Welcome to Materials Science & Engineering!

Curriculum Briefing
A/P Hng Huey Hoon
Associate Chair (Academic)
August 2011
Lost On Campus?!
## Requirements for B.Eng. - Materials Science

**Academic Units (A.U.’s)**

<table>
<thead>
<tr>
<th></th>
<th>IO Option</th>
<th>IA Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core</strong></td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td><strong>Major PEs</strong></td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>GER</strong></td>
<td>Core: 12</td>
<td>Core: 12</td>
</tr>
<tr>
<td></td>
<td>PE: 15</td>
<td>PE: 15</td>
</tr>
<tr>
<td></td>
<td><strong>UE: 15</strong></td>
<td><strong>UE: 11</strong></td>
</tr>
<tr>
<td><strong>Attachment</strong></td>
<td>4 (IO)</td>
<td>8 (IA)</td>
</tr>
<tr>
<td><strong>FYP</strong></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>138</td>
<td>138</td>
</tr>
</tbody>
</table>

### A.U.: Academic Units
- 1 hr/week lecture or tutorial = 1 AU
- E.g. MS1013 Chemistry: 2 lectures + 1 tutorial / week = 2+1 = 3 AUs
- 3 hr/week Lab = 1 AU

### IO: Industrial Orientation
- FYP: Final Year Project
- Core: compulsory
- Major Prescribed Elective (MPE)
- General Education Requirements (GER)
  - Core; PE; UE
### Students admitted in AY 2011/12

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Core Courses</th>
<th>Number of Academic Units (AU)</th>
<th>GER (PE)</th>
<th>Major (PE)</th>
<th>Unrestricted Electives</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Core</td>
<td>AHSS</td>
<td>STS</td>
<td>BM</td>
<td>LS</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>3</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>ANY YEAR</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

- **AHSS**: Arts / Humanities & Social Sciences
- **STS**: Science, Technology, & Society
- **BM**: Business & Management
- **LS**: Liberal Studies

- The Academic Unit System Handbook: [http://www.ntu.edu.sg/Services/Academic/undergraduates/Pages/AcademicUnitSystem(AUS).aspx](http://www.ntu.edu.sg/Services/Academic/undergraduates/Pages/AcademicUnitSystem(AUS).aspx)
Courses

• **Core courses**
  - Compulsory courses required to satisfy programme requirements

• **Major Prescribed Electives (PE)**
  - Encountered in the Final Year
  - Choose 5 from a list of technical courses.
General Education Requirement (GER)

• Core Courses (GER-Core)
  - MS0001 Environmental Sustainability & Materials (3AUs)
  - MS0002 Engineers & Society (3AUs)
  - 3 Communication Skills (HW0110, HW0210 and HW0310) (6AUs)

• Prescribed Electives (GER-PE)
  Broadening courses in:
  - Art, humanities and social sciences [i.e. GER-PE(AHSS)]
  - Business & management [i.e. GER-PE(BM)]
  - Science, technology & society [i.e. GER-PE(STS)]
  - Liberal Studies [i.e. GER-PE(LS)]
General Education Requirement (GER)

- Unrestricted Electives (GER-UE)
  - Courses chosen to broaden the learning experience
  - Courses offered by Centre for Chinese Language and Culture (CCLC) or other schools
  - Courses from Minors
  - Enrichment Programmes such as GIP and URECA
  - Industrial Attachment (if taking extended IA)
  - Could be taken at any time during the programme

N.B. A course once confirmed as a GER-PE shall not be re-classified as an UE, and vice-versa.
General Education Requirements (GER- PE & UE)

- **S / U Options**
  - An option not to count a GER course to GPA
  - Must be indicated (around Recess - OAS will inform)
  - “S” grade only if “Course Grade > C”
  - Maximum 12 AUs
  - **Once chosen, cannot be changed!**
  - Not applicable to intended minors

http://www.ntu.edu.sg/Services/Academic/undergraduates/Course%20Registration/Pages/satisfactoryUnsatisfactory.aspx
## Courses Registered

### Semester 1

<table>
<thead>
<tr>
<th>Courses</th>
<th>No of hours per week</th>
<th>No of AUs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lec</td>
<td>Tut</td>
</tr>
<tr>
<td>HW0001 English Proficiency#</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>FE1006 Mathematics</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>FE1008 Computing</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>FE1011 Physics</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>MS1013 Materials Chemistry I</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>GER-PE1 (MS8006 - “Economics of Manufacturing”)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>GER-PE2 (MS8001-“Management with Humour”)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# To be taken by students who fail the Qualifying English Test

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**MSE Curriculum Website**

[http://www.mse.ntu.edu.sg/CurrentStudents/Undergraduate/Pages/Curriculum.aspx](http://www.mse.ntu.edu.sg/CurrentStudents/Undergraduate/Pages/Curriculum.aspx)
Course Registration & STARS

- Registration system “STARS” (STudent Automated Registration System)
- Registration information
  
  [Link](http://www.mse.ntu.edu.sg/CurrentStudents/Undergraduate/Pages/ImportantDateTimeforRegistration.aspx)
- Add-Drop period - ALL have access to STARS. You may make amendments to the registered courses.

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mon, 8 Aug 2011</td>
<td>7.00 PM - 10.00 PM</td>
</tr>
<tr>
<td></td>
<td>Tue, 9 Aug 2011 to Sun, 21 Aug 2011</td>
<td>10.00 AM - 10.00 PM</td>
</tr>
</tbody>
</table>
Academic Load

- **Normal load** is recommended
- Failed students must **Overload**, or must take an extra semester or two to complete the degree
- **STARS allows students to overload (up to 3 AUs) automatically**
  - *i.e. Normal Load + 1 Course (3/4 AUs)*
- Second overload requires approval from the School (use **Pink** form available from School’s General Office or download from MSE website)
- Further overloads will not be considered
Curriculum Structure

- Shows courses recommended for each semester during the programme - Normal Load
- Shows the AUs associated with each course
- Shows Prerequisites
- Gives the GER-PE & UE requirements

Available in MSE website

http://www.mse.ntu.edu.sg/CurrentStudents/Undergraduate/Pages/Curriculum.aspx
Prerequisites

- Some courses have prerequisites
- Student must obtain at least D grade in the prerequisite course to register
- Sometimes, prerequisite could be taken concurrently. This is shown with “^” in the Curriculum Structure

<table>
<thead>
<tr>
<th>Course Code and Title</th>
<th>Type</th>
<th>No of Hours Per Week</th>
<th>Pre-requisite / Co-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS1016 Thermodynamics of Materials</td>
<td>Core</td>
<td>Lec: 2, Tut: 1, Lab: 0, Total: 3, AU: 3</td>
<td>MS1015^</td>
</tr>
</tbody>
</table>
IO Option

YEAR 1
Semester 1

YEAR 1
Semester 2

YEAR 2
Semester 1
Semester 2

YEAR 2
Semester 1
Semester 2
Industrial Orientation
(Special Semester)

YEAR 3
Semester 1
Semester 2
Industrial Orientation
(Special Semester)

YEAR 3
Semester 1
Semester 2

YEAR 4
Semester 1
Semester 2

YEAR 4
Semester 1

Bachelor of Engineering (B.Eng) Degree

*Accelerated Bachelor's Programme
IA Option

YEAR 1
Semester 1

YEAR 1
Semester 2

YEAR 2
Semester 1
Semester 2

YEAR 2
Semester 1
Semester 2

YEAR 3
Semester 1
Industrial Attachment

YEAR 3
Industrial Attachment
Semester 2

YEAR 4
Semester 1
Semester 2

YEAR 4
FYP

Bachelor of Engineering (B.Eng) Degree

* Accelerated Bachelor's Programme
# IO Option Vs IA Option

<table>
<thead>
<tr>
<th>Briefing by CAO</th>
<th>Declare option for IO or IA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A level graduates:</td>
<td>beginning of Year 1 Sem 2</td>
</tr>
</tbody>
</table>
Special Programmes

- Accelerated Bachelor’s Programme
- Minor Programmes (15 AUs)
- International Student Exchange Programme - INSTEP
- Global Immersion Programme
Special Programmes

• Accelerated Bachelor’s Programme

• Minor Programmes (15 AUs)
  
  http://www.ntu.edu.sg/Services/Academic/undergraduates/Course%20Registration/Pages/MinorProgrammes.aspx

• International Student Exchange Programme - INSTEP
  
  http://global.ntu.edu.sg/global/instep/Pages/default.aspx

• Global Immersion Programme
  
  http://www.ntu.edu.sg/gip/Pages/default.aspx

• range of minors such as in Business, Entrepreneurship and Psychology

• Can be part of UEs! (cannot S/U!)

• 150 Uni, 30 countries;
• overseas study (one semester)
• transfer AU’s back to NTU

• Studying or working abroad
• China, Denmark, India, France, Switzerland, Vietnam, USA
Year Classification

- Students are classified as Year 1, Year 2 etc according to the number of AUs earned

<table>
<thead>
<tr>
<th>Programmes</th>
<th>Number of Academic Units Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>Materials Engineering</td>
<td>0 - 31</td>
</tr>
</tbody>
</table>
**GPA System**

- F grade obtained in a course and the new grade for the subsequent repeat will be reflected in the transcript.
- *Both grades counted* in the computation of YGPA and CGPA.
- Only courses with "F" grade may be repeated.

<table>
<thead>
<tr>
<th>Letter-Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.0</td>
</tr>
<tr>
<td>A</td>
<td>5.0</td>
</tr>
<tr>
<td>A-</td>
<td>4.5</td>
</tr>
<tr>
<td>B+</td>
<td>4.0</td>
</tr>
<tr>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>B-</td>
<td>3.0</td>
</tr>
<tr>
<td>C+</td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>D+</td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

\[
CGPA = \frac{[\text{GradePoint} \times \text{AU}] + [\text{GradePoint} \times \text{AU for course X}] + \ldots}{\text{Total AU's attempted in all semesters so far}}
\]

\[
YGPA = \frac{[\text{GradePoint} \times \text{AU}] + [\text{GradePoint} \times \text{AU for course X}] + \ldots}{\text{Total AU's attempted in a year}}
\]
Academic Warning & Probation

• Students with poor standing will be subjected to the following performance review:

• **Academic warning**
  – *Semester with CGPA<2.00*

• **Academic Probation**
  – *2nd Consecutive Semester with CGPA<2.00*

• **Academic Termination:**
  – *3rd Consecutive Semester with CGPA<2.00*
<table>
<thead>
<tr>
<th>CGPA</th>
<th>Class of Honours</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.50 - 5.00</td>
<td>First Class*</td>
</tr>
<tr>
<td>4.00 - 4.49</td>
<td>2\textsuperscript{nd} Class Upper</td>
</tr>
<tr>
<td>3.50 - 3.99</td>
<td>2\textsuperscript{nd} Class Lower</td>
</tr>
<tr>
<td>3.50 - 3.49</td>
<td>Third Class</td>
</tr>
<tr>
<td>2.00 - 2.99</td>
<td>Pass</td>
</tr>
</tbody>
</table>

* 4 yr course: min CGPA of 4.5 + at least “A-” Grade for FYP are required for 1\textsuperscript{st} Class Honours
Refer to School website for details

http://www.mse.ntu.edu.sg/
Seeking Help & Clarification

- Academic mentors
- School’s Administrators

Chloe Chan

Kwan Jin Peng

Teo Yan Bing
Seeking Help & Clarification

A/P Chen Zhong
Asst Chair (Undergraduates)

A/P Hng Huey Hoon
Associate Chair (Academic)
# Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class commencement</td>
<td>8 Aug 11</td>
</tr>
<tr>
<td>Add/drop period</td>
<td>8 Aug 11 – 21 Aug 11</td>
</tr>
<tr>
<td><em>Finalize and print out timetable.</em></td>
<td></td>
</tr>
<tr>
<td>Collection of matric card and clickers</td>
<td>5 Aug 11</td>
</tr>
<tr>
<td>Lab Coat – Order from NIE Co-op (@NIECanteen)</td>
<td></td>
</tr>
<tr>
<td>MSE Fusion Day</td>
<td>11 Aug 11</td>
</tr>
<tr>
<td>Classes will be cancelled from 11.30am – 1.30pm (not applicable for FE1xxx courses)</td>
<td></td>
</tr>
<tr>
<td>Union day</td>
<td>25 Aug 10</td>
</tr>
<tr>
<td>Classes will be cancelled from 10.30am to 2.30pm</td>
<td></td>
</tr>
<tr>
<td>Recess week</td>
<td>26 Sep 11 – 30 Sep 11</td>
</tr>
<tr>
<td>Exam</td>
<td>14 Nov 11 – 2 Dec 11</td>
</tr>
</tbody>
</table>
## Important Dates

<table>
<thead>
<tr>
<th>Events</th>
<th>Date</th>
</tr>
</thead>
</table>
| Calculator registration       | 22 Aug 11 – 2 Sep 11  
at Undergraduate Laboratory, N4-B4-W101  
9.00am to 11.30am  
1.30pm to 4.30pm |
| Medical Leave                 | submit <7 days for lab, quiz etc  
http://www.mse.ntu.edu.sg/CurrentStudents/Undergraduate/Pages/FAQ.aspx  
(submit <2 working days for exams)  
http://www.ntu.edu.sg/Services/Academic/undergraduates/Examination/Pages/Instructionstoexamcand.aspx |
| Queries on academic matters Email | mseacad@ntu.edu.sg                                                  |

**CHECK YOUR NTU EMAIL ACCOUNT REGULARLY**
Questions???