School of Engineering’s new collaboration with the Singapore Institute of Technology
Prof John H. Marsh
Head of School
The first time University of Glasgow has delivered entire degree programmes overseas

Involves setting up a permanent entity overseas
- University of Glasgow company: UGlasgow Singapore Pte Ltd (UGS)
- Requires Board of Directors, Company Secretary, financial system, auditors, legal advice etc
- Involves creating a physical office
- Involves recruiting seconded staff and local staff

Involves recruiting students (although SIT leads this)
- Special documentation, brochures, web sites

The University has had to learn how to do this
Mission

- To provide an industry-focused university education in partnership with local polytechnics and reputable overseas universities to produce highly desired graduates for growth sectors of the economy.

Model

- SIT represents the centre of a unique tripartite collaborative model, responsible for planning, managing and implementing degree programmes offered by reputable overseas universities in partnership with the five local polytechnics. In addition to providing more government-subsidised university places, the SIT model also offers students significantly greater choices in learning at tertiary levels.
UoG Diploma/Degree programme with SIT

3 yrs
- Polytechnic Diploma
- GPA ≥ 3.0

2 yrs
- Military service (if male)

2 yrs
- UoG programme delivered with SIT
- Located on a Polytechnic campus

Graduate with BEng (honours)
Since September 2010 Engineering has had its own presence and staff on the Ngee Ann Polytechnic Campus in Singapore.

UGS is delivering years 3 and 4 of the BEng programmes in:

- **Mechanical Design Engineering**
- **Mechatronics**

Programmes are delivered in collaboration with the Singapore Institute of Technology and Ngee Ann Polytechnic.

Entry target: 80/programme in steady state
From September 2012, Engineering will have a further presence and staff on the Singapore Polytechnic Campus

UGS will be delivering years 3 and 4 of the BEng programmes in
- Aeronautical Engineering
- Aerospace Systems Engineering

Programmes will be delivered in collaboration with the Singapore Institute of Technology and Singapore Polytechnic

Entry target: 60 and 40 students/programme respectively in steady state
The curriculum should follow that of the equivalent degree at Glasgow

The student experience should be as close as possible to that of a student on the Glasgow campus

There are inevitably some changes:

Bridging courses
  – For Mechanical Design Engineering and Mechatronics
    • An extra 10 credits of mathematics in Y3
  – For Aeronautical Engineering and Aerospace Systems Engineering
    • An extra 20 credits of mathematics in Y3 (10 credits pre-sessional) and a non-credit bearing pre-sessional course in dynamics (of about 10 credits equivalent)

There is a 4-week visit to UoG in the long vacation

For consistency, transfer credits allocated at entry are adjusted to give 480 credits on graduation
Cultural immersion
- The Team Design Project in Y3 is being held at the UoG campus over the long vacation
  - The ‘Overseas Immersion Programme’
  - 4 week duration
  - Includes team projects, visits to industry and a cultural programme
  - Travel and accommodation paid directly by students

Individual projects
- The Y4 individual projects will be organised differently
  - More industrially driven in Singapore
  - 20% of supervision from UoG staff

Both of these have a direct loading on UoG staff
Cultural Aspects

- **Singapore has a vibrant mix of Chinese, Malay and Indian culture, plus a UK legacy**
  - ‘The Singapore Public Service: Integrity, Service, Excellence’ – similar ethos to Glasgow

- **As with all collaborations, building personal relationships is crucial to success**
  - Frequent meetings with key individuals
  - Face to face, video-conference, teleconference, e-mail, rapid replies

- **Singapore has a unique system of polytechnic education**
  - The strong polytechnic system makes 3+2 degrees of this type viable

- **Awareness of cultural differences is vital in ‘soft’ aspects such as building relationships but also in ‘hard’ aspects:**
  - All males have to participate in military service
  - Affects both students and local staff
● Students have a polytechnic diploma
  – Different approach to teaching
  – More practical – good in principle for engineering – but learning process much more directed than UoG research-led approach
  – Gaps in knowledge – less emphasis on mathematics and analytical approach to Engineering
  – Induction process and bridging courses important

● Many students have spent 2 years undertaking Military Service
  – Pace of teaching needs to take account of this, especially in Y3 first semester

● Student discipline
  – Non-academic issues are dealt with locally and under Singapore law
  – Academic issues follow the UoG procedure and therefore access to the SRC is important
  – Some issues have occurred in the first year of operation
• **Conditions of employment / benefits have to be adapted to Singapore**

• **Local employees**
  – Appropriate insurance and pensions arrangements for UGS staff
    • Salary range for UGS academic staff based on the market in Singapore
    • No automatic increments (other than annual inflation adjustment)
    • Advancement based on performance and reviewed annually
    • Maximum of 40 days including public holidays
    • Normal retirement age is 62

• **Expatriates**
  – Salary allowances, school fees, accommodation, relocation expenses, flights home, health insurance for ‘expatriate’ staff
  – Tax and other personal advice

• **Academic staff are given titles in line with local practice**
  – Assistant Professor; Associate Professor; Full Professor
There are minor differences in administration

Separate course codes and Moodle sites are required
- We did not do this to start with and this caused problems
  - Different speeds of delivering lectures
  - Some course held in different semesters
  - Confusion with lab registration in MyCampus (mainly UoG students registering for lab sessions in Singapore)

Student feedback on lecturers is collected via Moodle
- Good response rate (in contrast to Glasgow)

Watch out for apparently trivial issues!
- The UoG answer books used in examinations have a patent pending connected with anonymous marking
  - Cannot be printed locally in Singapore
  - Expensive to transport to Singapore
  - Current solution: direct order with printer in UK but still expensive
Leadership

- **Four key appointments**
  - Project manager (Glasgow) – critical appointment
  - Programme Coordinator (Glasgow) – critical appointment
  - Programme Director (Singapore) – experience of Glasgow education vital
  - Senior Administrator (Singapore) – experience of UK HE system important

- **Succession planning**
  - Expatriate appointment will be for limited time (2 years in the case of these programmes)

- **Regular visits from UoG staff**

- **Regular telecons, video conferences etc**
Benefits

- **SIT works with a range of UK, European and US Universities**
  - We are exposed indirectly to best practices in other institutions
  - We have improved processes as a result
- **Working with a second site to deliver the same programmes presents opportunities**
  - Improved lecture materials, laboratories and tutorials
- **We get new ideas from the Singapore teaching staff**
  - Improved courses on both campuses
- **The joint programme is an impetus to update, refresh and modernise our courses**
- **There are extensive opportunities for research in the future**
  - SIT funded Technology Innovation Centre
  - External PhD students
  - Opportunities to work with A*STAR, NUS, NTU and industry
Conclusions

Trans-National Education presents exciting opportunities

UoG has extremely high quality programmes to offer

Thos involved need to learn and adapt quickly!

Tremendous benefits if done correctly