

1941

## Printing and Book Production: Prospectus , 1941- 42

City of Dublin Technical schools

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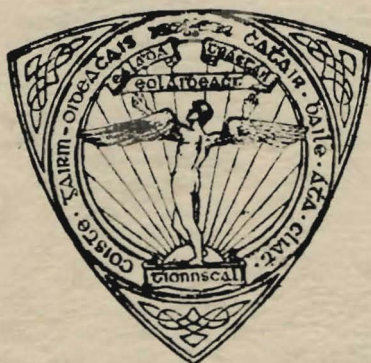
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City of Dublin  
Vocational Education Committee

SCOILEANNA CEÁRD-OIDEACÁIS  
City of Dublin Technical Schools

seisiún  
1941-42



Session  
1941-42

**BOLTON STREET**

**PROSPECTUS OF COURSES**

**PRINTING AND BOOK PRODUCTION**

## CALENDAR—SESSION 1941-42.

1941—SEPT. 1, MONDAY	Whole-time Day Schools open for enrolment, and Day Apprentice School resumes work.
SEPT. 8, MONDAY	Part-time Day Classes open for enrolment and Whole-time Day Schools commence work.
SEPT. 15, MONDAY	Evening classes open for enrolment and Part-time Day classes commence work.
SEPT. 22, MONDAY	Evening classes commence work.
NOV. 1, SATURDAY	<i>All Saints Day.</i> Whole-time Day Schools excepting Day Apprentice School and Special classes closed.
DEC. 8, MONDAY	<i>Feast of Immaculate Conception.</i> Whole-time Day Schools excepting Day Apprentice School and Special classes closed.
DEC. 13, SATURDAY	Teaching work in Whole-time Day Schools ceases—excepting Day Apprentice School and Special classes.
DEC. 15, MONDAY	Term Examinations in Whole-time Day Schools commence.
DEC. 20, SATURDAY	Last meeting of classes before Christmas Vacation.
1942—JAN. 5, MONDAY	All classes resume work after Christmas Vacation.
JAN. 6, TUESDAY	<i>Feast of the Epiphany.</i> Whole-time Day Schools excepting Day Apprentice School and Special classes closed.
MAR. 17, TUESDAY	<i>St. Patrick's Day.</i> Schools closed.
MAR. 31, TUESDAY	Last meeting of Day and Evening classes before Easter Vacation.
APR. 8, WEDNESDAY	All classes resume work after Easter Vacation.
MAY 1, FRIDAY	Evening classes close—excepting where otherwise arranged.
MAY 14, THURSDAY	<i>Ascension Day.</i> Whole-time Day Schools—excepting Day Apprentice School and Special classes—closed.
MAY 25, MONDAY	<i>Whit-Monday.</i> Schools closed.
JUNE 4, THURSDAY	<i>Feast of Corpus Christi.</i> Whole-time Day Schools—excepting Day Apprentice School and Special classes closed.
JUNE 20, SATURDAY	Teaching work ceases in Whole-time Day Schools excepting Day Apprentice School and Special classes.
JUNE 22, MONDAY	Sessional Examinations commence in Whole-time Day Schools excepting Day Apprentice School and Special classes.
JUNE 27, SATURDAY	Whole-time Day Schools and Part-time Day Domestic Economy classes close—excepting Day Apprentice School and Special classes.
JUNE 29, MONDAY	<i>Feast of Saints Peter and Paul.</i>
JULY 11, SATURDAY	Day Apprentice School and other classes close excepting where otherwise arranged

Schools closed on all Bank Holidays not specified in above Calendar



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## GENERAL NOTICES

The Day Apprentice School re-opens on Monday, 1st September, 1941.

All Evening Classes commence work in the week beginning Monday, 15th September, 1941.

As the number of entrants every year is large and the size of classes limited, early application is necessary.

Enrolment will take place on Tuesday, Wednesday and Thursday evenings, 9th, 10th, and 11th September, when teachers will be present to advise applicants regarding suitable courses of study, and to certify the eligibility of students for advanced classes.

Students of Linotype and Intertype class are especially urged to enrol early; the Senior group starts work on Tuesday 16th on an intensive course of four evenings per week. The Intermediate and Junior groups will also be formed on the enrolment nights. Once the classes are filled no further applications can be entertained.

*Arrangement of Classes.*—Each student must present a *Class Ticket* before admission to a class. This ticket will be issued immediately on payment of fee.

The opening of a class will depend on the enrolment of a sufficient number of students. A class may be discontinued at any time should the attendance fall below the number necessary to justify its continuance, and the number of evenings allotted weekly to a class may be reduced if there be a falling away in the attendance.

The name of a student who has been absent from three successive class meetings may be removed from the Register unless a note of explanation has been sent.

Students are required to come provided with a note-book and pencil or with such drawing instruments or other requisites as may be necessary for the work of the class.

*Discipline.*—Strict order must be observed at all times in the precincts of the School. Students must make good any damage done by them to School property.

*Students' Property.*—The Vocational Education Committee do not accept responsibility for loss or damage to any property—bicycles, coats, hats, books, etc., brought to the School by students.

*Damage to Person.*—The Committee do not accept responsibility for injury to a student resulting from the student's personal neglect or disregard of the Regulations laid down for the conduct of the operations in the workshops or laboratories.



# SCHOOL OF PRINTING

AND

## BOOK PRODUCTION

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Technical School, Bolton Street

ERNEST E. JOYNT, M.I.MECH.E., *Principal.*

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The trade classes are reserved for those engaged in the respective trades. A Trade class may only be taken in conjunction with an approved Lecture or Drawing class. A student will not be permitted to continue in a Trade class if his attendance at the Lecture or Drawing class is unsatisfactory.

The Courses as set forth are suitable for students desirous of presenting themselves for the official Public Examinations in Typography and kindred subjects.

Where possible, separate classes for journeymen will be arranged in Trade subjects.

Arrangements will be made, as far as possible, to enable highly qualified students to carry on Drawing or Practical work of a special nature. Those who desire to take advantage of this privilege should make application to the Head of the Department.

### FEES PER SESSION.

	s.	d.
General Courses or Single Subjects	7	6
Additional Subjects	2	6
Irish	<i>No extra charge</i>	

# LIST OF COURSES

## A.—TYPOGRAPHY.\*

Compositors' Work .....	1—4
Linotype and Intertype Operating .....	5—7
Linotype and Intertype Mechanism .....	8
Monotype Keyboard .....	9—12
Monotype Caster .....	13—14
Press, Platen and Machine Work .....	15—18

## B.—BOOKBINDING.\*

Stationery Binding and Marbling .....	19
Letterpress Binding and Gilding .....	20
Warehouse and Stationery Work .....	21—22

## C.—PHOTOGRAPHY AND BLOCKMAKING.

Pure Photography .....	23—24
Photographic Chemistry .....	25
Line and half-tone blockmaking .....	26
Three-colour process work.....	27

## D.—LITHOGRAPHY\*

Lithography—Theory and Practice .....	28
Photo-Lithography .....	29

## E.—OFFICE WORK.

Junior Clerical and Warehouse work .....	30
Costing and Estimating .....	31

## F.—ART AND DESIGN.

Modern Typography : Bookwork and Display, Illustration, etc. ....	32
Advertising and Printing Design .....	33
Design for Bookbinders .....	34

## G.—IRISH .....

35

\* NOTE.—With each of these "Practical" Classes a course in Irish *must* be taken by all Third and Fourth year students. Only one "Practical" Class may be attended by any one student; but a Special Course may also be chosen if desired from those lettered E to H. The lectures in F, Art and Design, will be supplemental to the Theory for Fourth and Fifth year Compositors and for Bookbinders.



## TEACHING STAFF

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COLM O LOCHLAINN, M.A. .... *Head Master.*

W. J. FITZPATRICK.      J. L. SULLIVAN.

W. R. QUINN.            R. WILSON.

P. MAHER.                J. ROONEY.

C. J. McCULLAGH.      W. L. WHELAN.

J. F. KEARNS.            P. O RIAIN.

P. MACMANUS.

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## EQUIPMENT

**LETTERPRESS SECTION.**—In addition to full range of modern type and up-to-date equipment for Compositors, there is installed a “Pony” Miehle Machine, Phoenix, Arab and Favourite Platen Machines, Heidelberg Automatic Platen: Dawson Payne S.W. Automatic Cylinder Machine, Demy Wharfedale, two Linotype Machines, one Intertype Machine (latest model), two Monotype Keyboards and Monotype Caster, with Lead and Rule and Display Type attachment.

**LITHOGRAPHIC SECTION.**—Royal Folio Waite Rotary offset Machine, four transfer presses and copper-plate press.

**PHOTOGRAPHY and PHOTO-MECHANICAL SECTION.**—Four 12" x 10" Cameras for line, half-tone and colour work; Levy Acid Blast Etching Machine and three-bath power-rocking apparatus; Royle Routing Machine and Power Beveller, six powerful arc lamps, special plant for copying, enlarging, and photo-micrography

**BOOKBINDING SECTION.**—Cameo Folding Machine, Brehmer Thread Sewing Machine, and the usual appliances for Forwarding and Finishing in both Stationery and Letterpress Binding, and a Treble Striker “Shaw” Ruling Machine.

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# PROGRAMME AND TIME TABLE

OF THE

SCHOOL OF PRINTING AND BOOK  
PRODUCTION

Technical School, Bolton Street

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The Classes in Typography here listed are for advanced students and apprentices of third and subsequent years. For Syllabus of the Day Apprentice School for junior apprentices see page 23.

# COURSES AND TIME TABLES

Number of Course	SUBJECT	Day	Hour	Room	TEACHER	Syllabus Number
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## TYPOGRAPHY—CASE ROOM.

### THIRD YEAR :

205 B	Book and Magazine work	.... Tues.	.... 7.30-9.30	A 1	P. Maher	.... 1
	Book and Magazine Work	.... Fri.	.... 7.30-9.30	A 1	P. Maher	.... 2
	Irish	.... Wed.	.... 7.30-9.30	B 24	P. O Riain	.... 36
	Design in Bookwork	.... (as arranged).	7.30-9.30	A 1	Colm O Lochlainn	.... 34

### FOURTH YEAR :

206 B	Advanced Display	.... Mon.	.... 7.30-9.30	A 1	C. McCullagh	.... 3
	Advanced Display	.... Thurs.	.... 7.30-9.30	A 1	C. McCullagh	.... 4
	Irish	.... Wed.	.... 7.30-9.30	B 24	P. O Riain	.... 35
	Design in Display Work	.... (as arranged)	7.30-9.30	A 1	Colm O Lochlainn	.... 34

## TYPOGRAPHY—MECHANICAL.

In Fifth Year, Linotype or Monotype Work may be taken instead of or in addition to Case Work, Practical, provided the pupil has an attendance of 75 per cent. at the evening classes for Third and Fourth Year Course.

Early application is essential. Certificate of attendance must be produced.

## LINOTYPE AND INTERTYPE OPERATORS' COURSE.

### FIRST YEAR (Third Term—March to May).

#### Intensive Course.

210 B	Linotype and Intertype :					
	Operating—I	.... Tu., Th, Fri.	7.30-9.30	A 2	J. F. Kearns	.... 5
	Lecture and Demonstration—I	.... Wed.	7.30-9.30	A 2	J. F. Kearns	.... 8

### SECOND YEAR (Second Term—Dec. to Feb.).

#### Intensive Course.

211 B	Linotype and Intertype :					
	Operating—II	.... Tu., Th., Fri.	7.30-9.30	A 2	J. F. Kearns	.... 6
	Lecture and Demonstration—II	.... Wed.	7.30-9.30	A 2	J. F. Kearns	.... 8

### THIRD YEAR (First Term—Sept. to Dec.).

212 B	Intensive Practical Course—III	Tu., Th., Fri.	7.30-9.30	A 2	J. F. Kearns	.... 7
	Lecture and Demonstration—III	.... Wed.	7.30-9.30	A 2	J. F. Kearns	.... 8

## MONOTYPE OPERATORS' COURSE.

### FIRST YEAR :

215 B	Monotype, Keyboard Operating—I	Thurs., Fri.	7.30-9.30	A 2	J. Sullivan	.... 9
	Monotype, Keyboard Mech.—I	Mon., Tues.	7.30-9.30	A 2	J. Sullivan	.... 12
	Irish	.... Wed.	7.30-9.30	B 24	P. O Riain	.... 35

### SECOND YEAR :

216 B	Monotype, Keyboard Operating, II	Thurs., Fri.	7.30-9.30	A 2	J. Sullivan	.... 10
	Monotype, Keyboard Mech., II	Mon., Tues.	7.30-9.30	A 2	J. Sullivan	.... 12
	Irish	.... Wed.	7.30-9.30	B 24	P. O Riain	.... 35

### THIRD YEAR :

217 B	Monotype, Keyboard Operating, III	Thurs., Fri.	7.30-9.30	A 2	J. Sullivan	.... 11
	Monotype, Keyboard Mech., III	Mon., Tues.	7.30-9.30	A 2	J. Sullivan	.... 12
	Irish	.... Wed.	7.30-9.30	B 24	P. O Riain	.... 35

Students may add a Class in Monotype Casting.



Number of Course	SUBJECT	Day	Hour	Room	TEACHER	Syllabus Number
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### MONOTYPE CASTERS' COURSE.

218 B	Practical Operating	Mon., Tues.	7.30-9.30	A 2	P. McManus	13
	Caster Mechanism	Thurs., Fri.	7.30-9.30	A 2	P. McManus	14
	Irish	Wed.	7.30-9.30	B 24	P. O Riain	35

### LETTERPRESS MACHINE WORK.

#### THIRD YEAR :

223 B	Machine Work, Lecture—III	Fri.	7.30-9.30	A 3	W. R. Quinn	15
	Machine Work, Practical—III	Thurs.	7.30-9.30	A 3	W. R. Quinn	16
	Irish	Wed.				

#### FOURTH YEAR :

224 B	Machine Work, Lecture—IV	Fri.	7.30-9.30	A 3	W. R. Quinn	17
	Machine Work, Practical—IV	Thurs.	7.30-9.30	A 3	W. R. Quinn	18
	Irish	Wed.	7.30-9.30	A 2	P. O Riain	35

### BOOKBINDING.

225 B	Stationery Binding and Marbling	Mon. & Fri.	7.30-9.30	A 9	R. Wilson	19
	Letterpress Binding and Gilding	Mon. & Fri.	7.30-9.30	A 9	R. Wilson	20
	General Warehouse Work :					
	Men	Tues.	7.30-9.30	A 9	—	21
	Women	Thur.	7.30-9.30	A 9	—	22
	Design for Bookbinders	(as arranged)		A 11	Colm O Lochlainn	32

### PHOTOGRAPHY.

#### FIRST YEAR :

227 B	Pure Photography—I	Tues.	7.30-9.30	A 11	—	23
	Photographic Chemistry	Thurs.	7.30-9.30	Kevin St.	—	25

#### SECOND YEAR :

228 B	Pure Photography—II	—	7.30-9.30	A 11	—	24
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### PROCESS PHOTOGRAPHY AND ETCHING.

230 B	Line and Half-tone Block Making	Mon.	7.30-9.30	—	—	26
231 B	Three-colour Process Work	Fri.	7.30-9.30	—	—	27

### LITHOGRAPHY AND PHOTO-LITHO.

232 B	Litho Theory and Practice	Mon. & Thur.	7.30-9.30	—	—	28
233 B.	Photo Lithography	Mon.	7.30-9.30	—	—	29

### SPECIAL COURSES.

234 B	Office Work, Junior Clerks, etc.	Tues	7.30-9.30	A 7	J. Rooney	30
	Costing and Estimating	Mon.	7.30-9.30	A 7	J. Rooney	31
237 B	Irish	Wed.	7.30-9.30	B 24	P. O Riain	35

# SYLLABUSES

## 1.—BOOKWORK. III OR IV YEAR.—PRACTICAL.

Straight setting of solid matter for book and magazine by hand, Linotype, Intertype and Monotype. Proofing and correcting galleys. Make-up of pages, single, double and treble columns. Running heads, folios, side, shoulder, and cut-in headings. Insertion of initials and blocks in text. Make-up of diagrams, illustrated pages, tables, etc. Chapter and Section headings. Title pages, and other preliminary matter. Proofing and correction of pages. Blanks, imprints, etc. Imposition and dressing of forme of eights, twelves, sixteens. Checking furniture for desired margins. Locking up and sending to machine. Corrections at press. Making up and dissecting for colour work and register work. Use of line-up and register table.

## 2.—THEORY.

Design and layout of simple and decorative bookwork, Brochures and Magazines, single, double and treble columns. Choice of size and style of typefaces for various classes of work. Measure and gauge of pages and allocation of margins. Composite work with type and blocks. Headpieces. Tailpieces, Line and Half-tone blocks. Borders and initials and their proper use. Hand lettering and its use in conjunction with type. Paper sizes, qualities and weights, Technical terms, local usages and run of work. Blank books, ruled books, diaries, insurance books, etc.

## 3.—ADVANCED DISPLAY AND JOBBING. III OR IV YEAR.—PRACTICAL.

Composition and make-up of Programmes, Catalogues, Brochures, Guide Books and Time Tables, Calendars, Almanacs and Diaries. Utilisation of resources of Modern Case Room in Commercial Work. Linotype, Intertype and Monotype make-up in Display Advertisement. Borders and Ornaments. Head and Tail pieces. Line and Half-tone blocks and Stereos in Commercial jobbing. Cut-in, run around and pierced blocks. Dressing and lock-up of composite formes. Corrections at Press. Three and four-colour work in Commercial jobs.



#### 4.—THEORY.

Design and layout of simple and decorative bookwork, Brochures and Magazines, single, double and treble columns. Choice of size and style of typefaces for various classes of work. Measure and gauge of pages and allocation of margins. Composite work with type and blocks. Head-pieces, tail-pieces, line and half-tone blocks. Borders and initials and their proper use. Hand lettering and its use in conjunction with type. Paper sizes, qualities and weights. Technical terms, local usages and run of work. Blank books, ruled books, diaries, insurance books, etc. Planning of Composing Room. Labour-saving appliances. Modern proofing presses. Lighting, heating and ventilation. Fire precautions, etc.

#### 5—LINOTYPE AND INTERTYPE OPERATING, I.

Practical work in keyboard operation. Instruction in fingering, touch and other practical points under the direct supervision of the instructor.

#### 6.—LINOTYPE AND INTERTYPE OPERATING, II.

Practical work of a more advanced nature, including simple table work, with special attention to style and corrections. Instruction on the mechanism during operation.

#### 7.—LINOTYPE AND INTERTYPE OPERATING, III.

Advanced work on Syllabuses of former Years, such as twin-slug composition, tabular and advertisement work, introducing a two-line letter, headline work, etc. Instruction on the mechanism whilst in operation.

#### 8.—LINOTYPE AND INTERTYPE MECHANISM.

*Keyboard.*—Construction and operation, action of cams and rods. *Matrix.*—Care of and alignment. *Spaceband.*—Line justification, importance of cleanliness. *Assembler.*—Star wheel, guides, chute, brake, adjustments. *Line Delivery Carriage.*—Components, control adjustments. *Magazine.*—Single, multiple, split, auxiliary, entrance, escapements, changes. *Distributor.*—Distributor bar and box, controls, single and multiple mechanisms, adjustments. *Mould.*—Varieties and care of, making changes. *Metal Pot.*—Component parts and their functions. *Knives.*—Varieties and care of, adjustments. *Vice.*—Jaw and lock, adjustments. *Elevators.*—First and second, adjustment. *Cams.*—



Names, functions and adjustments. *Driving Mechanism.*—Clutch and associated mechanism, adjustments. Care of general machine, oiling, cleaning, etc. Automatic stops.

#### 9.—MONOTYPE KEYBOARD OPERATING, I.

Operating the keyboard and method of correct fingering, the general principles governing practical work.

#### 10.—MONOTYPE KEYBOARD OPERATING, II.

More advanced practical work, including tabular work and the calculations connected therewith.

#### 11.—MONOTYPE KEYBOARD OPERATING, III.

Instruction in advanced and difficult composition; speed tests, etc.

#### 12.—MONOTYPE KEYBOARD MECHANISM.

Action of key buttons and valves, operation of punches and recording units, driving of unit wheel and recording of units, justifying scale and M scale pointer. Recording mechanism, paper feed and take-up and release mechanism, automatic cut-out, operation of bell trip and line counter, reversing valve and switch. Mechanism for adjusting length of line, justifying and reversing keys. Air compressor and filter. Mechanism for automatically moving sticking valves, method of placing keybanks and keybar frames in position.

#### 13.—MONOTYPE CASTER OPERATING.

Practical operation of caster, including care necessary while working. Explanation of running adjustments

#### 14.—MONOTYPE CASTER MECHANISM.

Driving gear, cam levers, type carrier and adjustments, pump action, transfer wedges and adjustments. Die centreing lever, tong mechanism, locking racks, mould blade moving gear, type pusher, paper tower bridge and its adjustments. Line shifting and galley mechanism. Changing founts, centreing, sizing and aligning, justification. Care of matrices, system of locating derangements. The mould, care and upkeep, disassembly and re-assembly, adjustment. Compressor and air tank. Lead and rule and display type attachment.

### 15.—MACHINE WORK, LECTURE, III.

*Modern developments* in proof presses and machines. Hand-fed and automatic machines, principles of their design. Flat bed and rotary machines and their uses. *Paper*.—Qualities for various grades of work. Paper troubles and how overcome. Cards and boards. Straw-boards, pulp and millboards. *Work of the Machine Minder*.—Care and management of platens (hand-fed and automatic) Wharfedale and two revolution, hand-fed and automatic machines; adjustments necessary; care and management of automatic feeders for platen and cylinder machines, adjustments for different sizes and classes of stock. Preparation and printing off of more difficult formes including stereotypes, electros, half-tone, vignetted and three-colour blocks; underlaying, interlaying, making hand and mechanical chalk overlays. Colour mixing; ink troubles and how dealt with. *Impositions and book-work*—4 pp., 6 pp., 8 pp., 12 pp., 16 pp., 32 pp. Sheet and half sheet work, inset work, uses of signatures, order of preliminary matter, laying down plates, squaring up, getting register. Stabbed and sewn work; folding machines and impositions. *Machine Room*.—Layout for economic production. Power and transmission, shafting, lubrication, safety guards. *Inks*.—Various qualities and colours: copyable, double-tone, tri-chromatic, etc. *Outline of methods of reproduction* of illustration by line, half-tone and three-colour processes. *Costs of production*, percentages for handling; time and work sheets; average runs per hour; general supervision.

### 16.—MACHINE WORK, PRACTICAL, III.

Practice in every class of work of a higher grade from laying-out of forme to completion of printed sheets. Use and adjustment of automatic feeders for Platen and Cylinder machines.

### 17.—MACHINE WORK, LECTURE, IV.

Advanced work, dealing mainly with the principles of costing, estimating, paper testing. Lectures on trades allied to letterpress printing.

### 18.—MACHINE WORK, PRACTICAL, IV.

The operation of two-revolution and automatic machines, make-ready of three-and four-colour work. Vignetted blocks. Colour mixing, etc.



## 19.—STATIONERY BINDING AND MARBLING.

Description of tools ; technical terms, materials and appliances used in stationery work. Weights, sizes, and wire gauges of millboards and strawboards ; joint and end papers. Styles of sewing ; flush and turned-in binding. Cloths and fabrics. Account books, skeleton guard books, portfolios. Loose-leaf ledger binding ; vowel and proportionate indices ; tight and open back. Lettering and finishing account books. Lettering pieces, loose covers.

*Marbling.*—Preparation and use of marbling trough. Colours, combs, rake, brushes, etc. Various designs and patterns in general use. Edge and sheet marbling.

## 20.—LETTERPRESS BINDING AND GILDING.

Sewing for various styles. Rounding, backing, boarding, lacing in ; forwarding and cloth case-making. Cut sizes ; book cutting, book-edge gilding. Binding fancy leather work ; banded work. Library binding, repair work, vamping, etc. Function and utility of the finisher's work. Character of various leathers and preparatory treatment for tooling them. Treatment of cloth, silk, etc., for tooling.

Gold leaf as a medium for book decoration, its character and use, substitutes and imitations.

Various tools used for book finishing, methods for handling them. Degree of moisture in materials, in conjunction with heat required for tooling. Cleaning of the gold. The tooling of leather without gold. Planning and spacing for hand lettering on back and sides of book. Method of using type on the backs. Use of fillets, rolls, pallets, gouges and other tools. Various methods of inlaying. Practical application and principles of design, planning and building up of ornament, and limitations imposed by technicalities.

## 21.—GENERAL WAREHOUSE AND STATIONERY WORK —MEN.

Technical terms ; section, endorse and simple sheet folding. Paper sizes and sub-divisions. Styles of sewing, wire stitching, numbering, hand sewing, thread stitching. Feeding ruling machines ; gathering, interleaving, manifold work, perforating.



Making up account and letterpress work ; standard sizes of paper ; qualities and weights. Plating ; imperfections in print ; guard-book work, holing and eyeletting, gumming, folding impositions, guarding plates, making up duplicate and triplicate work. Other miscellaneous details of work, calendar and show card work, etc.

Setting and use of folding and sewing machines ; method of obtaining the correct setting for folding to print. Mechanism of numbering, sewing, thread and wire-stitching machines, methods of adjustments. French, tape, string and sewing through mull by machine ; magazine and catalogue work ; Paper-slitting by hand, folioing, paging, box register, and sheet-numbering. Taping before and after sewing. Flat and saddle thread and wire stitching machines. Departmental management, elementary costing and estimating.

## 22.—GENERAL WAREHOUSE AND STATIONERY WORK —WOMEN.

Handling and care of paper ; counting and tying up reams, holing, eyeletting and stringing. Paper sizes ; section and sheet folding by hand, wirestitching, perforating. Paper terminology, water marks, sizes of cards, browns and wrappings. Gathering and collating, packing and labelling, stringing of calendars, mottoes, etc.

Keeping stock, classes of papers and equivalent weights, judging and testing. Imperfections in print and how they affect the folder. Giving paper out to the printer, ruler and binder. Percentage of overs to allow. Weights of paper suitable for book production. Position of the print for machine folding ; cut sizes for bookwork. General knowledge of various warehouse machines. Magazine and catalogue work.

Construction of and setting wire-stitching machine. Impositions ; setting and adjusting folding, thread-sewing, eyeletting, round-cornering, holing and perforating machines. Board cutting, board bevelling and miscellaneous practice.

## 23.—PURE PHOTOGRAPHY, I.

The use of cameras. Exposure and development of dry plates and films, after-treatment of negatives, intensification, reduction,

retouching, varnishing. Printing process, print-out and development papers, bromide and gaslight. Toning, trimming, mounting, spotting and finishing prints. Optical calculations, orthochromatic photography and printing in carbon. Copying and enlarging.

The practical work will include the application of the theory.

#### 24.—PURE PHOTOGRAPHY, II.

Advanced and detailed instruction in subjects of Syllabus of First Year, including the theory of light as applied to photography, orthochromatic and panchromatic photography, the use of colour filters, the chemistry and process of manufacture of dry plate emulsions, platinotype printing, colour photography, autochrome, Paget, etc., the wet collodion process, scientific and technical uses of photography, photo-micrography, photography by flashlight, etc.

Practical work of an advanced nature, including retouching.

#### 25.—PHOTOGRAPHIC CHEMISTRY.

Instruction in chemistry and its general principles necessary for an understanding of the processes used in Photography, Photo-Process Work, Lithography, etc. *General Chemistry*.—Physical and chemical changes, mixtures and compounds, elements, the atomic theory. The atmosphere, oxygen and nitrogen. The common acids. Alkalies: lime, caustic soda, sodium carbonate, ammonia. Salts; water of crystallisation. Water, natural waters. Sulphur; oxides, sulphites, sulphates, thiosulphates. The halogens. Oxidation and reduction; typical examples with reference to photographic operations. Metallic salts: silver, gold, copper, iron, uranium. *Applied Chemistry*.—Photo-chemistry of certain metallic salts, silver salts. Theories concerning latent image, sensitisers, history of photographic processes, collodion and gelatine emulsions, ripening, dry plates. Theory of developers and retainers, acid and alkaline developments, fixing agents, intensification and weakening of silver image. Printing, toning processes, platinotype. Chemistry of photo-mechanical and lithographic processes.

#### 26.—LINE AND HALF-TONE BLOCK MAKING.

*Line Block Making*.—Types of suitable originals. Effects of Chinese and process whites. Lamps employed for illuminating the original. The process camera, methods of making line



negatives on dry plate, paper or wet collodion. Wet collodion process in detail, various methods of reduction, exposure and intensification, the use of masks for duplicate exposures, stipping of negatives. Metal printing by the albumen method, tint laying, reversing. *Line Etching*.—Line etching by rolling up and dragon's blood methods. Routing and mounting. Pulling the proof. *Half-tone Block Making*.—The half-tone screen, properties. Translation of continuous tone to dots of varying sizes. Effect of flashing on graduation. Lenses and prisms, their optical properties. Methods of finding and controlling screen distances, lens aperture and exposure. The making of screen negatives by dry and wet plate processes. Metal printing by "fish glue" and "cold top" methods. Half-tone etching of zinc and copper plates. Fine etching, relations of tones of original and reproductions without fine etching. Deep etching for newspaper work. Combination line and tone work.

## 27.—THREE-COLOUR PROCESS WORK.

Method of reproduction in three and four printings by the direct half-tone process. Character of light of electric lamps. Half-tone screens for three-colour work, orientations of their rulings. Lenses, colour filters, construction and optical properties. Making the negatives. Metal prints and colour etching. Relation of light photographed to light reflected by inks. Relation of actual inks to light reflected by inks, fastness of inks. Screen plate processes such as Autochrome and Paget, colours used in these as primaries. Application of three-colour method to other photo-engraving processes.

## 28.—LITHOGRAPHY, THEORY AND PRACTICE.

Litho stone, composition, physical nature, preparation, grinding, polishing and graining. Plates: re-cleaning, re-grinding, nature and use of materials employed. Hand litho press: construction and use. Copper plate press rollers: structure, covering and breaking in. Transferring: essential principles, commercial work for hand press and machine. Transfer inks and papers: composition. Doctoring work, bronzing, transposing. Zincography, alterations and corrections. Papers, various types and qualities. Cards, plain and glazed. Inks: source, nature of coloured pigments, mixing of tints. Creasing of paper and remedies. Machines:



construction and management; hand presses. Rollers : breaking in "nap" and "glazed," repacking, re-covering. Transfer papers, inks and crayons, patching up. Treatment of drawings on grained stones, etching and proving. Chromo-lithography : superimposing colours, registering, etc. Shading mediums, stippling film, splash work, aerography. Metal-leaf work, photo-lithography by various transfer methods ; transpositions and reverse image methods.

Primary colours, combinations, colour harmony. Off-set work on flat-bed and rotary machines. Rubber blankets, composition and treatment in working. Transferring, transposing and reversing. Rotary off-set machine, fixing the plate, adjustment of inking rollers, damping cylinder and plate adjustment, working mechanism of machine, fine register work. Paper : tests for printing properties and suitability for various classes of work. Estimating.

#### 29.—PHOTO-LITHOGRAPHY.

Line and high-light screen, negative making by wet and dry plates, direct and indirect methods, use of "irregular grain" screens. Step and repeat work. Preparation of negatives for printing down, varnishing, lining up, use of air brush, use of shading "mediums" on screen negatives. Zinc and aluminium plates, outline of manufacture, recognition of defects. Gauge of plates, reason for graining, use of different graining materials. Grain required for different classes of work. Storage of plates. Use of "passing bath." Coating and printing down. Relation between lamp distance and light distribution, effects on exposure. Duplicating on plate and securing register, different types of printing frame. Developing, additions, alterations. Use of shading mediums. Rolling up, use and action of litho etches, gum, etc., additions after rolling up. Vandyke, "offset deep" and other positive reversal processes.

#### 30.—OFFICE WORK—JUNIOR CLERKS AND WAREHOUSEMEN.

*Type.*—Hand and mechanical composition ; size, face and weight of type ; "casting up" and "casting off," display work and proof correcting. *Machining.*—What the operation involves ; types of machines ; average output, estimating information for different classes of work. *Illustrations.*—Different methods of

reproducing photographs, wash-drawings, pen and ink sketches and coloured originals to print upon different grades of paper ; reduction and enlargement. *Ink*.—Selection, varieties ; double-tone, copyable, dryers. Gold, silver, aluminium and bronze printing. *Colour Printing*.—Principles and possibilities ; how to take an order for three-colour work and put it through the departments. *Paper*.—Size, weight, numerous qualities, characteristics, defects, special uses, etc. Storekeeping and stock-taking. *Binding*.—How to order account books ; trade terms ; ledger papers. Ruling, marbling, letterpress binding, including leathers. *Lithography*.—Commercial offset and chromo-lithography. *Warehouse Work*.—Approximate times for operations and what they entail. Dispatch. Invoicing and checking. Journalising and posting.

### 31.—OFFICE WORK—COSTING AND ESTIMATING.

Definition of cost : fallacy of using "flat" percentage on wages, or on wages and materials combined ; objects of correct costing ; essentials of a proper costing system ; value of adoption of uniform methods of costing by the printing industry. Main principles of Federation Costing System. Capital : its various forms and their bearing on cost ; inventories of plant value and their relationship to "working" value ; depreciation ; importance of keeping a plant record.

Preparation of statement of expenses ; necessity for and value of departmentalisation of expenses ; sub-divisions of departments ; allocation of expenses, method to be applied ; multiple businesses ; how treated, method of recovering indirect (overhead) expenses, effect of the percentage method on "direct departmental cost." Handling charges on material and outwork ; how found and applied, records of stock and of amounts charged to orders. Why time expended, and not wages paid, is used as basis of cost recovery ; the meaning of the terms "chargeable" and "non-chargeable." Hourly cost rates ; how found and applied, reasons for using inclusive hourly rates, why some operations (*e.g. reading*) are recovered indirectly.

Explanations of standard printed forms and their place in the Federation Costing System ; the importance of correct time-recording and necessity for care by cost clerks in transference of



time to costing forms. Individual cost sheet; responsibility of cost clerk for details of labour, materials, etc., and the question of economic cost. Descriptions of essential books of account; analysis of expenses, analysis of sales. Uses to which management may apply information provided by statistics on Forms 3 and 4, and the cost sheet: use of graphs. Relationship between costing and estimating; the necessity for comparison by departments as well as by total of estimated cost with actual cost. Office and factory organisation and terms in use.

### 32.—MODERN TYPOGRAPHY, BOOKWORK AND DISPLAY

Methods of ornament and illustration, wood-cuts, lino-cuts, line blocks and stereotypes. Intaglio printing from copperplate, pewter, steel, etc. Photographic methods of preparing printing surfaces in line and half-tone. Three-colour process and its development. Lithography, its principles, offset and photolitho. Photogravure and collotype. Workshop demonstrations, line and half-tone processes, three-colour processes. Paper making by hand and machine.

### 33.—ADVERTISING AND PRINTING DESIGN.

Explanation of reproduction methods. Colour and its uses, harmony and contrast. Key drawings for colour work. Retouching photos. Making of composites. Commercial and stationery headings, envelopes, labels, post cards, etc. Value of standard design. Trade marks and devices.

Drawing for bookwork, illustrations in line and colour, chapter heads, initials, running heads, head and tail pieces. Brasses and zincos for cover blocking or printing. Book jackets and show cards. Cut-outs for display. Advertising; its importance in the promotion of trade. Various kinds of advertising; their application and value. Copy writing, selling points, head line, catch line, slogans.

Design and lay-out, type characteristics, paper characteristics. Suiting type to class of goods and method of printing. Complete campaigns or advertisements in series.

Lettering and Scribe Work: Alphabets; their origin; Roman, Gothic, Gaelic and Italic script. Proportion and balance in alphabet, design, weight and colour of lettering, design of hand-



lettered pages. Use of initials, outline letters and special shapes. Ornament and its relation to lettering. Lettering as the basis of typographical design.

The scribe, ancient and modern, his materials, use of quill, reed and modern steel pens. Ink and colour, harmony and contrast. Papers, vellum and other fabrics. Advertising alphabets. Handwriting in advertisements, show cards, window bills, posters, etc.

#### 34.—DESIGN FOR BOOKBINDERS.

Evolution of primitive patterns and designs, on wood, lead, stone, pottery, leatherwork. Book satchels and cured pigskin bindings. Square, triangle, lozenge, circle and semi-circle. Ornament developed from bands and clasps. Simple panelling. Diagonal treatment. Strap designs and foliated patterns. Outer and inner panels. Blind and gold tooling. Burnishing. Inlays: Lozenge, square, circle, strap. Treatment of panelled back and raised bands. Title pieces, volume and date pieces. Cut out designs. Edge and bevel rolls. Head cap tooling. Raised straps, crosses, etc., on sides. Modern pictorial work. Jewelled ornament clasps, title plates, etc. Blockings from brasses, blind and gold. Stereos, etc. Ireland's wonder books from 10th to 18th century. The work of Sir Ed. Sullivan, Eleanor Kelly, Pender, etc. Slides, specimens and designs.

Handling the printed sheets. Bookbinding technique, forwarding and finishing. Ancient methods. Ireland's wonder books. Styles of binding for various classes of work, pamphlet, quarter cloth, full cloth, publishers' casing. Leather bindings, quarter, half and full. Vellum work. Binding for library use, flexible bindings. The perfect book and its component parts.

#### 35.—IRISH.

FOCAL AGUS CAMNTEANNA PÉ MAR TÁ AMNNAÍGE I SCÓIR NA CÉAD  
BLIADNA AGUS, LE N-A COIS SIN, EOLAS COITEANTA AR CORAIB CAMNTE,  
LIOMÉADÉ FOCAL, 7RL. **CEAPADÓIREADÉ**: AISTÍ DO SCRÍOBAD AR  
ADBAR SIMPLÍDE, ADÉ LUÍGE GO SPEISIÁLTA LEIS AN SAĞAS SAN ADHAR  
A DÁINEAS LE CÚRSAD CLÓDÓIREADÉ. UIR SIMPLÍDE, FÓGRAÍ  
SIMPLÍDE, FORCUNNTAS, 7RL., D'AISTRIÚ Ó ÚEARLA GO SAÉDÍG.  
**SRAMADAC**: EOLAS CRUINN AR NA BIN-RIAĞLAĐAIB SRAMADÁIGE,

AGUS, LE N-A COIS SIN, MINÍÚ AR FOCLAIB AGUS AR LEAGANAICIB AGUS  
AR COIRAIB CAIMNTE. COLAS AR LÉIGTEOIREACÉT PROMÉAI AGUS AR  
CEARTÚ CÓIGE 'OO'N ÉLÉDÓIR.

## DAY APPRENTICE SCHOOL OF PRINTING

In co-operation with the Dublin Master Printers' Association, Dublin Newspaper Managers' Committee and the Dublin Typographical Provident Society, the Vocational Education Committee have arranged for the technical instruction of all First and Second Year Apprentices in Compositors' Work and in Letterpress Printing to be carried out in Daytime Classes.

### SYLLABUS.

The Syllabus of Instruction covers the Junior Course for Compositors and Letterpress machinememen approved by the Department of Education and reprinted in the pages here following. All Day Apprentices at the end of their second year sit for the Department of Education Junior Examination.

The classes dealing with the theory and practice of the respective crafts in addition to cultural subjects, Irish, English, Arithmetic and Drawing, occupy some twenty-five hours each week. On completion of the Day Course, Apprentices continue their instruction in the Evening Classes, in preparation for the Department of Education Senior Examination.

Educational visits to supplement the general training are made to paper mills, newspaper offices, ink factories, etc.

Since the inception of this scheme in 1934 over 180 students have completed the two-year course. The average attendance is 40, roughly three-fourths of the number being compositors.

### PRIZES.

Prizes are provided annually by the contribution of the Dublin Master Printers' Association and the Dublin Typographical Provident Society, the Young Master Printers' Group and the Irish Bookbinders' Union. (*See General Guide.*)

The William Rooney Memorial Shield is awarded each year to the student of second year status who shows greatest proficiency in his craft and the most competent knowledge of oral Irish.



## COMPOSITORS' WORK

*History*.—Development of the Art of Printing, Gutenberg to Morris. *Composing Room Material and Equipment*.—Descriptions and uses of materials and appliances used. Parts of a single type character. A fount of type and description of the various characters contained therein. The lay of the case. Steel and labour-saving equipment. *The Point System*—and its application to everyday work. *Solid and Leaded Matter*.—Simple exercises in setting plain matter. Method of acquiring speed and clean composition, good spacing and justification. Distribution of type and materials. Pulling proofs and correcting. Correct punctuation, dividing and compounding words. Use of capitals, italics, figures, numerals, etc. Paging-out. Running heads and folios. Leading out and over-running matter. Indentions. *Imposition*.—Four, eight and sixteen pp. Locking-up. Dressing the forme. Use of mechanical and wooden quoins. Tying up and storing. Dropping and distribution. *Elementary Proof Reading*—and readers' marks. *Display Work*.—Principles of display and study of modern type faces. Simple exercises in display work—how to draft a lay-out and set from it. General practice in setting commercial work—reprint and manuscript. *Paper*.—Manufacture, sizes and subdivisions of printings, writings, cards and boards; qualities suited to various classes of work. *Type*.—Metal alloys; essential qualities of good type; selection of faces for various classes of work. *Calculations*.—Sizes and qualities of paper; weights and quantities of type and leads; casting off MS. and typescript; casting up solid and leaded matter.



## LETTERPRESS MACHINE WORK.

*History and Development of the Art of Printing.*—The evolution of printing machinery. *Machine Room Equipment.*—Machines, tools and appliances. *Paper.*—Manufacture, classes, qualities, sizes and sub-divisions of printings, writings, cards and boards. Equivalent weights and how ascertained, standardisation. Different properties of paper, suitability for various classes of work. *Inks.*—Composition and manufacture, care and treatment, mixing and reducing. Adaptation of ink to quality of paper. *Printing Surfaces*—Type, stereotypes, electros, line and half-tone blocks; their uses, differences and limitations.

*Work of the Machine Minder.*—Care and management of the hand press, platens and Wharfedales, methods of securing clean and rapid working, preparation of machines for printing. Different classes of packing, results of overpacking and underpacking; setting rollers and duct, getting position, making ready and printing off formes in one or two colours; adjustments necessary. *Calculations.*—Quantities of paper required for different jobs; allowances for overs. *Imposition and Plate Laying.*—Four, six and eight pages.

### IRISH.

Focail agus cannteanna a baineas le gnáth-cúrsaib an tsaothair, áit luige go speisialta leo-san a baineas le cúrsaib clóadóireachta. Ceapadóireacht simplí, scéilín nó greas cóimráir do ceapadóirí do scríobadh, srl. Litir simplí, fógra simplí, fórcúntas, srl., t'áistriú ó Béarla go Gaeilge. Eolas ar na bun-riaghlácaib gramadaige. Eolas ar léigteoireacht priontáil.

**GENERAL CURRICULUM OF THE SCHOOLS**  
**UNDER THE CONTROL OF**  
**THE CITY OF DUBLIN VOCATIONAL EDUCATION**  
**COMMITTEE.**

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**BOLTON STREET TECHNICAL SCHOOL.**

Mechanical Engineering.	Building Science.
Motor Car Engineering.	Building and Allied Trades.
Gas Fitting	Printing and Book Production.
Metal Plate Work.	Watchmaking.
Brass Finishing.	Art and Art Crafts.

Day Apprentice and specialised Daytime Technical Courses.  
Day Junior Technical School.

**KEVIN STREET TECHNICAL INSTITUTE.**

Pure and Applied Mathematics.	Radio-Telegraphy.
Pure and Applied Physics.	Art and Art Crafts.
Pure and Applied Chemistry.	Domestic Science and Housecraft.
Bacteriology.	Bakery Science and Practice.
Pharmacy.	Bootmaking.
Electrical Engineering and Allied Trades.	Hairdressing.
	Tailoring.

**PARNELL SQUARE TECHNICAL INSTITUTE.**

General Commercial Subjects.	Transport.
Accountancy and Allied Subjects.	Day Trade Classes :—
Local Government	Dressmaking.
Domestic Science and Housecraft.	Shirtmaking (Power).
Languages.	Clothing Manufacture (Power).
Retail Distribution.	Chef's Training Course.
Physical Training.	

Day School of Commerce.  
Day Technical Course (Girls).

**GENERAL CURRICULUM OF THE SCHOOLS  
UNDER THE CONTROL OF  
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COMMITTEE.**

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**PEMBROKE TECHNICAL INSTITUTE (Ringsend and Ballsbridge).**

General Commercial Subjects.	Mechanical Engineering.
Retail Distribution.	Motor Car Engineering.
Languages.	Oxy-Acetylene and Electric
Domestic Science and Housecraft.	Welding.
Art and Art Crafts.	Woodworking Trades.
	Day School of Commerce.
	Day Junior Technical School (Boys).
	Day Technical Course (Girls).
	Special Apprentice Training Courses.

**RATHMINES TECHNICAL INSTITUTE.**

General Commercial Subjects.	Banking, Finance and Foreign Ex-
Accountancy, Auditing and Allied	change.
Subjects.	Company Secretaries.
Insurance.	Government Accountancy and
Advertising and Publicity.	Finance.
Physical Training.	Languages.
	Domestic Science and Housecraft.
	Day School of Commerce.
	Day Technical Course (Girls).

**MARINO TECHNICAL INSTITUTE.**

General Commercial Subjects.	Metalwork.
Languages.	Science.
Domestic Science and Housecraft.	Woodwork.
Physical Training.	
	Day Junior Technical School (Boys and Girls).
	Day School of Commerce.

**CHATHAM ROW SCHOOL OF MUSIC (Day and Evening Classes.)**

Pianoforte.	Wind Instruments (Wood and Brass).
Violincello.	Fifes.
Uilleann and Irish War Pipes.	Viola.
Elocution.	Orchestra.
Violin.	Drums and Flute.
Singing and Choir.	Traditional Music.
Organ.	Irish Harp.

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*Offices—*

**TECHNICAL INSTITUTE,  
BOLTON STREET,  
DUBLIN.**

**L. E. O'CARROLL, B.A., B.L.,**  
*Chief Executive Officer.*