td>
<td>C+</td>
<td>C+</td>
<td>U</td>
</tr>
<tr>
<td>Eg 3</td>
<td>S</td>
<td>S</td>
<td>U</td>
<td>S</td>
</tr>
<tr>
<td>Eg 4</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>U</td>
</tr>
<tr>
<td>Eg 5</td>
<td>B-</td>
<td>S</td>
<td>S</td>
<td>D</td>
</tr>
<tr>
<td>Eg 6</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>D</td>
</tr>
</tbody>
</table>

\[
cCAP = \frac{1 + 25 \times 2.5}{26} = 2.4423^* \\
\]

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Scenario 2: Students obtained the following results in his 3-year 120MC course of study:

<table>
<thead>
<tr>
<th>1st Year 1st Semester Results</th>
<th>No of Mod with Grade</th>
<th>Grade</th>
<th>No of Mod with B+</th>
<th>CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Point</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>Grade</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>D</td>
</tr>
<tr>
<td>Eg 1</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>D</td>
</tr>
<tr>
<td>Eg 2</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>U</td>
</tr>
<tr>
<td>Eg 3</td>
<td>B-</td>
<td>S</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Eg 4</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>U</td>
</tr>
<tr>
<td>Eg 5</td>
<td>B-</td>
<td>S</td>
<td>S</td>
<td>D</td>
</tr>
<tr>
<td>Eg 6</td>
<td>B-</td>
<td>C+</td>
<td>C+</td>
<td>D</td>
</tr>
</tbody>
</table>

During the Grade-free Scheme S/U Exercise
- U the D grade,
- S the C and C+ grade (if the remaining modules are C+ and better)
- Keep the B- grade
GRADUATION REQUIREMENTS
Direct Honours with Options

B.Sc. or B.Sc.(Hons.) in ≈ 4 yrs

B.Sc. (Merit) or B.Sc. in ≈ 3 yrs for CAP < 3.20 or by choice

Year 1
Year 2
Year 3
Year 4
Graduation Requirements

University Requirements

- General Education (4 modules)
- Singapore Studies (1 module)
- Unrestricted Electives (5-9 modules)
- Faculty Requirements (3-4 modules)
- Major Requirements (15-18 modules)
- Faculty Requirements (15-18 modules)

Flexible Component

Programme Requirements
Honours Eligibility & Classification

To qualify for Honours (excluding Computational Biology, Pharmacy and Data Science and Analytics)
✓ Fulfilled the requirements of one major of B. Sc. Level and
✓ Must have obtained a minimum overall CAP of 3.20 on completion of 100 MCs or more

The Computational Biology and Data Science and Analytics major is a four-year programme leading to a B. Sc. (Hons) degree, subject to a minimum CAP attainment

Pharmacy is a four-year programme leading to a B. Sc. (Pharmacy) (Hons) degree, subject to a minimum CAP attainment

Honours Classification:
✓ B. Science (Honours) (Highest Distinction)
✓ B. Science (Honours) (Distinction)
✓ B. Science (Honours) (Merit)
✓ B. Science (Honours)
University Level Requirements – These requirements aim to broaden a student’s intellectual horizon, to develop critical and creative thinking skills for independent learning, and to promote spoken and written articulacy. They consist of 5 modules under General Education.

Programme Requirements – These consist of Faculty and Major requirements. Faculty requirements serve to introduce a students to the different disciplines in a faculty or to a certain basic areas of study that prepare a student to pursue a particular discipline. Major requirements provide specialised education in a subject and include both essential and electives modules.

Unrestricted Elective Modules – These allow students to explore greater breadth or depth in any subject and at any level. Students may use these modules to meet the requirements for a specialisation, minor, double major, double degree or concurrent Bachelor-Master degree.
Limit on Level-1000 Modules

• Up to 60 MCs of Level-1000 modules can be counted towards the total MCs required for fulfillment of graduation requirements for both B.Sc.(120 MCs) and B.Sc. (Hons)(160 MCs) programmes.

• Level-1000 modules taken in excess of the 60 MCs limit will not be counted towards the total number of MCs required for graduation, but will be included for CAP computation (to improve CAP).

• 20 MCs of APCs granted to Polytechnic diploma holders admitted to the Faculty will not be counted towards the 60 MC limit on Level-1000 modules.
University Level Requirements (ULR)-
The 5 Pillars of General Education

- Human Cultures
- Thinking & Expression
- Quantitative Reasoning
- Asking Questions
- Singapore Studies
University Town College Programme (UTCP)

- Multidisciplinary programme offered in
  - College of Alice & Peter Tan
  - Tembusu College
  - Residential College 4

- Consists of 5 modules to be read over 4 semesters
- UTCP modules partially fulfils University Level Requirements
- UTCP students admitted in AY2016/2017 onwards are required to read the module from the Quantitative Reasoning (QR) pillar.
UTCP, USP and RVRC : University Level Requirements (ULR)

• Students admitted in AY2016/2017 onwards enrolled in the UTCP, University Scholars Programme (USP) and Ridge View Residential Colleges (RVRC) are required to read the module from Quantitative Reasoning (QR) pillar in partial fulfilment of the ULR for General Education.
## Faculty Requirements

<table>
<thead>
<tr>
<th>Degree</th>
<th>Faculty Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Sc.</td>
<td>12 MCs from 3 distinct subject groups outside the group(s) under which the major falls*</td>
</tr>
<tr>
<td>B.Sc. (Hons.)</td>
<td>16 MCs from at least 3 distinct subject groups outside the group(s) under which the major falls, where 4 MCs may come from the same subject group under which the major falls but not from the major *</td>
</tr>
</tbody>
</table>
| B. Sc. (Pharmacy) (Hons) | 16 MCs consisting of the following modules:  
AY1130 Human Physiology & Anatomy I  
PA1113 Basic Pharmacology  
PY1131 Human Physiology & Anatomy II  
PX2108 Basic Human Pathology |

* **Not from the major** refers to modules that carry a prefix not associated with the student’s major. Example, PR for Pharmacy, LSM for Life Sciences,
## Table of Subject Groups

<table>
<thead>
<tr>
<th>Subject Group</th>
<th>Majors in this Group</th>
<th>Module Prefix/Code in this Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing Science</td>
<td>Computational Biology, Quantitative Finance</td>
<td>CZ, CS, COS, COT, IT1001, IT1002, IT1006, QF, ZB</td>
</tr>
<tr>
<td>Chemical Sciences</td>
<td>Chemistry and its related specialisations, Food Science &amp; Technology, Pharmacy</td>
<td>CM, FST, PR</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>Food Science &amp; Technology, Life Sciences and its related specialisations, Pharmacy</td>
<td>FST, LSM, PR</td>
</tr>
<tr>
<td>Mathematical Sciences &amp; Statistical Sciences</td>
<td>Applied Mathematics, Mathematics, Quantitative Finance, Statistics and its related specialisations, Data Science and Analytics</td>
<td>CZ, MA, QF, ST, DSA</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>Physics and its related specialisations</td>
<td>PC</td>
</tr>
<tr>
<td>Multidisciplinary &amp; Interdisciplinary Sciences</td>
<td>-</td>
<td>FMS12xx(B,C,D,M,P,S), SP2251, SP3201, SP3202, SP3277, SP1541</td>
</tr>
</tbody>
</table>
Computational Thinking (CT)

• To remain relevant in the workplace of tomorrow, undergraduates should acquire basic computational skills, i.e., computational thinking (CT).
• For FoS Students admitted in AY2017/2018 onwards:
  A) Majors in Computational Biology, Data Science & Analytics, Maths & Applied Maths, Quantitative Finance, and Statistics will continue to acquire higher-order computational skills in the form of CS1010 Programming Methodology, or its variant;
  B) Majors in Life Sciences, Physics will have the option to do the new modules: COS2000 Computational Thinking for Scientist or COT1000 Computational Thinking, within the course of the undergraduate course;
  C) Majors in Chemistry, Food Science & Technology, will have the option to do CM3267 Measurement, Analysis & Interpretation of Chemical Data, or COS2000, or COT1000
  D) Bachelor of Environmental Studies Programme (B.E.S): both FASS and FoS students in the B.E.S. programme will be required to do GET1031A
• Minimum CAP required for Graduation is 2.00

PROBATION
A student will be placed on probation when his/her CAP
– falls below 2.00 for the first time

DISMISSAL
A student will be dismissed if his/her CAP
– falls below 2.00 for the second time

• The above continuation rules are applied from the third semester onwards.
Advanced Placement (AP) Credits

For Polytechnic Diploma Holders:
• May be granted up to a max of 40 MCs, of which
  ✔ 20 MCs will be automatically granted as fulfilling Unrestricted Elective requirement
  ✔ Up to 20 MCs for programme requirements based on performance in placement tests set by the departments

For GCE ‘A’ Level or equivalent qualification Holders:
• May be granted up to a max of 40 MCs, of which
  ✔ Up to 20 MCs may be granted as fulfilling Unrestricted Elective requirement
  ✔ Up to 20 MCs for programme requirements based on performance in placement tests set by the departments
The Freshman Seminars are excellent platforms for students to engage in in-depth discussions of an intellectual topic and to present their ideas without the pressure of examinations.

This module carries a 4 MCs and may be read to satisfy faculty requirements. In addition, a Completed Satisfactory/Completed Unsatisfactory (CS/CU) grade will be awarded. The module is open to Freshmen of the Faculty of Science in their first year.

Freshmen Seminar Unique Features:
Small group teaching characteristic of a liberal arts education setting
Exchange of ideas in a relaxed setting
Academic mentorship by Professors
An exciting array of topics:
• Fraud, Deception and Data
• Philosophy of Mathematics
• Imaging our World
• Green Chemistry for Sustainable Society
• Science: The good, the Bad, the Ugly and the Beautiful
• And many more…
SP1541 Exploring Science Communication through Popular Science

- **Compulsory module** for all freshmen (except Pharmacy and Environmental Studies students and students residing in UTown)
  - to develop a habit of reading, especially in science-related topics
  - to enhance the ability to critically question published scientific information
  - to enhance the ability to articulate opinions and perspectives
  - to develop coherence in writing and oral communication

- Students are expected to **bid** for this module in Sem 1 or Sem 2 of the first year
Students who scored below a C grade for GP/International students without the required English language qualifications

Qualifying English Test (QET)

Band 1
- ES1000 / ES1000FC Basic English (Yr 1, Sem 1)
- ES1103 English for Academic Purposes (Yr 1, Sem 1)
- ES1103 English for Academic Purposes (Yr 1, Sem 2)
- SP1541 (Yr 2, Sem 1)

Band 2
- ES1103 English for Academic Purposes (Yr 1, Sem 1)
- SP1541 (Yr 1, Sem 2)

Band 3
- Exempted from ES modules
- SP1541 (Yr 1, Sem 1)

Students who are not required to take QET

SP1541 (Yr 1, Sem 1)

Note:
1. SP1541 is a compulsory graduation requirement.
2. SP1541 will be counted towards Faculty requirement.
3. Students who have not passed SP1541 will not be allowed to apply for Study Abroad Programmes.
Your Roots & Wings Journey

A combination of foundational life skills and healthy mindsets

Focus  Awareness  Happiness  What’s My OS?  The Stories We Tell Ourselves  Empathy  Resilience

Roots & Wings is NUS’ foundational life skills programme centering on personal and interpersonal effectiveness skills that all first year undergraduates are required to take. Over 2200 students have participated in Roots and Wings which the Centre for Future-ready Graduates (CFG) launched in January 2016.
Undergraduate Research Opportunities Programme in Science (UROPS)

• Gain first-hand experience in research by embarking on an independent project, usually in Year 2 or Year 3
• Acquire effective communication and presentation skills
• Avenue for talented undergraduate to make significant contributions to existing scientific knowledge
• Stimulate intellectual exchange and collaboration between student and faculty members on a one-to-one basis
FoS Study Abroad Programmes

French Double Degree Programme – 2 yrs in France
ANU-NUS Joint Degree Programme – 3 semesters in ANU
UNCCH-NUS Joint Degree Programme – 2 to 3 semesters in UNCCH
NUS Overseas College Programme – 1 semester to 1 year
Student Exchange Programme (SEP) – 1 semester
Joint Minors – 1 semester
Summer Programmes – 4 to 7 weeks
Summer Research – 6 to 12 weeks
Study Abroad Briefings

Come and find out the details for Student Exchange Programmes and Summer Programmes on:

• 23 August 2017 @ LT31, 4.30pm to 5.30pm
• 25 August 2017 @ LT31, 10.00am to 11.00am

International Exchange Day:

7 September 2017
@ Central Forum
**SPS** – It is an intense programme offered to students who have a strong passion and aptitude for science. A total of 6 modules are offered over a duration of two years, beginning in the first year.

<table>
<thead>
<tr>
<th>Research-Oriented Modules</th>
<th>Thematic Integrated Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP2171 - Discovering Science</td>
<td>SP2173 - Atoms to Molecules</td>
</tr>
<tr>
<td>SP3172 - Integrated Science Project</td>
<td>SP2174 - The Cell</td>
</tr>
<tr>
<td></td>
<td>SP3175 - The Earth</td>
</tr>
<tr>
<td></td>
<td>SP3176 - The Universe</td>
</tr>
</tbody>
</table>

Students in the B.Sc. (resp. B.Sc. (Hons.)) Programme who have passed three (resp. four) of the six SPS Programme modules, namely SP2171, SP2173, SP2174, SP3172, SP3175 and SP3176, are deemed to have completed 12 MCs (resp. 16 MCs) of the **Faculty Requirements** from 3 distinct subject groups outside the group under which their major falls.

*Note: Freshmen interested in SPS are invited to attend a Tea Session at SPS Room, Block S16 Level 3 at 4.30pm.*
Aims

• Attract the very best research-driven students

• Target top 5% of Science cohort & select 30 to 50 students

• Partner 10 top universities in the world for joint PhDs with 3 to 5 students to each of the universities

“The Global Science Programme will provide a unique and flexible global education that aims to realise the full potential of a select group of top Science students. This “through-train” programme will see students undergo semester exchanges and summer research attachments at top universities worldwide, and provide an accelerated path from B.Sc to joint M.Sc/PhD.”

NUS, Ex-Dean of Science, Professor Andrew Wee
Global Science Programme

With Minors in:
- Forensic Science
- Nanoscience
- Biophysics
- Energy Science

B. Sc. (Honours)
Students can spend up to 2 summer semesters doing UROPS in labs of partner universities such as MIT, ICL, Caltech, UNC-Chapel Hill etc

Joint M. Sc.*
with EP, ICL, KCL, ANU, GIST, TUM

Joint M. Res./Ph.D
( ICL, KCL, MIT, EP, ANU, IITs, etc)

Students can exit with a M. Sc.

Years 1 - 2
SPS

Years 3 – 4
B. Sc. (Honours)

Years 5
Joint M. Sc.*
with EP, ICL, KCL, ANU, GIST, TUM

Years 6 – 8
Joint M. Res./Ph.D
( ICL, KCL, MIT, EP, ANU, IITs, etc)

Other Ph.D Options
- Ph.D CREATE/SMART
- NGS Ph.D Exchange
- AGS Duke-NUS GMS

Top students not in SPS can also join in at this stage

*Joint Masters
- Ecole Polytechnic
- ICL
  - M. Sc. (Nanoscience)
- KCL
  - M. Res. (Biophysics)
  - M. Sc. (Forensic Science, Analytical Toxicology)
- ANU
  - M. Sc. (Science Communication)
- GIST, TUM
  - M. Sc. (Industrial Chemistry)

Freshmen Orientation Briefing July 2017
Duke-NUS Medical School

Training Physician Scientists and Medical Leaders for the 21st Century

ADMISSION:

• Undergraduate or Advanced Degree
  - First degree can be in any field, such as the Life Sciences (Biology, Pharmacology, etc), Engineering (Bioengineering, Chemical, Electrical Engineering, etc), Physical Sciences (Chemistry, Physics, etc), Humanities, or Social Sciences

• Demonstrated evidence of competence in core areas of general Chemistry, Physics, Biology, and Organic Chemistry
  Successful completion of university courses in biochemistry and cell biology is recommended

• Students with advanced degrees in scientific fields are encouraged to apply

DEGREE AWARDED:

Joint Doctor of Medicine (M.D.) degree from Duke University and NUS
Revised NUS Tuition Fee Policy

• For Cohort 2016/2017 onwards

Students admitted into an undergraduate degree under the modular system in NUS and 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.

• Normal Candidature is defined as follows:

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Normal Candidature Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Degree / Joint Degree Programme (120 MC)</td>
<td>6 Consecutive Semesters</td>
</tr>
<tr>
<td>Single Degree / Joint Degree Programme (160 MC)</td>
<td>8 Consecutive Semesters</td>
</tr>
<tr>
<td>Double Degree Programme (DDP), Single Honours</td>
<td>9 Consecutive Semesters</td>
</tr>
<tr>
<td>Double Degree Programme (DDP), Double Honours</td>
<td>10 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.
Revised NUS Tuition Fee Policy

The computation of tuition fees beyond normal candidature period is summarized in the following table:

<table>
<thead>
<tr>
<th>Student Type</th>
<th>Semester After Normal Candidature Period</th>
<th>Revised fee pro-rated based on student’s semester workload of $x$-MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single degree students</td>
<td>1$^{st}$</td>
<td>‘Full* semestral# fees × Workload%*’ <strong>capped at</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Subsidised semestral# fees × 120%’</td>
</tr>
<tr>
<td></td>
<td>2$^{nd}$</td>
<td>‘Full* semestral# fees × Workload%*’ <strong>capped at</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Subsidised semestral# fees × 150%’</td>
</tr>
<tr>
<td></td>
<td>3$^{rd}$ onwards</td>
<td>Full* semestral# fees × Workload%*</td>
</tr>
<tr>
<td>Double degree students</td>
<td>1$^{st}$</td>
<td>‘Full* semestral# fees × Workload%*’ <strong>capped at</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Subsidised 9$^{th}$/10$^{th}$+semestral# fees × 120%’</td>
</tr>
<tr>
<td></td>
<td>2$^{nd}$</td>
<td>‘Full* semestral# fees × Workload%*’ <strong>capped at</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Subsidised 9$^{th}$/10$^{th}$+semestral# fees × 150%’</td>
</tr>
<tr>
<td></td>
<td>3$^{rd}$ onwards</td>
<td>Full* semestral# fees × Workload%*</td>
</tr>
</tbody>
</table>

* Full (non-subsidised) fees are set out under the column “Fees payable by students not in receipt of MOE Tuition Grant” in the undergraduate fees table (refer here).

# Semestral fees refer to half of annual tuition fees set out in the undergraduate fees table (refer here).

* Given that the student reads $x$-MC of modules in the semester concerned, the ‘Workload%’ is capped at 100% if $x$ exceeds 20MCs and $x$MC/20MC if otherwise, for fee computation purposes, i.e., tuition fee is pro-rated for workload < 20MCs.

+ 9th semester for DDP (single honours) and 10th semester for DDP (double honours) (refer here)
Revised NUS Tuition Fee Policy

Student B: On 120MCs degree programme and was away for 2 semesters of non-medical LoA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Student B (Singapore citizen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of Admission:</td>
<td>AY2016/2017</td>
</tr>
<tr>
<td>Degree Programme:</td>
<td>120MC, BA</td>
</tr>
</tbody>
</table>

**Fees Matrix**

|                       | Subsidised semester fees: $3,975 | 120% subsidised semester fees: $4,770 | 150% subsidised semester fees: $5,962.50 | Full un-subsidised semester fees: $14,525 |

**Background:**
- Semester 1 & 2 AY2017/2018 (non-medical LoA)
- Completed 92MCs within normal candidature period
- Reads 20MCs of modules in Sem 1 AY2019/2020 and 8MCs in Sem 2 AY2019/2020

**Fees Liable**

<table>
<thead>
<tr>
<th>Normal Candidature period: $3,975 (i.e. 120% subsidised semester fees)</th>
<th>Post normal candidature period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; semester: <strong>$4,770</strong></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; semester: <strong>$5,810</strong></td>
</tr>
<tr>
<td>(i.e. Full un-subsidised semester fees {8MC/20MC})</td>
<td>(i.e. Full un-subsidised semester fees {8MC/20MC})</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; semester onwards: <strong>NA</strong></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; semester onwards: <strong>NA</strong></td>
</tr>
</tbody>
</table>

**Calculation:**

- Cap at 120% X $3,975 = $4,770
- (8/20) X $14,525 = $5,810 i.e. pro-rated for workload < 20 MCs
Revised NUS Tuition Fee Policy

Subsidised semestral Fees:

- Sem 1 AY2016/17
- Sem 2 AY2016/17
- Sem 1 AY2017/18 (non-medical LoA)
- Sem 2 AY2017/18 (non-medical LoA)
- Sem 1 AY2018/19
- Sem 2 AY2018/19
- Sem 1 AY2019/20
- Sem 2 AY2019/20
- Sem 1 AY2020/21
- Sem 2 AY2020/21

Fees:
- $4,770
- $5,810
- NA

Normal Candidature Period

Post Normal Candidature Period
NUS Tuition Fee Rebate Policy

Objective:
• Incentivise students to graduate on time in the normal candidature period

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Candidature Period for Fee Rebate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Degree / Joint Degree Programme (120 MC)</td>
<td>6 Consecutive Semesters</td>
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</tr>
<tr>
<td>Double Degree Programme (DDP)</td>
<td>9 Consecutive Semesters</td>
</tr>
</tbody>
</table>

Who is Eligible to receive rebates?
• Cohort 2014/2015 onwards
• Completed NUS modules during the following periods:
  • **Prior to** UG candidature eg NUS iBLOC, NUS H3 subjects, Polytechnic Advanced Placement Programmes
  • **During Special Terms within** the UG candidature
• Paid tuition fees in excess of the fees for completing the undergraduate degree programme on time in the candidature period applicable for fee rebate.
NUS Tuition Fee Rebate Policy

**Example 1:** Students on 160 MC degree programme who had taken 1 iBLOC as RNSmen prior to the UG candidature and 1 Special Term module during the UG candidature

- Fee paid for 2 modules = 2 x $700 = $1400
- Fee paid for remaining 152 MC worth of modules over 8 Semester = 8 x $3,500 = $28,000
- Total fee paid = $29,400
- Rebate quantum = $29,400 - $28,000 = $1400

**Example 2:** Student, on 160 MC degree programme, who had taken 1 iBLOC as RNSmen prior to the UG candidature and 5 Special Term modules during the UG candidature

- Fee paid for 6 modules = 6 x $700 = $4,200
- Fee paid for the remaining 136 MC worth of modules taken during regular semester and assuming they are completed within 7 semesters = 7 x $3,500 = $24,500
- Total fee paid = $28,700
- Rebate Quantum = $28,700 - $28,000 = $700
Desired Qualities in NUS Graduates...

- Individuals with **questioning minds**, willing and able to examine and analyse issues that are taken for granted, and who engage in rigorous inquiry within and beyond assumed disciplinary borders;
- Individuals of **well-rounded** mind and character;
- **Constructive and responsible** members of a community, ready to assume leadership and conscious of the impact of their activities on others;
- **Global citizens**, who are sensitive to diverse cultural settings, ware of the potential they offer, and capable of operating in them, while conscious of the particularity, value and limits of their own perspectives;
- Bearers of a **resourceful, creative and enterprising** spirit, in public and private life and
- **Able communicators** who can articulate and defend ideas effectively
Undergraduate Studies
Email: askscience@nus.edu.sg
Blk S16, Level 2,
6 Science Drive 2
Tel: +65-6516 8471

21/7/2017
Freshmen Orientation Briefing July 2017
Thank you