



SUPPLEMENTARY GUIDANCE FOR ACADEMICS

- 1. In preparation for your professional review, you should:**
 - Make sure your workload includes a broad range of activities, e.g. teaching, research, and administration.
 - Get involved with university-wide projects, for example initiatives related to diversity, health and safety, sustainability, ethics, curriculum development, assessment policy, or links to industry.
 - Take responsibility for a specific project with health and safety, international or industry related aspects.
 - Ensure you are familiar with relevant legislation, codes of practice and university regulations that affect your work areas, e.g. health & safety, RAMS, financial procedures, ethical research.
 - Find an opportunity to take responsibility for a specific budget. e.g. Bid documentation and tendering for equipment
 - Engage in the procurement processes in your work area and ensure that you are familiar with the relevant contractual requirements. Have knowledge of standard forms of contract such as NEC
 - Ensure you are up to date with relevant legislation, e.g. CDM 2015, Equalities Act 2010, HASAWA, GDPR.
 - Engage in CPD to include technical meetings, webinars, conferences, seminar and other professional engineering development, updating your knowledge of changes in DMRB, government policy, JBM practice, Engineering Council updates on ethics, sustainability, risk, Climate Change, carbon literacy, etc.

- 2. Your portfolio of evidence, project presentation and responses to questions at interview must demonstrate:**
 - Technical expertise and knowledge
 - Application of theoretical concepts to real life situations
 - Identification of problems, appropriate research, and clarification of issues
 - Development of new knowledge and approaches
 - Testing and validation of research
 - Reflection on and evaluation of results
 - Collection and analysis of data to inform decisions.
 - Independent judgement
 - Contract management
 - Health and safety knowledge and application including legislation, risk assessments, risk mitigation, risk monitoring and management.
 - Knowledge and understanding of the relevant legislation and regulations that apply to your expertise.
 - Quality management and continuous improvement, possibly including programme and module validation documents and ISO9001 if applicable.
 - Interdisciplinary and team working, including student cohort management.
 - Leadership and people management, such as technical staff and administrative teams
 - Wide knowledge of the industry and 'hot topics'.

- 3. The project you choose to present at the professional review interview should:**
 - Be specific and easy to define

- Cover as wide a range of competences as possible (see UK-SPEC and factors listed below)
- Be interesting and 'presentable'.
- Be something for which you were personally responsible and that would not have happened without your input.
- Have a clear, positive outcome
- Demonstrate your communication and interpersonal skills.

4. Typical projects for presentation by candidates working in academia include:

- Collaboration with colleagues from a number of institutions on a national or international project
- Control of a major research project
- Delivery of an innovative approach to technology enhanced learning within a department.
- Design of an outreach programme for potential students
- Development and leadership of a new programme or significant course
- Direction of an academic research group
- Instigation, development and launch of a student placement or employability scheme.
- Leadership of a placement programme for sandwich students
- Management of a recruitment campaign
- Responsibility for the preparation for an accreditation visit
- Participation in a relevant university task and finish group
- Preparation and delivery of an online programme of learning
- Proactive management of an international research programme for a school or faculty
- Project management of a new learning resource centre or building
- Major refurbishment of laboratories
- Representing the university on an enterprise project or knowledge transfer partnership with an industrial partner
- Responsibility for a significant student visit (e.g. a residential course)
- Significant contribution to an inter school or faculty collaborative project
- Submission of a major bid for research funding
- Supervision of a cohort of PhD students

Please refer to the below Appendix for examples of evidence against each of the UK-SPEC (4th edition) competences

CIHT: UK-SPEC EVIDENCE FORMS (CEng)

Name: ...Anon

Number of words used for Competency A: ...496.

Competency A: Illustrate how you have used a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology. In particular, demonstrate how you have:

- a) maintained and extended a sound theoretical approach in enabling the introduction and exploitation of new and advancing technology and other relevant developments;
- b) engaged in the creative and innovative development of engineering technology and continuous improvement systems
- c) identified constraints and exploited opportunities for the development and transfer of technology within your own chosen field

My research ambition is **XX**. This has underpinned my research career and my current research projects (Appendix 1A&1B). The first is the ESPRC-funded **XX Project** to develop new scientific understanding of the water-driven deterioration of engineered soils. The second project is my **XX Project**.

The funding peer review process and funder requirements allow me to ensure that my research is advancing science and also providing societal benefit. I have been able to disseminate my research through a number of methods ranging from evening talks to local engineering groups, presentations to industrial partners, conference presentations, conference papers and journal papers. I have been able to use the applied nature of my research and collaboration with industry to contribute to guidance and strategy documents (Appendix 1A).

My teaching in civil engineering is underpinned by mathematical principles to explain the behavior of materials and structures. For example I teach students about the stiffness and strength of soils. We then use these principles to undertake foundation settlement calculations and to calculate the ultimate bearing capacity of foundation soils. I have supervised students and PhD researchers to undertake finite element analyses to simulate ground water flow. I have also used these techniques in my research. I undertook training to ensure that I am a competent teacher and regularly conduct teaching observations for new colleagues. I obtained Fellow of the Higher Education Academy (FHEA) status in **Year**.

I consider the health and safety of my students through a process of Risk Assessment and I am familiar with the university H&S policy and organisational structure. For example this includes preparing Risk Assessments for the Geology Field Course, for student work in the laboratory and for student visits to construction sites. I teach hazard identification on the Geology Field Course and teach students how to prepare a Designers Risk Assessment for the Final Year Design Project (Appendix1E). I developed this teaching material after completing a NEBOSH Certificate in H&S (**Year**) and undertaking a secondment to industry (**XX Project**). (Appendix1D)

Each year I supervise at least four third-year students to complete a dissertation research project. I identify a suitable project based on my knowledge of the literature, or from project ideas brought to me by industrial contacts. I then mark the dissertations and those of my colleagues, through a process of moderation (in line with University Quality Assurance Standards)

Sustainability is included in all taught units in my department as a learning 'thread', as specified by the JBM accrediting body. I include this in the units that I teach. For example, while teaching the Foundation Design unit I used the mnemonic of the '5S's of foundation design'. I reinforced the subject of sustainability by inviting an external lecturer to give a lecture on the decisions made during foundation design.

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Name: ...Anon .

Number of words used for Competency B: ...500

Competency B: Illustrate how you have applied appropriate theoretical and practical methods to the analysis and solution of engineering problems. In particular, illustrate how you have:

- a) identified potential projects and opportunities;
- b) conducted appropriate research and undertaken design and development of engineering solutions
- c) Implemented design solutions, and evaluated their effectiveness

Through my research I have sought to **XX**. This is demonstrated by my track record of publications, PhD supervision, research income and network of industrial and academic collaborators (Appendix 1A).

I have developed and maintained industrial collaborations to ensure the economic and societal impact of my research. Mostly recently I used my **XX Project** to contribute to **Client Project (XX)**, provide evidence on **X** and influence **X** (e.g. **Government Department**). During my Doctorate (**Year**) I worked with my sponsor, **XX**, and with infrastructure owners to transfer my research outputs into design guidance. For example my research into **X** was incorporated into the **Client Manual (Year)**. My research into **X** was incorporated into **Client Manual (Year)**. (Appendix 1C)

I teach and lead a number of undergraduate geotechnical units at the university including Surveying, Geology, Foundation Design, Advanced Geotechnical Engineering and the Final Year Design Project. I develop the course material to meet the unit objectives. I set and I mark the coursework tasks and exams related to these units. These can range from conventional exam papers to project-based learning in the design studios at the university. For the design studio teaching I invite external tutors from industry, to give presentations and to give one-to-one tuition to the students. Our teaching must expose students to H&S, sustainability and to social and environmental impacts of civil engineering (Appendix 1I). I introduce this in the second year on a field trip and also incorporate this into the Final Year Design Project through an individual Risk Assessment task. While on secondment I developed industry-focused design tutorials and H&S focused course material that I was able to review with **Company** (Appendix 1G). For the Advanced Geotechnical Engineering unit I draw directly from academic journal papers (including my own) to expose students to research and to develop their critical thinking.

All teaching activities require communication in a range of formats (oral, written), using different media (slides, whiteboard, online resources). Teaching requires planning of lectures and requires interaction with students from a diverse range of nationalities and learning needs. I developed these skills through teaching training, continued reflective practice and through continued professional development. Demonstration of these activities allowed me to obtain Fellow of the Higher Education Academy (FHEA) status in **Year**. This followed an award for teaching excellence from the university in **Year**.

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Number of words used for Competency C: 496

Competency C: Provide technical and commercial leadership. In particular, show how you have:

- a) planned for effective project implementation;
- b) planned, budgeted, organised, directed and controlled tasks, people and resources;
- c) lead teams and developed the capabilities of staff to meet changing technical and managerial needs;
- d) brought about continuous improvement through quality management.

I have prepared and submitted a number of funding proposals to the research council and charity funders, both as a single researcher and as part of a team. As an individual I have been awarded XX (Appendix 1A). For these I prepared a research proposal, prepared a budget to cover my time, travel and equipment (through the university costing tool), pitched my idea to the funders and then reviewed the contracts (with assistance) before starting the work (Appendix 1E&1F). I recorded my progress against the project objectives and reported back to the funder periodically through a presentation/workshop followed by both an interim and final written report. The funder normally releases the funds on submission of the interim and the final report.

The collaboration with Company XX this had led to a number of recurring research projects. We used a collaborative research agreement to define the project, the intellectual property rights, the confidentiality conditions, the termination notice period and a schedule listing the financial contribution. I reviewed the agreement, which was prepared by the university contracts team.

I have supervised two PhDs to completion (PhD1, PhD2), with three in progress (PhD3, PhD4, PhD5). My PhDs are funded by university studentships (3 years of funding for salary, fees and a £1k/year training support fund). I applied for and was competitively awarded the funding, I advertised the positions online (www.jobs.ac.uk), reviewed applications and conducted interviews.

Post-Doctoral Researcher and Early Career Academics – At the university I manage my PDRA, who is employed through Project XX. We meet weekly to plan tasks, review work, review RAs, meet with collaborators and review the progress of our work packages. We meet regularly with the wider project team at quarterly intervals.

In Year I set up a monthly seminar meeting for PhD students (approx.. 12 students) within my university research group. The scheme lead to improved collaboration and support among the PhD students, an increase in their presentation skills and an increased understanding of each other's research between academic staff.

I maintain links between the university and industry to ensure that we are producing graduates with relevant skills. This is a requirement of the Joint Board of Moderators (JBM) who accredit the degree programme. My roles include i) sitting on the Industrial Liaison Panel to review changes in course structure with our industry members, ii) Department lead for student site visits, iii) Department lead for student industrial placements, iv) Regular contact and collaboration with industry partners.

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Name: Anon

Number of words used for Competency D: ...488.

Competency D: Demonstrate effective interpersonal skills. Evidence is required of your ability to:

- a) communicate in English with others at all levels;
- b) present and discuss ideas and proposals;
- c) demonstrate personal and social skills.

By working as an academic researcher and teacher I need to regularly communicate to different audiences, using different formats. Through my role as placement tutor and site visits tutor I regularly meet with local engineering consultants, contractors and asset owners to identify opportunities for our students to visit construction sites (Appendix 1H) and undertake a year-long placement. Through my research I have delivered conference presentations (e.g. XX), lunchtime talks to industry (e.g. XX), presentations to the industrial liaison panels of my university department and Project XX. I have published in academic journals and online blogs (Appendix 1A). My research has been incorporated into industry guidance and standards.

I have prepared and submitted written research proposals to EPSRC (UKRI funder), to charitable funders (e.g. XX) and in some cases supported this with a verbal presentation (e.g. XX). This included a verbal defense of my proposal and the risks posed to the research by the availability of data and project cancellation. In my role as Early Career Academic lead for the XX Project, I review project proposals with the Programme Management Team and evaluate planned research activities.

My teaching activities require communication in a range of formats (oral, written), using different media (slides, whiteboard, online resources). Teaching requires planning of lectures and requires interaction with students from a diverse range of nationalities (we have approx. 30% international students) and learning needs. I developed these skills through teaching training at the university, continued reflective practice and continued professional development. Demonstration of these activities allowed me to obtain Fellow of the Higher Education Academy (FHEA) status in Year.

I maintain working relationships with academic colleagues to deliver teaching. I supervise PhD students and manage research staff. I also work with technical and administrative support staff (see organizational chart) to deliver aspects of my work.

I build and maintain good relationships with organizations outside of the university. For example, I used a relationship with Company XX to secure XX funding (Appendix 1A).

I have built international relationships with academics at the University XX that have resulted in three UK visits and one visit to Canada. I have also collaborated with and secured funding to visit or host academics in France, South Africa and the USA.

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Name:Anon

Number of words used for Commitment E: 499

Commitment E: Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment, in particular give examples of how you have:

- a) complied with relevant codes of conduct
- b) managed and applied safe systems of work
- c) undertaken engineering activities in a way that contributes to sustainable development.
- d) Carried out the continuing professional development necessary to maintain and enhance competence in own area of practice

Professional standards (Year-present) - While working as a lecturer I undertook a review of my values and ethics in my teaching and research, with reference to the ICE, IStructE and CIHT, as part of my teaching training. I considered how my teaching and research related to the six ethical dimensions to engineering endeavours (Bogle, 2010) given by the Engineering Council. I considered these by referring to the QAA statement relating to ethics within my university department. While planning research I consider the ethical implications of the work, with reference to university regulations. This is reviewed by a colleague, who acts as the ethics committee and signs an ethics form. I regularly act as an ethics reviewer for colleagues.

Site Visits (Year-present) - I organise for groups of twenty students (120 in total) to visit a construction or other industrial site during their first year at university.

To equip myself to lead this unit I undertook a two-week NEBOSH Occupation H&S Certificate and sought assistance from our department H&S lead. Before organizing a visit I discuss the visit with the site host, to make logistical arrangements and to discuss the Risk Assessment (RA). I ensure that the site host has an induction procedure, insurance and I check the PPE requirements. The RA is shared with the students going on the visit and reviewed in their site induction.

Students must read and sign the RA for their visit, obtain their PPE from the university laboratory and record their learning (Appendix 1H). This ensures that there is a clear process and that we have a written record. I have explored the use of online teaching resources (e.g. a quiz) to improve and test student awareness, using the CITB Health, Safety & Environment test as a basis.

CPD - I maintain a CPD record and plan my future CPD in advance. I keep a note of this in my notebook and then formalise this record in a Word document periodically (6-12 months). I supervise the CPD of our undergraduate students while they are on industrial placement by asking them to produce a PDR, which they review with their employer and with me. At quarterly intervals I review the development needs of my Post-Doctoral researcher, to build her competency across research, communication and management. This is in line with the 'Concordat to support research integrity (2012)'.

Ethics procedure review (Year) - On one occasion I challenged the ethics procedure at the university. This was in response to a student query relating to a research project in my faculty that was possibly linked to military applications. On behalf of the student I requested to see the relevant ethics form and received a response from the university secretary explicitly stating that there were no military applications of the research. This query led to a review of the ethics reporting within our Faculty. An outcome of this review is that the reporting is undertaken electronically (and logged) rather than being a paper-based process.