Course Handbook

# Professional Doctorates in the School of Built Environment, Engineering & Computing

**Doctor of Professional Practice in Built Environment (DProf. Built Environment)**

**Doctor of Professional Practice in Construction Law (LLD. Construction Law)**

**Doctor of Professional Practice in Project Management (DProf. Project Management)**

**Doctor of Professional Practice in Planning and Housing Studies (DProf. Planning and Housing)**

**Doctor of Engineering in Civil Engineering (EngD)**

**Doctor of Engineering in Sustainable Buildings (EngD)**

**Doctor of Engineering (EngD)**


LEEDS BECKETT UNIVERSITY

## Contents

# 1 Welcome

Welcome to the professional doctorates programme within the School of the Built Environment, Engineering and Computing (SoBEC) at Leeds Beckett University. This is an an exciting new suite of professional doctoral pathways aimed at practising professionals in the built environment and engineering fields of study.

> *A professional doctorate is a research degree which is informed by real world problems in professional practice (HEA 2007) rather than academia (Brown and Cooke, 2010[1]). The UK Council for Graduate Education (UKCGE), described the professional doctorate as one 'which develops the capability of individuals to work within a professional context (UKCGE, 2002, p.62[2])*

Our professional doctorates will provide you the opportunity to demonstrate and develop advanced knowledge and skills necessary to undertake and complete a practical research and development project. In joining our professional doctorates programme you will be joining a community of postgraduate research students and experienced researchers who are passionate about developing solutions for real-world practice. We have world leading experts across the disciplines who support our curriculum and industry partnerships. Under the supervision of our expert staff you can develop your research which build on your professional practice.

The course team is looking forward to working with you this year and we hope that your time studying with us at Leeds Beckett University is both enjoyable and successful.

On behalf of our University and the whole course team I would like to wish you well in your studies.

**Dr Sam Zulu**
Programme Leader
School of the Built Environment, Engineering and Computing

[1] Brown, K. and Cooke, C. (2010) *Professional Doctorate Awards in the UK*. Staffordshire: UK Council for Graduate Education

[2] UKCGE (2002) *Professional Doctorates*. Dudley: UK Council for Graduate Education.

# 2 The SoBEC Professional Doctorates

The School of the Built Environment, Engineering and Computing offers 7 professional doctorate pathways as described below:

## 2.1 Doctor of Professional Practice in Built Environment [DProf. Built Environment]

The built environment covers a broad area of professional practice including subject areas as construction management, building surveying, quantity surveying, architectural design and technology, real estate and facilities management. The built environment is witnessing a transformation to become a smart and technologically innovative one. This has provided opportunities to investigate and develop solutions for a construction industry that relate to these changes and other challenges. This doctorate will be of interest to built environment professionals who would like to develop knowledge and influence professional practice in various areas including, for example, innovation, Building Information Modelling, financial and commercial management, organisation and management issues, building surveying, building technology and facilities management.

## 2.2 Doctor of Engineering in Civil Engineering [EngD]

Civil engineering research in the school focuses on pure and applied research and development work, encompassing both empirical and numerical testing/design programmes. Recent research in civil engineering includes: work on the development of novel water purification systems for developing countries; rainwater harvesting techniques, operational reliability of water quality infrastructure, the use of limited-life sustainable geotextiles for reinforcing applications; 2D/3D finite difference/element modelling of slope stability and tunnelling problems; improving the performance of unpaved roads in Africa; the reuse of waste material in concrete and mortars.

## 2.3 Doctor of Professional Practice in Construction Law [LLD. Construction Law]

This doctorate focuses on research in construction law and dispute resolution. The construction industry increasingly recognises the importance of resolving disputes efficiently and quickly to maintain commercial relationships and keep cash flowing within the industry. This doctorate will be of interest to professionals working in construction, law or a related field.

## 2.4 Doctor of Professional Practice in Planning and Housing Studies [DProf. Planning and Housing]

The professional doctorate in planning and housing studies builds on the reputation of Leeds Planning School, first established in 1938, and on the research expertise of our teaching staff in heritage, urban green space, sustainable design, community resilience, community planning, social and community-led housing, and women and the built environment. Doctoral research projects will be complemented

by staff research expertise in urban governance and regeneration, culture and heritage-based regeneration, housing policy and international disaster planning perspectives.

## 2.5 Doctor of Professional Practice in Project Management [DProf. Project Management]

Project management has traditionally been a vital part of contracting industries such as engineering and construction. Organisations are increasingly relying on project management as a way of carrying out important work, to improve processes and help them implement change. Project managers are now engaged in a range of organisations and sectors, including manufacturing, the public sector, charities, asset management and utility companies, finance and health management. The doctorate in project management will provide an opportunity for candidates to investigate and develop solutions to practice-based project management issues and inform their practice and profession.

## 2.6 Doctor of Engineering in Sustainable Buildings [EngD]

Sustainability is a hugely important part in all areas of the built environment, in policy, in building regulations, in real world implementation, and for building occupants. It is essential that professionals in the built environment had the right skills and knowledge to be able to fully implement sustainable strategies into construction projects. The principles of sustainability cannot be bolted onto existing practices but will fundamentally reshape the approach of all disciplines involved in building projects. The doctorate in sustainable buildings will provide an opportunity for candidates to investigate how sustainability can create changes to practices and can be best embedded in projects.

## 2.7 Doctorate of Engineering (EngD)

The Doctorate of Engineering (EngD) is a programme of research based on the advanced study of engineering or applied sciences and professional practice in engineering. It is intended for candidates with relevant professional experience and supported by structured learning. The aim of the course is to blend the practical experience within the working environment with a part-time research degree. The key themes of the DEng are Energy, Sustainability and Building Performance.

# 3 Aims of the SoBEC Professional Doctorates

The SoBEC Professional Doctorates are aimed at practising professionals in the wide and varied realms of the built environment. The professional doctorate provides candidates the opportunity to demonstrate and develop advanced knowledge and skills necessary to undertake and complete a variety of practical research and development projects. The programme enables the achievement of the enhanced status and recognition accorded to those with a doctorate qualification.

The specific aims of the programme, in summary, are:

- To facilitate engagement of practising professionals with research and development issues in their specialisms.
- To promote the development and application of advanced research skills in alignment with professional practice.
- To develop the ability to assess and apply research utilising a range of approaches and paradigms.

- To enhance the appreciation of professional specialists with regard to the business and commercial applications of research.
- To develop key skills required for the dissemination of research findings - both to fellow specialists, and other audiences - in order that the students develop and enhance professional practice in their field.
- To promote the opportunities for practitioners to collaborate with other professionals in R&D activities.

## 4 Learning Outcomes

Successful candidates will, on completion of the programme, attain and demonstrate the following learning outcomes:

**Knowledge:**

- Understand the theoretical underpinnings of quantitative and qualitative research;
- Understand the demands and expectations of research, particularly in relation to research design and methodology;
- Understand in depth aspects of professional knowledge and practice related to the research;
- Understand the tensions in articulating research design with the exigencies of professional practice;
- Have made an original contribution to knowledge and/or the enhancement of professional practice.

**Skills:**

- Be able to discuss and resolve the theoretical and methodological controversies which surround research, and have developed the ability to think creatively and innovatively about the investigation and solution of problems;
- Have developed advanced skills in designing and planning research aimed at professional enhancement;
- Be able to conduct a broad ranging literature review and isolate and discuss the themes which emerge from it; to select and utilise appropriate methods, quantitative and/or qualitative within a particular professional setting;
- Have developed advanced skills in gathering and analysing data, writing up, articulating and disseminating the research findings within a professional setting;
- Be skilled in facilitating the critical evaluation and implementation of research-based findings;
- Have developed skills in participating in relevant research networks;
- Be able to act as a consultant to others in planning and evaluating research aimed at professional enhancement;
- Be skilled in facilitating the critical evaluation and implementation of research-based findings;
- Have developed the ability to think creatively and innovatively about the investigation and solution of problems;
- Be able to apply research ideas to practical development i.e. technology and/or knowledge transfer.

## 5 The Student Experience

The SoBEC professional doctorates are run as a part-time program allowing students the opportunity to continue with their full-time employment, whilst conducting research on matters affecting their

professional practice. The doctorates allow students to combine their industry experience, knowledge and skills with academic expertise to provide a scholarly foundation in research skills and knowledge to influence their practice and profession. It is a distinctive nature of a professional doctorate that the students' individual research projects will focus on the development of knowledge and solutions to inform professional practice.

Students will be assigned a supervisory team comprising a Director of Studies and Supervisor who will provide guidance and support throughout the study period. Doctoral students will meet regularly with the supervisory team to evaluate progress and for feedback.

It is expected that candidates who enrol on the professional doctorates will begin the research journey with a practice-based research problem specified in the initial research proposal. Candidates will be supported throughout their research journey to develop solutions as a response to the identified problem. The generic practice-based research process is depicted in Figure 1.

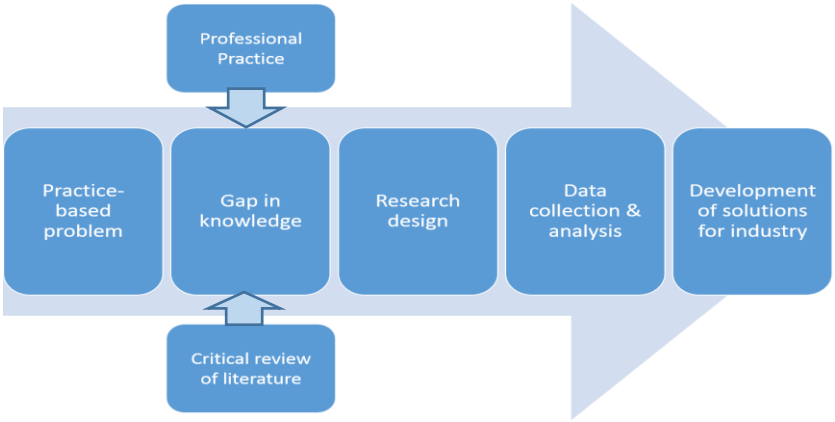


*Figure 1: Generic research process*

The BEE Professional doctorates will be delivered in 2 stages. These include:

- **Stage 1: Learning Units [Year 1 & 2] -** The learning units will be used for research skills development purposes to help candidates navigate through the professional research project. The outputs from stage one will align with the Confirmation of Registration at six months and the annual progression meetings at the end of each year. The Confirmation of Registration at 6 months will provide an opportunity for students to present and defend their research ideas. The Confirmation of Registration milestone will provide students an initial opportunity to demonstrate the viability of their research project and their research capabilities. At 12 months, students will develop, write and submit a research proposal that will ascertain the capabilities of the student to continue their studies. The work of the initial learning units will contribute to these processes.
- **Stage 2: Thesis Development and Submission [Year 2-5] -** Candidates will, in year 2-4 develop their individual research projects culminating in the submission of their thesis. Year 5 is a 'writing-up year'

Candidates will be required to attend four 2-day blocks of directed learning in year 1 and 2. Candidates will also be expected to meet with their supervisory team during the block delivery and outside of this via face to face or online meetings.

The blocks will run as tutor-led workshop-based sessions that will address topical issues to help candidates develop their research project. Directed learning will also include independent learning

activities, critical review of directed reading, and group discussion. The sessions will be a platform for students can share their work and ideas and receive feedback from others and the learning unit team. The learning units are designed to inform the development of the Confirmation of Registration document and the research programme as a whole.

## 6 Provisional Programme

The programme, as indicated in table 2, will comprise 4 learning units linked to the development of the doctoral research project. All units are compulsory and form part of the requirements for research training.

Table 2: Provisional Programme

| Year | Date | Learning Unit | Learning Unit Title | Key content |
|---|---|---|---|---|
| Year 1 | TBC | Learning Unit 1 | Practice-based doctoral research | The learning unit will help student place their practice-based research problem within their professional practice and broader theoretical and academic context. As reflective practitioners, candidates will learn how to turn their practice-based idea into a viable doctoral research project. Students will also be introduced to the research process. In addition, ethical context of BEE research will be considered. |
| Year 1 | TBC | Learning Unit 2 | Critical review of literature | The unit will help develop students ability to critically review literature to inform their research project. Issues such asapproaches to literature review, scoping studies, systematic reviews and understanding theoretical and conceptual frameworks will be considered. Candidates will be equipped with skills to identify critical arguments within the body of knowledge related to professional field. |
| Year 2 | TBC | Learning Unit 3 | Research Approaches and Methodology | The unit will provide an in-depth, consideration of methodological issues appropriate to their professional practice. |
| Year 2 | TBC | Learning Unit 4 | Data collection and analysis skills | This unit will focus on approaches to research instrument design, data collection and data analysis. Students will also be introduced to software packages for data analysis. |

## 7 Assessment

**Assessment of learning units:** The assessment of the learning units will be based on a Pass/Fail criterion. Student performance in the learning units will inform the annual review process and students who fail learning units may not progress further with their studies.

**Assessment of the thesis:** The assessment of the BEE Professional Doctorates will be consistent with the requirements described in the university's academic regulations. Candidates will be expected to submit a thesis comparable in structure to a PhD thesis (c. 60,000) and will be examined viva voce. The thesis examination outcomes will be in accordance with university regulations for research degrees. The BEE Professional Doctorate will be awarded to a candidate who has

- Satisfactorily completed an approved programme of research training and contextual study.
- Investigated or critically studied an approved topic or topics which make a significant contribution to practice and/or knowledge and presented a satisfactory thesis.
- Defend the thesis by oral examination.

# 8 Learning Units

## 8.1 Learning Unit 1: Practice-based doctoral research

**Learning Unit Aims:**

The primary aim of this unit is to introduce students to the practice-focused research doctoral studies and demonstrate how practice-based research problem are placed within professional practice and broader theoretical and academic context.

**Learning Unit Outcomes:**

On completion of this unit students will:

- Reflect on the role of research in designing solutions to practice-based problems
- Critically explore the theoretical and methodological controversies which surround research, and developed the ability to think creatively and innovatively about the investigation and solution of practice-based problems;
- Have developed the ability to think creatively and innovatively about the investigation and solution to their practice-based problems;
- Critically explore the skills required for facilitating the critical evaluation and implementation of research-based findings;
- Reflect on ethical considerations in research.

**Assessment Overview:**

- Problem specification: Prepare a 2000 word synopsis of the proposed research providing the context of the study. The key research questions, aim and objectives of the study should also be included.

## 8.2 Learning Unit 2: Critical review of literature

**Learning Unit Aim:**

- The primary aim of the unit is to equip students with the knowledge necessary to review existing literature and provide the basis for conducting their own research.

**Learning Unit Outcomes:**

On completion of this unit students will:

- Be able to conduct a broad ranging literature review and isolate and discuss the themes which emerge from it;

- Select and utilise appropriate approaches within a particular professional setting.

**Assessment Overview:**

- **Literature Review** – Submit a 5000 word literature review critiquing the main literature in their relevant discipline and topic area.
- **Research Proposal** – submit a draft research proposal for the Confirmation of Registration

## 8.3 Learning Unit 3: Research Approaches and Methodology

**Learning Unit Ais:**

- The primary aim of this learning unit is to provide an understanding of the conceptual debates associated with the varuious research paradigms.

**Learning Unit Outcomes:**

- Developed advanced skills in designing and planning research aimed at professional enhancement;
- Critique the suitability of different research methods for their research project.

**Assessment Overview:**

- **Methodology –** Submit paper (c. 5000 words) discussing the proposed method for your research. The word count will be negotiated by you and course team to ensure it is appropriate for the research proposed.
- **Research Proposal –** submit a draft research proposal for consideration at the annual review meeting. The proposal at this stage should include a more detailed discussion of the proposed methodology than that presented in the confirmation of registration document.

## 8.4 Learning Unit 4: Data collection and analysis skills

**Learning Unit Aims:**

The primary aim of this unit is to equip students with appropriate skills needed for research instrument design, data collection and data analysis.

**Learning Unit Outcomes:**

- Show understanding of approaches to gathering data;
- Show understanding of the different analytical, interpretive and dissemination approaches;
- Reflect on ethical considerations specific to their research.

**Assessment Overview:**

- **Data collection and analysis:** Present an overview of the key considerations for data collection and analysis methods suitable for your study. The specific mode of presentation will be negotiated by you and course team to ensure it is relevant to the project goals (e.g. oral presentation, poster, workshop, video etc.), but will be of a length equivalent to 40 minutes;
- **Ethics**: Complete an ethics application for the commencement of data collection