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Prospectus: Bolton Street

**Dublin Institute of Technology** 

1935

# Printing and Book Production: Prospectus of Courses Session 1935-36

City of Dublin Vocational Education Committee

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City of Dublin Vocational Education Committee

scoileanna ceáro-oioeacais City of Dublin Technical Schools



Session 1935-36

PRINTING AND BOOK PRODUCTION BOLTON STREET TECHNICAL INSTITUTE PROSPECTUS OF COURSES

seiriún 1935-36

#### CALENDAR

#### **SESSION 1935-6**

1005

1935.	
Sept. 2, Monday. Wholetime Day Schools open for enrolment.	
Day Apprentice School resumes work.	
Sept. 9, Monday. Wholetime Day Schools commence work, and H	art-
time Day Classes open for enrolment.	
Sept. 16, Monday. Evening Classes open for enrolment, and Part-	time
Day Classes commence work.	
Sept. 23, Monday. Evening Classes commence work.	
Nov. 1, Friday. All Saints' Day. Wholetime Day Schools—exc	
ing Day Apprentice School and Special Class closed.	es—
Dec. 8, Sunday. Feast of Immaculate Conception.	
Dec. 14, Saturday. Teaching work in Wholetime Day Schools co	
(excepting Day Apprentice School and Sp	
Classes).	cciai
Dec. 16, Monday. Term Examinations in Wholetime Day Sch	loole
commence (excepting Day Apprentice Schools	
Special Classes).	unu
Dec. 21, Friday. Schools close for Christmas Vacation.	
1936. Ion 6 Monday Feast of Edithany	
Jan. 6, Monday. Feast of Epiphany. Jan. 7, Tuesday. All classes resume work after Christmas Vaca	ion
New Courses in Practical Pharmacy commence.	.1011.
Mar. 7, Saturday. Land Surveying and Levelling Course begins.	
Motor Car Driving Lessons begin.	
Mar. 17, Tuesday. St. Patrick's Day. Schools closed.	
Mar. 28, Saturday. Land Surveying Field work begins.	
Mar. 28, Saturday. Apr. 7, Tuesday. Last meeting of classes before Easter Vacation.	
Apr. 15, Wednesday. All classes resume work after Easter Vacation	
Apr. 16, Thursday. New Courses in Practical Pharmacy commence	
May 1, Friday. Evening classes close (excepting Special Classes)	
May 4, Monday. Evening class written Sessional Examinations of	om-
mence (except for Special classes).	
May 21, Thursday. Ascension Day. Wholetime Day Schools-excep	
Day Apprentice School and Special class	es-
closed.	
June 1, Monday. Whit Monday. Schools closed.	10
June 11, Thursday. Feast of Corpus Christi. Wholetime Day School	cial
excepting Day Apprentice School and Spe Classes-closed.	Citta
June 20, Saturday. Teaching work ceases in Wholetime Day Schoo	ls-
excepting Day Apprentice School and Spe	cial
classes.	
June 22. Monday. Sessional Examinations commence in Whole	ime
Day Schools, excepting Day Apprentice Sch	lool
and Special classes.	
June 27, Saturday. Wholetime Day Schools close, excepting	Day
Apprentice School and Special classes.	
June 29, Monday. Feast of Saints Peter and Paul.	
July 17, Friday. Day Apprentice School and Special classes close.	
Schools closed on all Bank Holidays not specified in	
above Calendar.	

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# GENERAL NOTICES FEES AND REGULATIONS.

Students who cannot produce satisfactory evidence of education may be required to take an Entrance Examination. Introductory Courses are provided for those who are anxious to improve their general education.

#### FEES.

General Fee for Trade Courses \_\_\_\_\_ 7/6 Students may take a Class in Irish at an additional fee of \_\_\_\_\_ 2/6 Fees cannot be refunded.

Applicants for admission to Courses or Classes must be at least fourteen years of age.

The Trade Classes are primarily intended for those engaged in the several trades. Others will not be admitted before November 8th, and then only if there be room, and on payment of a quadruple fee.

A Laboratory or Workshop Class can only be taken in conjunction with an approved Lecture or Drawing Class. No student will be allowed to continue in a Laboratory or Workshop Class if his attendance at the Lecture or Drawing Class is unsatisfactory.

A class may be discontinued if an insufficient number of students join or attend; the number of evenings allotted weekly to a class may be reduced if there be a falling off in the attendance. The right is reserved to close classes for any other reason whatever.

Students must make good any damage done by them.

Strict order must be observed at all times within the precincts of the Schools.

A complete course of study in any section generally occupies about three years.

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

#### SPECIAL WORK.

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

# SCHOOL OF PRINTING

AND

# BOOK PRODUCTION

The School of Printing and Book Production is located in the Bolton Street Technical Institute.

Evening and Day Courses and Classes in all branches are provided. The School has been recently completely equipped at great expense. In the LETTERPRESS SECTION, in addition to the equipment for Compositors, there is installed a "Pony" Miehle Machine, Phœnix Platen Machine, Heidelberg Automatic Platen; Dawson Payne S.W. Automatic Cylinder Machine, Payne's Demy Stop-Cylinder Wharfedale Machine, with face-up delivery, large Guillotine, two Linotype Machines (one latest model), one Intertype Machine (latest model), two Monotype Keyboards and Monotype Caster, with Lead and Rule and Display Type Attachment. In the LITHOGRAPHY SECTION a Royal Folio Waite Rotary Offset Machine, Furnival Demy Flat-Bed, with patent Offset attachment, four presses for transfer work, and a Copper-plate press. In the PHOTOGRAPHY and PHOTO-MECHANICAL SECTION four 12 x 10 Cameras for line and half-tone work in monochrome and colour; together with a range of screens suitable for all grades of work, from the finest book illustration to ordinary newspaper blocks; a Levy Acid Blast Etching Machine for Zinc and Copper, and three-bath power-rocking apparatus; a Royle Routing Machine and Power Beveller, six powerful arc lamps, with special plant for copying, enlarging, and photo-micrography. In the BOOK-BINDING SECTION the equipment consists of the most up-to-date apparatus for Folding, Sewing, Wirestitching, Forwarding and Finishing in both Stationery and Letterpress Binding, and for Machine Ruling, a Treble Striker "Shaw" Machine.

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# TEACHING STAFF

COLM O LOCHLAINN, M.A	Head Master.
W. J. FITZPATRICK	Typography—Compositor's Work
W. QUINN	", Machine Work
P. MAHER	Typography—Compositor's Work
R. A. LATCHFORD	Linotype and Intertype
J. SULLIVAN	Monotype Keyboard
P. McMANUS	Monotype Caster
G. A. WATSON	Photographic Chemistry
J. ROONEY	Costing and Estimating
C. CHAMBERLAINE	Bookbinding and Gilding
P. DUFFY	Stationery Binding and Marbling
W. L. WHELAN	Design and Lettering

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# Syllabus

A.—TYPOGRAPHY.*
1. Compositor's Work.
2. Machine Work.
3. Linotype and Intertype Work.
4. Monotype Keyboard.
5. Monotype Caster.
B.—BOOKBINDING.*
1. Stationery Binding and Marbling.
2. Letterpress Binding and Gilding.
3. General Warehouse and Stationery Work.
(a) Men's Section.
(b) Women's Section.
C.—LITHOGRAPHY.
Transfer Work-Stone and Plate.
Machine Work-Flatbed and Offset.
DPROCESS WORK.
Photography.
Photo Lithography.
Etching.
EOFFICE WORK.
1. Junior Clerks and Warehousemen (Tuesday).
2. Costing and Estimating. (Monday).
FBOOK CRAFTS. (Wednesday).
Printing and Illustration (Methods and Processes), History and
Development of Printing, Binding (Stationery, Publishers' and
Library Work), Factory and Warehouse Management.
GPRINTING ART AND DESIGN. (Friday).
GTRITTING ART AND DESIGN. (Filday).

Lettering and Type Design; Commercial, Professional and Book Work; Advertising Lay-out and Copywriting; Lettering and Scribe Work.

\* NOTE.—With each of these "Practical" Classes a course in either E, F or G *must* be taken by all second year and more advanced students. Only one "Practical" Class may be attended by any one student, but a Special Course—E, F; E, G, or F, G, may also be chosen if desired, without any practical work.

# COURSES AND TIME TABLES

For 1st and 2nd Year Courses in Typography see Programme for Day Apprentice Classes.

No. of Course	SUBJECT		Day		Hour	Room	TEACHER
205 B	THIRD YEAR. Case Work, Lecture . Case Work, Practical . E, F or G (see Syllabus).	: ::	Mon. Fri.		7.30-9.30 7.30-9.30	A 1 A 1	P. Maher. P. Maher.
206 B	FOURTH YEAR. Case Work, Lecture Case Work, Practical E. F. or G. (see Syllabu	• •• • •• s).	Wed. Mon. & Fr	 ri	7.30-9.30 7.30-9.30	A 1 A 1	Colm O Lochlainn. Colm O Lochlainn.

In Fourth Year, Linotype or Monotype Work may be taken instead of or in addition to Case Work, Practical

#### LINOTYPE AND INTERTYPE OPERATORS' COURSE.

moun with a D [mbind more -Mar -May]

	FIRST YEAR (Third Term-Mar) Intensive Course.	may j.			
210 B	Linotype and Intertype Keyboard Operating	Mon Tues., Wed.	7.30-9.30 7.30-9.30	A 3 A 3	R. A. Latchford R. A. Latchford.
	Lecture and Demonstration	Thurs	7.30-9.30	A 3	R. A. Latchford
	SECOND YEAR [Second Term-D Intensive Course.	ecFeb].			
211 B	Linotype and Intertype Keyboard	Mon	7.30-9.30	A 3	R. A. Latchford
411 D	Operating	Tues., Wed.	7.30-9.30	A 3	R. A. Latchford
	Lecture and Demonstration	Thurs	7.30-9.30	A 3	R. A. Latchford
	THIRD YEAR [First Term-Sept.	to Dec.1.			
	Intensive Practical Course	Mon., Tu., Wed.	7.30 9.30	A 3	R. A. Latchford
212 B	Lecture and Demonstration	Thurs	7.30-9.30	A 3	R. A. Latchford

#### MONOTYPE OPERATORS' COURSE.

215 B	FIRST YEAR. Monotype, Keyboard Mechanism Monotype, Keyboard Operating E, F or G (see Syllabus).	Thurs Mon., Tues.	7.30-9.30 7.30-9.30	A 3 A 3	J. Sullivan. J. Sullivan.
<b>216</b> B	<ul> <li>SECOND YEAR.</li> <li>Monotype, Keyboard Mechanism</li> <li>Monotype, Keyboard Operating</li> <li>E, F or G (see Syllabus).</li> </ul>	Thurs Mon., Tuez.	7.30-9.30 7.30-9.30	Α3 Δ3	J. Sullivan. J. Sullivan.
217 B	THIRD YEAR. Monotype, Keyboard Mechanism Monotype, Keyboard Operating E, F or G (see Syllabus).	Thurs Tues	7.30-9.30 7.30-9.30	A 8 A 3	J. Sullivan. J. Sullivan.

S'ndonts may add a Class in Monotype Casting.

No.	SUBJECT		Day		Hour	Room	TEACHER
ourse	SUBJECT		Day		Hou	Room	TEACHER
	Monor					-	
			CASTERS				
18 B	Practical Operating Caster Mechanism E, F or G (see Syllabus).		Mon., Tu Thurs.	1., Fri. 	7.30-9.30 7.30-9.30	A 8 A 3	P. McManus. P. McManus.
	TYPOGRAPH	Y-M	ACHINIS	TS' CO	URSE		DOM Y'E
	THIRD YEAR.						
28 B	Machine Work, Lecture		Thurs.		7.30-9.30	A 3	W. Quinn.
	Machine Work, Practical		Tues.		7.30-9.30	A 3	W. Quinn.
	E. F. or G. (see Syllabus)						
	FOURTH YEAR.						
24 B	Machine Work, Lecture		Wed.		7.80-9.30	A 3	W. Quinn.
CA D	Machine Work, Decture	1	Thurs.		7.30-9.30	A 3	W. Quinn.
	E, F or G (see Syllabus).		Indis.		1.00 0.00	n o	W. Quin.
		RO	OKBINDI	NG			
	Chattanan Dia Manana A Mara 1 M			Contract of Contract			
25 B	Stationery Binding and Marbl Letterpress Binding and Gildin		Mon. &		7.30-9.30 7.30-9.30	A 9 A 9	P. Duffy. C. Chamberlaine.
	General Warehouse Work ·	пВ	μομ. α	FIL.	1.00-9.00	Að	C. Chamberlaine.
	Men		Tues.		7.30-9.30	AO	C. Chamberlaine.
	Women		Thur.		7.80-9.80	A 9	C. Chamberlaine.
	Drawing for Bookbinders		Wed.			B 24	W. L. Whelan.
		L	THOGR	АРНУ.			the deside 's
26	Theory and Practice		Tue. & 1	Chur.		A2	11150 <u>001</u> 0
	Drawing for Lithographers		Wed.			B 24	W. L. Whelan.
		PHO	TOGRAP	HV			Y
	FIRST YEAR.						1/
27 B	Pure Photography.		Fri		7.30-9.30	A 11	·
	*Chemistry for Photography		Thurs.		7.30-9.30	25*	G. A. Watson.
	SECOND YEAR.						s in buildy
28 B	Pure Photography		Tues.	1	7.80-9.80	A 11	10000 1 10 1 W
1000			1 4001		1.00 0.00		
	THIRD YEAR.						
29 B	Pure Photography		Tues.		7.30-9.30	A 11	
	5	SPECI	IAL CLA	SSES.			and inter a second
E	1 Junior Order Clerks, etc.		Tues.		7.30-9.30	-	J. Rooney.
	2 Costing and Estimating		Mon.		7.30-9.30	-	J. Rooney.
F	Book Crafts		Wed.		7.30-9.30	A1	Colm O Lochlainn
G	Printing Design,		Fri		7.30-9.30	B 24	W. L. Whelan
	Lettering and Scribe Work $\int$ Drawing for Bookbinders and	121	18 1 L				
	Lithographers		Wed.		7.30-9.30	B 24	and the set
							and the second of a
		T CI	LASSES	IN IRI	SH.		Anternality
			Mon.		7.30-9.30	B1	D. S. MacEoin.
	Irish—I.B		Thurs.		7.30-9.30	B1	D. S. MacEoin.
	Lite Th		Thurs.		7.30-9.30		

The training of first and second year students in Compositors' work and Letterpress Machine work is provided under the Day Apprentice Training Scheme.

#### THIRD YEAR COURSE IN

### **TYPOGRAPHY**—COMPOSITORS' WORK

Subjects:

CASE WORK, LECTURE. CASE WORK, PRACTICAL. E, F OR G (see p. 7).

#### CASE WORK, LECTURE.

#### THIRD YEAR.

A detailed knowledge of the First and Second Year Courses—outline of type casting—alloys of type metal—essential qualities of good type —selection of suitable type for various classes of work—weight of type and spacing material required for specified work—arrangement of case room—mechanical composition—instructions necessary when giving out work—designing and laying out copy; paper—equivalent weights of standard and odd sizes—various classes (hand-made, machine-made, mould-made), printings, writing, coated, banks, plate, drawings, blottings, manillas, retree, outsides, insides, overmake, watermarks, mill numbers, etc.—metals—results of over-heating, fluxing and renovating—general principles of cost finding—time and work dockets, cost sheets, analysis sheets, work orders—supervision of work.

#### CASE WORK, PRACTICAL.

#### THIRD YEAR.

Advanced composition-artistic and colour work-book workintricate tabular work-arrangement of panels to suit style of display and shape of page-making up and preparing for machine.

# FOURTH YEAR COURSE IN TYPOGRAPHY—COMPOSITORS' WORK

Subjects:

CASE WORK, LECTURE. CASE WORK, PRACTICAL. or MECHANICAL COMPOSITION. E, F or G (see p. 7).

#### CASE THEORY.

#### FOURTH YEAR.

The Course will be devoted to problems appertaining to management of the case room, the issuing of work and keep track, estimating, cost finding, advanced typographical problems, with lectures on trades allied to letter press printing, paper-making and testing, etc.

#### CASE WORK, PRACTICAL.

FOURTH YEAR.

The practical work will consist of advanced case work or a first year course in mechanical composition, either Lino or Mono.

#### MECHANICAL COMPOSITION.

FOURTH YEAR.

See Linotype and Monotype Work Syllabuses.

## FIRST YEAR COURSE IN LINOTYPE AND INTERTYPE WORK

#### Subjects:

LINOTYPE AND INTERTYPE MECHANISM. LINOTYPE AND INTERTYPE KEYBOARD OPERATING. E, F or G (see p. 7).

# LINOTYPE AND INTERTYPE MECHANISM.

FIRST YEAR.

Keyboard : Construction-replacing cams-operation from keyboard to magazine-how rods are worked by cams. Matrix : its object—care of—alignment. Spaceband: object and use—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 —distributor box—controls—single and multiple mechanisms adjustments. Mould: varieties and care of—making changes. Metal: constituent parts—qualities—temperature—cleansing. Metal Pot: plunger—mouthpiece—burners and governors—adjustment. Knives: back and trimming—varieties and care of—how to adjust. Vice: jaws and lock—adjustments. Elevators: first and second their adjustment. Cams: their names and functions—adjustment. Driving Mechanism: Clutch and associated mechanism—adjustments. Care of Machine: oiling, cleanliness, etc. Automatic Stops: vice and delivery carriage cam safety stops.

#### LINOTYPE AND INTERTYPE KEYBOARD OPERATING.

#### FIRST YEAR.

Practical work is undertaken in operating the keyboard and fingering and touch fully explained, in addition to general advice on operating, each student working under the personal supervision of the instructor.

## SECOND YEAR COURSE IN LINOTYPE AND INTERTYPE WORK

#### Subjects:

LINOTYPE AND INTERTYPE MECHANISM. LINOTYPE AND INTERTYPE KEYBOARD OPERATING. E, F or G (see p. 7).

### LINOTYPE AND INTERTYPE MECHANISM. Second Year.

The syllabus for the Second Year students will be similar to the first year, but students will be expected to study the mechanism in greater detail.

#### LINOTYPE AND INTERTYPE KEYBOARD OPERATING.

#### SECOND YEAR.

Practical work of a more advanced nature will be given, including simple table work, while attention will be given to the style of operating and correctness. Instruction on the mechanism while the machine is in operation.

# THIRD YEAR COURSE IN LINOTYPE AND INTERTYPE WORK

#### Subjects:

LINOTYPE AND INTERTYPE MECHANISM. LINOTYPE AND INTERTYPE KEYBOARD OPERATING. E, F or G (see p. 7).

#### LINOTYPE AND INTERTYPE MECHANISM.

#### THIRD YEAR.

The syllabus will be as that of the two previous years, but in addition, to complete detailed knowledge of the mechanism of early and late models, each student will be taught to take asunder and readjust the various working parts.

#### LINOTYPE AND INTERTYPE KEYBOARD OPERATING.

#### THIRD YEAR.

As in previous years, with more advanced work such as twin-slug composition—tabular and advertisement work, introducing a twoline letter, headline work, etc. Instruction on the mechanism while the machine is in operation.

### Day Linotype and Intertype Classes

The classes meet on Monday, Tuesday, Wednesday and Thursday from 2 to 5, and are arranged to meet the needs of those who cannot attend in the evening, and also to enable any disengaged compositors to take up a course to equip them as operators.

The syllabus is the same as laid down for the evening classes.

# FIRST YEAR COURSE IN MONOTYPE OPERATING

Subjects:

KEYBOARD MECHANISM. PRACTICAL OPERATING. E, F OR G (see p. 7).

#### KEYBOARD MECHANISM.

#### FIRST YEAR.

Action of key buttons and valves—operation of punches and recording units—how unit wheel is driven and units recorded 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.

#### PRACTICAL KEYBOARD OPERATING.

#### FIRST YEAR.

Practical work is undertaken in operating the keyboard and the method of correct fingering taught in addition to the general principles regarding practical work.

## SECOND YEAR COURSE IN MONOTYPE OPERATING

Subjects:

KEYBOARD MECHANISM. PRACTICAL OPERATING. E, F OR G (see p. 7).

#### KEYBOARD MECHANISM.

#### SECOND YEAR.

The syllabus covers that of the First Year, but a more detailed explanation of the parts is given.

## PRACTICAL KEYBOARD OPERATING.

#### SECOND YEAR.

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

# THIRD YEAR COURSE IN MONOTYPE OPERATING

Subjects: Keyboard Mechanism. Practical Operating. E, F or G (see p. 7).

#### KEYBOARD MECHANISM.

THIRD YEAR.

The syllabus will cover that taken in the previous years, while in addition the student will be given a detailed knowledge of all parts of the keyboard mechanism, compressor, etc.

#### PRACTICAL KEYBOARD OPERATING.

THIRD YEAR.

Advanced and difficult composition will be undertaken and speed tests taken.

### MONOTYPE CASTER

Subjects: Caster Mechanism. Caster Operating. E, F or G (see p. 7).

#### MECHANISM.

Driving gear—cam levers—type carrier and its adjustments— —pump action—transfer wedges and their adjustments—die centring lever—tong mechanism—locking racks—mould blade moving gear —type pusher—paper tower bridge and its adjustments—line shifting and galley mechanism—changing founts, centring, sizing and aligning -justification-care of matrices-system of locating derangementsthe mould, its care, taking apart, assembling and adjusting-compressor and air tank, also Lead and Rule and Display Type Attachment.

#### PRACTICAL OPERATING.

The practical operating of the caster, including care necessary while working, and the running adjustments, are fully dealt with and explained.

The training of first and second year students in Compositors' Work and Letterpress Machine Work is provided under the Day Apprentice Training Scheme.

# THIRD YEAR COURSE IN TYPOGRAPHY-MACHINISTS' WORK

Subjects: MACHINE WORK, LECTURE. MACHINE WORK, PRACTICAL. E. F or G (see p. 7).

### MACHINE THEORY.

#### THIRD YEAR.

A detailed knowledge of the First and Second Year Courses-coastruction of the various classes of printing machines and principles of make-ready-average runs per hour-power and transmission-steam, gas, and electric-shafting and lubricators-paper-cockling and creasing, stretching, fluffing, etc.; boards--paste, pulp, art, strawboards and millboards-inks, properties of various qualities and colours, copyable, double tone, trichromatic, etc .- outline of the methods of reproducing illustrations-machine room costs and how to ascertain and check them-cost of production-percentages for handling-time and work sheets-general supervision.

### MACHINE WORK, PRACTICAL.

THIRD YEAR.

Practical work in making ready every class of work of a higher grade from the laying-on of the forme to the completion of the printed sheets.

# FOURTH YEAR COURSE IN TYPOGRAPHY-MACHINISTS' WORK

Subjects:

MACHINE WORK, LECTURE. MACHINE WORK, PRACTICAL. E, F or G (see p. 7).

#### MACHINE WORK, LECTURE.

#### FOURTH YEAR.

The Course will deal mainly with the principles of ascertaining costs, estimating, paper testing and lectures on trades allied to letterpress printing.

#### MACHINE WORK, PRACTICAL.

#### FOURTH YEAR.

Working two-revolution machine-make-ready of three-colour work-fine half-tone-colour mixing, etc.

### LITHOGRAPHY

#### LITHOGRAPHY. THEORY AND PRACTICE.

Litho stone, its composition and physical nature-its preparation, grinding, polishing and graining-plates, re-cleaning, re-grindingnature and use of materials employed, tallow gum arabic, wax, shellac, turps, caustic soda, potash, soap, paraffin, and various oilspapers, nature and qualities, sizes, etc.-inks, nature and properties of black and coloured, driers, etc.-litho press--copper plate pressrollers, their structure, covering and breaking in-transferring, essential principles, commercial work for hand press and machine-composition of transfer inks and papers-doctoring work-bronzingtransposing.

Zincography, alterations and corrections. Papers, hand and machine made, tinted, glazed, etc.-cards, plain and glazed-inks, source and nature of coloured pigments, mixing of tints-mediums and pomades -driers-creasing of paper and remedies-machines, construction and management-hand presses-rollers, breaking in "nap" and "glazed," re-packing and re-covering-various papers, inks and cravons-patching-up-treatment of drawings on grained stones-etching and proving — chromo-lithography, superimposing colours, registrations, etc.—shading mediums, stippling film, splash work, aerography—metalleaf work—photo-lithography by the various transfer methods—transpositions and reverse image methods.

Primary colours and their combinations—colour harmony—off-set work on flat-bed and rotary machines—rubber blankets, their composition and treatment in working—transferring, transposing and reversing—rotary off-set machine, fixing the plate, adjustment of inking rollers and damping, cylinder and plate adjustment, and the working mechanism of the machine—fine register work—paper, tests for printing properties and suitability for various classes of workestimating for work. Ink and paper.

## ART WORK FOR PRINTING TRADES

The work will consist of graduated lessons in Drawing and Art suitable for all students of the book-producing trades, including printing, lithography, bookbinding, and photo-mechanical processes.

### Drawing and Designing for Compositors

Freehand drill exercises in drawing the vertical and horizontal in conjunction with the curved line—training the hand and eye to measure proportion and space without mechanical means—lettering—symmetry—proportion—simple designs.

#### Second Year.

Freehand and model drawing—lettering, ancient and modern memory drawing—principles of light and shade—designing display to suit various styles of type and classes of work, such as programmes, advertisements, title pages, posters, etc.

### Design and Composition for Bookbinders and Lithographers

Freehand drawing—use of instruments—geometrical patterns and designs—designing to fill given spaces, triangle, border, spandril, lunette, palister, panel—surface design and repeating patterns, composed of straight lines, geometric, interlacing, scroll work and floral ornament—designs in the Celtic style—designing simple arrangements of tools for backs of half-bound books—designing backs, sides and lettering panels for hand tooling. Lettering and ornament, drawing of figure details in light and shade, drawing the human figure in black and white and colour, drapery and costume, the preparation of designs for posters, showcards, catalogue covers, calendars, labels, etc., and the study of colour harmonies from the point of view of their effectiveness for advertisements.

### Etching and Mezzotint Engraving

Drawing on copper and zinc-the process of etching-the process of printing etchings-sand ground etchings-linoleum block cutting -dry point-line work---laying grounds--scraping, polishing and burnishing-sharpening tools, etc.

# FIRST YEAR COURSE IN PHOTOGRAPHY

Subjects: Pure Photography, Theory. Pure Photography, Practical. Chemistry for Photography.

PURE PHOTOGRAPHY—THEORY AND PRACTICAL. First Year.

Instruction in the use of cameras—exposure and development of dry plates and films—after treatment of negatives—intensification, reduction, retouching and varnishing—printing process, print-out papers and development papers, bromide and gaslight—toning of prints—trimming, mounting, spotting and finishing—theory of lenses used in photography—optical calculations—orthochromatic photography and printing in carbon—copying and enlarging.

The practical work will include the theory practically applied.

#### CHEMISTRY FOR PHOTOGRAPHY, ETC.

To understand the processes used in PHOTOGRAPHY, PHOTO-MECHANICAL WORK, LITHOGRAPHY, etc., it is necessary to have some knowledge of chemistry and its general principles. Throughout the part of the syllabus devoted to general chemistry, frequent reference is made to applications to these technical processes.

#### FIRST YEAR.

General Chemistry: Physical and chemical changes-mixtures and compounds-elements-chemical laws-elementary treatment of the atomic theory-the atmosphere; constitution of the atmosphere, oxygen, nitrogen-acids; general study of the common acids, sulphuric, nitric, hydrochloric-alkalies; lime, caustic soda, sodium carbonate, ammonia-salts; methods of formation, water of crystallisation-water : hydrogen, carbon dioxide, natural waters-sulphur : oxides, sulphites, sulphates, thiosulphates-halogens : detailed supply of chlorine, bromide and iodine-oxidation and reduction : study of typical examples with particular reference to photographic operations -metallic salts : silver, gold, copper, iron, uranium. Applied Chemistry: Photo-chemistry of certain metallic salts-photochemistry of silver salts-theories concerning latent imagesensitisers-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 processes-toning processesplatinotype-chemistry of photo-mechanical processes-chemistry of lithographic processes.

## SECOND YEAR COURSE IN PHOTOGRAPHY

Subjects: Pure Photography, Theory. Pure Photography, Practical.

#### PURE PHOTOGRAPHY—THEORY AND PRACTICAL. Second Year.

More advanced and detailed instruction in subjects covered in First Year Course—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 collection process—scientific and technical uses of photography—photo-micrography—telephotography—photography by flashlight and other artificial light.

The practical work will be of more advanced nature than the first year, and will include retouching.

## THIRD YEAR COURSE IN PHOTOGRAPHY

Subjects: Pure Photography, Theory. Pure Photography, Practical.

PURE PHOTOGRAPHY—THEORY AND PRACTICAL. Third Year.

Detailed instruction in first and second year courses—research work in the theory of light action on photo salts—spectrum analysis preparation of colour filters—dye—sensitising of plates.

The practical work will comprise an advanced knowledge of the previous courses and the making of dry plates, enlarging, etc.

### Printing Art and Design

History and origin of lettering. Styles of Alphabets, their spacing and disposal in given sizes.

Elementary principles of ornament, elementary drawing and design.

Drawing for reproduction by different methods. Explanation of methods and the importance of good originals.

Colour and its uses. Harmony and contrast, black-and-white keydrawings and colour sketches.

Retouching of photos and making of composites and utilisation of camera work.

Commercial headings and stationery. Value of standard design. Trade marks and devices. Printers' marks. Humour.

Drawing for bookwork. Illustrations. Line and colour. Chapter heads. Initials. Running heads. Head and tail pieces. Zincos for cover blocking or printing.

Book jackets and show cards. Cut-outs for display. Utilization of jacket as poster or showcard.

Advertising: Importance to industry. Promoting of trade. Who pays for advertising? Co-operation between advertising and sales department.

Various kinds of advertising: News, direct mail, poster, showcard, folder, catalogue, leaflet, stamp, and their value. Copy. Convincing English. How to discover selling points. Appeal to various minds. The buyer's point of view. Head line. Catch line. Spot of colour. General to particular.

What an advertising man must know of printing, type, blocks, and different processes, and those used by the papers or printers selected.

Design and layout. Fundamental principles. Contrast, proportion and balance, tone harmony, shape harmony, style harmony. Suiting style to class of goods and method of printing. First impressions.

Complete campaigns. Examples :- Guinness, Pears Soap.

# Lettering and Scribe Work

Alphabets and their origin; Roman, Gothic, Gaelic and Italic Script; proportion and balance in alphabet design; weight and colour of lettering; design of handlettered pages; use of initials, outline letters and special shapes; ornament and its relation to lettering; lettering as the basis of typographical design.

The scribe and his materials, ancient and modern; use of quill pen, reed pen and modern steel pens; ink and colour; harmony and contrast; paper, vellum and other fabrics; advertising alphabets; handwriting in advertisements; show cards and window bills; handwritten posters, etc.

# Bookbinding Department STATIONERY BINDING AND MARBLING.

The description of tools; technical terms, materials and appliances used in stationery work; the 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; leaf 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. Instruction in the various designs and patterns in general use. Edge and sheet marbling; theory and practice.

#### LETTERPRESS BINDING AND GILDING.

Sewing for various styles. Rounding and 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.; the function and utility of the finisher's work; the character of the various leathers and preparatory treatment for tooling them; treatment of cloth, silk, etc., for tooling.

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

The various tools used for book finishing, and correct methods for handling them; the degree of moisture in the materials, in conjunction with the heat required for tooling; cleaning of the gold. The tooling of leather without the use of gold. Planning and spacing for hand lettering on back and sides of book. The method of using type on the backs. The handling and use of fillets, rolls, pyllets, gouges and other tools. The various methods of inlaying. The practical application and principles of design, as dealt with theoretically; the planning and building up of ornament, and limitations imposed by technicalities.

# General Warehouse and Stationery Work WOMEN'S SECTION.

Technical terms; section; endorse and simple sheet folding; paper sizes and sub-divisions of paper; styles of sewing; wire stitching; numbering; hand sewing; thread stitching; feeding ruling machines; gathering; interleaving; manifold work; perforating. Adjustment of Brehmer thread sewing machine.

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.

Die stamping, plain, colour and gold; leaf and skeleton post albums; pattern book making; method of obtaining the correct setting for folding to print; mechanism of numbering, sewing, thread and wire-stitching machines, and also 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; gold laying on.

Departmental management, inclusive of elementary costing and estimating, and all subjects incidental and relating thereto.

## General Warehouse and Stationery Work MEN'S SECTION.

Handling and care of paper; counting and tying up reams; holing, eyeletting and stringing; mill numbers; paper sizes; section and sheet folding by hand; wire stitching; perforating; paper terminology; water marks; sizes of cards; browns and wrappings; gathering and collating; packing and labelling; stringing of new year calendars, mottoes, etc.

Keeping stock, classes of papers; equivalent weights of paper; judging and testing paper; imperfections in print and how they affect the folder; giving paper out to the printer, ruler and binder, and what percentage of overs to allow; weights of paper suitable for book production; classes of papers; exercises on giving out paper; the position of the print for machine folding; cut sizes for bookwork; general knowledge of the various warehouse machines; magazine and catalogue work.

Construction of and setting the wire-stitching machine; flat paper cutting; fixing knives in self-clamp guillotine cutting machines; impositions; setting and adjusting folding machines, thread-sewing machines, eyeletting, round-cornering, and holing machines; perforating machines; board cutting; board bevelling, and miscellaneous practice.

### Order Clerks and Junior Employees

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 and 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.—Its 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; its special uses, etc.

BINDING.—How to order account books; trade terms; ledger papers; ruling; marbling; letterpress binding, including leathers.

LITHOGRAPHY .-- Commercial offset, and chromo-lithography.

WAREHOUSEWORK.-In all details, approximate times for operations and general information as to what they entail; dispatch.

### Costing and Estimating Syllabus

Definition of cost—fallacy of using a "flat" percentage on wages, or on wages and material combined—the chief objects of correct costing—the essentials of a proper costing system—the value of the adoption of uniform methods of costing by the printing industry.

The main principles of the Federation Costing System—capital: its various forms and their bearing on cost—inventories of plant value and their relationship to "working" value—depreciation—the importance of keeping a plant record.

Preparation of the statement of expenses—the necessity for and the value of departmentalisation of expenses—sub-divisions of departments—allocation of expenses, the methods to be applied—multiple businesses; how treated—the method of recovering the indirect (overhead) expenses—the effect of the percentage method on the "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 the 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 the various forms and their place in the Federation Costing System—the importance of correct time-recording and the necessity for care by cost clerks in the transference of time to the various costing forms.

The individual cost sheet : responsibility of cost clerk for details of labour, materials, etc., and the question of economic cost.

Descriptions of essential books of accounts-analysis of expenses --analysis of sales.

The uses to which the management may apply the information provided by the statistics on Forms 3 and 4, and the cost sheet the use of graphs.

The 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.

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# SPECIAL CLASSES

# **IRISH LANGUAGE**

### FIRST YEAR.

ORAL: Conversation lessons on simple matters such as the following:—Name, home or residence, salutations, the clock, days of the week, months and seasons, the weather, money, easy counting, colours, etc. Location of objects in the classroom and neighbourhood, parts of the body and clothing, giving and carrying out simple orders. With the conversational lessons, the student will be familiarised with the use of *is* and *tá* and of verbal nouns.

WRITTEN WORK : Each student will keep a note-book to record the salutations, phrases, etc., in correct Irish.

CULTURAL: Memorising of simple songs, rhymes, stories, etc., so as to be able to repeat them with correct *blas*. Stories and recitations by Gaelic authors.

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Coolders

### GENERAL CURRICULUM OF THE SCHOOLS

#### UNDER THE CONTROL OF

# THE CITY OF DUBLIN VOCATIONAL EDUCATION COMMITTEE.

#### EVENING SCHOOL COURSES.

#### DAY SCHOOL COURSES.

Architecture and Building. Furniture. Chemistry. Botany, Materia Medica, Pharmacy. Mathematics. Physics. **Electrical Engineering** and Allied Trades. **Radio Communication** Mechanical Engineering and Allied Trades. Motor Car Engineering. Gas Engineering and Gas Fitting. Oxy-Acetylene Welding. Electric Welding. Brassfinishing. Printing and Book Production. Art and Art Crafts-Woodcarving, Enamelling on Metal, Leatherwork, Book Illustration. **Commerce and Languages. Domestic Science and Women's** Work. **Catering Trades.** Bootmaking. Hairdressing. Tailoring.

Watchmaking and Repairing. Music.

Physical Training, and

Day Apprentice Schools.

Day Junior Technical Schools.

Day Schools of Commerce.

**Retail Distribution.** 

**Building Science.** 

Printing (Apprentices).

Painting (Apprentices).

Radio Telegraphy.

Electro Technology.

Shirtmaking (Power

Machines)

Clothing Manufacture (Power Machines)

Art Leatherwork

Dressmaking.

Needlework.

Cookery.

DAY CONTINUATION WORK (for Boys and Girls between 14 and 16 years).



WM. WARREN & SON, PRINTERS, 15 LOWER ORMOND QUAY, DUBLIN.