University College Dublin
National University of Ireland, Dublin

Architecture

Session 2002/2003

Degrees in Architecture
Extract from the Statute of the University

The University may grant the following degrees to students who, under conditions laid down in the statutes and regulations, have completed the approved courses of study and have passed the prescribed examinations of the University and fulfilled all other prescribed conditions.

In the Faculty of Engineering and Architecture:

Bachelor of Science (Architectural Science) (BSc)

Bachelor of Architecture (BArch)

Master of Architecture (MArch)

Master of Architectural Science (MArchSc)

Master of Urban and Building Conservation (MUBC)

Master of Science in Building Project Management (MSc)

Master of Science in Urban Design (MSc)

Master of Regional and Urban Planning (MRUP)

Doctor of Philosophy (PhD)

Introduction

The School of Architecture, which was established in 1911, is a Department within the Faculty of Engineering and Architecture. The School is located at Richview, Clonskeagh, which has a common boundary with the main university campus at Belfield. All studio work, lectures and courses are held in the School.

Contents

Degree of Bachelor of Science (Architectural Science)

The course forms Part One of the two part course leading to the Bachelor of Architecture Degree. Normally students who have completed the course and obtained the Bachelor of Science (Architectural Science) Degree will proceed to the Bachelor of Architecture Degree.

However, students who do not wish to proceed to the professional architectural degree (BArch) may apply to undertake further studies in related fields such as Planning or Landscape Architecture.

The course of study consists of projects and lectures and extends over a minimum of nine terms (three years).

Examinations in Architecture

The examinations in written subjects in all years are held at the beginning of the Trinity term and supplementary examinations are held in the Autumn. The examinations in Project Work are based on continuous assessment of the work undertaken during the year which must be submitted in a portfolio for examination at the end of the Trinity term. The Autumn supplementary examination is based on the Summer Project together with the Year's Work which must be submitted in a portfolio.

Examination Regulations

The approved courses of study for the Bachelor of Science (Architectural Science) Degree must be pursued during at least nine terms as set out on the following pages.

The University Examinations for the Bachelor of Science (Architectural Science) Degree are:

1. The First University Examination;
2. The Second University Examination;
3. The Third University Examination.

Eligibility
For eligibility for admission to each of the examinations, the prescribed course of study for that examination must have been attended satisfactorily. No student will be allowed to take any examination in the University prior to the completion of the preceding examination.

Time Limit
The University examinations of the first, second and third year courses must be passed in the Summer or Autumn of the year following entry to that course.

Exceptions
Students may be permitted or advised to extend this period at the discretion of the Faculty, to which application must be made in writing. Students who have failed Project Work in both Summer and Autumn will not normally be allowed to continue the course. Permission to do so may only be given by the Academic Council on the recommendation of the Faculty.

In the first and second years, a student who has exemptions in all but one subject, excluding Project Work, will normally be permitted to proceed to the next year of the course. In these circumstances, the student must take the lower year's examination in the following Summer and, if successful, may then sit the higher year's examination in the Autumn.

Students in the third year will not be permitted to proceed to fourth year until they have successfully passed all of the third year examinations and obtained the Bachelor of Science (Architectural Science) Degree.

Honours
Honours may be awarded in all university examinations in Architecture from the first to the final inclusive. Honours may only be awarded at the Summer examinations and to candidates who are taking the examination for the first time and who have taken the entire examination at one sitting.

Courses of Study and Subjects of Examination leading to the Degree of Bachelor of Science (Architectural Science)

The courses and subjects for the *First Year* and *First University Examination* are:

ARCT1004 Project Work
ARCT1003 History and Theory of Architecture
ARCT1006 Building Technology
ARCT1001 Environmental Science
CVEN1002 Theory and Design of Structures
ARCT1005 Introduction to Computing in Architecture

The courses and subjects for the *Second Year* and *Second University Examination* are:

ARCT2008 Project Work
ARCT2003 History and Theory of Architecture
ARCT2002 Building Technology
ARCT2001 Environmental Science
CVEN2025 Theory and Design of Structures

Optional Subject
One of the following (subject to availability):

ARCT2006 Special Topic in Architecture
ARCT2004 Computer-Aided Architectural Design
LANG2001 A Modern European Language
ARCT2005 Urban Design

The courses and subjects for the *Third Year* and *Third University Examination* are:

ARCT3004 Project Work
ARCT3002 History and Theory of Architecture
ARCT3001 Building Technology
CVEN3025 Theory and Design of Structures
EEEN3030 Building Services
ARCT3003 The Ecology of Architecture: Conservation and Sustainability

Syllabus of Courses for the Degree of Bachelor of Science (Architectural Science)

First Year Courses

ARCT1004 *Project Work**

The First year design studio programme introduces students to architecture and attempts to awaken individual creativity. Students are encouraged to develop a method for their creative work. They are asked to discover, to craft, to reflect and to judge their own way of working. This process is supported by teaching a broad range of skills, including various drawing techniques and model making, by motivating the student's response and invention, and is informed by inviting students to apply analytical skills to diverse contexts. A key objective is to ensure that the student learns that constructional technique and understanding of materials are embedded in the design process. This is encouraged through strategic periodic integration of design and technology studio. The programme begins with a close consideration of things and places, and gradually introduces a wider range of constructional, social, cultural and environmental concerns.

ARCT1003 *History and Theory of Architecture*

Traditions and Transformations:

Central to the course is the exploration and understanding of building forms, their evolution and transformation and the pressures which effected these changes, from Minoan times to the present. The course aims to provide the student with the ability to *read* and understand the buildings of the past and their potential for the future.

ARCT1006 *Building Technology*

(a) An introduction to building materials and the technology of building. A study of the main building elements and systems for domestic buildings.

(b)* The illustration of some of the principles of building through studio and building laboratory projects.

ARCT1001 *Environmental Science*

An introduction to the physical characteristics of the environment. A study of man and his response to the environment.

* To be examined on work during the year

CVEN1002 *Theory and Design of Structures*
The nature of structure in architecture. Fundamentals of statics and their application to simple structures.

ARCT1005 *Introduction to Computing in Architecture*
Introduction to computers and computing. Microcomputers. Applications for general use: spreadsheets, databases and word processors. Desktop publishing. Computer-aided drawings. Perspective and other projections. Rendering. Printers, scanners, digitisers, plotters. The UCD system. Using the Internet.

1.7 *Drawing Systems*[*]
An introduction to the geometry of architectural drawing and to drawing conventions used by architects. Practical experience is gained in studio projects designed to illustrate the principles.

Second Year Courses

ARCT2008 *Project Work*[*]
Project Work: The Second year studio programme aims to develop the student's understanding of the role and responsibilities (political, social, cultural) of architecture in the world; to understand the interaction of functional, social, technical and environmental factors in architecture. The exploration of materiality and construction is fostered through both the technology and design studio and through joint projects, and the insights of history and theory are brought to bear through tutorials and seminars. At the same time the programme is structured to enable the student to develop a design methodology that encompasses both the ability to work strategically and creatively, and the skills to develop a design project through every stage from inception to a good level of completion.

ARCT2003 *History and Theory of Architecture*
History of Architecture in the Twentieth Century. The second year course in history and theory deals with the development of modern architecture from the latter half of the nineteenth century up to the contemporary period. The course is structured around a lecture series which situates changes and trends in architecture and the work of individual architects in their wider political and cultural context.

[*] To be examined on work during the year

In the first term, the emphasis is on how social imperatives and ideals and the demands of the programme have shaped modern architecture. In the second term, the emphasis shifts to an examination of, on the one hand, the role of technology and structural theories in the development of architecture, and on the other hand, the importance to architecture of aesthetic theory and cultural critique.

ARCT2002 *Building Technology*

(a) The properties, performance and uses of the more important building materials. Modern building components and equipment and constructional and service systems.

(b) [*]A study through practical application of constructional and service systems.

ARCT2001 *Environmental Science*

An appreciation (by experiment) of environmental data. Methods of measurement and analysis. An introduction to methods of prediction. Exercises in analysis and design.

CVEN2025 *Theory and Design of Structures*

An appreciation of the forces acting on a building and an analysis of these in mathematical and graphical ways.

Optional Subject

One of the following (subject to availability):

(a) Special Topic in Architecture	(ARCT2006)
(b) Computer-aided Architectural Design	(ARCT2004)
(c) A Modern European Language	(LANG2001)
(d) Urban Design	(ARCT2005)

Third Year Courses

ARCT3004 *Project Work*

The Third year studio course focuses on developing an understanding of the demands and opportunities for architecture in collective and civic buildings. The course deals with buildings at many levels from materiality and detailed design to analysis of intention and meaning. There is an emphasis on development and refinement of skills and design technique in the studio course, in particular drawing, model making, urban/context studies and analysis of buildings and building types. A number of short projects are run dealing with observation and visual interpretation, and students are encouraged to descriptive and interpretative models and drawings. There are two main building design projects: a local building for collective use (usually

[*] To be examined on work during the year

a school) which addresses issues of functional analysis, repetition, ordinariness, the social role of architecture, appropriate expression an relationship to context; a civic building (usually arts/performance related) which deals, in addition to issues confronted in the first project, with the design of a major space with more complex demands.

ARCT3002 *History and Theory of Architecture*
The City, Landscape, Garden and Architecture:

An introduction examines representation in its broadest sense from drawing to meaning in architecture. The course investigates the forces and ideas that have shaped the city, the landscape and gardens, and architecture and their inter-dependencies and mutual influence, from the Minoan culture to the twentieth century.

ARCT3001 *Building Technology*

(a) Advanced constructional elements and systems.

(b)* A study through practical application of the construction and servicing of buildings.

CVEN3025 *Theory and Design of Structures*
Examination of structural elements and load systems for substructures and superstructures.

EEEN3030 *Building Services*
Methods of selection and application of systems.

ARCT3003 *The Ecology of Architecture: Conservation and Sustainability*

Note
Intending students are asked to note that to qualify for entry to the Bachelor of Architecture Degree, they must have obtained the Bachelor of Science (Architectural Science) Degree or equivalent.

* To be examined on work during the year

Degree of Bachelor of Architecture (BArch)

The course of study consists of projects and lectures, and is directed towards the advancement of the knowledge of architecture and the preparation of students for careers in architecture.

The course extends over a minimum of six terms (designated Fourth Year and Final Year), and forms Part Two of the three part course, together with the Bachelor of Science (Architectural Science) Degree (Part One) and the Certificate in Architectural Professional Practice and Practical Experience (Part Three).

To be eligible for the course, candidates must have obtained the Bachelor of Science (Architectural Science) Degree or an equivalent qualification from an approved School of Architecture.

Examination Regulations

The approved courses of study for the Degree of Bachelor of Architecture must be pursued during at least six terms as set forth on the following pages.

The University Examinations for the Degree of Bachelor of Architecture are:

4. The Fourth University Examination;
5. The Final University Examination.

Eligibility

For eligibility for admission to each examination, the prescribed course of study for that examination must have been attended satisfactorily.

No student will be allowed to take an examination in the University prior to the completion of the preceding examination.

Time Limit

The University examination of the fourth year course must be passed either in the Summer or in the Autumn of the year following entry to that course.

Exceptions

Students may be permitted or advised to extend this period at the discretion of the Faculty to which application must be made in writing. Students who have failed Project Work in the Summer and Autumn will not normally be allowed to continue the course.

Permission to do so may only be given by the Academic Council on the advice of the Faculty.

Honours

Honours may only be awarded at the Summer examinations and to candidates who are taking the examinations for the first time and who have taken the entire examination at one sitting.

*Degree of Master of Regional and Urban Planning: Supplementary Subjects and Exemptions for Architectural Students/Graduates**

A limited number of architectural students (approximately four) who have completed the Third University Examination in Architecture will be eligible to take supplementary subjects in Regional and Urban Planning during their fourth architectural year. If they pass the examination in these supplementary subjects at the end of their fourth year, they will be permitted to attend further supplementary subjects in Regional and Urban Planning in their fifth architectural year.

Graduates in Architecture who have passed the examinations in these supplementary subjects at the end of their fourth and fifth architectural years will be eligible for exemption from corresponding subjects of the First Year Examination in Regional and Urban Planning. Such graduates may be considered for complete or partial exemption also from Year's Work in the first year course for the Degree of Regional and Urban Planning, on the basis of Project Work carried out in the School of Architecture.

The supplementary subjects, if taken, are listed under Fourth Year and Fifth Year courses.*

* For details, see separate booklet, *Regional and Urban Planning.*

Courses of Study and Subjects of Examination leading to the Degree of Bachelor of Architecture

The courses and subjects for the *Fourth Year* and *Fourth University Examination* are:

ARCT4004 Project Work
ARCT4002 History and Theory of Architecture
ARCT4001 Building Technology
CVEN4025 Theory and Design of Structures
ARCT4005 Professional Studies

Supplementary Courses in Regional and Urban Planning (may be made available to students):

History of Development and Planning
Social Structure and Organisation (including Planning for Minorities)
Economics and Land Use Planning
Design and the Urban and Rural Environment
Conservation and Landscape Planning:
(a) Conservation and Landscape
(b) Environmental Impact Assessment and the Landscape
Development and Infrastructure
Transportation
Policy Analysis and Decision Making
Social Surveys and Research Methods
Planning Administration

The courses and subjects for the *Fifth Year* and *Final University Examination* for the BArch Degree are:

ARCT5003 Project Work
ARCT5004 Professional Studies

Supplementary Courses in Regional and Urban Planning (may be made available to students):

Regional Planning and Settlement Systems
Planning Practice
Planning Philosophy and Theory
Planning Law
Demography Analysis and Forecasting
Models and Techniques
Rural Development and Management
The Practice and Techniques of Development
Applied Land Use – Transportation Policy
Specialised Studies

Syllabus of Courses for the Degree of Bachelor of Architecture

Fourth Year Courses

ARCT4004 *Project Work**

The Fourth year aims to develop the student's capacity for study, analysis and reflection, to develop and communicate architectural ideas, an exploratory approach to architectural technology, and to develop advanced skills in architectural design. The studio programme invites students to investigate a range of contemporary issues of built environment provision at varying scales. It places considerable emphasis on the specific skills of independent research, critical thinking and the use of design as a tool for investigation.

ARCT4002 *History and Theory of Architecture*

A series of seminars is offered each year on various themes which address contemporary and historical issues in architecture, urbanism and landscape. The seminars lay the foundations of the subject area and provide the field from which individual study and research can emerge for the preparation of a dissertation. The preparation of the dissertation involves critical reappraisal of built or published materials, or original research dealing with the primary documents.

ARCT4001 *Building Technology*

(a) Building control, conservation and building re-use technologies, and production documentation.

(b)* Practical application at an advanced level including the preparation of a minor dissertation.

CVEN4025 *Theory and Design of Structures***

Structural systems. Methods of choice, analysis and adaptation.

ARCT4005 *Professional Studies*

Presentations are intended to develop students' professional knowledge, understanding, and skill, to help the client realise their wishes.

Understanding: The relationship between Society and the Profession; Our relationship with the client; Our relationship with the other actors in construction.

* To be examined on work during the year
** Examination will include work undertaken during the year

Knowledge: How the architect practices in Ireland and elsewhere. The professional ethos of the architect; Law affecting architectural practice; Documentation used in architectural practice; Managing a project from inception to completion; Management of people, management of the practice.

Skill: How to take and retain leadership in the realisation of the client's wishes; How to communicate clearly; How to run a practice profitably

The Architect and Society: The relationships between architects, the practice of architecture, society, and politics; and **The Architect at Work:** What it's like to be an architect and how to survive and flourish professionally.

Supplementary Courses in Regional and Urban Planning:

History of Development and Planning
Social Structure and Organisation (including Planning for Minorities)
Economics and Land Use Planning
Design and the Urban and Rural Environment
Conservation and Landscape Planning:
(a) Conservation and Landscape
(b) Environmental Impact Assessment and the Landscape
Development and Infrastructure
Transportation
Policy Analysis and Decision Making
Social Surveys and Research Methods
Planning Administration

Fifth Year Courses

ARCT5003 *Project Work*[*]

The Fifth year course establishes a process of design exploration through which a thesis intention is developed throughout the year. The year is structured in three consecutive modules; primer project, thesis design and thesis development, supported by a programme of seminars and lectures. The thesis intention is developed through a series of architectural propositions. The year begins with a study trip and ends with an exhibition of each student's journey from statement of intent to developed thesis.

ARCT5004 *Professional Studies*

Fifth Year provides the outline of the knowledge required to practice architecture, having regard to the graduate's need to be able to work effectively as a junior member of a team, and to be able to quickly advance to running smaller projects under the supervision of a Partner.

[*] To be examined on work during the year.

The Architect as Project Manager: The architect-client appointment; Taking a brief; Auditing and surveying a building or a site; Working with the "design team" and with contractors; Estimating the cost of a job; Calculating how long a project will take; Dealing with planning and other statutory consents; Obtaining tenders and appointing contractors; Forms of construction contract: management contracting and variants; The standard forms of contract; Administering a project on site; The QTC triangle.

Supplementary Courses in Regional and Urban Planning:

Regional Planning and Settlement Systems
Planning Practice
Planning Philosophy and Theory
Planning Law
Demography Analysis and Forecasting
Models and Techniques
Rural Development and Management
The Practice and Techniques of Development
Applied Land Use – Transportation Policy
Specialised Studies

European Credit Transfer System (ECTS)

Credit Scheme for Bachelor of Science (Architectural Science) Degree Programme

First Year Architecture

Course No:	*Course Title:*	*Credits:*
1-ARCH-101-STR	Theory and Design of Structures	4
1-ARCH-102-COMP	Basic Computer Science	2
1-ARCH-103-ENSA	Environmental Science A	4
1-ARCH-104-ENSB	Environmental Science B	4
1-ARCH-105-TECA	Building Technology A	4
1-ARCH-106-TECB	Building Technology B	4
1-ARCH-107-HIST	History and Theory of Architecture	4
1-ARCH-108-PROJ	Project Work	34
	Total:	60

Second Year Architecture

Course No:	*Course Title:*	*Credits:*
2-ARCH-209-STR	Theory and Design of Structures	6
2-ARCH-210-ENS	Environmental Science	6
2-ARCH-211-TECA	Building Technology A	4
2-ARCH-212-TECB	Building Technology B	4
2-ARCH-213-HIST	History and Theory of Architecture	4
2-ARCH-214-SPTC	Special Topic	4
2-ARCH-215-PROJ	Project Work	32
	Total:	60

Third Year Architecture

Course No:	*Course Title:*	*Credits:*
3-ARCH-316-STR	Theory and Design of Structures	6
3-ARCH-317-TECA	Building Technology A	4
3-ARCH-318-TECB	Building Technology B	4
3-ARCH-319-SERV	Building Services	4
3-ARCH-320-HIST	History and Theory of Architecture	4
3-ARCH-321-SPTC	The Ecology of Architecture: Conservation and Sustainability	4
3-ARCH-322-PROJ	Project Work	34
	Total:	60

Credit Scheme for Bachelor of Architecture Degree Programme

Fourth Year Architecture

Course No:	*Course Title:*	*Credits:*
4-ARCH-423-STR	Theory and Design of Structures	4
4-ARCH-424-TEC	Building Technology	6
4-ARCH-425-HIST	History and Theory of Architecture	4
4-ARCH-426-PROF ST	Professional Studies	4
4-ARCH-427-PROJ	Project Work	42
	Total:	60

Fifth Year Architecture

Course No:	*Course Title:*	*Credits:*
5-ARCH-528-PROF ST	Professional STUDIES	8
5-ARCH-530-PROJ	Project Work	52
	Total:	60

Additional Information

Equipment
Students are required to purchase the following equipment at the beginning of the first year:

- Mayline,
- Drawing Board,
- Adjustable Set Square,
- A5 Black Sketch Book,
- Lead Sharpener,
- Metric Scale,
- Clutch Pencil,
- Erasing Shield,
- Scalpel and Blades,
- Drafting Brush,
- 1" Masking Tape,
- Eraser,
- 12" Steel Rule,
- 30cm Sketch Roll,
- Circle Template,
- French Curve Set,
- Compass,
- 5M Tape Measure,
- A3 Cutting Mat.

The approximate cost of this equipment is €300.

Field Trips
The first year class usually spend one week in the year on a project at a centre outside Dublin. The second year class usually spend one week on a study tour to a city outside the country. Field trips are also held in third and fourth year. The final year begins with a study visit to a European city. Provision should be made for transport costs and hostel-type accommodation.

Year Out
It is common for a student to spend one year in an architect's office between the end of the Bachelor of Science (Architectural Science) Degree and entry to the BArch Degree course, or between the fourth and fifth years of the BArch Degree course.

Retention of Students' Work
All project work submitted by students becomes the property of the School. Project work will normally be returned, but the School reserves the right to retain individual projects or complete portfolios as required by the Visiting Boards of the Professional Bodies or as exemplars for other students.

Computers
Computer use is a normal feature of architectural practice. Students will find it helpful to acquire a computer for personal use during the first three years of the course.

Certificate in Architectural Professional Practice and Practical Experience

ENCTP0002

Graduates in Architecture who have had not less than two years' approved practical experience and who have passed the examination for the Certificate in Architectural Professional Practice and Practical Experience (NUI) are entitled to exemption from the Examination in Professional Competence of the RIAI and, subject to passing an oral examination, they may qualify for membership of that Institute.

Graduates who have obtained the BArch Degree and the Certificate in Architectural Professional Practice and Practical Experience (NUI) are entitled to exemption from the examination for membership of the Royal Institute of British Architects (RIBA). Graduates qualified for membership of the RIBA are also entitled to apply for registration under the Architects' Registration Acts of the United Kingdom.

The examination for the Certificate in Architectural Professional Practice and Practical Experience is held once a year in the Michaelmas term.

1 **Entry to the Examination**

1.1 To be eligible to enter for the examination, candidates must:
- *(a)* be graduates of a five year, approved course in Architecture;
- *(b)* have completed at least two years' approved postgraduate practical experience;
- *(c)* have given the School satisfactory certification and assessments of the practical experience.

1.2 Approved postgraduate practical experience is taken to mean experience gained under the supervision of a holder of this Certificate, or of another architect who, in the opinion of the School, is equally competent to supervise work.

1.3 Satisfactory certification and assessments shall be as the School requires, i.e. certificates signed by employers, with essays assessing experience, not less than one year in advance of taking the examination, must be submitted.

1.4 It is the responsibility of the intending candidate to obtain the School's confirmation of eligibility.

2 **The Examination**

The Certificate shall be awarded to a candidate who:

2.1 Has satisfied the School with regard to experience;

2.2 Has satisfied the examiners in: *(a)* a written examination in Professional Practice; *(b)* a written examination in Management and Administration; *(c)* an oral examination; *(d)* a case study of a project on which the candidate has worked.

3 **Preparing for the Examination**

Intending candidates are advised to:

3.1 Contact the School's Practical Training Advisor at least one year before the examination, in order to comply with 1.3 above;

3.2 Attend a lecture course given annually before the examination and organised by the School in conjunction with the Royal Institute of the Architects of Ireland.

Higher Diploma in Building Project Management (HDipBPM)

ENHDF0001

Admission to the Higher Diploma in Building Project Management course will be by decision of the Faculty of Engineering and Architecture, on the recommendation of the Head of the School of Architecture. It will be dependent on a satisfactory professional qualification, a minimum level of professional experience, and good general knowledge of construction sector practice and procedures. The course is open to:

- Holders of the NUI Certificate in Architectural Professional Practice and Practical Experience;
- Architect holders of an equivalent professional architectural qualification;
- Other persons with a satisfactory professional construction sector qualification.

Candidates are required to have a minimum of four years' approved professional experience in the construction industry and to have a satisfactory knowledge of the building design and construction process in Ireland. Intending candidates may be required to demonstrate such satisfactory knowledge, and their overall professional maturity and suitability for the course, by interview by the School of Architecture.

The Higher Diploma is taken by way of written examination in five independent modules.

- Foundation module in Building Project Management;
- Building Project Management Principles;
- Managing Building Project Quality, Time and Cost;
- Project Manager: The Promoter's agent; and
- Case Study.

Persons who have passed either the examination for the NUI Certificate in Architectural Professional Practice and Practical Experience or the RIAI Examination in Professional Practice may, subject to interview, be exempted from Module 1: Foundation.

Application Date:
The closing date for receipt of applications will be 30th June.

Degree of Master of Architectural Science (MArchSc)

ENMXF0016
Candidates for the Degree of Master of Architectural Science must obtain the permission of the Faculty before entering on the course.

A candidate who is a holder of the Degree of Bachelor of Architecture shall be eligible to obtain the Degree of Master of Architectural Science by Mode I or Mode II on the following conditions:

Under Mode I, a candidate
(a) must attend a full-time postgraduate course in the University for at least three terms after obtaining the primary degree;

(b) must present a dissertation prepared during such course; and

(c) must pass an examination on the subject matter of the dissertation if the examiners so decide.

Under Mode II, a candidate
(a) must attend a full-time postgraduate course for at least three terms after obtaining the primary degree;

(b) must pass an examination on the course; and

(c) may be required to submit an essay or dissertation as part of the qualifications for the Master's Degree.

University Regulations
1. Candidates for the Degree of MArchSc must have obtained Honours in the BArch Degree Examination. Graduates in Architecture who are not graduates of this University may be accepted subject to such examinations or tests as the Faculty may decide.

2. Candidates must have the permission of the Faculty to enter a course for the MArchSc Degree.

3. Candidates will not be permitted to attend courses for any University degree or diploma whilst in attendance for the MArchSc Degree.

4. A Pass graduate who desires to take a course for the Degree of Master of Architectural Science should in the first instance apply to the Head of the School of Architecture who may recommend that the graduate be permitted to take as a test, a subject, to be decided by the Faculty, in which he/she must attain Honours marks; this examination to be taken *not less* than one year after the degree examination. The application of such a candidate may be submitted then to the Faculty.

Application Date
The final date for application to the course will be 31st August.

Degree of Master of Urban and Building Conservation (MUBC)

ENMRF0003:

ENMRP0031:

Candidates for the Degree must obtain the permission of the Faculty before entering on the course.

A candidate who is a holder of the Degree of Bachelor of Architecture, or of an equivalent qualification in Architecture or a degree in a related discipline, shall be eligible to obtain the Degree of Master of Urban and Building Conservation on the following conditions:

(a) The Degree of Master of Urban and Building Conservation (MUBC) may be taken through a full-time or through a part-time course of study.

(b) The duration of the full-time course of study is twelve months.

(c) The duration of the part-time course of study is a minimum of two years. Candidates must complete the requirements for the degree within four years of commencing the part-time course.

(d) The Degree of Master of Urban and Building Conservation may be obtained by thesis (Mode I) or by examination (Mode II).

Mode I
A candidate must carry out a research project under the direction of the supervisor appointed by the Head of the Department. The thesis presented by the candidate is to embody the results of this research project. A candidate may be required to pass an oral examination on the subject matter of the thesis if the examiners so decide.

Mode II
A candidate must attend a postgraduate course approved by the Faculty and must pass a university examination on the subject matter of the course. A candidate may be required to submit a dissertation on a project undertaken as part of the course; this dissertation will form part of the material to be assessed by the examiners.

University Regulations

1. Candidates for the Degree of Master of Urban and Building Conservation, who are holders of a BArch Degree or of an equivalent qualification in Architecture, must have obtained honours (minimum level: 2.2) in their final examination. Graduates at the required honours level in a related discipline may be accepted subject to reaching an honours standard in an examination or test in a topic to be agreed with the Head of the School of Architecture and approved by the Faculty.

2. Candidates must have the permission of the Faculty to enter a course for the Master of Urban and Building Conservation Degree.

3. Candidates will not be permitted to attend courses for any university degree or diploma whilst in attendance for the Master of Urban and Building Conservation Degree.

4. A Pass graduate in Architecture or a related discipline, or who holds chartered membership of a professional institution approved by the Faculty and who desires to take a course for the Degree of Master of Urban and Building Conservation, should, in the first instance, apply to the Head of the School of Architecture who may recommend that the graduate be permitted to take as an examination or test, a subject, to be decided by the Faculty, in which he/she must attain Honours marks; this examination or test to be taken before the commencement of the course. The application of such a candidate may be submitted then to the Faculty.

Application Date
Applications to the course must be received by 30th October.

Degree of Master of Architecture (MArch)

ENMRF0004

Extract from University Statute
A candidate, who is a holder of the Bachelor of Architecture Degree, shall be eligible to obtain the Degree of Master of Architecture after the expiration of *nine* terms from the time at which the candidate obtained the BArch Degree.

A candidate
a) shall have designed and executed an architectural work or series of works which, in the judgement of the examiners, is of a distinguished character; and

b) must have written and presented a dissertation prepared under academic supervision which, in the judgement of the examiners, is of sufficient merit.

University Regulations
1. Candidates for the Degree of MArch who are holders of the Bachelor of Architecture degree or an equivalent qualification in architecture, must have obtained honours in their final examination.

2. Candidates must have the permission of the Faculty of the College to register for the Degree.

3. Candidates are required to give notice to the Faculty at the commencement of the academic year in which they intend to present themselves for examination, with particulars of the building selected for examination under (b) above, title of the proposed dissertation.

Candidates for the Degree of MArch must be accepted by the Faculty of the College as prospective candidates at least six months before entering for the examination. They are required to give notice to the Dean of the Faculty before 15 of January of the year in which they intend to present themselves for examination, with particulars of the work or works for examination under (a) above, title of the proposed dissertation and details of their professional experience.

Degree of Master of Science in Building Project Management MSc (Building Project Management)

ENMRP0007
Admission to the Degree programme is by permission of the Faculty of Engineering and Architecture.

The programme is open to holders of the Higher Diploma in Building Project Management, and is taken by submission of a dissertation on a subject agreed with the School, together with an oral examination on the subject of the dissertation. The programme is taken on a part-time basis over one year. Dissertations for which the degree is awarded will be retained in the Architecture and Planning Library.

Applications for the course must be received by 1st October.

Degree of Master of Science in Urban Design
MSc (Urban Design)

The degree is offered on an inter-departmental basis by the School of Architecture and the Department of Regional and Urban Planning. The degree is administered and supervised by a Joint Academic Board for MSc (Urban Design) drawn from both departments.

Candidates for the Degree of Master of Science (Urban Design) must obtain the permission of the Faculty before entering the course. The course is open to architects, planners and landscape architects with a professional degree, normally at honours level. Civil engineers and chartered surveyors may be admitted subject to examination.

The degree is offered as a one-year, full-time (46 weeks) programme which may be taken as a part-time programme divided over two years to facilitate secondment from employment.

ENMRF0005: **ENMRP0008:**

Mode 1
A candidate must carry out a research project or a series of research projects under the direction of the Supervisor recommended by the Joint Academic Board for MSc (Urban Design) and approved by the Faculty. The thesis presented by the candidate is to embody the results of this or these research projects. A candidate may be required to pass an oral examination on the subject matter of the thesis if the examiners so decide. The Board may require that candidates should attend specified available courses in the School of Architecture and the Department of Regional and Urban Planning.

ENMXF0018: **ENMXP0022:**

Mode 2
The Mode 2 programme has a significant research orientation, with a coherent sequence of studio projects and an Irish- or European-based research assignment, leading to the production of a thesis. It is underpinned by a core lecture programme. Options are available from courses in the School of Architecture and the Department of Regional and Urban Planning to ensure that candidates have an adequate interdisciplinary background for research. Each candidate must carry out the programme under the direction of the supervisor(s) recommended by the Joint Academic Board for MSc (Urban Design). The course will be subject to prerequisite specified course requirements which will be assessed according to the candidate's professional and academic background; for example, architectural candidates may be required to take predominantly planning-oriented optional subjects, whilst candidates from a planning background may be required to take design-based prerequisites. Core and optional courses will be examined, and studio and placement activities will be assessed and will contribute to the marking of the degree. The structure is based on a twelve-month programme of studies as follows: Core Courses; Optional Courses; Urban Design Studio; Research Assignment and Thesis.

Applications to the course must be received by 31st July.

Department of Environmental Studies

Degree of Master of Science (Environmental Policy) (MSc)

The Master of Science (MSc) degree in Environmental Policy is directed at those wishing to conduct research into the economics and policy of environmental issues. It is the only such degree available in Ireland. Candidates are required to prepare a major thesis in a minimum period of one year. Prior to beginning the thesis, candidates attend short courses in environmental economics and research methods. The number of places on offer is limited to five. Studentships are available which cover fees and provide a stipend.

Admission Procedure
Applications must be made to the Head of Department, Environmental Studies. If the Head of Department is satisfied as to the applicant's general suitability to undertake the programme, the Department shall forward the candidate's application to the Dean for consideration by the Faculty. Candidates for the Degree of Master of Science (Environmental Policy) must obtain the permission of the Faculty of Engineering and Architecture before commencing the programme.

There are three intakes each academic year in September, January and March to the programme leading to the award of Master of Science (Environmental Policy). It may be possible to commence at a different time, subject to the agreement of the Supervisor and with Faculty approval. Normally the closing dates are:

	(i) **September** Intake	(ii) **January** Intake	(iii) **April** Intake
non-EU candidates	31^{s} March	31st July	30th September
EU Candidates	31st July	30th November	28th February

Entry Standards
Applicants should have a good undergraduate degree in economics or a related subject. Normally a second class Grade I Honours degree is required.

Year One (MSc and PhD)

ENVSP001/ENVSP101 Research Methods and Presentation Skills in Environmental Economics and Policy
This course provides students with the basic skills necessary for embarking on a research degree. Topics covered include: introduction to the department and its workings; choosing a thesis topic; working with a supervisor; devising a thesis outline and work programme; reviewing literature (including using electronic databases etc.) and writing a literature review; developing a methodology; target setting; team work; interpersonal skills; presentation skills including use of overhead, multimedia presentations and whiteboard. The course provides plenty of opportunity for discussion and will involve set work.

ENVSP002/ENVSP102 Topics in European Environmental Economics and Policy
This course examines the rationale, use and importance of economic approaches in European Environmental Policy including the use of market based instruments and cost-benefit analysis. Applications of such approaches will be examined with topics varying from year to year but previous topics have included: global warming, acidification, biodiversity, ozone depletion and water quality.

ENVSP003/
ENVSP103 Resource and Environmental Economics in a European Context
The key objectives of this course are to understand the key principles of economics as they apply to environmental endowments, to develop the capacity to apply these principles to improve the quality of analysis and decision-making, to understand some of the technical and scientific underpinnings of some key global, regional and national environmental challenges, and how economics can be employed to address them. Topics include: underlying theory; market failure; Coasian solutions; sustainability measures and their application; green accounting and environmental protection expenditure; command and control and integrated pollution control; emission trading; environmental taxes and charges; the impediments to environmental policy reform; introduction to cost-benefit analysis and environmental valuation. Applications will be drawn from the EU and international experience.

ENVSP004/ENVSP104 Advanced Environmental Economics and Policy
This course presents some of the major themes in the academic literature on the economics of natural resources and the environment. The majority of the course concerns itself with applying the findings of advanced academic research to answering the following two questions: what are the causes of national and international environmental problems? What are the appropriate policy responses to these problems? In addition the course examines the legitimacy of claims that the earth's natural resources are being depleted too rapidly. Topics include: the theory of environmental externalities, environmental policy design, cost-benefit analysis and environmental valuation, models of natural resource exploitation, international environmental issues.

ENVP005/ENSP105 European Union Environmental Policy in a Global Context
The driving force behind regulatory reform in the context of EU environmental policy is the increased prominence of sustainable development and environmental protection in EU legislation and the shift in emphasis from regulatory environmental policy instruments to economic instruments. This course examines the development of EU environmental policy, the environmental policy instruments in use, and explores how a shift from regulation to economic instruments in the EU can result in the more effective protection of the environment. The course compares and contrasts performance at member-state level. In addition, it examines the global context for EU environmental policy including, for example, the Gothenburg Protocol on acidification precursors and the Kyoto Protocol on greenhouse gas emissions. In this regard and with regard to policy instrument use (such as environmental taxes, emissions trading, integrated pollution control etc.), the EU position is compared with that of other jurisdictions such as the US, the CEECs and the rest of the OECD.

ENVSP006/
ENVSP106 Statistical Computing Methods in Environmental Economics and Policy
The course presents an overview of statistical computing methods including elements of survey research and the analysis of datasets. Topics include inferential statistics; hypothesis testing, statistical significance and confidence intervals; analysis of variance; correlation; OLS regression; multiple regression; logistic regression, Probit analysis. The application of these methods to environmental economics and policy analysis is discussed and set work is provided.

ENVSP107 Professional Preparation: Teaching of Environmental Economics and Policy
This course prepares advanced graduate students for careers in teaching environmental economics and policy at university level. Successful completion of the course allows students to be considered for Teaching Assistant posts. The course follows a workshop format. Topics include: an introduction to learning; getting to know the class; teaching methods for different groups; appropriate presentation methods; presentation skills (including multimedia presentation, whiteboard, overhead); stimulating discussion; problem review and development; course development; standards; setting of examinations; conflict resolution.

Master of Landscape Architecture

The Department of Crop Science, Horticulture and Forestry of the Faculty, in conjunction with the Faculty of Engineering and Architecture, offers a two-year, full-time programme of study leading to the Degree of Master of Landscape Architecture (MLA) (Mode II).

Candidates are required to hold a minimum of 2H2 in the BAgrSc (Landscape Horticulture), or Landscape Architecture, or BArch or BSc (ArchSc). Holders of pass degrees may be admitted subject to passing a qualifying test. Candidates who have completed the BAgrSc in Landscape Horticulture and achieved at least a 2H1 in the design related courses may be permitted to proceed to the 2nd year of the MLA.

Graduates with a minimum of 2H2 in related disciplines will be considered for admission. Admission may be subject to prerequisite specified course requirements which will be assessed according to the candidate's professional and academic background.

Graduates at the required honours level in other disciplines may be accepted subject to reaching an honours standard in an examination or test in a topic agreed by the MLA Board. Admission may be subject to prerequisite specified course requirements which will be assessed according to the candidate's professional and academic background.

Applicants may be required to satisfy an interview board as to their suitability and their interest in Landscape Architecture before being permitted to enter the programme.

In certain circumstances a Diploma in Landscape Studies may be offered to students who successfully complete Year 1 of the MLA programme but who do not complete Year 2.

Applications should be submitted to the Director, Master of Landscape Architecture Programme, Department of Crop Science, Horticulture and Forestry, Faculty of Agriculture, University College Dublin, Belfield, Dublin 4.

Programme

LARCP101 Landscape Science **14 Credits**

Soil Science (2 credits): An outline of the morphological, physical and chemical properties of soils (both organic and mineral) with special reference to their potentials and limitations for amenity, recreational and engineering uses: soil genesis and the relationship between soils and geology, landscape features, hydrology and climate; discussion on soil survey and classification systems; land capability and engineering classification systems.

Landscape Ecology (4 credits): Developing an understanding of landscape ecological patterns, with emphasis on the processes of colonisation and succession, and the relationships and interface between habitats. Geographic control of plant distribution; biomes and global ecosystems. The development of the post-glacial flora and fauna in Ireland. Phytosociology and the classification of communities in the landscape. The interdependency of vegetation and animals. Biodiversity, natural selection, speciation and extinction. Natural and

anthropogenic ecosystems; ecotones; principles of ecosystem and habitat management. The structure, development, management and landscape legacy of specific 'native' ecosystems (e.g. alluvial wetlands, salt marshes, sand dunes, moor/heathlands, hedgerows, woodlands).

Landscape Interpretation (4 credits): Review of physical geology; geological and geomorphical evolution of the Irish landscape; relationships between geology, soils and flora; the evolution of the Irish flora; nature and development of the cultural landscape palimpsest; the role of water; special landscape assessment – landscape affinity, historic, 'cultural', 'outstanding', natural and semi-natural landscapes.

Environmental Horticulture and Botany (2 credits): The taxonomy, biology and physiology of plants. Horticultural factors influencing the selection, establishment and growth of plants in the landscape. Developing an understanding of the main site and environmental factors limiting plant selection and growth. Undertaking a detailed survey/inventory and evaluation of existing vegetation.

Plant Materials and Turfgrass Management (2 credits): Planting design, identification of woody and non-woody taxa commonly used in landscape schemes. Establishment and maintenance of turfgrass in amenity schemes.

LARCP102 Landscape Technology 14 Credits

Surveying (2 credits): Chain surveying, levelling, ordnance survey maps, theodolite and angular measurements, areas, volumes and contouring.

Landscape Construction (6 credits): Construction techniques: grading, earth works, cut and fill techniques; circulation and grading (pedestrian and cyclist); site drainage, pervious and impervious surfaces; storm water management; site utilities/site servicing, outdoor lighting; bioengineering techniques. Materials: geotextiles; concrete; asphalt; masonry, wood, metal. Structures: walls – retaining and free standing; paving – flexible and rigid; timber structures; pedestrian bridges; water bodies, pools and fountains.

Building Construction Workshop (2 credits)

CAD (4 credits): This course is based around a series of demonstrations, explaining and carrying out commands which are coupled with a number of class assignments. Students complete a drawing assignment for assessment on completion of this course.

LARCP103 Landscape Design Theory 10 Credits

History of Designed Landscapes (4 credits): This course examines how from earliest times the development of parks and gardens has been influenced by the environment, both natural and cultural in which they were created. This study includes the history of art and history of architecture. Topics include: ancient civilisations, Islamic gardens, medieval gardens, Renaissance and Mannerist gardens, Baroque and Rococo gardens, English Landscape Parks. The picturesque and gardenesque. The Parks Movement in Europe and the United States. Parks and gardens of the Orient. Ireland's garden heritage. 20th century designed landscapes. Restoration of period gardens.

Landscape Architectural Theory (4 credits): The landscape design process from project inception through to completion. Perception of landscape. Landscape processes. Developing

knowledge and a critical understanding of the values and methodologies employed in landscape design. Appreciation of underlying values and philosophies of the design process. A consideration of landscape design in the context of wider theories of aesthetics, social psychology, political theory and environmental ethics.

Environmental Sociology for Landscape Architects (2 credits): Perception of human requirements through behavioural studies, including territoriality and personal space identity.

LARCP104 Landscape Design Studio 22 Credits

The design studio is at the core of the MLA programme. It runs concurrently throughout the two year programme. By integrating the other subjects with the studio subjects, the relevance of the taught courses to the process of landscape design is demonstrated by direct application.

Basic and Applied Design (4 credits): Recognising the stages of structured design process. Logical design process applied to simple landscape design exercises.

Graphic Development, Design and Communication (4 credits): Graphic communication using selected media. Development of visual literacy. Understanding form, shape and qualities of materials in 2-D and 3-D.

Design Studio (14 credits): Introduction to the design studio. Students undertake a series of exercises aimed at developing visual and spatial perceptiveness, design ability and presentation skills. Studio projects of various lengths are undertaken which aim to encourage and develop the ability to translate design theory and principles into practical landscape design solutions.

LARCP201 Landscape Planning 14 Credits

History of Development and Planning (2 credits): The evolution of settlement patterns, the growth of urban pressures on the landscape and the evidence of planned approaches to manage change in an orderly manner. The growth and achievements of a planning movement during this century.

Design of the Urban and Rural Landscape (2 credits): To understand, organise and manage the urban, spatial and physical environment and to appreciate its influence on the daily experience of its inhabitants. To develop an understanding of how change occurs in the physical environment and the constraints imposed by the existing physical fabric on the design process.

Environmental Impact Assessment (2 credits): Environmental Impact Assessment and the landscape; the legislation and methodology for carrying out an EIS in compliance with S.I.349 of 1989 and S.I.25 of 1990 with special reference to landscape change in Ireland.

Rural Development and Planning (2 credits): The dynamics of rural economies. The development and implementation of area based planning strategies. Funding mechanisms for rural planning and development. Rural settlement management. Landscape conservation.

Landscape Planning (4 credits): Development of an understanding of landscape planning theories. Examination of tools and techniques available for landscape planning. Assessment of landscape character.

Environmental Management (2 credits): Concepts of the environment; attitudes to management, dominance and control; global commons; planning vs. control; sustainable development.

LARCP202 Landscape Management 10 Credits

Habitat Creation and Wildlife Management (2 credits): The application of ecological principles to landscape design. Survey and appraisal of semi-natural areas. The design and management of semi-natural landscapes. Awareness of management requirements for specific environmental objectives.

Soft Landscape Applications (2 credits): Selection, establishment and management of plants for a range of landscape situations.

Landscape Management (2 credits): Management plans, maintenance schedules, cost estimation. Computers and management. Case studies.

Arboriculture (2 credits): Tree selection, tree planting, post planting management, tree surveys, tree surgery, trees and the law. Trees on development sites. Mechanisation and arboriculture. Urban woodland.

Managing Landscape Projects (2 credits): Information handling and studio exercises aimed at the production of a set of working drawings, specification notes and preliminary costings for simple landscape projects.

LARCP203 Professional Practice and Planning Law 6 Credits

Environmental and Planning Law (2 credits): Elements of the law and Irish planning legislation, general principles of law, professional responsibilities and liability, law of contract, warranties, bankruptcy, disputes, claims, nominated subcontractors, landscape contracts, bonds, arbitration, private land law, public land law, development plans and development control, special rights over land, basic principles of tort.

Professional Practice (4 credits): The concept of professionalism and the landscape architect. An introduction to professional organisations relevant to the landscape architect. Office organisation and administration. Knowledge of professional relationships and responsibilities. An introduction to contracts, the preparation of specifications and bills of quantity, contract administration and site supervision. Invited landscape practitioners describe their work.

LARCP204 Landscape Design Studio 30 Credits

Urban Design (6 credits): Lecture programme related to studio. Definitions of urban design in the public realm. The concept of design as applied to projects of long duration and large scale. Urban design in history. The concept of civilisation. Humanity and Nature: the new emphasis on open space and the perceived failure of the traditional city; 19th and 20th century urban theory. Context: Contemporary urban theory; the perceived failure of modernism. The concept of 'postmodernism'. Urban design in detail – modern and contemporary urban space. Exercises in criticism.

Regional Study (6 credits): Investigations of the relationship between design and planning issues through a regional study. This is based on a group project providing experience of the larger scale of landscape design.

Major Design Thesis (18 credits): A major studio project that is sufficiently large in scope to be worthy of developing over two semesters. This provides students with an opportunity of demonstrating the knowledge and skills acquired during the two year programme in the resolution of complex design issues. With staff guidance, students select their own site and write their own project brief. Students will be expected to demonstrate that they can undertake the whole process of design at a professionally acceptable level.

LARCP205 Research Dissertation 20 Credits

A written dissertation on a landscape architectural topic to be undertaken on completion of the major design thesis.

Degree of Doctor of Philosophy (PhD)

Candidates for this degree are required to be admitted by the Faculty on the recommendation of the Professor; their admission must then be confirmed by the Academic Council. Candidates who have not graduated from this University may be admitted if suitably qualified.

No candidate can be allowed to enter on a course of study and research for the Degree of PhD unless he/she has reached a high honours standard at the examination for the primary degree or presented such other evidence as will satisfy the Professor and the Faculty of his/her fitness.

The degree is normally taken nine terms after a master's degree or primary degree. A reduction in the number of terms would be dependent on progress by the candidate and would be a matter for consideration and decision by the Faculty.

Candidates for the PhD Degree will be allowed six years from the date of registration in which to complete their degree. If they have not done so within that period they must re-apply for registration.

The thesis must normally be prepared under the supervision of the Professor but the Faculty may, on the recommendation of the Professor, assign another member of the staff to supervise the candidate's research, under the Professor's general direction. The thesis must be prepared in the University, unless permission is given to the candidate to work elsewhere under the Professor's general direction. Such permission will only be given to candidates who have attended courses in the University for twelve terms before admission to the course for the PhD.

Candidates may enter for examination in January of the year in which their work is to be examined; the time of examination to be arranged as may be convenient to the candidate and the examiners. If the thesis is not presented before 1 February following, the candidate must re-enter.

Candidates may be required to take an oral examination on the subject matter of their thesis.

This degree will not be awarded unless the examiners report that the work is worthy of publication, as a whole or in part, as a work of serious scholarship.