Geo\textit{metrics} continuing professional development; a UK perspective

Alison Bird, Stuart Edwards and Henny Mills
School of Civil Engineering & Geosciences
Newcastle University

The School of Civil Engineering and Geosciences
- Over 160 staff
- Annual turnover of £12.5 Mill.:
  - 25\% undergraduate teaching
  - 20\% postgraduate teaching and CPD
  - 50\% research including postgraduate research
  - 5\% industrial support
- Around 400 delegates attended CEG CPD courses in 2007/08
- Some courses developed with Partners, e.g. Leica

Why should Universities offer CPD courses?

+ Benefits:
  - Esteem: increase reputation within professional bodies
  - Networking
  - Strengthen connections to industry
  - Transfer research outputs to industry
  - Additional income to Schools and Universities
  - Promotion of Master and Undergraduate courses
  - Strengthen Alumni
  - Positive promotion criteria for staff at UK Universities (third strand)

Inhibitors and barriers to CPD activities at UK Universities I

- Staffing resources and motivation:
  - No time commitment of academic staff
  - Academic staff intensive to develop materials
  - Research and teaching seen as more important for career progression
- Financial:
  - Risk of financial loss
  - Expensive academic staff costs at full economic costing
  - Attracting sufficient delegates
- Promotion and Demand
  - High advertising costs
  - Lack of awareness of competition
  - Difficult to identify demand
- Master modules as CPD
  - Not necessarily appropriate for CPD courses
  - Inflexibility of scheduling
Inhibitors and barriers to CPD activities at UK Universities II

- Logistics
  - Suitable facilities
  - Car parking
  - Timetabling
  - Computing support

- Match expectations of clients
  - Academics not always aware of industry

- Clients
  - Five day courses too long for industry
    - Internal training preferred
    - Geographical location of Newcastle

- Financial
  - Difficult to set competitive fees
  - Financial viability depends on number of delegates

Support of CPD activities at Universities

- Leeds University offers funds for staff to develop CPD

- Bespoke accommodation and facilities at Loughborough and Cranfield University

- IESSG (University of Nottingham) received £6Mill. of local development agency to develop CPD and industrial links

Institute of Engineering Surveying and Space, IESSG, (Nottingham University)

- Central location
- Courses in all areas of Geomatics
- Often combined with Master courses
- Building of Grace: dedicated CPD Building

- http://www.grace.ac.uk/about/webcam.php
  - Business Support and Development Services
  - To be launched in Sept. 2009
  - £9.2 Mill costs
    - £3.5 Mill of local development agency
    - £4.2 Mill. Nottingham University
    - £1.5 Mill support of industry
    - Spend: £4.5 Mill on Building and £1 Mill on Equipment
  - 5 dedicated staff members
  - Intense advertisement for a long list of CPD courses

CPD Course at CEG: staffing and costs

- Professional Development Unit
  - promote and facilitate delivery of CPD courses
  - Development of CPD (fees, promotion, funding opportunities)
  - Delivery of CPD (course materials, logistics, administration)
  - Promotion of CPD (website, promotional material etc.)

- Consist of 3.2 staff full time members
- Costs:
  - With increased team will be approx £100k pa
  - Team Leader (0.6FTE)
  - Materials/ Publications Development Officer (0.6fte)
  - Business Development Officer
  - Secretary

- Academic staff deliver CPD courses
CPD at CEG: Promotion

CPD at CEG: structure II

- Exclusive CPD courses
  - Tailored towards clients' needs
  - Flexibility in scheduling and duration
  - Attracts higher number of delegates
  - Higher financial risk to cover all costs
  - Additional time commitments of academic staff

- All CEG Geomatics courses

CPD Course at CEG: structure II

- Combined with Master block courses
  - Five consecutive days, open to external people to attend
  - Low financial risk
  - Little additional academic staff time required
  - Promotes Mastercourses
  - CPD delegates bring additional experience into potential discussions
  - Difficult to attract CPD delegates to Master courses
  - Less flexibility in duration and scheduling
  - Longer 'run in' time
  - Content not always appropriate for CPD delegates

- Geomatics CPD at Nottingham

Progression of number of CPD delegates

<table>
<thead>
<tr>
<th></th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPD courses</td>
<td>150</td>
<td>146</td>
<td>333</td>
</tr>
<tr>
<td>Masters modules</td>
<td>73</td>
<td>55</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>223</td>
<td>201</td>
<td>385</td>
</tr>
</tbody>
</table>
Geomatics CPD course:
Introduction to GIS, Intermediate GIS, GIS with Spatial Analysis

- Developed initially to request of local council
- Content: Most common task used within a GIS
  - Utilisation of more advanced GIS features
  - GIS systems for quantitative analysis of geospatial data
- Duration: 2+2+1
- Frequency: three times per year
- Costs: £495 and £245
- Delegates: 88 attended in 2007/2008
- Promotion: website
  + good attendance
  + attendance of a wide range of industry
  - Requires staff to free time in research and teaching

Geomatics CPD course:
Unlocking precise GPS Network RTK and post-processed positioning

- Developed with Leica Geosystems UK as a partner since 2002
- Content: theory and practise of Leica GPS instruments
- Duration: three days
- Frequency: by demand, about twice a year
- Costs: £700
- Delegates: 40 delegated in 2007/2008
- Promotion: through Leica
  + effective marketing
  + Credit crunch led to decrease in numbers in 2008/2009
  - Difficult to schedule
  - Demand on staff during teaching period
### CPD courses at CEG: Delegates

**Distribution of delegates by employer category and course (09/06 – 01/08)**

![Bar chart showing distribution of delegates by employer category and course.](chart)

- Consultancy
- Local Authority
- Government Agency
- Industry
- University
- Other / unknown
- Self-funded

### CPD courses at CEG: Delegates

**Distribution of delegate numbers by region and course (09/06 – 01/08)**

![Bar chart showing distribution of delegate numbers by region and course.](chart)

- NE
- NW
- Midlands
- SE
- SW
- Scotland
- Wales
- EU
- Other / Unknown

### CPD course at CEG: Fees

- **Course Type**: Small groups
  - **Fee**: £475 - £500
- **Course Type**: CPD delegates only
  - **Fee**: £700
- **Course Type**: Dedicated course material
  - **Fee**: £1,150

#### Fee Level 1:
- Run with Master students
- Special course materials
- Small groups
- Assessment available

- **Course Type**: Masters module Fee level 1
  - 5 days attendance: £1,150
  - 4 days attendance: £920
  - 3 days attendance: £690
  - 2 days attendance: £460
  - 1 day attendance: £230

- **Course Type**: Masters module Fee level 2
  - Masters module: £775

### CPD at UK Universities

**Course fee comparison – Academic institutions**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Duration (Days)</th>
<th>Typical Fee (£)</th>
<th>CEGS Fee (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aston University</td>
<td>1</td>
<td>£229</td>
<td>£235</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>£425</td>
<td>£475</td>
</tr>
<tr>
<td>Cranfield University</td>
<td>5</td>
<td>£1,295</td>
<td>£1,100</td>
</tr>
<tr>
<td>Edinburgh University</td>
<td>3</td>
<td>Range, e.g. £400 £675</td>
<td>£675</td>
</tr>
<tr>
<td>Leeds University</td>
<td>3</td>
<td>£499</td>
<td>£675</td>
</tr>
<tr>
<td>Manchester University</td>
<td>5</td>
<td>£1,685</td>
<td>£1,100</td>
</tr>
<tr>
<td>Nottingham Trent University</td>
<td>4</td>
<td>£600</td>
<td>£880</td>
</tr>
<tr>
<td>Nottingham University</td>
<td>5</td>
<td>£800</td>
<td>£1,100</td>
</tr>
</tbody>
</table>
CPD at commercial training organisations

- Often for in-house specific software and instrument development
  - Leica will offer free four Laser scanning training courses with every ScanStation2

Is it worth running CPD courses at Universities?

ISPRS workshop
'E-learning tools, techniques and applications'
17-19 June 2009, Potsdam
Abstract deadline: 1st March 2009