UNIVERSITY OF CAMBRIDGE

Programme Specification 2018-19

Postgraduate Certificate in Interdisciplinary Design for the Built Environment

Awarding body	University of Cambridge
Teaching institution	Cambridge Institute for Sustainability Leadership
Accreditation details	None
Name of final award	Postgraduate Certificate
Programme Title	Postgraduate Certificate in Interdisciplinary Design for the Built Environment
HECoS code(s)	100150; 100583
Relevant QAA benchmark statement(s)	None
Qualifications framework level	7 (Masters)
Date specification produced	February 2018

The Postgraduate Certificate in Interdisciplinary Design for the Built Environment (PG Cert IDBE) is offered by the Cambridge Institute for Sustainability Leadership (CISL).

CISL is within the School of Technology and is a key forum for interdisciplinary engagement within the University. Its mission is to empower individuals and organisations to take leadership to tackle critical global challenges. CISL has run graduate and executive programmes for more than 20 years. It also delivers open programmes in the UK, Europe, North America, South America, South Africa and Australia, and customised programmes for many leading organisations. CISL has a global alumni base of over 8,000 senior leaders from business, government and civil society.

CISL also offers the MSt in Sustainability Leadership, MSt in Interdisciplinary Design for the Built Environment, Postgraduate Certificate in Sustainable Business, and a Postgraduate Diploma in Sustainable Business.

Programme structure

The **Postgraduate Certificate in Interdisciplinary Design for the Built Environment** is a nine-month, part-time programme that addresses many of the key challenges experienced in the design of the built environment, such as:

- Global climate change
- Environmental, social and economic sustainability
- Human health and well-being

The course will explore the context within which projects within the built environment are procured and designed with a key focus on:

- The relationship between the design team and the client
- The responsibility of the design team to the end user/society

The Certificate will introduce students to methods through which design teams can address these challenges through the projects they are involved in, such as:

- Sustainable and resilient design
- Innovation and Technology
- Interdisciplinary practice and team-working skills

- Design thinking

The programme is delivered through two intensive residential weeks and three written assignments. The first week will set out the challenges and frame the opportunity via the context. Students will also be introduced to the methods and skills available to bring about change. In the second week, the students will apply those methods to a 'spotlight' element of the built environment. The spotlight theme serves both as a deep dive into the particular topic, but also acts as a lens through which the key challenges, contexts, and methods are examined. In the afternoon of the second residential week, the students undertake a studio design project in small interdisciplinary teams which allows them to apply their learning, as well as to enhance and refine their skills

Additionally, students receive lectures and support on research skills, academic research, and writing throughout their course.

The two residential weeks are compulsory, and there are no modular choices. The part-time format permits students to continue with their professional career while studying. They prepare their written work between and following the residential sessions.

Educational aims

The course aims to:

- Build awareness regarding current challenges and opportunities facing the built environment, such as sustainability, climate change and rapid urbanisation.
- Equip professionals with the strategic decision-making, inventive problem solving, and team leadership skills need to respond to the challenges and opportunities.
- Develop key interdisciplinary skills such as effective collaboration and communication, particularly between clients, consultants, contractors, specialists and occupiers.

Learning outcomes

Design for the built environment is essentially collaborative and demands effective communication between disciplines, all of which have their own specialist terminology and knowledge. It also requires responsiveness to the social, economic and environmental contexts. A key aim of the course is to help students from different disciplines to work effectively together harnessing their knowledge in the design of a well-integrated product. Students joining the IDBE certificate course would typically enter the programme with a professional qualification in a built environment discipline (Engineering, Architecture, Surveying, Construction Management, etc.) and with a minimum of three years' work experience. They are, therefore, deemed to have achieved a level of proficiency in their chosen specialism.

Outcomes for the IDBE certificate are geared towards providing the students with a broader strategic understanding of the context of design and of current challenges and opportunities facing the production of the built environment. There is an emphasis on leadership and team-working skills to support productive interactions between specialist members of design teams, between these teams and those who procure facilities, and between the functions of design and construction. Equally, the course emphasizes strategies and design tools that minimise the need for applied energy and embodied carbon in the built environment, that conserve fresh water, that protect biodiversity, and that exploit renewable energy technologies.

Ultimately, the outcomes are geared towards improving the built environment to ensure it contributes to the quality of peoples' lives including their physical health, mental well-being and productivity, as well as to a low carbon future.

Knowledge and understanding

1. Knowledge of design opportunities and challenges emerging within the wider built environment discourse.
2. Knowledge of assumptions, methods, design criteria and motivations of built environment stakeholders beyond each student's home discipline.
3. Understanding of the positive and negative impacts of students' personal attitudes, values and behaviours within a team setting
4. Understanding of team roles and team behaviour
5. Knowledge of the structure of the construction industry
6. Knowledge of recent research in the field of the built environment
7. Awareness of sustainability and climate change and the broad range of mitigation and adaptation strategies in the built environment

Skills and other attributes

Intellectual skills

- A systematic understanding of the status of knowledge and the way in which techniques of enquiry and research are used to create and produce new knowledge in the discipline.
- A critical awareness of current issues and new insights emerging at the forefront of the discipline and which inform advanced professional practice.
- The ability to pursue a reasoned argument, including the critical evaluation of assumptions, abstract concepts and evidence in the making of judgments, together with
- the ability to frame appropriate questions to achieve a solution – or identify a range of
- solutions – to a problem.
- A reflective attitude towards practice and learning, including awareness of the differing (and sometimes conflicting) motivations and values of professional colleagues from other disciplines, and the criteria and expectations of users and other stakeholders including society at large.
- A positive approach towards continuing professional development including an independent and self-directed learning ability to advance knowledge and understanding.
- An understanding of professional ethics including personal and professional responsibilities to individuals and to wider society as a whole.

Practical skills

- An understanding of techniques and methods applicable to the discipline, including the theoretical and practical limitations on their use in professional practice.
- Demonstration of originality and inventiveness in the application of knowledge and the solving of problems.
- Effective planning and implementation of design project work at a professional level, including decision-making in complex and unpredictable situations.
- An ability to deal with complex issues systematically and creatively, make sound judgements in the absence of complete data, and communicate conclusions clearly to specialist and non-specialist audiences.

Transferable skills

- Knowledge of available information sources and their effective use and implementation.
- Development of academic rigour in identifying and analysing evidence and presenting it in written argument.

- Intellectual curiosity and an ability to pursue it systematically.
- Negotiation skills, including effective communication and collaboration and a constructive attitude to identifying and resolving conflict if and when it arises.
- Informal presentation skills (communication within design team)
- Formal presentation skills (communicating with the media)
- Problem solving in a context of multiple criteria
- Team membership and leadership skills.
- Knowledge of research methods and the criteria of significance, rigour and originality
- The conduct of a research project, including the carrying out of a literature search, the identification of research objectives, the framing of research questions, the gathering and
- analysis of data, the drawing of conclusions, and an appreciation of the significance of the resulting findings including their limitations.

Teaching methods

Acquisition of these educational outcomes is promoted through a combination of written assignments, lectures, seminars, workshops and a collaborative design studio exercise. The two residential weeks of the course support a distinctive collaborative learning style in which the professionals who attend IDBE learn from one another as well as from the course delivery team.

Intellectual, practical and transferable skills are not delivered separately but are developed jointly from the mix of individual assignments, lectures, seminars, workshops and the design project work undertaken through the course, including active participation in problem solving (design projects and group research project), in discussion (seminars), through experiential learning (workshops), and through the preparation of the individual written work with support from specialist supervisors. Students present their project work to the cohort of students and external reviewers. Skills in researching and writing are developed through the progression of the written assignments, each supported by a supervisor who is a subject specialist.

Assessment methods

The certificate will be awarded on the basis of the reflective case study and two essays. The collaborative studio design work is also graded but this assessment forms a relatively minor element in the overall assessment of the student's output.

The **reflective case study** (4,000 words) is the opportunity for the student to reflect on and to critically analyse a recent project on which he or she has worked in practice. Students are expected to account for the successes and difficulties encountered, provide commentary on the effectiveness of the team and offer conclusions of relevance to other practitioners.

The **literature review essay** (3,000 words) develops research skills in searching, analysing and writing a critique of the academic literature. There are no prescribed titles; however the focus must be built environment related. Students are encouraged to venture beyond the boundaries of their home disciplines.

The **group research project** (5,000 – 7,000 words) is produced collaboratively by members of a group of 5-7 students. It represents the outcomes of an original piece of research undertaken collectively. It is up to the group – guided by a tutor – to choose a topic for the research.

Standard Programme Admission Requirements

Candidates are assessed and accepted on the basis that they have:

1. At least a 2.i honours degree from a UK University or an equivalent standard from an overseas institution.*

2. A minimum of three years' work experience.
3. Demonstrable enthusiasm and/or aptitude for interdisciplinary design in the built environment.
4. Good ability in written and spoken English language.
5. Endorsement from employer or, if independent, from an organisation that will be the focus of work on the programme
6. Access to appropriate computer technology and internet software.
7. The ability to pay the course fees or to identify a sponsoring institution.

* Exceptional applicants who do not meet the standard admission criteria of a 2.i honours degree will be assessed on an individual basis and may be required to provide further materials in support of their application.

Student support

- Students receive briefing materials and a Course Handbook ahead of the first workshop.
- Course materials and supplementary materials are all available electronically on the programme specific Virtual Learning Environment.
- Each student is allocated a Director of Studies from within the CISL staff, as well as a Tutor who supervises 2 of their 3 essay assignments.

Management of teaching quality and standards

The University ensures high standards of teaching and learning in the following ways:

- The completion of Annual Quality Updates by each Faculty and Department, to enable central overview of provision and assist in dissemination of good practice
- Scrutiny of the reports of External Examiners for all teaching programmes
- Encouraging student engagement through involvement in Faculty and Departmental Committees. Holding reflective, centrally-coordinated, Learning and Teaching Reviews for all teaching institutions every six years to explore provision and suggest constructive courses of action
- Mentoring, appraisal, and peer review of staff, and encouraging staff participation in personal development programmes

CISL is careful in the selection in those involved in delivery of the programme, and provides significant support, guidance and briefing to ensure that delivery is to high standards. This includes course handbooks, speaker briefings, and norming exercises to ensure assessors are all marking to the same standard.

Graduate employability and career destinations

As the postgraduate certificate is a part-time qualification, the participants will mostly be in employment and will use the programme to improve their career prospects. The programme takes an applied approach to knowledge, with both the teaching and assignments oriented towards relevance to their work situation.

The Careers Service maintains links with employers and takes their needs and opinions into account in the services which it provides for students. The Careers Service also allocates a Careers Adviser to each College, faculty and department to act as a point of contact.

academical year.

Further information about specifications and an archive of programme specifications for all awards of the University is available online at: https://www.camdata.admin.cam.ac.uk/