

1978

College of Technology, Bolton Street Prospectus 1978-79

City of Dublin Vocational Education Committee

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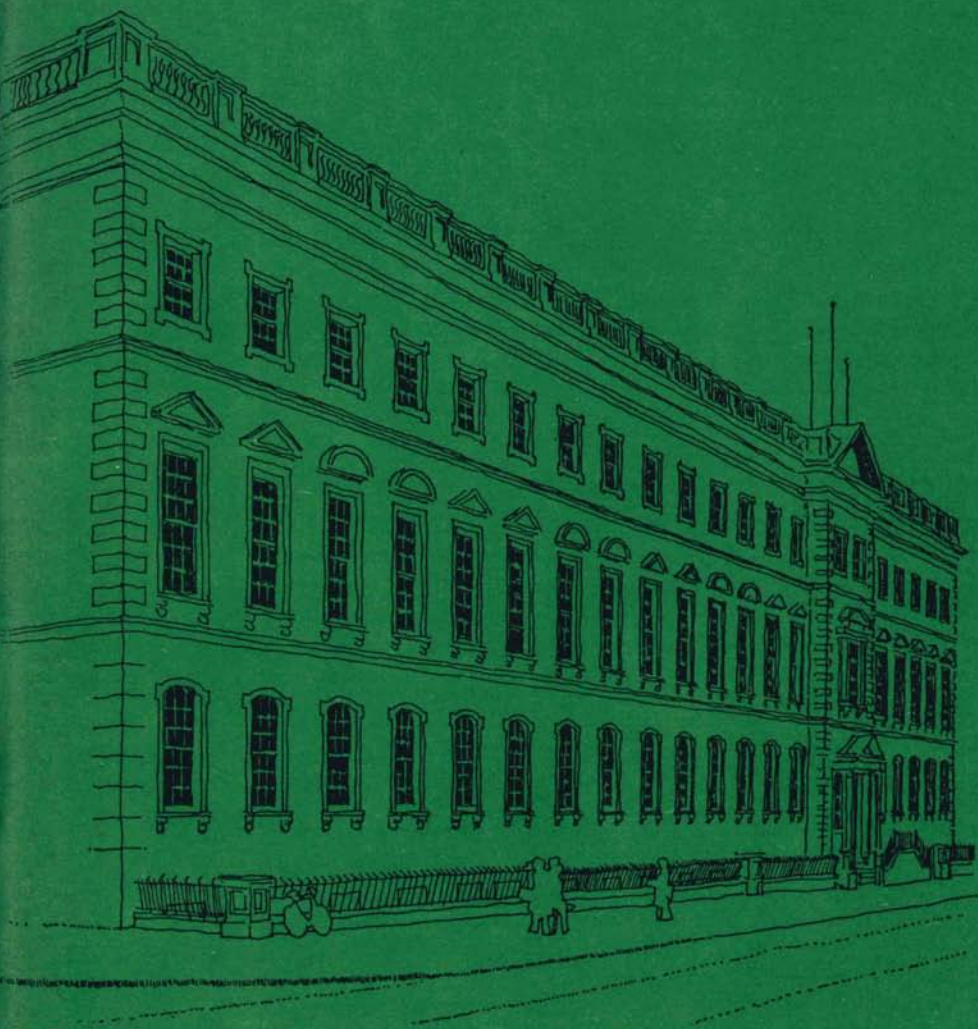
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College of Technology Bolton Street Dublin 1 Prospectus 1978/79



City of Dublin Vocational Education Committee

CALENDAR—SESSION 1978/79

SEPT. Friday 1st	Commencement of Session
Monday 4th	Interviews for Whole-time Day Courses commence (Applicants will be notified of the exact date and time of interview). Day Release Courses for Apprentices commence.
Monday 11th	Interviews and enrolments for Part-time and Evening Courses commence.
Monday 25th	Whole-time courses commence except where otherwise arranged. Evening Classes commence.
OCT. Wednesday 4th	Votive Mass. All classes closed.
Monday 30th	Public holiday. All classes closed.
NOV. Wednesday 1st	Church holiday. All classes closed.
DEC. Friday 8th	Church holiday. All classes closed.
Wednesday 20th	Final class meetings before Christmas vacation.
JAN. Monday 8th	All classes resume after Christmas vacation.
MAR. Saturday 17th	Public holiday. College closed.
APR. Tuesday 10th	Final class meetings before Easter vacation. Evening classes terminate except where otherwise arranged.
APR. Monday 23rd	Day classes resume after Easter vacation.
MAY Thursday 24th	Church holiday. All classes closed.
JUNE Friday 1st	Classes for Whole-time courses terminate.
Monday 4th	Public holiday. College closed.
Thursday 14th	Church holiday. All classes closed.
JULY Friday 6th	All classes terminate—except where otherwise arranged.

BLOCK RELEASE COURSES FOR APPRENTICES (Eleven Weeks each)*

TERM 1—1978	OCT. Monday 2nd	Classes commence.
	DEC. Friday 15th	Classes end.
TERM 2—1979	JAN. Monday 15th	Classes commence.
	MAR. Friday 30th	Classes end.
TERM 3—1979	APR. Monday 23rd	Classes commence.
	JULY Friday 6th	Classes end.

*Note: Courses for Apprentice Printers are of 13 weeks duration beginning on September 11th 1978, January 8th and April 23rd, 1979.
The College is closed on all Public Holidays not specified above.

PROSPECTUS 1978/79

CITY OF DUBLIN
VOCATIONAL EDUCATION
COMMITTEE

COLLEGE OF TECHNOLOGY

BOLTON STREET
DUBLIN 1

School of Architecture, Surveying + Building

School of Engineering

School of Printing + Book Production

School of Trades

Offices

College of Technology Bolton Street Dublin 1 Phone 749913
School of Trades Yarnhall Street Dublin 1 Phone 749913
Annex Longford House Little Longford Street Dublin 2 Phone 751183

Principal: JOHN D. BARRY,
PhD MSc BE CEng FIMechE FIEI

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COLLEGE COUNCIL

- Mr Patrick Donegan (Chairman) 121 Shanard Road Santry Dublin 9
- Dr John D Barry Principal
- Mr Charles J Hurley Teaching Staff Representative
- Mr Thomas Bridgeman "Treetops" Swords Road Dublin 9
- Alderman Kevin Byrne 62 St Mary's Road East Wall Dublin 3
- Mr Anthony Harkin 52 Farney Park Dublin 4
- Mr J C O'Grady 8 Kennington Road Dublin 12
- Rt Rev Mgr J O'Regan STL PP Sandymount Dublin 4
- Dr Michael Scott 19 Merrion Square Dublin 2
- Professor David Simms Trinity College Dublin 2
- Mr Paul Farrell Students' Union Representative
- Professor William Wright Trinity College Dublin 2

GUIDE TO COURSES

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Technological + Technician Courses (Day)	
Architecture, Surveying + Building	
D1. Diploma Course in Architecture. Whole-time.	20
D2A. Construction Technician Diploma Course. Whole-time.	25
D2B. Construction Technician Diploma Course. Part-time.	26
D3. Diploma Course in Environmental Economics. Whole-time.	22
D4. Diploma Course in Construction Economics. Whole-time.	23
D5A. Geo. Surveying Technician Certificate Course. Whole-time.	24
D6. Urban Design (Post Graduate).	21
D8. Architectural Technician Diploma Course. Whole-time.	21
D10. Planning Technician Certificate Course. Whole-time.	22
Engineering	
D40. Preliminary Engineering Course. Whole-time.	28
D41. Graduate Course in Engineering.	28
D42M. Professional Course in Engineering—Mechanical & Production Engineering.	28
D42S. Professional Courses in Engineering—Structural Engineering. Whole-time.	29
D43C. Civil Engineering Technician Certificate and Diploma Course. Part-time.	30
D43V. Heating, Ventilating & Air-conditioning Technician Course. Part-time.	31
D44. Diploma Course in Motor Industry Management. Whole-time.	31
D45. Aircraft Technicians' Course. Whole-time.	32
D46C. Civil Engineering Technician Certificate and Diploma Course. Whole-time.	33
D46H. Environmental Engineering Technician Certificate and Diploma Course. Whole-time.	34
D46M. Mechanical Engineering Technician Certificate and Diploma Course. Whole-time.	35
D47. Mechanical Engineering Technician Course. Part-time.	36
D59. Engineering Short Course Programme.	37
Printing	
D80. Certificate in Printing.	43
D82. Training for Administrative Staff. Part-time.	43
School of Trades	
D153A. Plumbing Technicians. Part-time.	48

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Technological + Technician Courses (Evening)	
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E9A. Photogrammetry and Cartography. Short Course.	51
E9B. Mine Surveying. Short Course.	51
E9C. Building Management. Short Course.	51
Engineering	
E41. Graduate Courses in Engineering.	52
E54. Structural Design.	53
E42. Mechanical Engineering Technological Certificate Course.	53
E43C. Civil Engineering Technicians' Certificate and Diploma Course.	53
E43M. Mechanical Engineering Technicians' Certificate Course.	54
E43V. Heating, Ventilating and Airconditioning Technicians' Course.	55
E44. Motor Industry Management Course.	55
E47. Mechanical Engineering Technicians' Course.	56
E49. Automobile Engineering Course.	56
E50. Computer Programming.	56
E57. Industrial Management Certificate.	57
E58. Refrigeration Engineering Technicians' Course.	57
E60. Domestic Heating Engineers' Course.	57
E61. Sales Engineering.	58
E63. Fire Engineering Course.	58
E64. Process Plant Design.	58
E66. Quality Control Technicians' Certificate	59
E67. Welding Technicians' Certificate.	59
E68. Engineering Estimators.	59
E46. Flight Dispatcher (Flight Operations Officer).	60
E48. Aircraft Technical Support.	60
E51. Production Planning (I.A.T.A.)	60
E45. Aero Engineering Technicians' Certificate.	59
Maintenance Engineers Licences of the Department of Transport and Power	
E52A. 'A' Licence—B.A.C. 1-11.	60
E52B. 'A' Licence—B.707 B.720.	60
E52C. 'A' Licence—B.737.	60
E52D. 'A' Licence—B.747.	60
E52F. 'C' Licence—P & W JT3 Series.	60
E52G. 'C' Licence—P & W JT8D.	60
E52H. 'C' Licence—P & W JT9D.	61
E52J. 'C' Licence—Rolls Royce Spey.	61
E52M. 'X' Licence—Instruments.	61
E52N. 'X' Licence—Electrical	61
E52P. 'X' Licence—Radio.	61
E52Q. 'X' Licence—Radio (Radar Endorsement).	61

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E53. Avionic Digital Techniques.	61
Basic Aeronautical Engineering Certificates of the Department of Transport and Power	
E55A. Airframes Unpressurised (B.A.E.C. 1)	61
E55B. Airframes Pressurised (B.A.E.C. 2)	61
E55C. Piston Engines (B.A.E.C. 3)	61
E55D. Turbo-Prop & Turbo-Jet Engines (B.A.E.C. 4)	61
E55E. Helicopters (Less Engines) (B.A.E.C. 5)	61
E55F. Electrical (B.A.E.C. 6)	61
E55G. Radio (B.A.E.C. 7)	61
E55H. Instruments (B.A.E.C. 8)	61
E56A. Private Aircraft Pilots Licence	62
E56B. Private Pilots Licence—Instrument Rating	62
School of Trades	
E1. Construction Technicians.	72
Printing	
E83. Applied Printing.	65
E84A. Cost Accountancy for Printers.	65
E84B. Cost Estimating for Printers.	65
E84C. Advanced Letterpress and Litho Estimating.	66
E85. Paper Technology and Marketing.	66
E86. Design for Printing.	66
E88A. Printing Technology Composing.	66
E88B. Printing Technology Letterpress Machine Printing.	66
E88C. Printing Technology Lithography and Photo Lithography.	66
E88D. Printing Technology Bookbinding and Print Finishing.	66
E89A. Printing Production Management (Departmental).	67
E89B. Printing Production Management (Works).	67
Short Courses	
Each session, short courses are held consisting typically of eight to twelve lectures relating to special aspects of Building, Engineering or Printing Technology. Details of these are advertised in the newspapers. Also see Page 37.	
Trade Courses (Day)	
Engineering	
D126. Automobile Engineering. Block release.	38
D127. Automobile Engineering. Day Release.	38
D129. Motor Vehicle Technicians. Part-time.	39
D130. Motor Vehicle Partsman (C & G 381). Part-time.	39
D134. Automobile Engineering Technicians. Part-time.	39
D136. Automobile Engineering. Refresher Courses.	39

	Page
D140. Fitting and Turning. Day Release.	40
D140A. Fitting and Turning. Day Release—Training Centres.	40
D141. Fitting and Turning. Block Release.	40
D142. Mechanical Engineering Maintenance or Machining.	41
D154. Aeronautical Engineering Craft Studies. (C & G 208).	41
D154A. Aeronautical Engineering Craft Studies (Mechanical).	41
D154B. Aeronautical Engineering Craft Studies (Avionics).	41
Printing	
D181. Book Production.	45
D182. Print Finishing.	44
D183. Letterpress Machine Work. Block release.	44
D190. Compositors' Work. Block release.	44
D191. Bookbinding. Block release.	44
D192. Lithography and Photo-Lithography. Block release.	45
D193. Archival Studies.	45
D195A. Paper Paste-up.	45
D195B. Newspaper Paste-up.	45
D196. Advanced Linotype, Intertype and Teletypesetting.	46
D199. Phototypesetting.	46
D200. Screen Process Printing.	46
School of Trades	
D101. Bricklaying. Day Release.	48
D102. Plastering. Day Release.	48
D105. Painting and Decorating. Day Release.	48
D107. Vehicle Building. Day Release.	48
D108. Vehicle Trimming. Day Release.	48
D111. Cabinet Making. Day Release.	48
D111A. Furniture Making. Day Release.	48
D112. Upholstery. Day Release.	48
D113. Woodfinishing. Day Release.	48
D121. Carpentry & Joinery. Day Release.	48
D122. Woodcutting Machinists' Work. Day Release.	48
D143. Welding. Day Release.	48
D145. Foundry Work. Block Release.	48
D149. Sheetmetal Work. Day Release.	48
D150. Metal Fabrication. Day Release.	48
D151. Plumbing/Heating Fitting. Day Release.	48
D151A. Plumbing/Heating Fitting. Block Release.	48

Trade Courses (Evening)	Engineering	
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	E134. Fork Lift Truck Maintenance.	63
	E136. Refresher Course for Motor Mechanics.	63
	E142. Mechanical Engineering. Maintenance or Machining.	64
	E154. Aeronautical Engineering. Craft Studies.	64
	E154A. Aeronautical Engineering. Craft Studies (Mechanical).	64
	E154B. Aeronautical Engineering. Craft Studies (Avionics).	64
	Printing	
	E180. Book and Archive Restoration	67
	E181. Book Production.	68
	E182. Printing Finishing.	68
	E184. Graphic Reproduction.	68
	E185. Linotype, Intertype and Teletypesetting.	68
	E186. Monotype Casting.	68
	E187. Monotype Keyboard.	69
	E188. Publishing Techniques.	69
	E191. Bookbinding and Print Finishing (Retraining).	69
	E192. Lithography and Photo-Lithography (Retraining).	69
	E195. Film Assembly.	69
	E195A. Phototypesetting and Strike-on Composition.	70
	E195B. Newspaper Paste-up.	70
	E196. Planning for Plate Making.	70
	E197. Graphics Workshop.	70
	E199. Appreciation Course in Phototypesetting and Strike-on Composition.	71
	E200. Screen Printing.	71
	School of Trades	
	E121. Carpentry & Joinery. Part-time.	72
	E143A. Welding (Short Courses).	72
	E149. Sheetmetal Work.	72

INTRODUCTION

Historical Note: In 1887 the first City of Dublin Technical School was established, and from this initiative the present system of schools and colleges later developed. The College building in Bolton Street was opened in 1911 and provided for education in Building, Engineering and Printing, lines of specialisation which have continued down to the present day. The first whole-time day courses commenced in 1920 with the inauguration of the Apprentice Scholarship Scheme. With the establishment of an Irish Government, technical education came within the province of the Department of Education and a Commission set up in 1926 made recommendations on development which led to the Vocational Education Act of 1930. The system of schools and colleges expanded in succeeding decades under the City of Dublin Vocational Education Committee, and the Bolton Street College was enlarged by new buildings in 1958 and 1963. The development of professional and technician courses began in the 1940's and these over the years gained the recognition of professional and vocational bodies in Ireland and other countries. The College now accommodates full-time and part-time courses in apprentice, technician and technological education.

City of Dublin V.E.C.: The College operates under the City of Dublin Vocational Education Committee. It is responsible for the provision of educational programmes and for the overall administration of the College and is assisted by a number of committees, including the Joint Academic Council, the Board of Studies, the Building Committee and Planning Sub-Committee. The Principal or his nominee represents the College on these Committees. There are also Advisory Committees for major disciplines which assist the V.E.C. and the College in keeping courses abreast of developments in the professional and industrial fields.

College Council: The general direction of the affairs of the College is under the control of the College Council which is a sub-committee of the V.E.C. The Council consists of nine members nominated by the V.E.C., the Principal of the College, a member of academic staff elected by the staff and one student member nominated by the Students' Union. Its terms of reference include approval of annual estimates of expenditure, approval of the nature and range of courses offered, appointment of staff, responsibility for buildings and other facilities and generally examining any major proposals for development of the College.

The Academic Board: The Academic Board has responsibility for the College academic programmes. It comprises the Principal, the Heads of Schools and the Heads of Departments of the College.

Departmental Boards: Departmental Boards comprised of staff and student representatives are concerned with development of Departments' courses and facilities. There are also Course Committees to advise on development of major courses.

GENERAL INFORMATION & REGULATIONS

Applications: Applications for admission to wholtime courses should be submitted not later than 30th June, 1978, on the form obtainable from the Secretary. Documentary evidence of qualifications should accompany all applications. Candidates awaiting results of examinations should make provisional application. Results should be forwarded in support of applications as soon as they become available. In the case of part-time and evening courses it is not necessary to make application for admission in advance of the enrolment date for the course.

Admission and Enrolment Before acceptance of an application for admission to classes or courses the applicant must attend in person for interview and the College must be satisfied as to his ability to benefit from the proposed courses or classes. The College may require an applicant to sit an aptitude or other test before admission. Successful applicants for wholtime courses will be notified in writing during the week commencing 18th September, 1978, and invited to register for the course immediately. Students attending for registration and enrolment are required to have the following:

- Letter of acceptance for the course (only required in the case of students for **wholtime** courses).
- Two copies of a recent photograph of passport type and size.
- Tuition fees for the course or a letter from a Local Authority or other recognised body confirming that it will be responsible for the payment of tuition fees.

In the session 1978/79 the latest date for admission of students to classes commencing in the first term is 27th October, 1978. Only in exceptional circumstances and subject to the additional payment of a late fee of £5.00 will applicants be admitted after that date.

All new students will be issued with an Identity Card. Students who were enrolled in the College in previous sessions must present the Identity Card previously issued to them for re-endorsement for the new session. The Identity Card is the property of the College and may be demanded by the College or its officers at any time. Students are therefore required to have their Identity Cards with them while in College. A charge of £1.00 will be made for replacement of Identity Cards and new photographs will be required.

Change of address or place of employment should be reported to the College Office immediately.

Change of classes or courses may be made only with the consent of the Head of Department.

Fees Fees are payable on enrolment and are not refundable except where a class or course does not form. An enrolment is not transferable from one student to another. The sole proof of enrolment in any class or course in the College is the official receipt for the class or course fees paid. The official receipt must be presented on first attendance at each class.

Grants and Scholarships

- Local Authorities are empowered to make Higher Education grants to eligible students to enable them to pursue courses of higher education at the College. Applications for these grants should be addressed to the Secretary of the Local Authority in whose area the student's parents normally reside.
- Vocational Education Committees are empowered to award scholarships to students from their area attending Technician and other third-level courses at the College. Applications for these scholarships should be directed to the VEC of the area where the student's parents reside. Students normally resident in the City of Dublin and who wish to compete for a scholarship from the City of Dublin Vocational Education Committee should complete the official application form. These forms are available from the College Secretary/Registrar or from Heads of Departments.
- AnCO, the Industrial Training Authority, offers a number of scholarships and grants each year to those pursuing Technician courses in the Engineering and Construction fields. Information on the scholarships and grants are available from AnCO, Box 456, Baggot Court, Dublin 2.
- Ivan Webb Scholarship:** The Construction Industry Federation and the Master Builders Association have established a scholarship fund to commemorate the late Ivan Webb, a former Council member of both bodies who was killed in the Stansted air disaster. The object of the scholarship fund is to assist students in pursuing their courses of study. The scholarships apply to the full-time and part-time Higher Construction Technician Courses in the College and are awarded on the following basis: One scholarship valued at £500 to the student attaining the highest place in the results of the year's work and examinations in the First year of the Full-time Course. Two scholarships valued at £250 each to the two students attaining the highest places in the results of the year's work and examinations in the Second year of the Part-time Course.

Classes Day classes will normally be held during the period 9.00 a.m. to 1.00 p.m. and 2.00 p.m. to 5.00 p.m. each week-day. Evening classes will normally be held from 7.00 p.m. to 10.00 p.m. except where otherwise arranged.

Formation and Continuance of Classes The College reserves the right to change any or all of the syllabus, the day and time of meeting of any class and may cancel classes where the enrolment or attendance is considered inadequate. If for some reason a teacher cannot attend, classes may be cancelled without notice.

Trade Courses Trade courses are provided for the sole purpose of supplementing the practical trade training of persons actually employed at and engaged in the various operations of the trade. The College realises that it is impossible for a person to learn a trade solely by attendance at these classes and is further of the opinion that the admission to the classes of persons not actually engaged in the trades would be not only of little use to such persons but would prejudicially affect the instruction of those for whom the classes have been organised.

Accordingly the College reserves the right to restrict enrolment in the trade practical classes to those persons who are actually employed in the several processes and operations of the trade. For admission to these classes proof of actual employment in the several processes and operations of the trade will be certificates to that effect from the Masters' Association, the official Trade Unions of the trade concerned or AnCO. Employers are kept informed during the session of absences or lates on the part of their apprentices. In addition, an end of session report on attendance and progress is issued to students and employers. Apprentices and employers are asked to note particularly that details of the employment and the attendance of all apprentices enrolled in release courses will be made available to AnCO—the Industrial Training Authority whether or not the apprentices are registered with the body.

Overseas Students Overseas students are required to hold the General Certificate of Education Ordinary Level in six subjects including English and Mathematics or equivalent qualifications. Applicants for professional or degree level courses are also required to have a minimum of two G.C.E. advanced level subjects or equivalent. Applications must be accompanied by a letter of recommendation from the diplomatic representative of the country of origin in Ireland, or, where there is no such representative, from the Ministry of Education in the country of origin.

No application will be accepted from overseas applicants for admission to part-time day or evening courses.

Examinations The College conducts its own examinations for a number of the professional and technician courses. These are moderated by external examiners and lead to College awards. The College also offers courses leading to examinations and awards of external bodies for which it is an approved examination centre. Students are required to acquaint themselves with the examination and promotion regulations of the course for which they enrol.

College Examinations Examinations are held at the end of each session or stage and are regulated by the College Academic Board and the Examination Board.

An examination fee of £5.00 is payable in respect of College sessional examinations.

The closing date for receipt of College Examination fees is 31st January, 1979. In exceptional circumstances and at the discretion of the College Examination Board Executive a candidate may be allowed to enter for a College examination up to 31st March, 1979, subject to the additional payment of a late fee of £5.00.

Promotion to a higher year or stage in any subject is contingent on reaching the required standard in the sessional examination in the lower grade.

A candidate unsuccessful in a sessional examination may be permitted to sit a supplemental examination in relation to the same session where such is offered in accordance with the regulations established for his course. Candidates may sit for one such supplemental examination without payment of a further fee. Candidates who do not complete an examination in all subjects of the year or stage or who are required to submit additional work (e.g., project or thesis) to the Examination Board for assessment before graduation or promotion to the next year of the course, must re-enter for that examination before 31st January, 1979, and pay the appropriate fees. No student shall be admitted to the examinations who has not made at least 75% of the possible attendance, except in special circumstances and at the discretion of the Head of Department. Students are required to submit regularly such project work and course work as may be prescribed by members of the academic staff and this will be taken into account in the assessment at the end of the session.

A laboratory notebook must be maintained by each student of a laboratory class; an assessment will be made at the end of session of each student's progress in the laboratory techniques and experimental ability which will count in the sessional examination in that subject.

Other Examinations

The College is a centre for a number of external examinations including the General Certificate of Education of the University of London, the Department of Education, the City & Guilds of London Institute. Application for entry to these examinations must be made through the College Office in accordance with the closing dates as indicated on College Notice Boards.

In connection with the examinations of professional and other external bodies, students are advised to note the following:

1. Admission to a course in the College may not of itself entitle students to sit for examinations of external bodies. Students are themselves responsible for ensuring that they satisfy all the requirements of the examining body concerned.
2. Students are expected to acquaint themselves with the current regulations for the examinations which they propose to take.
3. Students must make the necessary applications and provide all documents that may be required.
4. The College Authorities will give assistance and advice in the above matters.

National Council for Educational Awards The NCEA was established by the Government in 1972 and awards qualifications in a number of areas of study in non-university institutions. At present students in some engineering courses receive NCEA awards in addition to College awards.

University of Dublin The City of Dublin Vocational Education Committee and the University of Dublin have entered into a formal agreement by which degree awards of the University are available to students of the College who successfully complete certain courses in Architecture, Engineering and Surveying. Details relating to these awards are given under the individual course entries.

General Regulations General regulations for Colleges and classes operating under the Authority of the City of Dublin Vocational Education Committee are displayed in the Entrance Hall. All students are subject to these regulations.

The Vocational Education Committee may expel any student without refund of fees, for irregular or unpunctual attendance or for any other reason which in the opinion of the College, justifies expulsion. Three successive absences from any class may lead to suspension from the entire course, unless a satisfactory written explanation is submitted to the Head of Department.

Students must provide themselves with such books, instruments and equipment (including special clothing) as their classes may, in the opinion of the College, require.

Students are required at all times to obey the lawful instructions of lecturers and other members of the College staff. Misconduct in the College or its grounds may lead to suspension or expulsion. All lecturers are authorised to enforce immediate disciplinary measures in respect of students whom they find violating the regulations of the College or otherwise misconducting themselves. The full co-operation of each student is invited in order to maintain the dignity and discipline of the College.

Students are liable for the cost of repair or replacement of any College property damaged by them.

Students are not permitted to smoke in the College classrooms Laboratories, Lecture theatres, workshops, library or gymnasium. Parking of pedal and motor cycles in the space provided in the College grounds is normally permitted. Students are not permitted to bring cars into the College parking area.

Students are permitted to use the facilities of the College including the Gymnasium, on the understanding that they do so at their own risk.

Though all reasonable care is taken, the College accepts no liability for student property lost, stolen or damaged on the College premises or grounds.

Locker accommodation is available for a considerable number of students on payment of a fee of £3.00 per session. This includes a deposit of

£2.00 returnable only if the locker key is surrendered within seven days of the expiry of the period for which the locker has been granted, i.e., before 15th June, 1979.

Office Hours Office Hours: 9.00 a.m. to 12.45 p.m. and 2.15 p.m. to 5.00 p.m. Monday to Friday, and at special periods of the year at times which will be posted on the Notice Board. Except during enrolment periods members of the staff will not be available for interviews or consultations except by prior appointment.

Canteen Facilities The College Canteen is open throughout the session for lunches, teas and morning and afternoon snacks.

The Library The Library plays a vital part in the academic structure and programmes of the College. It provides a comprehensive information service, and study facilities for students and staff. While the emphasis in the book collection is on the major college disciplines, there is a gradual build-up of other subject areas. A phased development plan at present under way will increase the total stock from the existing 28,000 volumes to 35,000 volumes by 1979.

The Library also receives 600 current periodicals.

The Library maintains close links with the City of Dublin Public Library system of which it forms part and it has access to the total holdings of that system. It also has close links with the Libraries of An Foras Forbartha, the Institute for Industrial Research & Standards, the Universities and other Research Institutes both here and abroad. Through these links photocopied material and books on inter-library loan may be quickly obtained. By arrangement facilities may also be provided for staff and senior students to use these libraries for research purposes.

The Library contains an open access stack area, a periodicals and reference area and a reading area which provides seating for 200 readers. A lending scheme is in operation for all books. There is a coin operated photo-copying machine in the library for the use of readers.

First year students are given introductory lectures on the use of the library by the librarian. Library publications include a current list of periodicals and a monthly accessions list.

Hours of Opening:

In Term	Monday to Friday 9.30—21.30	Saturday 9.30—13.00
Summer Term	Monday to Friday 9.30—21.30	Saturday 9.30—17.00
In Vacation	Monday to Friday 9.30—17.30.	

The Students' Union The Students' Union is the students' representative body in the College. Every student becomes a member of the Union on enrolment. The Union is democratically based and it is dependent for its effectiveness on the involvement of its members. It is administered by an executive which is

elected by the student body. The Union President is a full-time sabbatical officer with a wide range of tasks and responsibilities.

Each class in the College elects a representative to the Students' Union Council. In addition College Societies and the Union Executive are represented on the SUC and it is a forum for discussion and decision making.

The ultimate decision-making body of the Union is the General Meeting which is a meeting of the whole student body.

Functions of the Union:

1. To represent the views of its members.

This the Union does at College level by representing the students on the College Council, Library and Canteen Committee and other bodies.

It represents its members' views at national level through the Union of Students in Ireland.

2. To provide recreational and social facilities for its members. These include lunchtime concerts, parties, dances, and guest speakers. The Union also maintains a comfortable Common Room where students may meet, have discussions or just relax.

The College Societies are also under the umbrella of the Union and, as well as parties, they organise trips, lectures and concerts. The Sports' Council acts as the co-ordinating body for the many sporting activities in the College.

3. To provide services for members.

The Student Shop (D1) provides stationery, newspapers, sweets, drawing equipment and textbooks. It also issues International Student Identity Cards and provides information on student travel.

Union Offices: Room A51.

School of Architecture Surveying and Building

The School provides courses at non-degree and technical levels for occupations within the building industry, and brings together in the process of education those who will work together in responsibility in local careers.

The Architect is responsible for the design and supervision of building projects.

DAY COURSES

The Construction Economist, according to his qualifications, may be employed as quantity surveyor, with practical experience to assist the management of the building operation.

The Environmental Economist has a similar role in the wider range of urban development and planning, or in estate management.

The Quantity Surveyor is concerned with the cost of the work, its resources, and the measurement and valuation of these.

Employment opportunities in all cases exist in a range from personal professional consultancy, or employment in professional and building organisations and in State or municipal departments.

For further information on these courses, please contact the School of Architecture, Surveying and Building, Room A51, University of Limerick, Limerick.

These courses are available on a full-time basis, and are open to students who have completed the first year of their degree programme in the School of Architecture, Surveying and Building.

The courses are designed to provide students with the necessary skills and knowledge to enable them to enter the building industry with confidence and competence.

For more information on the day courses, please contact the School of Architecture, Surveying and Building, Room A51, University of Limerick, Limerick.

The day courses are a valuable opportunity for students to gain practical experience and to develop their professional skills in a supportive and stimulating environment.

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The day courses are a valuable opportunity for students to gain practical experience and to develop their professional skills in a supportive and stimulating environment.

...the student body. The Union Executive is a full-time salaried
 official who is responsible for the day-to-day running of the
 Union. The Union Executive is elected by the student body
 at the Annual General Meeting. The Union Executive is
 responsible for the day-to-day running of the Union and
 for the implementation of the policies decided upon by the
 student body. The ultimate decision-making body of the Union is the
 General Meeting which is a meeting of the whole student body.

Functions of the Union

- To represent the student body in all matters relating to the
 College Council, Library and Canteen Committee and other bodies.
 It represents the student body in all matters relating to the
 student body.
- To provide facilities for the student body. These
 include a library, canteen, sports ground, and guest house. The
 Union also maintains a common room where students
 may meet, have their meals or just relax.
 The College Lecturers are also under the authority of the Union and
 as well as parties they organise trips, lectures and courses. The
 Council acts as the governing body for the main sporting activities
 in the College.
- To provide services for members.
 The Student Society (D) provides a wide range of services
 including a library, canteen, sports ground, and guest house.
 The Union Office, Room 441

School of Architecture Surveying and Building

The School provides courses at technological and technician levels for
 occupations within the building industry, and brings together in the
 process of education those who will work together professionally in later
 careers.

The Architect is responsible for the design and supervision of building
 projects.

The Construction Economist, according to his specialisation, may be
 concerned, as quantity surveyor, with projects, economics or with the
 management of the building operation.

The Environmental Economist has a similar role in the wider range of
 urban development and planning, or in estate management.

The Geo-Surveyor is concerned with the land itself, its nature, its
 resources, and the measurement and definition of these.

Employment opportunities in all cases exist in a range from personal
 professional consultancy to employment in architectural and building
 organisations and in State or municipal departments.

TECHNOLOGICAL AND TECHNICIAN COURSES

D1. DIPLOMA COURSE IN ARCHITECTURE

This is a five-year whole-time course leading to the Diploma in Architecture. Graduates from the course become eligible for membership of the Royal Institute of the Architects of Ireland after they have completed the requirements relating to practical experience and professional practice. Success in the Third Year gives exemption from the Intermediate Examinations of the Royal Institute of the Architects of Ireland. Holders of the Diploma are eligible for the award of the B.Arch.Sc. Degree of the University of Dublin. Students are required to have not less than 75% attendance at lectures and studio work in each session before being eligible for the sessional, or other examinations. All subjects must be passed in any year of the course before a student can be considered for promotion to the next year of the course.

Entrance Standard

The minimum preliminary educational qualifications required for direct entry, subject to interview and suitability assessment by the Interview Board, are:—

- (a) The Department of Education Leaving Certificate with not lower than Grade D in a minimum of four subjects and at least two other subjects at Grade A, B or C on the Higher Level Course or
- (b) The General Certificate of Education with not lower than Grade D in four subjects and at least two other subjects at Advanced Level or
- (c) Equivalent qualifications (i.e. Matriculation of the National University of Ireland).

Note: Subjects must include Mathematics and English.

Subjects of Instruction are

First Year

Studio Work; Architectural Design; Building Construction and Materials; History of Architecture; Theory of Architecture; Mathematics and Statistics; Mechanics; Physics; Chemistry.

Second Year

Studio Work; Theory of Architecture; Irish Art and Architecture; Art and Civilisation; Building Construction and Materials; Building Services I; Theory of Structures; Physics; Chemistry.

Third Year

Studio Work; Theory of Architecture; History of Town Planning; Interior Design; Building Construction; Building Practice; Building Services II; Building Materials; Structural Engineering; Surveying and Levelling; Computer Studies.

Fourth Year

Studio Work; Theory of Architecture; History of Architecture; Building Construction; Structural Engineering; Professional Practice; Interior Design (including Furniture design); Urban Design; Economics and Cost Control; Computer Studies.

Fifth Year

Studio Work; Structural Engineering; Professional Practice; Urban Design; Specifications and Materials; Economics and Cost Control; History of Architecture.

Note

Studio Work includes Architectural Drawing, Architectural Design, Building Construction, Drawing, Graphics and in the case of the First Year only, Geometrical Drawing.

Fee

£65.00 per annum.

D6. URBAN DESIGN (POST GRADUATE)

Commencement of course is subject to additional accommodation and finance being available to the College.

D8. ARCHITECTURAL TECHNICIAN DIPLOMA COURSE

This is a three-year whole-time course designed to train Architectural Technicians and leading to the Architectural Technicians' Diploma. The Final examination of the course is accepted as a qualification for Technician membership of the Royal Institute of Architects of Ireland, for Associate membership of the Institute of Architectural and Associate Technicians and for membership after two years of practical experience.

Entrance Requirements

The minimum preliminary educational qualifications required for direct entry, subject to interview and suitability assessment by the Interview Board, are:—

- (a) The Leaving Certificate of the Department of Education in at least five subjects or
- (b) The Matriculation Certificate of a recognised University or
- (c) The General Certificate of Education.

Note: Subjects must include Mathematics and English.

Applicants holding the above qualifications will be asked to attend for an aptitude/suitability test. Those who score well in the test will be called for interview in September after which the places available on the course will be allocated.

Course of Study

First Year

Building Science, Structures, Surveying and Levelling, Graphics, Building Construction, History and Theory of Architecture, Architectural Drawing.

Second Year

Building Construction, Building Materials, Structures, Surveying and Levelling, Building Services, Pre-fabrication and System Building, Joinery and Projects.

Third Year

Building Technology, Building Materials, Structures, Building Services and Specifications, Contracts and Architectural Practice.

Examination and Other Requirements Progress to successive years of the course is decided on the basis of the student's work during the session and success in the College sessional examinations. Students are required to gain approved practical experience in professional offices during the summer vacations.

Fee £50 per annum.

D10. PLANNING TECHNICIAN CERTIFICATE COURSE

Commencement of course is subject to additional accommodation and finance being available to the College.

D3. DIPLOMA COURSE IN ENVIRONMENTAL ECONOMICS

This is a four-year whole-time course leading to a Diploma in Environmental Economics. It is designed for those who wish to work as Valuers, Estate Agents, Property Advisers, Developers and Planners in either private or public employment. Holders of the Diploma are exempted from all academic examinations leading to Corporate Membership of the General Practice Division of the Royal Institution of Chartered Surveyors. They receive similar exemption from the Planning and Development Division of the Institution except for having to sit two of the papers of the Final Examinations. They are exempted from the Intermediate Examination of the Royal Town Planning Institute. The Course is also recognised by the Irish Auctioneers' and Valuers' Institute. Holders of the Diploma are eligible for the award of the Degree B.Sc. (Surveying) of the University of Dublin and are accepted for entry to appropriate University Post Graduate courses in Ireland and abroad.

Course of Study Stage I

Mathematics, Environmental Science, Accountancy, Economics, Valuation, Construction Technology, Introduction to Law, Professional Development and Measurement.

Stage II

Valuations, Planning, Economics, Environmental Law, Construction Technology and Maintenance of Buildings, Land Surveying, Statistics, Computer Usage and Appreciation, Local Administration and Housing, Mathematics of Finance, Urban Sociology.

Stage III

Valuations, Planning, Environmental Law, Economics, Taxation, Investment Analysis, Urban Sociology, Management of Property and Professional Practice.

The second stage of the course is project based and examined by continuous assessment. In the third stage, students prepare a major dissertation as part of their final Diploma examination.

Practical Experience Students are required to gain Industrial and Professional experience during the extended summer vacations.

Entry Qualifications Entry to the course is by selection following interview of those applicants holding the following minimum qualifications:

(a) The Secondary Schools Leaving Certificate in at least six subjects including Mathematics and English with a minimum Grade C in two subjects at Higher Level

OR

(b) The Matriculation Certificate of a recognised University

OR

(c) The General Certificate of Education with a minimum of two subjects at Advanced Level and four subjects at Ordinary Level including Mathematics and English Language or Literature

Fee £65.00 per annum.

D4. DIPLOMA COURSE IN CONSTRUCTION ECONOMICS

This is a four-year whole-time course leading to a Diploma in Construction Economics or Construction Management. It is designed for those who wish to work as Quantity Surveyors, Economic Advisers in the Construction Industry, Building Development Co-ordinators and Building Managers. Holders of the Diploma are exempted from all academic examinations leading to Corporate Membership of the Royal Institution of Chartered Surveyors (Quantity Surveying Division). The Institute of Building, The Institute of Quantity Surveyors and The Construction Surveyors' Institute. Holders of the Diploma are also eligible for the award of the Degree B.Sc. (Surveying) of the University of Dublin and are accepted for entry to appropriate University Post Graduate courses in Ireland and abroad. Applicants for the course must elect on entry to follow either the Construction Economics OR the Construction Management options.

Course of Study**Stage I**

(Both options)

Mathematics, Environmental Science, Accountancy, Economics, Measurement, Construction Technology, Introduction to Law, Professional Development and Valuation.

Stage II

(Both options)

Measurement, Financial Management, Economics, Construction Law, Land Surveying, Statistics, Construction Technology, Computer Usage and Appreciation, Contract Administration, Specifications, Production Management.

Stage III

Construction Economics Option

Measurement, Construction Law, Financial Management, Production Management, Building Economics, Contract Administration.

Stage III Construction Management Option Construction Technology, Construction Law, Production Management, Financial Management, Personnel Management, Mathematics and Management Practice.

The second stage of the courses are project based and examined by continuous assessment. In the third stage students prepare a major dissertation as part of their final Diploma examinations.

Practical Experience Students are required to gain Industrial and Professional experience during the extended summer vacations.

Entry Qualifications Entry to the course is by selection following interview of those applicants holding the following minimum qualifications:
(a) The Secondary Schools Leaving Certificate in at least six subjects including Mathematics and English with a minimum Grade C in two subjects at Higher Level

OR

(b) The Matriculation Certificate of a recognised University

OR

(c) The General Certificate of Education with a minimum of two subjects at Advanced Level and four subjects at Ordinary Level including Mathematics and English Language or Literature.

Fee £65.00 per annum.

D5A. GEO-SURVEYING TECHNICIAN CERTIFICATE COURSE

This is a two year whole-time Technician Certificate course in Surveying which prepares students for careers in land and mining surveying in both public and private employment. An optional third year may be provided leading to the award of a Technician Diploma.

First Year

Mathematics and Statistics; Science including Electronics; Surveying Methods and Practice; Theory and Use of Instruments; Survey Drawing; Computer Programming; Liberal Studies.

Second Year

Elements of Law and Administration; Geology; Land Survey; Mine and Engineering Survey; Elements of Hydrographic Survey; Mineral Technology; Introduction to Photogrammetry; Mathematics; Science and Cartography.

Third Year

Mathematics, Physics, Trigonometrical Surveying, Photogrammetry, Cartography, Land Administration, Law, Mining Surveying.

Practical Experience Field camps are conducted at the end of the first year and also at the end of the second year for those proceeding to the third year of the course. In addition students are required to gain field experience during the summer vacation.

Entry Qualifications Entry to the course is by selection following interview of those applicants holding the following qualifications:—

(a) The Secondary Schools Leaving Certificate with passes in a minimum of five subjects including Mathematics and English, or

(b) A recognised equivalent.

Preference will be given to applicants with good grades in Mathematics. £50.00 per annum payable on enrolment.

Fee

D2A. CONSTRUCTION TECHNICIAN DIPLOMA COURSE

This is a three-year full-time course leading to a Technician Diploma in Construction and is designed for those who wish to work at middle management level in the Building Industry. Holders of this Diploma qualify for Licentiatehip of the Institute of Building, and Construction Surveyors Institute and Technician membership of the Incorporated Association of Architects and Surveyors.

Course of Study First Year

Land Surveying; Mathematics; Environmental Science; Accountancy; Measurement and Specifications; Construction Technology.

Second Year

Builders Accounts; Land Surveying; Construction Technology; Measurement; Estimation and Price Build Up.

Third Year

Construction Law; Construction Technology; Measurement and Specifications; Variations; Management and Economics.

Full-time students are required to gain industrial experience during the summer vacation.

Entry Qualifications Entry to the course is by selection following interview of those applicants holding the following minimum qualifications:

(a) The secondary schools Leaving Certificate in at least five subjects including Mathematics OR

(b) The Matriculation Certificate of a recognised University OR

(c) The General Certificate of Education.

Fee £50.00 per annum.

D2B. CONSTRUCTION TECHNICIAN DIPLOMA COURSE—PART-TIME

The above course is also available on a day release basis involving attendance on one day and two evenings per week for a period of four years. Entry to this course is open to those holding:—

- (a) Senior Trade Certificate, Leaving Certificate in at least five subjects or equivalent,
- (b) Appropriate employment in the Construction Industry.

Fee £22.00 per annum.

SHORT-TERM COURSES

Short-term Courses in the Building and Project Management area will be held during the session.

These will be advertised in the National Press.

School of Engineering

The School of Engineering encompasses five departments within the College—Engineering Technology, Automobile Engineering, Aeronautical Engineering, Mathematics and Science, and Engineering Trades.

The academic work engaged upon within the school ranges from craft to full professional level. It is the School's policy to provide an integrated system, horizontally in the range of technologies and vertically in their levels. In this way it is hoped that all students will find courses suitable to their needs and abilities.

Opportunities for transfer or promotion to related disciplines are provided.

The School maintains close links with industry through direct contact with employers, through vacation training, project work and research activities. The links with professional institutions are strong and there is a conscious awareness of modern needs in technological education and training.

Most of the professional engineers who graduate annually enter employment in Irish manufacturing or process industries or consultancy practices where their thorough preparation enables them to make a useful contribution immediately. Some continue to post-graduate work at home, or abroad in Britain, Canada, or the United States.

The College is aware of the growing need for technicians in Ireland and in recent years has developed a number of new courses to meet the deficiencies which existed. The demand for technician graduates continues to expand and such courses offer very attractive prospects to young people in search of interesting careers.

The Evening School continues to form an important part of the Engineering School's activities. Programmes are kept under review and every attempt is made to assist technical personnel to keep abreast of the latest advances and new technological developments.

All applicants who meet the minimum specified educational requirements for entry are interviewed shortly before the commencement of the course in September. As the accommodation of the College is limited it is regretted that in many cases only some of the applicants can be accepted.

TECHNOLOGICAL AND TECHNICIAN COURSES

D40.

PRELIMINARY ENGINEERING COURSE

This is a one-year whole-time course commencing each year in mid-September. Its purpose is to prepare suitable students for entry to the Professional Engineering Courses D42M or D42S or for positions as trainee technicians in the Engineering industry.

Entrance Requirements Course of Study

Leaving Certificate of the Department of Education with good passes in Mathematics, English, and three other subjects; or equivalent.

The subjects studied are: Mathematics, Mechanics, Engineering Technology, Physics, Chemistry, Engineering Drawing, and Liberal Studies.

Examinations and Other Requirements

Students are required to:

- take a College examination at the end of the session;
- present laboratory notebooks and project work reports to the satisfaction of the College authorities.

Fees

Tuition fee: £50 per academic year payable on enrolment.
Examination fee: £5 payable in January.

D41.

GRADUATE COURSE IN ENGINEERING

A four-year part-time day and evening course in preparation for the examinations of the Professional Engineering bodies. The course of study is as set out for course E41 which is the parallel course operating by night.
Course Fee: £22.00.

Fees

D42M.

PROFESSIONAL COURSE IN ENGINEERING—MECHANICAL AND PRODUCTION ENGINEERING

This is a four-year full-time course which prepares young people with a suitable aptitude and educational background for a career in Mechanical or Production Engineering and particularly for employment in manufacturing and process industries.

Entrance Requirements

- Leaving Certificate of the Department of Education in six subjects with Grade C or better in the higher course in Mathematics and a Science subject (preferably Physics), and a pass in four other subjects OR
- Such other qualifications as the College may deem to be equivalent.

Course of Study

First Year—Mathematics, Applied Maths, Engineering Drawing, Engineering Technology, Physics, Chemistry, Economic and Social Studies.

Second Year—Mathematics, Principles of Electricity, Mechanics, Thermodynamics, Fluids, Drawing, Physics, Production Processes. Economic and Social Studies, Workshop and Laboratory Work.

Third Year—Mechanics of Materials, Mechanics of Machines, Principles of Production, Thermodynamics, Fluid Mechanics, Electrotechnology, Mathematics and Statistics, Management Studies and Laboratory Work.

Final Year—Mechanics of Materials, Mechanics of Machines, Engineering Design, Electrotechnology, Mathematics and Computer Applications and Management Studies, together with two other subjects Thermodynamics

and Fluids (Mechanical option), or Production Technology and Analysis of Manufacturing Systems (Production option).

In the Final Year, students are also required to carry out an individual design or research project and to submit a thesis on the work undertaken.

Examination and Other Requirements

Progress to successive years of the course is decided on the basis of the student's work during the session, and success in the College sessional examination. It is an essential requirement of the course that the student completes a 2-3 month period gaining suitable practical experience during each Summer and submits a report on it.

At the completion of the course students who have been successful in the Final examination will be eligible for the award of the College Diploma in Engineering. They are also eligible for the award of the B.Sc. (Eng.) degree of the University of Dublin.

Recognition by Professional and Other Bodies

Students holding this Diploma meet the academic requirements for Membership of the Institution of Engineers of Ireland. It is also widely accepted by Universities in Ireland and abroad as meeting their academic requirements for entry into post-graduate courses.

Fees

Tuition fee: £65.00 per academic year payable on enrolment.
Examination fee: £5 payable in January.

D42S.

PROFESSIONAL COURSE IN ENGINEERING—STRUCTURAL ENGINEERING

This is a four-year full-time course which prepares young people with a suitable aptitude and educational background for a career as Structural Engineers. Structural Engineering is a branch of Civil Engineering related to the design of buildings, bridges, dams and other construction projects.

Entrance Requirements

As for Course D42M.

Course of Study

First Year—Mathematics, Applied Maths, Engineering Drawing, Engineering Technology, Physics, Chemistry, and Economic and Social Studies.

Second Year—Mathematics, Physics, Fluids, Mechanics, Structural Drawing and Design, Building Technology, Surveying, Geology and Soil Mechanics, Economic and Social Studies, and Laboratory Work.

Third Year—Mathematics, Mechanics of Materials, Theory of Structures, Geology and Soil Mechanics, Building Services, Surveying, Management Studies and Laboratory Work.

Fourth Year—Mathematics, Mechanics of Materials, Theory of Structures, Design of Structures, Municipal Engineering, Professional Practice, Management Studies, a Project and Laboratory Work.

Examination and Other Requirements As for Course D42M. At the completion of the course students who have been successful in the Final examination will be eligible for the award of the College Diploma in Engineering. They are also eligible for the B.Sc. (Eng.) degree of the University of Dublin.

Recognition by Professional and Other Bodies Students holding this Diploma meet the academic requirements for Membership of the Institution of Engineers of Ireland. It is also widely accepted by Universities in Ireland and abroad as meeting their academic requirements for entry into post-graduate courses.

Fees Tuition fee: £65.00 per academic year payable on enrolment. Examination fee: £5 payable in January.

D43C. CIVIL ENGINEERING TECHNICIAN CERTIFICATE AND DIPLOMA

This part-time day and evening course prepares students for a Technician Certificate/Diploma in Civil Engineering. Students are expected to be already suitably employed in a Civil Engineering or Construction firm before commencing the course. It is also possible to pursue Stage 1 through one year of full-time study (see course D46C) before entering employment and then pursue Stage II as a part-time student over two years as outlined below.

Entrance Requirements Leaving Certificate or equivalent in five subjects including Mathematics, and a Science subject (preferably Physics).

Course of Study Stage I—First and Second Years—Intermediate Stage—Subjects: Mathematics, Engineering Science, Mechanics, Drawing, Surveying, Construction Technology and Complementary Studies. Stage II—Third and Fourth Years—Certificate Stage—Subjects: Structural Design and Detailing, Engineering Materials and Laboratory Work, Mathematics and Computation, Construction Services and Supplies, Surveying, Planning and Administration, and Complementary Studies. Stage III—Fifth and Sixth Years—Diploma Stage. This stage specialises in Municipal Engineering. Candidates are expected to be employed and gaining suitable experience in this field and are required to have passed the Certificate Stage with Credit, or have at least one year's suitable experience together with a Pass Certificate. Subjects: Mathematics, Road Engineering, Management Studies, Planning and Building Regulations, Hydraulics and Sanitary Services, Design and a project.

Examinations and Other Requirements At the end of each year students take a College Examination which is moderated by the National Council for Educational Awards.

Recognition by Professional Bodies Those who have successfully completed the Certificate Stage of this course meet the academic requirements for Technician status with the Institution of Engineers of Ireland, while those who have completed the Diploma Stage meet the Technician Engineer level and can qualify for the non-Corporate Associateship grade of membership after they have completed a suitable period of practical training.

Tuition Fee £22.00 per annum payable on enrolment.

Examination Fee £5 payable in January.

D43V. HEATING, VENTILATING + AIRCONDITIONING TECHNICIAN COURSE

This a part-time day and evening course intended to prepare students in suitable employment for the City & Guilds of London examinations in Heating, Ventilating & Airconditioning (Technicians' Certificate Course No. 632). This course will be phased out from the 1978/79 session, and will be incorporated with courses D46H and E43V.

Entrance Requirements (a) Satisfactory completion of the first year of Course D46H or (b) Dept. of Education Intermediate Technological Certificate or (c) Leaving Certificate with Honours in Mathematics, Physics and Drawing or equivalent.

Course of Study **First Year** Heating & Hot Water Services, Drawing & Design, Principles of Electricity, Mechanics & Mechanics of Fluids, Ventilation & Air Conditioning. **Second Year** Heat Generation and Boilerhouse Practice, Ventilation & Air Conditioning, Heating & Hot Water Services.

Examination and Other Requirements At the end of the first year students take the Part I examination (No. 632) of the City & Guilds of London Institute, and they take Part II at the end of the second year.

Fee £22.00 per annum.

D44. DIPLOMA COURSE IN MOTOR INDUSTRY MANAGEMENT

This whole-time course prepares students for entry into the many and varied responsible positions in the Motor Industry. The course prepares students for the College examinations for the award of a Transport Engineering Technician Certificate at the end of two years' study and for the award of the Diploma in Motor Industry Management at the end of a further year's study.

Entrance Requirements The entrance standard is Leaving Certificate or equivalent preferably with passes in Mathematics, Physics and English. Candidates will be called for interview before being finally accepted for admission to the course.

Course of Study First Year—Automobile Engineering, Heat Engines, Applied Mechanics, Drawing, Mathematics, Chemistry, Management Studies and Complementary Studies.
 Second Year—Automobile Engineering, Heat Engines, Applied Mechanics, Drawing, Mathematics, Management Studies and Complementary Studies.
 Third Year—Automobile Engineering, Mathematics, Motor Industry Management, Fleet Transport Management, Industrial Sociology, Accountancy, and a Project.

Examination and Other Requirements Progress to successive years of the course will be on the basis of the student's work during the session and success in the College sessional examinations. Only students who successfully complete the Certificate stage and who display an aptitude for management will be accepted for the Diploma stage of the course. An essential requirement of the course is that students spend 2-3 months of each Summer Vacation in suitable employment in the Motor Industry gaining appropriate experience. Where students are unable to arrange Summer employment, the Graduate Society of the Institute of the Motor Industry and the College Authorities will assist in their placement for this purpose.

Recognition by Professional and Other Bodies Students qualifying for the award of the Diploma are eligible for full exemptions from the examination requirements of the Institute of the Motor Industry.

Fees Tuition fee: £50.00 per academic year payable on enrolment.
 Examination fee: £5 payable in January.

D45. AIRCRAFT TECHNICIANS' COURSE

This course is a three-year sandwich course to train Aircraft Technicians for the ICAO Licensed Maintenance Engineers' Licences issued by the Department of Transport and Power. Students attend the College from September to May inclusive and spend the remainder of the year in the Aircraft Industry.

Entrance Requirements (a) Intermediate Certificate of the Department of Education in suitable subjects; or
 (b) Day Group Certificate of the Department of Education in suitable subjects.

Course of Study **First Year**
 French, English, Social Science, Physics, Mechanics, Mathematics, Drawing, Heat, Workshop Technology.
 Workshop Practice, Aero-Laboratory and Physical Training.
Second Year
 As above except Heat Engines instead of Physics.
Third Year
 As above together with Materials.

Examination and Other Requirements Students are required to pass examinations as follows:
 (a) At the end of the first year the Department of Education Junior Trade Group Certificates and Elementary Stage Technological Examinations in Mechanical Engineering.
 (b) At the end of the second year—the Department of Education Senior Trade Group Certificate, Intermediate Stage Technological Examinations in Mechanical Engineering and City and Guilds of London Institute Examination in Aeronautical Engineering Practice Part I.
 (c) At the end of the third year—the Department of Education Senior Turning and Senior Workshop Technology and the Department of Transport and Power basic L.M.E. Certificate.
Fee £50.00 per annum.

D46C. CIVIL ENGINEERING TECHNICIAN CERTIFICATE AND DIPLOMA COURSE

This course prepares students for a Technician Certificate award in Civil Engineering at the end of two years and for a Technician Diploma award at the end of a further year of study. The students attend the College from the end of September until the end of May each year and they spend the Summer months gaining practical experience in approved Civil or Structural Engineering design offices, construction sites, etc.

Entrance Requirements First Year—Leaving Certificate or equivalent with good passes in Mathematics, a Science subject (preferably Physics), English and two other subjects.
 Third Year (Diploma Stage)—Students are expected to reach Credit or Distinction level in the Certificate Examination at the end of the second year to qualify for admission to the third year of the course leading to the Diploma award. The Diploma stage is specialised and is focussed on Structural Design.

Course of Study First Year—Mathematics, Engineering Science, Mechanics, Drawing, Construction Technology, Surveying and Complementary Studies.
 Second Year (Certificate Stage)—Structural Design and Detailing, Mathematics, Engineering Materials and Laboratory Work, Surveying, Construction Services and Supplies, Planning and Administration and Complementary Studies.
 Third Year (Diploma Stage)—Theory of Structures, Structural Design, Municipal and Road Engineering, Mathematics and Data Processing, Management Studies and a Project.

Examination and Other Requirements (a) Students take a College examination at the end of each session which is moderated by the National Council for Educational Awards.
 (b) They are required to submit a report on their Summer vacation training each year and also reports on their project and laboratory work.

Recognition by Professional Bodies Those who have successfully completed the Certificate Stage of this course meet the academic requirements for Technician status with the Institution of Engineers of Ireland, while those who have completed the Diploma Stage meet the Technician Engineer level and can qualify for the non-Corporate Associateship grade of membership after they have completed a suitable period of practical training.

Fees Tuition fee: £50.00 per academic year, payable on enrolment.
Examination fee: £5 payable in January.

D46H. ENVIRONMENTAL ENGINEERING TECHNICIAN CERTIFICATE AND DIPLOMA COURSE

This course prepares students for a Technician Certificate award in Environmental Engineering at the end of two years and for a Technician Diploma award at the end of a further year of study. The students attend the College from the end of September until the end of May each year and they spend the Summer months gaining practical experience in Heating, Ventilating and Air Conditioning design in Consulting Engineers' offices and related industry.

Entrance Requirements First Year—Leaving Certificate or equivalent, with good passes in Mathematics, a Science subject (preferably Physics), English and two other subjects.
Third Year (Diploma Stage)—Students are expected to reach Credit or Distinction level in the Certificate Examination at the end of the second year to qualify for admission to the third year of the course leading to the Diploma award.

Course of Study First Year—Mathematics, Mechanics, Engineering Science, Drawing, Workshop Technology, Building Construction, Mechanical Services and Complementary Studies.
Second Year—Mathematics, Mechanics, Energy Utilisation, Instrumentation and Controls, Environmental Plant, Environmental Engineering Design, Lighting Acoustics and Water Services, and Complementary Studies.
Third Year—Mathematics, Power and Instrumentation Systems, Complementary Studies, Environmental Engineering, Environmental Plant Design, Ancillary Services, Process Plant Technology and a project.

Examination and Other Requirements (a) Students take a College examination at the end of each session, which is moderated by the National Council for Educational Awards.
(b) They are required to submit a report on their Summer vacation training each year and also reports on their project and laboratory work.

Recognition by Professional Bodies Those who have successfully completed the Certificate Stage of this course meet the academic requirements for Technician status with the Institution of Engineers of Ireland, while those who have completed the Diploma Stage are at Technician Engineer level and can qualify for the non-Corporate Associateship grade of membership after they have completed a suitable period of practical training.

Fees Tuition fee: £50.00 per academic year, payable on enrolment.
Examination fee: £5 payable in January.

D46M. MECHANICAL ENGINEERING TECHNICIAN CERTIFICATE AND DIPLOMA COURSE

This course prepares students for a Technician Certificate award in Mechanical Engineering at the end of two years and for a Technician Diploma award at the end of a further year. The students attend the College for eight months each year commencing in September, and they spend the Summer period getting practical experience in industry, design offices, etc.

Entrance Requirements First Year—Leaving Certificate or equivalent with good passes in Mathematics, a Science subject (preferably Physics), English and two other subjects.
Third Year (Diploma Stage)—Students are expected to reach Credit or Distinction level in the Certificate Examination at the end of the second year to qualify for admission to the third year of the course leading to the Diploma award. The Diploma stage is specialised. At present two options are offered—Process Plant or Manufacturing Technology.

Course of Study First Year—Mathematics, Engineering Science, Drawing, Mechanics, Engineering Materials, Workshop Technology, Instrumentation and Complementary Studies.
Second Year—Mathematics, Mechanics, Energy Utilisation, Production Technology, Drawing and Design, Instrumentation and Controls, Engineering Laboratory and Complementary Studies.
Third Year—Common core subjects: Mathematics, Power and Instrumentation Systems, Complementary Studies, and Mechanics; with Manufacturing Technology, Manufacturing Management and Manufacturing Design (Manufacturing Option) and —Process Plant Technology I and II, Process Plant Design (Process Option). Each student is also required to complete a Project.

Examination and Other Requirements (a) Students take a College examination at the end of each session, which is moderated by the National Council for Educational Awards.
(b) They are required to submit a report on their industrial training each year and also reports on their Project and laboratory work.

Recognition by Professional Bodies Those who have successfully completed the Certificate Stage of this course meet the academic requirements for Technician status with the Institution of Engineers of Ireland, while those who have completed the Diploma Stage are at Technician Engineer level and can qualify for the non-Corporate Associateship grade of membership after they have completed a suitable period of practical training.

Fees Tuition fee: £50.00 per academic year, payable on enrolment.
Examination fee: £5 payable in January.

D47. MECHANICAL ENGINEERING TECHNICIAN COURSE

This part-time day course is intended to prepare suitable students for the City & Guilds of London examinations for Mechanical Engineering Technicians (255). The course is for technicians and draughtsmen engaged in the following types of employment:
Machine Tool Operation, Jig & Tool Design, Engineering Production and Design Draughtsmen.

Entrance Requirements Elementary Stage Technological Certificate of the Department of Education examinations in Mechanical Engineering, Leaving Certificate or full endorsement in Final Craft Certificate with suitable craft background.

Course of Study **First Year**
Workshop Processes and Practice, Engineering Drawing and Materials, Engineering Science, Mathematics, General Studies.

Second and Third Years
Science and Mathematics, Drawing and Materials, Production Technology and General Studies.

Fourth Year
Production Technology, Mathematics and Statistics, Metrology and Management Studies.

Examinations and Other Requirements At the end of the first year students take the Part I examination of the City & Guilds of London Institute No. 255, Part II at the end of the third year, and Part III at the end of the fourth year.

Fee £22.00 per annum.

D59. SHORT COURSE PROGRAMME

A series of 2-5 day short courses on modern developments in Engineering Technology will be organised at different stages during the session. These may include:—

- (a) Low Cost Automation;
- (b) Fluid Power;
- (c) Maintenance Management Techniques;
- (d) Modern Production Methods;
- (e) New Developments in Welding Technology;
- (f) Fuel Technology;
- (g) Fire Safety;
- (h) CP110 and Structural Design;
- (j) New Materials;
- (k) Water Pollution Control;
- (l) Energy Conservation;
- (m) Engineering Costing and Estimating.

TRADE COURSES

The courses are for apprentices and young journeymen in the Engineering Trades. Every facility is given to students who wish to enter for the Trade Certificate Examinations of the Department of Education or of the City & Guilds of London Institute.

The examinations are conducted in the College at the end of the session. The courses are based on the examination syllabuses of these bodies. Generally, students take the Junior Stage of the Trade Certificate Examinations of the Department of Education after two years' instruction and the Senior Stage after a further two years.

D126. AUTOMOBILE ENGINEERING

Objective The Department of Education Trade Certificates.

Duration of Course Block Release Course of 11 weeks of 35 hours each week.

Subjects Garage Practice, Motor Workshop Practice, Motor Vehicle Theory, Motor Vehicle Science and Electricity, Mathematics and Craft Calculations, Technical Drawing, General Studies, Physical Education.

Entrance Qualifications Day Vocational Group Certificate or Intermediate Certificate.

D127. AUTOMOBILE ENGINEERING

Objective The Department of Education Trade Certificate, Junior and Senior Stage, with endorsements and The City and Guilds of London Institute Motor Vehicle Mechanics Certificate (380) Part I and (381) Part II.

Duration of Course 4 years of 38 weeks each year.

Attendance 1 day (7 hours) and 2 evenings (6 hours) each week.

Subjects Motor Vehicle Technology, Motor Vehicle Electricity, Engineering Science, Mathematics, Technical Drawing, Garage and Motor Workshop Practice, General Studies.

Entrance Qualifications Day Vocational Group Certificate or Intermediate Certificate.

D130. MOTOR VEHICLE PARTSMEN

Objective The City and Guilds of London Institute Motor Vehicle Parts Certificate (381) Part II.

Duration of Course 2 years part-time day and evening course (9 hours per week).

Subjects Parts Merchandising, Commercial Practice and Office Procedures, Stores Administration, Motor Vehicle Knowledge, General Studies including English.

Entrance Qualifications (380) Part I of the Certificate.

D134. AUTO-ENGINEERING TECHNICIANS

Objective Department of Education Advanced Motor Car Engineering Technological Certificate and the 390 Part II City & Guilds of London Institute Motor Vehicle Technicians' Full Technological Certificate.

Duration of Course 1 year part-time day (7 hours) and 2 evenings (6 hours) each week for 38 weeks.

Subjects Motor Car Engineering, Automobile Electricity, Heat Engines, Applied Mechanics, Garage Organisation and Management.

Entrance Qualifications Department of Education Intermediate Motor Car Engineering Technological Certificate (2 subjects) or the 390 City & Guilds of London Institute Parts I and II Certificate.

Fee £22.00 per annum.

D136. AUTOMOBILE ENGINEERING

Refresher courses. Short courses of 3 days' duration on modern developments and techniques in the industry for qualified motor mechanics.

D140. FITTING AND TURNING

Objective	Department of Education Trade Certificate (Senior Stage only).
Duration of Course	Two years of day release (1 day each week) for third and fourth year apprentices.
Subjects	Workshop Practice and Workshop Technology.
Entrance Qualifications	Department of Education Junior Trade Certificate or equivalent.

D140A. FITTING AND TURNING

This course is organised for fitting and turning apprentices attending "off-the-job" courses in Training Centres.

Objective	Department of Education Junior Trade Certificate with endorsements.
Duration of Course	One year of day release (two days each week).
Subjects	Workshop Technology, Mathematics & Craft Calculations, Technical Drawing, General Studies, Engineering Science.
Entrance Qualifications	Day Vocational Group Certificate or Intermediate Certificate or equivalent.

D141. FITTING AND TURNING

Objective	Department of Education Junior and Senior Trade Certificates with endorsements.
Duration of Course	Four years of block release (11 weeks each year).
Subjects	Workshop Practice, Workshop Technology, Mathematics and Craft Calculations, Physical Education, Technical Drawing, General Studies, Engineering Science.
Entrance Qualifications	Day Vocational Group Certificate or Intermediate Certificate or equivalent.

D142. MECHANICAL ENGINEERING MAINTENANCE OR MACHINING

Objective	Mechanical Engineering Machining and Mechanical Engineering Maintenance Craft Studies Course No. 205 Part III of the City and Guilds of London Institute.
Duration of Course	One year of day release (1 day each week).
Subjects	Workshop Laboratory, Workshop Technology and Project Work.
Entrance Qualifications	Department of Education Senior Trade Certificate with Engineering Drawing and Mathematics or Engineering Science endorsement or City & Guilds Mechanical Engineering Craft Studies Course No. 205 Part II or equivalent.

D154. AERONAUTICAL ENGINEERING CRAFT STUDIES

This is a one-year course requiring attendance of one day and two evenings (13 hours) weekly per session. This course is designed to prepare students for the Part I of the City and Guilds examinations in Aeronautical Engineering Craft Studies.

Entrance Requirements	Day Vocational Group Certificate, Intermediate Certificate or equivalent and be employed in the Aeronautical Engineering Industry.
Fee	£20.00 per annum.

D154A. AERONAUTICAL ENGINEERING CRAFT STUDIES (Mechanical)**D154B. AERONAUTICAL ENGINEERING CRAFT STUDIES (Avionics)**

The above courses are designed to prepare students for Part II of the City and Guilds Examinations in Aeronautical Engineering Craft Studies (Course No. 208). Students may specialise in Mechanical Engineering or Avionics. Classes are held on one day and two evenings per week.

Entrance Requirements	Part I City and Guilds Aero Engineering Craft Studies.
Fee	£22.00 per annum.

School of Printing + Book Production

The School provides courses at technological, technician and apprentice level in the following disciplines:

COMPOSING

The Composing Department covers the requirements of the Department of Education Syllabus up to Senior level and of the City & Guilds Advanced Certificate Syllabus. The curriculum includes instruction in Theory, Practice, Typographic Design, Mechanical Composition, Phototypesetting, Direct Impression Composition, Paper Paste-up, Film Assembly, Planning, Applied Science, Industrial Studies and Irish.

PHOTOTYPOGRAPHY

Courses in this section are for training suitably qualified personnel in the use of phototypesetting and direct impression composition equipment. There are courses in Paper Paste-up and Film-make-up, combined with Photo Headliner setting techniques; also planning for Nyloprint and Litho platemaking.

LETTERPRESS MACHINE PRINTING

The Letterpress Department covers the requirements of the Department of Education Syllabus up to Senior level and of the City & Guilds Advanced Certificate Syllabus. The curriculum includes instruction in Theory, Practice, Applied Science, Industrial Studies and Irish.

LITHOGRAPHY AND PHOTO LITHOGRAPHY

The Lithographic Department covers the requirements of the Department of Education Syllabus up to Senior level and of the City and Guilds Advanced Certificate Syllabus. The course provides a sound training in Photolithographic platemaking, step and repeat work and offset printing. It includes instruction in the Theory and Practice of Platemaking and Press operation. Applied Science and Industrial Studies.

BOOKBINDING AND PRINT FINISHING

The Bookbinding Department covers the requirements of the Department of Education Syllabus up to Senior level and of the City and Guilds Advanced Certificate Syllabus. The course provides experience in hand and mechanised bookbinding, finishing and print finishing processes and includes instruction in technical Theory and Practice, Applied Printing, Applied Science, Design and Industrial Studies.

TECHNICIAN COURSES

D80. CERTIFICATE IN PRINTING

This course is designed to provide instruction for persons contemplating taking up employment in an administrative capacity in the printing industry. The syllabus will cover the technology and technique of phototypesetting direct impression composition, paper paste-up, film make-up, planning, mechanical composition, letter assembly, camera work, offset lithographic and letterpress printing, design for printing, print finishing, paper technology, cost accountancy, estimating, production planning, purchasing, stock control. It is a whole-time course of two years' duration.

Entrance Requirements Leaving Certificate of the Department of Education with passes in five subjects, or equivalent qualification.

Fees £50.00 per academic year.

D82. TRAINING FOR ADMINISTRATIVE STAFF

This course is intended for those engaged in the administrative side of printing with a view to preparing them for higher administrative posts in the industry.

The age group for trainees is between 18 and 24 years.

The course occupies three years and attendance for one day and two evenings each week is required.

Year One Principles of Accounts, Structure of Commerce, Office Practice, Practical appreciation of the techniques of composing, Bookbinding and Print Finishing; Graphic Reproduction; General Technical Knowledge.

Year Two Printing Office Procedure, Practical appreciation of the techniques of letterpress machine printing, photo-litho plate-making and offset lithographic printing; photo-composition, direct impression composition, film and paper paste-up; Cost Accountancy for Printers, Estimating for Printers, Production Planning.

Year Three Industrial Law, Work Study, Communications in Industry, Principles of Management, Financial Accounting, Cost Accountancy for Printers, Estimating for Printers, Business Organisation, Production Planning.

Fee £22.00 per annum.

TRADE COURSES

These courses are for apprentices and young journeymen in the Printing, Bookbinding and Process Engraving Trades. Every facility is given to students who wish to enter for the Trade Certificate Examinations of the Department of Education or of the City & Guilds of London Institute. These examinations are conducted in the College at the end of the session. The courses are based on the examination syllabuses of these bodies. Generally, students take the Junior Stage of the Trade Certificate Examinations of the Department of Education after one year's instruction, the Intermediate stage after two years' instruction, and the Senior Stage after three years.

D182. PRINT FINISHING

The course is intended for staff engaged in the print finishing side of the industry and will involve attendance at the College on a whole-time basis for a period of six weeks. The syllabus will cover the techniques and materials used in the production of books, magazines and the wide range of miscellaneous work handled in the print finishing department. Stress is laid on hand and machine operations e.g. wire stitching, sewing and folding machine and hand feeding, gathering, glueing, mounting etc.

D183. LETTERPRESS MACHINE PRINTING

(Block-release course)

Consecutive courses of 12-13 weeks' duration for apprentices. During each course the apprentices attending complete a stage of the Department of Education's syllabuses for the Junior, Intermediate and Senior Trade Certificate Examinations in Letterpress Machine Work. An examination in each stage is set by the Department of Education at the conclusion of each course.

D190. COMPOSING

(Block-release Course)

Consecutive courses of 12-13 weeks' duration for apprentices. During each course the apprentices attending complete a stage of the Department of Education's syllabuses for the Junior, Intermediate and Senior Trade Certificate Examinations in Composing. An examination in each stage is set by the Department of Education at the conclusion of each course.

D191. BOOKBINDING

(Block-release Course)

A block-release course of 12-13 weeks' duration for apprentices. During each course, the apprentices attending complete a stage of the Department of Education's syllabuses for the Junior, Intermediate and Senior Trade Certificate examinations in Bookbinding. An examination in each stage is set by the Department of Education at the conclusion of each course.

D192. LITHOGRAPHY AND PHOTO-LITHOGRAPHY

(Block-release Course)

Consecutive courses of 12-13 weeks' duration for apprentices. During each course the apprentices attending complete a stage of the Department of Education's syllabus for the Junior, Intermediate and Senior Trade Certificate Examination in Lithography and Photo-Lithography Work. An examination in each stage is set by the Department of Education at the conclusion of each course.

D181. BOOK PRODUCTION

A one-year course for students of the Diploma in Librarianship run in conjunction with U.C.D.

Entrance Requirements Per U.C.D.

Fee £15.00 per annum.

D193. ARCHIEVAL STUDIES

A one-year part-time course designed to cover aspects of book production and printing for post-graduate students of Diploma in Archival Studies in U.C.D.

Fee £15.00 per annum.

D195A. PAPER PASTE-UP

Part-time day course for nightworkers and other suitably qualified personnel. Content includes practical coverage of aspects of Paper Paste-up. Duration of course is 13 weeks with attendance on one half-day per week.

Fee £12.00.

D195B. NEWSPAPER PASTE-UP

This course is for night workers and other suitably qualified personnel. It covers all aspects of newspaper paste-up, including equipment, text and headline origination, grids and formats, methods of adhesion, corrections, illustration, advertisements, borders, colour spots, page assembly, proofing and subsequent processes.

Duration of course is 13 weeks with attendance on one half-day per week.

Fee £12.00

D196. ADVANCED LINOTYPE, INTERTYPE AND TELETYPESETTING

An intensive post-apprenticeship course in practical training for craftsmen. Held on Monday, Tuesday, Wednesday and Thursday from 3.30 to 7.30 p.m.

Course commences on 15th January and terminates on 6th April, 1979.

Fee £22.00.

D199. PHOTOTYPESETTING

This is a practical course for suitably qualified personnel on a wide range of modern phototypesetting and direct-impression composition equipment. Equipment includes: Pacesetter Mk IV, Linoscreen Visual Display Unit, Linocomp Direct Input Phototypesetter with electronic tape reader, Varicomp 1100 keyboard, Linotype Paul NJ200 keyboard, IBM 72 Composer, IBM Electronic Composer, Linofilm Keyboard and Photo Unit. The course will be held over a period of 13 weeks with attendance on one half-day per week.

Fee £12.00.

D200. SCREEN PROCESS PRINTING

The course provides training and education for apprentices to Screen Process Printing. Attendance is on one day per week from September to June. The curriculum includes the production of positives for stencil making, production of handcut and photographic stencils, screen preparation and printing, applied science, design and applied printing.

Fee £22.00.

School of Trades

Part-time day and evening classes for apprentices, craftsmen, and technicians actually engaged in the construction, furniture, vehicle building, and metal fabrication industries.

DAY CLASSES

Courses (D101-F153) are organised for apprentices in the industries referred to above mainly on a day release basis. The students are released from work, by their respective employers, to attend classes on one full day weekly. The various courses lead, over a period of four years, to the Senior Trade Tests (Theory & Practice) of the Department of Education and the relevant examinations of the City and Guilds of London Institute. Opportunities are available for students to proceed to further courses on completion of their apprenticeship.

Technician courses, involving attendance on one full day and two evenings weekly, are offered to suitably qualified persons engaged in the Construction Industry. Course D153A prepares students for the Plumbing Technicians' Certificate (Parts I & II) No. 631 of the City and Guilds of London.

EVENING COURSES

Evening Trade Courses, mainly at the more advanced levels, are organised on the basis of attendance of two evenings weekly. Provision is made for students to take the relevant trade tests. The School also provides a comprehensive course in Building Construction and associated subjects for those engaged in the Construction Industry. The course content is based on the syllabus of the Department of Education Technological Examinations in Building at Elementary, Intermediate and Advanced levels.

DAY COURSES

PART-TIME DAY RELEASE CLASSES FOR APPRENTICES

- D101. Bricklaying.
- D102. Plastering.
- D105. Painting and Decorating.
- D107. Vehicle Building.
- D108. Vehicle Trimming.
- D111. Cabinetmaking.
- D111A. Furniture Making.
- D112. Upholstery.
- D113. Woodfinishing.
- D121. Carpentry and Joinery.
- D122. Woodcutting Machinists' Work.
- D143. Welding.
- D149. Sheetmetal Work.
- D150. Metal Fabrication.
- D151. Plumbing.

BLOCK RELEASE CLASSES FOR APPRENTICES

- D145. Foundry Work.
- D151A. Plumbing/Heating Fitting.

D153A. PLUMBING TECHNICIANS

Subjects of the course include Hot and Cold Water Systems, Domestic Central Heating, Gas Supply Installations, Sanitation and Drainage, Roofwork and Weathering, Plumbing Drawing and Design, Mechanics of Fluids, Measurements and Specifications, Site Procedures.

Entry Qualifications

- (a) Senior Trade Certificate, Leaving Certificate or equivalent and
- (b) Appropriate employment in the Construction Industry.

Tuition Fee £22.00 per annum.

School of Architecture, Surveying + Building

PROFESSIONAL COURSE IN SURVEYING AND CONSTRUCTION STUDIES

This is a three-year, full-time evening class, leading to a single Honours degree with full intermediate-level qualifications in the construction and surveying fields to progress to full professional qualifications of the appropriate Institution.

Students may attend classes up to two evenings per week depending on their selection of subjects.

Entry Qualifications

N.C.S.A. or equivalent, or the N.S.T.C., L.D.B., Part 1

EVENING COURSES

Fee £20 per annum.

E5A. PHOTOGRAMMETRY AND CARTOGRAPHY

This is a one-year evening course involving attendance for nine hours per week for twenty-two weeks. The course is open to people employed in Cartography and will cover various methods of Surveying and Map Production.

Fee £20 per annum.

E5B. MINE SURVEYING

This is a one-year evening course involving attendance for nine hours per week for twenty-two weeks. The course is open to people employed in Mining and will cover various methods of surveying related to Mining.

Fee £20 per annum.

E5C. BUILDING MANAGEMENT

This is a one-year evening course involving attendance for nine hours per week for twenty-two weeks. The course is confined to persons who have held positions of responsibility in the building field for at least two years.

Fee £20 per annum.

DAY COURSES

PART-TIME DAY RELEASE CLASSES FOR APPRENTICES

0100 Welding

0104 Fitting

0106 Fitting and Dressing

0107 Vehicle Building

0108 Vehicle Painting

0110

0114 Furniture Making

0118 Upholstery

0119 Woodworking

0121 Carpentry and Joinery

0122 Measuring Masonry Work

0143 Welding

0148 Sheetmetal Work

0150 Metal Fabrication

0151 Plumbing

0152

8 HOUR RELEASE CLASSES FOR APPRENTICES

0146 Foundry Work

0151A Plumbing/Heating/Fitting

PLUMBING TECHNICIANS

Subjects of the course include Hot and Cold Water Systems, Domestic Central Heating, Gas Supply, Insulation, Sanitation and Drainage, Joinwork and Weathering, Plumbing Drawing and Design, Mechanics of Pipes, Measurements and Specifications, Site Procedures.

On successful completion, Leaving Certificate or equivalent and 24 months employment in the Construction Industry.

Typical Fee: £22.00 per annum.

School of Architecture, Surveying + Building

E4. PROFESSIONAL COURSE IN SURVEYING AND CONSTRUCTION STUDIES

This is a three-year, two-stage evening link course to enable students who hold Intermediate Level qualifications in the construction and surveying fields to progress to full professional qualifications of the appropriate institution.

Students may attend classes up to five evenings per week depending on their selection of subjects.

Entry Qualifications N.C.E.A. Diploma in Construction Studies, H.B.T.C., L.I.O.B., Part 1 R.I.C.S., Part 1 I.Q.S.

Fee £20 per annum.

E9A. PHOTOGRAMMETRY AND CARTOGRAPHY

This is a one-year evening course involving attendance for nine hours per week for twenty-two weeks. The course is open to people employed in Cartography and will cover modern methods of Surveying and Map Production.

Fee £20 per annum.

E9B. MINE SURVEYING

This is a one-year evening course involving attendance for nine hours per week for twenty-two weeks. The course is open to people employed in Mining and will cover modern methods of surveying related to Mining.

Fee £20 per annum.

E9C. BUILDING MANAGEMENT

This is a one-year course involving attendance for nine hours per week for twenty-two weeks. The course is confined to persons who have held positions of responsibility in the building field for at least two years.

Fee £20 per annum.

E41.

GRADUATE COURSES IN ENGINEERING

A 4-year course to prepare students for the examinations of Professional Engineering bodies including

- (1) Institution of Engineers of Ireland.
- (2) Council of Engineering Institutions (CEI) and its constituent bodies including:—

- (a) The Institute of Mechanical Engineers;
- (b) The Institute of Production Engineers;
- (c) The Institute of Fuel;
- (d) The Institute of Structural Engineers;
- (e) The Institute of Municipal Engineers.

Courses are offered for both Part I and Part II stages provided there are sufficient applicants of a suitable educational standard.

Part I. Some or all of the following subjects may be offered: Mathematics, Mechanics, Thermodynamics, Electrotechnics, Properties of Materials and Presentation of Engineering Information.

Part II. Depending on demand the following subjects may be offered: The Engineer in Society; Mechanics and Properties of Materials, Fluid Mechanics, Structural Analysis, Structural Design, Thermodynamics, Operations Research, Engineering Geology and possibly other subjects. Students are required to complete a laboratory programme as part of this stage.

Full details of the syllabus and examination regulations are contained in CEI Statement No. 10 available from the Council of Engineering Institutions, 2 Little Smith Street, London SW1. Price 50p.

Before entry applicants must meet the requirements of the appropriate Institution for Student Membership. They are urged to make early application to the Institution because it may take several months to process and it is not possible to sit the examination until this has been completed. Generally the requirements for the CEI are Advanced Level GCE in Mathematics and Physics and Ordinary Level GCE in English and two other subjects.

The requirement for student membership of the Institution of Engineers of Ireland is Leaving Certificate with Honours or GCE Advanced Level in Mathematics and a suitable Science subject together with four Ordinary Level subjects including English.

Certain Technician qualifications also meet the educational requirements for student membership and may give exemption from all or some subjects in Part I. Details are available from the appropriate Institution.

Fee £20.00 per annum.

E54.

STRUCTURAL DESIGN

This is a one-year advanced course intended for those who wish to prepare for the Part III Design examination of the Institution of Structural Engineers. Depending on demand there may be options in Steel or Concrete Design.

Entrance Qualifications

A degree in Civil or Structural Engineering or a pass in the IEI/CEI examinations or equivalent together with at least one year of suitable post-graduate experience in a design office.

Fee

£20.00 per annum.

E42.

MECHANICAL ENGINEERING TECHNOLOGICAL CERTIFICATE COURSE

This course is intended to prepare students for the Certificate examinations of the Department of Education in Mechanical Engineering as follows:

At the end of the First year—Elementary Stage, Subjects: Maths, Mechanics, Heat, Drawing.

At the end of the Second year—Intermediate Stage, Subjects: Maths, Mechanics, Heat Engines, Drawing.

At the end of the Third year—Advanced Stage, Subjects: Maths, Mechanics, Heat Engines, Drawing.

The entrance requirements are Department of Education Intermediate Certificate or Day Group Certificate with passes in Mathematics, English and a Science subject. Students with Leaving Certificate which includes a pass in Mathematics and a Science subject may enter the course at the second year stage.

Fees

£20.00 per annum.

E43C.

CIVIL ENGINEERING TECHNICIANS' CERTIFICATE AND DIPLOMA COURSE

Certificate Stage

This is a four-year evening course to prepare students in suitable employment for a Civil Engineering Technicians' Certificate. It parallels Course D43C and Course D46C and follows a similar syllabus. The entrance requirement is Leaving Certificate or GCE in five subjects including Mathematics or equivalent qualifications.

- Subjects** **Stage I—First & Second Years**
Maths, Mechanics, Engineering Science, Drawing, Construction Technology, Surveying and Complementary Studies.
- Stage II—Third & Fourth Years**
Structural Design and Detailing, Engineering Materials, Surveying, Mathematics and Computation, Planning and Administration, Construction Services, Complementary Studies.
- Diploma Stage**
Stage III—Fifth & Sixth Years
This stage specialises in Municipal Engineering. Candidates are expected to be employed and gaining suitable experience in this field and are required to have passed the Certificate Stage with Credit or have at least one year's suitable experience together with a Pass Certificate. Subjects: Mathematics, Road Engineering, Management Studies, Planning and Building Regulations, Hydraulics and Sanitary Services, Design and a project.
- Tuition Fee** £20.00 per annum payable on enrolment.

- E43M. MECHANICAL ENGINEERING TECHNICIANS CERTIFICATE COURSE**
This is a four-year evening course to prepare students in suitable employment for a Mechanical Engineering Certificate. It parallels Course D46M and follows a similar syllabus. The entrance requirement is Leaving Certificate or G.C.E. in five subjects including Mathematics and English, or the Senior Trade Certificate with endorsements, or equivalent qualifications.

Subjects **First & Second Years**
Mathematics, Engineering Science, Drawing, Mechanics, Engineering Materials, Workshop Technology, Instrumentation and Complementary Studies.

Third & Fourth Years
Mathematics, Mechanics, Energy Utilisation, Production Technology, Drawing and Design, Instrumentation and Controls, Engineering Laboratory and Complementary Studies.

Fees **Tuition Fee** £20.00 per annum payable on enrolment.
Examination Fee £5 payable in January.

E43V. HEATING AND VENTILATING TECHNICIANS CERTIFICATE COURSE

This is a four-year evening course to prepare students in suitable employment for a Heating and Ventilating Technician Certificate. It parallels Course D46H and follows a similar syllabus. The entrance standard is Leaving Certificate in five subjects including Mathematics or Senior Trade Certificate with endorsements or equivalent qualifications.

Subjects **First & Second Years**
Mathematics, Mechanics, Engineering Science, Drawing, Workshop Technology, Building Construction and Mechanical Services, Complementary Studies.

Third & Fourth Years
Mathematics, Mechanics, Energy Utilisation, Instrumentation and Controls, Environmental Plant, Environmental Engineering Design, Lighting Acoustics, Water Services, and Complementary Studies.

Fees **Tuition Fee** £20.00 per annum payable on enrolment.
Examination Fee £5 payable in January.

E44. MOTOR INDUSTRY MANAGEMENT COURSE

This is a two-year evening course to prepare students for the Final Associate Membership Examinations (External) of the Institute of the Motor Industry and the Final examination of the Institute of Road Transport Engineers. Classes are held on two evenings per week for 30 weeks each year.

Subjects Motor Industry Law.
Motor Industry Management.
Motor Industry Accountancy.
Motor Industry Administration and Organisation (Service Department, Parts Department or Vehicle Sales).

Entrance Qualifications **Fleet Transport Management**
Department of Education Advanced Motor Car Engineering Technological Certificate or the City and Guilds of London Institute Motor Vehicle Technicians Certificate Parts I and II (390).

Fee £20.00 per annum.

E47. MECHANICAL ENGINEERING TECHNICIAN COURSE

This is a four-year evening course to prepare students for the Part I and Part II examinations of the City & Guilds Institute for Mechanical Engineering Technicians Course (255). Students should have a suitable craft background and hold the Elementary Technological Certificate in Mechanical Engineering, GCE, Leaving Certificate or equivalent.

The course of study is as set out for Course D47 which is the parallel course operating by day.

Fee £20.00 per annum.

E49. AUTOMOBILE ENGINEERING COURSE

Objective Department of Education Technological Certificate (Motor Car Engineering)

Duration of Course 5 years evening (9 hours per week).

Subjects Motor Car Engineering.
Engineering Science and Mathematics.
Automobile Electricity.
Engineering Laboratory.
General Studies including English.
Drawing and Sketching.

Entrance Qualifications Day Vocational Group Certificate or Intermediate Certificate with Honours in certain specified subjects.

Fee £20.00 per annum.

E50. COMPUTER PROGRAMMING COURSE

This is a two-year course in which students are prepared for the City & Guilds Examination No. 746.
(Basic Certificate Computer Programming.)

Entrance Qualifications Leaving Certificate with suitable Commercial or Industrial experience related to computing.

Fee £20.00 per annum.

E57. INDUSTRIAL MANAGEMENT CERTIFICATE

This two-year evening course is intended for engineering technicians and trainee production and industrial managers who wish to take the certificate examinations of the Institution of Works Managers.

Entrance Requirements Students should have reached the Leaving Certificate standard of general education and be suitably employed as managers or supervisors in industry.

Course of Study **First Year**
Production Analysis I, Economic Analysis, Organisation Analysis, Statistics.

Second Year
Production Analysis II, Industrial Finance and Accounting, Psychology and Sociology, Industrial Relations.

Examination and Other Requirements Students must pass a college examination at the end of each year. The examination is moderated by the Institute of Works Managers. Those who successfully complete the course will be exempt from the Certificate Examination requirements of the Institution of Works Managers and hence can qualify for Associate Membership of that body. Successful students are entitled to apply for the one year Diploma course of the I.W.M. at the School of Management Studies, Rathmines. Students are required to apply for student membership of the Institution within one month of enrolling for the Course.

Fee £20.00 per annum plus an examination fee of approximately £25.00 payable to the I.W.M.

E58. REFRIGERATION ENGINEERING TECHNICIANS

This is a two-year course for Technicians employed in the refrigeration engineering industry. Suitable students are prepared for the 257 City & Guilds of London Institute examinations in Science and Technology of Refrigeration. The subjects of instruction are: Science, Refrigeration Processes and Machinery, and Drawing.

Fee £20.00 per annum.

E60. DOMESTIC HEATING ENGINEERS' COURSE

This two-year evening course prepares students for the examination of the Institute of Domestic Heating Engineers. Successful candidates will be eligible for entry to the Institute as Associate Members. The course is available only to those who are employed at a suitable level in the heating industry.

Duration of Course Two evenings per week over two years.

Entrance Requirements (a) Leaving Certificate or equivalent including Mathematics and Physics; or
(b) Senior Trade Certificate in Plumbing; or
(c) Heating and Ventilating Craft Certificate
In appropriate cases applicants with approved practical experience may enrol at the discretion of the College.

Those who fail to satisfy the above requirement may be admitted to a Preliminary Course of one year's duration.

Subjects Heat Transfer; Combustion and Controls; Heating Systems and Equipment.

Fee £20.00 per annum.

E61. SALES ENGINEERING

This is a two-year course for those who already have a good engineering background and wish to prepare for membership of the Institute of Sales Engineers.

Entrance Requirements Engineering Technician qualification or equivalent.

Fee £20.00 per annum.

E63. FIRE ENGINEERING COURSE

This is a two-year course which prepares students for the Graduateship examinations of the Institution of Fire Engineers.

Entrance Requirements Leaving Certificate or equivalent standard and employment as a Fire Officer.

Subjects Science, Fireground Operations and Equipment.
Fire Prevention and Protection.

Fee £20.00 per annum.

E64. PROCESS PLANT DESIGN

This is a one-year course for process plant design and piping draughtsmen who have already successfully completed an appropriate technician course. The course will involve attendance on two evenings per week for the session.

Entrance Qualifications Suitable engineering technician qualification or equivalent.

Fee £20.00 per annum.

E66. QUALITY CONTROL TECHNICIANS CERTIFICATE

This is a one-year course for those who already possess an engineering technician or related qualification and wish to acquire greater expertise in quality control. The course will be geared towards the City and Guilds Certificate No. 743 in Quality Control.

Entrance Qualifications Suitable engineering technician qualification or equivalent.

Fee £20.00 per annum.

E67. WELDING TECHNICIANS CERTIFICATE

This is a four-year evening course to prepare students in suitable employment for a Welding Technicians' Certificate. The entrance standard is Leaving Certificate in five subjects including Mathematics, or Senior Trade Certificate with endorsements or equivalent qualifications.

Course of Study The first two years are common with course E43M.
Third and Fourth Years Mathematics, Mechanics, Welding Design, Welding Technology I and II, Welding Laboratory, Welding Inspection and Specifications and Complementary Studies.

Fee £20.00 per annum.

E68. ENGINEERING ESTIMATORS

This is a one-year course for those who already possess an engineering technician or related qualification and wish to acquire greater expertise in Costing and Estimating.

Entrance Requirements Suitable technician qualification or equivalent.

Fee £20.00 per annum.

E45. AERONAUTICAL ENGINEERING TECHNICIAN CERTIFICATE

This course is intended for engineering apprentices employed in the Aviation Industry preparing for the Aeronautical Engineering Technician Certificate examinations of the City & Guilds (Course 258) and the I.C.A.O. Licensed Maintenance Engineers Licences issued by the Department of Transport & Power.

Entrance Requirements Complete apprenticeship in appropriate engineering trade and employment in the Aviation Industry.

Fee £20.00 per annum.

E46. FLIGHT DISPATCHER (Flight Operations Officer)
Purpose This course provides instruction in Air Legislation, Meteorology, Navigation, Technical Communications, Simulated Instrument Flight, Air Traffic Control, and Flight Dispatching for personnel wishing to take the F.A.A./I.C.A.O. Flight Dispatcher (Flight Operations Officer) examinations.
Duration One year, two evenings per week.
Entrance Requirements Employed in Air Traffic Control operations.
Fee £20.00 per annum.

E48. AIRCRAFT TECHNICAL SUPPORT
 This course provides instruction for personnel employed in the aircraft back-up facility areas, e.g. Stores, Purchasing Supplies, Progress Chasing, Method Study and Work Study.
Duration It is a one-year course requiring attendance on two evenings per week.
Entrance Requirements Employment in the Aviation Industry.
Fees £20.00 per annum.

E51. PRODUCTION PLANNING COURSE (I.A.T.A.)
 This course provides instruction for personnel employed in the Planning Department of the Aeronautical Industry. The course covers Aircraft Organisation and Practice, Aircraft Operational and Production Technology.
Entry Requirements Personnel employed in Planning Departments in the Industry, or holders of the City and Guilds Certificate Course 258, Part II.
Duration of Course 3 evenings per week (290 hours plus 70 hours Aeronautical Projects).
Fee £20.00 per annum.

MAINTENANCE ENGINEERS LICENCES OF THE DEPARTMENT OF TRANSPORT AND POWER

E52A. 'A' LICENCE—B.A.C. 1-11
E52B. 'A' LICENCE—B.707 B.720
E52C. 'A' LICENCE—B.737
E52D. 'A' LICENCE—B.747
E52F. 'C' LICENCE—P & W JT3 SERIES
E52G. 'C' LICENCE—P & W JT8D

E52H. 'C' LICENCE—P & W JT9D
E52J. 'C' LICENCE—ROLLS ROYCE SPEY
E52M. 'X' LICENCE—INSTRUMENTS
E52N. 'X' LICENCE—ELECTRICAL
E52P. 'X' LICENCE—RADIO
E52Q. 'X' LICENCE—RADIO (RADAR ENDORSEMENT)

The above courses provide instruction for Aircraft Maintenance Engineers, wishing to take the appropriate licence examinations of the Department of Transport and Power. The courses are of one year's duration requiring attendance on two evenings per week.

Entrance Requirements Basic Aeronautical Engineering Certificate in appropriate category.

Fee £20.00 per annum.

E53. AVIONIC DIGITAL TECHNIQUES
 This is a four-year evening course for personnel employed in the Aircraft Industry in Electrical, Instrument and Radio Environments.

Entry Requirements Aeronautical Engineering Certificate in the appropriate category or equivalent.

Fee £20.00 per annum.

BASIC AERONAUTICAL ENGINEERING CERTIFICATES OF THE DEPARTMENT OF TRANSPORT AND POWER
E55A. AIRFRAMES UNPRESSURISED (B.A.E.C. 1)
E55B. AIRFRAMES PRESSURISED (B.A.E.C. 2)
E55C. PISTON ENGINES (B.A.E.C. 3)
E55D. TURBO-PROP & TURBO-JET ENGINES (B.A.E.C. 4)
E55E. HELICOPTERS (LESS ENGINES) (B.A.E.C. 5)
E55F. ELECTRICAL (B.A.E.C. 6)
E55G. RADIO (B.A.E.C. 7)
E55H. INSTRUMENTS (B.A.E.C. 8)

The above courses are of one year's duration requiring attendance for two evenings (6 hours) weekly per session. The courses are designed to prepare students for the Basic Aeronautical Engineering Certificate examinations of the Department of Transport and Power.

Entrance Requirements Employment in the Aeronautical Engineering Industry.

Fee £20.00 per annum.

E56A. PRIVATE AIRCRAFT PILOTS LICENCE
E56B. PRIVATE PILOTS LICENCE INSTRUMENT RATING
 These courses provide instruction in Meteorology, Navigation, Air Legislation and Aero Laboratory (Technical) for personnel wishing to take the Department of Transport and Power Private Pilots Licence and the Private Pilots Licence Instrument Rating.

Fee £20.00 per annum.

School of Engineering

TRADE COURSES—EVENING

E133. COMPRESSION IGNITION COURSE
 379 City & Guilds of London Institute Compression Ignition Engines Mechanics Certificate.

Duration of Course 2 years evening (6 hours per week).

Subjects Compression Ignition Engine Technology.
 Compression Ignition Engine Maintenance.
 Fuel Injection System Maintenance.

Entrance Qualifications Department of Education Senior Trade Certificate or equivalent.

Fee £20.00 per annum.

E134. FORK LIFT TRUCK MAINTENANCE COURSE

Duration of Course 6 weeks of 5 hours each week (30 hours).

Subjects Electro-Hydraulic Equipment, i.e. Engine Overhaul and Maintenance.

Entrance Qualifications Senior Group Trade Certificate of the Department of Education.

Fee £20.00 per annum.

E136. MOTOR MECHANICS' WORK
Refresher course for Motor Mechanics

Duration of Course 6 weeks of 5 hours each week (30 hours).

Subjects Fault Diagnosis and the use of Diagnostic Service Equipment and Instruments on:
 Petrol Engines.
 Petrol Injection Units.
 Automatic Transmission Units.
 Front End and Power Steering.
 Brakes and Suspension Units.
 Automobile Electrical Units.

Entrance Qualifications Senior Trade Certificate of the Department of Education.

Fee £20.00 per annum.

- E142. MECHANICAL ENGINEERING MAINTENANCE OR MACHINING**
- Objective** The City and Guilds of London Institute Mechanical Engineering Craft studies Course No. 205, Part II and Part III. Students take Part II of the examination at the end of the first year of the Course and Part III at the end of the second year.
- Duration of Course** Two years (2 evenings per week).
- Subjects** Workshop Laboratory, Workshop Technology and Project Work.
- Entrance Qualifications** Department of Education Junior Trade Certificate or equivalent and current attendance on block or day release courses.
- E154. AERONAUTICAL ENGINEERING CRAFT STUDIES**
- This is a one-year evening course requiring attendance for two evenings (6 hours) weekly per session. The course is designed to prepare students for Part I of the City and Guilds Examinations in Aeronautical Engineering Craft Studies (Course 208).
- Entrance Requirements** Day Vocational Group Certificate or Intermediate Certificate and be employed in the Aeronautical Engineering Industry.
- Fee** £20.00 per annum.
- E154A. AERONAUTICAL ENGINEERING CRAFT STUDIES (Mechanical)**
- E154B. AERONAUTICAL ENGINEERING CRAFT STUDIES (Avionics)**
- The above courses are designed to prepare students for Part II of the City and Guilds Examinations in Aeronautical Engineering Craft Studies (Course No. 208). Students may specialise in Mechanical Engineering or Avionics. Classes are held on two evenings per week.
- Entrance Requirements** Part I City and Guilds Aero Engineering Craft Studies.
- Fee** £20.00 per annum.

TECHNICIAN COURSES

- E83. APPLIED PRINTING**
- A course requiring attendance for 2 evenings each week designed to provide those engaged in the Clerical and Administrative side of Printing with a general knowledge of the crafts involved in modern printing and of the materials and appliances used. Students who complete the course may enter the General Technical Knowledge examination of the British Printing Industries Federation. It is necessary to have passed the General Technical Knowledge examination to be accepted as a candidate for the following:
- (a) Estimating examination of the British Printing Industries Federation.
(b) Printing Office Procedure examination of the British Printing Industries Federation.
- Fee** £17.00 per annum.
- E84A. COST ACCOUNTANCY FOR PRINTERS**
- A course requiring attendance for two evenings each week designed to prepare students for the examination of the British Printing Industries Federation.
- Entrance Qualifications** Royal Society of Arts Certificate in Accounting and Office Procedure, or equivalent.
- Fee** £17.00 per annum.
- E84B. ESTIMATING FOR PRINTERS**
- A course requiring attendance for two evenings each week designed to prepare students for the examination of the British Printing Industries Federation.
- Entrance Qualifications** Leaving Certificate and General Technical Knowledge Certificate of the British Printing Industries Federation.
- Fee** £17.00 per annum.

- E84C. **ADVANCED LETTERPRESS AND OFFSET LITHOGRAPHY ESTIMATING FOR PRINTERS****
 A one-year course requiring attendance for two evenings each week. Students are prepared for the British Printing Industries Federation examinations in Advanced Letterpress Estimating and Advanced Offset Lithography Estimating examinations.
- Entrance Requirements** Only students who have successfully completed course E84A will be eligible for this course.
- Fee** £17.00 per annum.
- E85. **PAPER TECHNOLOGY AND MARKETING****
 A 2-year course for employees of Paper Mills and Paper Merchants' and Printers' employees engaged in the handling of paper transactions. Students are prepared for the examination of the National Association of Paper Merchants.
- Entrance Qualifications** Leaving Certificate.
- Fee** £17.00 per annum.
- E86. **DESIGN FOR PRINTING****
 This is a two-year course to prepare students for the City & Guilds of London Institute examination in Design for Printing. Classes are held on two evenings per week.
- Entrance Requirements** Department of Education Leaving Certificate or Department of Education Senior Certificate in a graphic arts subject or other equivalent qualifications.
- Fee** £20.00 per annum.
- PRINTING TECHNOLOGY**
- E88A. **COMPOSING****
E88B. **LETTERPRESS MACHINE PRINTING**
E88C. **LITHOGRAPHY AND PHOTO-LITHOGRAPHY**
E88D. **BOOKBINDING AND PRINT FINISHING**
- These are courses of one year's duration requiring attendance at the College for three evenings (7 hours) weekly per session. The courses are aimed at preparing students for the Advanced Examination of the City & Guilds of London Institute.
- Entrance Requirements** Department of Education Senior Trade Certificate in appropriate trade.
- Fee** £20.00 per annum.

- E89A. **PRINTING PRODUCTION MANAGEMENT (DEPARTMENTAL)****
- Duration of Course** A one-year course requiring attendance at the College for three evenings per week (6 hours).
- Entrance Requirements** City & Guilds of London Institute Advanced Certificate in one of the following: Composing; Letterpress Machine Printing; Lithography and Photo Lithography; Bookbinding and Print Finishing. Mature students with experience in the industry but who do not possess any of the foregoing qualifications may, in exceptional cases, be admitted to the course.
- Subjects** Aspects of departmental management; human relations and communications in industry; production organisation; production processes.
- Objectives of Course** City & Guilds of London Institute Certificate in Printing Production Management (Departmental).
- Fee** £20.00 per annum.
- E89B. **PRINTING PRODUCTION MANAGEMENT (WORKS)****
- Duration of Course** A two-year course requiring attendance at the College for two evenings (4 hours) weekly.
- Entrance Requirements** City & Guilds of London Institute Certificate in Printing Production Management (Departmental), or Full Technological Certificate in Printing, or Certificate in Supervisory Studies.
- Subjects** Financial Aspects of Management; personnel management; production management.
- Objectives of Course** City & Guilds of London Institute Certificate in Printing Production Management (Works).
- Fee** £17.00 per annum.
- E180. **BOOK AND ARCHIVE RESTORATION****
 The purpose of the course is to train students in the repair and presentation of books, documents, etc. It is of particular value to the staffs of hand bindaries, local record offices and those libraries concerned with the care of manuscripts and archives. Attendance is required on one evening per week. Students will be required to provide some of the materials used.
- Fee** £12.00.

E181. BOOK PRODUCTION

This is intended for those involved in the care of books particularly librarians, librarians under training, record office staff, etc. It will cover mechanised book production, hand bookbinding and book repair. Particular emphasis will be laid on the advantages and/or disadvantages of the various materials and binding styles used and their alternatives which may be used in the interest of economy. The techniques and terminology of forwarding finishing and decoration will be dealt with.

Fee £10.00 per annum.

E182. PRINT FINISHING

This course covers techniques and materials used in the production of books, magazines and the wide range of miscellaneous work handled in the print finishing department. Stress will be laid on hand and machine operations, e.g., wire stitching, sewing and folding, machine and hand feeding, gathering, glueing, mounting, etc.

Fee £9.00 per annum.

E184. GRAPHIC REPRODUCTION

This is a one-year evening course for apprentices and journeymen employed in Graphic Arts. Classes will be held on one evening per week.

Fee £10.00 per annum.

E185. LINOTYPE, INTERTYPE, AND TELETYPESETTING

This course is for senior composing apprentices and young journeymen who wish to become proficient in the operation of either keyboard. It covers daily maintenance routine and minor adjustments to the machines.

Fee £14.00 per annum.

E186. MONOTYPE CASTER OPERATION

A course for Monotype Caster Operators who are already employed as such in the printing industry. It covers all aspects of Monotype Casting including adjustments, alignment, etc.

Fee £12.00 per annum.

E187. MONOTYPE KEYBOARD OPERATING

A course for senior composing apprentices and young journeymen who wish to become efficient operators. The course covers table, tabular and bookwork setting and includes machine adjustments. It can be of one or two years duration.

Fee £12.00 per annum.

E188. PUBLISHING TECHNIQUES

This course is intended for those who wish to gain an insight into, or improve their knowledge of the practice of book and periodical publishing. It is of 26 weeks duration, requiring attendance at the College for 3 hours on one evening per week.

Subjects covered include:

- (a) Development and Structure; (b) Selecting and Editing; (c) Production; (d) Publicity; (e) Management and Accountancy; (f) Distribution.

Fee £14.00 per annum.

E191. BOOKBINDING AND PRINT FINISHING, RETRAINING

This is an evening course for post apprenticeship students with instruction in the latest techniques, and covers the whole range of materials and technology used in print finishing processes.

Fee £9.00 per annum.

E192. LITHOGRAPHY AND PHOTO LITHOGRAPHY, RETRAINING

This is an evening course for post apprenticeship students with instruction in the latest techniques of lithographic plate making and press operation. Craftsmen having completed apprenticeship to other printing processes, undergo retraining in lithographic printing.

Fee £10.00 per annum.

E195. FILM ASSEMBLY

This is a 26-week course of one night per week for training suitably qualified personnel in all aspects of Paper Paste-up/Film Make-up. A follow-on course is available for those, who having completed the basic course, wish to improve their skill in particular areas of paper paste-up/film make-up.

Fee £12.00.

E195A. PHOTOTYPESETTING AND STRIKE-ON COMPOSITION

This is a two-year evening course of practical training for suitably qualified personnel, on a wide range of phototypesetting and strike-on composition equipment.

Equipment includes: Pacesetter Mk IV, Linoscreen Visual Display Unit, Linocomp Direct Input Phototypesetter with electronic tape reader, Varicomp 1100 keyboard, Linotype Paul NJ200 keyboard, IBM 72 Composer, IBM Electronic Composer, Linofilm Keyboard and Photo Unit.

Fee £12.00.

E195B. NEWSPAPER PASTE-UP

This evening course for suitably qualified personnel, covers all aspects of newspaper paste-up including equipment, text and headline origination, grids and formats, methods of adhesion, corrections, illustration, advertisements, borders, colour spots, page assembly, proofing and subsequent processes.

Fee £12.00.

E196. PLANNING FOR PLATEMAKING

This course covers the practical and theoretical aspects of planning for Nyloprint and Offset Lithographic platemaking. Classes will be held on one evening per week. The course is provided for apprentices and journeymen engaged in the trade.

Fee £12.00 per annum.

E197. GRAPHICS WORKSHOP

For art teachers, designers, creative artists and art students wishing to produce lithographs and screen prints. Reproduction facilities are also available for lino and woodcuts, wood engraving and etching. One evening (2½ hours) per week for 26 weeks.

Entrance Requirements Leaving Certificate (including Art) or equivalent.

Fee £10.00 per annum.

E199. APPRECIATION COURSE IN PHOTOTYPESETTING AND STRIKE-ON COMPOSITION

This course is designed to give those engaged in the Management, Sales, Design and associated areas, a familiarisation with phototypesetting and direct-impression composition.

It covers the principles, and suitability for purpose, of equipment currently in commercial use.

In-class practical demonstrations on current equipment, along with the use of films and visual aids, forms part of the course.

Fee £12.00.

E200. SCREEN PRINTING

This is a one-year course designed to up-date the skills of journeymen already employed in Screen Printing. Students prepare for the Craft Certificate in Screen Printing, of the City and Guilds of London Institute. One evening (2½ hours) per week.

Fee £9.00 per annum.

School of Trades

EVENING COURSES

TECHNICIAN COURSES

E1.

CONSTRUCTION TECHNICIANS

The subjects of the course include: Building Construction, Geometry & Calculations, Plane & Solid Geometry, Builders' Quantities, Structural Engineering, Land Surveying & Setting Out.

Course objectives include the Department of Education Technological Examinations in Building at Elementary, Intermediate, and Advanced Stages.

**Entrance
Qualifications
Fee**

Employment in the Construction Industry.

Elementary stage £12.00 per annum.

Intermediate stage £20.00 per annum.

Advanced stage £20.00 per annum.

TRADE COURSES

Evening courses, mainly at advanced level, leading to the examinations conducted by the Department of Education, etc. are provided in:

E121. Carpentry and Joinery—Fee: £14 per annum.

E143A. Welding (Short Courses)—£6 per annum.

E149. Sheetmetal Work—Fee: £12 per annum.

**Entrance
Qualifications**

Employment in the relevant trade.

EXAMINING BODIES

**External
Examinations**

The courses relate to the Examinations of the following bodies:

1. Department of Education

(a) Technological Certificate Examinations in:

- (i) Building.
- (ii) Mechanical Engineering.
- (iii) Motor Car Engineering.
- (iv) Mathematics.

(b) Trade Certificate Examinations in:

- (i) Bricklaying and Masonry.
- (ii) Cabinetmaking.
- (iii) Carpentry and Joinery.
- (iv) Compositors' Work.
- (v) Letterpress Machine Work.
- (vi) Lithography and Photo Lithography.
- (vii) Bookbinding.
- (viii) Metalplate Work.
- (ix) Motor Car Engineering.
- (x) Painting and Decorating.
- (xi) Plasterers' Work.
- (xii) Plumbing.
- (xiii) Fitters' Work.
- (xiv) Turners' Work.
- (xv) Metal Fabrication.
- (xvi) Sheet Metalwork.

2. Professional Institutions

- (i) Construction Surveyors' Institute
- (ii) Council of the Engineering Institutions.
- (iii) Institution of Engineers of Ireland.
- (iv) Institution of Mechanical Engineers.
- (v) Institution of Works Managers.
- (vi) Institution of Structural Engineers.
- (vii) Institution of Fuel.
- (viii) Institution of Municipal Engineers.
- (ix) The Institute of Building.
- (x) Institute of Quantity Surveyors.
- (xi) Royal Institution of Chartered Surveyors.
- (xii) Royal Institute of the Architects of Ireland.

3. Other Bodies

- (i) British Federation of Master Printers.
- (ii) City & Guilds of London Institute.
- (iii) Department of Transport & Power.
(Licence in Aeronautical Engineering).
- (iv) Institute of Clerks of Works in Ireland.
- (v) Institute of the Motor Industry.
- (vi) National Association of Paper Merchants.

**SCHOOL OF ARCHITECTURE
SURVEYING AND BUILDING**

Head of School: Kevin Fox BArch FRIAI
ARHA

**Department of Architecture and
Town Planning**

Head of Department: John J O'Keeffe FRIAI
BArch
Assistant Head: Liam Carlin MRIAI ARIBA
Senior Lecturer: Anthony Johnson BArch
MRIAI ARIBA

Staff Lecturers

Albert J. Brady BArch FRIAI
Niall Brennan DipArch MRIAI
Neil Downes BArch MRIAI
Francis Ford MArch and UD DipArch MRIAI
Robert Fowler DipArch MRIAI
Sean Gaynor DipArch MRIAI
William Gilligan BArch MRIAI
Dermot Healy DipArch MRIAI
Fergus A Hogan MRIAI DipArch
Peter S Manning BArch MRIAI
Gerard Mitchell BArch MLA ARIBA
Eamonn O'Doherty BArch MRIAI
Desmond G O'Dwyer DipArch
S. O Laoire BArch MArch UDDip
Terence O'Neill BE MICE
Sean Rothery BArch MRIAI ARIBA
Martin Ridge DipArch MRIAI
Duncan Stewart BArch MRIAI

Part-time Staff

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Hugh Desmond
P Doris BE
C P Ferguson DipArch MRIAI
D Fitzgibbon BE MSc CEng MIMechE
A Fortune
Alice Hanratty NCA
Francis Harte
J Horan DipArch
M L Jordan BE AMICE
T Kennedy

Piaras MacCionnaith BArch FRIAI
Desmond McConville DipArch MRIAI
Raymond MacDonnell BArch MRIAI
Desmond McMahon DipArch MRIAI
Eamonn Murphy MRIAI ARIBA
Colin Murray NCA
William Nolan
T O'Beirne BArch MRIAI
E O'Shea DipArch MRIAI
Michael Phillips BArch MRIAI
Sean Scannell
J Scuffins MIAAT
Leo Swan MA
Stewart Young DipArch ARIBA

Extern Examiners

W H D McCormick DipArch FRIAI ARIBA
Ragnvald Bing Lorentzen

**Department of Surveying + Building
Technology**

Head of Department: Eanna De Burca FRICS
FIOB
Assistant Head: Kevin Murnane ARIBA MRIAI
Assistant Head (Urban Economics): Laurence
Little MA FRICS
Senior Lecturers: Joseph P Davis BComm
MSc(Econ) CertEd DipStats
Joseph P O'Byrne FCSI

Staff Lecturers

Thomas Byrne FTC (C & G)
Donal Cooper AMCSI HTC(Hons)
John Dixon BSc FRICS
Brendan Dunne MIOB
Patrick Egan MIOB
Sean Loftus Barrister-at-Law
Brian Meehan BSocSc DipTP MSc
Dominic J O'Brien BA ARICS
Liam O'Dulachain FCPA FICA
William D O'Sullivan AIQS
Bernard Skelton ARICS
Damien C. Turley BE P Eng(Con) MIEI
Rory Walsh ARICS

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AMIStructE
James Champion
N Carroll
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Patrick Henry MA
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David Laverty LIOB
High Levins ARICS AIQS
Aedan McGovern BL
Timothy Mahony DipGeoSurv
Patrick Minogue MIE BE MIEI
F Richard Morrison BSc FRICS
Roderick Murphy PhD BL
Michael O'Connor BSc
John A O'Donogue ACA
L O'Donohue BE
Timothy O'Halloran FRICS
Pierce Piggott BE MSc
Murtagh Qualter MA MSc HDipEd

External Examiners

G Ed Cole MA ARICS
James Eustace MA (Econ) MRDipStats
MRTPI
J L Gardner FIOB
David Kelly FRICS
Sean McDermott FRICS
Alan S Morris LLB DipFE FRICS
William Rees BSc FRICS

**SCHOOL OF ENGINEERING
Department of Engineering
Technology**

Head of Department: Michael O'Donnell
MEconSc BE BComm CEng MIProdE MIEI
Assistant Head: Michael Murphy DipEng MSc
CEng MIMechE
Senior Lecturers: James Daly BE CEng
FIStruct MIEI
Matthew Russell CEng MIProdE MInstBE

Staff Lecturers

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Patrick S Benson CEng MIHVE AMInstF
Patrick Broy BE BSc CEng MICE FIEI
John A Butler DipEng AMInstF CEng MIMechE
Daniel Byrne CEng AMInstF MIHVE MIEI
Michael J. Carew CEng MIStructE MIEI
John Cash BE MS CEng MIMechE
William Dalton CEng MIEI
John Patrick Daly BSc(Eng) CEng MICE
Patrick Doyle AMIEE DipIE
Kenneth Eng MA MIM MInstW MIEI
Neil Gillespie CEng MIMechE GIHVE
Matthew Harton DipEng MSc
Raymond Hughes MSc CEng MIERE MIEE
John Kelleher BE
Oliver McNulty CEng MIEI ARTCS AMIStructE
John McQuillan CEng MIMechE
Donal Murphy MIED
John Peelo BE CEng MIEI MIMechE
Henry F Taylor CEng FIMechE

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Terence Churcher TEng(CEI) MIQA
Terence Cooke
James Coll
Patrick Collins
Robert Couchman
Timothy Crean
Francis Dempsey

Vincent Duffy
 Edward Edge
 Edward Fallon
 Eugene Farrell
 Denis Fitzgibbon
 Kieran Forde
 Sean Furlong DipEng
 Sean Greene
 Brian Hayden
 Sean Jordan
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