



INSTITUTE OF  
HIGHWAY  
ENGINEERS



THE CHARTERED  
INSTITUTION OF HIGHWAYS  
& TRANSPORTATION



## JOINT BOARD OF MODERATORS

### 2010 ANNUAL REPORT

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## 1. Chairman's Introduction

I am very pleased to present the Annual Report to you as Chairman of the Joint Board of Moderators (JBM) outlining the activities that the JBM has been involved with during 2010.

The Board has been impressed by the good practice it has seen in many of the departments visited. The Board strongly believes that it is important that it should facilitate the sharing of good practice through this Annual Report and by specific examples provided on the JBM website.

In 2010 we held three very successful pre-visit briefings for Universities based on our new submission requirements and these will be continued in 2011 and updated as we receive feedback from some of you on the use of the new submission documents.

In July 2009 I wrote to you to outline the new JBM policy had been endorsed by the four JBM member Institutions that by 2015, '50% of all academic staff designated as delivering the accredited degree programmes must be professionally qualified with one of the four JBM member Institutions'. From 2012 onwards, if this figure is less than 50%, universities will be asked to demonstrate how they are planning to meet the 2015 deadline. Thank you to those of you who have contacted me since this letter was published to seek further guidance and clarification on this matter. The JBM has established a Working Group to consider these replies and produce guidance material for universities and it is hoped that this report will be available in July 2011.

Following feedback from industry and its four member Institutions it was agreed that the Board should issue some common wording for university websites and course prospectuses and this was circulated to the JBM Board members for approval. The revised wording was approved by the four Institutions and I sent a letter outlining our guidance to Universities on the 15<sup>th</sup> September. Team members will be checking this wording during visits from October 2010 onwards.

I would like to thank the JBM secretariat for their excellent support over the past year and also the secretariat staff from the member institutions who had supported the accreditation process in their role as visit secretaries.

The Institutions continue to be indebted to those members from academia and industry that contribute to the work of the JBM and its associated Sub-Committees.

I sincerely hope you will continue to give the same level of support to my successor as Chairman of the JBM, Dr John Roberts from Jacobs, that you have given to me during my tenure.

Professor G A R Parke

## 2. Executive Summary

The Board and its Working Groups and Sub-Committees discussed a number of major policy issues during 2010.

Professor Gerry Parke is Chairman of the JBM, Faith Wainwright is the Deputy Chairman, Professor Clarke is Chairman of the Further Learning Sub-Committee, and Professor Nigel Smith is the Chairman of the International Sub-Committee and Mr Hewitt of the Higher Level and Technician Qualifications Sub-Committee.

The Board developed and delivered a Business Plan for 2010 and this can be reviewed on the JBM website.

To support the Further Learning process the JBM is now organising training sessions for Supervising Engineers, Assessors and Verifiers for those companies operating approved Employer Managed Further Learning programmes and two sessions were held in 2010, one for staff from BAM Nutall and Kier and the second for staff from Atkins Global, the Jackson Group and Jacobs.

Additional guidance material to support the Further Learning process was developed in 2010 and this is available on the JBM website. [www.jbm.org.uk](http://www.jbm.org.uk).

The monitoring and audit visits continue to be made to organisations offering approved Employer Managed Further Learning programmes.

Professor John Parkin joined the Board in July 2010 as one of the CIHT's nominees.

During 2010 the Board received a number of presentations from John Carpenter regarding the consequences of the Rita Donaghy's Report 'One Death is too Many'; Professor Goodhew on the topic of CDIO – Conception, Design, Implementation and Operation, a new mode of learning; Dr Mike Cook on the IStructE's Annual Academic Conference and Mr Michael Dickson on the RAEng Report – Engineers for Low Carbon.

## 3. Role of the Joint Board of Moderators

The Joint Board of Moderators (JBM) is a body that was arguably thirty years ahead of its time. Founded in 1977 by the ICE, IStructE and the Municipal Engineers, the JBM is the interface between universities, professional institutions and industry – it pre-dates the government's current employer-engagement agenda and carries out vital work to ensure Civil Engineering standards are maintained and up-to-date.

It does this, among other things, by carrying out visits to some 56 UK universities to accredit the educational base for membership of the institutions, and the award by licence from ECUK of CEng and IEng status. The JBM also has 3 sub-committees which look at Further Learning, Higher Level and Technical Qualifications and International matters. Further Learning builds on the educational base of a Bachelors degree and leads to achieving IEng or CEng through the membership routes of each of the JBM institutions. In most cases, a Masters degree completes the educational base.

As well as the usual programme of visits, in 2010, there were also three accreditation visits to new universities starting Civil Engineering programmes – Derby, Teesside and Brunel – and approval granted to Employer Managed Further Learning programmes with 10 schemes now up and running. JBM representatives also took part in ECUK working groups on Further Learning, the new 14-19 Diplomas for schools and colleges and Foundation Degrees.

Four institutions currently make up the membership of the JBM – ICE, IStructE, IHE and CIHT – and the Board has a balanced membership of academic and industrial members, from the public and private sectors, with the chairmanship alternating between the industrial and academic members. The current Chair for example is Professor Gerry Parke from the University of Surrey, with Ms Faith Wainwright from Arup as Deputy Chair.

This balance of membership is what gives the JBM credibility – with a panel of academic and industrial members to draw on for accreditation visits - links between employers and universities are strengthened so that degrees meet employer expectations and, at the same time, industry is kept up to date with and can contribute to the Civil Engineering curriculum and its delivery. Typically visits to universities take place on a 5 year cycle, with review visits in-between, where appropriate, to follow up issues and review progress on new courses. The review follows JBM guidelines which comply with the 'UK-SPEC'. These guidelines lay down the three core subjects of Materials, Structures, Geotechnics, together with Fluid mechanics and Surveying, suggest optional subjects, and identify 'threads' which run through course design namely, Sustainability, Design and Health and Safety.

A review team consists of two academics, two from industry, a secretary from one of the institutions, and, often, an observer who may be a JBM Board member who is new to the process. The review itself is intensive, with the team meeting the departments', support staff, senior university staff, members of industrial boards and not least, the students and recent graduates. There is a thorough review of the output standards of the work produced by students, tours of facilities, workshops and laboratories, feedback to the department and finally the report.

The benefits of a visit go far beyond accreditation, however, with good practice identified within the visit reports and highlighted on the JBM's web-site – [www.jbm.org.uk](http://www.jbm.org.uk) - and through its annual report. Arising from this, opportunities for development are identified. In January 2010, for example an event for Chairs of Industrial Advisory Panels was held with 57 delegates coming from universities and industry with presentations on the role of the JBM, acting as an industrial member of a JBM visiting team, the role of an Industrial Advisory Panel and opportunities for industry to engage with universities. For 2010, further learning for future Chartered engineers is very much on the agenda, with universities and companies enabling students to gain recognition for work placements which counts towards Initial Professional Development.

Essentially the JBM exists to strengthen Civil Engineering as a subject within universities, supporting departments, promoting professional membership, and encouraging participation with industry. As such the JBM is recognised as a pre-eminent brand for accreditation of university departments.

To reflect the range of the Board activities several specialist Sub-Committees have been established as follows: -

The International Sub-Committee of the JBM was established to assist the Board in its international activities and continues to develop international agreements with similar accreditation bodies operating in the built environment where the degree programmes would meet the educational benchmark requirements for membership.

The remit of the Further Learning Sub-Committee is to produce a series of documents defining further learning and provide supporting information and guidance, clearly setting out procedural and explanatory notes. The Sub-Committee also considers applications from Universities and Organisations for the approval of Masters degrees and Employer Managed schemes as meeting the Further Learning requirements for Chartered and Incorporated Engineers as appropriate.

The Higher Level and Technicians Sub-Committee are responsible to the Board for any activities that relate to the assessment of Foundation Degrees/HNC/HND/NC/ND or equivalent programmes of study.

The Panel of Moderators has been established to assist the Board in its accreditation activities. This Panel consists of those members who can be called upon to form part of the accreditation visit teams. Members will be selected on the basis of their background and experience relevant to the programmes to be accredited. They will normally have been actively involved in accreditation activities through JBM within the previous 5 years. Normally, all visit team leaders, and one other member will be drawn from the Board and the remainder may be drawn from this Moderators' Panel.

The Board publishes a list of all accredited programmes on a regular basis; please refer to the JBM Website for more information on [www.jbm.org.uk](http://www.jbm.org.uk).

## 4. JBM Activity In 2010

### 1 Visits undertaken

Quinquennial Visits		Review Visits		EAB Visits	
	(Dates)		(Dates)		(Dates)
Strathclyde	14 - 15 January	Newport*	21 <sup>st</sup> January	Aberdeen	23 – 24 February
London South Bank	21 – 22 January	Salford	11 <sup>th</sup> March		
University of the West of England, Bristol	28 – 29 January	Derby*	22 <sup>nd</sup> April		
Manchester	11 – 12 February	Brunel	28 <sup>th</sup> October		
Glasgow	18 – 19 February				
Stow College	4 – 5 March				
City	11 – 12 March				
Bradford	25 - 26 March				
Greenwich	29 – 30 April				
Thames Valley University	20 – 21 May				
Leeds Metropolitan University	14 – 15 October				
Imperial College	21 – 22 October				
University of East London	11 – 12 November				
Bath	25 – 26 November				

\* Visit covered IEng programmes only

### 2 Summary of course accreditations

Date of JBM Board Meeting in 2010	No of UK Visit Reports considered CEng	No of Visit Reports Considered (O.seas) CEng	No of Paper Submissions for new programmes and reports on responses to JBM recommendations.	CEng Approved	CEng Rejected	No of UK Visit Reports considered IEng	IEng Approved	IEng Rejected
05.02*	4	-	1	13	-	1	9	-
7.05	7	-	-	47	-	2	7	1
16.07	4	-	1	9	-	4	11	-
8.10	-	-	9	2	-	-	-	-
Total	15	-	11	71	-	7	27	1

\*This JBM meeting considered a number of visit reports for visits undertaken in October/November 2009.

### 3 Summary of academic programmes Accredited as meeting Further Learning requirements

Date of JBM Board Meeting In 2010	Further Learning for CEng	Further Learning for CEng Rejected	Further Learning for IEng	Further Learning for IEng Rejected
05.02*	11	-	-	-
7.05	24	-	-	-
16.07	4	-	1	-
8.10	2	-	-	-
Total	41	-	1	-

\*This JBM meeting considered a number of visit reports for visits undertaken in October/November 2008.

### 4 Summary of Employer Managed programmes approved as meeting Further Learning requirements

Date of JBM Board Meeting In 2010	Further Learning for CEng	Further Learning for CEng Rejected	Further Learning for IEng	Further Learning for IEng Rejected
05.02*	2	-	-	-
7.05	-	-	-	-
16.07	1	-	-	-
8.10	1	-	-	-
Total	4	-	-	-

\*This JBM meeting considered a number of visit reports for visits undertaken in October/November 2008.

### 5. Summary of Policy Decisions and Main Discussions by the Board

A number of major policy issues were discussed by the Board and by Sub-Committees on behalf of the Board during 2010.

- *Pre-visit briefing for Universities*  
Three pre-visit briefings were held in 2010 for universities being visited in the period autumn 2010/summer 2010. These briefing sessions allowed university staff to meet with a member of the JBM visiting team.
- *Revised JBM Submission Documentation*  
For visits from October 2009 onwards the JBM has been asking Universities to make a submission in line with its new requirements. It is hoped that Universities have found the new documentation easier to produce.

In autumn 2010 the JBM sent a questionnaire to universities and JBM visiting team members to ask for feedback on the both the ease of production of the new documents and their usefulness in the accreditation process.

It should be noted that these are live documents and will be continually updated from experience.

- *Calculation of Staff:Student Ratio*  
It was agreed that there should be a standard method used by universities to ascertain the Staff:Student ratio as “Total Student FTEs (UG, PGT & PGR) divided by Total Academic Teaching Staff on Core Funds (‘Teaching & Research’ and ‘Teaching- only’)”
- *Meeting Graduates on an accreditation visit.*  
The Board agreed that when a Team is visiting the University to assess their first cohort output it is mandatory that during the visit the Team meet some of the graduates from the programme that it is being submitted for accreditation.
- *ICE Embedded Technician Development Scheme Workshop*  
At its meeting held on the 8<sup>th</sup> October the Board noted a report on this initiative to develop Technician Membership of the ICE through embedding the qualification into HNC/HND or Foundation Degree programmes at universities and FE colleges (the so-called Derby initiative).

The scheme was piloted at the University of Derby with Ray Hulse, an MDO in the East Midlands. This scheme has been rolled out and now operates in the University of Derby, Coventry University and Leeds Metropolitan University. A workshop was held at Coventry University on Wednesday 8 September 2010 to capture and share best practice from the current universities.

The scheme is part of the plan to develop 5,000 professionally qualified Engineering Technicians (Eng Tech TMICE) by 2015. To achieve this target ICE will promote the benefits of Technician membership alongside the training schemes for Incorporated and Chartered Engineers.

- *Heads of Department*  
The need for Heads of Civil Engineering to be present during JBM accreditation visits has been included in visit guidance to universities.
- *Accreditation of degrees at 3<sup>rd</sup> Class Honours*  
At its meeting on the 16<sup>th</sup> July the Board revisited its policy to accredit CEng level bachelor degrees at 3<sup>rd</sup> Class Honours in view of the “massive surge in numbers of firsts, 2:1s and 2:2s which we have seen over the past 10 to 20 years.” It was agreed that this is an issue for the universities and that as the JBM accredits against Learning Outcomes they do not need to be worried about the level achieved by the individual graduates. It was noted that the IET will only accredit BEng (Hons) degrees at a level of 2:2 or better, this reflects the fact that this is the normal entry requirement for students wishing to enter an MSc programme.

The Board agreed to continue its currently policy to accredit CEng level bachelor honours degrees at a classification level of third class and above.

- *Notification to the JBM of Staff Changes*  
Please note that Departments are required to keep the JBM advised of any major changes since the last visit and this includes not only changes to the curriculum, resources and also staff changes.
- *JBM degree Guidelines and Supporting specialist Annexes in Design, Health and Safety Risk Management and Sustainability*  
The JBM has revised and reissued these guidance documents and they are available to download from the JBM website.

Details of the main activities of the associated Sub-Committees are reported in the following sections.

### 5.1 International Sub-Committee (ISC)

One meeting of the International Sub-Committee was held in March 2010.

- *Russia*  
A teleconference was held with Professor Gagin, who is Secretary of the Russian International Accreditation Board (RIAB) to discuss a number of issues that needed to be resolved before the ISC could recommend to the four JBM member Institutions that this accreditation agreement should be extended. The RIAB were not previously working towards membership of the Washington Accord, however the Russian Association for Engineering Education (RAEE) has provision membership of the Washington Accord to accredit all types of engineering programmes.
- *ABET*  
In March 2010, Professor Smith met with representatives from ABET and the Engineering Council and it was found that there are more similarities between this body and the JBM than at first thought. The outcome was that at present, ABET would be more comfortable working with the EAB as they accredit broader programmes and this proposal is being considered by the Engineering Council.
- *Changes to JBM Policy Document*  
The JBM policy document on visiting international campuses and universities has been updated to clarify when this should happen, as there has been a large increase in franchises and international campuses of UK universities. The establishment requesting accreditation and also the UK-based institution must now each complete a questionnaire in order to clarify how much they have in common, such as, assessment procedures, coursework, staffing, laboratory equipment. This second questionnaire for the UK-based institution will be trialled prior to the visit to Nottingham's Malaysia campus in November and sent to the Board for final approval. Where there is not a close match between the two institutions, the ruling decision would be given in favour of a strategic country.
- *National Council of Examiners for Engineering and Surveying (NECCS)*  
The ISC was advised that a US state will only accept ABET accredited degrees despite the existence of the Washington Accord and the State registration boards have often complained

about a perceived lack of liberal arts and basic maths and science in degrees provided outside the US and therefore there are difficulties with graduates going to the US. A new CEO of NCESS should address this.

- *Singapore*  
A new engineers act has been introduced that will enable those with degrees recognised under the Washington Accord to be recognised in Singapore.
- *Degrees taught in the English Language in Europe.*  
The Board considered a discussion paper was produced to clarify the international policy of the JBM and to outline some of the issues that will be faced by British universities with the growth of the number of degrees taught in the English language in Europe (approximately 3000) and the implications for the UK higher education system. The International Sub-Committee noted that these MSc programmes are mainly in the areas of medicine, engineering and business studies. After a general debate it was agreed that the development of these MSc programmes was not as large a threat as originally anticipated. Professor Smith agreed to keep a watching brief on this issue.
- An accreditation visit to the Malaysian campus of Nottingham University took place at the end of October 2010.
- A request for the re-accreditation of degree programmes at the University of the West Indies (Trinidad) has been received and two staff members attended the pre-Visit briefing session held in July 2010 following the last Board meeting. A date for the re-accreditation visit is in November 2011.

## 5.2 Higher Level and Technician Qualifications Sub-Committee

- The JBM agreed to continue to develop and maintain a list of approved programmes for EngTech registration. The updated list is available on the JBM website.
- Mr Hewitt completed his term as Chair of this Sub-Committee at the end of 2010 and the Board and the member Institutions thanked him for his commitment over a number of years to the range of programmes that have been designed to meet the educational base for Incorporated Engineers and Engineering Technicians. The Chair for 2011 will be Mr Colin Jones from the University of Wales, Newport.
- Although the Sub-Committee did not meet in 2010, members from the Sub-Committee were involved in the JBM's Foundation Degree Working Group. The WG has developed draft guidance material for the development of Foundation degrees which will be tested on some visits in early 2010 and a final version was issued in July 2010.
- The JBM considered Edexcel's proposed changes to the structure of HNC/HND programmes in Civil Engineering and following Edexcel's proposal to remove mathematics from the new HNC, a meeting was held to discuss alternative options. Edexcel have since agreed to replace mathematics in favour of the Health and Safety module, which will instead be taught as a thread throughout the programme, as with JBM accredited degrees. The following was also noted: -
  - That a grade of pass/merit or distinction will now be given for the full award; previously these were only available for each module.
  - To gain the HNC students complete some core modules and they also select

- a number of optional modules from a bank of options known as a cafeteria.
- One of the modules that students can elect from the cafeteria is a further mathematics unit. University admission tutors need to be aware of this as the need for students to complete this specific optional unit could become a requirement for entry onto an accredited degree programme.
- Students completing the new HNC/D programmes will have satisfied the educational base for registration as an Engineering Technician.

### 5.3 Further Learning Sub-Committee

- During the past twelve months the Sub-Committee has continued to approve company and university proposals for schemes of Further Learning.
- The Board agreed that the guidelines for MSc programmes should be updated to include a definition of what constitutes 'technical' in terms of the proportion of modules included in the degree programme and it was agreed that a technical MSc should consist of more than 50% technical modules and the dissertation must also be technical.
- The Sub-Committee conducted a monitoring meeting with Costain and undertook an audit visit to BAM Nuttall.
- One of the project areas for the Sub-Committee in 2010 was to give better guidance to candidates making an application via the Self-Managed Guidelines and a useful discussion has been held with candidates that are using this option to meet the educational base for a Chartered Engineer. It was agreed that in 2011 that some case studies should be developed. There is also going to be a series of articles to raise awareness and an event for graduates.
- The Sub-Committee has produced guidance on the technical gap between an IEng accredited degree and a BEng (Hons) degree for use by organisations when they develop Employer Managed programmes.
- The Sub-Committee also produced guidance for Distance Learning MSc programmes and they were grateful for the comments provided by the Universities of Surrey, Loughborough, Heriot-Watt and the Open University, on the various drafts. The Board were also asked to consider whether these guidelines should apply to MScs only or also to undergraduate programmes and if for both, whether there should separate guidelines for each. The Board agreed that at present they should refer to MScs only and will be adapted in due course if the JBM receive requests to accredit DL undergraduate programmes. This guidance was used by Visiting Teams during the visits to Aberdeen and Bath and will be reviewed in 2011 following the visit to Loughborough University.
- It was agreed that the JBM member institutions should promote the update of Employer-Managed Work-Based Further Learning Programmes to increase accessibility beyond large employers. To support this, the ICE organised a Further Learning Conference in November 2010. The JBM Sub-Committee will undertake some follow-up activities to support this work and is looking to organise a number of briefing meetings for Supervising Engineers and Assessors in 2010/11.
- In December 2009, the ICE announced that four candidates that have completed their educational base via a Work-Based Further Learning route passed their Chartered

Professional review in November. An article was also publicised in the NCE regarding the benefits of Further Learning.

The current list of approved Employer-Managed programmes is as follows: -

- Cambridgeshire County Council
  - Carillion plc
  - Costain
  - Dawnus Construction Ltd
  - Morgan Sindall
  - BAM Nuttall
  - Jackson
  - Jacobs
  - Kier Construction
  - PWD Brunei
- The audit visit process has been started and this has enable the Sub-Committee to identify areas of good practice such as that listed below: -
- The cover sheets for each Learning Outcome, especially as these include reflective statements.
  - The process of having an exit interview on completion of the Learning Outcomes.
  - The assessment process provides a good framework and is based on the candidate's self-assessment and an exit interview.
  - Candidates are challenged by the Programme and must do their own research in order to sign off all the Learning Outcomes.
  - Benchmarking of assessments.
  - Ensuring that each trainee has a different SCE and Assessor.
  - Use of NVQ assessment scheme to train Assessors.
  - Progression of graduates is being monitored with an exit strategy for those that underperform.
  - Employer led workplace learning.
  - Flexibility of entry by taking into account APL.
  - The Assessor competence training and selection procedures. –The candidate selects the Assessor, who is then signed off as approved by the SE having considered their CV and credentials.
  - Recommending that all candidates take the sequential Progressive Route which leads from EngTech to MPR to CPR and CEng as this encourages candidates to move forward and face challenges in 'bite-sized pieces'
- Universities and companies are reminded that MSc graduates that hold non-accredited bachelor degrees must be assessed via the individual case route operated by the JBM member institutions.
- Following visits or reviews of paper submissions some 41 MSc programmes were approved during 2010 as meeting the Further Learning requirements for a Chartered Engineer under the provisions of UK-SPEC for holders of a CEng accredited BEng (Hons) undergraduate first degree from the following universities: -
- University of Aberdeen
  - University of Bradford
  - City University
  - Coventry University
  - University of Glasgow

- o University of Greenwich
- o Kingston University
- o Queen's University Belfast
- o London South Bank University
- o University of Manchester
- o University of Portsmouth
- o University of Strathclyde
- o University of Ulster

For a full list of accredited programmes please see the list on the JBM website ([www.jbm.org.uk](http://www.jbm.org.uk))

In 2011 the Sub-Committee will be concentrating on the need to provide more focused guidance for candidates using the self-managed option. Briefing packs for supervising engineers and Institution staff such as the ICE's Membership Development Officers that outlines the options available to graduate trainees to meet the educational base for IEng or CEng registration will be produced. The Distance Learning Guidance note will also be reviewed following accreditation visits to Aberdeen, Bath and Loughborough.

#### 5.4 Other issues considered by the Board in 2010

- *IStructE Annual Academic Conference 2009*

At the February 2010 meeting, Mr Cook reported on this conference which looked at Structural Engineering Education. This was a very successful event and should be held annually in future. It is hoped that more industrialists will attend next year. A paper will be developed covering a number of key areas of activity, as described in the notes from the conference.

- *IStructE Annual Academic Conference 2010*

At the meeting held on 8<sup>th</sup> October 2010, Mr McCann reported on the 2010 conference. There is concern within the IStructE that graduates are not aware of the core principles of structural analysis and a working group Chaired by Mike Cook is putting together a draft syllabus of what is expected of graduates. Currently this document is proposing an inner and outer core; the inner core would be covered by all graduates and the outer core by those doing specialist courses such as in the final year of a MEng or an MSc programme.

When this syllabus is produced the Board or the expert Panels of the ICE may wish to consider if they should develop similar guidance to cover the areas of materials, hydraulics and geotechnics. Professor Clarke said that there is a protocol that exists between the JBM and the ICE's expert panels to look at new material and that currently the Capacity Building Panel is looking at the area of life long learning.

- *Rita Donaghy's Report 'One Death is too Many'*

During the February 2010 Board meeting, Mr Carpenter of SCOSS gave a presentation to the Board on his response to Rita Donaghy's report. His views are that the need for risk management has never been greater and this should be a broad, cross-curricular approach. The curriculum should allow a broader approach to risk management to be taken, rather than focusing on occupational health and safety which is only one aspect. RIBA are currently sponsoring a review of Architectural undergraduate provision in this area, although the Government has not yet responded to the paper and Mr Carpenter believes it would be

beneficial if the JBM could assist a review (perhaps by approaching HSE) to consider the curriculum; the extent of assessment required; the means by which moderators are seen to be able to make judgements in this topic area. The JBM annex on Health and Safety could perhaps also be expanded to address these areas, especially regarding assessment. Although some Board members disagreed with Rita Donaghy's report and the suggestion that there is a lack of knowledge and awareness in this area, Mr Carpenter's response was that there is a body of opinion out there that is of the contrary view, whether correct or not, and Donaghy has given weight to this.

▪ *Health and Safety*

At the meeting on the 8<sup>th</sup> October the Board discussed feedback on its Health and Safety Annex and it was agreed that it is important that graduates develop an open mindset that enables them to look at health and safety in the whole, ensure that things are done properly, and that they consider the buildability of any designs they produce. It is not realistic to ask an academic to teach the student all about health and safety but graduates do need to understand the whole construction process and this should include the temporary stability of structures.

The Board does need to ensure that students develop an appropriate mindset to ensure safe, reliable, construction.

It was agreed that the Annex should be reviewed at the Board meeting to be held on 14<sup>th</sup> February 2011 to ensure that it is up-to-date.

▪ *Website Wording*

Following feedback from industry and its four member Institutions it was agreed that the Board should issue some common wording for university websites and course prospectuses and this was circulated separately to Professor Parke and the JBM Board for approval. The revised wording was approved by the four Institutions and a letter was sent by Professor Parke to Universities on the 15<sup>th</sup> September.

Team members will be checking this wording for visits from October 2010 onwards.

▪ *Modes of Learning*

During the JBM Board meeting held in February 2010, the Board received a presentation from Professor P Goodhew on the topic of CDIO – Conception, Design, Implementation and Operation. This mode of learning now has 50 university collaborators in five continents since its inception ten years ago. Liverpool and Queens universities are joint region leaders and applications are received to join at the rate of approximately one per month. Professor Goodhew expanded on the three main elements of CDIO: 1) CDIO Principles, which give a context for engineering education; 2) CDIO Syllabus, which relates to what to teach; 3) CDIO Standards, which relates to how to teach. The CDIO scheme was set up as there was a feeling in the late 1980s that degrees were moving too far towards engineering science and were not preparing graduates for industry.

It was also noted that this was only one approach to design teaching and a number of universities have implemented some but not all of the CDIO elements.

Additionally, it was noted that the number of examples of good practice in the teaching of structural analysis was limited.

- *EC Liaison Officer*

Professor Peter Hicks continues to act as the EC's Liaison Officer on accreditation matters. He observed the JBM visit to London South Bank University and is hoping to observe a further visit in 2011.

- *RAEng Report – Engineers for Low Carbon*

At its meeting on the 7<sup>th</sup> May, the Board received a presentation from Mr Michael Dickson on a paper that was based on Doug King's report, 'Engineering a Low Carbon Built Environment,' aimed at MEng graduates. The Board agreed that modules should be accredited by JBM and CIBSE and that Building Physics could be included in the curriculum at 'M' Level in suitable universities (such as those who undertake research in this area).

In October the Board agreed that a Working Group with representatives from the JBM and CIBSE produce a guideline for Universities that outlines the key issues that should be addressed by accredited degree programmes.

- *RAEng Conference on Sustainability*

Following his presentation at the last meeting the Board asked Mr McCann to develop some costings for an event to be held later this academic year. Mr McCann advised the Board that the theme for the event is to be around the area of sustainability.

It was agreed that Mr McCann's plan for the conference should be discussed with the RAEng to see if they would be willing to contribute towards the funding of this event.

- *EAB*

The Board noted that Professor Barry Clarke was elected to be the next Chair of the EAB and that Professor Peter Hicks is to be the Vice-Chair. Both appointments are effective from the September 2010 meeting.

- *ACED/ICE/IStructE Meeting*

This was held on the 27<sup>th</sup> April with around 50 delegates representing 30 Universities. The delegates heard presentations from the Presidents of the ICE and the IStructE (Paul Jowitt and Norman Train), Mike Cook of the Education Panel of the IStructE regarding the teaching of Design and Denise Bower of Leeds University regarding the competence requirements for professionally qualified civil engineers of the future. The presentations can now be found on the JBM website. Professor Parke and Professor Clarke introduced the breakout groups on sustainability, health and safety and ethics and notes of the outcome of these groups will be produced by the Secretariat shortly. One of the key findings was that some academic staff are not sure of the range of evidence the JBM will be looking for and nor were they confident in their own abilities to deliver course material relating to design, sustainability and health and safety risk management.

- *Training for Moderators*

Training of new Board members continues to be through on-the-job training during visits and attendance at a briefing session for new JBM Board members.

## **5.7 Issues to be considered by the Board in 2011**

In 2011, the following areas are to be considered by the JBM: -

- To meet with the RAEng to discuss the development of a seminar on best practice in accreditation activities.
- To work with the Institution of Civil Engineers, Information Systems Panel on the development of its guidance note for Universities.
- To work with the Sustainability Panel of the Institution of Civil Engineers to produce more detailed guidance for teaching staff and the dissemination of good practice in the area of sustainability.
- To work with the Institution of Structural Engineers to identify good practice in the teaching of structural analysis and design.
- To undertake 14 full accreditation visits and 6 review visits.
- To review the reports produced by the Further Learning Sub-Committee on the audit visits to organisations offering Employer Managed Further Learning programmes.
- To review the submission documents following the analysis of the questionnaires submitted by Universities and Team Members following their experience of JBM visits in 2010 and spring 2011.
- To review Annex C on Health and Safety.
- To issue guidance to Heads of Department on how they should be interpreting the JBM's policy on the need for academic staff to become professionally qualified.

## 6. Good Practice

Visit Reports are now prepared with points of good practice being highlighted for the information of Board Members and Universities. This aspect of reporting was introduced to improve the level of dissemination of good practice observed during JBM Visits.

- *Curriculum*
  - The curriculum reform that has enabled students to broaden their study.
  - The outward bound course which helps the MEng students develop their leadership and team building skills.
  - The care taken to develop the distance learning courses, which includes support from the local oil and gas industry.
  - The fact that since 2007, the School has provided all new level 1 and 2 students with a laptop pre-loaded with engineering and office software that supports teaching. Students are encouraged to bring these to lectures, laboratories and tutorials.
- *Flexibility in provision*
  - A ladder of opportunity that enables suitably qualified graduates to progress from the HNC to an undergraduate degree programme.
  - The flexible pathways of part-time and full-time programmes at different levels have enabled students to transfer between the different programmes (HNC/BSc/BEng (Hons)) as the opportunity arises.
  - The development of degree programmes that meet the needs of local and regional employers.
- *Industrial Advisory Panel*
  - An Industrial Advisory Panel that is actively involved in curriculum development and course delivery.
  - The enthusiasm and support of the Industrial Liaison Panel. The innovative use of email discussions within the Panel allows for issues to be dealt with

more immediately than may be the case if they had to wait for a meeting to be arranged.

- *Staff*
  - The Team was also very impressed by the sense of dedication displayed by all staff in working towards their goals.
  - The positive policy of the School paying for one professional membership fee.
  - Training and development plans that have been put in place to support the laboratory technicians.
  - The integration of architecture and Civil Engineering into a single department has clear benefits for students of both disciplines.
  - The use of leading practitioners in delivery of modules is appreciated by students who are exposed to “passionate” lectures delivered by experts.
  - The fact that one of the industrial tutors for the new MSc programme logs onto the students discussion forum to monitor the issues being raised by the students.
- *Support for students*
  - The use of extra curricular “drop in” class for those requiring further assistance with their mathematics is worthy of recommendation to other educational establishments.
  - The preparation provided in the Foundation Year for undergraduate degrees.
  - The high proportion of part-time students with varying experience is fully utilised by the department in its teaching, and is appreciated by the students.

More detailed examples of good practice are listed in Annex 1 and a contact name is provided if more information is required. The JBM is very keen to facilitate the spread of best practice and comments are invited.

## 7. Current Concerns

### **Undergraduate programmes – comments included in various Visit Reports**

- *Aims and Objectives*
  - It was agreed that the Department should be required to revise the aims and objectives of the courses taking cognisance of the key strengths and unique selling points of the University programmes.
  - To develop separate aims and learning outcomes for each of the BEng (Hons) degree programmes.
  - To remove the inconsistencies within the aims and learning outcomes and make the learning outcomes more specific by delineating within the contexts of: knowledge; intellectual; practical; and transferable skills.
  - That the aims and objectives of all programmes should be reviewed to be more clearly defined and inspirational.
  - A greater degree of differentiation should be introduced into the aims of the MEng and BEng programmes, better elucidating the different expectations of graduates of the two courses.
  
- *Assessment Criteria*

- The Team suggested that the School review the assessment criteria for the MEng and BEng projects to ensure that the JBM areas of design, health and safety risk management and sustainability are correctly assessed.
- It was recommended that the Department introduce a greater degree of assessment of critical thinking through students appraising/developing alternative solutions.
- The feedback on the project coversheets was also variable and the School should take the good practice demonstrated by some staff and spread this across all courses.
- To review the method of assessment associated with the one-week Outward Bound course to see if other methods of assessment such as the need to provide a reflective report would be more appropriate than an examination.
- A number of the courses were 100% examination based and the Team felt that this ignored other methods of assessment and suggested that the School review these requirements.
- That the examination marking schemes are reviewed so that staff are working to a common marking scheme.
- The School should ensure that feedback is being delivered consistently across the modules.
- Develop the structure of the Level 6 examinations to enable further stretching of the most able students.
- Examine how to strengthen the assessment of individual contributions to the group project.
- The project specification for the Stage 3 module "Individual Project (CIVI 1017) worth 30 credits" should be different for those students who are intending to continue to gain a MEng degree.
- Ensure that the titles for final year projects are representative of the broader spectrum of civil engineering.
- *Compensation /condonement*
  - That the new University compensation rules be reviewed at the next visit during the 2010/2011 academic year and that evidence of the application of the new rules is made available to the Team in the submission document.
  - To seek special dispensation from University rules so that no more than 20 credits, instead of 30 credits, may be considered for compensation or for condonement of failed modules in any one stage.
  - To amend the programme specification for the MEng degree to make it clear that it is not possible for students to be condoned in core subjects.
- *Constructionarium*
  - That, given the resources dedicated to the Constructionarium, the Department should consider identifying the learning outcomes from this programme.
- *High Dropout Rate*
  - It was recommended that the Department address the high dropout rate.
  - That the School contact the ICE Region and IStructE Branch to see if it would be possible for them to identify some local Members or graduates with some years experience who would be willing to act as Mentors.

- That the School should be more proactive in working with the students to help them find summer placements.
- *Industrial Advisory Board*
  - Ensure that an Industrial Advisory Board is operating in advance of the JBM review visit in 2011.
  - The Team felt that the IAB should be encouraged to become involved in advising on the curriculum and programme structure which they currently felt to be beyond their remit.
  - That the Department utilise the support from their Industrial Advisory Panel to provide more guest lectures.
  - That the Department should consider setting up an Industrial Advisory Committee to formalise the input from industry contacts and to help embed the necessary culture of health and safety in construction into the course.
  - That a greater balance is sought between consultant and contractor members on the Industrial Partnership Panel to strengthen this Board further. The Panel could also take a more active role in organising and encouraging site visits and eternal ad-hoc lectures.
  - The Team agreed that the Industrial Advisory Group should be strengthened and take a lead role in assisting with the development of programmes e.g. case studies/projects, particularly in light of the impending restructuring.
  - That a more formal link be established through the development of an Industrial Liaison Board which should be chaired by an Industrialist and facilitated by Academia.
  - That the Civil Engineering Industrial Liaison Committee is created as a matter of urgency and advises on the Civil and Architectural Programmes as well as continuing to advise on all programmes.
  - That the Department reviews the membership of its Industrial Advisory Boards to ensure that senior Civil or Structural engineers from Industry are adequately represented.
  - That the Department looks to increase the number of visiting lecturers on the programme.
  - That the School must take into account industry's' view of graduate skills in Civil Engineering.
- *Site Visits*
  - That the Department increases the number of site visits that link into the modules studied on the BSc(Hons) Civil Engineering.
  - It was recommended that the Department increase the number of site visits made available.
  - That site visits take place within modules to enhance learning.
  - The provision of site visits must be improved; this has been an issue in the previous two visits.
  - That the School increase the number of site visits to ensure that students are exposed to construction works.
- *Specialist software*
  - That it reviews the software provision, especially those packages used by the Architectural Design students to ensure that they are compatible with those used by the architecture students.

- *Support for students*
  - That the Department consider providing additional support in technical report writing.
  
- *Teaching Staff*
  - To review the professional qualifications of staff to see if they will continue to meet the JBM target that by 2015, 50% of teaching staff should hold a professional qualification with one of the JBM member Institutions.
  - The workload balance for all designated core civil engineering staff should be reviewed.
  - It was recommended that the Department consider how to update the staff's knowledge of current civil engineering practice so as to better inform the students.
  - That the School should seek to strengthen its teaching staff by appointing at least one Chartered Civil or Structural Engineer.
  
- *Teaching of materials*
  - That the teaching of structures and materials continue to be improved especially in widening topics (e.g., timber, masonry) and increasing the number of materials and structures tests in laboratories.
  - The need to enhance the teaching and assessment of materials with emphasis on the sustainable use of materials.
  - That the development of Materials beyond Year 1 of the MEng is made more explicit.
  
- *Threads*
  - To review the threads matrixes for the areas of sustainability and risk management health and safety and the individual module descriptors to ensure that they are appropriately mapped.
  - That the Department reviews the way the themes of sustainability, hazard identification (on matters related to health and safety) and risk management are embedded in the BSc(Hons) Civil Engineering degree programme and that evidence of the different threads is made more explicit within the student output.
  - It was recommended that the Department ensure that students have a greater awareness of the Civil Engineering world in which they will be operating in order to place the learning experience in a professional context. Projects should be placed in context to achieve an holistic approach, incorporating visible elements of sustainability and health & safety risk management.
  - It was recommended that the Department seek to introduce greater industrial involvement and a more diverse view of current practice.
  - Review the threads diagram to ensure that Sustainability and Health and Safety are embedded and evidenced in candidates' written work.
  
- *Design*
  - That the School broaden the range of design projects to include conceptual as well as practical projects.
  - That the School enhance the conceptual aspects of design.

- It was recommended that the Department review the design case studies to ensure they reflect current practice.
- *Health and safety*
  - That health and safety risk management be more firmly embedded within the programme especially in relation to buildability issues within projects.
  - That a culture of health and safety be embedded across all programmes to achieve a more consistent Health and Safety thread.
  - To ensure the hazards in the structures/hydraulics laboratories are removed to the maximum extent possible and measures are in place to manage residual matters/hazards.
  - Students should be required to undertake risk assessments as part of any practical exercise and that they should be encouraged to develop an awareness of risk that extends into their work, particularly the case studies and project work.
  - The health and safety risk management thread should be improved by extending the assessment to include specific marks for elements of this thread in the same way as is the case with design and sustainability.
  - The health and safety risk management thread must be clearly evident in both the teaching and output. It should be clear which modules include this thread. Furthermore, coursework specifically incorporating health and safety risk management assessment should require evidence of this to be included in the brief, the marking criteria and the student output.
- *Sustainability*
  - It was recommended that sustainability should be clearly stated as a key theme within the case studies and that the work undertaken should reflect current practice.
  - That a culture of sustainability be embedded across all programmes to achieve a more consistent sustainability thread, particularly at BEng level.
  - To make the sustainability thread more explicit in terms of assignments/coursework as this will help to strengthen the thread, this applies to the BSc (Hons), BEng (Hons) and MEng programmes.
  - To enhance the theme of sustainability by incorporating some of the research work that uses the environmental chambers into the undergraduate curriculum as this would introduce the area of building physics to the students.
  - That the Department should consider strengthening the economic and social aspects of the Sustainability thread.
- *Work Based Learning*
  - That the School look to incorporate a further 20 credits of Work Based Learning where possible into the FdSc Civil Engineering programme to fall in line with JBM Guidelines.
  - The Team agreed that the Department should be required to support students on an industrial placement by assisting them in the development of a learning plan, with a statement on the learning outcomes required and the methods of achieving the outcomes.

- That the Industrial visits made by the Staff to the Employers to review the students in the workplace be developed into a more formal method of assessment and Guidelines need to be developed.
- Increase the credit value of the Work Based Learning Module to 30.
- To review the guidance for the industrial placement report to ensure that it enables students to reflect on the learning gained and to include a statement of support from their employing organisation.

## **7.2 Post-Graduate Programmes**

The Board is still gaining experience in the accreditation of MSc programmes and a number of comments from Teams refer specifically to issues arising from the request for the accreditation of these programmes of study. In particular: -

- The need to review the examination papers for the final year of the CEng bachelor degrees and the MEng and other Masters programmes so that questions are more open-ended to ensure that students are assessed on their ability to apply their knowledge.
- The need to monitor the entry standards to the MSc programmes so that they are in line with the published guidelines and they should also put steps in place that will aim to reduce the high failure rate.
- The need to update programme literature to ensure that the Further Learning requirements for BEng (Hons) graduates and MSc students with non accredited first degrees are accurately addressed.
- That if the Department decides to add a management module to the MSc programme then the final project completed by the students must be in a technical area to ensure that the programme maintains its technical focus.
- Review the 40% overall pass mark for the MSc programme with a view to raising it to 50% in accordance with the practice of most UK universities.

**Annex No. 1****More detailed examples of good practice****City University**

Dr S E Stallebrass, Professor of Soil Mechanics, Assistant Dean Civil Engineering, City University, Northampton Square, London, EC1V 0HB

Tel: 020 7040 8147, Email: [S.E.Stallebrass@city.ac.uk](mailto:S.E.Stallebrass@city.ac.uk).

**Small Group Site Visits**

The School organises site visits for large groups in each year of the programme. In addition the 'Open door to industry' scheme offers the opportunity for groups of 4-5 students to visit sites which enables them to gain more from the experience.

**University of Derby**

Brian Counter MBA BSc CEng FICE FPWI, Built Environment and Engineering, University of Derby, Markeaton Street, Derby DE22 3AW

Tel: +44 01332 593186, E-mail: [b.counter@derby.ac.uk](mailto:b.counter@derby.ac.uk)

**Support for Technician Membership  
Development of a 'Virtual Quarry'**

- The fact that the University has been recognised as a centre of excellence for the promotion of Technician Membership of the ICE. A cohort of 9 students applied for and undertook professional reviews in July 2009 and it is hoped that 12 students will apply for the review in July 2010. The final year module 5BU024 Professional Development helps students to prepare documents for this Technician Professional Review.
- The plans to develop a virtual quarry to support the identification of hazards and risks and to encourage the distance learning students to engage more fully with the Derby Diploma programme.

**Glasgow Caledonian University**

Dr Bob Gilmour, Programme Leader, Environmental Civil Engineering School of the Built and Natural Environment Glasgow Caledonian University GLASGOW G4 0BA

Tel 0141 331 3571, E-mail: [R.A.Gilmour@gcu.ac.uk](mailto:R.A.Gilmour@gcu.ac.uk)

**Support of the Academic Development Tutor**

The work of the Academic Development Tutor and the support given to first and second year students has seen a significant improvement in overall student progression rates.

The objective of the programme is to enhance the support given to future students. The following points highlight some of the stages in this process: -

**Pre-enrolment**

- They encourage potential students to come to an open day and meet programme staff.
- Gayle or her colleagues will visit those Colleges that have strong links with the University, with some of the class representatives to discuss available programmes at the University.
- Gayle (and 0.6 clerical assistant) have also established a pre-entry website for students looking to complete degree programmes available at the School of the Built and Natural Environment. The information on the website includes short video casts (9 in total covering areas such as the induction week, study skills etc).
- The staff are also involved in the induction programme.

**Post enrolment**

- The aim is to identify the at-risk students .ie. those who are struggling.
- They monitor the attendance levels for years one and two students – class registers are taken in class.

- If students attendance falls below a certain level for two weeks they receive a letter.
- If attendance is poor for four weeks they must attend a meeting with Gayle or her Team. This will identify any issues and liaise between the student and the module tutor e.g. do they need extra tutorial support.
- Some students are referred to other specialist staff for counselling support or to the University Support Centre.
- After the formal meeting Gayle or her colleagues will arrange to contact the student two weeks later to see if the issues have been resolved.
- Gayle's team have an open door policy.
- Tutors are now starting to refer students they think have issues directly to Gail and her colleagues.
- Gayle and her team are seen to be independent and it makes it easier for students to talk to her and then be referred to central support services.

Progression rates have increased.

### **Imperial College**

Professor David Nethercot CEng FICE FStructE; Department of Civil and Environmental Engineering; Imperial College of Science & Technology; Imperial College Road; London SW7 2BU; [d.nethercot@ic.ac.uk](mailto:d.nethercot@ic.ac.uk)

Production to two documents the course work flow chart and guidance on setting and marking of undergraduate examinations.

(These are available to review on the JBM website [www.jbm.org.uk](http://www.jbm.org.uk))

### **Leeds Metropolitan University**

Dr Paul Hirst, Head of Civil Engineering Professional Group, School of the Built Environment, The Northern Terrace, Room 101, Queen Square Court, Civic Quarter, Leeds Metropolitan University, Leeds LS2 8AG. Tel: 0113 812 1901; Fax: 0113 812 1958 [p.hirst@leedsmet.ac.uk](mailto:p.hirst@leedsmet.ac.uk)

### **Professional Development Programme**

The Professional Development Programme (PDP) is a strong example of engagement with the profession and industry, promoting professional membership, engagement with industry and involvement with regional events. The dissemination of this initiative has already begun and other institutions have expressed an interest in adopting and/or adapting the model. Dr David Allen, as scheme developer at Leeds Metropolitan University, welcomes contact from interested parties in both academia and professional practice to inform and shape onward development of the scheme

The overseas links in Southern Africa are strong and have had a positive effect on course delivery and student engagement. The research work being carried out is innovative and sustainable and will lead to measurable improvements in water quality that use low cost techniques and natural resources.

### **London South Bank**

Dr David Tann, Department of Urban Engineering, Faculty of Engineering, Science and the Built Environment, London South Bank University, 103 Borough Road, London, SE1 OAA. Tel: 02078157679, [david.tann@lsbu.ac.uk](mailto:david.tann@lsbu.ac.uk)

### **Student induction pack**

The Team was provided with a copy of the Student Induction pack which is loaded onto a USB stick. This contains a wide range of information including details of student services, student timetables, contact information for staff, appropriate forms such as the coursework submission form and various policies including the Universities Health and Safety Policy and the Faculties policy for Laboratory work.

**Manchester**

Dr William H Craig, Director of Undergraduate Studies, School of Mechanical, Aerospace and Civil Engineering, University of Manchester, P O Box 88, Sackville Street, Manchester, M60 1QD, +44 (0)161 306 4646, [william.craig@manchester.ac.uk](mailto:william.craig@manchester.ac.uk)

- **The Structural design concept ‘toys’**
- **The structure and effectiveness of IPP meetings**

The Team were also very impressed with the structural concept ‘toys’ used in the general teaching space, which give students hands-on, practical examples to demonstrate theory. A book and website ([www.structuralconcepts.org](http://www.structuralconcepts.org)) ‘Seeing and Touching Structural Concepts’, has been put together by Tianjian Ji and Adrian Bell, (with the contribution of other staff and students) in order to illustrate demonstration models and practical examples. IStructE are already aware of this example of good practice.

The Team found that the School has a good relationship with the construction industry and this allows industrial influence through several channels such as visiting lecturers, supervision of final year and MSc projects and sponsorship of students and prizes. In addition, many of the School’s research projects are funded and supported by the construction industry and several staff members have undertaken secondment to industrial companies since 2004.

The Team was most impressed with the Civil Engineering Industrial Partnership Panel (IPP) and felt the School should be commended on such a strong industrial Board. One suggestion to strengthen this further would be to include more contractor members to ensure an even balance. In the new paradigm of Construction of greater GIS and BIM and logistics planning, it is strongly recommended that the IPP has a greater representation from major Construction firms. Mr Bowring agreed to put them in touch with Bovis Lend Lease, based in Manchester, as a starting point.

The Board is chaired by a senior industrialist (Dr John Roberts of Jacobs) and meets bi-annually. There are twelve members. Each meeting focuses on a different syllabus issue; academic staff members outline research activities and course syllabus for IPP members to provide feedback and suggestions for improvement. The IPP is also briefed on current issues, such as Bologna, in order to provide feedback.

There is also a School-wide Industrial Strategy Board (ISB), which advises on external marketing, promotion and research directions. This meets bi-annually and two senior construction industry members represent civil engineering.

**Strathclyde**

Professor Robert Kalin, Department of Civil Engineering, University of Strathclyde, 107 Rottenrow, Glasgow G4 0NG  
Tel: +44 (0)141 548 3275, Email: [Robert.kalin@strath.ac.uk](mailto:Robert.kalin@strath.ac.uk)

**Engagement with Professional Institutions**

Students take part in the IStructE model competition every year and the Department also hosts the IStructE graduate workshop every year. Members of ICE and IStructE are present at open days to talk to potential students and parents and give presentations on the importance of engagement with the professional institutions. Representatives from both institutions also give talks to students in the first year. During design classes in third year, students are encouraged to apply for IStructE. The Head of Department routinely writes to students to encourage membership and inform them of events. Although the interaction is adequate, there could be more consistency throughout the years to ensure that all students are reminded of the importance of membership.



**Annex No. 2****Details of Membership - 2010****Joint Board of Moderators**

Chairman	Professor G Parke CEng
Members	Professor C Bailey CEng Mr G Bowring CEng Mr P W Bedford CEng Mr M Dickson CEng Mr T Edmunds IEng Mr S Evans CEng Mr L Gentry CEng Mr T Gurr IEng Professor T Ibell CEng Professor D Lloyd-Smith CEng Mr H MacIntyre CEng Mr E McCann CEng Mr F Montgomery CEng Mr C Nason CEng Professor R Plank CEng Dr D B Reid CEng Dr J Roberts CEng Mr A Silver CEng Mr S Spender IEng Dr D R Twigg Professor K Viridi CEng Ms F Wainwright CEng
EC <sup>UK</sup> Liaison Officer	Mr M Robbins/Professor P Hicks CEng
International Sub-Committee Chair	Professor N Smith CEng
HLTQSC Chair	Mr E Hewitt CEng
Further Learning Sub-Comm. Chair	Professor B G Clarke CEng
Secretariat (ICE)	Mrs C Goan Ms E Ryan Mr A Stanley
Secretariat (IHIE)	Mrs M Maguire Ms J Walker
Secretariat (IHT)	Ms S Stevens
Secretariat (IStructE)	Mr A Brereton Mr D Byrne Mr J Blackwell Ms C Hearing

**Higher Level and Technician Qualifications Sub-Committee**

Chairman  
Mr E Hewitt CEng  
Mr D Hoskins IEng  
Mrs J Knight EngTech  
Mr B Pyper IEng  
Mr C Bedford IEng  
Mr P Dipper IEng

Secretariat  
M Maguire  
D Byrne  
C Goan  
E Ryan

**International Sub-Committee**

Chairman  
Professor N Smith CEng  
Professor D Cleland CEng  
Mr R Eastwood CEng  
Mr E Hewitt CEng  
Professor B Lee CEng  
Mr R McKittrick CEng  
Professor D Nethercot CEng

Secretariat  
D Byrne  
C Goan  
E Ryan  
A Stanley

**Further Learning Sub-Committee**

Chairman  
Professor Clarke CEng  
Mr S Bennett IEng  
Mr K Howatt CEng  
Professor R Lark CEng  
Dr D Easterbrook CEng  
Mr E Hewitt CEng  
Mr J Ingle CEng  
Mr L Parker CEng  
Mr McKittrick CEng

Secretariat  
D Byrne/C Hearing  
C Goan  
M Maguire  
E Ryan  
A Stanley  
S Stevens