

STRUCTURAL ENGINEERING WITH ARCHITECTURE

BSc (Engineering Science) (NFQ Level 8) leading to ME (NFQ Level 9)

CAO CODE: DN150

CAO Points Range 2020: 520-625

Length of Course: 3 Years (BSc) (Hons) + 2 Years (ME)

DN150 Places: 265

General Entry Requirements

See pages 195 - 203

Leaving Cert Subject Entry Requirements

- H4 in Mathematics
- H6 in a laboratory science and
- O6/H7 in English, Irish and two other recognised subjects

Other School Leaving Examinations

See www.ucd.ie/admissions

Level 5/6 QQI-FET

None

Level 6/7 Progression Routes

Yes, see www.ucd.ie/transfer

Mature Entry Route

See www.ucd.ie/maturestudents

Special Entry Recommendations

It is recommended that the Laboratory Science subject should be one of Chemistry, Physics or Biology.

The Structural Engineering with Architecture course is structured as a 3+2 programme, with a 3-year undergraduate BSc programme, followed by a 2-year taught graduate ME programme. Students who do not wish to progress onto the Master of Engineering (Structural Engineering with Architecture) pathway, or who do not qualify for progression, at the end of Stage 3 can exit their studies at the end of Stage 3 with a BSc (Engineering Science) degree.

Other Courses of Interest:

Civil Engineering	184
Architecture	192
City Planning & Environmental Policy	194



I chose Structural Engineering with Architecture because it was a great way of combining my interests in maths, physics, art and the built environment. UCD offers an excellent balance of technical knowledge and soft skills. I was able to develop my knowledge of structural analysis and design while also working on skills such as communication, creative-thinking, and problem-solving. My fourth-year work placement allowed me to further develop my understanding of structures and to contribute to live construction projects. My UCD degree gave me the best possible start to my career as a structural engineer.

My work is challenging but very rewarding. I can see the value of my designs when they become physically realised on site to become buildings that people can enjoy.

- Roseanne Dizon, Graduate

Why is this course for me?

If you are interested in the beauty of architectural design, and you want to be the one who realises these designs by creating viable solutions that ensure structures stand the test of time, then this is the course for you. The Structural Engineering with Architecture degree at UCD is a two-part degree, with an initial three-year bachelor's degree followed by a two-year master's degree, focusing primarily on the design of structures. The course's aim is to develop an appreciation for architecture, coupled with the solid fundamentals of an engineering degree. This will enable graduates to challenge the traditional boundaries of structural design.

What will I study?

First Year

Engineering students follow a common first year. Modules include: Chemistry · Creativity in Design · Electrical/Electronic Engineering · Energy Engineering · Engineering Computing · Mathematics · Mechanics · Physics.

Second Year

Engineering & Architecture of Structure 2 · Design & Communications · Construction Materials & Practice · Solid Mechanics · Geotechnics 1 · History & Theory of Structures 3 · Computer Applications · Statistics, Probability & Multivariable Calculus 1

Third Year

Structural Analysis 1 & 2 · Structural Design 1 · Geotechnics 2 · Group Design Project · History & Theory of Structures 4 · Energy Systems · Professional Engineering · Multivariable Calculus 2

Fourth Year

Structural Design 2 · Geotechnics 3 · Structural Dynamics · Advanced Materials · Realising Built Projects · Innovation Leadership followed by 8-month work placement

Fifth Year

Structural Analysis · Structural Design · Research Project · Case Studies · Bridge Engineering · Professional Engineering (Management)

A student's week includes attending lectures and tutorials, as well as participating in laboratory-based workshops and undertaking independent study.

A combination of end-of-trimester written examinations and continuous assessment is used. In your final year, you will also submit a report on your research project.

Career & Graduate Study Opportunities

The ME programme in Structural Engineering with Architecture is fully accredited by Engineers Ireland, and thus recognised internationally. Graduates can find employment in Ireland and abroad in areas such as:

- Engineering consultancy
- Construction management
- Project management and planning
- Management consultancy and finance

You can also pursue a research path, commencing with a PhD in Structural Engineering, in Ireland or abroad.

International Study Options

Students have the opportunity in their third year to spend either one or two trimesters studying abroad in a partner University, there are options to study in countries such as France, Spain, China, Australia, Canada, USA, Singapore, New Zealand.

Professional Work Experience (PWE)

Professional Work Experience (PWE) is incorporated in the ME programme. Eight-month internships (the majority of which are paid) have included the following employers: Arup, Meinhardt (London), OBA Consulting Engineers, O'Connor Sutton Cronin, Thornton Tomasetti (New York), Walls Construction and Waterman Moylan.

www.ucd.ie/myucd/eng

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