

Preston Polytechnic

Full-time and Sandwich Courses 1973/74



Preston Polytechnic

Corporation Street, Preston, PR1 2TQ (0772-51831)

Director: H. D. Law, B.A., PH.D., F.R.I.C.

Vice-Principal: S. Skidmore, B.Sc., PH.D., F.R.I.C.

Registrar: J. Barnacle, D.M.A., A.C.I.S.

Although every care has been taken to ensure that the information contained in this Prospectus is accurate at the time of printing it must be understood that changed circumstances may necessitate cancellation of courses or alterations in the programme of courses, course content, fees and other matters dealt with. The Polytechnic cannot undertake to give notice of such cancellations or alterations, and cannot accept any liability arising out of or in connection with them.

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Courses

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Art and Design

- 18 Diploma in Art and Design in Graphic Design
- 19 College Diploma in Graphic Design
- 20 College Diploma in Dress Design and Manufacture
- 22 Foundation Course in Art and Design

Building

- 24 Corporate Membership of the Institute of Building, Associate AII Examinations
- 24 Higher National Diploma in Building
- 25 Ordinary National Diploma in Building
- 26 Pre-Diploma in Building

Business

- 28 Higher National Diploma in Business Studies (three-year sandwich)
- 29 Higher National Diploma in Business Studies (two-year full-time)
- 30 Ordinary National Diploma in Business Studies

Engineering

- 43 College Diploma/Associate Membership of the Institution of Electrical Engineers and/or Graduate Membership of the Institution of Electronic and Radio Engineers
- 59 College Diploma in Mechanical Engineering
- 61 College Diploma in Mechanical Engineering (Industrial Design)
- 63 College Diploma in Production Engineering
- 44 Council of Engineering Institutions Part 2 Examinations
- 45 Ordinary National Diploma in Technology (Engineering)

Languages and Arts

- 53 Modern Foreign Languages for Business
- 33 R.S.A. Diploma for Bilingual Secretaries and/or Personal Assistants
- 54 G.C.E. 'A' Level: English, French, German, Spanish
- 54 G.C.E. 'A' Level: British Constitution, Geography, General Studies, History, Music

Professional and Secretarial

- 31 Institute of Chartered Accountants, Foundation Course
- 33 R.S.A. Diploma for Bilingual Secretaries and/or Personal Assistants
- 33 Certificate of the National Council for the Training of Journalists

Sciences

- 36 B.Sc. (Sciences) of the University of London
- 38 Graduateship of the Royal Institute of Chemistry (four-year)
- 39 Graduateship of the Royal Institute of Chemistry (two-year)
- 40 Advanced Analytical Chemistry for L.R.I.C. requirements
- 68 Graduateship of the Institute of Physics (four-year)
- 69 Graduateship of the Institute of Physics (one-year)
- 55 Higher National Diploma in Computer Studies
- 41 G.C.E. 'A' Level: Biology, Chemistry
- 55 G.C.E. 'A' Level: Computations, Computer Science, Mathematics, Statistics
- 71 G.C.E. 'A' Level: Physics

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Sociology and Social Work

- 48 B.Sc. (Honours) in Sociology of the University of London
- 49 London University Diploma in Social Studies
- 50 College Diploma in Applied Social Studies (post-graduate)
- 50 College Diploma in Social Work
- 51 Health Visitor's Certificate
- 54 G.C.E. 'A' Level: Sociology

Teaching

- 52 Teacher's Certificate of the University of Lancaster

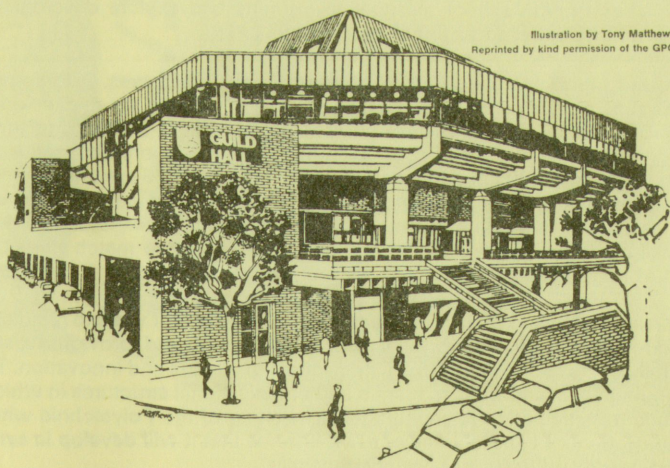
Preston and the Surrounding Countryside

Situated on the banks of the Ribble and on the London and Midlands to Scotland railway route, Preston is the centre of a network of communications. Being midway between the capitals of England and Scotland it was often in the past visited by royal and distinguished persons (not always welcome!) in their progress north and south. The M6 motorway now passes through, linking Preston with the industrial Midlands and London and with the Lake District. Eventually there will be a motorway link with Scotland. London can be reached in 3 hours by rail.

Within the town, and its immediate surroundings in Lancashire, is a wide range of industry and the headquarters of many firms with national and international reputations. Among the many important industries centred on the town are heavy and precision engineering, the manufacture of aircraft, heavy commercial vehicles and cars, printing presses, chemicals, electrical equipment, synthetic fibres, paper and footwear. On the outskirts is the uranium plant of British Nuclear Fuels, supplying fuel elements for nuclear reactors. Preston is a port of considerable significance and in 1948 instituted the first commercial roll-on/roll-off service in this country.

In spite of its industrial significance Preston is surrounded by some of the most beautiful open countryside in Lancashire. About 15 miles to the west are several fine coastal resorts, the best known of these being Blackpool. Less than 50 miles to the north is the heart of the renowned and beautiful Lake District. The Trough of Bowland and the Bleasdale and Longridge Fells lie nearby, providing rambling facilities in undulating and wooded country.

Preston's new Guild Hall



Regular concerts are given in the town's Guild Hall by the Hallé and Royal Liverpool Philharmonic Orchestras. Other recent presentations have included folk concerts, Gilbert and Sullivan operas, a rock and roll concert, presentations of film theme music and music by the Strauss family, and the appearance of such artists as Gilbert O'Sullivan, Paul McCartney and Wings, Nana Mouskouri, The Spinners and many others.

Preston Polytechnic

The Preston Polytechnic is the latest of 30 new institutions of higher education in England and Wales to be established as a result of the Government's White Paper of 1966 'A Plan for Polytechnics and Other Colleges'. It has evolved from the Harris College, a major college in the North West serving North Lancashire, neighbouring Counties and County Boroughs and areas further afield.

Traditionally, the Harris College provided vocationally orientated courses for over a hundred years, going back indeed to the time of the Mechanics Institutes and widening the spectrum as new technologies have emerged or in response to the demands of industry and society generally. This emphasis on applied studies provides for many students a desirable and more acceptable alternative to studies in the more academically orientated institutions. It provides education in a wide variety of disciplines in full-time, sandwich and part-time courses. Short courses on specialist or advanced topics are arranged regularly in all departments of the Polytechnic. In its new role as the Preston Polytechnic it is intended to widen the range of these courses to meet the needs of the region, with particular reference to the requirements of industry, commerce and the professions, in which fields the Polytechnic has the capacity to make valuable contributions in the specialist areas of research, consultancy and design.

An important objective is to strengthen the existing links between the Polytechnic, schools and industry and an Educational Liaison Officer has recently been appointed to assist in this purpose. Teachers' Centres operate within the Polytechnic in the fields of chemistry, biology and physics and it is intended to inaugurate a language teachers' centre in the very near future. Within these centres, Polytechnic staff collaborate with school teachers to examine and explore developments in teaching methods and educational technology.

The present premises occupy a site of approximately 9.5 acres. Additional areas of approximately 25 acres are available now and 13 acres for expansion in the future. An extensive physical development programme is planned and in 1974 building will commence on additional teaching accommodation, student residences, a Students' Union building and a new library. Plans for 1975 are under consideration and are likely to include additional teaching accommodation and student residences, and a start on new administrative and catering premises. This development will continue for some years and its pace increase to match the academic growth of the Polytechnic.

The increasing demand for higher education has led in recent years to rapid changes in the number of students and the variety of courses offered, providing a stimulus for both teachers and students in an atmosphere of change and innovation. There is a continuing examination of academic and organisational structures in which staff and student participation is encouraged. The siting of the Polytechnic within the developing Central Lancashire new town ensures that it will develop in sympathy with the needs and desires of society generally.

The Polytechnic currently houses some 1100 full-time students (750 male, 350 female) and 4500 part-time students, some of whom are in non-Polytechnic courses which will shortly be transferred to the W. R. Tuson College of Further Education now being built on the outskirts of Preston. Long-term development

of the Polytechnic envisages a progressive expansion to 5000 full-time equivalent students, reaching about 2700 by 1976-77 and 4300 by 1981-82.

There are nine teaching departments in the Polytechnic, namely the School of Art and Design, the Departments of Building, Business and Administration, Chemistry and Biology, Electrical and Electronic Engineering, Language and Social Studies, Mathematics and Computer Studies, Mechanical and Production Engineering, Physics.

All departments are newly housed, and an excellently designed administrative and communal block includes a combined lecture hall and theatre, a recreation hall, student common rooms, library and refectory. A further extension provides additional facilities for advanced work in science and engineering, including lecture theatres and a computer suite housing an I.C.L. 1901A computer. Laboratories, workshops, drawing offices and studios are well equipped and up-to-date and staffed by well qualified and experienced teams of technicians. Additional equipment is acquired annually to ensure that the high standard of facilities is maintained.

Social and sporting activities are promoted through clubs and societies in the Polytechnic affiliated to the Students' Union. The development of music and drama is fostered. The Recreation Hall enables the pursuit of a wide range of activities.

Five-a-side football: presentation of cup by Willie Cunningham



Governance of the Polytechnic

The legal responsibilities of the several agencies involved in the establishment, governance and operation of the Polytechnic are detailed in the *Instrument of Government* and the *Articles of Government* approved by the Secretary of State for Education and Science. Copies of these documents are deposited in the Polytechnic Library and may be seen on request.

The provision of the Polytechnic is the joint responsibility of the Local Education Authorities of Lancashire and Preston, the two Councils delegating most of their functions in this respect to a *Joint Education Committee* charged with responsibility for "determining the general educational character of the Polytechnic". This Committee has a membership of 13, composed of six members from each of the providing authorities and the current Chairman of the governing body of the Polytechnic. The Joint Committee exercises delegated powers and duties relative to sites and premises, and is required to submit to the two Councils the annual and supplementary revenue and capital estimates and capital programmes for the operation of the Polytechnic.

The governing body of the Polytechnic is the *Polytechnic Council* which has responsibility for "the general direction of the Polytechnic". It has a membership of 34, including members appointed by Local Education Authorities; the University of Lancaster, the Manchester and Liverpool Polytechnics and teachers' unions; co-opted members from industry, commerce and the professions; and Polytechnic staff and students.

Subject to the overall responsibilities of the Polytechnic Council the *Director* is responsible for "the internal organisation, management and discipline of the Polytechnic", and the *Academic Board*, under the Chairmanship of the *Director*, for "the planning, co-ordination, development and oversight of the academic work of the Polytechnic". The Board is composed of senior academic and administrative officers, members appointed by and from the full-time teaching staff and members appointed by the Students' Union.

The Polytechnic Council

Appointed by Local Education Authorities

Alderman J. Atkinson	}	Preston
Alderman E. W. Bunker		
Alderman Mrs R. Lytton		
Councillor H. Parker		
County Alderman J. R. Ashton	}	Lancashire
County Councillor T. W. S. Croft		
County Councillor M. J. Fitzherbert-Brockholes, J.P.		
County Councillor J. Higham		
Councillor F. Hulme (Blackburn)		
Councillor R. C. Dewhirst (Blackpool)		
Councillor A. Proctor (Barrow-in-Furness; Burnley)		
Dr E. M. Kemp (Cumberland; Westmorland)		

Appointed by Institutions of Higher Education

Professor S. B. N. Shimmin (University of Lancaster)
Dr C. M. Atkinson (Liverpool Polytechnic)
D. Johnson (Manchester Polytechnic)

Appointed by Teachers' Associations

M. Walder (A.T.T.I.)
Vacancy (N.U.T., N.A.S. and Joint Four)

Members with experience in Industry, Commerce and the Professions

T. V. Brown
R. Crook
F. D. Crowe
D. G. Dafforn
H. Jackson
R. W. Phelps
I. M. Wills
Vacancy

Polytechnic Staff and Students

The Polytechnic Director
The Principal of the Harris College
Dr J. J. Betts }
D. Hargreaves } appointed by and from the Academic Board
Dr S. Skidmore }
P. A. Flynn }
D. Swift } appointed by and from the full-time teaching staff
The President of the Students' Union
J. England }
B. Richardson } appointed by and from the Students' Union

Student Services

Educational Liaison Officer: G. A. Redhead, B.Sc.

Student Advisory Officer: Mrs F. M. Radnidge, B.A.

Polytechnic Lodgings Officers: Mrs P. M. Cross and Mrs P. Ryan

Polytechnic Doctor: Dr N. F. Leigh, B.A., M.B., B.CHIR., M.R.C.G.P.

Student Welfare

The difficulties which a student can experience are those facing society generally and those which are particular to a student body, such as worries which may arise from unfamiliar living conditions, financial or domestic problems and study.

Each full-time and sandwich course student will be assigned a personal tutor, and it is to this person that a student may turn if he feels in need of advice of a personal kind. Personal tutors are academic members of staff of the student's own Department. They have a special interest in the general welfare and progress of the students in their groups and have a fair idea of the problems likely to arise. Students are advised to see their personal tutors if they have problems of any kind.

The Student Advisory Officer (Mrs Radnidge) is willing to advise or help students and, if necessary, make contact on their behalf with any of the various health or welfare agencies which exist in Preston. Her services are complementary to the personal tutorial system, but students are free to approach her directly.

Every kind of problem may in the first place be discussed with Mrs Radnidge, although many students may not require any practical help other than simple advice or information. It is emphasised that her assistance is confidential. She may consult others if she feels their knowledge will be helpful but the identity of the student will not normally be revealed to others without the consent of the student.

Student Health

Students who will be living locally in lodgings are advised to bring their National Health Medical Cards with them and register with the Polytechnic Doctor. It is recommended that the landlady be told the name of the doctor so that she may call him on the student's behalf if necessary.

The Polytechnic Doctor is available in the Polytechnic on Mondays, Wednesdays and Fridays in term-time from 11.30am to 12.30pm.

Students should not attend the Polytechnic from a house in which there is infectious illness. Cases should be reported promptly to the Student Advisory Officer.

Student Lodgings

The Polytechnic Lodgings Officers will do all they can to help students to find accommodation and they prepare each year a register of house-holders and hotel keepers who are willing to offer lodging accommodation. They initially approve and thereafter inspect all registered accommodation.

Accommodation is available in Preston and surrounding districts, but some students may have to be accommodated some distance from the Polytechnic. Priority will be given to students whose homes are beyond the range of daily travelling to the Polytechnic. Students who are grant-aided will generally be assisted by their supporting Local Education Authorities if their necessary travelling expenses exceed the amount included in the grant. Intending students should write to the Polytechnic Lodgings Officers as soon as they receive confirmation of their acceptance into a course. Leaflets giving guidance to students who are living away from home are available.

Services Offered to Schools and Industry

Schools Advisory Service

Pupils at school frequently need information and advice about courses available at Polytechnics generally, and one of the functions of the Educational Liaison Officer is to assist the careers staff of Secondary Schools and other institutions in this respect. Another of his functions is to establish and maintain personal contacts between the staff of schools and their colleagues in the Preston Polytechnic.

Visits of groups of Fifth and Sixth Form pupils to the Polytechnic are welcomed. Alternatively, staff of the Polytechnic will gladly visit schools to talk about courses and life in the Polytechnics, or to lecture on their own specialist subjects. Careers staff are invited to contact the Educational Liaison Officer to discuss suitable arrangements.

Service to Employers and Employees

Employers or employees who require information and advice about Polytechnic courses should contact the Educational Liaison Officer, one of whose functions is to provide a link between the management of commercial and industrial establishments and staff of the Polytechnic. Employers are encouraged to make known their views on possible courses whenever they feel the Polytechnic can be of service.

The Educational Liaison Officer will be pleased to arrange visits by employers to the Polytechnic to meet staff and see the available facilities. These include items of advanced teaching and research equipment which may be made available to industry in certain circumstances. Collaboration with industry on technical problems is welcomed. Additionally, employers may also wish to collaborate in student projects or to offer sandwich course placements. The Educational Liaison Officer will be pleased to visit companies at any time for discussions.

The Library

Librarian: A. Lawrence, A.L.A.

The library has recently been extended and now provides 250 comfortable and purpose-designed places for students to read and work. It has a rapidly growing stock of books and periodicals for reference and loan representing all the fields and levels of study undertaken by students, and there are special collections of material for reference in several subjects. Its function is to act as an information centre for the Polytechnic and there are a number of trained professional staff, including a Readers' Adviser, who will be pleased to assist anyone seeking information or material within its compass.

The resources of the library are supplemented by membership of a number of national co-operative organisations and close contact is maintained with other libraries in the area. It may thus be able to obtain items not in stock.



Some of the stock is available in microform, and reading machines are provided. Photocopying facilities are available and students may obtain copies of pages of books and periodicals for a small charge, subject to the law of copyright.

Lists of periodical holdings and new books added are issued at intervals, and close contact with Departments is maintained through members of the teaching staff who act as Library Liaison Officers.

The library is open from Monday to Friday at 9.00am. It closes each evening during term time at 9.00pm (except Fridays, 8.00pm.) and during vacations at 5.30pm.

Further information about the use of the library and its services is contained in a separate booklet available from the service desk in the library.

Computing Facilities

Computer Manager: F. Fowler, M.D.P.M.A., M.B.C.S.

The Polytechnic's main computer unit, an ICL 1901A system, together with equipment for the preparation and transmission of data in a form which can be read by the computer, are housed in a specially designed suite of rooms in the Department of Mathematics and Computer Studies. In addition, Departments in science and technology possess smaller special purpose computers for use in the advanced teaching and research projects carried on within the Departments. The Polytechnic collaborates with local schools and colleges in introducing modern computing methods and terminal links have been installed for this purpose.

The Computer Room



Computer appreciation and programming is taught in all advanced courses which require these modern techniques. Short courses in various computer languages, and more extensive courses in data processing and systems analysis, are arranged throughout the session. Increasing demands are being made on the computer for research and consultancy work undertaken by the teaching staff of the Polytechnic. The computer will eventually be used as the focal point of specialist degree and diploma courses in computer studies. The Computer Manager will be pleased to give advice to representatives of industrial or commercial undertakings who may be considering the use of a computer for their own needs.

Students preparing work for the Computer



Students' Union

Telephone: 0772-53852

The Union is governed and organised by students of the Polytechnic and is affiliated to the National Union of Students. The supreme governing body of the Union is the General Meeting at which matters of policy are decided. Control over day-to-day business and administration is the responsibility of the Students' Union Council acting through an Executive Committee. Execution of Union policy is the responsibility of the sabbatical President, other Principal Officers, Committee Chairmen and a salaried Secretary.

Officers of the Union

President: John Porter

Internal Vice-President: Gloria Ditchburn

External Vice-President: Derek Kerr

Treasurer: Roger Curtis

Secretary: Penny Vingoe

The Union arranges general social activities, offers financial and other help in the formation of student societies, and maintains contact with students in other educational institutions. It is financed mainly by a grant from the governing body of the Polytechnic, currently about £7600 a year, and income from services and functions organised by the Union itself, and other sundry income.

All students other than those enrolled in special courses are automatically admitted to membership of the Students' Union. Membership cards will be issued at enrolment entitling students to participate in all social activities, to join any student club or society and to vote in elections, including the election of two student members of the Polytechnic Council. Union meetings and other activities, including the holding of elections, operate under the Students' Union Constitution.

The Union retains the services of a local firm of Solicitors and, through the Union, students may obtain initial advice on legal matters.

All student Clubs and Societies in the Polytechnic are affiliated to the Students' Union and special subscriptions may be required for membership of some clubs and societies. Dances and other social events are arranged in the Polytechnic and in the town. Various recreational facilities are available by arrangement with the Senior Lecturer in Physical Recreation. A Students' Union Handbook, published and issued free by the Union, describes the facilities offered by the Union and details in full the Students' Union Constitution. It is obtainable from the Union Office or from any of the Principal Officers. All enquiries concerning student activities should be addressed to the Secretary, Preston Polytechnic Students' Union, Corporation Street, Preston, PR1 2TQ.

Union premises

A Common Room and Offices, allocated exclusively for student use, are located in the communal block of the main Polytechnic premises, where the Union Secretary and many of the Principal Officers of the Union may be contacted.

Plans have been produced for a new Union Building, to be sited near the centre of the extended Polytechnic campus, and this will contain offices, lounges, games rooms, bars and a large specially designed area for films, theatre, formal dinners and other functions. This building will be included in the first phase of the physical development of the Polytechnic and work is expected to start in 1974.

The National Union of Students

This is the national organisation representing some 500,000 students in 700 educational institutions of all kinds and sizes. It has a permanent staff and offices and negotiates with the Department of Education and Science on behalf of students both collectively and individually. It is an effective source of information on all aspects of student life, and will deal with student problems individually or through the Union Officers within their particular institutions. Facilities offered include insurance cover of all kinds at favourable rates, special travel facilities including travel abroad, and special discounts available at shops and stores. Students requiring information or advice on these and other matters should contact the External Vice-President, Derek Kerr.

Grants

Students ordinarily resident in the United Kingdom and admitted to advanced full-time and sandwich courses in Polytechnics are eligible for Local Authority awards. There are two categories: (a) *mandatory*, for courses such as first degree of Dip. A.D., and (b) *discretionary*, for courses such as H.N.D. and professional courses. Most authorities pay discretionary awards at the same level as for degree courses.

Grants are assessed according to the financial position of the student, taking account of parental income and other circumstances. Certain students qualify for independent status and in these cases parental income is not taken into consideration. Normally, grants cover the cost of tuition fees (this payment is generally made direct to the Polytechnic), a maintenance allowance, an allowance for books and materials, a travelling expenses allowance and examination fees. Continuation of grant is dependent upon satisfactory progress reports from the Polytechnic at the end of each academic term or year. Students not supported by Local Authority grants are personally responsible for the payment of all Polytechnic fees.

Grants may also be available for students on non-advanced courses. Generally, these will cover the cost of tuition and examination fees, travelling expenses and an allowance for books and materials.

It is the students' own responsibility to make application for a grant to the Local Education Authority of the County or County Borough Council within whose area he permanently resides. These grants are not normally available to overseas students.

Applications for grants should be made to the Chief Education Officer of the Local Education Authority in whose area the student lives. Early application is desirable and students should note that grant cheques do not always arrive at the beginning of term, especially in the Autumn term. They should therefore bring with them at the beginning of each term enough money (preferably in a bank account) to pay for lodgings, food, travelling and other expenses for a month or so.

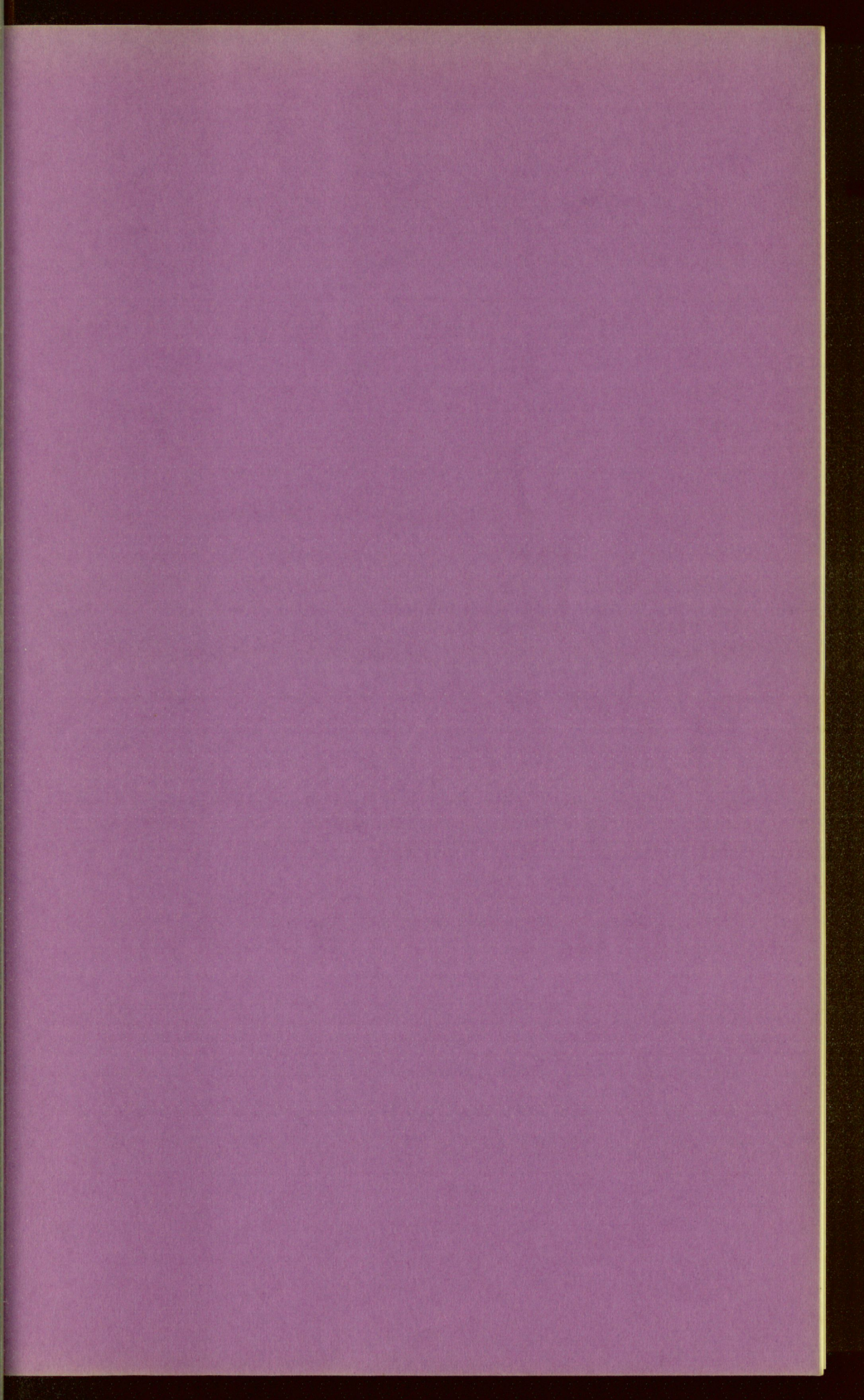
The following are useful sources of detailed information about student grants. Copies can be seen in the Library.

Grants to Students Pamphlet No. 1. Issued by the Department of Education and Science and obtainable from Local Education Authorities. Applies to applicants normally resident in England and Wales.

Guide to Students Allowances. Issued by and available from the Scottish Education Department, Awards Branch, 2 South Charlotte Street, Edinburgh, EH2 4AP.

Grants Handbook. Published by the National Union of Students, 3 Endsleigh Street London WC1 0DU, price 68p including postage. A particularly useful handbook on discretionary award problems.

Educational Charities. Published by the National Union of Students, price 18p including postage. This lists trust funds that are able to make relatively small grants to students in need.



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School of Art and Design

Head of School: T. Metcalfe, A.R.C.A., A.S.I.A.

Principal Lecturer

L. Penrice, A.R.C.A.

Senior Lecturers

J. W. Bailey, D.F.A.

A. J. S. Brook, A.I.I.P.

D. M. Glen, A.S.I.A.

D. O. King, B.F.A. (CARNEGIE INSTITUTE OF TECH.)

Mrs M. G. Stockdale, DES.R.C.A.

Lecturers and Assistant Lecturers

D. F. Bates, A.R.C.A.

R. E. Bray

Mrs M. J. Gilsehan, DES.R.C.A.

Mrs V. Gray, B.A.

I. Harrow, B.A.

K. D. Hicks, A.R.C.A.

S. Hogg, M.I.P.T.G.M.

G. F. Hollingworth

J. S. Lane, B.A.

P. Lees, M.A., DIP.A.D.

B. Midgley, DIP.A.D., H.D.A.

A. E. Parkinson

G. R. Parry

A. D. Powell, CERT.R.A.S.

S. I. Reid, B.A.

D. H. Roberts

I. T. Sharp

A. H. Thompson, A.R.C.A.

Mrs J. M. Thompson, DES.R.C.A.

The School of Art and Design

This is one of the 42 centres in England and Wales approved by the National Council for Diplomas in Art and Design to offer courses leading to the Diploma in Art and Design (Dip.A.D.).

For a number of years the School has been chiefly concerned with preparing students for employment as designers in industry, which involves the development of personal creative talent as well as a good knowledge of industrial processes. Staff of the School have established close and fruitful relationships with industry, and all students taking full-time advanced courses in design spend several months working in appropriate organisations as trainee designers. With the establishment of a Dip.A.D. course it has been possible to introduce advanced studies in the history and philosophy of art and design, which contribute to the students' abilities to work successfully in an increasingly complex field, as well as to their general intellectual development.

There are good facilities within the School for small-scale production using industrial techniques in a number of fields (e.g. photography, letterpress and lithographic printing, garment production, and industrial design).

From 1973 a four-year Dip.A.D. sandwich course in Graphic Design, and a three-year College Diploma sandwich course in Dress Design will be offered. A full-time foundation course for students wishing to prepare for entry to Dip.A.D. and other advanced courses at this Polytechnic and elsewhere is also offered for those who have obtained not fewer than 4 G.C.E. 'O' levels or the equivalent.

The School is planning to extend its range of interests to embrace fine art and degree courses which will include studies in the philosophy, psychology and the practice of art and design.

Until September 1974, part-time day courses in printing will continue to be available for apprentices in the printing industry, after which date the courses will be transferred to the W. R. Tuson College of Further Education. The foundation course, except for students who have passed at G.C.E. 'A' level in at least one subject, will also be transferred to the W. R. Tuson College in September 1974.

The School also offers a wide range of adult non-vocational courses in art and crafts.

Diploma in Art and Design in Graphic Design (A1) (DES2706)

Course Adviser: Mr D. Glen

A four-year sandwich course commencing in September 1973 leading to the award of a Diploma in Art and Design (Dip.A.D.). Students spend approximately 10 terms in the Polytechnic and 2 terms in industry during the four years of the course.

Graphic design covers a wide range of activities and the course will prepare students for a variety of professional roles in many different kinds of organisation. Students may therefore select one of three options, each of which will enable them to acquire expertise in particular professional fields. A common philosophy, and the fact that much of the work is common to all students will, however, make it possible for successful students to move freely within the industry as a whole, particularly after some years of practical experience.

Option A (General Graphic Design) is intended for students whose chief interest is in image making, and who intend to work in advertising, promotions and television, as producers of educational and instructional graphics, or in any other field in which the capacity to visualise and produce effective images is of paramount importance.

Option B (Typographic Design) is intended for students chiefly interested in the analysis and solution of complex design problems involving the use of typographic, photographic and other images. Those taking up Option B will, for the most part, find employment with publishing and printing houses, though some will work in advertising agencies, the promotions departments of manufacturing industries, etc.

Option C (Three-dimensional Graphics) is intended for students interested in structural and mechanical as well as graphic problems, and who wish to work in the field of product presentation and package design.

The aim of the course is to ensure that students acquire the capacity to analyse visual communication problems and propose imaginative solutions which acknowledge technical restraints, whilst making creative use of traditional and newly-discovered technical possibilities. Students will acquire a sufficiently thorough grasp of current techniques, and the principles that underlie them, for new developments to be understood and used with confidence. At the same time, students will gain an understanding of the nature of the organisational frameworks within which they must work, and will appreciate the motives and methods of business organisations. Students will also acquire the basic knowledge which will enable them to co-operate with specialists in such fields as motivational research, market research, educational technology and advertising.

Qualifications for entry: applicants must have reached the age of 18 on or before 1st October in the year of entry, and must be able to show evidence of high potential creative ability in art and/or design. The normal minimum *general* education requirement for courses leading to Diplomas in Art Design is the General Certificate of Education in:

- (a) five subjects at 'O' level; or
- (b) three subjects at 'O' level and one other subject at 'A' level; or
- (c) two subjects at 'O' level and two other subjects at 'A' level; or
- (d) three subjects at 'A' level provided there is evidence that other subjects have been studied.

At least three of the five 'O' level passes, or the equivalent in terms of 'O' and 'A' level passes, should be in academic subjects and at least one should be in a subject providing evidence of a student's ability to use English. A grade 1 pass in the Certificate of Secondary Education will be accepted as the equivalent of a pass in the General Certificate of Education at Ordinary level.

The National Council for Diplomas in Art and Design recognises that there may always be a small number of students of marked creative promise who are capable of taking a Diploma course, but who have not obtained the minimum educational qualifications. The Council will be prepared to consider recommendations from colleges for the admission to their courses of such students on their individual merits.

Students must also either (a) have passed at G.C.E. 'A' level in at least two appropriate subjects, or (b) have completed a full-time foundation course in art and design lasting not less than one year.

Admission procedure: forms APP1 and APP2 may be obtained from The Registrar, National Council for Diplomas in Art and Design, 16 Park Crescent, London WIN 4DN, by the Head of the applicant's school or college. (*Note:* forms will *not* be supplied directly to individual applicants.) Preliminary enquiries may be made directly to the Head of the School of Art and Design of the Preston Polytechnic.

1st Year. *Tutor:* Mr I. T. Sharp. *Curriculum:* complementary studies, history of art and design, typographic theory, methods of graphic reproduction, production technology, business organisation and practice, photography, typographic, graphic and three-dimensional design.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

College Diploma in Graphic Design (A2) (DES3922)

Course Adviser: Mr D. Glen

This course is being progressively replaced by the Dip.A.D. course in Graphic Design and no first year course will be offered in the session 1973/74.

2nd Year. *Tutors:* Mr G. F. Hollingworth (group 'A'); Mr R. Bray (group 'B'); Mr K. D. Hicks (group 'C'). *Curriculum:* related communication studies, history of art and design, typographic theory, visual communication studies, production technology, statistics, marketing, drawing, design, photography, illustration.

Course duration: 24th September to 22nd March (24 weeks)

Examinations: internal

3rd Year. *Tutors:* Mr G. F. Hollingworth (group 'A'); Mr D. M. Glen (group 'B'); Mr K. D. Hicks (group 'C'). *Curriculum:* typographic theory, production technology, professional practice, illustration, graphic design.

Course duration: 15th October to 5th July (33 weeks)

Examinations: internal and L.S.I.A.

Qualifications: College Diploma in Design, and the Licentiatehip of the Society of Industrial Artists and Designers.

Careers in Graphic Design

The graphic designer is primarily concerned with the design of such printed items as books, newspapers, magazines, posters, advertising material, packaging and certain kinds of display material, but his work also includes other kinds of visual communication by means of drawn, painted, photographic and three-dimensional images and symbols.

The importance of good graphic design is becoming ever more widely recognised in industry and commerce, not only for advertising purposes but also in publishing, the promotions and training departments of private and nationalised industries, in film and television studios, in government departments and in many other related fields.

Students who have specialised in typographic design and bookwork will normally seek employment with publishing houses, advertising agencies, the promotions departments of manufacturing industries, printing houses, newspapers, and with other companies that require the services of print designers with a bias towards typography and layout. Those who have specialised in general graphic and publicity design or in three-dimensional graphics will find employment with advertising agencies, design consultancies, public service companies, the promotions departments of manufacturing industries, and with television and film companies.

There is a well established need for designers who have a good educational background, and whose training equips them to take charge of the design and production of printed matter from the time when it is first commissioned to its eventual production, often in many thousands of copies. The designer may be required not only to take charge of the visual aspects of the work but also to make a detailed analysis of his client's practical needs, to commission specialists in such fields as illustration and photography, and to control production of the finished product.

College Diploma in Dress Design and Manufacture (A2) (DES3923)

Course Adviser: Mrs M. G. Stockdale

A three-year sandwich course preparing students for employment as designers of woven or knitted garments in the mass-production sector of the garment manufacturing industry. The study of fashion trends and the creative aspects of the course work are complemented by detailed study of pattern construction and the manufacturing techniques currently used in industry. The course also includes complementary studies in the history of art and costume, philosophy, business organisation and textile technology. During the second year of the course students obtain experience in firms concerned with the design and manufacture of either woven or knitted clothing.

Qualifications for entry: applicants must have obtained 5 passes at 'O' level in the General Certificate of Education (or their equivalent), must be 18 years of age on 1st October of the year of entry, and must either (a) have completed satisfactorily an appropriate foundation course in a recognised school or college of art, or (b) have obtained a pass at 'A' level in Art in the General Certificate of Education, with evidence that at least one other subject has been studied to 'A' level standard, or (c) have had suitable industrial experience since taking 'O' levels.

1st Year. *Tutor:* Mrs M. G. Stockdale. *Curriculum:* fashion design, pattern construction, methods of production, basic design, drawing, history of art and costume, philosophy, business studies, anatomy and physiology.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

2nd Year. *Tutor:* Mrs M. Gilsenan. *Curriculum:* fashion design, pattern construction, knitting technology, methods of production, textile design, jewellery, history of art and costume, complementary studies, business studies, specialist lectures.

Course duration: 24th September to 22nd March (24 weeks)

Examinations: internal

3rd Year. *Tutors:* Mrs J. M. Thompson, Mr S. I. Reid. *Curriculum:* fashion design, pattern construction, knitting technology, accessories, millinery or jewellery, specialist lectures, private study and tutorials.

Course duration: 15th October to 5th July (33 weeks)

Examinations: internal and L.S.I.A.

Qualifications: Harris College Diploma in Design, and the Licentiatehip of the Society of Industrial Artists and Designers.

Careers in Dress Design and Manufacture

Though Paris continues to lead world trends in haute couture, Britain is now the acknowledged centre for youthful, lower priced fashions, and it is the talented young British designers who now set world trends in this field. These young people, the great majority trained in schools of art and design, are in touch with contemporary trends not only in dress but also in interior design, music, literature and the arts generally, but at the same time they bring to bear upon their problems a realistic understanding of the production and marketing aspects of the industry.

Production takes place in a great many manufacturing units, and two to five designers are employed to produce the range of garments that each particular company manufactures. The designers are in close touch with both management and production workers, since their designs must not only anticipate the next season's fashion trends, but must be economical to produce so that they come within a previously determined price range. The designer will find him or her self involved in the choice of fabrics and trimmings, in consultations with trade buyers from large or small retail houses, in production planning, and in a host of other technical problems, but above all he or she must have a finely developed sense of what people will want to be wearing in a few months' time.

Each manufacturing organisation or factory specialises in a particular type or range of garment, using either mass-production techniques to meet the ever increasing demand for fashionable but inexpensive clothes, or in the wholesale production of clothes that are considerably more expensive. Equally, a factory may specialise in the manufacture of dresses, lingerie, children's wear, rainwear and so on. A designer may become a specialist in any one of these fields on the basis of a good general understanding of the garment manufacturing industry as a whole.

The Harris College Diploma in Design provides a professional qualification and the professional status of the designer is established by his or her membership of the Society of Industrial Artists and Designers. Young designers may be awarded the Licentiateship (L.S.I.A.) at the end of a suitable course of training, and may become members (M.S.I.A.) when they can satisfy the society that they have had suitable industrial experience and that their work is of a high aesthetic, creative and technical standard.

Foundation Course in Art and Design (B) (DES3054)

Course Adviser: Mr J. W. Bailey

This full-time course provides foundational education in the practice, history and philosophy of art and design for (a) students wishing to proceed to advanced specialist courses in one or other of the various branches of design for industry, or (b) those wishing to pursue courses leading to the Diploma in Art and Design. The course consists of 33 hours per week of study including 5 hours of supervised private study in the studio.

Qualifications for entry: students must be not less than 16 years of age on the 1st October of the year of entry, and should have a minimum of 4 passes at 'O' level in the G.C.E. (one of which must give evidence of ability in English) or any other qualification deemed to be equivalent. Students are reminded that a minimum of 5 'O' levels (or their equivalent in 'O' and 'A' levels) are required of applicants for Diploma in Art and Design courses, and therefore arrangements are made, where necessary, for students to take 'A' level History of Art and/or 'A' level art during the course.

Tutor: Mr A. D. Powell. *Curriculum:* craft projects, history and appreciation of art and design, basic design in two and three dimensions, drawing, print making and short lecture courses on psychology of perception, science of colour and optics, and visual communication.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

Department of Building

Acting Head of Department: T. M. Ryan, A.R.I.C.S. A.I.O.S.

Principal Lecturer

W. H. Roberts, M.I.O.B., A.C.S.I., A.I.C.W., F.B.I.C.C.

Senior Lecturers

B. Carter, B.SC.TECH., C.ENG., M.I.C.E.

C. Emmott, B.SC., F.R.I.C.S., F.R.G.S.

G. S. Holden, C.ENG., F.I.MUN.E.

D. M. Horsley, A.R.I.C.S., A.I.O.S.

Lecturers and Assistant Lecturers

W. Auty, L.I.O.B.

K. Bailey, M.I.O.B.

W. A. Bannister, L.I.O.B.

R. D. Bishop, A.INST.W.H.S.

S. Broadbent

S. R. Cardwell, A.I.A.S., M.I.O.B.

G. Cheetham

T. H. Crisp, L.I.O.B., A.INST.W.H.S.

J. Cross, A.B.I.C.C.

K. E. Davis, A.R.I.C.S., A.I.O.S., A.M.C.T.

J. Ditchfield, F.I.B.D.

J. S. Fisher, B.SC.

R. V. Flitcroft, F.I.B.D.

T. Hargreaves, DIP.ARCH., A.R.I.B.A., F.R.S.A.

T. Lonsdale, M.I.O.B., A.M.B.I.M.

J. W. Norman

J. M. Patchett, M.I.O.B.

L. J. Pulford, M.R.S.H., M.R.P.A.

H. Wright, CERT.ED.

C. B. Yates, L.I.O.B.

The Department of Building

The Department specialises in courses leading to professional qualifications in Construction Technology and Management and in the various branches of Surveying.

Courses are organised on a full-time, sandwich or day-release basis in such a way that entry may be made at G.C.E. 'O' or 'A' level and progress made towards a variety of qualifications at Professional and Higher Technician level in the construction industry and its associated professions.

Major features of the Department are the sandwich courses at Ordinary and Higher National Diploma level, enabling students to spend several months working in industry as part of their course. The Department makes every effort to place students in posts where their interests and aptitudes may be fully realised. Development of these courses is proceeding on a wide front and a range of optional subjects is being progressively introduced. The intention is to offer students a sound technical education in fundamental subjects and enable a choice to be made in whichever

specialist field the student is interested. A typical range of specialist fields is: Site and Office Management, Quantity Surveying, Local Authority Building Inspection, Property Management, Architecture, Construction Planning, Building Economics, Town Planning, Estate Agency and Valuation, and Civil Engineering.

Further developments will include degree courses in Building and related subjects. The Department has a wide range of contacts in the industry and the professions, and on successful completion of a course students from the Department have experienced no difficulty in obtaining satisfactory and rewarding employment.

Corporate Membership of the Institute of Building, Associate AII Examinations (A1) (DES1642)

Course Adviser: Mr W. H. Roberts

A one-year full-time course for those who wish to qualify for corporate membership of the Institute of Building. Subjects will also be studied which will be relevant to the final examinations of the Royal Institution of Chartered Surveyors, the Institute of Quantity Surveyors, and the Construction Surveyors' Institute. Membership of an appropriate professional body of high standing is an essential requirement for persons who are seeking senior posts in the industry and professions.

Qualifications for entry: holders of any of the following qualifications will be admitted to the course—

- (a) Higher National Diploma in Building or Construction (Building, Quantity Surveying or Structures),
- (b) Institute of Building Associate AI Examinations,
- (c) Institute of Building Final Examinations, Part I,
- (d) Institute of Building Licentiate Diploma under old regulations, or
- (e) A first degree of a British University or C.N.A.A. in Architecture, Estate Management, Civil, Electrical, Mechanical, or Environmental Engineering.

Students who have passed the Institute of Building Final Part II or the new A2 examinations may apply to the Institute of Quantity Surveyors for complete exemption from all but the Final Examination.

Tutor: Mr W. H. Roberts. *Curriculum:* principles of management, building production and project management, structural theory and design, environmental and services engineering, economic and quantitative analysis, management practice, building law and contracts, estimating and analysis of prices, quantities (civil engineering and building), building economics and cost planning, professional practice and reports, variation accounts and interim valuations.

Course duration: 24th September to 21st June (34 weeks)

Examinations: Institute of Building (external)

Qualification: Associate Membership of the Institute of Building

Higher National Diploma in Building (A2) (DES1084)

Course Adviser: Mr W. H. Roberts

A three-year sandwich course which provides education and training for careers with professional status in Quantity Surveying, Building Management, and Estimating. One industrial training period of 35 weeks (including the Summer

vacation) is provided between the first and second years of the course in order to provide practical experience of site and/or office work. The third year will consist entirely of full-time study at the Polytechnic. Holders of the Diploma are eligible for membership of the Society of Surveying Technicians and may apply for exemption from part of the examinations of the following professional bodies: Royal Institution of Chartered Surveyors, Institute of Quantity Surveyors, Institute of Building, and Construction Surveyor's Institute.

As an integral part of the course second-year students will attend a five-day residential course in land surveying. The fee of approximately £13.00 must be paid by the student. Students in receipt of Local Authority grants will in most cases be reimbursed part of the cost by their supporting authorities.

Qualifications for entry:

- (a) The General Certificate of Education or its equivalent with passes in four subjects, one of which must be at 'A' level. The subjects must include mathematics, an appropriate science and a subject requiring a facility in written English, or
- (b) an Ordinary National Diploma in Building, or
- (c) an Ordinary National Certificate in Building or Construction (current scheme), or
- (d) a Full Technological Certificate in Building Crafts and a pass in the Pre-Higher National Certificate Bridging Course.

1st Year. *Tutor:* Mr W. H. Roberts. *Curriculum:* selected subjects, dependent upon entry qualifications, taken from building technology, environmental studies, theory of structures, mathematics and statistics, surveying, accounting and general studies.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

2nd Year. *Tutor:* Mr D. Horsley. *Curriculum:* selected subjects taken from building technology, measurement and economics of construction work, environmental studies, land surveying, administration, economics, law and general studies.

Course duration: 7th January to 5th July (23 weeks)

Examinations: internal

3rd Year. *Tutor:* Mr J. M. Patchett. *Curriculum:* building technology, measurement and economics of construction work, environmental studies, management and general studies.

Course duration: 24th September to 21st June (34 weeks)

Examinations: internal, externally assessed

Qualification: Higher National Diploma in Building

Ordinary National Diploma in Building (B) (DES1055)

Course Adviser: Mr K. Bailey

A two-year sandwich course providing initial education and training for careers in the construction industry and for those students wishing to proceed to advanced courses in general or specialist fields. The curriculum is broadly designed to suit the needs of students who, with subsequent advanced study, will occupy such positions as Builders' Manager, Agent, Surveyor, Estimator, Building Inspector, Architectural Technician, etc., and who may aspire to professional status.

In the first session students will spend two terms in full-time study at the Polytechnic followed by up to five months in gaining practical experience of site and/or office work. The second session will consist of full-time study at the Polytechnic. *Qualifications for entry:* the General Certificate of Education at 'O' level in four subjects including mathematics, an appropriate science, and two other subjects one of which must require a facility in written English; or the Certificate of Secondary Education, Grade I, in appropriate subjects; or satisfactory completion of the General Course in Construction with credit in mathematics and in either science, construction processes, materials or construction drawing, and a pass in any other of these subjects provided that science is included at either pass or credit level.

1st Year. *Tutor:* Mr K. Bailey. *Curriculum:* technology of construction, related studies, drawing office practice, elements of surveying, science and properties of materials, mechanics, mathematics, general studies, physical recreation.
Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

2nd Year. *Tutor:* Mr W. Bannister. *Curriculum:* technology of construction, materials, structures, measurement of building work, economics, accounting, law, science, mathematics, general studies, physical recreation.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed

Qualification: Ordinary National Diploma in Building

Pre-Diploma in Building (C) (DES1193)

Course Adviser: Mr J. W. Norman

A one-year full-time course to prepare students for examinations which qualify for entry to the Ordinary National Diploma course in Building.

Qualifications for entry: students must be aged 16 by the 1st September and have satisfactorily completed a five-year secondary education, including the study of mathematics and science.

Curriculum: technology of construction, processes and materials, construction and geometrical drawing, science, mathematics, physics, English, physical recreation
Course duration: 24th September to 21st June (34 weeks)

Examinations: G.C.E. 'O' level and/or U.L.C.I. G2 Course (170) in Construction

Qualification: subjects as appropriate to bring the student's qualifications up to the minimum standard required for entry to the Ordinary National Diploma course

Careers in Building

Interesting and rewarding careers in a wide choice of activities are offered by the industry and allied professions to those possessing appropriate knowledge and the ability to exercise skill.

The range of activities include constructional work, site engineering and organisation, contract and works management, planning, surveying, estimating and administration.

The industry carries out construction projects amounting to approximately £4,000 million annually, and increasing demands are made upon its services by other expanding industries and public authorities. Within the present-day organisation of building firms and architectural practices there is a need for both managerial and higher technical personnel.

Department of Business and Administration

Acting Head of Department: E. Schofield, B.A.(COM.), A.C.I.S.

Principal Lecturer

A. G. Rooney, B.SC.(ECON.)

Senior Lecturers

E. L. Bibby, C.ENG. M.I.MECH.E., M.I.PROD.E., M.I.W.M.

R. J. Hudson, B.SC.(ECON.), A.A.C.C.A.

W. E. Illston, A.C.M.A., M.I.W.S.P., M.I.W.M.

W. Kitchen, B.A.(COM.)

E. Newell, DIP. JOURNALISM

J. V. Pearson, A.I.M.T.A.

F. W. Shakespeare, A.I.M.T.A., A.R.V.A.

Mrs P. A. Thomas, LL.B., LL.M.

J. R. Topping, B.SC.(ECON.), F.R.G.S., A.C.I.S.

J. E. Varley, B.A.(ADMIN.)

Lecturers

Mrs E. J. G. Bairsto, B.A., F.R.G.S.

R. A. Blackburn, B.SC.(ECON.), A.C.A.

Mrs M. Brown, A.F.T.COMM., A.L.C.M.

Mrs B. D. Cave, F.S.C.T., F.F.T.COM

D. Clusky, B.A., A.I.B.

A. D. Culley, LL.B.

M. J. English, F.C.A

P. A. Flynn, M.I.S.M., M.I.W.M., A.M.B.I.M

P. J. Gaule, B.COMM.(DUBLIN)

S. O. C. Hey, B.COM., A.M.B.I.M.

J. Hudson

J. Isherwood, A.I.B.

C. R. Jackson, LL.B.

D. Jones, B.SC.(ECON.)

Mrs M. J. Jones, B.A.

R. J. Kendle, M.A.(ECON.), B.A.(ECON.)

Miss I. Parsonage, A.C.I.S.

W. T. K. Poyner, B.COM., A.C.I.S.

Miss E. M. Rigg, B.A.

E. Rosbottom, B.A.(ECON.), M.A.(ECON.)

A. C. Roylance

M. A. Thompson, B.SC.(ECON.), A.C.M.A.

H. Warburton, F.C.A., A.T.I.I.

The Department of Business and Administration

The Department offers a variety of full-time, sandwich, block release and day release courses, including courses leading to final qualifications of the major professions, Ordinary and Higher National Diplomas, and a wide range of courses in management studies. Evening-only courses are provided for those professions for which day release is impracticable.

Close co-operation is maintained with both large and small companies and local authorities in North Lancashire. This co-operation covers the recruitment of students and arrangements for periods of practical business training, either during

the alternating periods of the sandwich course or between the years of the sessional courses. Students who have spent their training periods with a particular firm are often invited to take up full-time employment with that firm when they have completed their courses.

In addition to the full-time staff, tuition is given by visiting lecturers who are practising professionals. Full-time staff take an active part in the affairs of the local branches of the professional bodies of which they are members.

BUSINESS STUDIES

Higher National Diploma in Business Studies (Sandwich) (A2) (DES1094)

Course Adviser: Mr R. J. Hudson

A three-year sandwich course which links three periods of full-time study with two periods of practical training within a business or government organisation. The practical training periods are of six months and nine months respectively. The periods of Polytechnic or College study are of six months each and will include residential periods of special study. This course will be offered in association with the Blackburn College of Technology and Design.

Work-based students will be those already employed or those recruited for secondment to the course. In such cases the employer will provide each period of internal practical training. Polytechnic-based students will be those joining the course on their own initiative straight from school. Help will be given to them in finding suitable practical training, and this may be undertaken with more than one organisation to widen the students' experience.

The award of the Diploma will be based upon (1) success in the examinations in each year in each subject, (2) making not less than 80% of the possible attendances in each year, (3) the submission of a thesis of approximately 5,000 words upon an approved business topic, and (4) the passing of an oral examination on the subject of the thesis. The award of the Diploma carries with it exemption from certain subjects in the examinations of a large number of professional associations in business and the public services.

Qualifications for entry: candidates must (1) be not less than 18 years of age, (2) hold the General Certificate of Education at 'O' level in English and in three other subjects, and (3) hold the General Certificate of Education at 'A' level in at least one subject, or hold a good standard Ordinary National Diploma or Certificate in Business Studies.

Curriculum: this has been designed to enable students to select ONE of the following seven group courses of study. Subjects studied throughout the course are as shown.

1. *Accounting.* Economics, applied economics, accounting, accounts and finance, general law, mercantile law, business organisation, statistics, costing; and one subject from office organisation and data processing I; and two subjects from data processing II, industrial law, company law, human relations.
2. *Company Secretaryship.* Economics, applied economics, accounting, accounts and finance, general law, mercantile law, business organisation, office organisation, secretarial and administrative practice, statistics; and one subject from costing I, data processing I; and two subjects from costing II, data processing II, company law, industrial law, human relations.
3. *Public Administration.* Economics, economics of public finance, accounting, general law, administrative law, business organisation, statistics, social policies and social needs, government and public administration, introduction to local

government administration; and one subject from office organisation, data processing I, human relations, application of statistics; and two subjects from data processing II, human relations, personnel administration, local government law and finance.

4. *Modern Foreign Languages*. Economics, applied economics, accounting, uses of accounts, general law, mercantile law, business organisation, business finance, languages (one or two from French, Spanish, German), statistics; and two subjects from human relations, marketing, industrial law, secretarial and administrative practice.
5. *Personnel Management*. Economics, applied economics, accounting, uses of accounts, general law, mercantile law, business organisation, business finance, statistics, human relations, personnel administration; and one subject from office organisation, data processing I, application of statistics; and two subjects from data processing II, secretarial and administrative practice, industrial law, psychology.
6. *Marketing*. Economics, applied economics, accounting, uses of accounts, general law, mercantile law, business organisation, business finance, statistics, marketing or retail distribution; and one subject from data processing I, office organisation, application of statistics; and two subjects from data processing II, market research, advertising, transport, purchasing, human relations.
7. *Industrial and Commercial Services*. Economics, applied economics, accounting, uses of accounts, general law, mercantile law, business organisation, business finance, statistics, production methods; and one subject from data processing I, office organisation, human relations; and two subjects from data processing II, work study, operational research.

The course will consist of lectures, tutorials and seminars. There will be a number of practical exercises and case studies, both simulated and actual.

1st Year. *Tutor:* Mr D. Clusky

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

2nd Year. *Tutor:* Mr C. R. Jackson

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

3rd Year. *Tutor:* Mr W. T. K. Poyner

Course duration: 7th January to 5th July (23 weeks)

Examinations: internal, externally assessed

Qualification: Higher National Diploma in Business Studies

Higher National Diploma in Business Studies (Full-time) (A2) (DES1094)

Course Adviser: Mr R. J. Hudson

A two-year full-time course which must be followed by a 12 month period of appropriate practical training in business before the award of the Diploma.

The award of the Diploma will be based upon (1) success in the examinations in each year in each subject, (2) making not less than 80% of the possible attendances in each year, (3) the submission of a thesis of approximately 5,000 words upon an approved business topic, (4) the passing of an oral examination on the subject

of the thesis, and (5) the production of a certificate showing that the candidate has worked in industry or commerce for not less than 12 months in a position for which his diploma course has made him suitable.

The award of the Diploma carries with it exemption from certain subjects in the examinations of a large number of professional associations in business.

The course contains three options in Accountancy and Company Secretaryship; Marketing; and Modern Foreign Languages. The teaching of modern foreign languages will be undertaken by the Department of Language and Social Studies. French, German and Spanish are offered and students may select one or two of these for study. Applicants must possess a G.C.E. 'A' level certificate in at least one of the chosen languages. Emphasis is placed on obtaining practical skills in language especially applicable to the world of business in relation to the European Common Market.

Qualifications for entry: candidates must (1) be not less than 18 years of age, (2) hold the General Certificate of Education at 'O' level in English and three other subjects, and (3) hold the General Certificate of Education at 'A' level in at least one subject, *or* hold a good standard Ordinary National Diploma or Certificate in Business Studies.

1st Year. *Tutor:* Mr E. Rosbottom. *Curriculum:* economics, business law 1, business organisation, accounting 1 or interpretation of accounts, data processing 1 of marketing 1 or modern foreign languages, general studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

2nd Year. *Tutor:* Mr A. D. Culley. *Curriculum:* applied economics, business law 2, statistics and/or marketing 2 and/or sociology of industry and commerce, data processing 2, accounting 2 or modern foreign languages and export distribution and promotion, general studies and a research project.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed

Qualification: the Higher National Diploma in Business Studies after appropriate business experience

Ordinary National Diploma in Business Studies (B) (DES1058)

Course Adviser: Mrs E. J. G. Bairsto

A two-year full-time course designed to give students a thorough and practical training in the basic subjects of accounting, law and economics, including a much wider curriculum to prepare students for the major professional qualifications available in accountancy, banking, insurance, company secretaryship, costing, transport and local government. In addition, the course includes an intensive study of a modern foreign language or, alternatively, shorthand and typewriting.

The Ordinary National Diploma is the hallmark of a basic general education in business, is accepted as an exempting qualification at the intermediate level of some of the major professional associations, and satisfies entry requirements to Higher National Diploma courses in Business Studies. Other career openings include clerical posts and junior administrative posts in business houses, banks, insurance offices and local government.

Qualifications for entry: applicants must have reached the age of 16 on 1st September and (1) hold a General Certificate of Education at 'O' level in English and three other approved subjects, or (2) have passed some other examination of equivalent standard.

Applicants for admission to this course should apply for provisional acceptance during their final school term. A definite decision about the acceptance of an applicant cannot be reached until the G.C.E. results are available.

1st Year. *Tutor:* Mr M. J. English. *Curriculum:* accounting I, structure of commerce, English 1, economic history, statistics, office practice, and a modern foreign language or shorthand and typewriting.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, R.S.A., U.L.C.I., G.C.E., Pitman's Shorthand

2nd Year. *Tutor:* Miss E. M. Rigg. *Curriculum:* accounting II, economics, English II, principles of law, economic geography, and a modern foreign language or shorthand and typewriting. Each student will also write a dissertation on a selected business topic under the guidance of the tutor.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal (externally assessed), R.S.A., U.L.C.I., Pitman's Shorthand

Qualification: the Ordinary National Diploma in Business Studies

Careers in Business or Public Administration

Business is concerned with the profitable and efficient combination of men, money, machines and materials, and it covers all manufacturing processes, the buying and selling of goods and services; and the advertising, finance, insurance and transport which are essential to its smooth operation. Public administration is the efficient and effective use of resources in the provision of a wide range of services to the community.

Thus a wide range of career opportunities is available to suitably qualified men and women who develop an interest in organisation, administration and leadership. Careers in business or public administration may be concerned with general administration or the special fields of accountancy, marketing, banking, company secretaryship, personnel management, local government administration and finance and similar interests. Posts range from clerical positions to the highest executive appointments and directorships.

A large number of post-graduate diploma courses are available at universities and polytechnics for those students who wish to continue their education after gaining the Higher National Diploma. Many universities will accept holders of a good Higher National Diploma in Business Studies for entry to their post-graduate degree courses.

ACCOUNTANCY

Institute of Chartered Accountants, Foundation Course (A2) (DES4292)

Course Adviser: Mr H. Warburton

This one-year full-time course is offered by arrangement with the Institute of Chartered Accountants and the North West Society of Chartered Accountants to give prospective chartered accountants a fuller understanding of the principles underlying their profession and its work.

Students who successfully complete the Institute of Chartered Accountants Foundation Course will be eligible for exemptions from the examinations of the Institute of Municipal Treasurers and Accountants, the Association of Certified Accountants, and the Institute of Cost and Management Accounts. Further details may be obtained from the Head of Department.

Qualifications for entry: applicants should be not less than 17 years of age on the 1st October of the year of entry, and possess five G.C.E. subjects of which two must be at 'A' level. The subjects must be taken from an approved list. Applicants must also satisfy such prior conditions relating to the admission to the course as are laid down in the Royal Charters and Bye-laws, and by the Council of the Institute. Full details of the requirements for membership of the Institute and admission to foundation courses may be obtained from the Secretary, The Institute of Chartered Accountants in England and Wales, Chartered Accountants' Hall, Moorgate Place, London, EC2R 6EQ.

Curriculum: accounting and auditing, economics, English law, framework of business, statistics and mathematics, and contrasting studies.

Course duration: 1st October to 5th July (35 weeks)

Examinations: internal, externally assessed

Qualification: successful candidates are eligible for exemption from the Intermediate examination of the Institute of Chartered Accountants in England and Wales.

Careers in Accountancy

Members of the accountancy profession in the United Kingdom are engaged in various forms of activities in public practice, industry, commerce and the public services. The method of training differs between branches of the profession, depending mainly upon the type of employment which a trainee accountant wishes to enter.

Public Practice. Amongst the services rendered by the public practitioner are: independent auditing; preparation of financial accounts and statements; provision of taxation service; general and financial advice; financial and other investigations; executorship and trusteeship; liquidations, receiverships and insolvencies; share and business valuations; management consultancy. In addition to the more routine procedures, the work of the practising accountant provides many opportunities for the application of imaginative and original thinking in helping to promote business efficiency at all levels, ranging from the small businessman to international organisations.

Industry and Commerce. The demands by industry and commerce for qualified accountants is ever increasing with the realisation of the essential part which sound accountancy plays in the success of any company. The accountant is particularly concerned with the most efficient use of resources. The work of the management accountant can be varied and particularly interesting, with great scope for the application of imagination and creative thinking. The basic discipline of accountancy, together with the wide experience which can be obtained through its application, provides a particularly favourable entry into general management, as can be evidenced by the number of accountants who are chief executive officers or directors of major United Kingdom and international organisations.

Public Services. Local government, central government, hospitals, public corporations and all public services require qualified accountants to undertake interesting and varied work in the associated fields of financial and management accountancy. The accountant in the public services plays an important role in the formulation and execution of policy in non-profit making organisations where the control of financial and other resources is of great importance.

The career of the professionally qualified accountant may take him through many branches of the work of the profession. Most large firms in public practice have branches or associated firms abroad and opportunities are also available to accountants in industry and the public services to work abroad.

JOURNALISM

Certificate of the National Council for the Training of Journalists: full-time pre-entry course (A2) (DES3906)

Course Adviser: Mr E. Newell

A one-year full-time course designed to give students a practical and academic background before entering the profession. The course is run in conjunction with the National Council for the Training of Journalists. After successful completion of the course students can expect to be offered apprenticeships with provincial newspapers. At the end of this period, during which they will receive practical training, they will take the final part of the examination for the Proficiency Certificate in Journalism.

The course begins in September each year. Entry will be through the National Council for the Training of Journalists, and intending applicants should write in the first instance to The Director, National Council for the Training of Journalists, Harp House, 179 High Street, Epping, Essex. (Tel: 0378-2395). Interviews and aptitude tests will normally be held between March and June.

Qualifications for entry: applicants must be under 20 years of age on the 1st September and should possess two G.C.E. 'A' level subjects and three G.C.E. 'O' level subjects, including English. Entry to the course is by examination and interview by a panel of experienced journalists.

Curriculum: government, newspaper law, newspaper practice, English, shorthand and typewriting

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal and external

Qualification: exemption from appropriate subjects of the examinations for the Proficiency Certificate in Journalism

Careers in Journalism

There are more than 25,000 journalists working in Britain today. The majority are employed by the 142 daily and Sunday newspapers, by the 1,200 provincial newspapers, and by more than 4,000 magazines and 500 house journals. A considerable number are employed in television, radio and public relations.

The majority join their employers straight from school, but some enter after taking a degree. In recent years, more than 100 entrants annually have been selected for an intensive one-year course at colleges selected by the National Council for the Training of Journalists, which is the official body supervising the training of all journalists.

After successful completion of the course, students can expect to be offered employment on provincial newspapers, where they will serve a period of apprenticeship before taking their Proficiency Certificate in Journalism. The junior journalist has a wide choice of posts after the end of his training. He may move to a larger newspaper, into television or radio, or into the field of public relations. Salary will depend upon ability, which can obtain rapid rewards, and promotion to executive level often comes at a younger age than in most professions. There is equal pay for women.

SECRETARIAL

Royal Society of Arts Diploma for Bilingual Secretaries and/or Personal Assistants (post-graduate course) (A2NP) (DES8020)

Course Adviser: Mrs B. D. Cave

A one-year intensive course for young women graduates who have already studied at least one foreign language and who wish to train as highly qualified secretaries

specialising in languages. The course involves attendance for thirty hours per week at lectures, seminars and tutorial periods.

Curriculum: office administration, communication, law and procedure of meetings, practical correspondence (shorthand, typewriting, audio-typewriting) and modern foreign languages, particularly French, German, Spanish.

Course duration: 24th September to 5th July (36 weeks)

Examinations: Royal Society of Arts Diploma for Bilingual Secretaries and/or Diploma for Personal Assistants. Single subjects in Shorthand and Advanced Typewriting

Royal Society of Arts Diploma for Bilingual Secretaries and/or Personal Assistants (post G.C.E. 'A' level course) (A2NP) (DES8023)

Course Adviser: Mrs B. D. Cave

A one-year intensive course for young women of 18 years and over with 'A' level qualifications who have already studied at least one foreign language.

The curriculum is similar to the post-graduate course but the examination in the foreign language will be the Royal Society of Arts Certificate for Bilingual Secretaries.

Secretarial Careers

A study of the national newspapers will show the tremendous opportunities awaiting young women who possess a good educational background and advanced certificates in secretarial subjects, together with the commercial background to foreign languages.

Students who have attended these courses in previous years are now following interesting and worthwhile careers as private secretaries to commercial firms at home and abroad, with the BBC Radio and Television Services, and the Diplomatic Service (Foreign Office).

Department of Chemistry and Biology

Head of Department: J. J. Betts, B.Sc., Ph.D.(CANTAB.), Ph.D.(BIRM.), F.R.I.C.

Principal Lecturers

D. Brattan, B.Sc., Ph.D., A.R.I.C.
J. Donnelly, B.Sc.
Miss M. Hodkinson, B.Sc., Ph.D., M.I.BIOL.

Senior Lecturers

J. W. Dodd, B.Sc., Ph.D., A.R.I.C.
G. Dyer, M.A., D.PHIL.
J. D. Hepworth, B.Sc., Ph.D., A.R.I.C.
A. D. Jones, B.TECH., A.R.I.C., Ph.D.
A. Ottewell, B.Sc., A.I.M.
R. N. Priestland, B.Sc., Ph.D.
F. Ramsden, F.I.M.L.T., F.R.S.H

Lecturers

N. G. Allen, B.Sc.
S. Britland, B.Sc.
K. Edgar, M.Sc., Ph.D., A.R.I.C.
D. Mason, B.Sc., Ph.D., A.R.I.C.
L. H. G. Morton, M.Sc., L.I.BIOL.
G. Newton, B.Sc., Ph.D.
Miss C. A. H. Patey, B.Sc., Ph.D.
A. Sherrington, A.R.I.C.
B. M. Smallwood, M.A., Ph.D., A.R.I.C.
R. Vyas, M.Sc., A.I.M.
J. J. Waring, B.Sc., Ph.D., A.R.I.C.

Research Assistants

C. E. Crawforth, Ph.D., A.R.I.C.
R. Kellie, GRAD.R.I.C.
P. R. Wearden, GRAD.R.I.C.

The Department of Chemistry and Biology

It is the policy of the Department that the courses it offers should enable any student, no matter what his initial qualifications might be, to achieve the maximum development of his or her potential ability. Staff of the Department are committed to this principle and every effort is made through tutorial work and personal guidance to encourage the student to achieve this end. With this in mind the courses offered will enable –

- (a) the full-time student with two G.C.E. 'A' level passes or a good O.N.C. in Sciences to proceed to a degree (B.Sc. Sciences) and subsequently to a higher degree (M.Sc. or Ph.D.).
- (b) the full-time student with one G.C.E. 'A' level pass or an O.N.C. in Sciences to proceed to a Higher National Diploma in Chemistry, then to the Graduate-ship of the Royal Institute of Chemistry (an honours degree equivalent), and finally to a higher degree (M.Sc. or Ph.D.).

- (c) the part-time student with an O.N.C. in Sciences to proceed to a Higher National Certificate in Chemistry, then to a B.Sc. or B.Sc. Honours in Chemistry, and finally to a higher degree (M.A., M.Sc. or Ph.D.).

The scheme of courses allows students to transfer from part-time to full-time courses and vice versa.

The Departmental laboratories are equipped with a wide range of modern and sophisticated instruments, and lecture theatres incorporate audio-visual systems. Staff of the Department are also convinced of the importance of collaboration with industry. The subject matter of most courses offered has an industrial bias, and sandwich schemes enable students to become aware of the ways in which principles are applied in an industrial situation. The Department is participating in a number of joint projects with industry and would welcome an extension of this area of activity.

Research

The Governors of the Polytechnic offer a number of Research Assistantships and these may be supplemented by Science Research Council Scholarships.

There are eight research laboratories in the Department and equipment includes instruments for infrared, ultraviolet, visible, nuclear magnetic resonance, and atomic absorption spectroscopy, gas chromatography, a variety of radiochemical and electrochemical equipment, a refrigerating high speed centrifuge, direct reading Warburg apparatus, and an amino-acid autoanalyser.

Areas of research activity at present include (1) Chemistry: coordination chemistry, synthetic aromatic and heterocyclic chemistry, sterically hindered basic dyes' reaction kinetics; (2) Biology: biophysical properties of blood cells and nerve cells' carbohydrate metabolism; (3) Environmental Science: solvent extraction and adsorptive bubble separation methods, distribution and removal of contaminants in water.

SCIENCES

B.Sc. (Sciences) of the University of London (A1) (DES2149)

Course Adviser: Dr R. N. Priestland

A three-year full-time course for science qualified students leading to a two-subject degree from the following offered in this Polytechnic: Biochemistry, Physiology, Chemistry, Physics, Astronomy.

To qualify for the degree, a candidate should have completed satisfactory courses and have reached acceptable standards in the examinations set by the University of London in *three* subjects at Standard I and *two* main subjects at Standard II. Standard I subjects require the equivalent of 1/3rd year of full-time study and Standard II subjects require one year of full-time study beyond Standard I.

Qualifications for entry: applicants must meet the general entrance requirements of the University of London which are broadly as follows: (a) five G.C.E. subjects including two at 'A' level, or (b) four G.C.E. subjects including three at 'A' level. All candidates should have passed in mathematics in the Ordinary or Advanced level. Alternative qualifications are acceptable, e.g. a good Ordinary National Certificate or Ordinary National Diploma in Sciences.

An applicant who feels that he can meet these requirements must obtain a Statement of Eligibility from the University obtainable from: Secretary to the University Entrance Requirements Department, University of London, Senate House, London WC1E 7HU.

1st Year. *Tutor:* Dr J. D. Hepworth. *Curriculum:* students will select three subjects for study from the following: Chemistry I, Physiology I, Psychology I, Physics I, Mathematical Methods I.

Course duration: 24th September to 5th July (36 weeks)

Examinations: University of London

2nd and 3rd Years. *Tutor:* Dr R. N. Priestland

Students will select one of the following subjects for study in the second year and a further subject for study in the third year:

Biochemistry II

Physical and chemical properties of carbohydrates, proteins, fats, purines and associated compounds, properties of heterogeneous systems, separation procedures, spectrophotometry and electron microscopy; thermodynamics of biochemical equilibria; digestion and absorption, main pathways of degradation and biosynthesis, organisation and control of biochemical processes, biochemical genetics.

Physiology II

Biophysical chemistry; blood, muscle, nerve; biological chemistry; biochemistry, cardiovascular system; respiration, digestion and absorption, metabolism, water balance; anatomy and functions of the central nervous system, the autonomic nervous system; endocrine organs; reproduction; intermediary metabolism; genetics, nucleic acids.

Chemistry II

Inorganic and theoretical chemistry; nonaqueous solvents; radioactivity, extraction of elements from their ores; thermodynamics and electrochemistry, molecular structure, kinetics, surface chemistry, stereochemistry, mechanisms, spectroscopy, aromatic and aliphatic chemistry, heteroaromatic and alicyclic compounds, natural products.

Physics II

General properties of matter; atomic, electron and nuclear physics; heat and thermodynamics; acoustics; optics, electricity, magnetism and electronics, mathematics and computing.

Astronomy II

Descriptive astronomy, spherical astronomy, planetary motions, astrophysics, radiation laws, spectroscopy, atomic excitation, stellar evolution, solar terrestrial relations, radio astronomy; use of equatorial telescope and transit instrument, planetary and solar observations, double stars, celestial photography, use of astrograph and spectrograph, photoelectric photometry.

Examinations: University of London

Successful candidates will be awarded a First or Second or Third Class Honours or a Pass Degree. Second Class Honours will be divided into an Upper and Lower Division.

Qualification: Bachelor of Science of the University of London

Careers in Life Sciences

The biological chemical industry is expanding continuously as the demand for newer drugs and other biologically active materials rises. Biological scientists are needed for these industries both in research and development and in production departments. There is an increasing use of medical biologists in the hospital service, a trend which has accelerated since the report of the Zuckerman Committee on the advantages of a Scientific Officer class for the hospital service. Biological

scientists are also required by Medical Research Council Units and other Government sponsored research institutions. There is always a demand for biological science qualified graduates in teaching; newer teaching methods and curricula give promise of interesting and exciting careers in this field.

Careers in Physical Sciences

A wide range of opportunities are available in the science based and engineering based industries. In the chemical industry, the increasing use of instrumentation and automation in both production and research work has generated a need for a graduate qualified in both chemistry and physics. In many of the engineering industries, the exploitation of new materials has resulted in the need for physico-chemical monitoring procedures which require personnel qualified in the physical sciences.

CHEMISTRY

Graduate Membership of the Royal Institute of Chemistry: four-year course

Course Adviser: Dr J. W. Dodd

A Polytechnic-based sandwich course, in which the Higher National Diploma in Chemistry is taken at the end of the third year; good marks in this examination will give exemption from Part I of the Institute's Graduate Membership examinations, though students may take Part I in addition to the Higher National Diploma. The endorsement subject, advanced analytical chemistry, is studied concurrently with the H.N.D. subjects throughout the second and third years. Success in the H.N.D. and endorsement examinations or success in the Part I examination qualifies a student for admission to the Licentiatehip of the Royal Institute of Chemistry. Part II of these examinations, success in which gives the academic qualification for admission to Associateship, is taken at the end of the fourth year.

Qualifications for entry to the first year of the course: G.C.E. 'O' level passes in English language, mathematics and *either* two science subjects and one arts subject *or* two arts subjects and one science subject, together with *either* a G.C.E. 'A' level pass in chemistry with evidence that mathematics and physics have been studied to a standard one year beyond the 'O' level syllabus, *or* an Ordinary National Certificate in Science with a pass in elective Chemistry. Other combinations of entry qualifications may be acceptable; the Course Adviser should be consulted. Success in departmental examinations taken during the course provide the additional qualifications for entry to Part I and Part II of the Graduate Membership examinations.

1st Year (A2) (DES1082) Tutor: Dr K. Edgar. *Curriculum:* inorganic chemistry, chemical bonding, atomic structure, valency, typical elements, radiochemistry; organic chemistry; electronic theory of organic chemistry and its applications to functional group chemistry, stereo-chemistry I; physical chemistry; first law of thermodynamics, chemical kinetics, kinetic molecular theory of gases, electro-chemistry; general physics; mathematics; general studies.

Course duration: 24th September to 22nd March (24 weeks)

Examinations: internal; general physics and mathematics externally assessed if not in possession of G.C.E. at 'A' level or equivalent.

2nd Year (A2) (DES1082) Tutor: Dr D. Mason. *Curriculum:* inorganic chemistry; transition elements, co-ordination compounds, carbonyls, nitrosyls; organic chemistry; further reaction mechanisms, aromatic chemistry, stereo-chemistry II;

physical chemistry; second and third laws of thermodynamics, electrochemistry (galvanic cells), phase equilibria, colloid and surface chemistry; environmental studies; advanced analytical chemistry: general and related studies.

Course duration: 24th September to 23rd March (24 weeks)

Examinations: internal

3rd Year (A2) (DES1082) Tutor: Dr K. Edgar. *Curriculum:* inorganic chemistry: comparative chemistry of the groups, review and extension of theoretical chemistry, solution chemistry: organic chemistry; alicyclic and heterocyclic chemistry, stereochemistry III: physical chemistry: review and extension of thermodynamics, thermodynamics of solutions, structural chemistry, chemical kinetics: environmental studies: advanced analytical chemistry: related studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: Grad.R.I.C. Part I, H.N.D. in Chemistry, endorsement in advanced analytical chemistry.

4th Year (A1) (DES2104) Tutor: Dr G. Dyer. *Curriculum:* review and extension of chemical subjects studied: recent advances in inorganic, organic and physical chemistry.

Course duration: 24th September to 5th July (36 weeks)

Examinations: Grad.R.I.C. Part II

Qualification: Graduate Membership of the Royal Institute of Chemistry

Graduate Membership of the Royal Institute of Chemistry: two-year course (A2 and A1) (DES2104)

Course Adviser: Dr G. Dyer

A full-time course leading to the Graduate Membership examinations of the Royal Institute of Chemistry.

Students with a Higher National Certificate in Chemistry may enter directly into the third year of the four-year Grad.R.I.C. Course.

The chemical subject matter of the course is identical with that of the third and fourth years of the four-year course, but timetabling will allow ancillary subjects to be studied during both years of this course. The third ancillary subject is not required for entry to the Grad.R.I.C. Part I examination but must be passed before entry to the Grad.R.I.C. Part II examination will be accepted.

Success in the Grad.R.I.C. Part I examination, which is taken at the end of the third year, qualifies a student for admission to the Licentiate ship. The Grad.R.I.C. Part II examination is taken at the end of the final year of the two-year course.

Qualification for entry to the third year of the course: G.C.C. 'O' level passes in mathematics, English language, one science subject and two arts subjects, or two science subjects and one arts subject; and a Higher National Certificate in Chemistry. The additional requirements for admission to both parts of the Institute's examinations will be met by students who are successful in departmental examinations taken during the third year of the course. Candidates for admission to the fourth year of the course should consult the Head of Department after assuring themselves that they have the appropriate qualifications.

The curriculum, course duration, examinations and qualifications are the same as those described in the 3rd and 4th years of the four year course.

Advanced Analytical Chemistry : endorsement subject for Licentiatehip of the Royal Institute of Chemistry (A2) (DES2019)

Course adviser: Dr D. Mason

A one-term full-time course enabling holders of the Higher National Diploma or Certificate in Chemistry to obtain the academic requirements for admission to the Licentiate grade of membership of the Royal Institute of Chemistry.

Qualifications for entry: Higher National Diploma or Certificate in Chemistry and approved ancillary mathematics and physics.

Curriculum: radiochemistry, compleximetry, non-aqueous titrimetry, ionexchange resins, potentiometry, pH, electroanalysis, coulometry, polarography, amperometry, spectrometry, chromatography, projects.

Course duration: 24th September to 21st December (13 weeks)

Examination: internal, externally assessed

Qualification: Advanced Analytical Chemistry endorsement subject

Corporate Membership of the Royal Institute of Chemistry

The Royal Institute of Chemistry is the acknowledged professional organisation for chemists, its members being engaged in the advancement, teaching and practice of chemistry and its application in industry and the public service. The standard required of applicants for associateship is not less than that required for a good honours degree of a British university, and success in Part II of the Institute's Graduate Membership examination is recognised by most universities as a qualification for entry to their research schools and the subsequent award of a higher degree. There are three grades of corporate membership: Licentiatehip (L.R.I.C.), Associateship (A.R.I.C.), Fellowship (F.R.I.C.). Candidates for either of the first two grades must have (a) an acceptable level of general education, (b) suitable academic qualifications in chemistry, and (c) one or two years' experience in the practice of chemistry.

Students taking Grad.R.I.C. courses are advised to register as Student Members of the Institute and should write for details to: The Registrar, The Royal Institute of Chemistry, 30 Russell Square, London, W.C.1. Students receive literature from the Institute and may attend meetings of its members.

Careers in Chemistry

The work of a chemist may involve teaching, research, development, production and control.

There is a national shortage of graduate chemistry teachers, particularly those with some industrial experience. Both the Grad.R.I.C. and the H.N.D. are recognised by the Department of Education and Science as academic teaching qualifications for science teachers.

Pure or fundamental research is work on projects which may not have any immediate applications but will add to the store of existing knowledge and have a long term influence upon new products and production methods. Applied research makes use of present knowledge and builds upon it with some immediate end in view, e.g. to produce a new synthetic fibre or a new drug.

Development is a branch of applied research and is concerned with the conversion of a laboratory scale process to a chemical plant process.

Chemists on the production side of industry are often supervising chemical plant processes and carry responsibility for maintenance of the output and the quality of the product. They must possess technical ability and supervisory skills and must be willing to take decisions. In quality control laboratories raw materials and

manufactured products are tested during all stages of production. The qualified chemist has to be constantly aware of new developments in analytical methods and of new instruments available commercially.

In the chemical industry a large proportion of the managers are chemically qualified. The rapid adaptation to accommodate new products and the commercial exploitation of research findings requires such a management policy. For the able and industrious, the highest executive appointments and directorships may be obtained.

The chemical industry has undergone a consistent expansion and reliable forecasts show that because of the introduction of new products the expansion will continue. The success of the industry is the result of the continued efforts of scientists both in research and development and in the rapid application of new knowledge to production methods. The industry requires a regular recruitment of qualified staff into responsible posts and the biggest demand is for qualified chemists (B.Sc., A.R.I.C. and L.R.I.C.). Chemists are also required by universities, colleges of technology, schools, hospitals, government sponsored research institutions and independent research organisations.

GENERAL CERTIFICATE OF EDUCATION

General Certificate of Education, Advanced level (B) (DES1194)

Course Advisers: Mr S. Britland and Mr F. R. Dean

A one-year full-time revision course in preparation for Advanced level examinations of the Joint Matriculation Board. The course will also be appropriate for mature students seeking qualifications for entry to graduate courses.

Qualifications for entry: students must have attended G.C.E. Advanced level courses in their chosen subjects

Curriculum: suitable combinations of subjects chosen from: biology, chemistry, physics, mathematics, computations, statistics, computer science

Course duration: 24th September to 5th July (36 weeks)

Examinations: J.M.B. (chemistry, biology, physics). A.E.B. (mathematics, statistics, computer science, computations).

Qualification: General Certificate of Education, Advanced level

Department of Electrical and Electronic Engineering

Head of Department: A. Palmer, B.SC.TECH., C.ENG., M.I.E.E.

Principal Lecturers

R. O. Hall, B.SC.TECH., C.ENG., M.I.E.E.
M. F. McKenna, B.SC., PH.D., C.ENG., M.I.E.E.

Senior Lecturers

R. N. Abbott, B.SC., C.ENG., M.I.E.E.
J. A. Askew, M.SC., C.ENG., M.I.E.E.
A. Leadbetter, B.SC.
J. K. Moss, B.SC., C.ENG., M.I.E.E.
R. J. Simpson, M.SC., PH.D., C.ENG., M.I.E.E.
N. T. Slater, B.SC., C.ENG., M.I.E.E.
T. Wilson, B.SC., C.ENG., M.I.E.E.

Lecturers and Assistant Lecturers

D. Baxter, T.ENG.(C.E.I.), A.I.E.R.E., A.M.INST.E.
J. M. Berry, T.ENG.(C.E.I.), F.S.E.R.T.
K. Bowker
T. H. Cowperthwaite
F. H. Downham, M.S.E.R.T.
H. Duckworth, C.ENG., M.I.E.E.
R. Duddle, T.ENG.(C.E.I.), M.I.T.E., CERT.ED.
J. D. Heys, B.SC.
T. G. Izatt, M.A., C.ENG., M.I.E.E.
W. S. Kirkpatrick, C.ENG., M.I.E.E.
H. S. Senior, B.SC.
G. Stevenson, B.TECH.
T. J. Terrell, M.SC., PH.D.
F. Walmsley, A.M.A.S.E.E., T.ENG.(C.E.I.), M.I.T.E.
J. Wilson, T.ENG.(C.E.I.), CERT.ED.
M. A. Wilson
C. Yates, T.ENG.(C.E.I.), M.I.T.E.

Research Assistant

D. L. Milby

The Department of Electrical and Electronic Engineering

This Department provides courses at graduate level in electrical and/or electronic engineering. Tutorial, laboratory and project work are integral parts of all courses. The Department has separate well-equipped laboratories for experimentation in measurements, electronics and communications, electrical machines and power, control, computers and high voltage. Equipment available includes a PDP8/E control computer, an E.A.L. 380 analogue computer and 500 k.v. high voltage test equipment.

The Department, in collaboration with the Department of Mechanical and Production Engineering, will shortly be seeking approval from the Council for National Academic Awards (CNAA) for a sandwich type degree course in Electrical and Electronic Engineering. This is envisaged as a forerunner to a number of inter-disciplinary degree courses in which the Department will be participating.

Academic work is enhanced by the close relationship of the Department with industry. A substantial amount of consultative, development and testing work is carried out on its behalf.

Research within the Department is actively encouraged and a number of academic staff and students are presently engaged in research towards higher degrees.

ELECTRICAL AND ELECTRONIC ENGINEERING

Associate Membership of the Institution of Electrical Engineers, Graduate Membership of the Institution of Electronic and Radio Engineers, and the College Diploma in Electrical and Electronic Engineering

Course Adviser: Mr R. O. Hall

A four-year sandwich course for students wishing to satisfy the academic requirements for election as an Associate Member of the Institution of Electrical Engineers and/or Graduate Members of the Institution of Electronic and Radio Engineers. Successful completion of the first three years of the course leads to the award of a Higher National Diploma in Electrical and Electronic Engineering, giving exemption from the Council of Engineering Institutions' Part 1 Examinations. The final year of the course leads to the Council of Engineering Institutions' Part 2 Examinations, and Associate Membership of the professional electrical and electronic engineering institutions. Examinations for the award of the College Diploma in Electrical and Electronic Engineering must also be taken during the final year of the course.

Students selected for the course may be in employment and receive support from their industrial concern, or alternatively some students may wish to pursue the course independently. The latter students may be direct from school or may already have obtained some industrial experience. These two groups are referred to respectively as Industry-based or Polytechnic-based students. In each of the first two years of the course students will normally spend alternate six monthly periods in full-time study at the Polytechnic and in industry. The final two years will be spent in full-time study at the Polytechnic. The industrial training periods for these latter students is, wherever possible, arranged by the Polytechnic.

Qualifications for entry to the first year of the course: an Ordinary National Certificate or Diploma in Engineering, *or* completion of the Advanced level courses for the General Certificate of Education in mathematics and physics with a pass in at least one of these subjects, together with a pass in each of three additional subjects at Ordinary level, *or* any equivalent qualification.

1st Year (A2) (DES1096) Tutors: Mr R. N. Abbott and Mr T. J. Terrell. *Curriculum:* circuit theory and mathematics, engineering drawing, applied mechanics and fluids, electrical technology, general studies, materials technology and laboratory techniques.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

2nd Year (A2) (DES1096) Tutors: Mr R. O. Hall and Mr H. S. Senior. *Curriculum:* circuit theory and mathematics, electrical materials, materials and dynamics, electrical power, electronics, general studies.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

3rd Year (A2) (DES1096) Tutors: Mr A. Leadbetter and Mr G. Stevenson. *Curriculum:* mathematics, circuits, fields and measurements, electronics, electrical power, electrical machines, control and computation, telecommunications, electrical materials, management studies.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal, externally assessed

Qualification: Higher National Diploma in Electrical and Electronic Engineering

4th Year (A1) (DES3708) Tutors: Mr J. A. Askew and Mr T. J. Izatt. *Curriculum:* advanced studies in the fields of electronics, electromagnetic fields and networks, communication engineering, computer engineering, electrical power engineering, electrical machines, mathematics, management studies.

Course duration: 22nd April to 5th July (10 weeks) and September to May (30 weeks approximately)

Examinations: C.E.I. Part 2 and the College Diploma

Qualification: Associate Membership of the Institution of Electrical Engineers, and/or Graduate Membership of the Institution of Electronic and Radio Engineers, the College Diploma in Electrical and Electronic Engineering

Council of Engineering Institutions Part 2 Examinations (A1) (DES3708)

Course Adviser: Mr J. A. Askew

The Institution of Electrical Engineers and the Institution of Electronic and Radio Engineers are the professional organisations for electrical and electronic engineers. These form part of the Council of Engineering Institutions (C.E.I.). The I.E.E. and the I.E.R.E. both require graduate level academic qualifications for entry to corporate membership, and these are provided by the C.E.I. Part 2 Examinations. The title of Chartered Engineer (C.Eng.) and corporate membership is conferred after a period of suitable industrial experience.

Qualifications for entry: a Higher National Diploma, or a good Higher National Certificate with three endorsement subjects, or any equivalent qualification.

Curriculum: subjects selected from electrical energy, electrical power engineering, electromagnetic fields and networks, communication engineering, electronic engineering, computer engineering, systems and control engineering, mathematics, management studies.

Course duration: 22nd April to 5th July (10 weeks) and September to May (30 weeks approximately). Suitable external candidates will be considered for admission in either April or September.

Examinations: C.E.I. Part 2

Qualification: Associate Membership of the Institution of Electrical Engineers, or Graduate Membership of the Institution of Electronic and Radio Engineers.

Corporate Membership of the Professional Institutions

The Council of Engineering Institutions representing fifteen Institutions, including the Institution of Electrical Engineers and the Institution of Electronic and Radio Engineers, was established in 1966 and holds the sole authority to confer the title 'Chartered Engineer' on members of the profession.

In order to attain the status 'Chartered Engineer' it will be necessary for the candidate to either pass or obtain exemption from the Parts 1 and 2 Examinations set by the Council. Success in these examinations will qualify the candidate for Associate Membership of the Institution of Electrical Engineers and/or Graduate Membership of the Institution of Electronic and Radio Engineers. If this is followed by a period of approved experience in the field of electrical or electronic engineering, a candidate is entitled to apply for admission to Corporate Membership and also gain the status 'Chartered Engineer' (C.Eng.).

The standard of the final examination is equivalent to that of a first degree in electrical engineering. It is therefore recognised by many universities as a suitable qualification for entry to a higher degree course.

Careers in Electrical and Electronic Engineering

Electrical engineering is concerned with harnessing the physical properties of electricity and the creation, in practical terms, of that which is scientifically possible and socially necessary for the increased wellbeing of mankind.

A professional electrical or electronic engineer employs a scientific approach to the solution of engineering problems. Usually a number of technically feasible solutions are discernable, and the final choice requires the engineer's skill and judgment, based on experience combined with a knowledge of economics, design and material properties.

The electrical and electronic engineering industry encompasses modern developments in computers, communications and automation. It provides a fascinating and worthwhile career for those who have the aptitude for designing, making, testing or research. Electrical and electronic equipment is in general use throughout all manufacturing, process and service industries and men and women with the necessary qualifications and training will have opportunities for employment in these user organisations not directly involved in the manufacture of electrical equipment.

A young engineer, having successfully completed the C.E.I. Part 2 Examinations, will normally gain experience in industry with a view to achieving corporate membership of one of the professional institutions and Chartered Engineer status. The way is then open to positions in management for those combining their engineering ability with business acumen.

ENGINEERING

Ordinary National Diploma in Technology (Engineering) (B) (DES4395)

Course Adviser: Mr R. Duddle

A two-year full-time course offered jointly with the Department of Mechanical and Production Engineering. Continuous assessment of progress is undertaken throughout. The aim of the course is to provide a broad base of engineering technology and to prepare students for more advanced studies in the particular field of technology which they will ultimately follow. It will meet the entry requirements for Degree, Higher National Diploma and Higher National Certificate courses in Electrical and Electronic, Mechanical and Production Engineering.

Qualifications for entry: the normal requirement is 4 G.C.E. 'O' level subjects (or C.S.E. Grade 1 passes), one of which must be mathematics and another preferably a science subject; or other equivalent qualification. Applicants who marginally fail to meet these conditions are advised to consult the Head of the Department, in order that they may be directed to a suitable course of study.

1st Year. Curriculum: electrical, mechanical, physical and materials sciences; mathematics; complementary studies; communications; and project work.

Course duration: 24th September to 5th July (36 weeks)

Examinations: continuous assessment

2nd Year. Curriculum: measurements, instrumentation and data transmission, power transfer and energy conversion systems, mathematics, complementary studies, communications, and project work.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed

Qualification: the Ordinary National Diploma in Technology (Engineering)

Department of Language and Social Studies

Head of Department: H. E. Probyn, B.A.

Principal Lecturers

B. L. Gray, M.A.
R. Quinn, B.A., DIP. ECON. AND POL.
M. A. Stone, B.Sc.

Senior Lecturers

Miss M. A. Coulson, B.A.
A. D. Feachnie, DIP.ED., DIP.E.S.N.
Miss R. H. Gibbins, B.Sc., CERT. IN CHILD CARE
R. Gordon, B.Sc.(ECON.)
A. Hardman, DIP.ED., DIP.E.S.N.
D. Hargreaves, B.A.
Mrs A. Krejcova, PH.D.
M. L. McCullough, B.Sc., PH.D.
R. Pope, B.A.
Miss M. M. Poyser, S.R.N., S.C.M., H.V.TUTOR CERT.
D. Swift, B.A.
J. S. Washington, B.A., CERT. IN PSYCHIATRIC SOCIAL WORK
M. R. Wilson, M.A.

Lecturers

A. B. Anderson, M.A.
Miss J. Barker, CERT. IN PSYCHIATRIC SOCIAL WORK
S. J. C. Brown, B.A.
Miss L. Donaghie, B.A.
Mrs E. J. Dunn, B.A.
Mrs P. D. Farrands, S.R.N., H.V.CERT.
Mrs M. J. Finch, CERT. TEACHERS OF THE DEAF, DIP.AUDIOLOGY
M. Fitch, B.A.
Mrs D. M. Gibson
W. J. N. Hackl, F.I.L.
Mrs A. M. Hallam, B.A.
J. Hampson, B.Sc.(ECON.)
R. H. Hodson, S.T.A.C., F.I.A.L.
Miss S. M. Hopkins, B.Sc.(PSYCHOLOGY)
R. G. Hornby, DIP. TEACHERS OF E.S.N., DIP.ED.
T. K. Jenkinson, M.A.(CANTAB.), M.A.(ESSEX)
J. W. Jones, B.Sc., (ECON.), B.PHIL.
R. S. Kelly, B.Sc.
Mrs S. M. Kerrigan, B.A., CERT. IN CHILD CARE
M. F. McCarthy, M.A.
A. J. McHale, B.ED.
W. Parkinson, CERT. IN SOCIAL WORK
K. M. Phillips, B.A.
A. Pratt, B.A.(ECON.)
B. Scammells, B.A.
C. D. Smith, M.A.
A. Weymouth, B.A.
Mrs J. Wragg, DIP. TEACHERS OF E.S.N.

The Department of Language and Social Studies

Courses in the arts and social sciences are conducted in this Department, and include degree, diploma and certificate courses in Sociology, Social Studies, Applied Social Studies, Social Work, Special Education, Health Visiting, and Modern Languages. The Department is also the centre for general or extension studies for other courses in the Polytechnic and for language and communication teaching in courses as required. At the present time the bulk of the work is carried out in Robin House, a five-storey block adjacent to the main campus, in which are to be found general and specially equipped lecture and tutorial rooms, language laboratories, study rooms, a common-room with coffee bar, and academic and secretarial staffrooms.

It seems likely that a future Faculty of Humanities of the Polytechnic will evolve naturally out of the current work of the Department.

Many of the courses offered at present lead to professional status, and consequently students spend an appreciable amount of time in practical work placements in Social Work Agencies, Schools, Social Service Departments, etc. Strong links have been forged with Education and Social Service Authorities and Training Officers in industry and commerce, who together seek places on our courses for their staff and provide career opportunities for many of our students. Staff of the Department carry out research projects which are closely linked with the teaching undertaken by staff, which is of benefit both to students on our courses and local industrial, commercial and social enterprises.

SOCIOLOGY

B.Sc.(Honours) in Sociology (Branch III) of the University of London (A1) (DES2302)

Course Adviser: Mr R. Quinn

A three-year full-time honours degree course for those who contemplate careers in social work, or in industry or commerce in management or personnel management. Candidates must be registered as External Students with the University of London. Enquiries about admission to the course should be addressed to the Registrar, Preston Polytechnic, Corporation Street, Preston, PR1 2TQ (and not to the Universities' Central Council for Admissions).

Qualifications for entry: (a) five G.C.E. subjects including two at Advanced level, or (b) four G.C.E. subjects including three at Advanced level, or (c) matriculation in the University of London.

1st Year. *Tutor:* Mr A. Pratt. *Curriculum:* British social history in the 19th and 20th centuries; British political, administrative and legal institutions; economics; British social policy and administration; social investigation; social theory; general studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

2nd Year. *Tutor:* Mr J. Hampson. *Curriculum:* British social history in the 19th and 20th centuries; British political, administrative and legal institutions; economics; British social policy and administration; social investigation; social theory; one of the following optional subjects: the family in law and in society, industrial sociology, criminology; general studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

3rd Year. *Tutor:* Mr R. Pope. *Curriculum:* British social history in the 19th and 20th centuries; British political, administrative and legal institutions; economics; British social policy and administration; social investigation; social theory; one of the following optional subjects: the family in law and in society, industrial sociology, criminology; general studies

Course duration: 24th September to 5th July (36 weeks)

Examinations: external

Qualification: B.Sc. (Honours) in Sociology of the University of London

London University Diploma in Social Studies (A2) (DES2305)

Course Adviser: Mr R. Quinn

This two-year full-time course leading to the Diploma in Social Studies of the University of London provides a basic academic qualification for students contemplating a career in professional social work such as Probation, Child Care, Family Casework, Medical Social Work and Moral Welfare Work. The Diploma is also relevant for workers in other branches of social services such as Youth Employment, Welfare and Mental Welfare Work and those engaged in administration within the social services and in voluntary organisations.

Qualifications for entry: applicants must attain 20 years of age during the first term of the course, and should normally possess five G.C.E. subjects including two at 'A' level, or four G.C.E. subjects including three at 'A' level, or matriculation in the University of London.

Applicants over 23 years of age who possess other qualifications or who have experience in the field of social work may be admitted in certain circumstances and should consult the Head of Department for further information.

1st Year. *Tutor:* Miss J. Barker. *Curriculum:* social structure, social administration, social agencies, sociology, psychology, philosophy, history, visits of observation, general studies.

Course duration: 24th September to 5th July (36 weeks) followed by 12 weeks' supervised practical work.

Examinations: internal

2nd Year. *Tutor:* Mrs J. Dunn. *Curriculum:* social structure, history, psychology, sociology, social agencies, social casework, social administration, visits of observation, general studies.

Course duration: 24th September to 5th July (36 weeks) followed by 12 weeks' supervised practical work

Examinations: London University Social Studies Diploma, Parts I and II

Qualification: London University Diploma in Social Studies

Careers in Sociology

The subject matter of the social sciences is that most fascinating and important topic of all – people: how they behave as individuals and in groups, how society changes and how it is governed; how social problems arise and what society does to cure them. Though these questions are as old as man himself, the science which seeks to answer them systematically, which is sociology, and the group of professions based upon it are relatively new.

Graduates in sociology can enter industry as management trainees, as line or personnel managers, or they may work in marketing or research. The course which leads to the B.Sc. Sociology at this Polytechnic is particularly suitable for students thinking of careers in social administration and social work, or in teaching.

SOCIAL WORK

Diploma in Applied Social Studies (Post-graduate) (A2) (DES1214)

Course Adviser: Mr B. L. Gray

A one-year full-time course leading to the Diploma in Applied Social Studies awarded by the Polytechnic and to the Certificate of Qualification in Social Work awarded by the Central Council for Education and Training in Social Work.

Qualifications for entry: applicants must be at least 21 years of age and possess either (a) a relevant degree with fieldwork experience gained either as part of an undergraduate course or in post, or (b) a Diploma in Social Studies or Social Administration together with fieldwork experience.

Application procedure: the course begins in September each year. Selection will be by interview and references will be required from academic tutors and a fieldwork supervisor. Information and application forms should be obtained from The Clearing House for Post Graduate Courses Leading to a Professional Qualification in Social Work, c/o Social Work Advisory Service, 26 Bloomsbury Way, London, WC1A 2SR.

Curriculum: theory and practice of social work including casework, groupwork and community work, human growth and behaviour, social administration and management of the social services, law, psychiatry, social aspects of health and disease, T-groups, and social work research.

The fieldwork component of the course is arranged on a concurrent basis with the theoretical teaching, students spending two days in the Polytechnic and three days a week in placement until the final part of the course which is a block placement. The first placement runs for the first and second terms, and the second extends over the third term and continues as a block until September. It is hoped to arrange in future for some students to remain in one agency for the whole of the fieldwork placement. Discussions regarding placements are held with students, and their preference and experience are fully considered before coming to a final decision. The range of fieldwork placements is fairly wide and it is hoped to extend the opportunities for experience in group and community work.

Course duration: 17th September 1973 to 13th September 1974

Assessment: final assessment will be by periodic evaluation of course work, including written work, contribution to discussions and two long essays. An oral examination may be required.

College Diploma in Social Work (A2) (DES1214)

Course Adviser: Miss R. H. Gibbins

A two-year full-time course leading to the Diploma in Social Work awarded by the Polytechnic and the Certificate of Qualification in Social Work awarded by the Central Council for Education and Training in Social Work. The aim of the course is to train candidates to become Social Workers with a knowledge of a wide range of problems.

Qualification for entry: applicants must be aged 20 or over at the start of the course. They must have the personal qualities necessary for social work and the academic ability to benefit from the course. Candidates under 25 will normally also be required to hold 5 G.C.E. 'O' level passes or 2 'A' level passes, English language to be among the pass subjects.

Application procedure: the course begins in January each year and selection is usually completed in May of the previous year. Forms may be obtained from the Senior Tutor in Social Work, Department of Language and Social Studies, Preston Polytechnic, Robin House, Fylde Street, Preston, PR1 7DR.

Curriculum: subjects studied include human growth and behaviour, social policy and administration, sociological influences in human behaviour, social history, family law and the theory and practice of casework. Students will undertake four terms of concurrent theoretical and practical training, a term devoted entirely to theoretical work, a block placement and a final period of theoretical training. Practical training includes a placement related to the teaching of social policy and administration and a placement related to the teaching of casework. There will be a four-week residential placement in the summer of each year.

Assessment: the final assessment is based on (a) the student's work throughout the course, (b) supervisors' reports on practical work training, and (c) examinations and/or projects in the main subjects.

Careers in Social Work

Local Authorities are required by the Social Services Act 1970 to establish Social Service Departments to carry out such functions as child care, welfare services under the National Assistance Act 1948, mental health social work, home help, adult training centres, day nurseries, and social work previously undertaken by some housing departments. Social Service Departments provide a wide reaching single service offering help to deprived children and the aged, the physically and mentally handicapped, the childless family, the one parent family and the single adult. In fact, to all age groups with a great variety of social needs.

The Social Worker is trained to work for and within the community and adopts the following methods in applying his or her skill and training to prevent or alleviate human distress:

- (a) casework : centred on individuals and families in difficulties, assisting them to meet and resolve their problems and make use of the services available to them,
- (b) group work : aimed to help people with common problems by fostering mutual support and encouragement among them,
- (c) community work : based on the assumption that the social worker can act as an initiator within a neighbourhood in order to mobilise available human resources to tackle local problems.

Social Workers are employed by local authorities, in hospitals, with voluntary social work organisations, or in industry or commerce in personnel management. They may be employed as Social Workers in the field or in social work administration, although most will find themselves involved in both aspects of the profession.

HEALTH VISITING

Health Visitor's Certificate (A2) (DES3196)

Course Adviser: Miss M. M. Poyser

A one-year full-time course of combined theoretical and practical training leading to the award of a Certificate in Health Visiting by the Council for Training of Health Visitors.

Qualifications for entry: candidates must be State Registered Nurses with approved midwifery experience and possess in addition (a) five G.C.E. subjects at 'O' level, or (b) other approved educational qualifications, or (c) satisfy the Council as to their educational fitness for the course by means of an Entrance Test.

Course of study: there are five main areas of theoretical study: the development of the individual, the individual in the group, the development of social policy, social aspects of health and disease, and principles and practice of health visiting. Students also undertake visits of observation, and twelve weeks of supervised fieldwork.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed, and a written project. Periodic assessment is maintained throughout the course

Qualification: the Health Visitor's Certificate

Careers in Health Visiting

The Health Visitor is a nurse with a post-registration qualification, the Health Visitor's Certificate. She is an essential member of the community health team, providing a continuing health advisory service to families and individuals. Her work has five main aspects:

- (a) the prevention of mental, physical and emotional ill-health or the alleviation of its consequences,
- (b) the early detection of ill-health and the surveillance of high risk groups,
- (c) the recognition and identification of need and mobilisation of appropriate resources where necessary,
- (d) health teaching; individual teaching is undertaken by all Health Visitors and, if she has a special aptitude, she may undertake group teaching,
- (e) the provision of care, including support during periods of stress and advice and guidance in cases of illness as well as in the care and management of children.

The Health Visitor not only identifies social need as a result of the visit following the statutory notification of birth, but more and more she is concerned with problems she uncovers in the course of her subsequent contact with the family or as she becomes known in the locality. The association of the Health Visitor with the family doctor provides further opportunity of establishing contact with families or individuals living alone who present a potential risk of physical, mental or social breakdown.

TEACHING

The Teacher's Certificate of the University of Lancaster (A2) (DES 4345)

Course Adviser: Mr A. Hardman

A three-year full-time course organised jointly by the Preston Polytechnic and the Chorley College of Education. The course provides the initial qualification for entry to the teaching profession in Primary and Secondary Schools recognised by the Department of Education and Science, and is specially directed to those wishing to teach mentally handicapped children.

Qualifications for entry: applicants must attain their 18th birthday on or before the 1st October of the year of entry and have passed at 'O' level G.C.E. in at least five subjects, including English language. Some practical experience of the education of mentally handicapped children is desirable but not essential.

Admission procedure: applicants are required to complete the Polytechnic's standard application form, the Chorley College of Education's application form, and the necessary documentation for Clearing House purposes. These will be sent to enquirers along with the necessary instructions.

to Certificates and Diplomas of the Royal Society of Arts, in which the modern
1st Year. *Tutor:* Mr R. G. Hornby. *Curriculum:* (1) education, developmental curricular activities, and practice of education at the Chorley College of Education; (2) integrated main/subsidiary course in mental handicap at the Preston Polytechnic. Students will normally spend each week two days at the Preston Polytechnic, two days at the Chorley College of Education and one day in a School for observation and teaching practice.

Course duration: 24th September to 5th July (36 weeks)

2nd Year. *Tutors:* Mr A. Hardman and Mr A. D. Feachnie. *Curriculum:* the subjects and pattern will be as that outlined for the first year.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed

3rd Year. *Tutors:* Mrs. J. Finch and Mr A. McHale. *Curriculum:* the subjects and pattern will be as that outlined for the first and second years.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal, externally assessed

Qualification: University of Lancaster Teacher's Certificate

Careers in Teaching of the Mentally Handicapped

Mental handicap is the result of damage to the brain, which may be caused by injury or disease, may stem from inherited abnormalities, or may be brought about by a wide variety of environmental influences including adverse social conditions. Research is being carried out to extend still further our knowledge of subnormality, and to make possible the development of new specialist techniques in the teaching of the mentally handicapped.

The teaching of the mentally handicapped is a highly specialised field of education since it demands particular knowledge and understanding of the nature of mental handicap as well as the professional expertise of the teacher. There are opportunities for teachers to enter all branches of this highly specialised sphere of education. Mentally handicapped children are educated in Special Schools which are equipped for the purpose. They are staffed by people trained for the task and who will normally be holders of the Teacher's Certificate.

LANGUAGES

Modern Foreign Language for Business

(a) Higher National Diploma

The Department of Business and Administration provides a two-year full-time course and a three-year sandwich course leading to the Higher National Diploma in Business Studies, in which modern foreign language study is offered as an option. The language teaching is undertaken by the Department of Language and Social Studies. French, German and Spanish are offered and students may select one or two of these for study. Applicants must possess a G.C.E. 'A' level certificate in at least one of the chosen subjects.

(b) Royal Society of Arts' Diploma for Bilingual Secretaries and/or Personal Assistants

The Department of Business and Administration provides one-year courses leading

foreign language content is provided by the Department of Language and Social Studies. French, German and Spanish are offered.

Emphasis in language is placed on obtaining practical skills, especially applicable to the world of business in relation to the European Common Market.

Further details of these courses can be obtained from the Registrar.

GENERAL CERTIFICATE OF EDUCATION

General Certificate of Education, Advanced level (B) (DES1195)

Course Adviser: Miss L. Donaghie

A one-year full-time course designed for students who have normally completed at least one year's study at Advanced level, whether on a full-time or part-time basis. In exceptional cases students may be admitted directly if they show evidence of ability to reach 'A' level standard after one year. Intending students should obtain the booklet 'G.C.E. Regulations' available at 30p post free from John Sherratt, Publishers, Park Road, Timperley, Cheshire.

Students will choose two or three subjects from: English, history, geography, French, German, Spanish, sociology, British constitution, music and general studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: G.C.E. 'A' level

Qualification: General Certificate of Education, Advanced level, of the Joint Matriculation Board.

GENERAL STUDIES

General Studies, sometimes referred to as Extension Studies, embraces the various courses provided throughout the Polytechnic with the object of broadening the educational experience of the student.

Because of the high degree of specialisation which is a part of today's society the student can give only limited attention to subjects beyond his specialisation. To compensate for this, most courses leading to degree and diploma qualifications include an element of complementary or extension studies. Normally, the first year of a course will deal with the social, recreational and academic aspects of Polytechnic life, the academic studies being concerned with the broad areas of science, technology and human studies in an effort to see these in their relationship one to another. For example, a scientist may have had little contact with engineering or business affairs; a student of languages may know little of the natural sciences or art or construction engineering; a student who has never been a games player at School may even so be anxious to remain physically fit or to know the rudiments of games and sports although he will never actively participate.

In addition, residential general studies courses are organised, normally of 2½ days' duration and held in hotels on the coast. These have included such varied topics as "Social Order", "Surrealism in the Cinema", "Mass Communication", "Whose Morality", "Voices of America", "Specialist in Society", and "The U.S.S.R."

Staff of the Department of Language and Social Studies organise these studies, the teaching being carried out by staff from all Departments of the Polytechnic. The aim of such studies is to enable students to acquire ancillary skills, to undertake an examination of a technological society and its special problems, and discover or consolidate a personal philosophy towards life.

Department of Mathematics and Computer Studies

Head of Department: W. Woodcock, B.Sc. F.I.M.A., M.B.C.S.

Senior Lecturers

J. S. Moorman, B.Sc.
W. D. Nash, M.B.C.S., A.I.D.P.
J. D. Rimmer, B.Sc., M.B.C.S.
D. Stelling, B.Sc., F.S.S.
A. F. Woodhurst, M.Sc.

Lecturers

G. J. Blackledge, B.Sc.
T. S. Griggs, M.Phil., M.Sc.
A. Lewis, C.Eng., M.I.E.E.
S. B. Lucas, B.Sc., A.F.I.M.A.
W. R. Madill, M.A.
D. K. Monk, B.Sc.
A. Payne, B.Sc.
L. R. Peace, M.A., A.F.I.M.A., A.I.S., F.S.S.
R. L. Pickering, M.Sc.
E. Taylor, B.Sc., Dip.Stats.
A. Walker
J. B. Wignall, B.A., A.F.I.M.A.

The Department of Mathematics and Computer Studies

The Department has spacious modern laboratories fully equipped to deal with all relevant methods of numerical mathematics, statistical experimentation and practical work in the basic logic of computer design and analogue computing. A purpose-built suite houses the Polytechnic's ICL 1901A Computer which is staffed and controlled by the Department. Programming advice and assistance are provided for students, as is equipment to enable those who so wish to punch their own paper-tape or punched cards as an alternative to using the Computer unit's professional system. A high standard of computer service is provided to students.

The work of the Department is in three major fields of study: (a) mathematics, (b) computing and data processing, and (c) statistics and operational research. The continuous development of advanced courses in each is planned, providing main study areas for some students and related studies for those whose chief interests are in other disciplines. Special courses in computing techniques and their various applications are arranged as required, usually in the evenings.

The Department maintains close links with industry, with other institutions and with schools. Regular meetings of the Lancashire and North Western Branch of the Institute of Mathematics and its Applications and of the Preston Branch of the British Computer Society are held in the Polytechnic. Non-members of these bodies are welcome to attend their lecture meetings. Not infrequently their topics are of general interest to the layman.

COMPUTER STUDIES

Higher National Diploma in Computer Studies (A2) (DES3912)

Course Adviser: Mr D. Stelling

Subject to final approval by the Department of Education and Science the first year of a three-year sandwich course will be offered from September 1974.

Qualifications for entry: applicants must show evidence of adequate ability in the use of English and must possess one of the following qualifications:

- (a) G.C.E. passes in mathematics and three other subjects, one of which must be at 'A' level,
- (b) an Ordinary National Certificate or Diploma in Sciences,
- (c) an Ordinary National Certificate or Diploma in Engineering,
- (d) an Ordinary National Certificate or Diploma in Business Studies with an attainment in mathematics equivalent at least to an 'O' level pass,
- (e) G.C.E. passes in three subjects together with the Certificate for Computer Personnel (C.G.L.I.319 or 747) with an attainment in mathematics at least to G.C.E. 'O' level pass standard, or
- (f) a qualification deemed by the Joint Committee to be equivalent to any of the above.

Tutors: Mr W. D. Nash, Mr D. Stelling, Mr A. F. Woodhurst

1st Year. Curriculum: programming, data processing, computer science, mathematics, basic statistics, business organisation, related studies.

Course duration: September to July (36 weeks)

Examinations: internal

2nd Year. Curriculum: programming, data processing, computer science, mathematics, statistics, mathematical techniques of management control, related studies.

Industrial period: September to April (26 weeks)

Course duration: April to July (12 weeks)

3rd Year. Curriculum: programming, data processing, computer science, systems analysis and methods, mathematical techniques of management control, statistics, business administration, related studies.

Course duration: September to July (36 weeks)

Examinations: internal, externally assessed

Qualification: Higher National Diploma in Computer Studies

Corporate Membership of the British Computer Society

The British Computer Society is the acknowledged professional organisation for computer personnel in this country, its members being engaged in the advancement, teaching and practice of computing and data processing and of their application in industry, commerce and the public service. The academic requirements for Associate Membership are the passing or exemption from Part I of the Society's examination. This exemption will be granted to holders of Higher National Diplomas in Computer Studies. The general education requirements are: G.C.E. 'O' level passes in mathematics, English language and three other subjects, or an approved equivalent.

Careers in Computing

Computers are increasingly playing a major role in the national system of communications, in the analysis of data and in the control of industrial plant of all kinds. The number of qualified computer staff necessary to maintain and develop computer systems is inadequate. This shortage is becoming more acute and could result in the slowing down of technical, industrial and commercial development and ultimately in damage to the national economy.

Computers can radically transform the operations to which they are applied. In addition they can perform operations which could not, in practice, be performed before. For this reason the demand for computer personnel is not only for people who can understand and develop the machines and their associated programming facilities, but also for people who understand the potentialities of computers in relation to particular situations and are able to apply them.

Careers at a senior level can be divided into two groups. There is a relatively small group, employed mainly by computer manufacturers and consultants, who are concerned with design and development and who will, in the main, have honours degrees in computer engineering or mathematics. Equally important is the group of computer managers, systems analysts and programmers who are concerned with the application of computers to particular fields of operation, whether this be data processing for commercial organisations, or production planning and control in scientific, technical and industrial organisations. This particular group needs a sound grounding in data processing, knowledge of the practical possibilities of different types of equipment and, for commercial applications, an appreciation of office practice and business procedures. The Higher National Diploma in Computer Studies is designed to educate students for employment of this kind.

Once the student has acquired a sound knowledge of his firm's organisation and requirements his advancement within the firm can be rapid, particularly if by further study he obtains membership of the British Computer Society. Salaries of Programmers and Systems Analysts are high, reflecting the national shortage of trained personnel.

GENERAL CERTIFICATE OF EDUCATION

General Certificate of Education, Advanced level (B) (DES1194)

Course Adviser: Mr L. R. Peace

A one-year full-time revision course in preparation for advanced level examinations. The course will also be appropriate for mature students seeking qualifications for entry to graduate courses.

Qualifications for entry: students must have attended G.C.E. Advanced level courses in their chosen subjects

Curriculum: suitable combinations of subjects chosen from : mathematics, statistics, computer science, computations, physics, chemistry, biology

Course duration: 24th September to 5th July (36 weeks)

Examinations: J.M.B. (physics, chemistry, biology). A.E.B. (mathematics, statistics, computer science, computations)

Qualification: General Certificate of Education, Advanced level

Department of Mechanical and Production Engineering

Acting Head of Department: D. M. Clapp, B.SC.(ENG.), PH.D., C.ENG., M.I.C.E., F.I. MECH.E.

Principal Lecturers

N. A. Butterworth, M.SC., C.G.I.A., C.ENG., F.I.MECH.E., F.I.PROD.E.
A. G. Parker, B.SC.(ENG.), M.SC.
J. Tirrell, B.SC., M.I.MECH.E.

Senior Lecturers

P. C. De Santos, B.SC., C.ENG., M.I.PROD.E.
M. J. Manning, B.SC., C.ENG., A.F.R.A.E.S.
H. Roberts, DIPL.ING., C.ENG., M.I.MECH.E.
P. Tucker, B.SC.TECH., M.SC., A.M.C.S.T., C.ENG., M.I.MECH.E.

Lecturers

K. Bennett, C.ENG., M.I.MECH.E., A.M.I.E.D.
R. H. Bryan, M.SC., C.ENG., A.F.R.A.E.S.
J. A. Burton, C.ENG., M.I.MECH.E., M.I.PROD.E.
A. Dickson, A.S.E.
L. J. Eccles
J. N. Greenhow, M.SC., C.ENG., M.I.PROD.E.
F. W. Grimshaw, C.ENG., M.I.MECH.E., M.I.E.D.
R. Hatton, C.ENG., M.I.MECH.E., M.I.PROD.E.
E. R. Joinson, B.SC.TECH., C.ENG., M.I.MECH.E., M.I.PROD.E., A.M.T.C.
F. J. McIntyre, C.ENG., M.I.PROD.E.
J. E. Meadows, C.ENG., M.I.MECH.E.
A. B. Morrison, B.SC., C.ENG., M.I.MECH.E.
A. Murray, C.ENG., M.I.PROD.E., M.I.MECH.E.
J. R. Nuttall, M.Sc.
G. Podmore, C.ENG., M.I.MECH.E., A.M.I.E.D.
G. T. Ramsden
F. Tattersall, C.ENG., M.I.MECH.E., M.I.PROD.E.
M. A. Wahhab, B.A., B.SC., D.I.C., C.ENG., M.I.PROD.E., A.M.INST. FUEL.

Staff accommodated in the Owen Street and Trinity Annexes

Principal Lecturer-in-Charge

H. Ogden, M.PHIL., C.ENG., F.I.PROD.E., M.I.MECH.E., M.I.E.I.

Senior Lecturer

R. J. Nicolle, T.D., T.ENG.(C.E.I.), M.I.M.I.

Lecturers and Assistant Lecturers

J. Braddock, R.TECH.ENG., M.WELD.I., M.I.S.M.E.
J. Caunce, CERT.ED.
E. Davies
A. Diggles, R.TECH.ENG., M.INST.B.E.
J. Forshaw, C.ENG., M.I.PROD.E.
R. Greenhalgh, M.INST.B.E.
F. Griffiths, C.ENG., M.I.PROD.E.
T. A. Hulton, R.TECH.ENG., M.I.M.I., A.M.I.R.T.E.
G. E. S. Jepson, T.ENG.(C.E.I.), A.M.I.M.I., A.I.R.T.E.
W. R. Kershaw, A.WELD.I.

I. J. Lund, J.P. T.ENG.(C.E.I.), M.I.E.I.
J. McRory
I. L. McRoy, T.ENG.(C.E.I.), A.M.I.M.I., A.I.R.T.E.
R. H. Mason
D. J. Newsham
W. E. Pannell, T.ENG.(C.E.I.), M.WELD.I., M.I.S.M.E.
F. K. Pearson, T.ENG.(C.E.I.), A.M.I.M.I., A.M.I.R.T.E.
L. Pearson, A.M.I.M.I.
W. H. Sharples, T.ENG.(C.E.I.), M.I.TECH.E.
K. Walker, M.I.S.M.E., A.WELD.I.
R. Watson, T.ENG.(C.E.I.), A.M.I.M.I.
F. Whelan, T.ENG.(C.E.I.), M.I.TECH.E.
R. Woodward, T.ENG.(C.E.I.), M.I.PLANT.E.
P. D. Yates, C.ENG., M.I.PROD.E.

The Department of Mechanical and Production Engineering

The Department sees its responsibility to the community as lying in three main areas – the provision of education in the mechanical and production engineering fields for school leavers and students already in employment, the provision of specialist service facilities to industry, and research and development.

A number of advanced courses are offered which lead to professional or technician qualifications in mechanical and production engineering and engineering design. During the period whilst the W. R. Tuson College of Further Education is being built the Department offers, in conjunction with the Department of Electrical and Electronic Engineering, the Ordinary National Diploma in Technology (Engineering), which provides entry to many engineering degree and diploma courses. Within this range of courses, facilities exist for transfer of students where the regulations of appropriate examining bodies permit.

Special courses of varying length are arranged to meet the requirements of local industry. Departmental laboratories house equipment suitable for test and development work in connection with materials testing, stress analysis, fluid mechanics, applied thermodynamics, control and vibration, metrology and machine tool technology. These facilities are offered to industrial organisations and have in the past contributed usefully to the solution of their technical problems. Collaboration with industry is welcomed. The Department is a member of the Department of Trade and Industry's 'Interlab' scheme.

There is an active interest in applied research and many staff are involved in projects for local industry and, in collaboration with universities or the Council for National Academic Awards, for the award of higher degrees. Much of this work lies in the field of production engineering.

College Diploma in Mechanical Engineering

Course Adviser: Mr M. J. Manning

A four-year sandwich course, accepting both Polytechnic and Industry-based students. A Higher National Diploma is awarded upon the successful completion of the third year, and this accords exemption from the C.E.I. Part I Examinations. A revised scheme came into operation last year, and will work its way through in subsequent years.

Qualifications for entry: normally, students must be 18 years of age on 1st September of the year of entry and hold either (a) an Ordinary National Certificate or Diploma in Engineering or in Mechanical or Electrical Engineering with passes, preferably at 50% level, at the final level in mathematics, applied mechanics and one other subject, or (b) the G.C.E. in five subjects, two of which must be mathematics and physics, one of these two having been passed at advanced level

and the other having been studied to the same level (a C.S.E. grade 1 pass in an approved subject may be accepted as an alternative to a G.C.E. 'O' level pass in that subject), or (c) a Mechanical Engineering Technician's Certificate, Parts I and II (C.G.L.I. course No. 293), together with the completion of appropriate additional study arranged by the Polytechnic, or (d) other qualifications deemed equivalent to the above by the Joint Committee for the award of Diplomas. Students who have no pass in English language at G.C.E. 'O' level must sit for and pass this subject before entering the second year of the course. Students who have not passed engineering drawing at either G.C.E. 'O' level or O.N.C. must take additional classes in the subject in the first year.

1st Year (A2) (DES1088). *Tutors:* Mr A. B. Morrison and Mr R. Bryan. *Curriculum:* the first year is common for the Diplomas in Mechanical Engineering, Mechanical Engineering (Industrial Design) and Production Engineering, and includes mathematics, materials science, thermodynamics of fluids, mechanics of solids, engineering drawing, graphics and exploration of form, electrical studies and general studies. In addition, entrants from G.C.E. 'A' level and O.N.C./O.N.D. courses will spend 12 of the 36 weeks in complementary engineering studies, in polytechnic workshops and associated laboratories. Entrants from the Mechanical Engineering Technician's course will have a 6 week introductory course, and spend only 6 weeks in complementary engineering studies. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal (progressive assessment)

2nd Year (A2) (DES1088). *Tutor:* Mr F. W. Grimshaw. *Curriculum:* mathematics, materials and structures, engineering dynamics, thermodynamics, mechanics of fluids, electrical studies or manufacturing technology, engineering design and general studies. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

3rd Year (A2) (DES1088). (Old Scheme). *Tutor:* Mr P. Tucker. *Curriculum:* for option details see the course brochure. Subjects are selected from: mathematics, engineering dynamics, properties of materials and stress analysis, engineering design, theory of structures, mechanics of fluids, power plants, production technology, electro-technology, general studies, together with a design office project. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th April (26 weeks)*

Examinations: H.N.D. assessed in 6 subjects, together with assessed design project

Qualification: Higher National Diploma in Mechanical Engineering on passing five assessed subjects including properties of materials and stress analysis and engineering dynamics. Exemption from C.E.I. Part I Examinations.

* Students who intend to proceed to the fourth year of the course will return to the Polytechnic on 22nd April for 10 weeks to commence the 4th year C.E.I. Part 2 studies.

4th Year (A1) (DES3708). *Tutor:* Mr M. J. Manning. *Curriculum:* the engineer in society, properties and mechanics of materials and an approved selection of three from: engineering thermodynamics, fluid mechanics, mechanics of machines

systems and control technology, production technology, mathematics, physical and mechanical metallurgy, together with design or laboratory projects.

Course duration: 24th September to 5th July (36 weeks)

Examinations: College Diploma. Students may also enter for the C.E.I. Part 2 Examinations in the engineer in society and five of the subjects listed above.

Qualification: successful completion of the course results in the award of the College Diploma

Careers in Mechanical Engineering

The Mechanical Engineer makes a contribution to almost every aspect of modern life, from agriculture to aerospace. He is responsible for the design and development of products ranging from process timers small enough to swallow to turbines developing a million kilowatts each. His work may involve co-operation with surgeons and physicians in the bio-engineering field; with chemists in the design of pill-making machinery or oil refineries. The astronomer relies on the engineer for his giant telescopes, the tailor for his sewing machine, and the school boy for his bicycle. It is, indeed, difficult to name a field in which the Mechanical Engineer is not involved.

It follows that the work of the Mechanical Engineer can be more diverse than that of members of many other professions. His career may, for example, begin in railway work, continue in the design of fire pumps, and end as a technical director of a firm of shipbuilders. On the other hand, engineers who work in the same branch throughout life can find technical progress so rapid that new and intriguing problems are constantly arising. Even in a traditional field like steam power plant, turbine engineers are today designing machines forty times as powerful as those in use when they started work. As never before, engineering is a profession as interesting as it is socially relevant.

Within any branch of mechanical engineering is a wide spectrum of activities — design, development, research, technical sales, operation, management and teaching. The vast range of creative activity needed in the development and improvement of current products, and in contriving new devices to meet needs not yet known, offers an exciting challenge to all young Chartered Mechanical Engineers.

College Diploma in Mechanical Engineering (Industrial Design Option)

Course Adviser: Mr H. Roberts

A four-year sandwich course, accepting both Polytechnic and Industry-based students. A Higher National Diploma is awarded upon the successful completion of the third year, and this accords exemption from the C.E.I. Part 1 Examinations. A revised scheme came into operation last year and will work its way through in subsequent years.

Qualifications for entry: as detailed in the course leading to the College Diploma in Mechanical Engineering.

1st Year (A2) (DES1088). *Tutors:* Mr A. B. Morrison and Mr R. Bryan. The curriculum of the first year is common for the Diplomas in Mechanical Engineering, Mechanical Engineering (Industrial Design) and Production Engineering. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal (progressive assessment)

2nd Year (A2) (DES1088). *Tutor:* Mr F. W. Grimshaw *Curriculum:* this is common with the 2nd year of the College Diploma in Mechanical Engineering. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

3rd Year (A2) (DES1088). (Old Scheme). *Tutor:* Mr H. Roberts. *Curriculum:* mathematics, engineering dynamics, strength of materials, methods of manufacture, product design, electro-technology, design studio, project and general studies. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th April (26 weeks)*

Examinations: Higher National Diploma assessed in 6 subjects, and assessed design project

Qualifications: Higher National Diploma in Mechanical Engineering on passing five assessed subjects, including strength of materials and engineering dynamics. Exemption from C.E.I. Part 1 Examinations.

* Students who intend to proceed to the fourth year of the course will return to the Polytechnic on 22nd April for 10 weeks to commence the 4th year C.E.I. Part 2 studies.

4th Year (A1) (DES3708). *Tutor:* Mr M. J. Manning. *Curriculum:* the engineer in society, properties and mechanics of materials and an approved selection of three from: engineering thermodynamics, fluid mechanics, mechanics of machines, systems and control technology, production technology, mathematics, physical and mechanical metallurgy, together with design or laboratory products.

Course duration: 24th September to 5th July (36 weeks)

Examinations: College Diploma. Students may also enter for the C.E.I. Part 2

Examinations in the engineer in society and five of the subjects listed above.

Qualification: Successful completion of the course results in the award of the College Diploma.

Careers in Industrial Design

The term 'Industrial Design' requires explanation, as all engineering designers are engaged in one industry or another, and most engineers are to a greater or lesser degree designers. In the field of the creative artist, however, the design of articles for industrial (as opposed to craft) production is a relatively new activity, and the term 'Industrial Designer' was conceived as a generic description for those so occupied. It has now been extended to cover all those engaged in the design of engineering products in which aesthetic consideration forms a major factor in the design.

The profession of Industrial Designer offers a new and exciting field of endeavour in which emphasis is on imagination and creative thought, supported by an appreciation of the real needs of society and a sound knowledge of engineering. Opportunities for a young person with these attributes are considerable. He or she may form part of a design team in a large organisation, may be a consultant – either in partnership or free-lance – or may be the sole designer, with draughtsmen working for him or her, in a smaller firm.

It is important to appreciate that whilst many Industrial Designers are at present working for firms marketing consumer goods – washing machines, refrigerators and the like – an increasing number are engaged in both light and heavy engineering. The improved appearance and ease of operation of modern machine tools – some costing hundreds of thousands of pounds – is due to their efforts. Dockside

and steelworks cranes of up to 250 ton capacity, earth-moving machines, electric motors, pumps, are all examples of engineering products on which the Industrial Designer has had a marked influence. It is perhaps worth emphasising that in many cases the new design is cheaper than the old, and that the services of the Industrial Designer are being called for in the marketing departments of many large firms.

College Diploma in Production Engineering

Course Adviser: Mr P. De Santos

A four-year sandwich course, accepting both Polytechnic and Industry-based students. A Higher National Diploma is awarded upon the successful completion of the third year, and this accords exemption from the C.E.I. Part 1 Examinations.

Qualifications for entry: as detailed in the course leading to the College Diploma in subsequent years.

Qualifications for entry: as detailed in the course leading to the College Diploma in Mechanical Engineering.

1st Year (A2) (DES1088). *Tutors:* Mr A. B. Morrison and Mr R. Bryan. The curriculum of the first year is common for the Diplomas in Mechanical Engineering, Mechanical Engineering (Industrial Design) and Production Engineering. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal (progressive assessment)

2nd Year (A2) (DES1088). *Tutor:* Mr J. Greenhow. *Curriculum:* mathematics, materials and structures, engineering dynamics, electrical studies, general studies, manufacturing process technology, manufacturing plant and control technology, analysis of manufacturing systems.

Course duration: 24th September to 5th April (26 weeks)

Examinations: internal

3rd Year (A2) (DES1088). (Old Scheme). *Tutor:* Mr J. Greenhow. *Curriculum:* machining and forming technology, manufacturing plant, manufacturing control, industrial engineering, mechanics of machines, mechanics and properties of materials, mathematics and statistics, process metallurgy, and general studies. The curriculum includes a 3-day residential course.

Course duration: 24th September to 5th April (26 weeks)*

Examinations: H.N.D. assessed in 7 subjects

Qualification: Higher National Diploma in Production Engineering on passing 5 assessed subjects. Exemption from C.E.I. Part 1 Examinations.

* Students who intend to proceed to the fourth year of the course will return to the Polytechnic on 22nd April for 10 weeks to commence the 4th year C.E.I. Part 2 studies.

4th Year (A1) (DES3708). *Tutor:* Mr P. de Santos. *Curriculum:* the engineer in society, production technology, industrial engineering III, together with two subjects from the following: properties and mechanics of materials, organisation of manufacturing plant, mechanics of machines, systems engineering and control technology, operational research, process metallurgy, together with design or laboratory projects.

Course duration: 24th September to 5th July (36 weeks)

Examinations: College Diploma. Students may also enter for the C.E.I. Part 2 Examinations in the engineer in society and five of the subjects listed above.

Qualification: Successful completion of the course results in the award of the College Diploma.

Careers in Production Engineering

Every device required by man, from safety pins to space vehicles, must be manufactured. It is the responsibility of the Production Engineer to translate the ideas of the scientist and the designs of the engineer into reality. He or she will be responsible for devising methods of manufacture and supplies of materials, for organising the flow of work and, in general, for managing the complete process from raw material to finished product.

The work may range from production control – the application of scientific principles to systems of manufacture and management – to detailed investigation and research into methods of forming materials. Extremely rapid developments are taking place in the field of automation, and the application of computers to plant and machine tools. In the field of metal shaping and fabrication many exciting avenues are opening, such as the application of lasers, electron beam welding, and processing in vacuo.

The Production Engineer must be versatile, technically competent, and able to make decisions. Much of the work will be involved in human relationships – the majority of senior production engineers are managers – and there is ample opportunity for those with a flair in this direction.

Membership of Professional Institutions

All students accepted into a professional course are advised to apply for student membership of the appropriate Engineering Institution; such membership has many advantages. Course Advisers can supply all necessary information and application forms.

The title of 'Chartered Engineer' (C.Eng.) is awarded by the Council of Engineering Institutions (C.E.I.) which operates under Royal Charter and represents all the major Institutions*. To achieve this title, it is necessary both to meet the academic requirements of the Council of Engineering Institutions and to be elected into corporate membership of one of the constituent Institutions of the Council.

The C.E.I. examination is in two parts. Part 1 is common to all branches of engineering. Part 2 comprises one subject which is compulsory for all candidates, together with five others chosen from a wide variety of alternatives. Each Engineering Institution is free to lay down which of these alternatives must be passed to qualify

- * The constituent members of the Council of Engineering Institutions are:
- | | |
|--|--|
| The Royal Aeronautical Society | The Institution of Mechanical Engineers |
| The Institution of Chemical Engineers | The Institution of Mining Engineers |
| The Institution of Civil Engineers | The Institution of Mining and Metallurgy |
| The Institution of Electrical Engineers | The Institution of Municipal Engineers |
| The Institution of Gas Engineers | Royal Institution of Naval Architects |
| The Institution of Marine Engineers | The Institution of Production Engineers |
| The Institution of Electronic and
Radio Engineers | The Institution of Structural Engineers |

for membership; most have specified two only, leaving the candidate to choose the others to suit his personal interests or the course in which he is studying. The standard of the Part 2 examination is that of a University Degree in Engineering. The other requirements of corporate membership (general education, industrial training, and responsible experience) are laid down by the particular Institution into which an engineer seeks election.

Ordinary National Diploma in Technology (Engineering) (B) (DES4395)

Course Adviser: Mr E. R. Joinson

The Department of Mechanical and Production Engineering co-operates with the Department of Electrical and Electronic Engineering in providing a two-year full-time course leading to the Ordinary National Diploma in Technology (Engineering). Full details can be found on page 45.

Department of Physics

Head of Department: A. M. Short, B.Sc., Ph.D., M.INST.M.C., F.INST.P

Principal Lecturer

R. J. Trebilcock, M.Sc., M.INST.P.

Senior Lecturers

A. R. Curtis, M.Sc., Ph.D., A.R.C.S., M.INST.P.

G. R. Marr, M.Sc., M.INST.P.

M. A. S. Sweet, B.Sc., Ph.D., M.INST.P.

E. Webster, B.Sc. Ph.D., M.INST.P.

Lecturers

P. A. Bates, B.Sc., Ph.D., M.INST.P.

P. R. Bissell, M.Sc., M.INST.P.

A. Christy, B.Sc., Ph.D., M.INST.P.

F. R. Dean, M.Sc., M.INST.P.

R. T. Egerton, M.Sc., M.INST.P.

M. C. Holmes, B.Sc., Ph.D., A.INST.P.

A. R. Howells, B.Sc., M.INST.P.

D. R. Peck, B.Sc., Ph.D., M.INST.P.

Research Assistants

P. Johnson, GRAD.INST.P.

C. J. Wareing, GRAD.INST.P.

The Department of Physics

The Department aims to provide an environment in which the individual talents and interests of students can prosper, and there is thus a bias towards flexible course structures which allow for inter-disciplinary as well as single subject studies.

The Department provides advanced full-time and sandwich courses, including degree courses in physics and astronomy, the Graduateship of the Institute of Physics and the Higher National Diploma in Physics. Each full-time and sandwich course student has two tutors; one to provide guidance on academic matters, the other to offer help and guidance of a personal nature.

A wide range of intermediate and advanced level part-time courses is also offered, including the Associateship of the Institute of Physics, the Higher National Certificate in Applied Physics and the Ordinary National Certificate in Sciences. Part-time studies in the Department offer the advantage of study in an environment which can only be provided in an institution having a wide range of full-time courses and the consequent high calibre of staff and generous provision of equipment. It is proposed from 1974 to offer a part-time course leading to the B.Sc. in Physics, leading to corporate membership of the Institute of Physics and designed to exempt students from C.E.I. Part 2 Examinations.

Able graduates are encouraged to undertake postgraduate research directed at higher degrees with one of the departmental research teams and the Department is able to offer a limited number of research studentships for this purpose. Research activities receive external support and the volume of this support is increasing.

Close links are maintained with industry and regular meetings of professional bodies are held in the Department, including meetings of the Lancaster branch of the Institute of Physics and the North Lancashire Physics Teachers Centre.

The Department houses a wide range of items of advanced teaching and research equipment including general electronic equipment, spectrographs, measuring devices, photographic and radiographic equipment, cryostats, high vacuum equipment, acoustic devices, ultrasonic and non-destructive testing equipment and microwave apparatus. Collaboration with industry is welcomed and subject to availability the equipment may be used by qualified technologists. Training courses on special techniques will be given as required.

Meteorological records started in Preston in 1876, and astronomical and meteorological services are provided by a nearby meteorological station and two observatories. Facilities available to students include a 20cm refractor, an 8cm reversible transit instrument, and a 39cm astrograph. There is a wide range of supporting equipment.

ASTRONOMY AND PHYSICS

B.Sc. (Sciences) of the University of London (A1) (DES2149)

Course Adviser: Mr R. J. Trebilcock

A three-year full-time course for science qualified students leading to a two-subject degree from the following offered in this Polytechnic: Astronomy, Physics, Biochemistry, Physiology, Chemistry. The course is designed to give a broad education in science, with particular emphasis on physics and its applications. There are many careers in science open to such two-subject specialists, but those wishing to extend their studies further in a particular field would normally do so by pursuing a course of post-graduate research leading to a higher degree. The Department of Physics co-operates with the Department of Chemistry and Biology in providing the alternative main subject options of Astronomy and Physics (see page 36).

To qualify for the degree, a candidate should have completed satisfactory courses and have reached acceptable standards in the examinations set by the University of London in *three* subjects at Standard I and *two* main subjects at Standard II. Standard I subjects require the equivalent of 1/3rd year of full-time study and Standard II subjects require one year of full-time study beyond Standard I.

Qualifications for entry: these are as detailed on page 36. Every candidate must have qualified in physics and mathematics at G.C.E. 'A' level, or in an equivalent combination of two subjects, e.g. Physical Science and Statistics, Applied Mathematics and Pure Mathematics.

1st Year. Tutor: Dr D. R. Peck. *Curriculum:* physics I, mathematical methods I and one other subject chosen from chemistry I, physiology I or psychology I.

Course duration: 24th September to 5th July (36 weeks)

Examinations: University of London

2nd Year, Physics II. Tutor: Mr R. J. Trebilcock. *Curriculum:* general properties of matter; atomic, electron and nuclear physics; heat and thermodynamics acoustics; optics, electricity, magnetism and electronics; mathematics and computing.

Course duration: 24th September to 5th July (36 weeks)

Examinations: University of London

3rd Year, Astronomy II. Tutor: Dr V. Barocas. *Curriculum:* descriptive astronomy, spherical astronomy, planetary motions, astrophysics, radiation laws, spectroscopy, atomic excitation, stellar evolution, solar terrestrial relations, radio astronomy; use of equatorial telescope and transit instrument, planetary and solar observations, double stars, celestial photography, use of astrograph and spectrograph, photo-electric photometry.

Course duration: 24th September to 5th July (36 weeks)

Examinations: University of London

Qualification: Bachelor of Science of the University of London

APPLIED PHYSICS

Graduateship of the Institute of Physics : four-year course

Course Adviser: Mr G. R. Marr

A sandwich course in which the Higher National Diploma in Applied Physics is taken at the end of the third year; good marks in the third year examination secures exemption from Part I of the Institute's Graduateship examination. Success in the Part II examination, which is taken at the end of the fourth year, gives the academic qualifications for admission to Associate Membership.

Qualifications for entry to the first year of the course :

1. Students must have studied both physics and mathematics to G.C.E. Advanced level standard and passed in one of these subjects. In some instances students who are admitted with a single 'A' level pass may have to undertake supplementary studies in either physics or mathematics and sit an examination at the end of their first term in the Polytechnic, or
2. An Ordinary National Certificate in Sciences with passes in the following subjects : (a) basic physics, basic mathematics and elective physics ; or (b) basic physics with a mark of at least 50%, basic mathematics and elective mathematics ; or (c) basic physics, basic mathematics and a subject comprising approved sections of the elective physics and elective mathematics syllabuses, or
3. An Ordinary National Diploma in Sciences, normally including passes in major physics and minor mathematics, or
4. An Ordinary National Certificate in Applied Physics, or
5. An Ordinary National Certificate in Engineering with credits in Physics II and electrical engineering 'A' and passes in mathematics and one other subject, or
6. A qualification deemed by the Physics Joint Committee to be equivalent to any of the above.

1st Year (A2) (DES1093). *Tutor:* Mr P. R. Bissell. *Curriculum:* physics ; electricity and magnetism, properties of matter, heat and thermodynamics, optics, atomic and nuclear physics ; high vacuum technology ; spectroscopy ; electronics ; chemical and physical properties of materials ; mathematics : complex numbers, differential equations, vector algebra ; engineering drawing ; general studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: internal

2nd Year (A2) (DES1093). *Tutor:* Mr R. T. Egerton. *Curriculum:* physics, electricity and magnetism 2, optics 2, wave motion and sound, thermodynamics 2 ; X-ray technology ; electronics ; instrumentation and control ; nuclear physics 2 ; mathematics : further integration, statistics, computer programming ; related studies.

Course duration: 25th March to 5th July (12 weeks)

Examinations: internal

3rd Year (A2) (DES1093). *Tutor:* Mr G. R. Marr. *Curriculum:* physics: quantum mechanics, atomic physics, statistical mechanics, thermodynamics, low temperatures, relativity, optics; mathematics: differential equations, vector calculus, fluid flow, small oscillations, statistics; electronics: amplifiers, modulation, microwaves, logic circuits, analogue computers; instrumentation and control; atomic and nuclear physics; non-destructive testing; applied acoustics; related studies.

Course duration: 24th September to 5th July (36 weeks)

Examinations: H.N.D. in Applied Physics

Qualification: Associateship of the Institute of Physics

4th Year (A1) (DES2147). *Tutor:* Dr M. A. S. Sweet. *Curriculum:* physics: thermodynamics, optics, solid state physics; electronics or high energy radiations or applied acoustics.

Course duration: 24th September to 5th July (36 weeks)

Examinations: Graduateship of the Institute of Physics

Qualification: Associate Membership of the Institute of Physics

Graduateship of the Institute of Physics: one-year course (A1) (DES2147)

Course Adviser: Dr M. A. S. Sweet

A one-year course for students with qualifications in science or engineering. The aim of the course is to secure corporate membership of the Institute of Physics for physicists with intermediate qualifications and also for engineers and scientists who aspire to senior positions and need to have professional membership of one or more corporate bodies. The course includes a study in depth of some aspect of physics. This study may be in either a branch of pure physics such as nuclear physics, or in an applied subject such as acoustics or non-destructive testing.

Qualifications for entry: the Associateship of the Institute of Physics or a qualification deemed by the Physics Joint Committee to be equivalent; examples of such equivalents are –

1. The H.N.D. in Applied Physics including a pass in mathematics.
2. The H.N.D. in Electrical Engineering when obtained at the Malvern College of Electronics.
3. The H.N.C. in Applied Physics with an approved group of supplementary subjects.
4. The H.N.C. in Applied Physics which has been adjudged as being of sufficiently high all round standard, and followed by a further year of approved study.
5. A degree in physics at ordinary or pass level.*
6. Degrees in Materials Science, Physical Metallurgy, Physical Electronics, Electrical Engineering, Chemical Physics, Theoretical Physics and Mathematical Science.*
7. Candidates who have recently been unsuccessful in the final examination of an honours degree course in physics at a U.K. university. Such candidates should apply direct to the Institute of Physics for details of procedure.

* Applicants who wish to enter the course under sections 5 and 6 should write to the Head of the Department of Physics giving full details of their qualifications and of courses which they have undertaken.

Tutor: Dr M. A. S. Sweet. *Curriculum:* physics : thermodynamics, optics, solid state physics ; electronics or high energy radiations or applied acoustics.

Course duration: 24th September to 5th July (36 weeks)

Examinations: Graduateship of the Institute of Physics

Qualification: Associate Membership of the Institute of Physics

Corporate Membership of the Institute of Physics

The Institute of Physics is the acknowledged professional organisation for physicists in this country. Its members are engaged in the advancement, teaching and practice of physics and its applications in industry and the public service.

The academic requirements for full professional membership are not less than those required for a good honours degree at a British polytechnic or university. The Graduateship examination is recognised by the Institute, polytechnics and universities as a good honours degree. The Graduateship examination satisfies the entry requirements of polytechnic and university research schools, and candidates who obtain either middle or upper honours in the examination are eligible for Science Research Council grants.

There are four grades of corporate membership : Associateship, Associate Membership, Membership and Fellowship. Candidates for either of the first two grades must have (a) an acceptable level of general education and (b) suitable academic qualifications in physics. Academic requirements for admission to Associateship are : either a Higher National Diploma in Applied Physics, or a Higher National Certificate in Applied Physics together with an approved endorsement, or a degree in physics awarded by a British polytechnic or university. Requirements for admission to Associate Membership are either the Graduateship in Physics or a First or Upper Second class degree awarded by a British polytechnic or university. Associate Members of the Institute and others holding equivalent qualifications may apply for full Membership after suitable research, teaching or industrial experience.

Careers in Astronomy and Physics

Careers in astronomy or physics are open to suitably qualified persons in observatories, universities, hospitals, teaching establishments, government service and industry.

Industrial opportunities are concerned with the application of all types of instruments, ranging from searches for raw materials such as oil and natural gas to control of manufacturing processes, and the properties of finished products. Typical problems involve the use of electronics and the application of X- and Y-radiography, together with non-destructive methods of testing. Closely allied is the work of the health physicist who is concerned with the measurement of radiation and the development of adequate personal protection.

In the long term good career prospects imply full professional recognition of competence by membership of one or more of the major professional bodies such as the Institute of Physics. Courses in the department are designed to facilitate such recognition.

GENERAL CERTIFICATE OF EDUCATION

General Certificate of Education, Advanced level (B) (DES1194)

Course Adviser: Mr F. R. Dean

A one-year full-time revision course in preparation for advanced level G.C.E. examinations. The course will also be appropriate for mature students seeking qualifications for entry to graduate courses.

Qualifications for entry: students must have attended G.C.E. Advanced level courses in their chosen subjects

Curriculum: suitable combinations of subjects chosen from: physics, mathematics, statistics, computer science, computations, chemistry, biology

Course duration: 24th September to 5th July (36 weeks)

Examinations: J.M.B. (physics, chemistry, biology). A.E.B. (mathematics, statistics, computer science, computations.)

Qualification: General Certificate of Education, Advanced level

Physical Recreation Section

Senior Lecturer-in-Charge: A. J. Smith, B.SC., D.I.C., M.SC., PH.D.

Lecturer and Assistant Lecturers

J. Gridley, A.G.A.

Mrs D. Lane, DIP.P.E., DIP.ADV.STUDY OF ED.

J. Montgomery, DIP.P.E., DIP.SPECIAL ED.

The Recreation Hall is equipped with fixed apparatus which, together with portable apparatus and equipment the Polytechnic possesses, allows the pursuit of the following activities: athletics, badminton, basket ball, canoeing and sailing, cricket, dance, fencing, five-a-side football, golf, judo, mountaineering, netball, olympic gymnastics, padder tennis, soccer and rugby training, table tennis, trampolining, volley ball, weight training and lifting.

The recreational facilities of the Polytechnic are available to all students enrolled into an academic course without payment of a further fee. Persons interested in any of the activities detailed should contact the Senior Lecturer in Physical Recreation at enrolment or as soon as possible afterwards. Polytechnic sports clubs, affiliated to the Students' Union, are given priority in the evenings.

Lectures and films on a variety of activities, and inter-departmental and inter-Polytechnic tournaments and competitions, are arranged throughout the session.

Students at the Tower Wood Centre, Windermere



The mountaineering club arranges visits to the Lake District and North Wales for rock climbing, rambling and canoeing. For full-time students one-week courses in mountain activities are arranged, which include fell walking, canoeing, sailing, rock climbing, orienteering and pony trekking. From time to time arrangements are made for parties to engage in outdoor expeditions during vacation periods. Students are warned against undertaking such activities without proper equipment and leadership.

Regional and National Sports Activities

The Polytechnic is a centre for regional and national sports tournaments in badminton, table tennis and trampolining. It is also an Olympic Gymnastics Centre; the Polytechnic gymnastic team competes in the National Team Championships of Great Britain and has also competed abroad.

Scheduled Classes

The activities detailed above are primarily intended for students enrolled into one of the Polytechnic's nine academic departments. Persons not registered as students for academic courses may be admitted to certain scheduled classes in physical education, so far as places are available. A tuition fee is payable.

In order to give academic course students priority, persons who wish to enrol for physical education classes alone are not accepted until the fourth week in the session. No person may be admitted to these classes who is less than 16 years of age on the 1st September.

Students receive instruction before embarking in slalom canoes



Part-time Courses

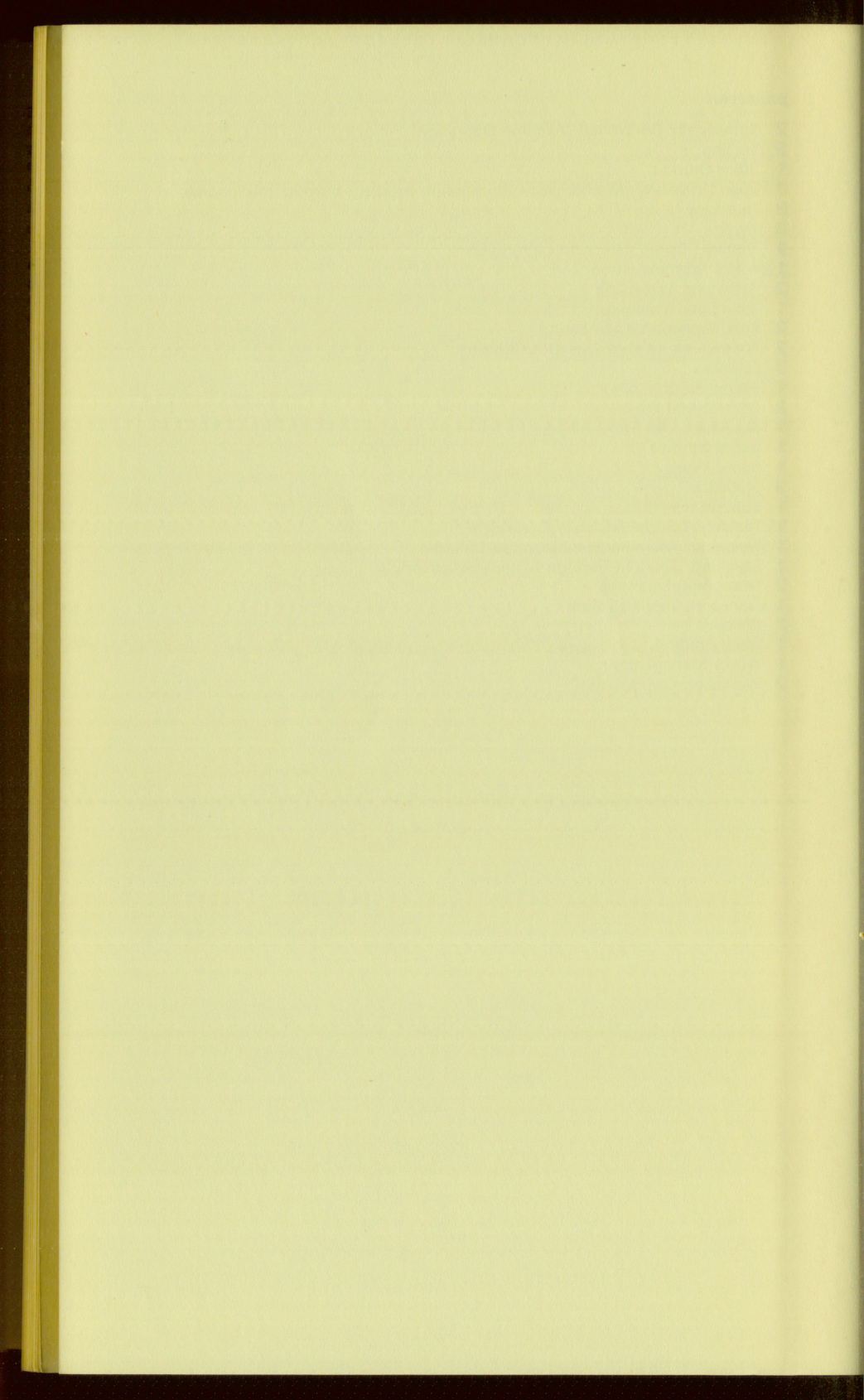
The Polytechnic offers block release, part-time day and evening-only courses in a variety of subjects. Details will be found in the part-time prospectuses shown, copies of which may be obtained by writing to the Registrar.

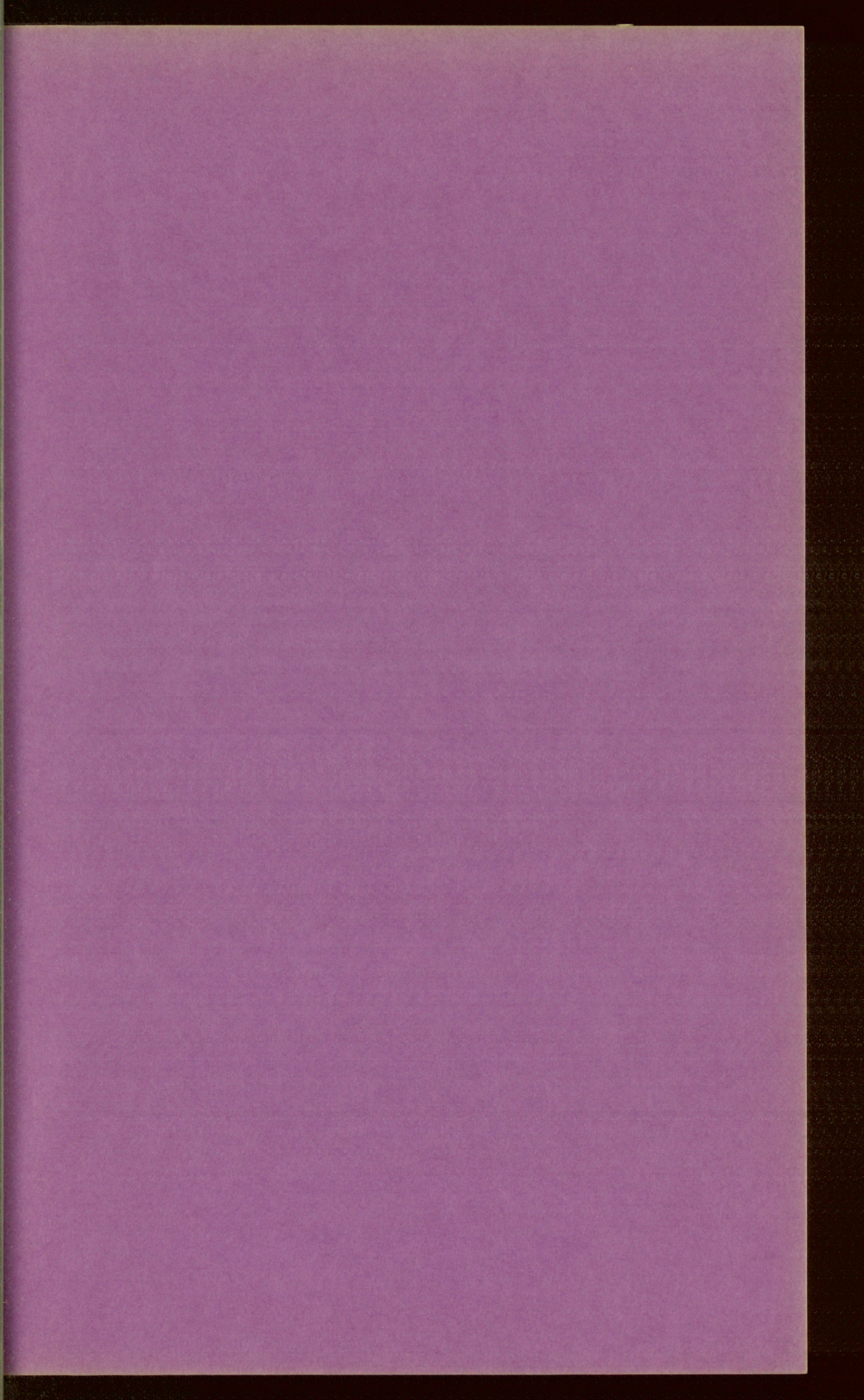
prospectus

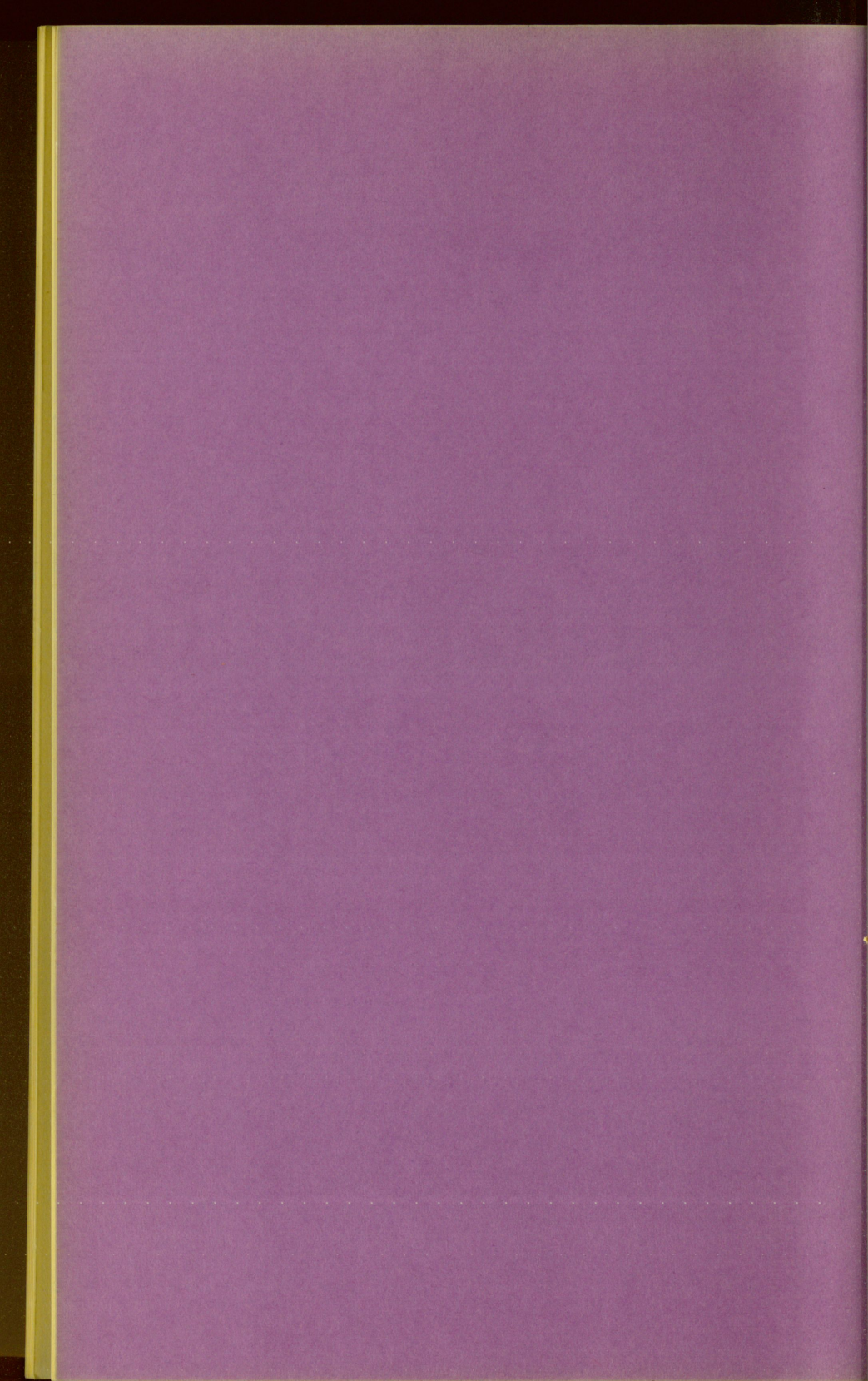
- 1 Accountancy : Municipal Treasurers and Accountants ; Chartered ; Certified ; Cost and Management
- 3 Analytical Chemistry
- 3 Applied Chemistry
- 3 Applied Physics
- 1 Arts and Crafts : Adult Non-Vocational Classes
- 1 Banking
- 2 Building : Professional
- 2 Building : Trades
- 1 Business Studies
- 2 C.E.I. Part 2 Examinations
- 3 Chemistry
- 1 Company Secretarial Practice
- 3 Computing
- 2 Construction
- 3 Data Processing
- 2 Design Appreciation for Graduate Engineers
- 2 Electrical and Electronic Engineering : Professional
- 2 Electrical and Electronic Engineering : Craft
- 2 Electrical Installation
- 2 Engineering : Professional (Mechanical, Production, Engineering Design)
- 2 Engineering : Technician
- 2 Engineering : Craft
- 2 Fabrication Engineering
- 2 Gas Services
- 1 G.C.E. 'A' level in Art, History of Art
- 3 G.C.E. 'A' level in Sciences, Mathematics, Computing
- 1 G.C.E. 'A' level in Arts, Languages
- 3 G.C.E. 'O' level in Sciences, Mathematics
- 3 Glass Blowing
- 1 Health Service Administration
- 1 Insurance
- 1 Journalism
- 1 Languages
- 1 Languages for Industry
- 1 Legal Practice
- 1 Marketing and Salesmanship
- 3 Mathematics
- 3 Mathematics for Management
- 1 Medical Laboratory Management
- 3 Medical Laboratory Subjects
- 2 Motor Vehicle : Professional
- 2 Motor Vehicle : Technician
- 2 Motor Vehicle : Craft
- 1 Municipal Administration

prospectus

- 2 Numerically Controlled Machine Operation
- 3 Nursing
- 1 Office Studies
- 3 Open University, Mathematics Foundation Studies : introductory course
- 3 Pharmacy
- 3 Physics
- 1 Printing : Composing and Letterpress
- 1 Public Administration
- 2 Radio and Television
- 1 Rating and Valuation
- 2 Road Transport Engineering
- 2 Roadwork and Highway Construction
- 3 Sciences
- 1 Secretarial Practice
- 2 Sheet Metal Work
- 1 Shorthand and Typewriting
- 1 Social Studies
- 1 Social Work
- 3 Statistics
- 1 Supervisory Studies
- 1 Teaching : Supplementary Certificate
- 1 Teaching : Mentally Handicapped Children
- 1 Teaching : Modern Foreign Languages to Adults
- 2 Telecommunications
- 1 Transport Administration
- 2 Welding
- 1 Work Study
- 1 Works Management
- 2 Workshop Organisation







Polytechnic Calendar

1973

Friday, 14th September Staff assemble: Departmental meetings

ENROLMENT PERIOD

Friday, 14th September	Enrolment, first day	} Afternoons and evenings only
Monday, 17th September	Enrolment, second day	
Tuesday, 18th September	Enrolment, last day	
Wednesday, 19th September	General Staff Meeting	

Autumn Term (13 weeks)

Monday, 24th September All day and evening classes commence for the
Autumn Term

Friday, 21st December All Departments close for Christmas after evening
classes

1974

Spring Term (13 weeks)

Monday, 7th January All classes re-open for the Spring Term

Friday, 5th April All Departments close for Easter after evening
classes

Summer Term (10 weeks)

Monday, 22nd April All classes re-open for the Summer Term

Friday, 24th May All Departments close for the Spring Holiday after
evening classes

Monday, 3rd June All classes re-open

Friday, 5th July All classes close: end of term

Friday, 12th July Submission of reports: end of session

Note: There are other important dates with which students must be familiar, for example closing dates for receipt of examination entries, commencement and termination of sandwich and block release courses. These will be found in the appropriate sections of the prospectus.

Regulations

Discipline

Students are accepted into Polytechnic courses on the understanding that they abide by the regulations herein and from time to time in force.

The Director has the authority to suspend students from attendance for any cause which he considers adequate. The Council will exclude from the Polytechnic premises any student whose continued attendance is undesirable. Suspended or excluded students automatically lose membership of the Students' Union and Polytechnic societies.

Students are required to attend classes punctually and regularly, to carry out satisfactorily such work as is set by their tutors, and to sit the prescribed examinations. There are minimum requirements in all courses in respect of attendance, coursework, laboratory work and project work (where appropriate), and examinations, and the right to continue a course of study depends on the maintenance of satisfactory attendance and academic performance. The requirements in National Diploma courses are detailed in full on page 80; those in other courses may be obtained from the Head of Department.

In some courses there is a requirement to undertake one or more periods of practical training in industry, commerce or the professions, and progress in the course will depend upon the receipt of a satisfactory report on the standard of work achieved by the student whilst in a practical placement.

Students must conduct themselves in a quiet and orderly manner. They will be held responsible for and required to make good any damage they may cause due to negligence or wilfulness. They are expected at all times to keep the Polytechnic tidy and free from litter and to preserve the furnishings and decorations.

To reduce fire risk and avoid general discomfort students must obey the notices prohibiting smoking in specified areas of the Polytechnic. Heads of Departments have authority to restrict smoking within any other part of the accommodation over which they have control.

Hot cooked foods must not be brought into the Polytechnic, and food must not be consumed on the premises other than in the dining room and coffee lounge. Students who wish to bring packed meals may do so but they should eat such meals in the coffee lounge.

All forms of gambling and card playing for money on the premises or within the precincts are prohibited. Musical instruments, including transistor radios, must not be played on the Polytechnic premises except by arrangement with the Director.

Absences because of illness, etc.

In the case of absence through illness, or other unavoidable cause, the student should inform his or her Head of Department immediately in writing. Failure to do this may result in it being assumed that the student has left the course, and the name of any student who is absent for a continuous period of four weeks without approval will be removed from the register. When an infectious illness occurs in a house or lodgings in which the student resides immediate notification should be sent also to the Student Advisory Officer. Such students must not attend the Polytechnic until a medical certificate is supplied stating that there is no risk of the infection being conveyed to others or until authorised to resume attendance by the Student Advisory Officer.

Changes of addresses and other student particulars

Changes in student particulars occurring during the session must be notified immediately to the Registrar on the form available from the Polytechnic office, for example: change of home or lodgings address, change of employer, change of name on marriage.

Safety in Laboratories and Workshops

Students are required in the interests of cleanliness, health and safety to provide themselves with the recommended kind of protective clothing and footwear which must be worn in workshop and laboratory classes, and to use all protective devices provided. Workshop and laboratory clothes must not be worn whilst attending lectures or whilst in the communal block.

Safety considerations are not of course confined to Laboratories and Workshops and students must exercise constant care within the diverse situations in which they will find themselves. Proper care and diligence is essential, as is attention to any advice or instructions which may be given from time to time. Students involved in any accident, however slight, must complete an accident report form (obtainable in Departments) and return it to the Registrar immediately.

Personal property

The Council cannot accept responsibility for the safety of students' property. Property found on the premises will be handed to the Custodian of Premises, and students wishing to reclaim lost property should address enquiries to the Custodian. The victims of theft should immediately report the circumstances personally to the police and to the Custodian of Premises or the Polytechnic office. The Polytechnic co-operates with the police in their enquiries.

Cloak lockers are available in all departments for students' use. Full-time, sandwich and block release course students may be allocated lockers for the duration of the course. Lockers should be secured by the students' own padlocks.

Lockers must be left empty and unlocked at the end of a course or session as otherwise the locks and contents will be removed.

Parking facilities

Education Authorities have no obligation to provide parking facilities and the Polytechnic does not possess adequate facilities to meet all demands. Parking is restricted to the official car parks and cycle sheds where vehicles may be left at the owners' risk.

Students must drive very slowly in the Polytechnic precincts, and should use the entrance nearest to the point of parking. They must not drive around or within the Polytechnic premises in break periods. Roadway and delivery areas must be kept clear in case of emergencies. Please park compactly and with consideration for others.

Course Requirements and Admission to Courses

Courses will be provided subject to adequate enrolment and subject to the limits of available teaching accommodation and staff. They may be discontinued at the discretion of the Director at any time during the session should the number of students attending fall below a reasonable level.

The acceptance of a student into a course must have the approval of the appropriate Head of Department, and a student who wishes to enrol into a course demanding entry qualifications must produce documentary evidence that he possesses the necessary qualifications either at or before enrolment. If a potential student or his parents are doubtful about the best course of study to pursue for a particular career they should write in the first instance to the Educational Liaison Officer for advice.

Each full-time or sandwich course student will be placed under the supervision of a Course Tutor who will supervise the student's progress throughout the session and to whom the student may refer for advice about his or her course of study.

Application procedure

Application to join most full-time and sandwich courses should be made as soon as possible before the commencement of session on the standard application form obtainable from and returnable to the Registrar. It is not necessary to delay application until the results of qualifying examinations are known. (Applications to join the courses leading to the Diploma in Art and Design or the Teacher's Certificate of the University of Lancaster must be made on special forms. Details will be found in the relevant course descriptions.)

In addition to satisfying the academic requirements for admission applicants for most courses are required to satisfy the Head of Department, by personal interview, that their character and aptitudes are such that they are likely to succeed in their course. They will be notified by letter whether their applications have been successful or not. Provisional places will be offered to those applicants awaiting examinations results.

Students accepted must undertake the formal enrolment procedure (described on page 83) either on one of the three advertised enrolment days or during the first week of the course at times arranged by Heads of Departments.

Overseas students

An overseas student wishing to be considered for entry to a full-time or sandwich course should obtain an application form from the Registrar and forward it, when completed, to the student unit of the office of the High Commissioner (in the case of Commonwealth students) or Embassy (other students) maintained by his government in London, for endorsement and onward transmission to the Preston Polytechnic. The Polytechnic does not make arrangements for the direct admission of overseas students. This applies both to applicants currently living abroad or in this country.

An applicant seeking entry to this country for the purpose of attending a course is required by the Immigration Rules to (a) provide evidence that he has the means of meeting the full costs of the course, and of his own maintenance and that of any

dependents, during the whole of the course, and (b) agree that he will leave this country when his course is completed. Additionally, he must provide evidence to the Polytechnic that he has sufficient competence in written and spoken English to be able to follow a course of study conducted in English.

If accepted by the Polytechnic the applicant will be required to send a deposit of £50 towards the first year's fees, after which he will be sent a letter of acceptance which may be used for immigration and exchange control purposes.

National Diploma Course requirements

An Ordinary National Diploma is awarded at the end of a two-year senior course of full-time study. A Higher National Diploma is awarded at the end of a further three-year sandwich course or two-year full-time course of advanced study.

Awards in each case are made by a Joint Committee of the Department of Education and Science and one or more Professional Institutions. To receive an award a candidate must have complied with the rules of the appropriate Joint Committee which normally require that the candidate must –

- (a) make not less than 80% of the possible attendances in each subject in each year of the course,
- (b) obtain not less than 40% of the possible marks in each subject in the examinations held at the end of each year,
- (c) obtain not less than 40% of the possible marks obtainable in each year for set work, class work, laboratory work, etc., taken separately in each subject for which such marks are to be awarded, and
- (d) obtain not less than 50% of the grand total of marks obtainable in the final year. Of this total the possible marks in the examinations constitute 70% and the remaining 30% will be the possible marks for set work, class work, laboratory work, etc.

A 'Distinction' may be awarded to any candidate qualified to receive a diploma who, in the opinion of the examiners, has shown special merit in the final examination. His diploma will be specially noted with the name(s) of the subject(s) in which he has thus distinguished himself.

Tuition Fees

Tuition fees are payable at the beginning of each course and of each succeeding year of the course. Payment in full is due at or before enrolment; it is regretted that fees cannot be accepted in instalments. Cheques should be made payable to 'Corporation of Preston' and crossed. A refund of fee may be made in exceptional circumstances beyond the student's control and unforeseen at the time of enrolment. Applications for refund should be made in writing to the Registrar, accompanied by the student's received copy of his enrolment form.

The only students excused paying tuition fees at the time of enrolment are-

- (a) full-time and sandwich course students who are to be grant-aided by a Local Education Authority; documentary evidence will be required of the offer of a grant, and
- (b) those whose employers undertake to pay the tuition fees on their behalf; they must produce at enrolment a letter from the employer to that effect.

The student himself is responsible for payment of the fee if for any reason the Local Education Authority or his employer refuses to accept responsibility.

Fees are graded into three categories corresponding to the academic level of the course, and the grade of each course is shown in brackets after the course title or after the year of the course. Course grades are-

Grade C: work of an introductory character, for example leading to G.C.E. Ordinary level.

Grade B: work of an intermediate character, above the level of Grade C and leading for example to Ordinary National Diplomas or Certificates or G.C.E. Advanced level.

Grades A2 and A1: work of an advanced character, above the level of Grade B and leading for example to Higher National Diplomas or Certificates, final professional qualifications, degrees.

Note to Local Authorities. The course grade designation A2 NP indicates an advanced course which is not poolable under D.E.S. regulations. In respect of these courses the normal recoupment procedure will apply.

United Kingdom students: Tuition Fees

	Students under age 18 on 1st September £	Students age 18 and over on 1st September £
<hr/>		
Courses graded A1 and A2:		
of 30 weeks or more	1.50	95.50
of less than 30 weeks	1.50	65.50
<hr/>		
Courses graded B:		
of 30 weeks or more	1.50	55.50
of less than 30 weeks	1.50	39.00
<hr/>		

	Students under age 18 on 1st September £	Students age 18 and over on 1st September £
<i>Exceptions to the above:</i>		
Pre-Diploma in Building	1.50	41.50
Advanced Analytical Chemistry	—	35.50
C.E.I. Part 2 (the April to July period detailed in course descriptions)	—	30.00
Graduateship of the Institute of Physics, 2nd Year	—	35.50
College Diploma in Social Work, 2nd Year only		no fee
Teacher's Certificate of the University of Lancaster		no fee

Overseas Students: Tuition Fees

	30 weeks or more £	Less than 30 weeks £
Courses graded A1 or A2	255.50	172.50
Courses graded B or C	155.50	105.50

Exceptionally, an overseas student who (a) can provide evidence that he or she has been ordinarily resident in this country for three years prior to the commencement of the course, or (b) is under age 19 prior to the commencement of the session, will not be expected to pay the special overseas students fees. They will pay the fees normally payable by United Kingdom students.

Residential General Studies Courses

As an integral part of their studies, students in certain advanced full-time and sandwich courses will normally attend each year a 2½ day residential course. The fee is approximately £5.00 which must be paid by the student upon arrival at the course venue. Students in receipt of Local Authority grants will in most cases be reimbursed part of the cost by their supporting authorities. The balance (to a maximum of £5.00) is recoverable from the Polytechnic on production of the necessary evidence.

Enrolment

Enrolment is valid for only one academic year at a time and will take place on the following days and during the times shown:

	<i>afternoon</i>	<i>evening</i>
Friday, 14th September	1.30 to 4.00	6.00 to 8.30
Monday, 17th September	1.30 to 4.00	6.00 to 8.30
Tuesday, 18th September	1.30 to 4.00	6.00 to 8.30

Full-time and sandwich course students should enrol during the times and on the dates stated or during the first week of the course at times arranged by Heads of Departments. Students who fail to enrol during these periods will be charged a late fee of 50p. Postal enrolments cannot be accepted.

Permission Vouchers

Students wishing to enter 'non-poolable courses' (i.e. courses graded C, B and A2NP) must produce permission vouchers each year and present them at enrolment. The only students exempted from this requirement are those normally resident in the administrative area of Lancashire County, the County Boroughs of Preston, Blackburn, Blackpool and Burnley, and the City of Manchester.

Application for a voucher must be made by the student to the Education Office of the Local Education Authority in whose area he resides. Failure to produce the necessary voucher may result in a fairly heavy charge being made against the student concerned to cover the course costs normally payable by his Local Education Authority.

Enrolment procedure

Students should first report to the Department in which they wish to enrol. The plan of the Polytechnic on the opposite page shows the blocks in which Departments are situated. The rooms in which enrolment takes place in each Department are shown in brackets below, viz:

B BLOCK

School of Art and Design (B8)
Department of Building (B34)

E BLOCK

Department of Mechanical and Production Engineering (new students E1, former students E9)

F BLOCK

Department of Chemistry and Biology (F37)
Department of Electrical and Electronic Engineering (F10)
Department of Mathematics and Computer Studies (F26)

G BLOCK

Department of Physics (G16)

H BLOCK

Department of Business and Administration

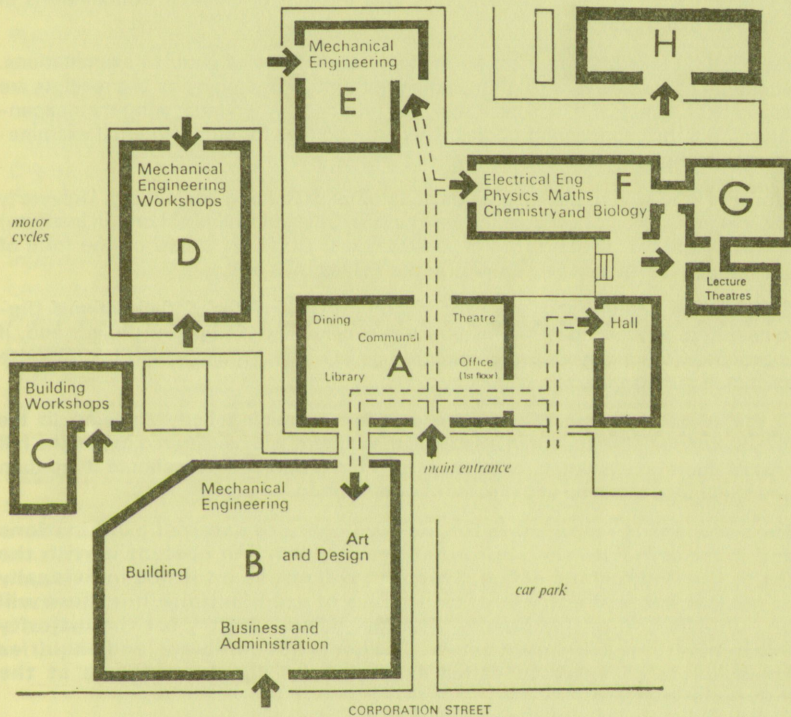
ROBIN HOUSE

Department of Language and Social Studies

A BLOCK

College Office and enquiries

When details of his future course have been determined in the department the student must present his enrolment forms at the Hall (A Block) for enrolment and payment of fees.



Students will not be permitted to attend classes until they have completed the enrolment procedure. At enrolment each student will receive a copy of his enrolment form bearing an admission number. This form must be shown to the class lecturer when the student attends each class for the first time in the session.

Examinations

Entry to Examinations

All students are required to take prescribed internal or external examinations in each year of the course.

Examination fees must be paid by students at the time of entry to examinations. Accounts cannot be sent to grant-aiding authorities or employers but receipts are issued to students who may use them, if appropriate, when recovering their expenditure from their sponsoring bodies. There are no fees for purely internal examinations of the Polytechnic.

Students who take the examinations of external examining bodies (e.g. University of London, Council of Engineering Institutions, City and Guilds of London Institute) must pay the examination fees of these bodies. These are stated on the form of entry or may be obtained on enquiry at the Polytechnic office.

Each student entering the final examination for Ordinary or Higher National Diplomas must pay an entry fee of 50p per subject and £1.00 per project and, if appropriate, the examination fee charged by the external examining body whose examinations are adopted.

In the event of a Joint Committee or other examining body agreeing to the re-examination of a student in a subject, the student will be required to pay the full cost of the re-examination, or to share the cost proportionately should more than one student be involved in the same re-examination.

Each student is responsible for his own entry to external examinations and must complete the appropriate entry form and present it with the fee to the Polytechnic office. Students will not be informed individually of the last dates of entry or of timetables of examinations, but these will be published on notice boards. The last dates of entry for the majority of examinations are shown below. The list is not complete, and enquiries about dates of entry to other examinations should be made at the Polytechnic office.

Radio, Television and Electronic Mechanics Certificate Part II	7th October, 1973
Radio and Television Servicing Certificate Final	7th October, 1973
City and Guilds of London Institute (December Series)	19th October, 1973
C.N.A.A. B.Sc. Chemistry 1st Year P.T.D. (Registration Fee)	19th October, 1973
Assessed papers for Ordinary National Certificate in Sciences	26th October, 1973
Society of Industrial Artists and Designers (Registration Fee)	26th October, 1973
Associate Membership of the Institute of the Motor Industry	26th October, 1973
Institute of Road Transport Engineers	14th December, 1973
Assessed papers for National Diplomas and Certificates, including endorsements, other than those shown elsewhere	14th December, 1973
Institute of Linguists	25th January, 1974
B.Sc. (Sociology) London University	25th January, 1974
Diploma in Social Studies	25th January, 1974
Assessed papers for National Diplomas and Certificates in Building, Business Studies and Public Administration	25th January, 1974

Union of Lancashire and Cheshire Institutes, Series B and C	25th January, 1974
Institute of Welding	25th January, 1974
College Diplomas in Design (Graphics and Dress Design), Electrical, Mechanical and Production Engineering	1st February, 1974
Society of Industrial Artists and Designers Assessment	1st February, 1974
City and Guilds of London Institute	1st February, 1974
General Certificate of Education (J.M.B. and A.E.B.)	1st February, 1974
N.E.B.S.S.	1st February, 1974
Institution of Works Managers	15th February, 1974
Royal Society of Arts –	
Teachers Certificates in Shorthand and Typewriting	8th February, 1974
Certificate of the Teaching of Foreign Languages	22nd February, 1974
Diploma for Bilingual Secretaries and/or Personal Assistants	22nd February, 1974
C.N.A.A. B.Sc. Chemistry P.T.D.	1st March, 1974
Pitmans	8th March, 1974
Institute of Chartered Accountants	22nd March, 1974
Institute of Bankers (internal)	22nd March, 1974
London University Diploma in Nursing	22nd March, 1974
Pre-Entry Journalists	22nd March, 1974
Council for the Training of Health Visitors	5th April, 1974
Training Council for Teachers of the Mentally Handicapped	5th April, 1974
Royal Society of Arts, Summer Series	2nd May, 1974

Examination Results

Sessional Reports will include examination results, but they cannot be completed until after the results are received from external examining bodies. Reports are then sent to each student as soon as possible. It is regretted that in the meantime enquiries cannot be answered. Copies of external examination pass lists will be made available for scrutiny on the Polytechnic notice board as soon as possible after they are received.

General Information

Communal Facilities

The Communal Block provides facilities for the educational, social and recreational enjoyment of the students and staff. Besides administrative accommodation and a fully equipped theatre for both lectures and drama, there is a dining room and coffee foyer, a students' common room and the Students' Union offices. The Library is situated in this building.

The Recreation Hall will be reserved at certain times for examinations, and occasionally for ceremonies or exhibitions, but at other times it is available to student groups, societies, and individuals for games and a very wide variety of physical activities. The bridge over the north courtyard leading to the hall contains changing rooms and showers.

Refectory

The dining room is open from 11.45 a.m. to 1.30 p.m. for lunch. A selection of courses at various prices is available. Tea or coffee after lunch may be taken in the adjacent coffee foyer.

Light teas or cooked meals are normally available from 4.30 to 6.30 p.m. In addition to meals, tea or coffee or soft drinks will be available in the coffee foyer during set periods to cover mid-morning and mid-afternoon breaks between classes. Light refreshments are available also in H Block, Robin House, the Trinity and Avenham Annexes, and elsewhere by service from trolleys, at the same times.

In the interests of hygiene students are requested to observe any restrictions on smoking in the dining room.

Requests for any special catering should be made in the first instance to the Registrar, well in advance of the occasion.

Stationery Shop

The College stationery shop is open on three occasions during the day, namely 8.50 to 9.15 a.m., 1.00 to 2.00 p.m., and 6.45 to 7.15 p.m. Students may purchase the usual items of stationery, and also special laboratory and note books necessary for many courses.

Outside accommodation

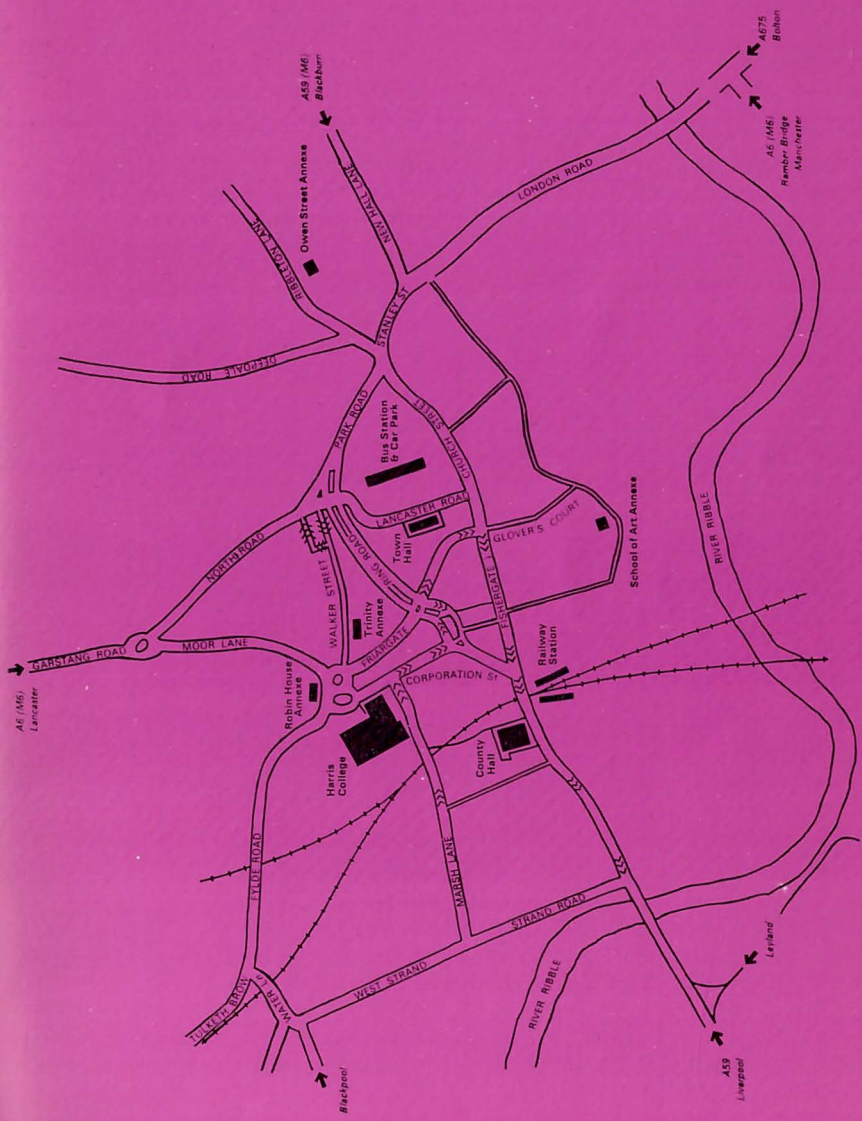
Shortage of accommodation makes it necessary for some classes to be held outside the main Polytechnic premises. These classes are indicated by room number prefixes as follows in the several Polytechnic documents dealing with teaching accommodation:

Av	School of Art and Design Annexe, Avenham Lane, Preston
BTU	Blood Transfusion Unit, Lancaster
NWGB	North Western Gas Board Training Centre, Moor Lane, Preston
On	Owen Street Annexe, off Crook Street, Ribbleton Lane, Preston
PRI	Preston Royal Infirmary, Deepdale Road, Preston
RH	Robin House, Fylde Street, Preston
Ty	Trinity Annexe, Great Shaw Street, Preston

Societies and Professional Bodies

Lecture meetings of societies and professional bodies are frequently held in the Polytechnic.

Notice of the lectures will be displayed in the main entrance foyer during the session. Individual students and members of staff are welcome to attend. Application for groups to attend should be made through the Director to the local secretary of the organisation.



AE (165) Limerick

AS5 (146) Blackburn

Owen Street Anness

AB75 Bolton

AS (146) Manchester

Ramber Bridge

School of Art Anness

Blackpool

Liverpool

Leland