Programme title and code:

DT9771 Postgraduate Certificate in Building Performance (Energy Efficiency in Design)

Programme context:

NZEBO or Nearly Zero Energy Building is the energy performance standard required under the European Union Energy Performance in Buildings Directive (EPBD). This Directive requires that all new buildings owned and occupied by public bodies must meet the NZEB standard from the end of 2018 onwards. It also requires that ALL new buildings must meet the NZEB standard from the end of 2020 onwards. The Directive also provides for the deep renovation of existing buildings to the NZEB standard beyond 2020. Achieving the NZEB standard will be a major challenge for designers and builders alike. It will require a culture change at all levels in the building industry, from how we procure, design, construct, use and maintain a building over its life cycle.

This will require industry education and upskilling on an unprecedented scale within the disciplines of the Architecture, Engineering and Construction (AEC) sector across the EU. To meet this need the DIT School of Architecture has developed a suite of new online upskilling programmes including the Postgraduate Certificate in Building Performance (Energy Efficiency in Design) which forms part of and sits within an overarching MSc programme.

Programme description:

The Postgraduate Certificate in Building Performance (Energy Efficiency in Design) is an applied technical design programme focussed on the development of technical skills within a professional services and labour market employment context. The programme is offered in blended online mode and is delivered over two 15 week semesters. Each semester comprises 300 learning hours, or a commitment of 20 hours per week.

The focus of the PGCert is on the up-skilling and refocusing of building design professionals in a range of conceptual analysis tools, centred on energy and thermal performance calculation methodologies, computer-based heat transfer modelling and analysis skills, and the application and development of these in a series of projects centred on Nearly Zero Energy Building performance targets.

Academic progression:

The postgraduate certificate is the first of three elements within the nested MSc in Building Performance (Energy Efficiency in Design) and allows progression to the Postgraduate Diploma in Building Performance (Energy Efficiency in Design).
Programme outcomes:

On completion of the Postgraduate Certificate in Building Performance (Energy Efficiency Design) programme the learner will be able to use a range of NZEB tools to:

- Analyse and calculate the thermal performance of new and existing buildings using a range of fabric heat loss calculation methods and computer applications.
- Develop building design proposals which incorporate and integrate airtightness design and installation requirements within a whole building energy performance design and construction strategy.
- Assess and implement ventilation design strategies which support and compliment a low energy building fabric performance receiving environment.
- Execute an assessment of surface condensation risk (fRsi) in building fabric assemblies using linear thermal bridge calculation in order to develop code compliant construction details which manage mould risk.
- Execute an assessment of condensation risk analysis in building fabric assemblies using hygrothermal modelling and develop code compliant construction assemblies to manage hygrothermal risk.
- Appraise a low energy building design proposal to determine overheating risk potential and propose fabric and services installation mitigation measures to manage overheating risk.
- Manipulate building space, layout and orientation to optimise geometry and form factor as a fundamental design driver in achieving passive low energy building performance at optimal cost.
- Apply the principles of life cycle cost analysis in selecting fabric interventions, services installations and renewable technologies and apply an understanding of the financial parameters impacting on cost optimality.

Features:

- This is a distance learning programme, delivered using cloud-based online technologies, with a limited number of college-based face to face workshops.
- All students are trained in the use of online technologies and tools as part of their induction to the programme.
- All lectures are pre-recorded.
- Feedback webinars take place each week and are recorded to enable repeat viewing.
- The programme is open to professionally qualified architects, engineers, building surveyors and architectural technologists.

Professional recognition:

Graduates of the PGCert who are RIAI members may choose to apply to the RIAI for Environmental Accreditation and will be considered by the RIAI on an individual basis.

Programme fee:

PGCert €2500
(€240 discount under Sustainability Skillnet 2017)

Applications:

Online application form on http://dit.ie/architecture/

Location:

Workshops in DIT Bolton Street.
All other contact is online.

Commencement:

Start date will be September each year

Programme duration:

The programme is delivered over two 15-week semesters

Further information:

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Sustainability Skillnet is funded by member companies and the Training Networks Programme, an initiative of Skillnets funded from the National Training Fund through the Department of Education and Skills.

We gratefully acknowledge the use of some materials generated as part of the Horizon 2020 'Meeting of Energy professional Skills' (MEnS) project.