



INTEGRATING STUDY ABOARD INTO THE ENGINEERING CURRICULUM

Professor NG Wun Jern
Dean
College of Engineering

Monday, 12 May 2014

An NTU Student

Communication

Leadership, Teamwork,
Mutual Respect &
Communication Skills

Character

Ethical Reasoning,
Integrity & Moral
Character

Civic-mindedness

Professionalism,
Public Service,
Social Engagement &
Global Citizenship

Competence

Self-discipline,
Disciplinary Depth &
Lifelong Learning

Creativity

Entrepreneurship,
Innovation &
Interdisciplinary Synthesis



An NTU Student

An advertisement for NTU featuring two students, Henryk Abucewicz Tan and Shona Woo, standing against a blue background. Henryk is on the left, wearing a green sweater and holding a laptop. Shona is on the right, wearing a dark blue dress and holding a tablet. To their right is a graphic of a spiral staircase with directional signs pointing to various global locations: Stockholm, Shanghai, Paris, Frankfurt, Sydney, Seoul, Turkey, California, Tokyo, and London. The text 'WELL-READ. WELL-TRAVELLED. WELL-ROUNDED. AND WELL-RECEIVED BY EMPLOYERS.' is prominently displayed on the left. At the bottom left is the 'YOUNGEST FASTEST RISING UNIVERSITY' logo with 'TOP 50' in a red box, and the website 'www.ntu.edu.sg/admissions'. A diagonal banner at the bottom right reads 'AMPLIFYING DIVERSITY' in red.

**WELL-READ.
WELL-TRAVELLED.
WELL-ROUNDED.**
AND WELL-RECEIVED BY EMPLOYERS.

Henryk Abucewicz Tan
School of Humanities and
Social Sciences

Shona Woo
School of Physical and
Mathematical Sciences

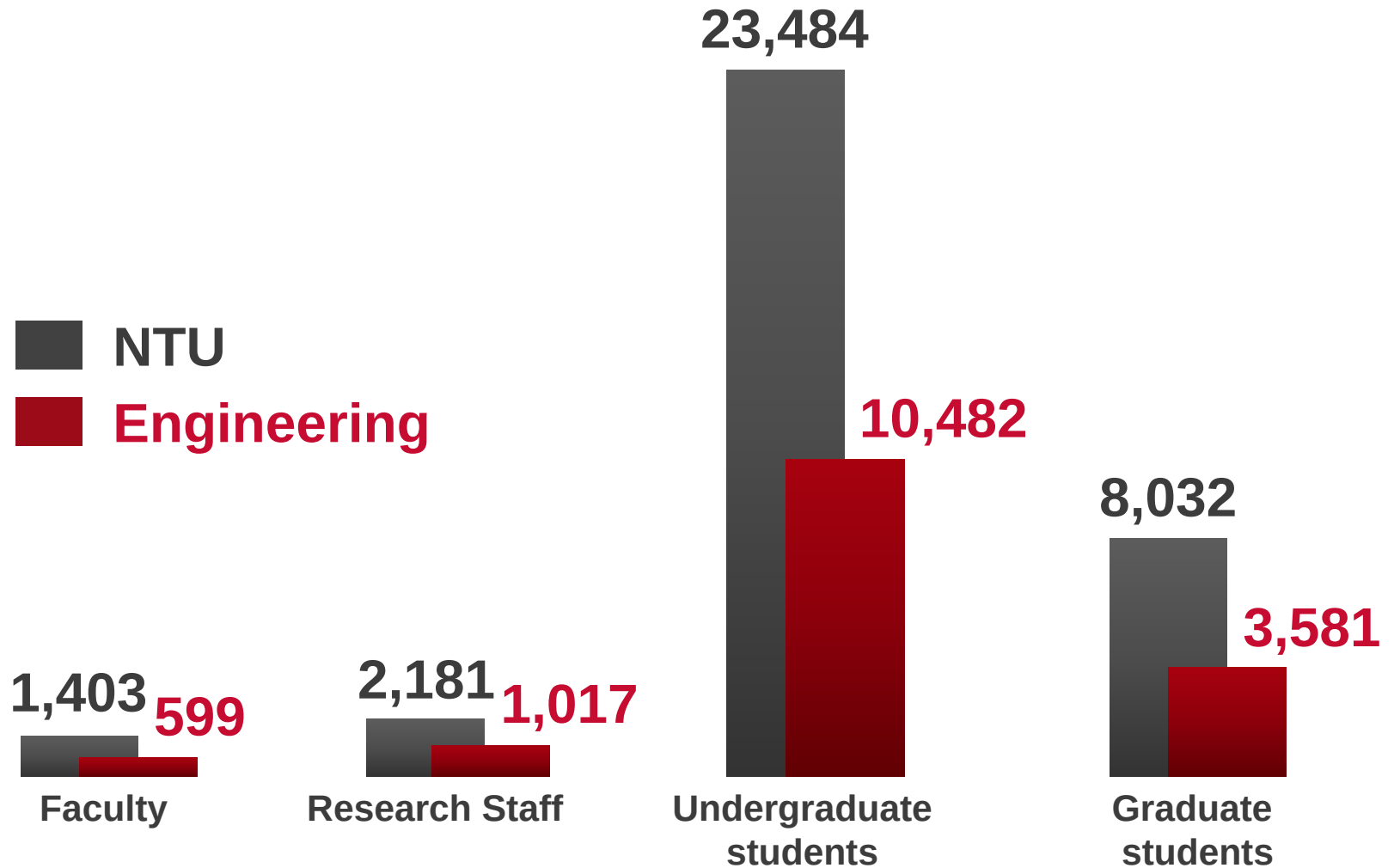
STOCKHOLM SHANGHAI
PARIS FRANKFURT
SYDNEY SEUL
TURKEY
CALIFORNIA TOKYO
LONDON

**YOUNGEST
FASTEST
RISING
UNIVERSITY** **TOP 50**
IN THE WORLD'S

www.ntu.edu.sg/admissions

AMPLIFYING DIVERSITY

Facts & Figures



Degree Programmes

School of
Chemical and
Biomedical
Engineering
(SCBE)

School of
Civil and
Environmental
Engineering
(CEE)

School of
Computer
Engineering
(SCE)

School of
Electrical and
Electronic
Engineering
(EEE)

School of
Materials
Science and
Engineering
(MSE)

School of
Mechanical
and Aerospace
Engineering
(MAE)

Single Degree Programmes

1. Aerospace Engineering
2. Bioengineering
3. Chemical & Biomolecular Engineering
4. Civil Engineering
5. Computer Engineering
6. Computer Science
7. Electrical & Electronic Engineering
8. Environmental Engineering
9. Information Engineering & Media
10. Maritime Studies
11. Materials Engineering
12. Mechanical Engineering



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Engineering
(MSE)

School of
Mechanical
and Aerospace
Engineering
(MAE)

Double Major Programmes

- Chemical & Biomolecular Engineering with a Second Major in Food Science & Technology **NEW**
- Engineering with a Second Major in Business **NEW**
- Maritime Studies with a Second Major in Business

Double Degree Programme

- Engineering and Economics

Integrated Programmes

- Renaissance Engineering Programme
- Computer Engineering/Computer Science and Master of Science (Georgia Institute of Technology)
- Electrical & Electronic Engineering and Master of Science (Georgia Institute of Technology)



THE STRAITS TIMES, WEDNESDAY, 16 MARCH 2011, PAGE B6



NTU will move away from holding classes in large lecture halls, and instead use

'Teach less, more' now

Fewer classes, more overseas exchange trips for new intake

By AMELIA TAN

FEWER classes, more overseas exchange trips and a greater emphasis on broad-based learning.

These are just some of the changes in store for this August's new intake at the Nanyang Technological University (NTU).

Its leaders hope the revamped programmes will help undergraduates develop into rounded personalities with a social conscience, a love for learning and great leadership skills.

The changes were based on recommendations of a high-level committee convened by the university in 2007.

NTU's undergraduate curriculum will be reduced by up to 14 per cent, or by three to four core discipline mod-

ules. This will give students more time for group-based learning and reflection.

Students will also take more elective modules in a range of subjects, and have the chance to pursue new areas such as energy, environmental studies, and sports.

They will have to complete a compulsory course in sustainability - on top of compulsory courses in leadership and communication skills and Singapore.

The changes were announced yesterday by NTU's president, Professor Er Meng Hwa, the newly appointed provost in charge of undergraduate education.

Professor Andersson, who takes over as president in July from Professor Su Guanng, will lead the implementation of the changes.

Prof Er said the changes reflect the direction of Singapore's education system, which has adopted a "teach less,

THE revamping of Nanyang Technological University's undergraduate programme is a great move ("Teach less, learn more" now at NTU"; March 16).

It is necessary for students to develop skills and qualities beyond just academic excellence.

From my recruitment experiences in the corporate world and direct interactions with students at universities where I deliver workshops, I find that most of our students are not interested in asking questions - they do not challenge what they hear, and they do not have their own views and opinions.

Not even 10 per cent of the students in my classes read books or magazines. How do we expect our students to come up with ideas and creative solutions if

there are no broad-based stimulants and external inputs?

Until we get this right, it will be difficult to expect leadership qualities in our students. We will continue to produce just efficient implementers and doers.

Singapore's emphasis on academic excellence was necessary in the days of nation building and we have done very well. What we need now are thinkers who can handle ambiguity, risk-takers, and people who can translate theories into applications.

We need people with the courage to venture into the unknown, challenge the status quo, push boundaries and make changes. These qualities do not appear overnight, and tackling these at university is too late.

NTU is taking a step in the right direction. It is quite encouraging to see that students like myself will be able to spend more time on each module and gain more in-depth knowledge."

ameltan@sph.com.sg

THE STRAITS TIMES, MONDAY, 28 MARCH 2011, PAGE A22

Packed syllabuses won't make thinkers

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tion, but what we really need is to get away early from the notion that the more we study - both in terms of depth and volume - the better we will be.

For example, the level of maths our children learn in primary school, the number of A-level subjects taken at junior college, and the syllabus of a university course.

We need to cut the syllabuses right across our primary, secondary and tertiary education levels. Why do we need to study so much?

Apart from specialist disciplines, how much of what is taught in university is actually needed in our jobs?

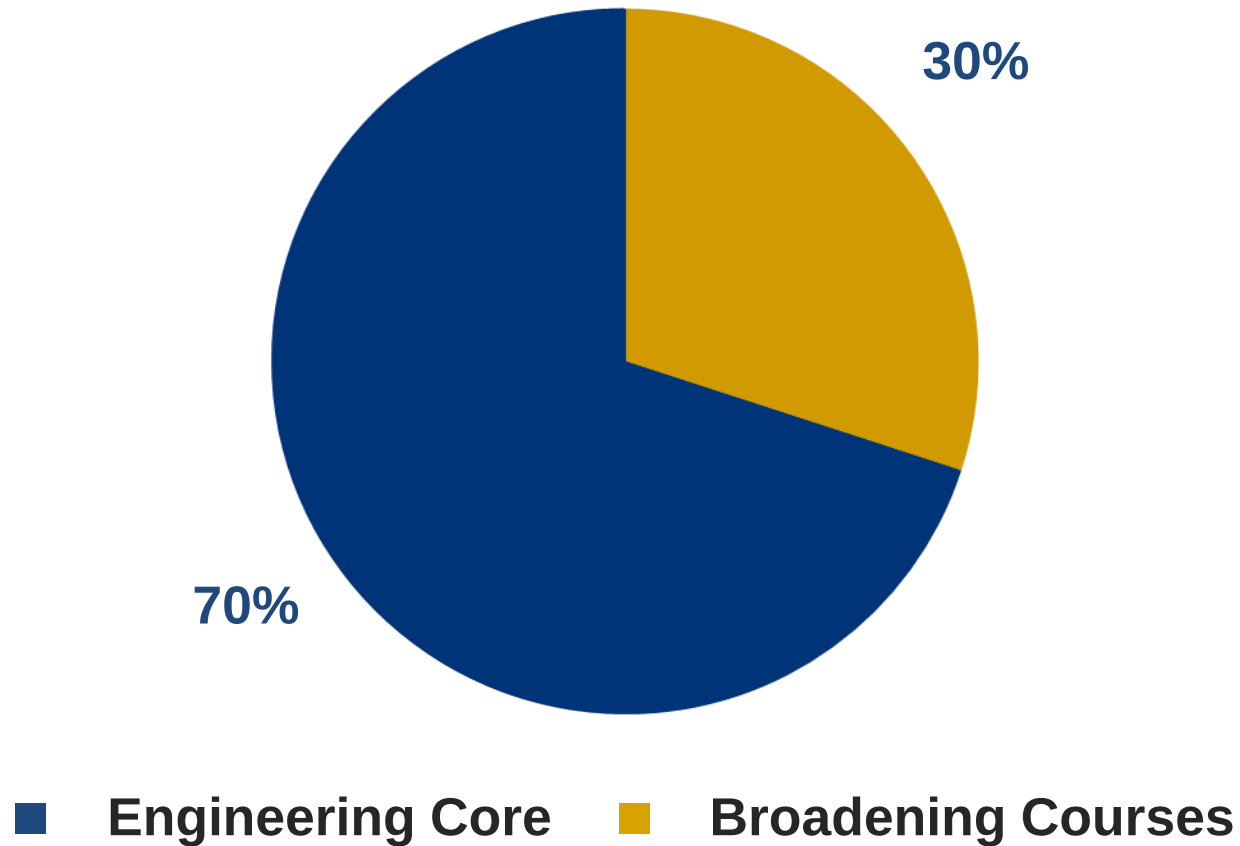
Let our children enjoy their childhood and give them an education that is balanced and truly all-rounded.

Sylvia Lee (Mrs)



**NANYANG
TECHNOLOGICAL
UNIVERSITY**

NTU Education Engineering Curriculum Broadening



NTU Education Engineering Curriculum Broadening

1. Student-Centric Programme

- balanced depth and breadth of knowledge
- peer-based interactive learning in small groups
- use of new technologies in line with new pedagogies

2. Revamped General Education Requirements

- multidisciplinary and interdisciplinary courses in business management, arts, humanities and social sciences
- free electives and opportunity to minor

3. Broaden and Deepen the Educational Experience

- reduced curriculum load for self-directed, interdisciplinary and residential learning
- more holistic and dynamic education
- **flexibility and more leeway for overseas exchange!**

NTU Global Programmes



- ✓ Course Matching
- ✓ Credit Transfer
- ✓ Graduation Requirements



Short-term programmes between 2 to 20 weeks that place students overseas for work and/or study.

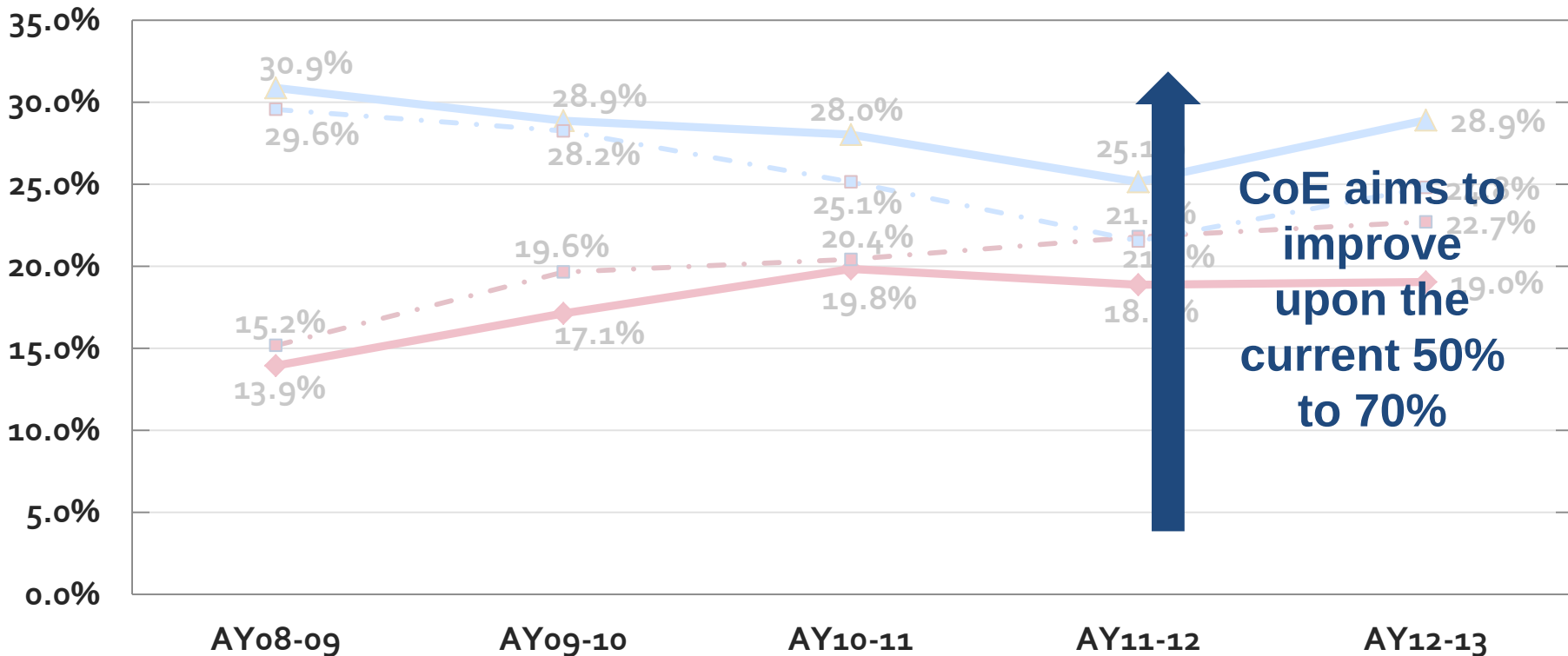


A full semester of study/research in an overseas partner university while exploring a new country or culture.

Overseas Attachment Programmes

Unique learning experience of gaining real-life overseas working experience.

Student Mobility AY08/09 - AY12/13



- ◆ % of CoE students in CoE graduating cohort who has been on at least 1 overseas attachment
- % of NTU students in NTU graduating cohort who has been on at least 1 overseas attachment
- ▲ % of CoE students in CoE graduating cohort who has been on at least 1 overseas exposure
- % of NTU students in NTU graduating cohort who has been on at least 1 overseas exposure

Overseas Attachment: Semester-long programmes (e.g. study exchange, work/research attachments etc)

Overseas Exposure: Short-term programmes (e.g. summer studies, 2-week study trips etc)

Going Forward

Internships with Overseas MNCs



Rolls-Royce



ST Aerospace
A company of ST Engineering



DLR German
Aerospace Center

Thank You

One of the world's largest
engineering colleges

