



INSTITUTE OF
HIGHWAY
ENGINEERS



THE CHARTERED
INSTITUTION OF HIGHWAYS
& TRANSPORTATION



JOINT BOARD OF MODERATORS

2009 ANNUAL REPORT

CONTENTS

- 1. Chairman's Introduction**
- 2. Executive Summary**
- 3. Role of the Joint Board of Moderators**
- 4. JBM Activity undertaken in 2009**
 - 4.1 Visits undertaken
 - 4.2 Summary of course accreditations
 - 4.3 Summary of programmes accredited as meeting Further Learning requirements
 - 4.4 Summary of Employer Managed programmes approved as meeting Further Learning requirements
- 5. Summary of Policy Decisions and Main Discussions by Board**
 - 5.1 International Sub-Committee
 - 5.2 Higher Level and Technician Qualifications Sub-Committee
 - 5.3 Further Learning Sub-Committee
 - 5.4 Policy Issues considered by the Board in 2009
 - 5.5 Policy Issues to be considered by the Board in 2009
- 6. Good practice**
 - Annex 1 More detailed examples of good practice
- 7. Current Issues**
 - 7.1 Undergraduate programmes
 - 7.2 Postgraduate programmes
- 8. Statistical Information**
 - Annex 2 Details of Membership
 - Annex 3 Student Intake Numbers 2009
 - Annex 4 Graduates 2009

1. Chairman's Introduction

I am very pleased to present Annual Report to you as Chairman of the Joint Board of Moderators (JBM) outlining the activities that the JBM has been involved with during 2009.

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. Excellent links with industry and the institutions are seen in some departments. The Board considers industrial advisory committees or similar to be important contributors to departments from the profession and a resource which is often underestimated and rarely quantified. To strengthen the role of these Panels the JBM held a very successful seminar in January 2009 to promote good practice and suggest some possible improvements. A number of my JBM colleagues have reported to me following accreditation visits undertaken in autumn 2009 that they have seen evidence that you are implementing successfully some of the suggestions made at this event.

In 2009 we held two very successful pre-visit briefings for Universities based on our new submission requirements and these will be continued in 2010 and updated as we receive feedback from some of you on the use of the new submission documents.

In July 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. A number of you have said that you believe that opportunities exist within your University's system for the training and development of new lecturing staff that can allow the need for staff to gain a professional qualification to be integrated into these systems. I welcome this approach.

In our support for Universities we have issued two new guidance documents that are available to download from the JBM website www.jbm.org.uk. One document relates to the teaching of surveying and the other gives guidance on the roles of Industrial Advisory Panels or their equivalents and if you have any comments on these documents please send them to me via the JBM secretariat – jbm@ice.org.uk.

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.

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 2009.

In January 2009, the JBM organised a successful seminar for Chairs of Industrial Advisory Panels and this resulted in revised guidance material being made available on the JBM website. www.jbm.org.uk.

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 2009 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 the first session was held at Costain's offices in June 2009.

Additional guidance material to support the Further Learning process was developed in 2009 and this is available on the JBM website. www.jbm.org.uk.

The first monitoring and audit visits were undertaken to organisations offering approved Employer Managed Further Learning programmes.

A number of new Members joined the JBM Board in 2009, Professor Nick Tyler, Professor Alan Woodside and Mr T Gurr who is the ICE's IEng representative.

In January 2009 a meeting was held between Chairs of the Accreditation Panels of the JBM, IET, IChemE, IMechE and CIBSE. It is hoped that this will be an annual event.

In July 2009 the Chairman wrote to all Heads of Department to advise them of the new JBM policy 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.

In 2009 we have held two pre-visit briefings for those Departments being accredited in the 2009/10 academic year and these have been popular with both Universities and the JBM members involved in accreditation visits.

In order to continue to promote academia and industrial engagement the Board has issued a number of guidance notes in 2009 including one on the area of surveying and a second on industrial liaison with universities.

In December 2009 the Institute of Highway Incorporated Engineers became the Institute of

Highway Engineers and the Institution of Highways and Transportation became the Chartered Institution of Highways & Transportation. The JBM website and associated new documentation has been updated to reflect this change and carry the new logs of these two professional bodies.

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 2009, 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 – 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 - and through its annual report. Arising from this, opportunities for development are identified. In January 2009, 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 2009, 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 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 is 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.

4. JBM Activity In 2009

1 Visits undertaken

| Quinquennial Visits | | Review Visits | | EAB Visits | |
|---------------------------|------------------|---------------------|-------------|--|------------------|
| | (Dates) | | (Dates) | | (Dates) |
| Liverpool | 29 – 30 January | Bath | 8th April | Durham | 18 – 19 February |
| Exeter | 29 – 30 January | Anglia Ruskin* | 12 November | Bristol (Department Of Engineering Mathematics) | 17 – 18 March |
| Kingston | 12 – 13 February | Nottingham Trent | 20 November | | |
| Surrey | 19 – 20 February | Brunel | 3 December | | |
| Cardiff | 5 – 6 March | | | | |
| Leeds | 12 – 13 March | | | | |
| Wolverhampton* | 19 – 20 March | | | | |
| Sheffield | 26 – 27 March | | | | |
| Heriot-Watt | 26 – 27 March | | | | |
| Liverpool John Moore's | 23 – 24 April | | | | |
| Queen's Belfast | 15 – 16 October | | | | |
| Portsmouth | 20 – 21 October | | | | |
| Coventry | 21 – 22 October | | | | |

* Visit covered IEng programmes only

2 Summary of course accreditations

| Date of JBM Board Meeting in 2009 | 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 |
|-----------------------------------|--|--|---|---------------|---------------|--|---------------|---------------|
| 06.02* | 6 | - | - | 22 | - | 2 | 1 | 1 |
| 15.05 | 11 | - | 5 | 68 | 1 | 4 | 6 | - |
| 17.07 | 2 | - | 3 | 5 | - | - | 1 | - |
| 30.10 | - | - | 1 | 2 | - | - | 1 | - |
| Total | 19 | - | 9 | 97 | 1 | 6 | 9 | 1 |

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

3 Summary of academic programmes Accredited as meeting Further Learning

requirements

| Date of JBM Board Meeting In 2009 | Further Learning for CEng | Further Learning for CEng Rejected | Further Learning for IEng | Further Learning for IEng Rejected |
|-----------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|
| 06.02* | 16 | - | - | - |
| 15.05 | 56 | 1 | - | - |
| 17.07 | 2 | - | 1 | - |
| 30.10 | 3 | - | - | - |
| Total | 77 | 1 | 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 2009 | Further Learning for CEng | Further Learning for CEng Rejected | Further Learning for IEng | Further Learning for IEng Rejected |
|-----------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|
| 06.02* | 2 | - | - | - |
| 15.05 | 1 | - | - | - |
| 17.07 | - | - | - | - |
| 30.10 | - | - | - | - |
| Total | 3 | - | - | - |

*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 2009.

- *Pre-visit briefing for Universities*
Two pre-visit briefings were held in 2009 for universities being visited in the period autumn 2009/summer 2010. These briefing sessions allowed university staff to meet with a member of the JBM visiting team.

A further session will be held in January 2010 for Universities being visited in autumn 2010.

- *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 spring 2010 the JBM will be sending 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. An analysis of these responses will be undertaken by the Documentation Working Group to assess if the JBM documentation requirements needs to be amended to reflect this feedback.

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

- *Industrial Liaison*

The JBM meeting with Chairs of Industrial Advisory Panels was held at the Institution of Structural Engineers on the 27th January 2009. A total of 57 delegates representing 37 Universities heard presentations from Gerry Parke, Chris Nason, Quentin Leiper and Ed McCann. Informal feedback from delegates has been very positive. Including the speakers, 25 industrial representatives attended the event. The feedback from the breakout groups and the responses to the Q&A sessions has been collated by the JBM Secretariat and these are available to review on the JBM website.

Universities are reminded that they should record the range of industrial input into their degree programmes in all its various forms.

- *Need for Academic Staff to be professionally qualified*

In July 2009, the Chairman wrote to all Heads of Department to outline the JBM's policy on this area that has been supported by the four JBM member Institutions.

In order to raise the standards of Civil Engineering courses, the likelihood is that it will become a minimum requirement for future undergraduate and post-graduate degree accreditation that Programme Leaders must have a professional qualification with one of the four JBM member Institutions in the subject they are teaching.

Whilst it is not the role of the JBM to be overly prescriptive in their dealings with universities, the Board would like to issue firmer guidance on this topic to demonstrate their view of its importance. At the last JBM meeting in May, the decision was made that 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.

- *Foundation Degree Working Group*

Two meetings of the Working Group were held in 2009 and it was noted that over the last year more enquiries are being received from Colleges about the content of such programmes. Traditionally, Foundation Degrees have taken a broad approach, similar to the generic HND programme in Civil Engineering but they are now being

more specific, such as a Foundation Degree in Construction Management or Tunnelling. It was agreed that the Board needed to be able to offer advice to Colleges wishing to develop an accredited degree from such specialist programmes. The JBM has agreed that successful completion of the first year of a Foundation Degree together with continued studies in the second year should be acceptable as meeting the educational base for an Engineering Technician. A draft guideline has been produced and was submitted to the JBM meeting in February 2010 for approval as a working document to be tested in visits in March/April 2010.

- *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.
- *JBM website*
The JBM website has been reviewed and updated and now includes a secure area for JBM members.
- *Guidance Note on Site Visits*
An updated guidance note was produced in 2008 and on a number of visits in 2009, Teams suggested to universities that when their Estates Department issues contacts for the construction of new buildings a clause in the contact confirms that they will allow site visits by students during the project build.

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 2009.

- The International Sub-Committee continues to work with their colleagues on the Russian International Accreditation Board (RIAB).
- 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.

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.
- Although the Sub-Committee did not meet in 2009, 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 before a final version is issued in July 2010.

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 Sub-Committee has also issued revised guidelines to organisations about the JBM monitoring and audit processes that have been developed to support the Employer Managed Further Learning programmes.
- The Sub-Committee conducted two monitoring meetings with Dawnus Construction and the Jackson Group and undertook an audit visit to Kier Construction.
- One of the project areas for the Sub-Committee in 2009 was to give better guidance to candidates making an application via the Self-Managed Guidelines and case studies are being developed. There is also going to be a series of articles to raise awareness and an event for graduates.
- During 2009 a number of observers have attended the meetings of this Sub-Committee to support them in the development of guidance material, namely, Dr Anita Walsh (Birbeck College, Director, Centre for Learning and Professional Development).
- It was noted that external organisations such as the QAA have expressed an interest in the work that the JBM was doing in the area of work-based education. The EPC have also established a Working Group to look at the future of engineering education and this involves a number of bodies such as QAA and the RAEng. Work-based learning will be one of the key areas that they will be considering.
- The approach that the Sub-Committee has agreed to take in approving some of the employer-managed programmes is; namely, a desire to work with the organisation over the approval period to help the organisation raise their standards, as they gain a better understanding of how to assess learning outcomes and the attainment level required. There will be a monitoring visit to each organisation when they have been operating the approved scheme for one year to assess progress.
- 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 2009. 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.

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

- Atkins Global
- Balfour Beatty

- Cambridgeshire County Council
 - Carillion plc
 - Costain
 - Dawnus Construction Ltd
 - MorganEst
 - BAM Nuttall
 - Jackson
 - Jacobs
 - Kier Construction
 - PWD Brunei
 - Vinci Construction
- 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.
 - A series of guidance material is available to download from the JBM website covering the following areas:
 - Employer-Managed Work-Based Further Learning Programmes for Completion of the Educational Base for Chartered Engineers
 - Employer-Managed Work-Based Further Learning Programmes for Completion of the Educational Base for Incorporated Engineers
 - Further Learning options – flowchart
 - Further Learning – Frequently Asked Questions
 - Glossary of Further Learning Terms
 - Guidance on Self-Managed Further Learning
 - Guidance on work based education
 - Guidance on technical MSc programmes
 - Guidance on MSc degrees with a pre-qualifying year.
 - Universities 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 77 MSc programmes were approved during 2009 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 Bath
 - University of Bradford
 - Cardiff University
 - Coventry University
 - Exeter University

- University of Glamorgan
- Heriot-Watt University
- Kingston University
- Loughborough University
- Liverpool John Moore's University
- Queen's University Belfast
- University of Leeds
- University of Liverpool
- University of Portsmouth
- University of Salford
- University of Sheffield
- University of Surrey
- Swansea University

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

- In 2010 the Sub-Committee will review its existing guidance material to ensure that it is current. This review will enable the Sub-Committee to reflect on the experiences gained following a number of audit and monitoring visits undertaken during 2009 and early 2010.
- The Sub-Committee is also to produce 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.

5.4 Other issues considered by the Board in 2009

- *EC Liaison Officer*
Professor Peter Hicks continues to act as the EC's Liaison Officer on accreditation matters. He is hoping to observe one of the JBM's accreditation visits in 2010.
- *Training for Moderators*
Training of new Board members continues to be through on-the-job training during visits. A briefing session for new JBM Board members was held in February 2009. After the July JBM meeting all Board members attended a briefing session on the range of documentation that will be available for forthcoming JBM visits.
- *Teaching of Structural Analysis*
The Board received a presentation from Professor Ian May that outlined the main findings of the research he has undertaken with David Johnson. It was agreed that this would not be issued as a separate Annex but that the Report produced by the Arup Foundation should be available to download from the JBM website.
- *HNC/HND Programmes*
The JBM has confirmed that where a University offers HND awards as well as degree programmes, details of such programmes must also be included in the submission. This has two benefits: firstly, to enable the JBM to monitor the provision of such programmes and, secondly, to enable the Team to obtain a clearer picture of the full range of programmes on offer at the University and how transfer arrangements between the two programmes have become more transparent.

- *Pressure to have research active staff*
The Board noted that as a consequence of a reduction in teaching income there continues to be pressure on Departments to recruit new staff with a proven research record as income generators. The Board recognised that most extra income now comes through research work and Departments at Universities without strong research activities will be forced to increase the student to staff ratios in order to remain viable. In the light of these pressures exhortations for the recruitment process to put greater emphasis on new staff having appropriate professional and practical experience are too often falling on deaf ears.

5.7 Issues to be considered by the Board in 2010

In 2010, the following areas are to be considered by the JBM: -

- A number of universities reported that they were considering plans to offer a Foundation Degree in civil engineering and the draft JBM guidance document will be tested during a number of accreditation visits during 2010.
- To meet with the RAEng to discuss the development of a seminar on best practice in accreditation activities.
- To monitor the development of the Advanced Progressive Diplomas in Engineering and the Construction and the Built Environment to consider the impact on entry standards and routes to professional membership.
- 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.
- Continue to identify areas of good practice and report to the ICE's PHEW on any areas that would be of interest.
- To undertake 14 full accreditation visits and 4 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 undertake an accreditation visit to the Malaysian campus of Nottingham University.
- To review the submission documents following the analysis of the questionnaires submitted by Universities and Team Members following their experience of JBM visits in autumn 2009 and spring 2010.
- To produce guidance for Visiting Teams on the areas they need to concentrate on when they assess distance learning programmes.

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.

- *Participation in the Constructionarium.*

Those Departments that are able to take part in the Constructionarium continue to find great benefit.

- *Support for Students*
The excellent mathematical support given to students and some Departments provide safety equipment to students. A good range of opportunities is offered to students through the student mentoring schemes such as involvement with Engineers Without Borders. Where the Department is able to provide a part-time degree pathway this is popular with students and local employers.
- *Support from Students*
A recurring theme in most Visit Reports is that the visiting team was impressed by the articulate and enthusiastic students who were very supportive of the staff. Similarly, many Visit Reports refer to a strong team spirit between the staff and the students and that a good atmosphere is apparent during the visit, often as a result of the "open door" policy of the staff in the Department.
- *Research work*
A good number of Visit Reports indicated that the research work of staff was being fed back to the students in project work and occasionally in final year modules.
- *Intranet systems*
Good use is also being made of university intranet systems to enable students to access lecture notes, worked examples and previous examination papers.
- *Links with Industry*
The links between Departments and Industry continue to be somewhat more variable. However, in those Departments with an effective Industrial Liaison Committee or where there is a high level of regular contact between the Department and Industry, there was clear evidence of the benefits to be gained by all parties including students. In particular, excellent links between Universities and Industry have been established in those Departments offering sandwich or vacation placements. Evidence was also provided in many cases of good use being made of Visiting Professors, some of whom were based in Industry.

On one visit the Team recommended that that the Department consider widening the membership of the IAP to benefit from a different perspective offered by those outside mainstream civil engineering. The Team further recommended that the Department explore ways in which Board members and Engineering Advisors can become more involved in the Department, perhaps through increased design tutoring, project work etc.

Another Team thought that the timetabling of the January meeting of the Industrial Advisory Panel to coincide with the oral poster presentations of the 4th Year MEng students, thus enabling members of the IAP to attend was an area of good practice.

Some additional benefits of good industrial liaison are shown below: -

- The support and training for the industrial staff delivered by the Centre for Learning and Development that has supported them in the delivery of the MSc in Transport Planning and Practice.
- Support from the Industrial Advisory Panel for the provision of PPE.
- Opportunities for students to undertake project work that was based on a live project that dealt with current issues.
- Industrial partnership schemes brings significant benefits to the programmes such as influencing course design and setting project specifications.
- Involvement of the Industrial Liaison Panel in the students project work.

Other areas are noted below, whilst some 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.

- The Team was impressed with the linking of theory to the laboratory output and the involvement of students in the laboratories.
- The Team was impressed with the research institutes and their ability to provide research led teaching on structures and materials.
- The Engineering Systems integration into many aspects of the courses helps strengthen the JBM threads.
- The links with the various JBM member Institutions and in particular the requirement that students attend 3 or 4 institution meetings during the year and that evidence of this is recorded in log books.
- The good provision of modern laboratory and teaching equipment, such as the use of radio microphones for lecturers.
- The true inter-disciplinary nature of the Multi Disciplinary Design Project.
- The Team was impressed with the Schools provision of field courses in the 1st, 2nd and 4th Year.
- The close integration between the Civil Engineering and the Architecture students.
- The Basil Spence project in the final year, which brings together civil engineering and architecture students in true interdisciplinary working.

7. Current Concerns

Undergraduate programmes

- *Aims and Objectives*
The aims and objectives of various degree schemes at a number of Universities were considered to be disappointing with many not differentiating significantly between IEng and CEng degree schemes. The aims and objectives of BEng programmes must be written to ensure that they stand alone, and meeting in part the educational base for a Chartered Engineer. The broadening aspects of the MEng degree were often overlooked in the aims and objectives. Also, many Departments continue to fail to refer to the uniqueness of the course or the Department's particular strengths in the published documentation. This is an area in which the Industrial Advisory Board or its equivalent can help to ensure that the course structure meets the aims and objectives as specified by the Department.
- *Maintenance of Laboratory equipment and use of appropriate PPE*

Some laboratory equipment is beginning to look tired and may be inadequate to support modern engineering courses. A phased upgrade should be planned for when funding becomes available. Departments must maintain a range of suitable laboratory equipment to support undergraduate teaching of civil engineering programmes. *The Civil Engineering team should require students to use appropriate PPE for laboratory sessions.*

- *Compensation Regulations*

Departments are reminded that they must update their compensation regulations to meet the JBM requirements that “*Normally only up to 20 credits out of 120 credits, in the final year, can be compensated*’, the JBM have clarified in their recent meeting that they would expect this guideline to be adhered to unless the Department can demonstrate why it is more beneficial that they do not.”

Threshold levels (for the award of third class honours) should be reviewed with the aim of bringing them in line with JBM guidelines.

- *Marking Schemes*

A number of comments were made in reports that relate to the need for Departments to ensure consistency and transparency in group marking and that their guidelines for the 4th year project/dissertation are sufficiently detailed so that students know what is required of them and what the learning outcomes will be.

- *Staffing*

Staff are spreading themselves thinly across the programmes.

- *Recruitment of new staff*

Staffing continues to be an issue in some Departments and they should develop plans for overlap need to be made and implemented where staff members are due to retire or have recently retired so that specialist knowledge is not lost. On a number of visits the Team is recommending that the Department encourage and support staff to pursue membership of one of the institutions.

- *Examinations processes and regulations for referral and compensation*

Examination papers should be made more challenging by inclusion of more open-ended questions and the wording of questions reflects current industrial practice. Regulations for referral and compensation should be transparent and easy to understand by visiting teams and referral procedures must ensure that a student who fails in any of the core subjects is not awarded a degree. Assessments must be aligned to the stated learning outcomes.

- *Teaching of Structural Analysis*

Departments should review the teaching of structural analysis and design to ensure that students understand structural behaviour and the importance of modelling, verifying and validating the results. Whilst the teaching of structural analysis will involve calculations the students must develop an understanding of structural performance, recognise the advantages and limitations of computer analysis and develop the knowledge/confidence to question the validity of computer analysis. The health and safety responsibilities of designers within projects should be given more emphasis in the teaching of design and specifically in the design projects.

- *Links with JBM member bodies*

The benefits of membership of the Institutions should be stressed to members of the academic staff. It is important that students come into contact with lecturers who are professionally qualified. Departments must encourage academic staff to pursue professional membership and Chartered status where appropriate.

Departments are encouraged to contact the local Institutions liaison representatives to undertake a presentation to students and staff.

Students must be encouraged to become members of ICE, IStructE, CIHT or IHE and to participate in the activities of these institutions.

- *Investigative Project work*

Where Departments are operating an Integrated Design Project, they should record all stages of the project process. This will include monitoring the student's log books and keeping records of the interim reports. Investigative Projects need to show evidence of technical and innovative solutions, critical development of ideas, evidence of creativity and transparency of assessment. The projects must be stand alone. One Department has been asked to revise the Year 3 individual project briefs to ensure that students are required to undertake investigative research where hypothesis and conclusions, showing evidence of original thought, are demonstrated.

The description of the MEng Individual Project should be revised to ensure that the expected enhancement and challenge beyond the BEng level is made explicitly clear.

- *Industrial Liaison*

There is a need for Departments to engage with the local civil engineering community and one way to achieve this is to have an effective industrial liaison panel or its equivalent. However, where these exist it is important that Departments fully utilise the support available through the ILP. Some industrial panel members are more than willing to become involved in the assessment of Final Year projects, design tutoring, to give the occasional one-off guest lecture, provide industrial placements (or vacation experience) and suggest opportunities for site visits. In some cases visiting teams have suggested that the membership of this industrial panel should be expanded to better reflect the broad nature of the civil engineering profession. Panels can also assist with student work placements and they can also promote the value of relevant vacation work and possibly encourage some of their colleagues to undertake some kind of mentoring at least for the full time students. It may also be possible for Part-Time students to act as 'buddies' to full-time students and where feasible taking them to their office/sites.

It is most important that the IAP should continue to be active **after** the JBM visit.

- *Site Visits*

A number of teams are reporting that it is difficult for Departments to organise site visits for students. This is despite the publication in 2008 of the JBM's guidance document on site visits that outlined a number of ways in which site visits can be increased. Departments are reminded that they must make the most of opportunities to provide exposure to appropriate sites, whether by physical or virtual visits. They

should consider adding appropriate clauses into contracts for construction projects on campus.

- *Feedback*
Feedback to students was patchy and should be made more consistent. Best practice on feedback within the Department should be rolled-out to all staff.
- *Civil Engineering Society*
Two reports have suggested that the School consider the reintroduction of a Civil Engineering Society with the assistance of the local branches of the institutions and members of the IAP. This could also involve the introduction of the buddy system between first year students and second year students and this would also support the Civil Engineering team identity.

Other specific issues of concern arising from the 2009 Visit Reports include:

- That the School addresses the high student : staff ratio as soon as possible to ensure that the students' experience is not affected.
- The teaching of Management should be reviewed with the aim of making the provision more relevant to practice.
- Departments should promote student awareness of sustainability issues particularly within the first two years of the programmes.
- The School should increase students' exposure to sketching.
- The academic staff should work with the Library team to ensure that there is an adequate support of standard text books and that these books are made available to all students at the appropriate time.
- The Department considers how to increase inter-disciplinary teaching.
- The need to strengthen the mathematical content of the BEng (Hons) degree and place a greater emphasis on engineering mathematics.
- The Team would encourage the Department to consider the development of a student forum that would provide a more relaxed environment that would enable the students raise any issues.

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: -

- A lack of depth in some specialist MSc programmes.
- The need to review the aims and objectives for the MEng and Masters degree programmes so that they are clear and aligned with UK-SPEC, University and QAA regulations.
- The need to review and monitor the number of literature style review projects undertaken by HE3, M Level and MSc students to ensure that such projects include substantial evidence of critical thinking.
- 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 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.
- The need to consider raising the pass mark for all components of the MSc programme from 40% to 50%.
- For the MSc programmes the coversheets for student work/examination papers and the student entry and graduate data must make it clear whether the student is intending to complete the full MSc or to use the Module for CPD purposes only.

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

Dr Andrew Heath, Department of Architecture and Civil Engineering, University of Bath, Bath, BA2 7AY. Tel: +44 (0)1225 386937, Email: absah@bath.ac.uk

▪ Annual Bridge Engineering Conference

The Annual Bridge Engineering conference is held in the spring. The Conference consists of various presentations by undergraduate Civil Engineering students, as part of the Bridge Engineering 2 taught unit. Students make a 15 minute presentation and prepare a paper that gives an insight into the design and construction aspects associated with a single existing bridge. There were 27 papers delivered in 2008. The learning outcomes are related to technical ability and written and oral communication skills. The papers are published as conference proceedings and are available on the website for review.

University of Durham

Professor P Tavner, School of Engineering, University of Durham, Science Laboratories, South Road Durham DH1 3LE

▪ The panel commends the approach to the new Industrial Partnership Committee (IPC).

The Industrial Advisory Committee meets on a regular basis and current initiatives include:

- An industrial review of the programme specifications relating to the BEng, MEng and MSc taught programmes.
- A drive to increase the number of final year projects carried out with industry.
- A drive to increase the number of L2 and L3 design projects carried out with industry.
- Defining a set of skills that industry would require from a graduate engineer. This would include academic, practical, technical, commercial and interpersonal skills.

University of Exeter

Professor Kenneth Evans, School of Civil Engineering, University of Exeter, The Harrison Building, North Park Road, Exeter EX4 4QF

Tel: +44 (0)1392 263648, Email: K.E.Evans@exeter.ac.uk

▪ Personal Tutoring Scheme.

During the first year tutors will meet with tutees in small groups on a weekly timetabled basis. The School has recently introduced a minimum expectation for Personal Development Tutorials. As part of this commitment the School contractually prescribe the level of support and feedback staff provide, on request, to aid students' progress through the programme.

The Team commented most favourably on the School's open door policy whereby students can arrange to see their personal tutor about academic and pastoral care matters on an individual basis. The students were very appreciative of the personal tutoring system, which seems to work well.

Heriot-Watt University

Dr John Cairns, Department of Civil Engineering Programme, Arrol Building, Heriot-Watt University, Riccarton, Edinburgh, Tel: +44 (0)131 451 4411, Email: civjic@sbe.hw.ac.uk

- **Procedures for Distance Learning**

This involves Associated Learning Partners, whereby commercial organisations enrol students for the Distance Learning MSc courses. The teaching material and assessment is provided by the University but the staff at the centres provide tutorial support if requested by the students and recruit students (but require the School's approval for admissions). The School approves the tutors employed by the Centre's on the basis of their CVs, backed up by regular visits by the School. There are currently 34 students on these courses at the following centres: Hong Kong College of Higher Education; School of Higher Education Ltd (San Fernando, Trinidad and Tobago); IKON (Athens, Greece); Trent Global (Singapore). The Team consequently felt confident that the environment for these students is identical to other students studying by Distance Learning through Heriot-Watt. Also, the Team was reassured by the fact that remote exams are organised by the British Council and timings are synchronised with those in Edinburgh. All marking and Quality Assurance procedures are undertaken at Heriot-Watt.

Kingston University

Professor Mukesh Limbachiya, School of Civil Engineering and Construction, Kingston University, | Penrhyn Road, Kingston upon Thames, KT1 2EE | UK
Email: m.limbachiya@kingston.ac.uk Tel: +44 (0)20 8417 2268 |

- **The provision of CASC/ASC/EnASC, (the Academic Skills Centres) which offer support to students in, for example, report writing and Maths.**

A Construction Advisory Skills Centre has been set up in conjunction with the School of Surveying, which provides a drop-in centre and workshops for students to improve their academic skills. A related ASC for the remaining Engineering students has been started this year.

Students can also receive advice and attend workshops through CASC (Construction Academic Skills Centre) on topics such as report writing and mathematics. Maths Aid is also available to students every lunchtime, as well as a Maths Café which offers a daily drop-in session for one week before the May exams.

University of Leeds

Professor N Smith, School of Civil Engineering, University of Leeds, Leeds, LS2 9JT. Tel: 0113 343 2301, Email: n.j.smith@leeds.ac.uk

- **Design Thread**
- **Health and Safety**
- **Student Support Scheme**

The Design thread which is also linked to the development of personal and professional skills, IT skills, the understanding of the progression of schemes from developing design briefs to open ended projects is an example of best practice.

Health and Safety - all staff are required to complete training events leading to a Chartered Institute of

Environmental Health – H&S in the Workplace Level 2 award to comply with the new University H&S Policy – ‘Me & You’ initiative.

The scheme that aims to support students throughout their time at the University known as “Leeds for Life”. This provides students with a system of induction which is throughout the first year and is linked to the personal tutoring system.

This tutoring system involves timetabled tutorial sessions for 1st Year students. The personal tutor remains the same through the student’s course, but, as 3rd and 4th Year students have project supervisors, it is likely that any difficulties are raised with the supervisor. The students are supportive of the personal tutoring system, which seems to work well.

Liverpool University

Professor G Padfield, Head of Department of Engineering, University of Liverpool,
Brownlow Hill, Liverpool, L69 3GH
Tel: +44 (0)151 794 4800, Email: gareth.padfield@liv.ac.uk

- **CDIO initiative.**

This is an educational framework which provides students with an education stressing engineering fundamentals set in a context of conceiving, designing, implementing, operating real world systems and products. The evidence the Team has seen thus far is good, but further development is required.

University of Portsmouth

Dr Dominic Fox, Department of Civil Engineering, Portland Building, Portland Street, Portsmouth PO1 3AH. Tel: +44 (0)23 9284 2604 +44 (0)23 9284 2521, Email: hod.cveg@port.ac.uk

- **Variety of Entry routes**
- **Level 3 unit, Civil Engineering Design and Management Project**
- **Optional Diving course**

The Department offers very flexible opportunities to transfer and progress. The variety of entry routes to Civil Engineering and the ‘stepping stones’ provided which enable students to progress and move between courses, and maximise student potential.

This Level 3 unit incorporates a challenging brief, teaching and inputs from experienced practitioners and an industry sponsored prize. The Project brief involves the MEng students employing second year students as sub-contractors – this is real preparation for management roles.

The Department offers a diving course through a local dive training centre. This is popular option and students can gain external diving accreditation.

University of Sheffield

Mrs Marian Hogg, Department of Civil and Structural Engineering, Sir Frederick Mappin Building, Mappin Street, Sheffield, S1 3JD, Telephone: +44 (0) 114 222 5419
 Fax: +44 (0) 114 222 5700, Email: m.hogg@sheffield.ac.uk

- **MSc conference**
- **Multidisciplinary MSc**

The final stage of the dissertation process for MSc's where students prepare and deliver a technical conference paper based on their dissertation work.

The multidisciplinary MSc planning Design Programme involving teams of 8 students from structural/civil engineering, landscaping, architecture and mechanical engineering is a very valuable exercise in preparing students for the real structural/civil engineering challenges.

University of Surrey

Professor Gerry Parke , Faculty of Engineering and Physical Sciences, University of Surrey, Guildford, Surrey GU2 7XH. Tel +44 (0) 1483 689544 Email G.Parke@surrey.ac.uk

- **The provision of U-Learn.**

This is the Surrey's Virtual Learning Environment (VLE). It provides an online 'space' in which lecturers and students on a particular module can interact in a range of teaching and learning activities. These include:-

- Reading or printing content and materials
- Taking quizzes to support and develop learning, or for formal assessment
- Participating in discussions or task-based activities
- Submitting assignments, for them to be marked and returned with feedback
- Working in small groups within a larger cohort

The benefits of using ULearn can include:

- A single reference point for essential module information
- Increased opportunities for students to interact with staff and other students, particularly within small groups
- Additional time for reflection and careful consideration in activities
- Rapid feedback from automated marking or from other students, allowing students to gauge their progress or reflect on their thinking
- Participation by students or guest lecturers who would not otherwise be available

Currently, around 50% of students at Surrey now use ULearn as part of their programmes of study, ULearn is available 24 hours a day, and can be accessed from PCs on or off-campus. In most cases, ULearn activities are 'blended' with face-to-face activities, combining the strengths of both. However, in some distance-learning courses, ULearn is the primary means of teaching.

The Centre for Learning and Development gives staff the option to complete an E-Learning Course that offers guidance on building modules and teaching using ULearn."

Annex No. 2**Details of Membership - 2009****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 ^{UK} 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
Dr C Williams 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

Annex 3 Student Intake Numbers 2009 Entry to Year One

| | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC/FD | HND/FD | NC | ND | Total Students | Total Female Students |
|--|------|-----|-------|------------------|-----|-------|------|-----|-------|-------|-----|-------|-------------|-----|-------|--------|--------|-------|-------|----------------|-----------------------|
| | Home | O S | Total | Home | O S | Total | Home | O S | Total | Home | O S | Total | Home | O S | Total | Total | Total | Total | Total | | |
| The University of Aberdeen | 16 | | 16 | 24 | | 24 | | | | | | | | | | | | | | 40 | 10 |
| University of Abertay Dundee | | | | | | | 5 | 4 | 8 | | | | 17 | 1 | 18 | | | | | 26 | 4 |
| Anglia Ruskin University | | | | | | | | | | | | | 23 | | 23 | | 12 | | | 35 | 2 |
| The University of Bath | 50 | 9 | 59 | 9 | 7 | 16 | 20 | 41 | 61 | | | | | | | | | | | 136 | 33 |
| The Queen's University of Belfast | 75 | 8 | 83 | 34 | 23 | 57 | 48 | 4 | 52 | | | | | | | | | | | 192 | 51 |
| Belfast Metropolitan College | | | | | | | | | | | | | | | | | | | | | |
| The University of Birmingham | | | | 52 | 14 | 66 | 63 | 74 | 137 | | | | | | | | | | | 203 | 36 |
| The University of Bolton | | | | | | | | | | | | | 34 | 3 | 37 | 40 | | | | 77 | 7 |
| The University of Bradford | 15 | | 15 | 91 | 6 | 97 | | | | | | | | | | | | | | 112 | 4 |
| Bridgend College | | | | | | | | | | | | | | | | | | | | | |
| The University of Brighton | 12 | 3 | 15 | 55 | 10 | 65 | 16 | 6 | 22 | | | | | | | | | | | 102 | 17 |
| The University of Bristol | 66 | 15 | 81 | 1 | 11 | 12 | | | | | | | | | | | | | | 93 | 30 |
| Brunel University | 5 | 1 | 6 | 22 | 12 | 34 | | | | | | | | | | | | | | 40 | 6 |
| Burton College | | | | | | | | | | | | | | | | | | | | | |
| The University of Cambridge (entry to all engineering) | 241 | 71 | 312 | | | | 18 | 4 | 22 | | | | | | | | | | | 334 | 81 |

| | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Students | Total Female Students |
|---|------|----|-------|------------------|----|-------|------|----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|----------------|-----------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| Cardiff University | 77 | 10 | 87 | 58 | 25 | 83 | 32 | 54 | 86 | | | | | | | | | | | 256 | 53 |
| The City University | 27 | 5 | 32 | 76 | 12 | 88 | 21 | 10 | 31 | | | | | | | | | | | 151 | 25 |
| Coventry University | 9 | | 9 | 51 | 17 | 68 | 28 | 16 | 44 | | | | 44 | 13 | 57 | 33 | 27 | | | 238 | 10 |
| The University of Derby | | | | | | | | | | | | | | | | | 27 | | | 27 | 1 |
| Dundee College | | | | | | | | | | | | | | | | | | | | | |
| The University of Dundee | 16 | | 16 | 27 | 3 | 30 | 23 | 30 | 53 | | | | | | | | | | | 99 | 10 |
| University of Durham (common entry no data available) | | | | | | | | | | | | | | | | | | | | | |
| The University of East London | | | | 61 | 22 | 83 | 25 | 37 | 62 | | | | | | | | 42 | | | 187 | 15 |
| The University of Edinburgh | 59 | 3 | 62 | 23 | 3 | 26 | 19 | 21 | 40 | | | | | | | | | | | 128 | 22 |
| Exeter College | | | | | | | | | | | | | | | | | | | | | |
| Exeter University (entry to all engineering) | | | | | | | | | | | | | | | | | | | | | |
| Forth Valley College | | | | | | | | | | | | | | | | | | | | | |
| Glamorgan | | | | 17 | | 17 | 6 | 8 | 14 | | | | 20 | 4 | 24 | 18 | 18 | | | 91 | |
| The University of Glasgow | 84 | 2 | 86 | | | | | | | | | | | | | | | | | 86 | 12 |
| Glasgow Caledonian University | | | | | | | | | | | | | 35 | 2 | 37 | | | | | 37 | |
| The University of Greenwich | | | | 17 | 9 | 26 | 8 | 12 | 20 | | | | 16 | 2 | 18 | 11 | 9 | | | 84 | 3 |
| Heriot-Watt University | 37 | 3 | 40 | 51 | 26 | 77 | 39 | 25 | 65 | | | | | | | | | | | 182 | 28 |

| Students 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Students | Total Female Students |
|--|------|----|-------|------------------|----|-------|------|-----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|----------------|-----------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| Imperial College of Science, Technology & Medicine | 84 | 27 | 111 | | | | 23 | 1 | 24 | | | | | | | | | | | 145 | 40 |
| Kingston University | | | | 70 | 10 | 80 | 28 | 33 | 61 | | | | 92 | 7 | 99 | | | | | 240 | 17 |
| The University of Leeds | 148 | 16 | 164 | | | | 46 | 106 | 152 | | | | | | | | | | | 316 | 84 |
| Leeds Metropolitan University | | | | | | | | | | | | | 42 | 2 | 44 | | 46 | | | 90 | 8 |
| Lincoln College | | | | | | | | | | | | | | | | | | | | | |
| The University of Liverpool | 16 | 4 | 20 | 44 | 20 | 64 | 4 | 5 | 9 | | | | | | | | | | | 93 | |
| Liverpool John Moores University | | | | 52 | 1 | 53 | 7 | 2 | 9 | | | | | | | 32 | 21 | | | 115 | 9 |
| London South Bank University | | | | 42 | 14 | 56 | 10 | 10 | 20 | | | | 40 | 11 | 51 | 76 | | | | 203 | |
| Loughborough University | 63 | 4 | 67 | 17 | 3 | 20 | 22 | 59 | 81 | | | | | | | | | | | 168 | 38 |
| The University of Manchester | 74 | 16 | 90 | 40 | 11 | 51 | | | | | | | | | | | | | | 141 | 21 |
| Mid Kent College | | | | | | | | | | | | | | | | | | | | | |
| Napier University | 4 | | 4 | 15 | | 15 | 54 | 36 | 90 | | | | 7 | | 7 | | | | | 116 | 19 |
| New College, Nottingham | | | | | | | | | | | | | | | | | | | | | |
| The University of Newcastle | 32 | 1 | 33 | 17 | 1 | 18 | 113 | 50 | 163 | | | | | | | | | | | 214 | 49 |
| Newcastle College | | | | | | | | | | | | | | | | | | | | | |
| City College Norwich | | | | | | | | | | | | | | | | | 17 | 16 | | 33 | 5 |

| Students 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Students | Total Female Students |
|---|------|----|-------|------------------|----|-------|------|----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|----------------|-----------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| The University of Nottingham | 48 | 6 | 54 | 72 | 21 | 93 | 14 | 55 | 69 | | | | | | | | | | | 216 | 45 |
| The Nottingham Trent University | | | | 32 | 4 | 36 | | | | | | | 62 | 2 | 65 | | | | | 101 | 6 |
| Oaklands College | | | | | | | | | | | | | | | | | | | | | |
| The University of Oxford (entry to all engineering) | 134 | 27 | 161 | | | | | | | | | | | | | | | | | 161 | 42 |
| The University of Plymouth | 30 | 2 | 32 | 82 | 2 | 84 | 15 | 5 | 20 | | | | 51 | | 51 | | | | | 136 | 14 |
| The University of Portsmouth | 7 | 1 | 8 | 56 | 6 | 62 | 21 | 23 | 44 | | | | 44 | 7 | 51 | | 13 | | | 178 | 10 |
| The University of Salford | 12 | | 12 | 41 | 4 | 45 | 39 | 29 | 68 | | | | 60 | 12 | 72 | | | | | 197 | 18 |
| Sheffield City College | | | | | | | | | | | | | | | | 23 | | 19 | | 42 | 5 |
| The University of Sheffield | 93 | 13 | 106 | 7 | 10 | 17 | 25 | 37 | 62 | | | | | | | | | | | 185 | 49 |
| Southampton Solent University | | | | | | | | | | | | | | | | 36 | | | | 36 | 5 |
| The University of Southampton | 62 | 12 | 74 | 6 | 11 | 17 | 48 | 22 | 68 | | | | | | | | | | | 157 | 40 |
| The University of Strathclyde | 52 | | 52 | 75 | | 75 | | | | | | | | | | | | | | 127 | 21 |
| The University of Surrey | 31 | 1 | 32 | 54 | 10 | 64 | 51 | 34 | 85 | | | | | | | | | | | 181 | 31 |
| Swansea Metropolitan University | | | | | | | | | | | | | | | | 16 | 17 | | | 33 | |
| Swansea University | | | | | | | | | | | | | | | | | | | | | |
| Swindon College | | | | | | | | | | | | | | | | 13 | 9 | | | 22 | |

| Students 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Students | Total Female Students |
|--|-------------|------------|-------------|------------------|------------|-------------|------------|------------|-------------|----------|----------|----------|-------------|-----------|------------|------------|------------|-----------|----------|----------------|-----------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| The University of Teesside | | | | | | | | | | | | | | | | | | | | | |
| Thames Valley University | | | | | | | | | | | | | 5 | 1 | 6 | | | | | 6 | 3 |
| University of Ulster | | | | | | | | | | | | | | | | | | | | | |
| University College London | 20 | 14 | 34 | 9 | 7 | 16 | 4 | 1 | 5 | | | | | | | | | | | 55 | |
| The University of Warwick (entry to all engineering) | 155 | 68 | 223 | 68 | 34 | 102 | | | | | | | | | | | | | | 325 | 43 |
| The University of Wales, Newport | | | | | | | | | | | | | 4 | 4 | 8 | 19 | 8 | | | 35 | 4 |
| University of the West of England | | | | | | | | | | | | | 18 | 1 | 19 | | 12 | | | 31 | 8 |
| University of the West of Scotland | | | | | | | | | | | | | 41 | | 41 | | | | | 41 | 6 |
| The University of Wolverhampton | | | | | | | | | | | | | 19 | | 19 | 34 | | | | 53 | 7 |
| Total | 1854 | 342 | 2196 | 1468 | 369 | 1837 | 895 | 854 | 1747 | 0 | 0 | 0 | 674 | 72 | 747 | 351 | 278 | 35 | 0 | 7148 | 1107 |

This data has been provided by Universities and Colleges. Missing data means that the overall totals shown in this chart are not a true reflection of the total number of students studying civil engineering programmes of study.

| Graduates 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Graduates | Total Female Graduates |
|--|------|----|-------|---------------------|----|-------|------|----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|--------------------|------------------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| Coleg Menai | | | | | | | | | | | | | | | | | | | | | |
| Coventry University | 6 | | 6 | 57 | 8 | 65 | 14 | 7 | 21 | | | | 23 | 1 | 24 | 30 | 5 | | | 151 | 15 |
| The University of Derby | | | | | | | | | | | | | 15 | 29 | 44 | | 13 | | | 57 | 3 |
| Dundee College | | | | | | | | | | | | | | | | | | | | | |
| The University of Dundee | 16 | | 16 | 32 | 1 | 33 | 9 | 34 | 43 | | | | | | | | | | | 92 | 8 |
| University of Durham | 34 | 2 | 36 | 13 | | 13 | | | | | | | | | | | | | | 49 | 6 |
| The University of East London | | | | 39 | 14 | 53 | 11 | 37 | 48 | | | | | | | 5 | | | | 106 | 9 |
| The University of Edinburgh | 55 | 1 | 56 | 27 | 1 | 28 | 8 | 5 | 13 | | | | | | | | | | | 97 | 13 |
| Exeter College | | | | | | | | | | | | | | | | | | | | | |
| Exeter University (entry to all engineering) | | | | | | | | | | | | | | | | | | | | | |
| Forth Valley College | | | | | | | | | | | | | | | | | | | | | |
| Unviersity of Glamorgan | | | | | | | 3 | 15 | 18 | | | | 9 | 18 | 27 | 14 | 8 | | | 67 | 12 |
| The University of Glasgow | 11 | | 11 | 29 | 1 | 30 | 20 | 20 | 40 | | | | | | | | | | | 81 | 8 |
| Glasgow Caledonian University | | | | | | | | | | | | | 27 | | 27 | | | | | 27 | |
| The University of Greenwich | | | | 13 | 9 | 22 | | 5 | 5 | | | | 3 | 1 | 4 | 8 | | | | 39 | 8 |
| Heriot-Watt University | 31 | | 31 | 29 | | 29 | 25 | 23 | 48 | | | | | | | | | | | 108 | 16 |
| Imperial College of Science, Technology & Medicine | 51 | 32 | 83 | | | | 131 | 77 | 208 | | | | | | | | | | | 291 | 102 |

| Graduates 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Graduates | Total Female Graduates |
|----------------------------------|------|----|-------|---------------------|----|-------|------|----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|--------------------|------------------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| Kingston University | | | | 38 | 8 | 46 | 9 | 19 | 28 | | | | 49 | 3 | 52 | | 14 | | | 126 | 22 |
| The University of Leeds | 61 | | 61 | 19 | 21 | 40 | 32 | 93 | 125 | | | | | | | | | | | 226 | 47 |
| Leeds Metropolitan University | | | | | | | | | | | | | 62 | 2 | 64 | | 46 | | | 108 | 13 |
| Lincoln College | | | | | | | | | | | | | | | | | | | | | |
| The University of Liverpool | 31 | 3 | 34 | 26 | 12 | 38 | 9 | 3 | 12 | | | | | | | | | | | 84 | 8 |
| Liverpool John Moores University | | | | 37 | 2 | 39 | 3 | 1 | 4 | | | | | | | 25 | 11 | | | 79 | 3 |
| London South Bank University | | | | 38 | | 38 | 15 | | 15 | | | | 30 | | 30 | | | | | 83 | |
| Loughborough University | 47 | 1 | 48 | 39 | 5 | 44 | 15 | 53 | 68 | | | | | | | | | | | 160 | 22 |
| The University of Manchester | 37 | 5 | 42 | 30 | 12 | 42 | | | | | | | | | | | | | | 84 | 14 |
| Mid Kent College | | | | | | | | | | | | | | | | | | | | | |
| Napier University | 11 | | 11 | 59 | 1 | 60 | 26 | 15 | 41 | | | | 16 | | 16 | | | | | 128 | 4 |
| New College, Nottingham | | | | | | | | | | | | | | | | | | | | | |
| The University of Newcastle | 71 | | 71 | 9 | 4 | 13 | 73 | 39 | 112 | | | | | | | | | | | 196 | 16 |
| Newcastle College | | | | | | | | | | | | | | | | | | | | | |
| City College Norwich | | | | | | | | | | | | | | | | 6 | 8 | 26 | | 40 | |
| The University of Nottingham | 34 | 6 | 40 | 26 | 19 | 45 | 8 | 32 | 40 | | | | | | | | | | | 125 | 16 |
| The Nottingham Trent University | | | | 9 | | 9 | 14 | | 14 | | | | 27 | | 27 | | | | | 50 | 5 |

| Graduates 2009 | MEng | | | BEng (Hons) CEng | | | MSc | | | PGDip | | | IEng Degree | | | HNC | HND/FD | NC | ND | Total Graduates | Total Female Graduates |
|------------------------------------|------|-----|-------|---------------------|-----|-------|------|-----|-------|-------|----|-------|-------------|----|-------|-------|--------|-------|-------|-----------------|------------------------|
| | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Home | OS | Total | Total | Total | Total | Total | | |
| The University of Warwick | 39 | 3 | 42 | 9 | 4 | 13 | | | | | | | | | | | | | | 55 | 13 |
| The University of Wales, Newport | | | | | | | | | | | | | 16 | 3 | 19 | 18 | 15 | | | 52 | 6 |
| University of the West of England | | | | | | | | | | | | | 19 | | 19 | | | | | 19 | |
| University of the West of Scotland | | | | | | | | | | | | | 23 | 1 | 24 | | | | | 24 | 2 |
| The University of Wolverhampton | | | | | | | | | | | | | 27 | 1 | | | | | | 28 | 5 |
| Total | 1030 | 110 | 1162 | 989 | 275 | 1282 | 658 | 683 | 1353 | 0 | 3 | 3 | 475 | 72 | 519 | 255 | 144 | 56 | 0 | 4796 | 747 |

This data has been provided by Universities and Colleges. Missing data means that the overall totals shown in this chart are not a true reflection of the total number of students studying civil engineering programmes of study.