School of Computing, Engineering, and the Built Environment
Edinburgh Napier University MRes

Application instructions:
Detailed instructions are available at :
https://www.napier.ac.uk/research-and-innovation/doctoral-college/how-to-apply

Project details

Supervisory Team: tbc

Subject Group: Built Environment

Funding status: Self-funded

Project Title: MRes research degrees in Built Environment

Built Environment Research Opportunities:

The Built Environment Subject Group at Edinburgh Napier University is dedicated to advancing knowledge and innovation across a broad spectrum of disciplines, addressing global challenges in sustainable development, infrastructure resilience, and digital transformation. Our research spans structural engineering, geotechnical engineering, construction materials, digital construction, architecture technology, building surveying, environmental sustainability, building performance, estate management, and beyond. We are committed to delivering real-world impact through interdisciplinary collaboration and industry engagement.

Research Areas in Built Environment:

Structural Engineering: Research focuses on innovative structural design, material efficiency, and resilience. Topics include the development of high-performance and sustainable construction materials, advanced structural analysis, and digital modelling for optimised building performance.

Geotechnical Engineering: We investigate ground improvement techniques, foundation engineering, and geotechnical seismic isolation to enhance infrastructure resilience and mitigate geohazards, ensuring safer and more sustainable built environments.

Construction Materials and Sustainable Design: Our work explores the properties and performance of traditional and novel materials, including low-carbon cement alternatives, bio-based composites, and advanced coatings for durability and energy efficiency.

Digital Construction and Smart Infrastructure: Leveraging cutting-edge technologies such as Building Information Modeling (BIM), digital twins, and automation, our research enhances efficiency, predictive analytics, and lifecycle assessment in construction and asset management.

Sustainable and Low-Carbon Construction: Research efforts aim to reduce embodied and operational carbon through innovative design strategies, material selection, and energy-efficient building practices. We explore the integration of renewable energy systems, passive design principles, and adaptive reuse of structures.

Architectural Technology: Focused on the intersection of design, technology, and sustainability, research in this area examines energy-efficient building systems, façade engineering, and smart building integration to improve occupant comfort and environmental performance.

Building Surveying and Asset Management: We investigate methods for assessing and maintaining existing structures, enhancing building longevity, and improving energy efficiency in refurbishment and retrofitting projects.

Environmental Sustainability: Our research explores strategies for reducing the environmental impact of the built environment, including climate-responsive design, circular economy principles, and sustainable urban development.

Building Performance: We assess and enhance building energy efficiency, indoor environmental quality, and occupant well-being through advanced simulation techniques, monitoring systems, and performance-based design approaches.

Estate Management: Our research addresses strategic asset management, facilities planning, and the optimisation of building operations to improve efficiency, sustainability, and long-term value for organisations.

Our Commitment to Research Excellence
Our work in the Built Environment Subject Group aligns with global sustainability goals and industry needs, ensuring that our research contributes to safer, smarter, and more resilient built environments. We actively collaborate with industry partners, policymakers, and academic institutions to translate research into practical solutions.

We welcome prospective students and researchers interested in contributing to these dynamic fields. Whether your focus is on structural resilience, sustainable materials, digital innovation, or building performance, our research community provides a supportive and cutting-edge environment to develop impactful solutions for the future of the built environment.
For further information or to explore research opportunities, please visit our Built Environment research page at Edinburgh Napier University.

Candidate characteristics

Education:
A first degree (at least a 2.2) ideally in the Built Environment subject areas

English language requirement
IELTS score must be at least 6.5 (with not less than 6.0 in each of the four components). Other, equivalent qualifications will be accepted. Full details of the University's policy are available online.

Essential attributes:

- Experience of fundamental built environment subject related knowledge
- Competent in literature review, report writing and statistical and/or qualitative analysis
- Knowledge of research topic proposed
- Strong motivation, with evidence of independent research skills relevant to the project
- Good written and oral communication skills
- Good time management