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KNOWLEDGE



# NUGGET

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"PUSH"

NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Vol. 8 No. 4

March 14, 1969

Edmonton, Alberta

## NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

### PRESENTS

# OPEN



# H O U S E

# 19

# 69

Photo by DEPT. of INDUSTRY & TOURISM

**THE NUGGET STAFF  
EXTENDS A MOST SINCERE  
WELCOME TO ALL VISITORS  
OF OUR OPEN HOUSE 1969**

**WE HOPE YOU ENJOY  
OUR SEVENTH AND BEST  
OPEN HOUSE AND WE  
LOOK FORWARD TO SEEING  
YOU AGAIN**

**THANK-YOU  
FOR ATTENDING**

**THE EDITOR G. ANDERSON**

## NAIT CAMPUS

The Northern Alberta Institute of Technology is located on a thirty-one acre campus adjacent to the Industrial Airport 2 miles from downtown Edmonton. It is one of the largest and best equipped Technical Institutes in Canada. The original group of buildings was completed in 1963. Since then additional buildings were completed in 1965 and 1968. Further buildings are now in the planning stage to meet the ever-increasing need for technical and vocational education in Alberta.

The Institute has a floor area of 865,000 sq. ft. or 20 acres of floor space in 8 buildings most of which are interconnected and essentially under one roof. The facilities include 170 shops and laboratories and 110 classrooms providing accommodation for a maximum of 4,800 students at any one time.

A self-service cafeteria provides reasonably priced meals for students and staff in a dining area that seats 900 persons at one time. In addition banks of vending machines have been installed in student areas at several locations to serve hot and cold drinks, soup, sandwiches, etc.

The McNally Library with 30,000 technical books and 300 periodicals has a seating capacity of 250. The Institute Book Store, operated by the School Books Branch, handles all student requirements for text books and supplies and handles up to 90,000 texts per year at reasonable cost.

Facilities for physical education and extra curricular activities include a large gymnasium, games room, bowling lanes, auditorium, little theatre, offices of the students' executive, newspaper and yearbook. There is also an athletic field which has a 1/4 mile track and facilities for football, baseball and track and field.

The Institute has parking space for 2,000 cars. Reserved parking is not available to students.

While the Institute can accommodate up to 4,800 students at any one time, it is estimated that it will serve up to 16,000 students during the 1969-70 academic year. This includes 4,000 full-time day students, 5,000 apprentices and 7,000 evening students in the Extension Division.



PHOTO BY M. HOWELL JONES

It is a well known fact that public acceptance is one good indicator of success of any organization. Sometimes this success factor is difficult to accurately determine, however, when the public begins to refer to NAIT in terms of "our" or "we", rather than "they" or "it", it would appear that the Northern Alberta Institute of Technology has become an accepted part of this community.

Not long ago I had this point illustrated to me very vigorously by a taxi driver. He didn't know me or my connection with NAIT. As he talked I became aware that he was proud of NAIT and he considered it as part of his City. He said "We've got to build more buildings or we aren't going to take care of all the people who want our courses". He considered NAIT as his Institute and that's the way it should be.

Naturally we are pleased, if not somewhat amazed, at the interest and reaction of the general public towards NAIT and the courses we have to offer. For the past three years we have had about 40,000 people per year visit NAIT at Open House and we expect the same will be true this year.

We know from past experience that many of the 40,000 will have made several visits to NAIT in the past. This is fine, we know it is difficult to see it all in one visit, we therefore encourage you to return again this year.

Our enrolments this year are just about at our maximum. We have 4,600 on the Campus at one time during the day and we will have over 6,000 evening or extension students. Overall we expect to give some type of training to 15,000 this year.

For the coming year we have already oversubscribed nine courses, however, we are still accepting registrations in forty courses. We hope our visitors will ask all about our courses. The students are taking a keen interest in Open House this year and are most anxious to tell visitors all about it. Please ask them.

We personally invite you to Open House on March 14th and 15th from 9:00 a.m. to 10:00 p.m. on the 14th and 9:00 a.m. to 6:00 p.m. on the 15th. We believe you will enjoy the tour.

W.A.B. SAUNDERS, P. Eng.  
Principal.

# NUGGET

**NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY**

**EDITOR-IN-CHIEF.....GARY ANDERSON**

**Co-Editor.....Larry Bush**

**Sports Editor.....Fred Pratt**

**Campus reporters.....Sue Taylor**

**Advertising Manager.....Rick Nyman**

**Photo Directorate.....Terry Middlestead**

**Peter Poznasky**

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# BUSINESS ADMINISTRATION

Business Administration is the broadest field of employment in our society. The number of opportunities existing in this field are unlimited. The very substance of our nation is wealth, and where wealth is involved so is Business Administration.

It is the aim of the Business Administration program at NAIT to equip students with the fundamental tools of business and to train them in areas of modern business that will allow graduates to adapt readily to areas of modern business occupations. This specialized training when coupled with on-the-job experience and application, will result in rapid progress and promotion within the chosen field. The quality of the course is evidenced by the growing number of employers who are approaching the Business Administration graduates to fulfill their Company's needs for future management.

First year students enrolled in the Business Administration program study material designed to give them a general background in business practice and theory. Having this background, the student starting the second year may then choose, from the four options offered, the one program in which he is most interested.

## SECOND YEAR OPTIONS

### ACCOUNTING

In any business, management needs systematic, comparative cost records and reports as well as analytical cost and profit data to manage an enterprise. The accounting option is designed to give a general knowledge of how an organization presents, analyzes and interprets its own financial affairs both for management and owners. Students enrolled in the accounting option are trained for careers as accountants, auditors, cost analysts, controllers and/or other related fields. Graduates who continue with their studies may challenge examinations to obtain second year R.I.A. or C.G.A. certification.

### BUSINESS MANAGEMENT

This option is designed to add to the understanding of the fundamental principles of business from the viewpoint of the administrator. It emphasizes administrative decision and the general unity of business administration. Graduates are trained towards eventual supervisory administrative positions in commerce, industry and government. After a period of orientation with an employer a graduate may find himself in a responsible position in the general office, plant work, production, sales, finance, marketing, traffic, etc., to name a few of the potential areas of employment.

### CREDIT ADMINISTRATION

This option is designed to meet the need for trained credit personnel in such activities as credit granting, credit reporting, and credit procedures. Emphasis throughout the course is placed on practical applications. On-the-job training, which is provided in the sixth quarter, provides the student with practical experience.

Employment will be available in the areas of wholesaling, retailing,

industrial equipment, financing, banking and other specialized forms of credit. Credit administration is big business and affords many job opportunities. These opportunities include investigation of credit, credit applications, reporting of credit, clerical operations, credit counselling, etc.

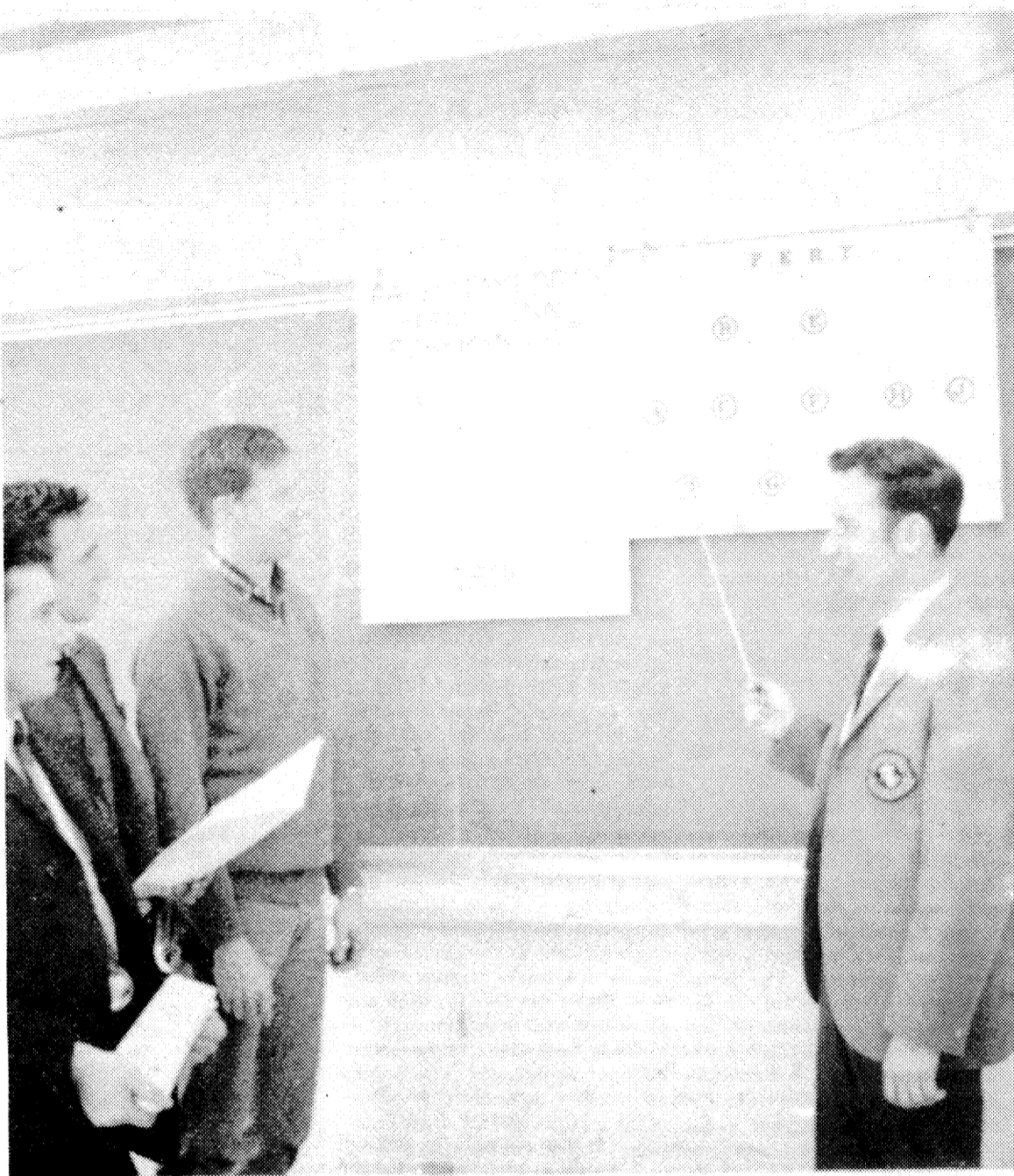
### Office Administration

The office administration option provides broad training in office organization and supervision, office functions, methods analysis, systems development and electronic data processing.

Upon completion of the option, a successful student may transfer directly to the second year program of Computer Systems Technology. If again successful, the student will possess, after three years at NAIT, two diplomas, one in Business Administration, and the other in Computer Systems Technology.

The Business Administration program requires effort whatever option is chosen. Business Administration graduates are competing with graduates, in related courses, of Universities and Junior Colleges that have three or four year programs. Since the Business Administration program at NAIT is only two years in length, much hard work and perseverance is required to graduate.

Students of Business Administration not only work hard but play hard. Business Administration has a very good record in intramural sports competition, and the Business Administration Society is the most active, fun-loving student society at NAIT.



# DISTRIBUTIVE TECHNOLOGY

Distributive Technology is like getting in on the fifth floor, not the ground floor of the business world. With Distributive, you ride the elevator to the top, not climb the stairs. Yes, the course offers a good background for the young man or woman with aspirations of reaching a top executive level.

Distributive offers a thorough knowledge of what is involved in business. A varied program to train those who will be in the process of distributing goods from manufacturers to consumers.

Distributive Technology was first offered in 1964. Now, under the guidance of Mr. Baird, the course runs smoothly from the teaching of subjects to the participation in social functions.

Queen Week, Open House, and sports activities are a few of the functions enthusiastically joined in by the club.

Even though Distributive is one of the more enjoyable courses socially, there is a lot of work involved in receiving the essential training for the future. In the two-year training you receive a basic knowledge of the various fields of distribution.

In addition to the main core you receive courses applicable to the program you choose. If advertising is chosen you take Advertising courses as well as creative labs. In Salesmanship you learn of the various facets of sales in the specialized course. In Merchandising, courses in retail man-

agement are taken as well as retailing labs.

### PROFESSIONAL SALESMANSHIP

Our on-going society demands a constant flow of goods and services. This flow is maintained through the constant efforts of the Professional Salesman. In this decade, personal and industrial selling is identified with a company representative who is market manager in his territory, who sells within a keenly competitive business structure, and who utilizes highly sophisticated motivational tools, combined with a problem-solving approach to business.

Within this program, the student will be schooled in four basic subject matter areas. First, the student will examine and develop sales techniques in the realm of industrial and retail markets. Secondly, he will explore the area of the consumer with psychology and motivation. Thirdly, administrative concepts of sales management are probed and analyzed. Fourthly, an orientation of marketing methodology will round out the program.

After a successful completion of the program, the student's employment possibilities range from direct sales to corporate accounts representative.

### ADVERTISING MANAGEMENT

The objectives of the advertising program are twofold. First, to provide students seeking advertising

as a career with the basic and advanced techniques of advertising. Second, to provide the advertising industry with trained personnel.

There are three main streams followed in the course. Creative Advertising includes the study of copywriting for print and broadcast media, layouts, story-boards, production and direction. Advertising Management involves a study of the various media, the role of advertising agencies, the role of advertising in the marketing process and the role of advertising management. Advertising Research covers such areas as Nielson ratings, Starch Surveys, pre-testing and posttesting, and measuring sales effectiveness. Extensive case study is used in all areas.

Possible positions open to graduates are sales and research in agencies, advertising departments, print and broadcast media or research organizations.

### MERCHANDISING ADMINISTRATION

The purpose behind the Merchandising Administration program is to provide students with a solid grounding in the practical and theoretical approach to Merchandising, and to develop for retailing organizations, employees who can immediately function as responsible staff members.

The course content is very extensive, and covers the following aspects of Merchandising: Retail Organization, the Customer, the Buyer, Merchandising Policies, Technique of Buying, Fashion Merchandising, Visual Merchandising, Merchandise Control, Mathematics of Merchandising Control.

There is also a Co-operative Work Program included in this program. It entails twelve hours a week of practical part-time work in local Department stores that have volunteered to co-operate with NAIT in a progressive in-store program.

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# COMPUTER SYSTEMS

Undecided about a career for yourself after graduation? Or are you interested in getting a high-paying exciting job in the field of tomorrow? If the answer is yes, it's time you considered entering the fascinating world of "man-made brains" as a student in Computer Systems Technology at NAIT.

The objective of this course is simple: to train students, both men and women, to become efficient programmers and competent system analysts in the rapidly expanding field of electronic data processing. This course is well-suited to people with reasonable mathematical ability and a clearly logical mind; furthermore, certain subjects offered will help to develop these qualities. Prerequisites include Math 30 and a high school diploma. Suitable applicants with senior matriculation are welcomed.

What is offered to the prospective student by the Computer Systems Technology? As a first year student in Computer Systems you will immediately begin to program the newly installed Control Data 3150 computer. The problems which you program are integrated with the mathematics, and accounting courses. In addition, you receive instruction in communications so that you can learn how to effectively present your ideas. Believe it or not typing is becoming more necessary because we

have now entered the age of remote terminals to computers.

The second year in Computer Systems, school becomes even more fun as you begin to solve practical problems that allow each person to use his own creative abilities. Also, more emphasis is given to the aspect of systems analysis in computer systems; that is, analyzing and designing workable business systems using the computer as an aid. Other subjects taken include advanced mathematics and cost accounting; statistics, which requires a more scientific approach to problem solving; business production and inventory control, various computer applications, and others. Naturally a proportionate amount of work is expected from the student in both years to produce the results required for graduation.

As a graduate of Computer Systems, what can be expected for job offers? Recent graduates of the technology have been employed as programmers, systems analysts, operators, technically competent sales representatives, etc, with some of the largest companies in Canada. Starting salaries range from \$450 to \$550 and promotion and salary increase is virtually unlimited. Improvement in jobs and salaries is foreseen, as industry is made more aware of the superior quality of the Computer Systems course as offered at the Institute.



## BANKING & FINANCIAL MANAGEMENT

In keeping pace with the rapid changes of our time, Canadian banking has also undergone many changes. New policies, improved services and better systems have resulted. One of the most significant changes has been the increased education required of new employees.

With most banks, a high school diploma has become the minimum requirement. There is, however, a large and ever growing demand for young men and women to fill the clerical and middle management positions. The NAIT Banking and Finance course is specially designed to provide the prac-

tical training required and is divided into two programs: A. TELLER TRAINING AND GENERAL BUSINESS (One year—mainly for girls)

This pattern is designed fundamentally to provide financial organizations with young men who will advance rapidly through junior executive levels. The young man takes courses mainly in credit, accounting, economics, law, banking and business machines and general bank practices and procedures.

Both programs include a basic course in computer principles (digital) in keeping with the changing

trend.

Completion of one of the above programs provides the student with an excellent business background. Because of this, the graduating student is not confined to the banking

This course deals mainly with teller training, practical banking, accounting, posting, general bank practices and procedures, typing and operating other various business machines.

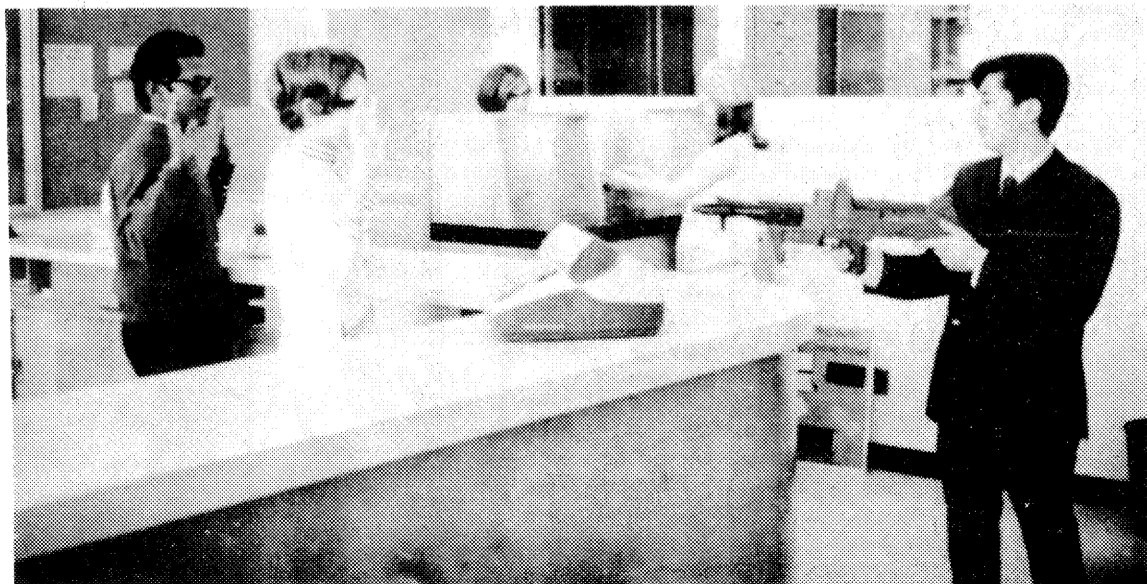
B. BANKING AND FINANCIAL MANAGEMENT (Two years—mainly for boys) field and may pursue a career in almost any part of the business world.

If you wonder what banking really does entail, you are encouraged to come to the fourth floor of the tower building. Here is our banking lab, room T-413, you will see, equipped with modern banking machines, a small scale bank in

operation. The students here will welcome your questions.

The banks of today are very concerned about the people with whom they deal; and you, the people,

should be concerned about the banks. Your money is your most personal and precious commodity. Come up to the Banking Lab (Room T-413) and see how we treat it!



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## DIETARY TECHNOLOGY

In Hospitals, Nursing Homes, and commercial Institutions there is a rapidly increasing need for personnel capable of assuming responsibilities in food service operations. Through the combined efforts of the Department of Education, the Department of Health, and the Alberta Registered Dietitians Association the Dietary Technology course was established.

Graduates are capable of assisting Food Service managers or Dietitians with some of the following:

Supervision in food production areas; supervision in cafeterias; handling therapeutic diets; supervision of service of food, helping in office routine.

In small country hospitals, graduates may assume responsibility for the food service area.

The curriculum consists of a two year program of studies involving theory and practical training. The course is divided into Plan A and Plan B. Plan A involves the post high school student. Applicants should have 67 High School credits, with at least a B standing in Mathematics 20, 21 or 22. Plan B is an upgrading course for persons involved in Food Services. Applicants must have a minimum of five years employment in Hospital or Restaurant Food Services. Concerning dress regulations - all students are required to wear standard white

uniforms, white stockings and white shoes. No jewellery is to be worn except watches and engagement or wedding rings.

As previously mentioned, the course is two years in length. Instruction of theory will take place September to May (9 months) at NAIT. This is followed by a 1 year term of in-service training at two or more hospitals or commercial institutions. At the end of the year of training the students return to NAIT for twelve weeks of classes, consisting primarily of review, solving problems and applying knowledge learned so far in the course. Plan B is exempt from the year of hospital training.

The courses offered in this technology are all interesting and a valuable asset to the future career. The subjects consist of introductory courses in typewriting, English, mathematics, record keeping, physiology, health and personal development, as well as more involved courses in: foods, food preparation, normal and therapeutic nutrition, institutional management and psychology. The students attend weekly food labs and go on various field trips. There are also chemistry labs during the third quarter.

Upon graduation from this technology, the students will receive a Technology Diploma, cap and pin to signify that they are Dietary Technicians.



Hey-  
Just a minute!

Stop and think. Millions of women are using Tampax tampons. There must be a reason.

Maybe it's because Tampax tampons are so easy and convenient to use.

Maybe it's because they give truly hygienic internal protection.

Maybe it's because the satin-smooth container-applicator protects the tampon prior to use.

Maybe it's because once the tampon is in place you never know it's there.

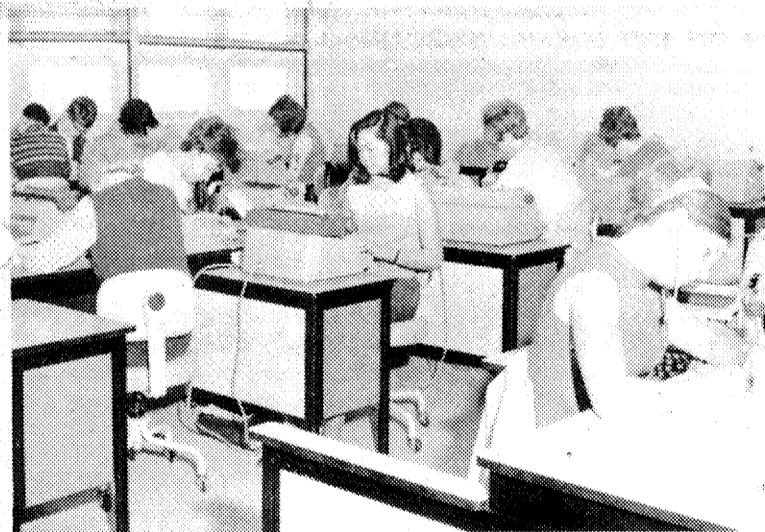
There are a lot of good reasons for using Tampax tampons. So take that minute. Find out for yourself.



DEVELOPED BY A DOCTOR  
NOW USED BY MILLIONS OF WOMEN

TAMPAX TAMPONS ARE MADE ONLY BY  
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BARRIE, ONTARIO

## SECRETARIAL TECHNOLOGY



If you are dreaming about promotions and salary increases, find out what more you have to know and master to be as qualified as those with "executive secretary" and "administrative assistant" titles.

There has been a noticeable trend in management and business during the past few years to give recognition to the secretary. NAIT secretarial graduates are accepted throughout Edmonton, and with the growing reputation of NAIT as a fine technological institute, a NAIT Secretarial diploma will soon be recognized throughout Canada.

There are many reasons why NAIT secretaries are given this recognition. NAIT offers a two year Secretarial program to develop the basic skills of typing, filing, shorthand, English, and accounting as well as courses such as psychology, sociology and law that are not found in the ordinary business school. Courses such as office management train the secretary for potential administrative positions. Oral communica-

tions develops the ability to communicate effectively, and since the stress is on communications in the modern business world, this is invaluable to a young secretary.

Beginning in the fall of 1969, the Secretarial Technology course outline will be changed significantly. In the past, courses were all compulsory, but now there will be a "core" of basic subjects and options. These options will be offered from such fields as Business Administration, Distributive, Medical Records, and Radio and TV Arts.

Consider the advantages of comprehensive two-year program at NAIT! The superior secretarial education received here will help to make the secretary an integral part of the business team. The truly professional secretary is the one who merits and receives---gratitude, admiration, raises, and promotions---the rewards we all seek. With her NAIT diploma, the young secretary is well on the road to success.

## MEDICAL RECORD LIBRARY TECHNOLOGY

NO - we don't play records all day! NO - we don't work in a library!

The reason people believe these falsehoods is because we are such a new technology - only two years old. Our course is a combination of both medical and business subjects. When we have completed our two year program we will be recognized as Medical Record Librarians. If we write the national examination, we will then be classified as Registered Record Librarians.


The course at NAIT requires a high school matriculation and therefore an average of at least sixty per cent. The program is two years in length and during the first year's summer vacation, we work for two months in an assigned hospital.

What is a medical record? A medical record is a permanent record of a person's illness or

injury, including all medical reports, diagnosis, and treatments, for verifying insurance claims, and for aiding in medical research.

What are the duties of a Medical Record Librarian? (1) to secure complete medical records from the professional staff. (2) to aid the medical staff in retrieving data for research. (3) to abstract certain data for computer processing. (4) to prepare statistical reports. (5) to represent the hospital in medicolegal cases. (6) to select, train and supervise subordinate personnel. (7) to supervise daily duties of the Medical Record Department.

Since the demand for Medical Record Librarians is favorable, Medical Records Technology is a promising course to enroll in. If you want to know more about this challenging career, visit our displays on the 5th floor of the tower building.



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## COMMERCIAL COOKING

In recent years millions of dollars have been invested in the Food Service industry to cater to the increasing demands of the Canadian population and the flourishing tourist industry.

The Food Service Department at the Northern Alberta Institute of Technology has a dual function.

First the Food Service Dept. trains young men and women for the expanding field of Food Servicing. Secondly, the Food Service Dept. provides catering as a professional service to the Institute as a whole. To effectively train students and at the same time provide suitable service to the Institute.

This is a two-year course. The objectives of this course are to develop the students' appreciation and understanding of sound food preparation methods. This entails a knowledge of the physical facilities within a food preparation area as well as various methods of cooking and serving food.

This course is designed to fill the growing need for men and women who are trained in the preparation of food on a large scale. Students are taught to prepare and serve nutritious food in varied and attractive ways, and to purchase and handle supplies so that an establishment may operate at a reasonable profit, observing at all times the importance of cleanliness, sanitation and good public relations.

Students are taught meat cutting, pastry and desert preparation, salad making, soup and vegetable cookery and the service of food.

Mastery of the practical skills is achieved by realistic and practical work in the kitchen while the comprehension and technical information is taught in the classroom.

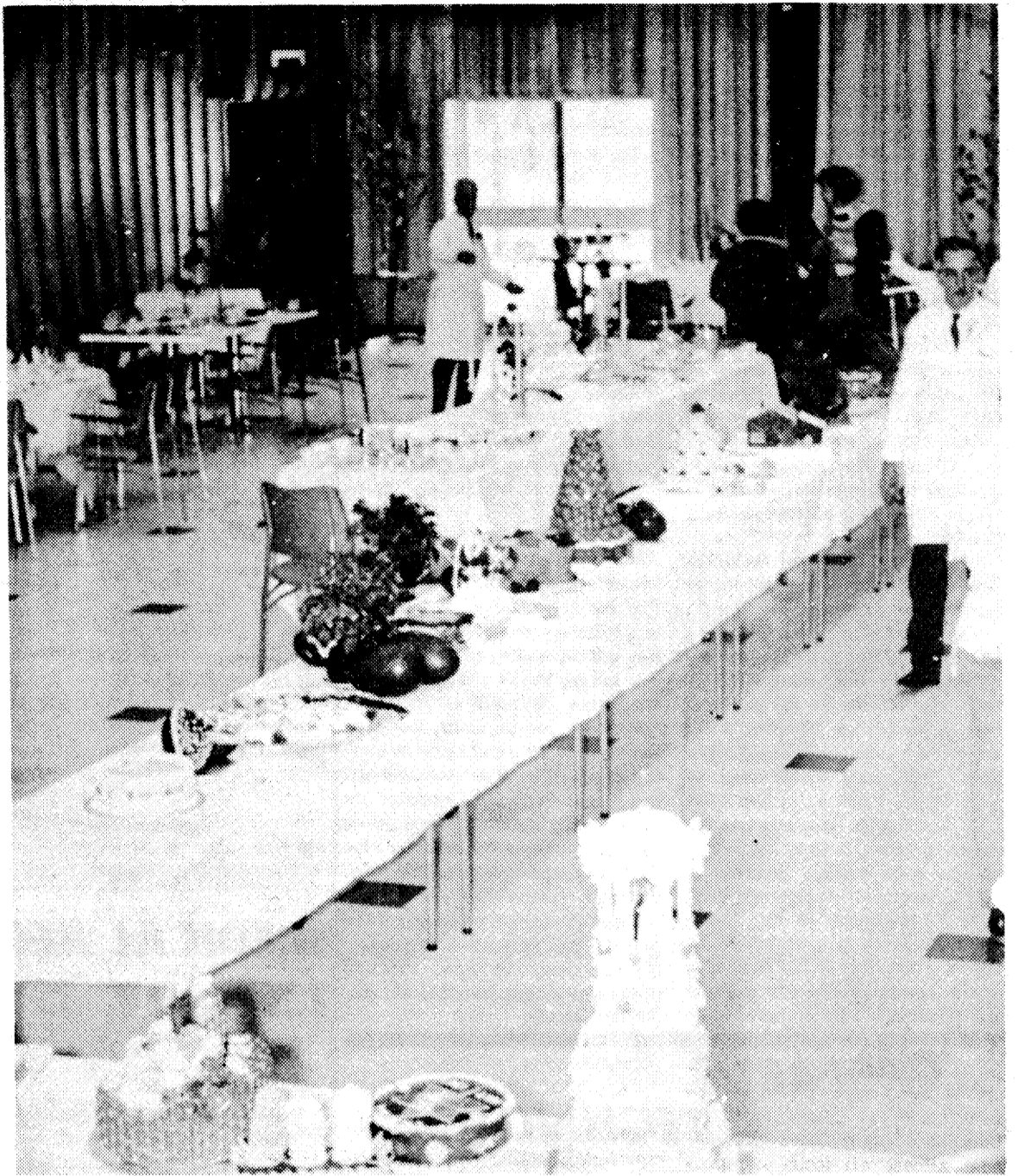
While the first year of the course acquaints the student with the basics of Commercial Cooking, the second year broadens and deepens the knowledge and skills of the first year. Emphasis is placed on the culinary arts. Advanced cooking, ice carving, far sculpturing, pulled sugar work, chocolate work and marzipan, are some of the areas covered in the second year. Professional responsibilities are also emphasized in the second year. The student is encouraged to assess himself as a professional food worker.

Since catering is a service to people, the prospective student should have certain personality traits. He should be even tempered and have a sunny disposition. He must be able to work under pressure, communicate effectively, and bear in mind that food catering means evening and weekend work.

### EMPLOYMENT OPPORTUNITIES

Jobs are many and varied: restaurants, hotel dining rooms, department stores, coffee shops, clubs, hospitals, institutions, mining and logging camps, and catering firms are all looking for people trained in quantity cooking.

Starting salaries vary depending on experience, personality, willingness to cook, amount of training and other factors.



## BAKER'S CHALLENGE WORLDS RECORD

During Open House weekend, the second year Commercial Bakers have decided to attempt to break a world record in breadmaking that was set in May, 1966, at the International Food Fair at Belle Vere, Manchester, by a Mr. Albert Alpin, an instructor at a British Bakery Institute. An interesting factor you might note is that he started out with wheat and milled his own flour before he made the bread.

Using a micro-wave oven and a high speed mixer, he established

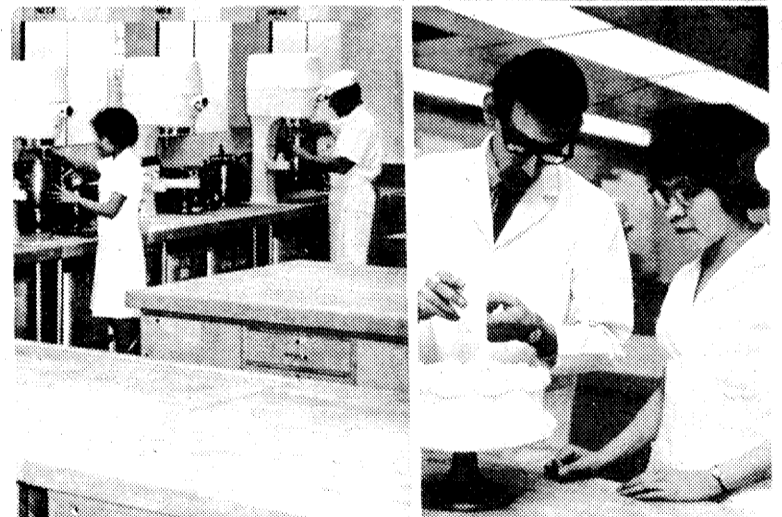
a world record time of 20 mins. from wheat to bread. The 20 minutes were broken down as follows:

Milling of wheat	3 min. 15 sec.
Mixing dough	2 min. 45 sec.
Moulding	1 min.
Proving	6 min.
High frequency baking	3 min.
Final baking	4 min.

For anyone knowing anything about making bread this seems like a pretty tight schedule and almost impossible to make bread in this time limit but seeing is believing and NAIT Bakers are not only go-

ing to show you that it can be done but in less time. So come on down-stairs to the bakery and cheer them on to a new world record.

Along with this demonstration you will be able to view the bakery in operation and a display of baked goods made by the first and second year students and apprentice bakers. The bakery food display has always been a main feature of Open House and a delight to all viewers. This year it promises to be bigger and better than ever so just follow the signs to a once in a lifetime treat.



# ZORBA'S

CAFETERIA-DISCOTHEQUE-RESTAURANT  
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ENTERTAINMENT NIGHTLY

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"THERES ONLY ONE THING BETTER THAN ZORBA'S"

## SOCIAL SERVICES PROGRAM

The Social Services Program is designed to provide the basic knowledge and skills, both practical and theoretical, required to work with people under the auspices of social service agencies and institutions. The need for persons with this kind of training is indicated by the acute shortage of professionally trained personnel; the expansion of existing programs and agencies and the implementation of new services.

Opportunities for interesting and rewarding careers at the direct services level are provided by public and private social agencies, in the areas of child care, financial assistance, probation leadership development group homes, institutions for the aged, the phys-

ically and mentally disabled, juvenile offenders, alcoholism and many others.

Included in the curriculum are the following topics: The basic universal needs of people, human growth and development, contemporary social problems, casework, groupwork, community organization, social service programs and resources, current welfare problems and practical administration including recording and budgeting. In addition, students are provided with a practical field work experience two days of the week and they participate in field trips, seminars and conferences in the Edmonton area.

The program is growth oriented

designed to enhance the student's capacity for human relationships and his effectiveness as a helping person: it is philosophy oriented in that each student is required to examine his personal philosophy and that of the social services it is practical oriented in providing the student with the practical knowledge and skills required by the social service worker.

Prospective students are encouraged to make enquiries about the social services field before applying for admission to the course.

People who enjoy life, who have a wide range of interests, who are sensitive to the needs and feelings of others and who desire to work with people at the direct services level are well qualified for this program. An essential quality is a genuine concern for other people.



## FOOD PROCESSING TECH

Food Processing Technology deals with applications of modern science and engineering to industrial processing, preservation, packaging, and distribution of food. Though food technology is also concerned with aspects of nutrition and food utilization, it should be not confused with dietetics or food service.

Canada's development has been marked by the transfer of acquiring food from an individual effort to a complex industrial operation, until today the vital Food Industry is our largest manufacturing industry. With eighty percent of Canadians now living in urban areas, almost all foods are processed to some extent between producer and supermarket. The trend is clearly towards more intensive processing, increasingly sophisticated plants, and far more convenience foods in the future.

The two-year NAIT program has been developed to prepare skilled personnel for a wide range of technical and supervisory career opportunities to be found in the food industry. Surveys indicate that for several years the industry will

require about twenty qualified food technicians per year in Alberta, and at least one hundred annually across Canada.

The curriculum is planned to provide a sound knowledge of the basic sciences as a foundation for technical courses in food processing, food microbiology, sanitation, food analysis, quality control, unit operations, instrumentation, packaging, processing equipment, industrial relations, computing, and production and marketing management.

The graduate food technician often seeks initial work experience in quality control. With suitable experience, ability, and application he can progress to occupations such as assistant chemist, government inspector, packaging technician, pilot plant superintendent, product development technician, production foreman, quality control supervisor, or research technician. Some major components of the Alberta food industry include dairy foods, meat and poultry packing, brewing and distilling, canning and freezing, dehydrating, vegetable oil refining, sugar manufacturing, milling and baking,

wholesaling and retailing chains, and research, education, and inspection agencies.

The food technician applies the principles and technical developments of food science and food engineering. He helps to conduct the complex operations in mass production of wholesome foods of consistently high quality. From his knowledge of biology, physics, food chemistry, and food microbiology he understands the effects of processing procedures. He anticipates and prevents what the untrained man cannot - the ever present hazards of inadequate processing and subsequent spoilage, and possible food poisoning. He also knows how to use food additives safely. When quality or quantity of raw materials varies he knows how to regulate production. Above all, the food technician has to be a good manager: he must be able to get things done effectively through people whether his work is in the laboratory, in the plant, or behind a desk.

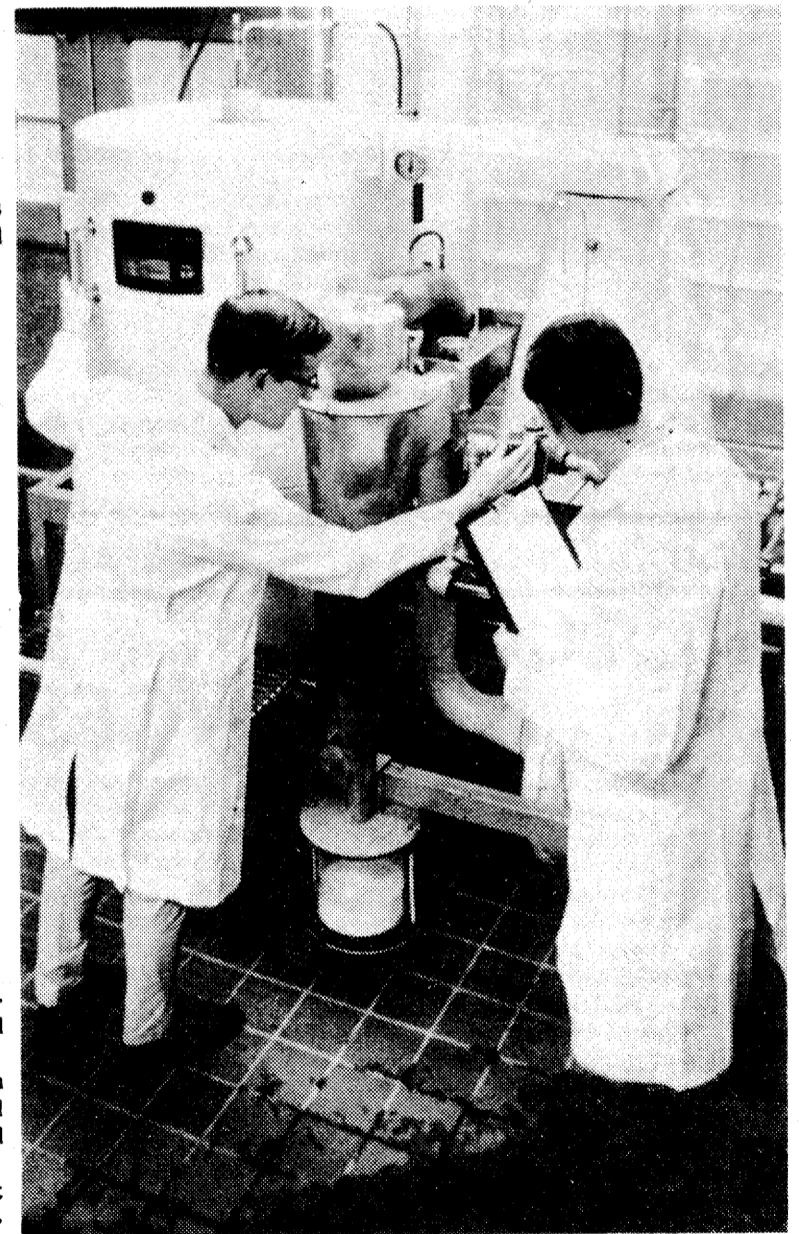
Prerequisite to the program is a high school diploma with credit in grade XII chemistry. Mathematics, biology, or physics would be

an asset.

### DISPLAY:

Food Processing Technology's Open House display in E118 will deal with cryogenic freezing, con-

tinuous fermentation, yeast production, extraction of flavour oils, synthetic foods, food grading, investigation of food spoilage, testing of dairy products, and a model dairy foods plant.



## DENTAL ASSISTING

The dental assistant is becoming a greater necessity and a more valuable member of the dental field. She started off as a scrub girl and is now becoming the doctor's right hand. She knows the instruments, procedures, and technical knowledge that goes on in dentistry and although she is not allowed to work directly in the mouth, she knows what's going to happen and is prepared for all circumstances.

The assistant saves the doctor money, time, and fatigue. The demand for trained dental assistants has become greater and greater and thus more training centers are being established in Technical Institutes and Vocational Schools across Canada and the U.S.A.

Canada has not yet set up an association for dental assistants but will have one in the very near future, so that all dental assistants, whether trained or not, will be able to be certified.

In hope of meeting the demands for trained dental assistants, NAIT has set up a program whose four

main purposes are:

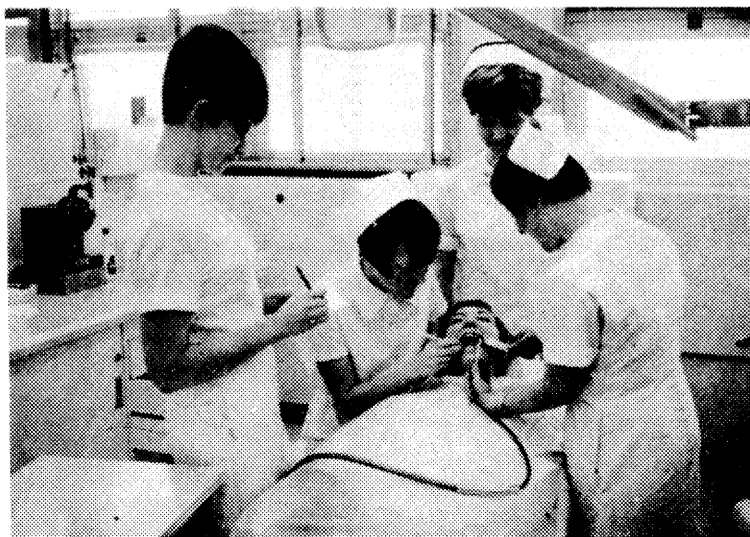
1. To provide the student with knowledge of dental theory adequate for understanding the significance and implications of all procedures to be performed.

2. To provide the student with working skills in chairside, clinical, and laboratory techniques. This is accomplished by preliminary clinical practice at NAIT

and through the co-operation of private dental offices in Edmonton and Calgary.

3. To provide the student with knowledge, understanding and skills in recordkeeping, typing and office management.

4. To impress upon the student the importance of professional ethics and conduct and of good public relations.



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## DENTAL LAB TECHNOLOGY

The field of Dental Technology dates back as far as the Phoenicians, Greeks and Romans. The practise of using gold crowns and bridgework flourished in Etruria and Rome as early as 700-500 B.C. The arts of soldering and crown preparations must have been well established, as this early work is preserved in museums.

The teeth used in these ancient appliances were either human or those carved from the teeth of animals. Wooden teeth were used primarily by the Egyptians who were the Fathers of prosthetic dentistry.

There was very little progress made in the Dental Technologist field until 1789. At this time, porcelain was introduced for teeth and this was regarded as one of the most important events in the history of Dental Technology. Man has continued to develop dental materials and methods of manip-

ulation until today that prosthetic appliances have esthetic function and fit.

An evaluation of the subject of restorative dental materials as it now exists reveals that the field is extensive in scope with regard not only to the wide variety of materials and techniques of manipulation, but also to the related sciences which are employed.

With this idea in mind, it is the object of NAIT to prepare the prospective student with a general outline of all phases of complete dentures, partial replacement, crown and bridgework and ceramics.

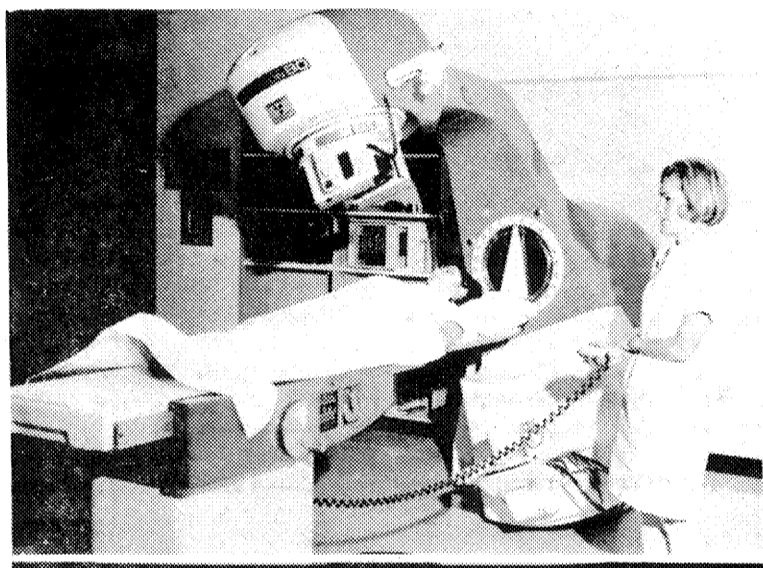
The dental technician today is so highly trained that the dental surgeon can no longer compete with the dental laboratory work as was expected of him less than 50 years ago; therefore, it has been necessary for a technician to become highly specialized. Con-

sequently, a technician must have a thorough understanding of dental materials and human anatomy, and must also obtain a high degree of manual dexterity in working with dental materials.

After completing the course at NAIT, one must decide whether they want to become a Dental Technician or a Dental Mechanic. A Dental Technician is one who specializes in crown and bridge construction and partials and requires 3 1/2 years of apprenticeship. However, a Dental Mechanic is one who specializes in complete dentures and requires 18 months of apprenticeship.

After apprenticeship, the opportunities for young men and women are present in Government Hospitals, Dental Laboratories, or your own Dental Laboratory.

Entrance requirement is a High School Diploma.



## BIOLOGICAL SCIENCES

This program has been developed in co-operation with the Advisory Committee to help fill the increasing national demand for suitably qualified Biological Sciences Technologists. The need for trained technicians in the life sciences (biology, health and environment) has been created by the increasing concern of all levels of government and related industries in biological research and control measures. The increasing human population will place additional stresses on the natural resources of this country and the world. Recognition of the importance of the preservation of wild life species, botanical and zoological; health sciences dealing with diseases of both man and animals; and concern over the increasing expenditures of public and private monies. Authorities have estimated that present needs exceed 30 per year on a national basis and there is no doubt that the need will continue to increase.

Emphasis is placed on theoretical and practical instruction in a broad variety of biological processes common to both Botanical and Zoological sciences. Laboratory activities will include: animal care; plant growth; bacteriology; analytical analysis of biological material; the instrumentation, recording and analysis of physiological data; preparation of plant and animal material for mi-

croscopic examination; and environmental health laboratory procedures. Technicians are also required for field work involving: the collection and analysis of air and water samples, surveys of plant and animal populations, ecology studies, related activities.

Career opportunities are available in a wide variety of fields. These include: University Departments; Medical Schools; Federal and Provincial Experimental and Research Stations; Veterinary Laboratories; Fish and Wild Life Services; Environmental and Public Health Agencies; the Meat and Food Processing Industry; Biological Supply Houses, and many other areas.

Individuals considering a career in Biological Technology should have a good background in biology and chemistry. An interest in working with living material and the aptitude for attention to details are considered desirable. Direct contact with laboratories or agencies involved in the activities of major interest to the student may be of value in determining the type of work involved. The course will demand a considerable amount of work by the student.

The cost of books and other supplies should not exceed \$100.00 per year. Attendance on occasional field trips will be required.

## MEDICAL X-RAY TECHNOLOGY

The X-Ray Technologist is a member of the medical team in the Hospital or Clinic. X-Ray is playing an ever increasing role in medical diagnosis and treatment of disease.

Over the past twelve years there has been a three to four fold increase in the number of X-Ray examinations undertaken in the hospitals and medical clinics in Alberta. During this time the size of the X-Ray department and the numbers of Radiological Technicians required has increased correspondingly. With the continual increase in population, and development of new radiological procedures there is an ever increasing need for fully qualified technicians in this area of patient care.

Medical X-Ray Technology is a two year program for either Diagnostic Radiography or Therapeutic Technology. An additional year is required for Registration in both Specialties. Before the training program at the Northern Alberta Institute of Technology was initiated in 1963, the entire training was given at the Accredited Training Schools in the X-Ray Departments in the larger hospitals. The training is now carried out as a co-operative program between the hospital school and the section at NAIT.

The X-Ray Technician spends most of his time with the patient. Following admission of the patient to Emergency, the first stop is frequently the X-Ray Department. Because of this constant involvement with the seriously ill or injured patient and as many of the x-ray procedures involve teamwork with other medical personnel, the student spends part of his training period at the hospital and the remaining time in the X-Ray Section at NAIT.

The student is accepted by the accredited training school in the hospital. Application may be made to any of the four city hospitals for training in Diagnostic Radiography. Students come to NAIT from Red Deer and Calgary. The Edmonton Cancer Clinic is the only training school among the hospitals or clinics in the province that is accredited for the training of

both Radiographic and Therapeutic Technologists. The students undertaking the Therapeutic program attend the institute for the subject applicable to both courses. Therapeutic Technology involves the use of X-Ray, and various radioactive sources for the treatment of patients with cancer and other diseases.

If the student has fulfilled the requirements for examination at the end of the two year training program, he may attempt the National Examination set by the Canadian Society of Radiological Technicians. Certification following successful completion of these examinations entitles the technicians to use the designation "R.

T." C.S.R.T. after his name which indicates proficiency in his chosen profession. This certification is recognized across Canada, and through reciprocity in the United States, Great Britain and a number of other countries.

X-Ray Training presents the opportunity of an interesting and rewarding profession to either male or female applicants who meet the entrance requirements. One interested in people and their welfare, may gain a great deal of satisfaction from this work.

Post-graduate Training, a Fellowship in the Society or a Teaching Certificate is available to a graduate who is interested in advancement.

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**LABORATORY MEDICAL TECHNOLOGISTS**  
**INHALATION THERAPY TECHNICIANS**  
**RADIOLOGICAL TECHNICIANS**

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## MEDICAL LABORATORY TECHNOLOGY

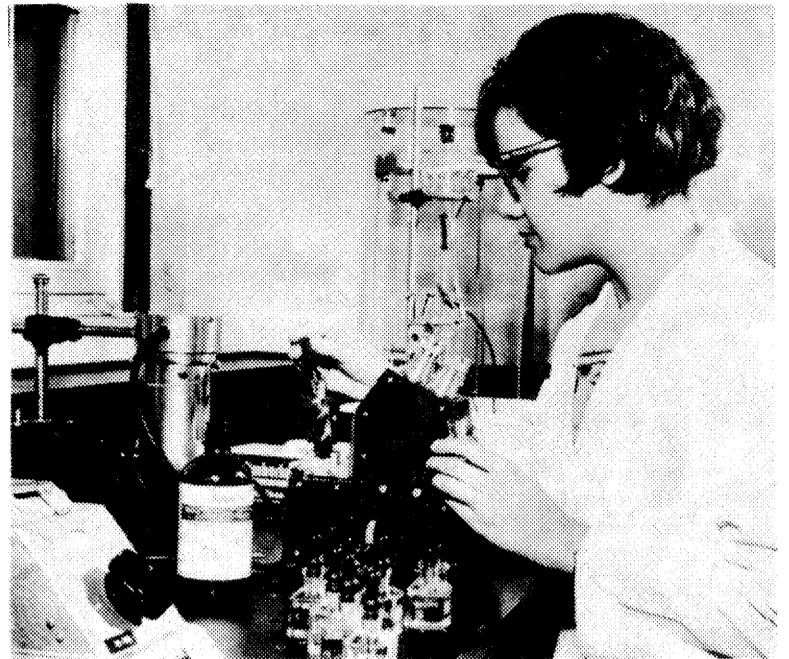
Medical laboratory technology is one of the para-medical sciences which has evolved in the last forty years. It has its origin in the work of scientists of the late nineteenth and early twentieth centuries. The discovery by Pasteur and Koch of the bacterial and viral causes of such diseases as rabies, tuberculosis, and anthrax led directly to the medical technologist who examines physiological fluids such as urine, sputum or pus in order to identify the bacterium which is causing the infection; the elaboration of a method of determining sugar in blood and urine by Benedict in 1913, and the discovery of insulin by Banting in 1922 to the biochemical technologist who determines, (among approximately one hundred other determinations) blood glucose levels - most essential in both the diagnosis and control of diabetes. The work of Paul Ehrlich, that man of many talents, who not only discovered the first chemical cure for syphilis, but also investigated the reaction of dyes with tissues is still being utilized by the Haematology technologist who examines blood means for, among other things,

abnormal white blood cells characteristic of leukemia, and also by the Histology technologist, who cuts sections of tissues which are 1/20,000 of an inch thick, and who stains (or dyes) these sections for examination by a pathologist. Landsteiner's discovery of the ABO blood groups and Weiner's discovery of the RH factor led to the Blood Bank Technologist who cross matches the blood necessary for such sophisticated and revolutionary surgery as heart and kidney transplants.

The term "information explosion" is a common one: its application to medical science means that no longer is one person - the doctor - able to perform, personally, the multitude of tests necessary for diagnosis, and treatment (or control) of disease. This is now the function of the medical laboratory technologist, who obtains, at the doctor's request, the pertinent information. This cannot be done either accurately or efficiently without a thorough grounding in the theory underlying the tests, and it is for this purpose that medical technology students come to NAIT. During the following year, the students

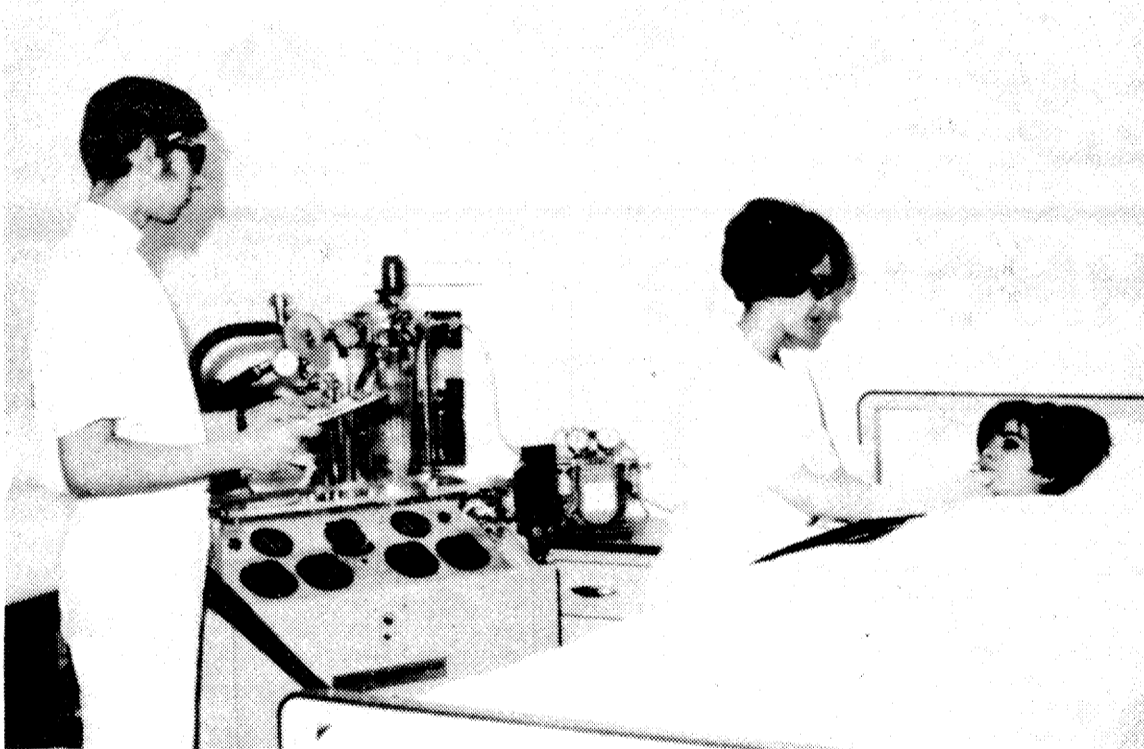
apply this knowledge in the practical portion of their training at an approved hospital.

In their ten months at NAIT, they are expected to acquire a basic knowledge in six laboratory disciplines: Bacteriology (or Microbiology, as it is more precisely termed), Biochemistry, Haematology, Histopathological Technique, Blood Banking (or Immunohaematology, as it is now called) and Urinalysis. It is a year in which the student must quickly adjust from a high school atmosphere (where it is interesting but not essential to learn all that is taught) to a professional atmosphere (where it is both essential and interesting to learn everything). It is a year of adjustment to the knowledge that within a very short time someone's life will depend on precise and accurate work; a year in which the prospective technologist must adjust to instructors who (almost unreasonably from the student point of view) not only expect but loudly and firmly demand perfection; a year in which a student must adjust to the knowledge that technologists in most other fields will make more



money, work better hours and develop fewer ulcers; a year during which study is expected on weekends! Is there no compensation? Those who leave in the first few months of the course think there is none; those who stay (the great majority) begin to realize that their painfully acquired knowledge is essential and valuable; that they will, if only in a small way, contribute directly to a patient's welfare; that there are days when things

go all right, instead of all wrong, in a lab; that they are laying the groundwork for some of the most enduring friendships they will ever have; that their starting salary, after they qualify as Registered Technologists with the Canadian Society of Laboratory Technologists, will be approximately \$400 a month (not exactly starvation wages); and that their instructors can (even if they rarely do) show a glimmer of humanity.



## RESPIRATORY TECHNOLOGY

### (INHALATION THERAPY)

As medical techniques have grown more complex, it has become increasingly difficult for the physician and the nurse to perform all the functions of medical care and treatment. From this development have arisen many modern paramedical specialties who serve as essential assistants to the physician in their designated areas.

One of these new paramedical specialties is Respiratory Technology. This new profession is often defined as the treatment and diagnosis of the many conditions caused by deficiencies or abnormalities associated with respiration. The last decade has witnessed a great technological advance in the equipment used to treat such cardio-pulmonary disorders. Because of the complexity of the equipment, a new specialized technician in respiratory work has been developed both to treat the patient and to maintain the machinery.

This new profession offers you an opportunity to share in its future. A comprehensive two-year training program for Respiratory Technicians is now available utilizing the facilities of the Northern Alberta Institute of Technology and some of the teaching hospitals of the province which possess an accredited school of Inhalation Therapy. The course consists of two phases: ten months of didactic lectures and laboratory session conducted at NAIT, followed by twelve months of clinical instruction in a hospital training school. During the two-year program such subjects as physics, chemistry, anatomy, and physiology, equipment design, equipment function and maintenance, microbiology, pharmacology, pathology and nursing arts will be presented along with actual clinical practice during the second year.

The Respiratory Technician's responsibilities and tasks generally make the hospital his place of work. By the very nature of hos-

pital work, the technician is always working with people, and the entire medical team and all supportive care toward caring for patients with cardio-respiratory disorders and the other will be maintaining the actual equipment used in such care.

The technician's duties will vary according to the individual hospital's particular situations. These responsibilities will include:

1. Technical Maintenance: As the equipment utilized in treating patients is extremely technical, he must know how to maintain, adjust and repair equipment to ensure its proper function and results. For this reason alone, some understanding of physics is essential.
2. Therapeutics: Serving the patient according to specific instruction from the physician. To do this effectively he must understand (a) the physical and psychological needs of the patient, the doctor's goal in using inhalation therapy, (c) how to accom-

plish this goal with his knowledge, technique and equipment.

3. Administration: The possibility of advancement to a senior position in the hospital department is excellent. The duties of senior and supervisory staff include control of personnel treatments, patients on therapy, supplies, medical gases, and equipment, all of these require systems, records and correct management. These duties will require and produce administrative ability.

4. Teaching: The technician is responsible for instructing patients and members of the patient's family about the use of their therapy. The technician is also involved in the teaching of other personnel in the use of equipment.

5. Development and Research: Respiratory Therapy is still in the infant stage. The need for research, development and testing of new equipment and technique is very necessary.

In order to do well in this field, a person should have a genuine interest in people and their welfare. One must have the ab-

ility to work in harmony with members of the staff and other hospital personnel. Patient care in lifesaving situations if often encountered, and, therefore, of course requires a stable person to be able to cope with such problems. The students invariably find the profession extremely challenging and rewarding because the work is varied, new and interesting. This variety of work also means that the field is open to both men and women.

For years to come the demand will far exceed the supply. There is an urgent need for pioneers to establish new departments. With the profession so new and the demand so great, numerous schools are being organized and the need for teachers in Inhalation Therapy is pressing. Many centres throughout North America are planning cardio-pulmonary function laboratories and there is a need for post graduate studies in this and other work.

Those willing to work hard have an unexcelled opportunity for a challenging and rewarding future.

## CAREER OPPORTUNITIES

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Young men wanting a career opportunity in a demanding PARAMEDICAL PROFESSION with preference given to those with a science background.

### PLEASE CONTACT

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Monday to Friday

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## GAS TECHNOLOGY

The Natural Gas Industry is one of the fastest growing industries in Alberta. Since 1960 the production of Natural Gas has more than doubled and the future promises even greater increases and expansions in all phases of the industry.

The Gas Technology Advisory Committee, a group of representatives from the major gas companies, has recently indicated that the industry can absorb up to 40 Gas Technologists per year. Considering the enrollment limit of 45 students and less than fifteen diplomas awarded each year, it is easy to account for the high starting salary of the graduate technologist. The average starting salary is presently among the highest obtained by any of NAIT's graduates.

The Gas Technologist is trained to fill the gap between the skilled tradesmen and the professional Engineer. Graduates may begin their careers in either the Engineering Technology field or the Operations field, both of which provide interesting and challenging opportunities.

The Gas Technology course is a two year program which commences in September and is completed the first part of June. Upon acceptance of a student's application and payment of tuition fees, the student spends two years at concentrated studies in the Institute.

A basic review of mathematics, chemistry, physics and English

begins the student's studies. The remainder of the first year includes courses in such subjects as geology, reservoir mechanics, drilling operations, surveying, drafting, statics, dynamics, report writing, organic chemistry and equipment testing. The second year is made up of several basic courses covering the following fields of study: power plant engineering, computer programming, instrumentation, strength of materials, calculus, organic and inorganic chemistry, design of gas processing equipment, natural gas analysis, formal report writing, industrial chemistry, gas instrumentation, electronics, gas plant operations, materials of construction, thermodynamics, economic evaluation and industrial relations. Upon successful completion of the two year course, the graduate is given a Technicians diploma which certifies that he is a Registered Technician III in the province of Alberta. In addition, successful Gas Technology graduates have the opportunity to write the Alberta Fourth Class Steam Ticket. This is the first stepping stone to a secure and rewarding career at a Steam Engineer.

Gas Technology's Open House display will be located in room E213 (second floor of the Technical Building). We hope a model of a gas processing plant, gas analysis and measuring equipment along with literature and opinions of the Gas Technology students will be of interest to the public.



## CHEMICAL TECHNOLOGY

A practical and challenging course is being offered by the Chemistry Department of NAIT. The rapid growth of the Chemical Industry in Alberta and Canada has increased the demand for com-

A two year course is offered in Chemical Technical with a second year option (Chemical Research Technology) for honor students. Theory classes in inorganic, organic, oil chemistry, instrumen-

of about 30 hours. As a student Chemical Technician, one will learn to perform qualitative and quantitative analytical tests and determinations, to reproduce in-

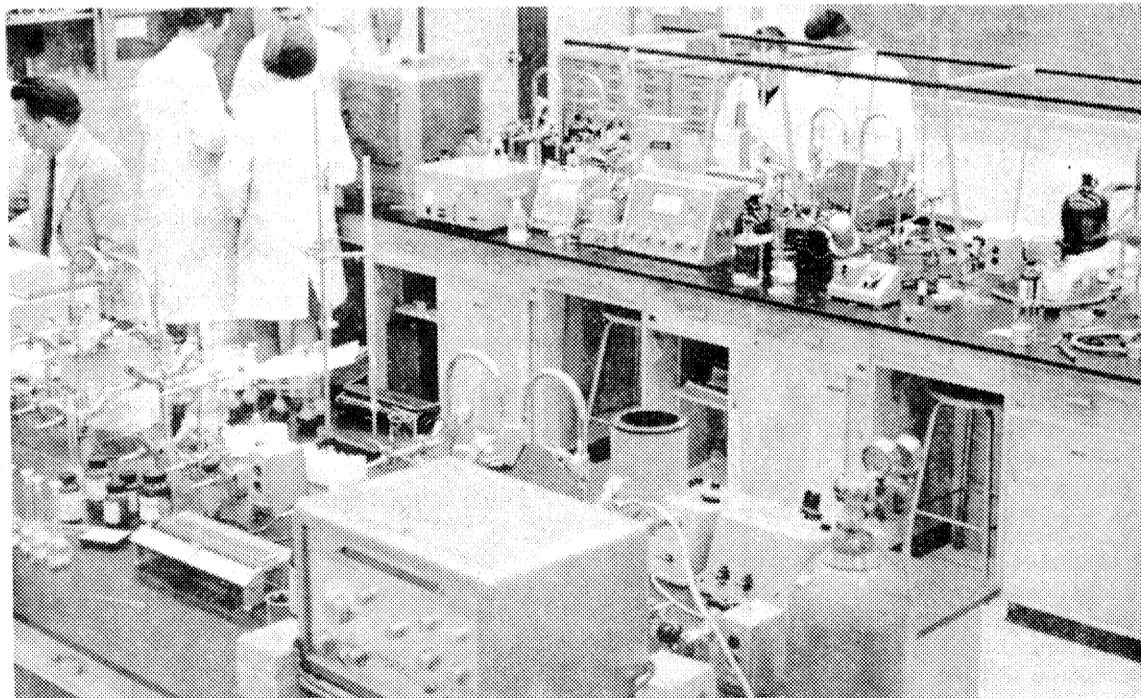
dustrial procedures on a laboratory scale, to operate various analytical instruments and in general to get a good background of chemical knowledge.

Industry has been very generous in providing scholarships and awards for students who prove their academic merit. Several hundred dollars has been allocated to Chemical Technology students.

A graduate of Chemical Technology is employed in a variety of industries: Chemical, Petroleum, Plastics, Electrochemical, and Food industries as well as Research Institutions, Consulting Firms and The Atomic Energy Commission of Canada. NAIT offers a student placement service where future employers come to the Institute to interview the students. An average starting monthly salary of \$425 may be expected with the range being \$355 to \$525. Opportunities for advancement may depend on position, type of work and company policy. Each student of the Chemical Technology is eligible for student membership in the Chemical Institute of Canada (C.I.C.) which is the National Pro-

fessional Organization for Chemists and affiliates. Upon graduation, student members are eligible for certification as Chemical Technologists by a program of development recommended by the C.I.C. This includes on the job development, extension courses, or University courses.

The course requirements are listed in the NAIT Calendar and any prospective students are encouraged to visit the Chemistry department and look our facilities over. In order to avoid disappointment, register early.



petent Chemical Technicians. The requirements of industry and Research must be filled and the Northern Alberta Institute of Technology has endeavored to do its part in providing programs which will give the students adequate training in the field of Chemical Technology. A great potential exists in the field of chemistry and students choosing this field will have picked an interesting and continually developing vocation.

tation and biochemistry are applied in the lab where the student performs experiments that illustrate the thoughts presented in the lectures. The practicality of this course is emphasized in the amount of time the student spends in the laboratory where he or she learns good laboratory technique and procedure. The first year course includes 12 lab hours and the second year course averages 20 lab hours out of a total week

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## EXPLORATION TECHNOLOGY

Up to a few years ago Exploration Technologists were trained on the job by oil and mining companies. Because of recent advances in exploration techniques and use of increasingly complex equipment many have lacked adequate training in geology, geophysics and electronics. This technology offers complete training in the above fields.

Geology and geophysics form the spearhead of oil, gas and mineral exploration. Exploration includes the finding, interpretation, and correlation of information necessary to determine drilling locations and the compilation of subsurface data and conditions as determined by drilling. Geophysical exploration runs the gamut from diverse methods of application in the field to complex decision making at the business end. Geology is the knowledge most central to the oil and mineral industry, and, as the industry can't survive off past discoveries, it will likely continue in this role. Demand is currently at a high level for technologists trained in geology and geophysics and the exploration leap into the Arctic islands this year will have the effect of expanding opportunity in this field.

In a developed area, exploration technologists collect and classify

basic geologic data used in the interpretation and mapping of structural and reservoir characteristics. A technologist will also be employed in fieldwork which includes wellsite geology and assignment to geological surface parties during the summer months. He may employ seismic, gravitational, magnetic methods and electronic and geochemical applications in his search for mineral wealth. He will also work with record computations and preparation of seismic cross-sections and maps.

The profession offers something for everyone - whether you like to spend a major part of your time working in remote places like the Canadian Arctic or in air conditioned comfort of the head office where you will have access to the latest computers and continuous technical upgrading.

For the technologist there are many opportunities to specialize including geophysics, geochemistry, mineralogy, structural geology, stratigraphy, paleontology, economic geology, geophoto mapping, and oil, gas, mineral correlation. He also has the opportunity to enter such allied fields as oceanography and soil studies in the fields of agriculture and forestry.



Should a person plan to enroll in exploration technology, rigorous training lies ahead and you should intend to give your inter-

est a fair trial. In any event many of the subjects you will study in your course will be valuable to you whatever profession

you finally enter. If you're interested in Exploration Technology why not drop in and see our displays.

## DRAFTING & ARCHITECTURAL TECH

The Drafting Technology program is one of the best and most fully-rounded programs in the Institute. It is a stepping stone into a varied number of fields such as: architectural, structural, municipal, electrical, survey and topographical. While the Drafting program does not pretend to turn out experts in all fields it does offer to the students a good working knowledge in these fields.

The communication of ideas from the designer to the manufacturer, the planner or contractor must be done in such a way to avoid misunderstanding of that information. The trained draftsman offers the means by which that information may be translated from the language of the designer to the information necessary to the builder. The drafting technology program educates the students in the correct graphical communication of ideas through: the developing of skilled and efficient use of instruments and equipment; the ability to use reference material such as catalogues, codes and speci-

cations.

With a working knowledge in several fields, there is a wide range of job opportunities available to the graduates of this program. There is a definite need in the employment field for versatile, broadly trained technicians, and on a long term basis a good technical knowledge is the key to promotion into design and supervisory positions as well as offering a good foundation into a future formal education.

The graduates from Drafting Technology are those who have sacrificed most of their weekends and weeknights in the pursuit of the ancient and honorable trade. The work load in the Drafting program is rather demanding at the best of times, however with the field trips, parties and the thought of the old diploma, the time passes quite pleasantly and a little too quickly.

For more complete information on the Drafting program attend the drafting display in E 205.

Today our world is changing rapidly; our ways of doing things quickly become archaic; our environment is becoming antiquated; our world is becoming inadequate. Our lives are changing. Not only the manner in which things are done, but even the very things that must be done will be different in the future. A whole new attitude and approach to life will shape our future activities; a new environment will be required. Tomorrow's world will be different, as far removed from us as we are from our ancestral aborigines.

### THE BUILDING INDUSTRY

In our rapidly changing world, the techniques of building are also changing. No longer is it possible for the glorious architect to sit isolated in his ivory tower conceiving and busily producing electric variations of previous building solutions. Today's ever changing building industry has already become a diversified giant requiring the extensive co-operation of hundreds of qualified men and women working on each project. Each of these people must be

skillful, knowledgeable and talented in his own field of endeavor as they make their vital contribution to the vast operation of creating the spaces and environments of today and tomorrow. Included in this large integrated team that produces our new buildings are graduates from schools of architectural technology.

### EMPLOYMENT

Opportunity exists in many fields for graduates of the architectural technology program. In addition to architects' offices, graduates find employment in the area of engineering, urban planning and redevelopment, building construction, building materials supply and sales, and governmental agencies. The work is thus diversified and the demand fluctuates with the pace of the building industry. Working conditions are usually very good, and the salaries are commensurate with the ability and initiative of the individual.

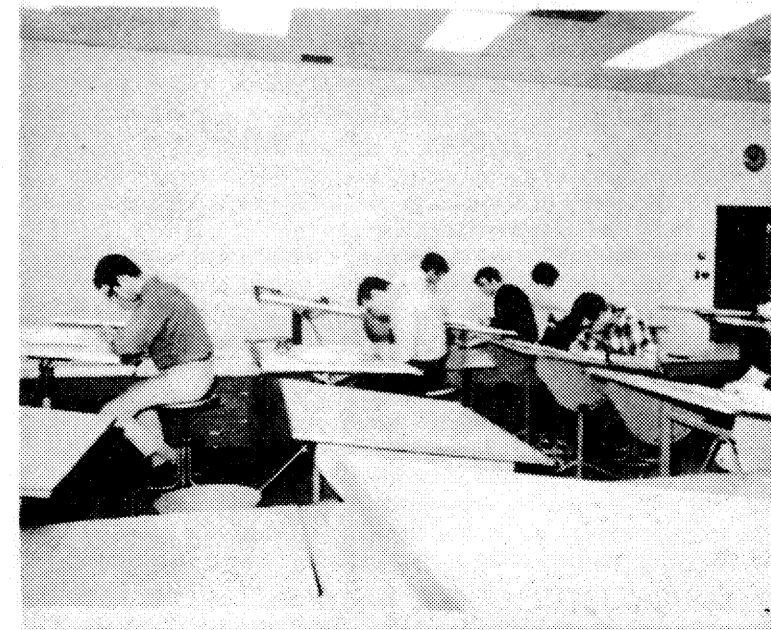
### THE NAIT PROGRAM

The program of architectural technology at NAIT aims to prepare the student to fulfill his important role in the changing world

of the building industry. The program does not intend to produce architects, engineers, contractors, or tradesmen, although an understanding of these professions and trades are developed by the student during his studies here at NAIT. The courses offered develop skills in architectural and engineering, drafting, detailing and presentation, as well as a basic understanding of architectural and engineering design, surveying, supervision, and office practice. Architectural technology not only teaches present techniques but also emphasizes fundamental principles which will enable the student to make a vital contribution to the building industry as it constantly changes its methods, requirements and goals. Therefore the program at NAIT is under constant review and alterations are made as they are required to meet the changing demands of today's world.

### OPEN HOUSE DISPLAY

The east foyer of the technology wing contains a display of drawings, designs, projects and models by current students in architectural technology. These are displayed in an environment designed and built by the student themselves.



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# ELECTRONICS

The very word itself brings visions of space-ships and banks of computers and flashing lights and buildings filled with humming, crackling equipment ready for the destruction or salvation of the world. Indeed, the advent of science-fiction brought with it the concepts of Electronics even before Thomas Edison flipped the omnipotent switch.

But now Electronics has come forth from the realm of the science-fiction novelist and into reality.. and has started a new Era. There is not a facet of our lives that is not in some way connected with Electronics, and it is courses like the one offered at NAIT that produce the Electronics Technicians and Technologists that are required in ever increasing numbers to create, service and maintain our Electronic livelihood.

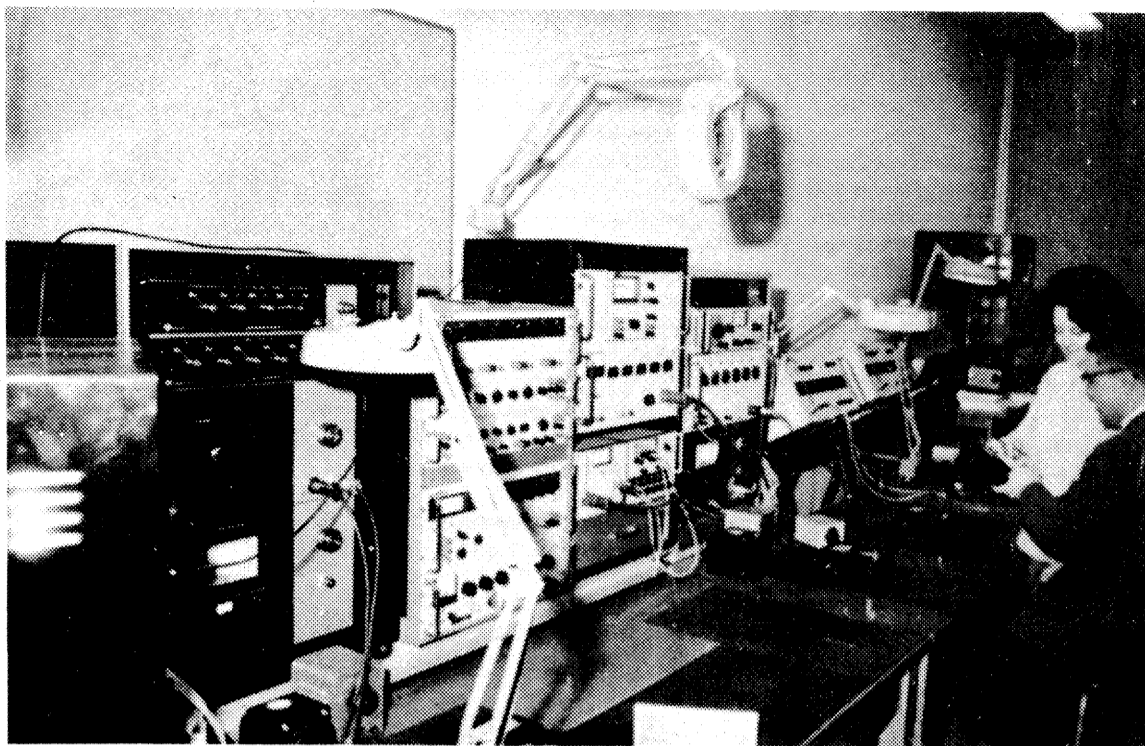
The Electronics Engineering Department at NAIT covers three years of extensive study of the field from the basics of the first year through familiarization of the second and into the specialized options of the third year - medical electronics, geophysical applications, precision calibration. Together with comprehensive lectures, the courses are aided with laboratory exercises with the precision equipment and facilities offered at NAIT.

Field trips are organized, guest lecturers are invited to speak on employment opportunities in the field, student co-operation and participation is encouraged via an able faculty, library facilities and night laboratories that are available both to the spare-time inventor type, and the student having difficulties. The Electronics Department is the largest at NAIT, and is growing phenomenally, nearly trebling its initial enrollment since the time of NAIT's opening.

Year A of the course will provide the student with the basics of electricity and the basics of transistor design. Many hours will be spent doing lab work to obtain skills and knowledge required to enter research or industry.

In Year B, the courses are more varied and more detailed. Courses in Communications, Instruments, Television and Transistor Circuit Design are offered. The student is provided with the opportunity to study some complete electronic systems such as, a transmitter and receiver, a television set and instrument operations and applications.

The last year brings greater emphasis on computers and supervisory control as applied to industry. Optional courses are also offered this year.



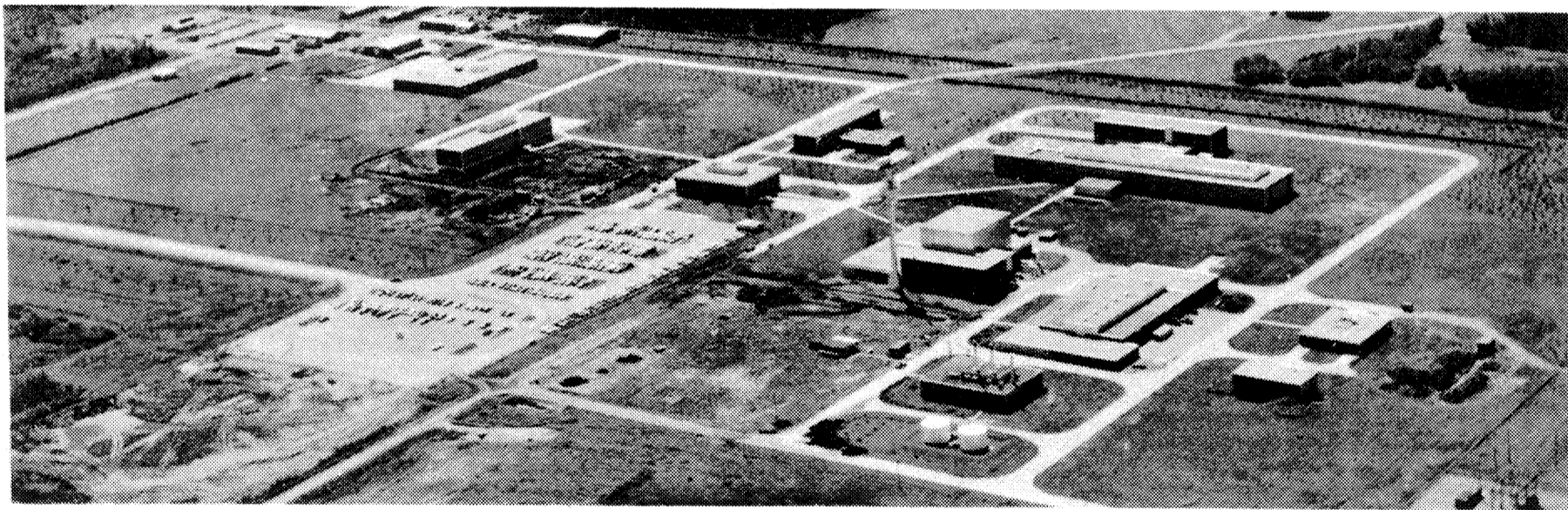
Anyone with a senior matriculation can enter the AB program in which Year A and B are combined into an accelerated course. High School graduates who have taken Electronics 22 and 32 are admitted directly into Year B. Graduates in Electronic Technology have a wide and varied field of work opportunities to choose from. Some of them are: Computers, Research, Bio-medical El-

ectronics, Exploration Electronics, and Communications. Also, the opportunity for the Electronic Technologist to move into management is increasing every year. On the social scene the Electronic Technician Student's Society offers a varied program including tours. Also available to the Electronic Student is the opportunity to operate a closed circuit television system. Any student in El-

ectronic Technology may become an associate member in the Institute of Electrical and Electronic Engineers. This is a professional organization set up for the exchange of current information of importance to the electrical and electronic industries.

To give you a better insight into the Electronic Technology course, visit interesting displays in the Electronic Wing.

## WHITESHELL NUCLEAR RESEARCH ESTABLISHMENT PINAWA, MANITOBA



### EMPLOYING GRADUATES IN :

#### MECHANICAL

The Whiteshell Nuclear Research Establishment is the second major research laboratory of Atomic Energy of Canada Limited, a crown corporation. The laboratory site adjoins the northwest corner of the Whiteshell Provincial Forest Reserve, 70 miles northeast of Winnipeg, Manitoba, with modern plant buildings built along the banks of the Winnipeg River.

Using the world's only successfully operating organic cooled reactor as a test facility, 750 scientists, engineers, technicians, and supporting staff are investigating and developing new materials for the further development of the CANDU (Canada Deuterium Uranium) type commercial power reactor into a highly efficient economical power producing utility. By 1975, AECL expects some 1250 people to be working at WNRE.

The optimum complement of 1250, WNRE management expects, will be large enough to execute a productive research program, while being small enough to allow for effective, interdisciplinary communication between technologists working at the research and development projects. People and ideas are the Whiteshell Research centre's prime assets, and its products are new, nuclear materials data and reactor designs.

The personnel, philosophy, recognising the need for continuous post-graduate training of technical and non-technical staff, encourages each individual to par-

#### ELECTRONICS and MATERIAL TECHNOLOGIES

ticipate in internal and external training programs. Thus, internationally known scientists and engineers working at the establishment give frequent seminars on the ideas they are researching and advances in their disciplines, advances they may not have yet published in the periodical literature or textbooks. Many personnel travel to the University of Manitoba to take sponsored credit and non-credit evening courses to further their own qualifications.

Most of the WNRE staff live in the town of Pinawa, a modern town carved out of the Whiteshell forest in a joint development by AECL and the provincial government. Town planners have designed the community to take advantage of the forest setting on the banks of Sylvia Lake, a widening of the Winnipeg River, 10 miles east of the plant. Pinawa sits almost in the heart of the Whiteshell resort area, offering a full range of summer and winter recreational activities.

The town and research establishment will grow continually, if not in size then in the breadth of its personnel effort. One fundamental policy at WNRE is that no man is invited to join the establishment unless the proper support can be made available to him. Modern science demands modern sophisticated instrumentation. As a consequence, the Whiteshell Nuclear Research Establishment has one of the most utilized laboratories and test-reactors in the world today.

#### ELECTRICAL

# INSTRUMENTATION

In the future it is hoped that a post-graduate course will be offered to Instrumentation graduates to help keep them abreast with new developments in the automatic control field. As the course progresses, the amount of time spent in the lab increases. In the lab the student will learn fault analysis, instrument repair, and installation. Tube fitting is also studied as well as a short course in welding. At this Institute we are fortunate to have perhaps the most competent equipped instrument lab

in Canada. More spacious and fully equipped quarters were obtained this year, since the new Jay-wing was finished.

This course is relatively new, and has had, and is having growing pains. However, most of the early problems have been eliminated and the new student will find the entire course is highly organized and very efficient.

You may wonder what the job opportunities are in this field. After all, there is not much point in attending a two or three year

program if after that time you are unable to obtain suitable employment. By all standards the opportunities are excellent. In Canada there are only three institutions training instrumentation technologists. Consequently the demand for graduates last year exceeded the supply, and the average starting salary was \$550.00 per month, as compared to the \$480.00 the year before. These jobs were divided primarily between industry and sales positions.

Many people are unfamiliar with what is involved in Instrumentation Technology. Probably one of the best definitions is that Instrumentation is the science of applying devices and techniques to measure, record, monitor and control plant equipment and process operations.

Instrumentation Technology is a relatively new and expanding field, requiring a great degree of knowledge in electronics, pneumatics, and chemistry of processes. Because it is a new field in Technical training, there is a lack of properly trained people in industry. It is therefore the function of this Institute to train young men to function efficiently in the

of the rapid development of new instruments and the large number of existing types of automatic controls, it would be impossible for the student to study them all. Therefore, the instrument theory courses are designed to give the student a sound knowledge of the principles of automatic control, and in this way enable him to cope with practically all types of existing industrial instrumentation.

This has been a brief outline as to what instrumentation is all about. Of course there is much more in this field than can be learned from books alone. Practical experience and a good mechanical aptitude are great assets. If you are a person who is able to meet the requirements as set down by the Institute, there is a world of opportunity awaiting you in Instrumentation Technology.

# PHOTOGRAPHY

Photography, as never before, has taken on a new responsibility to the people and economy of Canada. Once a medium of pleasure and beauty, photography is now helping to contribute important information towards the production of saleable and competitive goods.

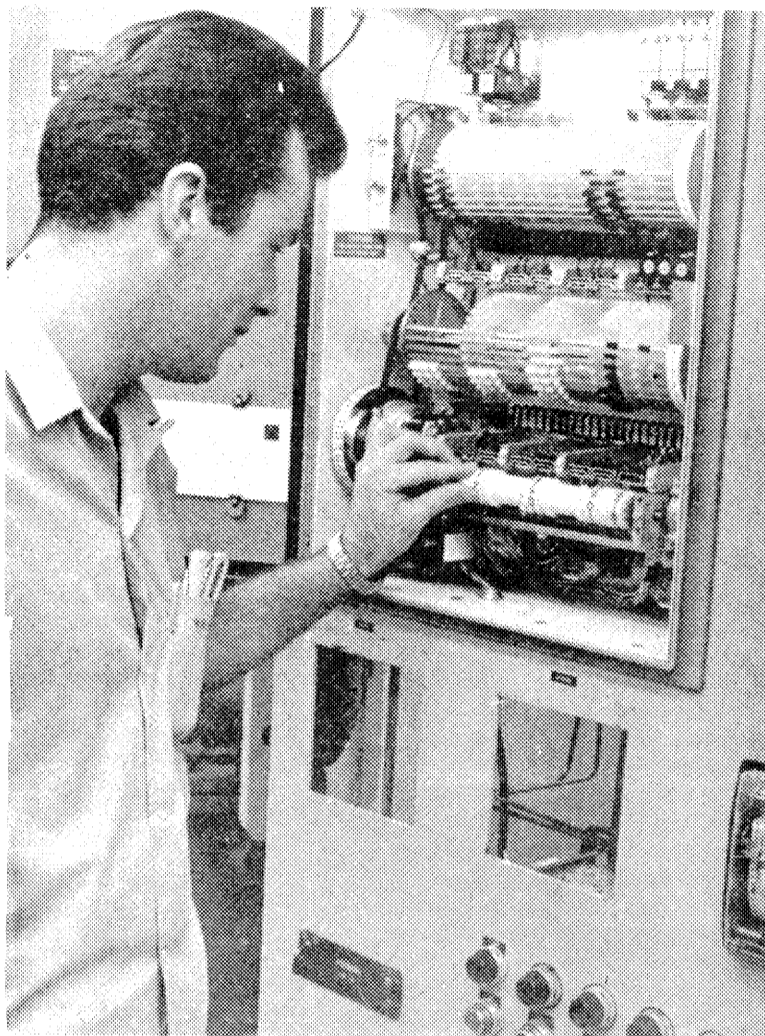
The Northern Alberta Institute of Technology is helping to meet this new responsibility by offering a course in photographic technology.

Practical  
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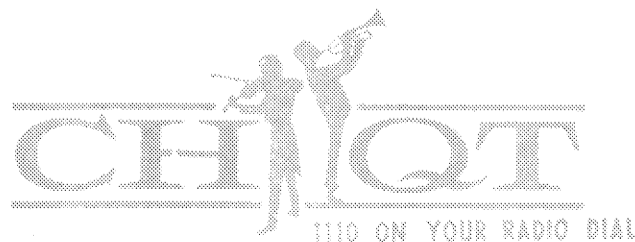
Color processing and printing are incorporated in the second year studies, with the techniques of control and production in each clearly indicated by theoretical and practical instruction. Advanced black and white photography, both portrait and commercial, is continued with further instruction in the laboratory and on location. Basic motion picture procedures including editing and sound re-



ne will probably spend most of his career life. Broadcasters are the sense organs. They are its informers, its detractors, and its emotional outlet. Whether the graduates of RTA enter the broadcast industry as performers, equipment operators, writers, announcers, salesmen, public relations personnel, or producers and directors, they will be responsible for informing people effectively about the world, their surroundings and themselves.

## CONGRADULATIONS TO THE STAFF AND STUDENTS OF NAIT

A STUDY DONE AT THE UNIVERSITY OF ALBERTA, INDICATES 50% OF OUR LISTENERS ARE 21-35 YEARS OF AGE. NAIT STAFF AND STUDENTS WHO PREFER "QUALITY" LISTEN TO THE "SPARKLING SOUND" OF RADIO 1110



**"THE GOOD  
MUSIQ STATION".**

## SURVEY TECHNOLOGY

So you want to be a surveyor!! Do you realize that you have to be patient, aggressive, have a terrific knowledge of mathematics and have a strong back. You may never be as comfortable as your neighbour is, working in his little office, but you will get your share of frostbite, wet feet, mosquito bites and blisters. How many people do know have gone wading in stagnant beaver dams, walked miles across soggy musket and had their faces slashed while trying to cut willows with a dull axe? If you have the guts to become a surveyor, then welcome. Don't be misled by thinking that this life is one of solid hardships. Not quite. You may be working in the city near a nurses' residence, flying up to Melville and finding a raging blizzard, or having a riot pushing your four-wheel drive truck out of a creek.

What do you have to do to join this group of ultra-hardy men? Practical experience is always the best teacher. But don't limit yourself to one phase of surveying. You may not prefer one type but find your chosen field in another. They vary from city surveying which is very precise, to seismic surveying where ten feet is an acceptable error in distance measurement.

But where are the shortcuts? There are always shortcuts in every occupation. You may think the course here at NAIT is one. Well, let me clue you in. If you are experienced in surveying, it is a waste of time and effort because the course is geared toward the man going for his professional status.

The math course in relation to survey is adequate but other courses should be dropped for the benefit of students. The variety in a surveyor's life is lessening,

professional draftsmen are used for drafting plans, computers are used for complicated mathematics.

The main portion of the students enrolled in this course believe the extracurricular courses and non essential courses should be dropped and a one year course offered which will give a person a working knowledge of problems which will be encountered.

This will give the large majority of the students a chance to learn all that is necessary in one year, instead of literally wasting a year learning useless facts and developing doubts as to why he is in this course.

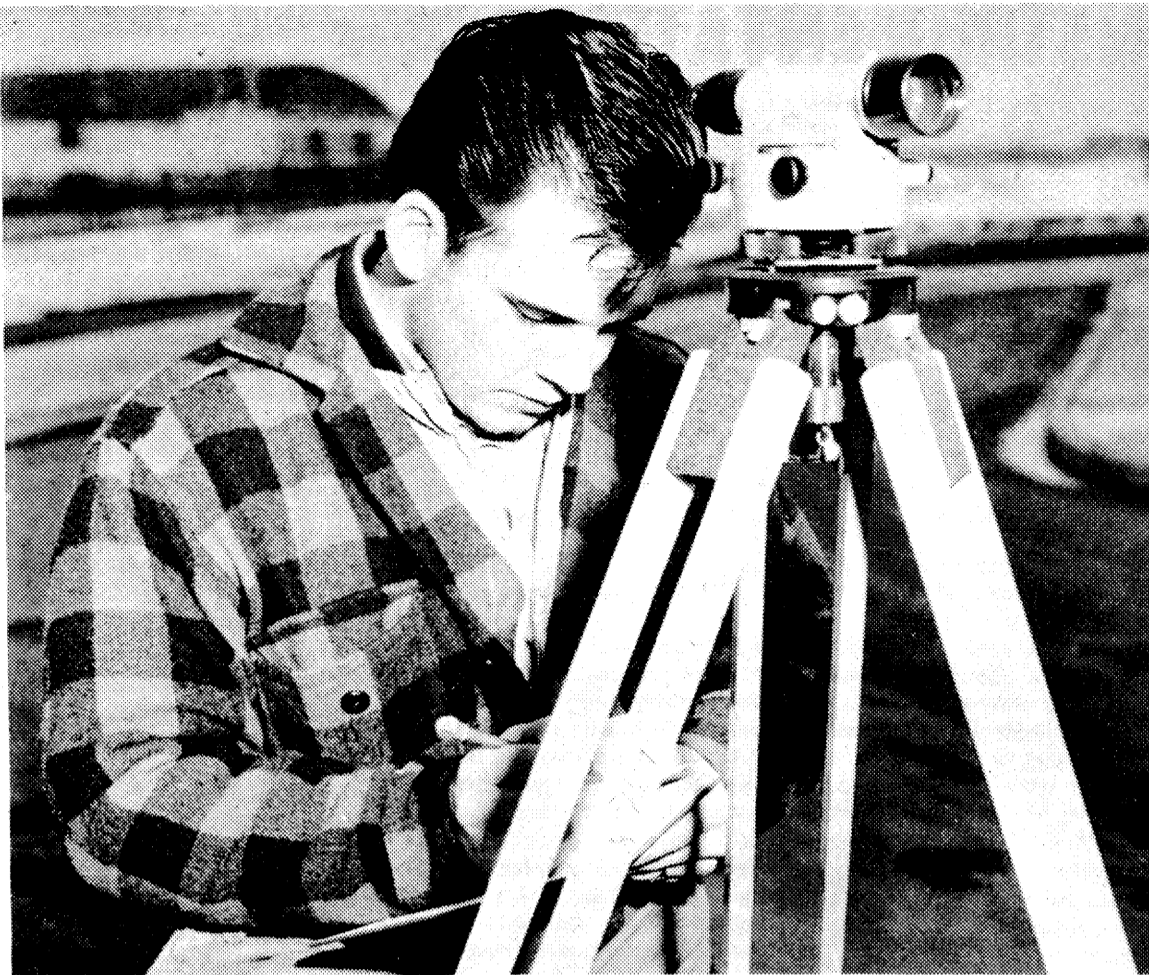
A second year could then be offered at NAIT or SAIT where students could enter a crash program in preparation for their professional examinations. This would result in better training and preparation for the exams. The person going surveying and not after his professional license, would then be released sooner to the job of his choice.

If you are expecting a fourth and fifth year of high school, forget it! This is an adult course and you have to work on your own. If you want a preparation course, this course at present is in the vague direction of a surveyor's education.

Ask a student enrolled in the courses for further information. Instructors are very biased, but after all, aren't they paid to give their opinions?

Surveying is an enjoyable career. The wages are the best, the working conditions are far from the best, but if you are outdoors minded it is a field of growing opportunity. Just over the hill is a whole new world of unsurveyed territory calling. Perhaps I shall meet you there.

GERALD WHALEY  
Survey Year 1



## CIVIL ENGINEERING TECHNOLOGY

Civil Engineering Technology is a course in the training of semi-professional people: draftsmen, surveyors, estimators, designers and materials inspectors to aid the Civil Engineer in modern construction.

Qualified graduates are employed in various engineering fields - wherever there is construction. Approximately one-third of the graduates are employed by engineering consultants and material testing companies. This includes the study, design, construction and inspection of roads, sewers, water mains, reservoirs, sewage disposal plants, water treatment plants, harbour installations and irrigation canals. The materials testing field includes the laboratory and field testing of soils, cements, concrete, asphalt and other materials used in construction. Another third of the graduates are employed by private contractors as estimators, draftsmen, surveyors and job superintendents. The remaining third work for various governmental agencies as draftsmen, surveyors and inspectors.

Apart from the engineering fields mentioned before, there are graduates involved in technical sales, while still others are continuing their education at university level.

Salaries for graduates are comparable to those paid semi-pro-

fessional people, and vary depending on the experience and personal capabilities of the employee.

Advancement opportunities are good for graduates because of the increasing amount of construction and the resulting expansion of the need for technology graduates. Many graduates start as junior inspectors, draftsmen, and estimators. The road to seniority in these fields involves experience and diligence, but many graduates will succeed. Civil graduates are given basic knowledge required of job superintendents for private contractors: grads may start work as assistant to the superintendent and advance to superintendent, field superintendent and construction manager. Advancement is on a merit basis, and so the individual dictates his rate of advancement as opportunities present themselves.

To become a Civil Engineering Technician, a person must have a Civil Technology diploma. The Civil Technology course at NAIT is a two year program. Entrance requirements are a high school diploma or equivalent, with at least a "B" standing in mathematics 30, 32 or a combined average of mathematics 30 and 31, and credit in Physics 30 or 32. Additional data may be obtained from the Office of the Registrar, NAIT.

## TELECOMMUNICATIONS TECHNOLOGY

Telecommunications Technology is a relatively young technology at NAIT. With the present trend towards the use of specialized technical equipment in industry, the need for more highly trained technicians in the Communications industry is on the increase. The major aim of this 3-year program is to train students at a post-high school level to become assistants to communications engineers. Telecommunications Technology deals with the broad field of telephone, carrier, microwave and other communication systems.

The first year of the program provides students with a good understanding of basic electrical theory and practices, technical mathematics and physics. During the second and third years, extensive training in telephone company operations prepare the Telecommunications technicians to carry out both field and office duties. In the well-equipped communication labs, students are trained to perform many of the duties required to operate a communications system.

Graduate technicians will be able to carry out the various installations and maintenance programs in the field or will be able to serve in various supervisory capacities. Graduates can assist engineers in designing and testing the new

components. Their basic knowledge of electronics enables them to embark on a variety of careers in the electronics industry.

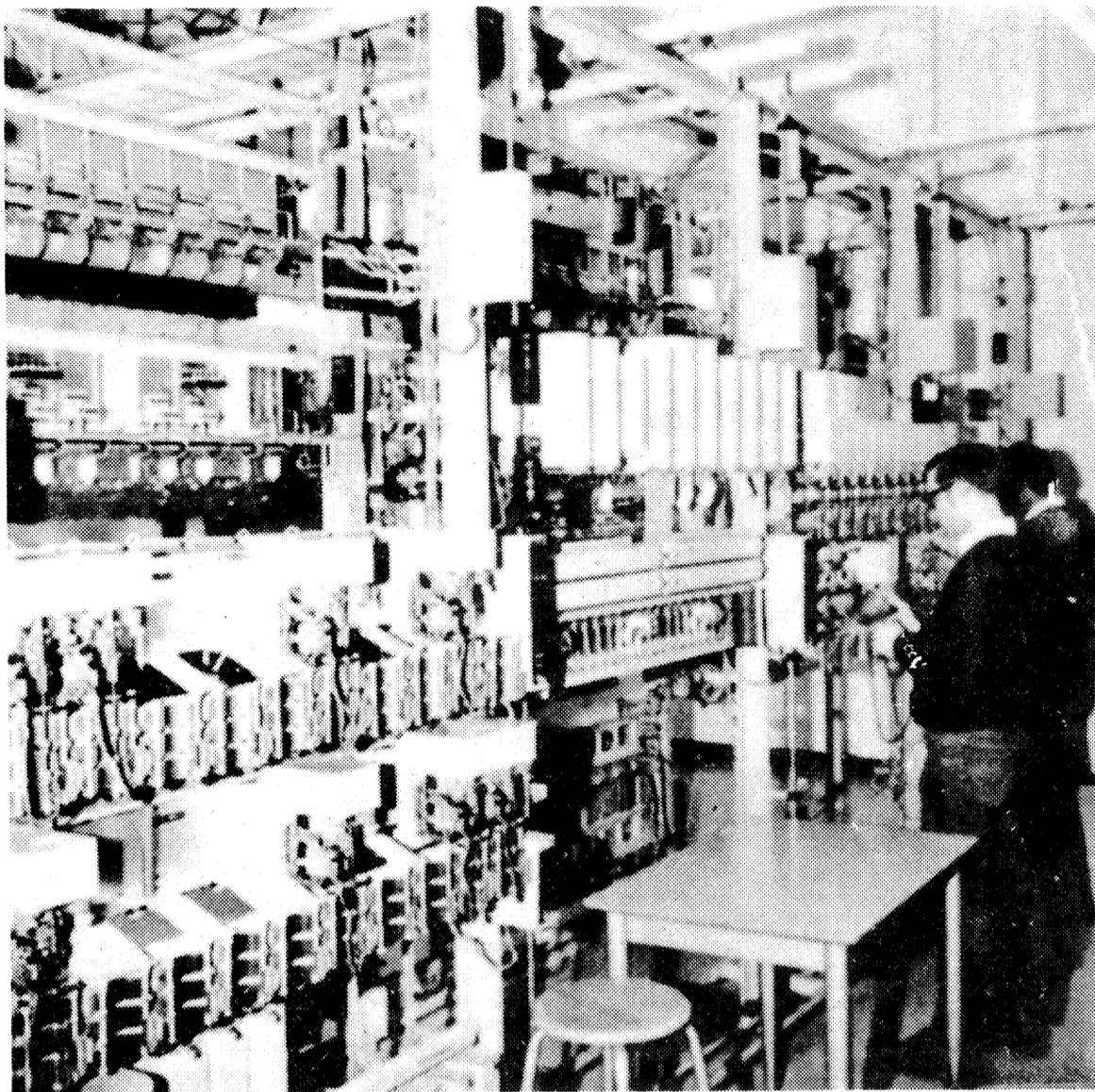
Many rewarding careers with communication companies are being offered. The demand for telecommunication technicians continues to exceed the supply. Only the individual's ability will limit his advancement in the communications industry.

The Placement and Careers Planning Office of the Canada Manpower Centre, maintained on the campus, assists students in finding suitable employment.

The minimum entrance requirement to enter the 3-year program is an Alberta High School diploma with a "B" standing in Math 20 or 22, Math 30 or 32, Physics 30 or 32 and credits in English 30 or 32 with an overall average of 55% are required for the 2-year accelerated program.

Tuition fees for each of the three years are about \$79 per year which includes the Student's Association membership fee and a \$5 registration fee.

Book and equipment should not exceed \$125 for each year. Out-of-town students may expect to pay from \$70 to \$85 per month for room, board and laundry. For those requiring accommodations, a list is available through the Registrar's office.



## AIR CONDITIONING AND REFRIGERATION

We can't see or touch the air, but we are aware when the air we breathe and live in becomes unpleasant. Technology of this century provides us with the means to treat air for year-round comfort where we live, work and shop. In colder climates some means for keeping warm has always been essential, but as the public have become more sophisticated in their habits and technologies, demands for complete airconditioning (refrigerated cooling) has also increased.

Building construction has changed, the old massive structure of brick and stone have been replaced by glass, curtain walls and concrete. The small specific mass of modern buildings involves rapid heat gain and heat losses due to sun, wind and temperature changes. These changing conditions have brought with them great problems for the heating and airconditioning system designer.

Air conditioning, refrigeration and heating systems have therefore adapted towards greater refinement to meet the above noted demands. The benefits of total climate control like air itself are often intangible. Can you measure the relief from enervating humidity of a heat wave, protection from dust and city odors in the atmosphere, or healthy warm in the winter?

Often benefits in productivity and efficiency in an office or factory can be calculated. These calculations show that climate control pays in dollars as well as in high morale. The Airconditioning and Refrigeration Technology course is designed to prepare graduates for entry into the highly specialized and needed field of airconditioning and refrigeration.

The opportunities for employment are many.

Graduates are presently being employed by mechanical equipment manufacturers and distributors, government departments, consulting engineers, mechanical contractors and building maintenance departments.

Assignments are usually in design with emphasis on mechanical drafting, or in maintenance involving operation and repair of existing complex systems, or in sales involving the application of specialized products for new systems.

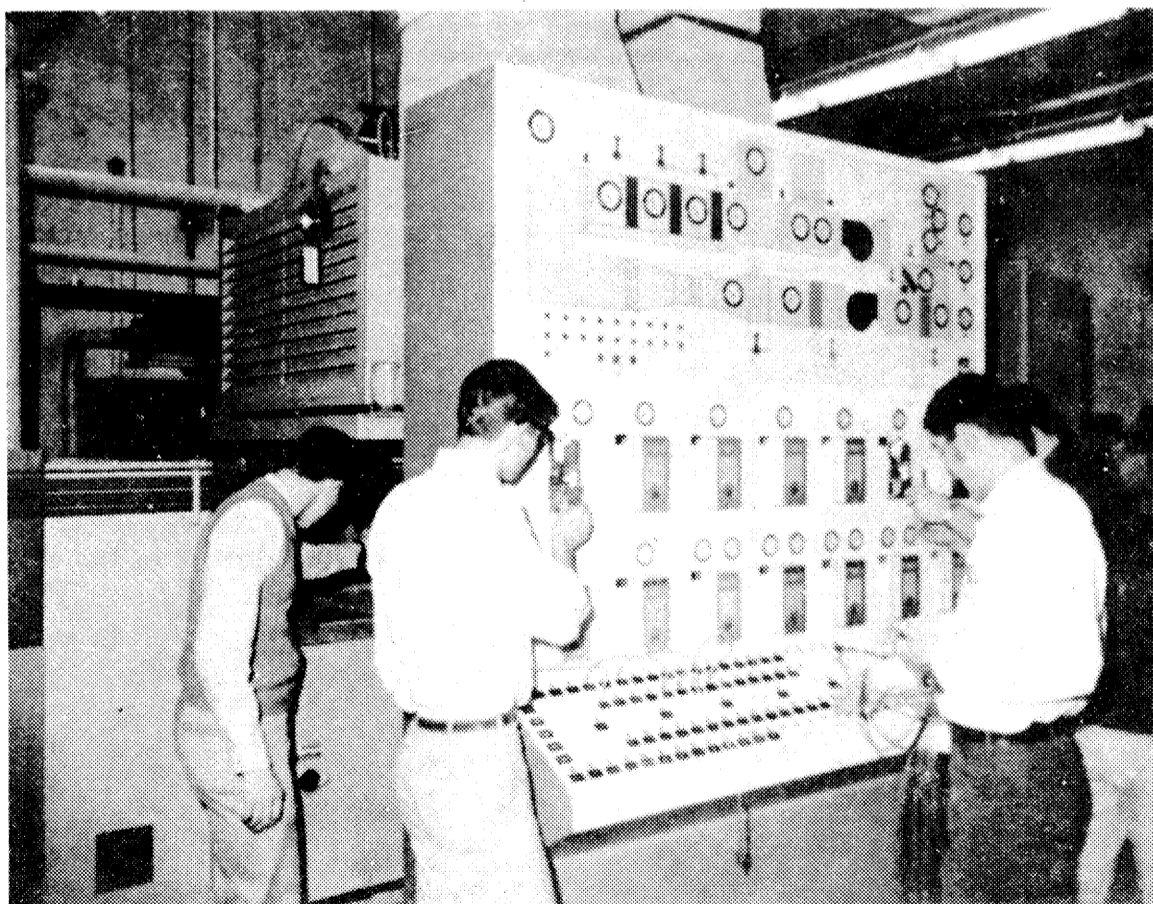
The primary objective of the two year course is to train the students to become highly skilled technical assistants to the professional designer or engineer. Therefore to accomplish this objective the major portion of the course is devoted to refrigeration and air conditioning theory, refrigeration and air conditioning lab., control lab., and drafting. The Airconditioning and Refrigeration Technician must acquire a considerable amount of technical knowledge to the solution of practical problems. The skill of communication is considered an integral part of the course and emphasis is placed on oral and written English. Related subjects also included are plumbing, welding, sheet metal work, machine shop training and thermodynamics which give the student an insight into other aspects of the airconditioning and refrigeration field.

An elaborate lab set-up gives many facets of the systems to be encountered in commercial and industrial refrigeration and air conditioning. Different lab units are available for student demonstrations and tests. A \$19,000 specially designed air conditioning test

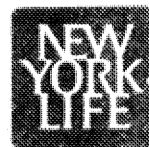
unit, can be set up to stimulate almost any system encountered in the field of air conditioning.

Job opportunities are almost unlimited. The graduate student of past years' have had no problem in

obtaining employment. Typical starting wages of last year were \$425 to \$475.



Low Warke



Wayne Cotton

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FIELD PRACTICE IN FORESTRY.

## FORESTRY TECHNOLOGY

The management of our renewable natural resources is gaining an ever increasing importance in today's world. Faced with the problem of accommodating an exploding population, the wise use of our remaining wild lands is becoming imperative. One need only consider the house he lives in, the water he uses, and indeed, the very newsprint he is reading now, to realize the consequences of losing our forests, ranges, and watersheds.

The forest technology course at NAIT trains individuals to become part of the management team. Since forestry can be divided almost equally into engineering and biological sciences, a thorough grounding in both is given at the Institute in the first year. Instruction includes the subjects of botany, zoology, soils, wood technology, and meteorology. The technical training involves the use of cruising instruments, construction materials, surveying and drafting equipment. Theory is supplemented with practice in the laboratory and field.

Armed with this knowledge, the student then proceeds to the forestry school at Hinton for the second year. Here the emphasis is placed on conservation and practical wood's experience. Fire control, photogrammetry, silviculture and other related fields are all taught, with an eye towards duplicating employment conditions after graduation.

What kind of person succeeds at this course? A desire to work out of doors with living material is mandatory of the prospective student. However, it should be emphasized that this is not a course for people interested primarily in studying wildlife. Forestry today tends to deal in the botanical, not zoological aspects of nature. Coupled with this liking of the outdoors, an aptitude in the physical and biological sciences is necessary. Forestry at NAIT makes use of both, and there is an unparalleled opportunity to follow one, or combine them in a forestry career. Finally, the technician must be able to communicate and deal with people. The day of the lone forester disappearing into the woods for months on end is over. Nowadays most work is carried out by a team of men, however this does not detract from the chance

to use one's own judgement and initiative.

The graduate of forest technology will find employment in government or industry as a forest ranger, park warden, cruiser, scaler, fire control officer or research technician. If travel is your bag, then CUSO offers a means of work in aiding underdeveloped countries in managing their forests. Pollution control may also offer employment in the future. In all cases, opportunity is lim-

ited only by individual interest and ambition.

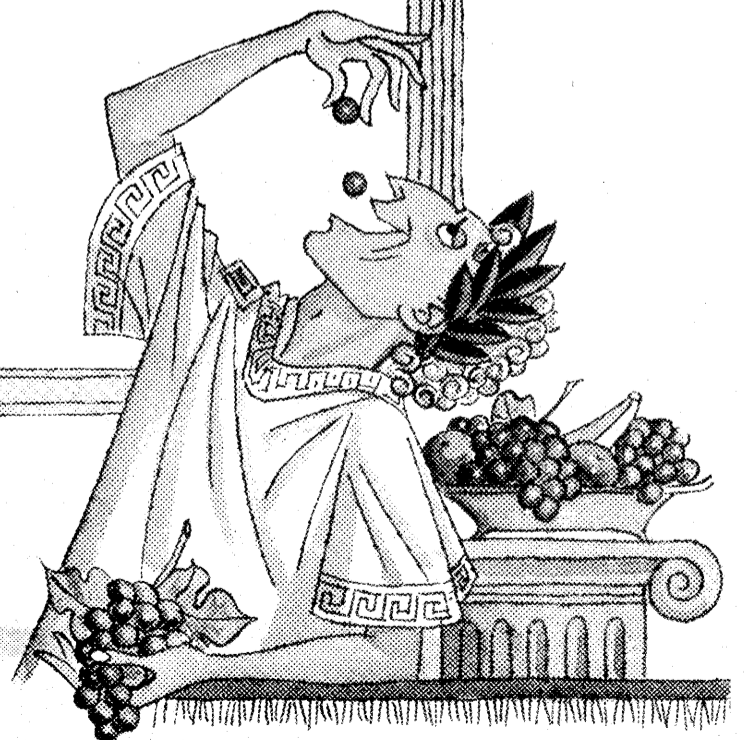
Nature does not run to a man-made timepiece. So to you, who don't mind sometimes irregular hours and adverse conditions, forestry offers a career of variety and challenge. The rewards of a healthy outdoor life in a stimulating atmosphere, compensate entirely for any lack of conveniences enjoyed by your urban counterparts.

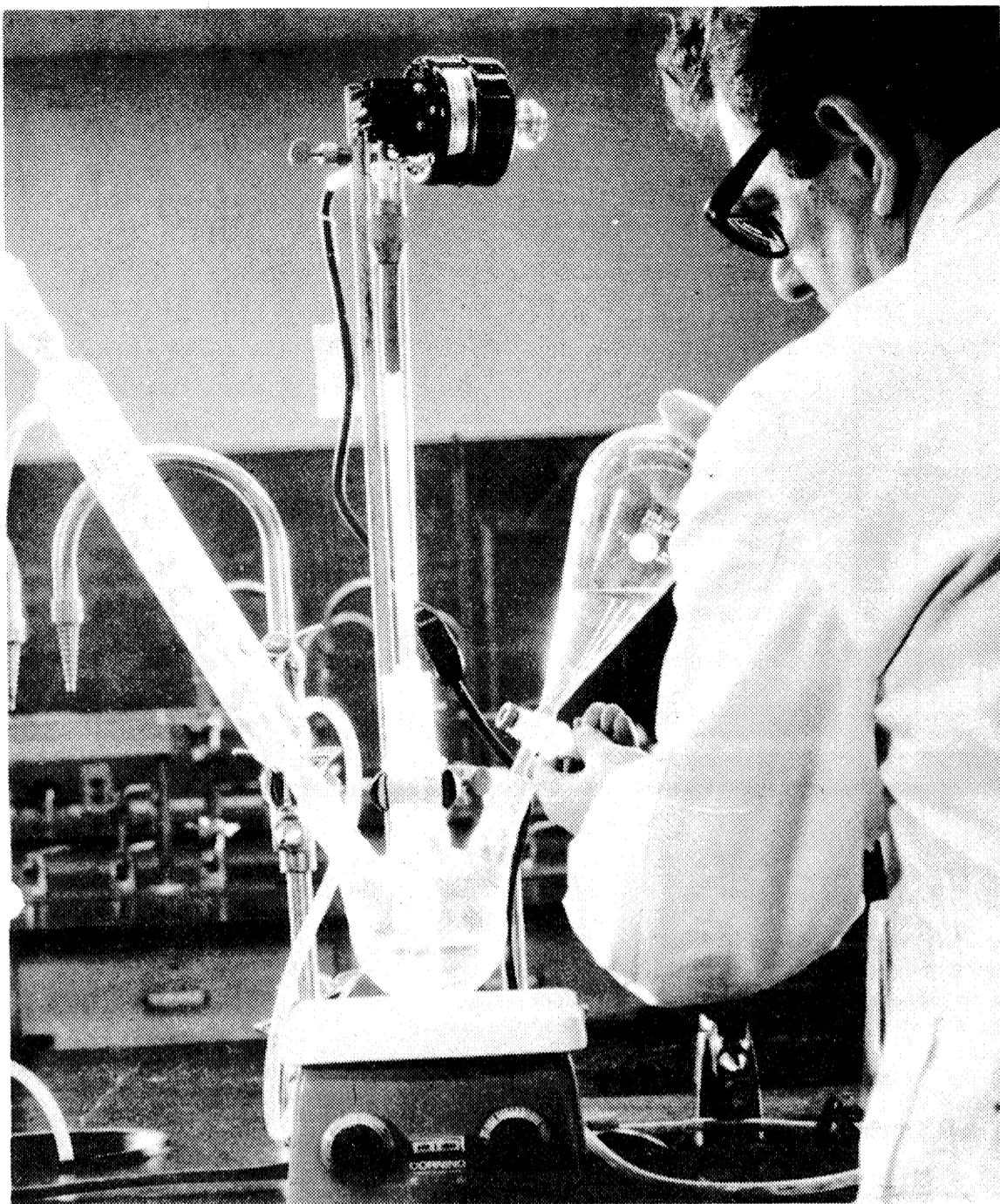


'BULL OF THE WOODS' contest at Hinton Fall Camp.

## Food for thought...

Way back in 1926, the name SAFEWAY first appeared over a food store. Today SAFEWAY is the second largest grocery chain in the world. By diversification and integration SAFEWAY now is not only recognized as a large food chain but also as a Producer, Packager, Merchandiser and retail vendor of products amounting to sales in billions of dollars. SAFEWAY is continually expanding and becoming more highly specialized requiring highly skilled personnel for its many and varied operations. Shouldn't you consider a career with SAFEWAY...over 80,000 persons have.





## PLASTICS TECHNOLOGY

### THE PLASTICS AGE

By the mid-1980's, on a volume basis, more products will be made from plastics than from any other material.

This is an indication of the rate of progress of technological advance in plastics as well as the great rate of expansion of the Plastics Industry.

Canada's plastic industry has a growth rate twice that of all other manufacturing industries.

Plastics courses at NAIT

The increasing demand for trained plastics technicians has resulted in a two-year course in Plastics Technology at the Northern Alberta Institute of Technology.

This full-time course prepares the student to enter any area of the Plastics Industry, to understand and appreciate his employer's requirements and the needs of the employer's customers.

With a new and sophisticated laboratory, factory production can be simulated so that the student is introduced to actual industrial practice and manufacture as well as the theoretical aspects of plastics materials. In addition, the student is introduced to the principles of machine design, mould and die design, plant layout and associated topics.

A basic grounding is given in business studies, work study and machine shop practice.

Effective communications lectures teach clear concise use of language for report writing, data collecting etc.

Visits to plastics processing and

raw materials production plants complement studies; guest lecturers who are specialists in their own particular fields, participate in keeping the course abreast of current developments in the technical and commercial areas of the plastics industry.

### JOB OPPORTUNITIES

The range of jobs available for trained plastics technicians is wide. Positions occur in Production, Research and Development, Customer Technical Service, Sales - Technical and Commercial, Marketing, Product Design, Applications, Testing and Engineering.

The graduating plastics technician will have sufficient background to enter any area of the Plastics Industry where the opportunities for advancement and promotion are excellent. Starting salaries average \$500 per month.

### EVENING CLASSES

A course of evening classes is available for people who are already in the Plastics or related industries, who wish to broaden their knowledge and skills in plastics processes and applications. The evening classes are held throughout the session on a Wednesday evening, 7 p.m. - 10 p.m.

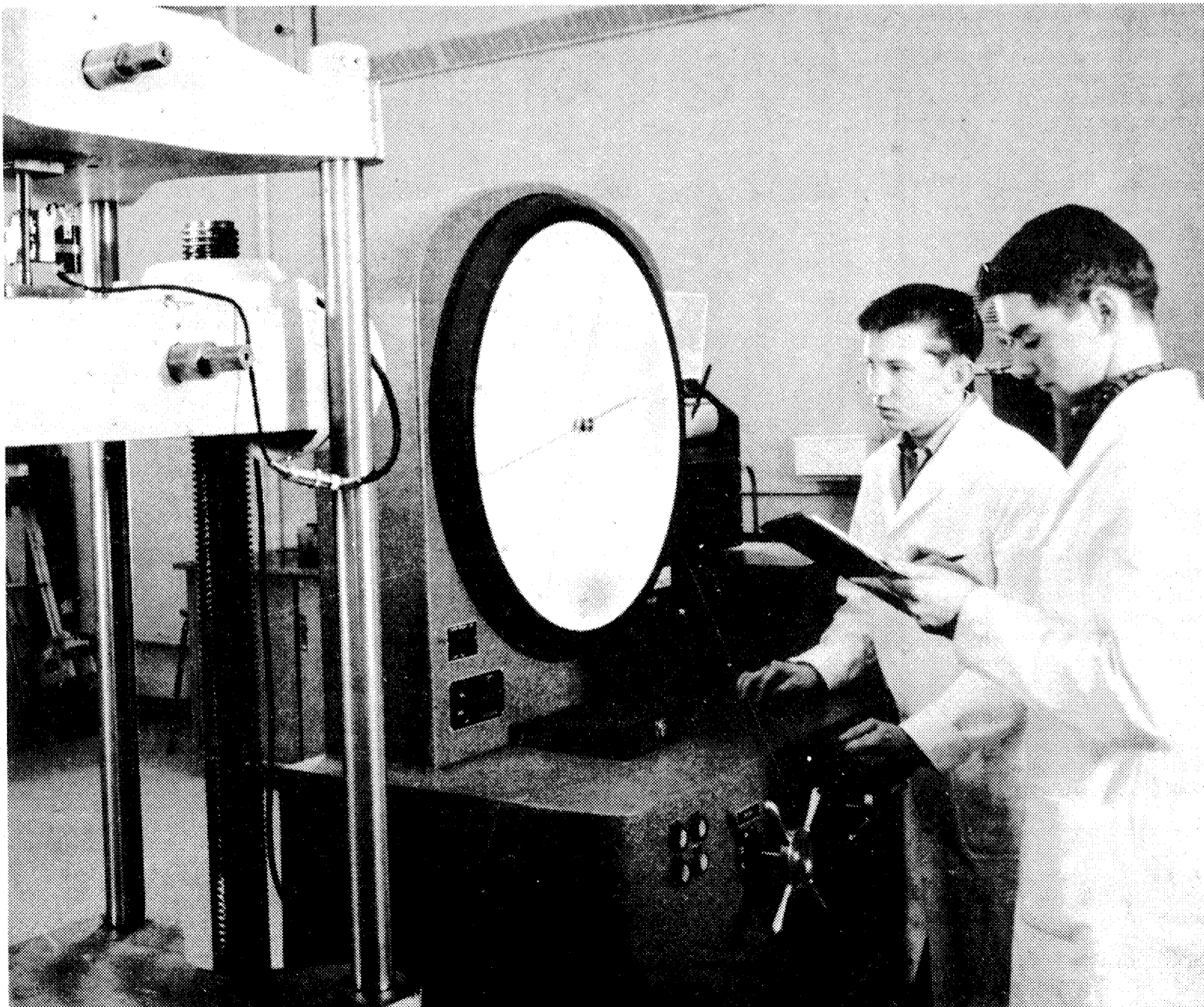
This course entitled, Processing and Applications of Plastics Materials, deals in particular with processing problems, theoretical aspects of plastics polymers which have a direct bearing on processing and the choice of materials for particular plastics applications.

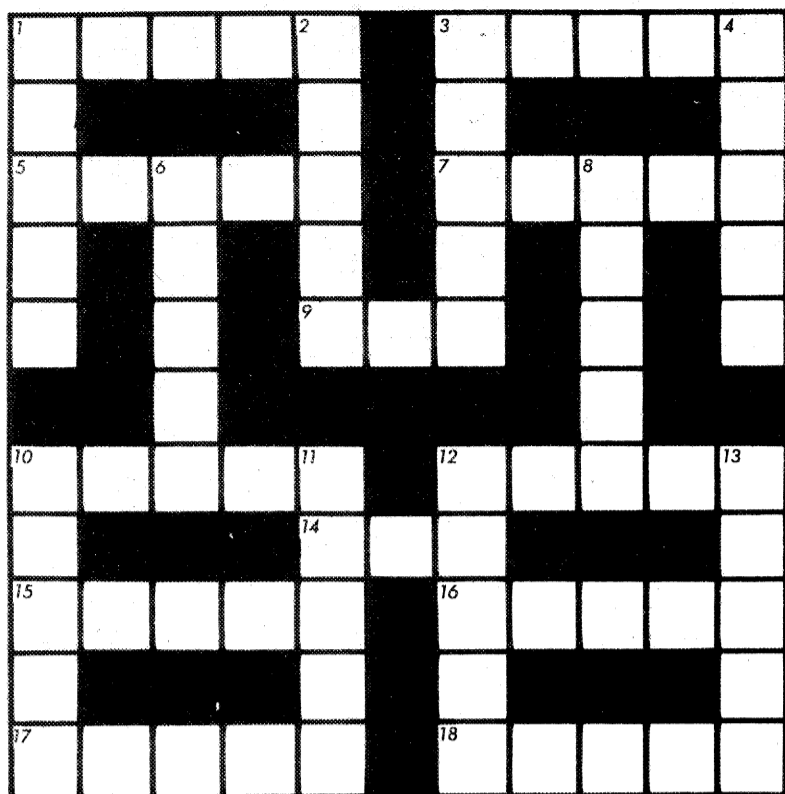
## THE PURPOSE OF MATERIALS TECHNOLOGY

The purpose of the Materials Technology course is to train technicians in the selection, application and inspection of engineering materials for industry. Graduates from this technology are working in positions in metallurgical control and research, testing of materials such as steel, concrete, soils and asphalt, non destructive testing of welds and forgings and experimental stress analysis.

In order to provide the necessary theoretical knowledge of the courses studied are varied. The main areas of study are metallurgy, destructive and non destructive testings of construction materials, math, physics, chemistry and English. Laboratory exercises are undertaken to relate the theory and practice in the extensive laboratory facilities at the Northern Alberta Institute of Technology. Approximately half of the time spent is in the laboratories. With this arrangement the materials technologist is capable of doing the work and applying the theory.

Job opportunities for graduates are excellent with starting salaries competitive with those offered other technologies. Positions are available in either industry or governmental organizations.





Presented by Students of

# INDUSTRIAL PRODUCTION TECHNOLOGY

For Your Entertainment

## ACROSS

- 1 A combination of metals,
- 3 Make, shape, form,
- 5 Degree of quality,
- 7 Overturned, rivetted,
- 9 Impression of center punch,
- 10 Circular inclined plane,
- 12 Costly to a manufacturer,
- 14 Alberta Government Telephone,
- 15 Expel
- 16 Rust will \_\_\_\_\_ Iron,
- 17 Electricity is one form,
- 18 Weights Supported by Beams.

## DOWN

- 1 Thirty degree \_\_\_\_\_,
- 2 Stretch as in steel,
- 3 Defect,
- 4 Cutting oil - general,
- 6 Cutting tool spindle,
- 8 A metal cutting operation,
- 10 Flat Strip of metal for pipe making,
- 11 Hydrogen two parts, oxygen one part,
- 12 Common engineering material,
- 13 Machine used to, squeeze form, bend.

Correct Solution on Display in Room N119

## COMMERCIAL SIGNWRITING

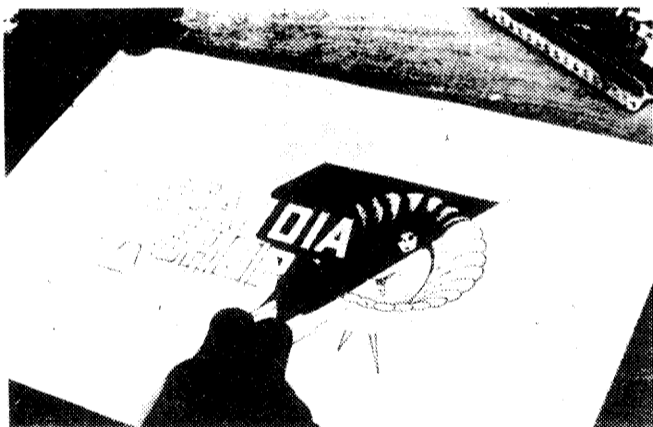
Welcome to the colorful world of signs. A welcome to all the visitors to the Northern Alberta Institute of Technology from a colorful though little known art field.

It is a field that can only be mastered by ambitiousness, pro-

fessional know-how, constant practice and experience.

Although it is considered by many as a stepping stone to other increased a great deal in the past few years, so have career opportunities in the field of advertising. The expert craftsman in the field of commercial signwriting

can find this trade a very rewarding and profitable one, as few businesses can function properly without the aid of craftsmen skilled in the art of lettering on all types of advertising materials such as: billboards, office doors, windows, and commercial vehicles.



## BUILDING CONSTRUCTION

The Construction Industry in recent years has enjoyed an honored position as number one industry in Alberta, as it has generally in North America. Because of the tremendous growth of the industry a heavy demand for trained personnel has arisen. To supply the necessary training, and pursuant to a request from the Edmonton Construction Association, NAIT has initiated a course in Construction Technology.

The young men taking this course learn the advantages and limitations of materials, the role of the trades, and varied construction techniques. Some of the subjects offered are drafting, statics, soil mechanics, surveys, estimating, use of heavy equipment, form design, carpentry, masonry, tile and marble setting, plumbing, gas and steam fitting, air conditioning and controls and maintenance of small engines.

Graduate Building Construction

Technologists should obtain positions as estimators, assistants to job sponsors and superintendents, sales and servicemen for government agencies and material testing companies, and in related employment. The challenges offered by the Construction Industry and its myriad affiliated companies are unlimited.

It is generally found that promotions and pay are based on merit rather than seniority. Therefore, those seeking careers in the industry should be self starters, ambitious and confident.

The entrance requirement is a grade twelve diploma with a "B" standing in mathematics, or a Journeyman's Certificate in a building trade and successful completion of a special entrance examination

If you are considering a career in this field, the staff members of the Construction Department would be pleased to discuss the program with you.

# ELECTRICAL TECHNOLOGY

Of all the things taken for granted in our age, probably one of the most frequent is the availability of electrical energy. We are forcefully made aware of advances in areas such as medicine, science, space technology, food production and industrialization of our society but seldom correlate them all with one common factor; electrical energy.

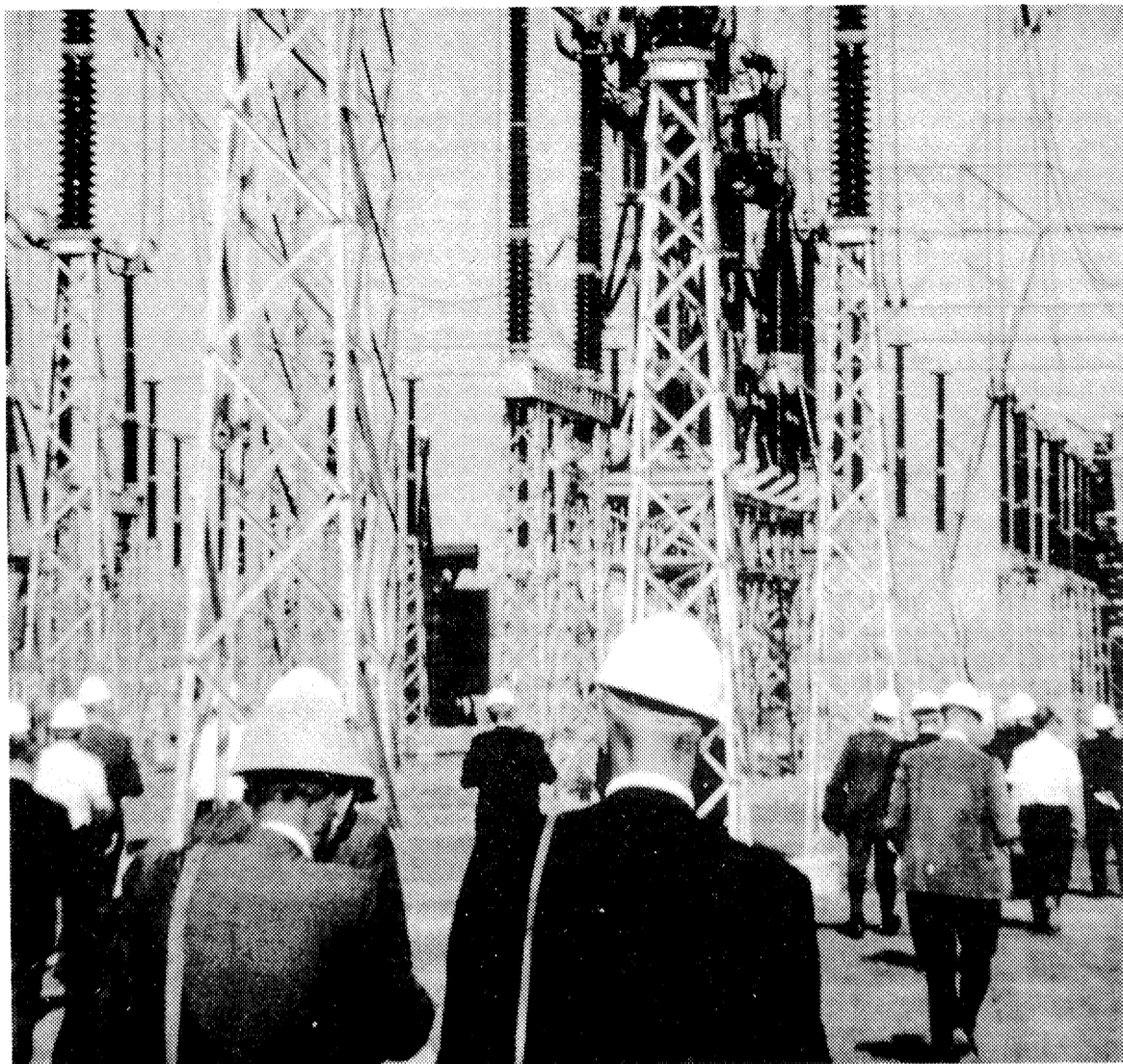
The electrical technician receives a comprehensive training that will complement the specialization of his future employment in one of the many areas of opportunity to which electrical energy is a common factor.

Subjects in the program begin with a thorough coverage of basic electro-magnetism and electronic theory supported by related laboratory experiments as well as mathematics, physics and technical English. Successive quarters cover theory and laboratory experiments on single and three phase systems, d.c. and a.c. machines, transformers, switchgear, controllers, electronic power supplies, amplifiers, solid state and integrated circuits as applied to control functions and a continuation of applicable math, physics and English. The final year

subjects concentrate on industrial electronic control, static switching supervisory control, telemetering, protective relaying, commercial and industrial design problems and theory and application of computer math.

The Electrical Technology program may be completed in either two or three years, depending on the student's academic background. A student with grade XI would require 3 years to complete the course while one with grade XII may complete an accelerated course in 2 years. Details of high school subject requirements for admission into the course are available from the Institute.

1968 graduates received an average starting salary of \$485.00 per month. Employers of Electrical Technology graduates include: The City of Edmonton, Calgary Power, Canadian Utilities, B.C. Hydro, Canadian General Electric, Canadian Westinghouse, Atomic Energy Commission, A.G.T., Bell Telephones, Chemcell and numerous other industrial firms, pipe line companies, consulting firms, maintenance firms and mineral corporations.



## HEAVY DUTY EQUIPMENT TECHNOLOGY

During each fiscal year, millions of dollars are spent in the purchase, maintenance, and repair of a variety of heavy equipment in Canada. This field includes earth moving, logging equipment, diesel electric installations and large highway transport vehicles. Due to this wide range of applications in an ever expanding industry, tremendous opportunities for well-trained technicians are constantly being created.

With this tremendous increase in equipment a great demand for skilled personnel now exists. The need for trained technicians will ever increase also, due to the complexity of the equipment being

brought about.

The aim of the HEAVY DUTY EQUIPMENT technology course is to provide the training to meet the personnel demands of industry.

The first year of the course consists mainly of theory and shop studies of various engines and power train components. This is backed up by subjects in technical Math, English, Physics and Basic Electricity. Some welding is offered to enable the student to perform all phases of repair work.

The second year of the course consists of advanced studies in Math, English, Physics, Electricity, Chemistry, and Thermodyna-

mics.

Heavy Duty technicians are quite readily accepted by industry, but the greatest benefits are reaped when the Technology Diploma is combined with Journeyman status as a Heavy Duty Mechanic.

Heavy Duty graduates may acquire a Journeyman's certificate under the apprenticeship program. This can be done within two years as the apprenticeship board grants twelve months credit for each year taken at NAIT.

The Heavy Duty course is out to provide industry with capable personnel with technicians' status. Combined with adequate practical experience, these credentials should enable the holder to attain major positions of responsibility.



# FIT?

FOR WORK IN INDUSTRY

... a person must have certain acquired skills. Jobs for unskilled persons are becoming fewer and fewer. SKILL is always in demand.

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## OFFICE MACHINE TECHNICIAN

One-Year Program, September to May

The objective of this course is to prepare students with the skills and knowledge necessary to obtain employment in the business machine repair field. The theory and principles involved in the repair of typewriters of various manufacture is covered in detail, with an introduction to addition machines and calculators.

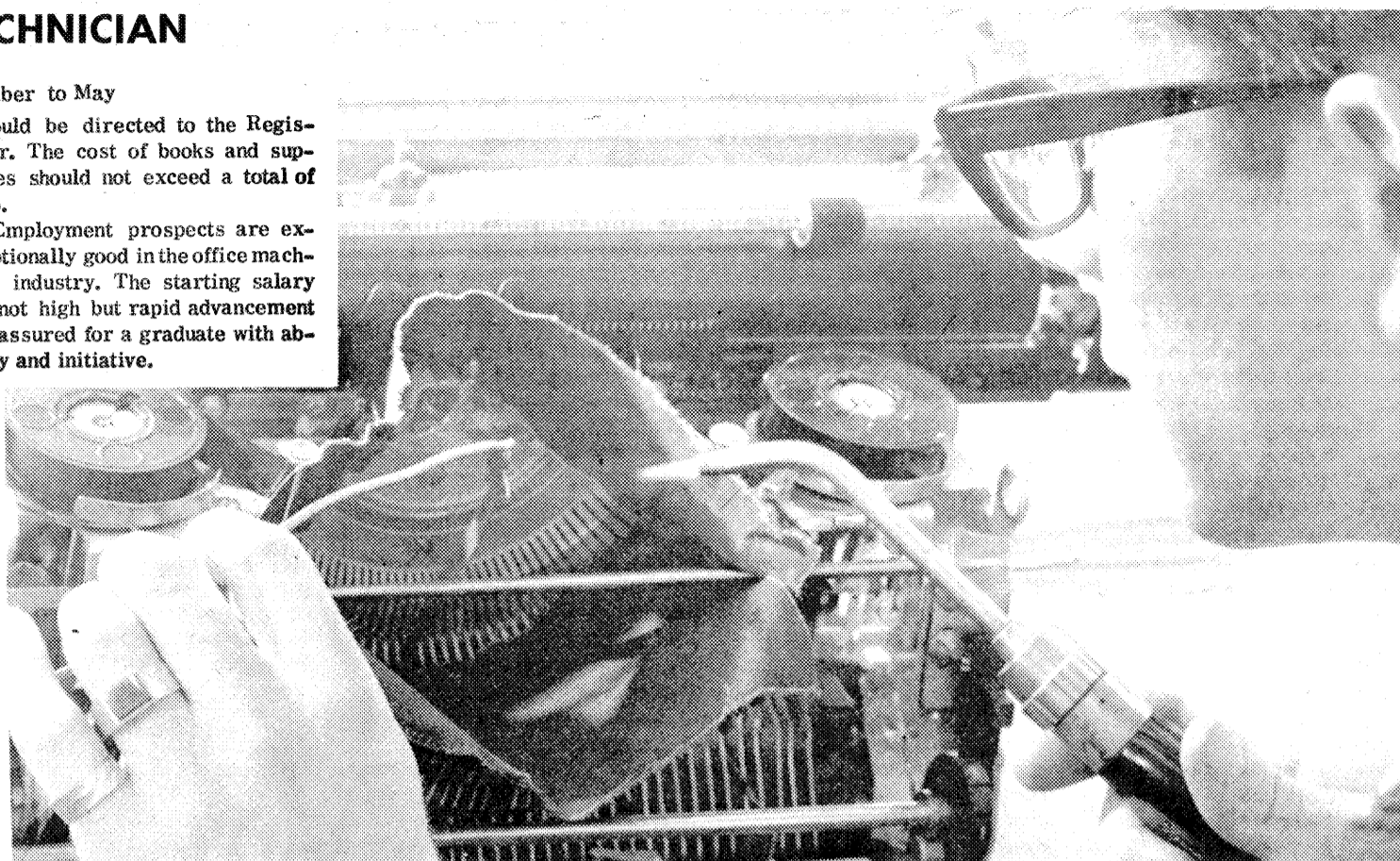
A student is expected to possess a sound basic knowledge of methods and practices at completion of the program. With this foundation to build upon, employers are able to provide specialized in-service training on their advanced equipment in minimum time.

The repair laboratory is completely equipped but students are required to provide their own textbooks and lab. smocks. The facilities of the Business Education Department provides instruction in shop management and related subjects.

Applicants must be over 17 years of age and have completed grade eleven. Applications for admission

should be directed to the Registrar. The cost of books and supplies should not exceed a total of \$55.

Employment prospects are exceptionally good in the office machine industry. The starting salary is not high but rapid advancement is assured for a graduate with ability and initiative.



## APPRENTICESHIP TRAINING FOR INDUSTRY

Industry has many facets. Let us consider the construction of a building, the maintenance of a motor vehicle, the maintenance of electrical and electronics equipment, and the manufacture of metal products. As we consider the personnel and the type of work involved, we will think of the various trades.

In the construction of a building, we have the carpenter, the bricklayer, the plasterer, the coofer, the lather, the painter, the tilsetter, and the glassworker. In trades closely associated with the construction of the building we have the piping trades; the plumber, steamfitter, gasfitter; we have the sheet metal mechanic, the ironworker and the welder. There are three electrical trades -- the Construction Electrical, involved in wiring and electrical services in buildings; the Power Electrical, associated with the distribution of electricity; and the Communications Electrical, working with telephones and related equipment. These many trades are involved in the construction of a large building.

Consider the maintenance of the equipment within the building: we have the Radio Technician, involved in the repair of radio and television equipment, we have the Appliance Serviceman and the Refrigeration Mechanic.

The tradesmen involved with the automobile, truck and heavy equipment are the Auto Body Mechanic, the Motor Mechanic, the Heavy Duty Mechanic, the Partsman. Involved in the manufacture

and erection of equipment we have the Machinist and the Millwright. We must also remember that in the food preparation area we have the Cook and the Baker.

Apprenticeship is an earning while learning arrangement. Apprenticeship is a training on-the-job and trade school training program. NAIT serves as the school arm in this training program.

There are many opportunities available to young people who would choose to become skilled craftsmen by joining the field of work under a contract arrangement which provides for formal schooling that will enable them to become recognized as well-trained. Apprenticeship training leading to the position of Journeyman in these various trades is under the direction of the Provincial Apprenticeship Board. A contract is drawn up by the Provincial Government, Apprenticeship Board, between the employee and the employer. The length of apprenticeship is usually three or four years, with a part of each year taking formal training at a suitable school. The length of training is usually six to eight weeks, but may be as little as four or as long as twelve weeks. While at school, the apprentice is treated as a regular student with the normal responsibilities and privileges of the school.

There is a minimum education requirement. For many of the trades it is Grade X, with an emphasis on Mathematics, other trades may have Grade IX minimum requirement. Many employers do not accept this minimum as a trade minimum, they may

require a potential apprentice to have Grade XI sometimes Grade XII. We can, therefore, expect to have some pretty high quality apprentices in some of the trades.

An apprentice must be at least sixteen years of age and in acceptable health and physique for the type of work that will be required of the tradesman. A prospective apprentice must have employment. Experience is gained in many phases of the trade under the guidance of qualified Journeymen in on-the-job training. Wages are paid in keeping with the apprentices' experience and the wages paid to Journeymen. The apprentice's progress is established by the school examinations, the Apprenticeship Board's termination exams and the report from the employer.

The contents of the course offered during the school training will have been prepared by the Apprenticeship Board, with the assistance of Advisory Committees for that particular trade and in close liaison with the school. The course will include Trade Theory and Shop Practice, supported by Mathematics, Science, Blueprint Reading, Codes and Safety and General Knowledge all pertaining to that particular trade, as requested by the Advisory Committee composed to employers and employees from industry.

The economy of Canada and Alberta is expanding, and the Apprenticeship school attendance is constantly rising. NAIT offered its first apprenticeship training to a group of Communication Electrical apprentices in the late fall of 1962.

During the 1968-69 term, training was offered at NAIT to some 4,500 apprentices. It is expected that during 1969-70, about 5,000 apprentices, in about twenty-five of the designated trades, will benefit from school training at this Institute.

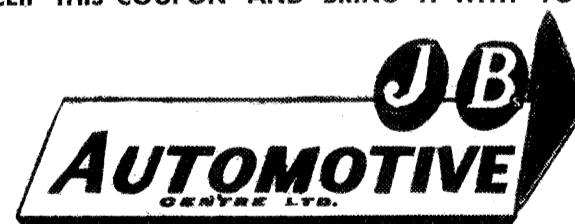
The instructional staff for the apprentice training at NAIT is an interesting blend of Journeymen, Technicians, and Engineering and other professionally trained personnel.

The technologies that have close contact with the apprenticeship school training in the same area are in a very fortunate position, as, indeed, are also the apprentice groups. High calibre Instructors are found. They normally have a good academic background. The Instructors in the technology programs are involved in or influ-

enced by the apprenticeship programs, with the result being a very well balanced technology. It is recognized that the technologist is between the tradesman and the engineer or professional of the field, and if he is to fulfill his far either toward one end of the scale or to the other. The influence of the tradesman or apprentice at NAIT complements the highly qualified instruction to make a good technologist. The benefits are not one sided -- the apprentice is continually in contact with the upgrading influence of an academic environment. He is, thus, able to understand better the theoretical side of his work as well as see facets of the technology that may not otherwise be seen. The apprenticeship program is an interesting and important part of NAIT.

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# COUNSELLING CORNER

## THE WHY OF COUNSELLING

Mr. Scheckley

During the present century, there has been an increasing recognition of the need to assist young people with educational and vocational choices as well as with personal growth. This need has resulted from the following:

1. Traditionally, there is a belief in educational opportunity for all. Counselling serves as a primary means for providing the contact and assistance needed, on a personal level, for the enhancement of the individual facilitation of the learning process. Through counselling, the individual is assisted to develop in ways that will enable him to (a) strengthen the use of his own abilities, (b) make wise choices and (c) face the problems he will encounter in or out of school.
2. Mobility and specialization have become distinguishing characteristics of our constantly expanding population.
3. The growing complexity and interdependence of our urban and rural society has necessitated a new analysis of our value-systems as well as new adjustments for every person. Through this mass education, the individuality of the person must be maintained.
4. Less attention is being given to students in school due to increased enrollments.
5. There are decreasing employment opportunities for youth.
6. Assistance is needed because of industrial changes, automation and changes in standards of living.

7. Assistance is needed for possible early identification of potential problem areas and to combat the high rate of drop-outs.

A suggestion has been made that a student needs assistance to mature in the following ways:

1. Understanding of self and sense of responsibility for self;
2. Understanding of the changing world of work and integration of the above two in decision-making and choosing that which is flexible and adaptive;
3. Understanding necessity for making wise choices and solving one's own problems;
4. Understanding of one's sense of moral values, one's character; and
5. Understanding of human nature, of human relations and of the psychology of personal and social adjustment.

In summary, the "informal advice" of interested persons had some value when youth had many personal and direct contacts with decision areas. With industry, education and social relations now so varied and complex, a student has little direct and realistic contact with the environment in which he will endeavour to adjust. Counselling, then, should promote self-understanding, self-motivation, self-aspirations and wise decision-making, with the final decision always left with the student. The student must learn to be a free person within a framework of responsibility.

## THE STUDENT PLACEMENT OFFICE

The Student Placement Office is a Canada Manpower Centre on campus of the Northern Alberta Institute of Technology. Its function is to provide facilities and schedules of employment interviews for the placement of graduate students in rewarding and satisfactory employment. We also assist the student by counselling for career planning and to guide him toward his own assessment of his capabilities in reaching an occupational goal.

It is our purpose during open house this year to re-emphasize for industrial and professional organizations the quality of the graduate students, their usefulness in the technical and business field, and the immediate availability on graduation of many well trained and capable students. To accomplish this purpose, we will welcome enquiries at any time and will make information available on the labour market generally and on any specific matters, such as average of wages for graduate students and the numbers who will be available for employment on graduation. We would like the opportunity to discuss your personnel problems with you and can, if you wish, provide the opportunity for you to see the student at first hand during his training and to contact senior instructors and other institute personnel so that you may have full information available to you in meeting your labour requirements.

Industry has become increasingly aware that we have many undergraduates available for summer

employment, and that these students, having had a year of training in their technology, can be most usefully employed. We extend an invitation to Business and Industry to communicate with us for assistance in filling your summer personnel needs. As with the graduate student, we can make facilities available and set up a schedule of employment interviews.

The personnel needs of you, the employer, are vital to the operations of this office. Will you allow us to assist you in meeting your requirements for both graduate and undergraduate students.

For the student, we provide guidance and counselling to assist you in reaching career decisions, and the opportunity to meet employers and to make employer contacts, and to be able, at first hand, to assess the potential of the employ-

ment that is offered. We provide a library of reading material to assist you in career planning, and we also have a number of brochures from all of the larger industries who visit the campus. The Student Placement Office works in full co-operation with Student Services and Student Counselling Service, and seeks, by every possible means, to augment the work of the instructional staff and the School Executive leading to your placement in suitable employment in the career of your choice. We solicit your early registration with us and hope that we will be able to provide a good range of employment opportunities for you during your stay at the institute.

All enquiries should be directed to Mr. Thomas W. Oldfield or Mr. Norman McLeod at the Student Placement Office, Room E132, at the Northern Alberta Institute of Technology. The telephone numbers are 474-7371 and 479-6256.

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Give them a place to start.  
At your place.

## Hire a student this summer



Department of Manpower and Immigration  
The Hon. Allan J. MacEachen, Minister

Consult your local Canada Manpower Centre Phone 429-2621

## McNALLY LIBRARY

The publishing company of Rand McNally & Co. placed a quotation entitled "Curator of the Mind's Riches" in one of its recent books. It stated "No bank hold riches such as this--the great legacy of learning in our libraries. Here every man may maintain an account. Here all may borrow, in any amount, from the endless assets of the mind."

Our NAIT library bank is known as the McNally Library, not after this publishing company but from a famous and beloved Alberta educator, Dr. Fred McNally. This particular bank is gradually increasing its riches to approximately 27,000 volumes and about 300 periodicals. These assets are in many forms, not only serious technical and factual titles but the odd popular paper back thriller -- i.e. an account may be opened for Reference, Research or Relaxation. As Samuel Johnson quoted -- "People have a strange opinion that everything should be taught by lectures. Lectures cannot do as much good as reading the books from which the lectures are taken". For the highly skilled technician must only only be well trained but also know how to keep informed about changes in his field.

The central location is ideal

for it is close to other services such as administrative, general offices, book store and cafeteria. In the general layout there is a functional design for, after opening an "account" at the circulation desk, this bank's clientele may, by direct access to the open stacks, make their own personal selection or just leisurely browse. Including the individual study carrels, which are scattered throughout, and counting the lounge chairs, the seating capacity is about 260. Our monthly bank report indicates that our assets are used ten times as much now as when it was opened in 1963, i.e. from 1500 attendance to around 15-20,000; with a circulation increase from 1000 to four times, to over 4000.

Signs are limited to only one regulation in the main reading room - No Smoking. Others are for guide lines and instruction. We feel that since it is the responsibility of the student to obtain the knowledge of his technology, it is up to him to act accordingly. This "bank" is his to use, not abuse, if he so chooses.

So, we, the Library Staff invite you to open an account in your "McNally Library Bank", and though we may not know every detail of our assets, we will be pleased to help and direct you.

# CUSO PAGE

## FOREVER LEARNING

Tik, tik, tik. I grabbed for my flashlight from under my pillow and nervously switched it on. (I didn't go anywhere without my flashlight during my first weeks in India.) Something snapped and jumped at the reflected light. I quickly switched it off and sat shivering on the bed. Slowly gaining courage, I cautiously slid the sheet from myself and stood up on the bed. (My room, nicknamed breadbasket, was only large enough for the bed and chair.) Cringing as close to the wall as possible - I'm naturally cautious - I switched on the room light. Looking down, I saw one, two, then three giant red, black and yellow cockroaches scattering furiously for cover. (I found out later from consoling friends, this was what they were.) I did the same, from the chair to my bed in one swift movement. I can't recall to this day, eighteen months later, whether I fainted first or covered myself with the sheet and fainted then. Coming to after a short while, I realized my "visitors" for the night were still with me; my fainting didn't scare them one bit. Not intending to boast, I find I can usually get myself out of predicaments I don't find to my taste. This was a bad day. Watching from on the bed--hell, what would you suggest, I couldn't get out the door. My first impulse was to run for help; but where? There was no one at the college because of holidays. So instead of running, I did the only other thing to do: cry. I think I made a wise decision, for after this day was far behind me, I realize I would have looked silly to anyone around, riding down the streets on my bike in my pyjamas. Especially at 2:00 in the morning. I imagine I looked quite silly, sitting on top the bed crying while my enemies boldly wandered to and fro. (I swear to this day they were all of 1 1/2 inches long not counting their antennae.) What and I to do? Do they bite? Are they poisonous? How do I kill them? Gosh they're huge! What am I going to do? I want to go home----. Well, to make this simply out of the ordinary, but true, story short, I pondered on how I could get out of my room, onto a plane and back to Canada and home, (where insects were smaller), in five minutes. Having gone to sleep at twelve o'clock and then finding myself sitting crosslegged on top the bed, after having fainted, and with uncontrolled tears rolling down my face, was by no means my idea of a good night's sleep. So by five-thirty I had had enough. I decided the only way out of my room and back home, was to get rid of my friends. Bravely, I picked up my shoes, then stepped, first three months when I arrived. After getting acquainted with one on the bed. I wasn't quite brave enough to step onto the floor. I soon found out this wasn't going to work, so I squatted hand and knees on the bed and waited patiently for my prey. Then wam-one, wam-two, wam-three. I did it. Gee, that was easy. Why didn't I think of this before. All three of them. I stood up and got down from the bed just when one more fled swiftly under my suitcases. Up on my bed again, I waited until he came out and wham-four.

I checked under the bed, chair and suitcases and was relieved to find no more. I will admit I was really quite proud of myself at that moment. I had done it all by myself. I could safely go to sleep, then saw it was almost time to get up. So lighting a cigarette, I picked up an areogram and started writing that I was no my way home. I didn't want anything more of this. Bravery only goes so far. This was no place for me. They were just too big! I dozed off but not before I saw a caravan of ants inch their way slowly from under my door for the feast I'd provided them. A lizard also appeared from nowhere for his share. By morning, no sign remained of my achievement.

New recruiting volunteer, you ask: "What are we doing at present?" I can assure you I've given up the idea of ridding India of all its cockroaches. And yes, I am still here. I now laugh with my friends at the silly, scared Western girl and her first days in India.

I am, at present, teaching at the General Home Science College in Chandigarh. The college is affiliated to the Punjab University here. The college enrolls approximately 225 students, all girls, from middle or higher class families. The medium of instruction is English. The girls attending are in a three year degree course, B.Sc. in General Home Science. I am the only foreigner on staff. As Head of the Foods and Nutrition Dept., my job includes teaching theory aspects of the subject and also practical cookery classes. Supervising the maintenance of the laboratory, duties of the lab assistant and the attendants all come into the job also. Along with my actual teaching and supervisory job, I hold demonstration classes in cookery after college hours, two evenings a week, for working girls preparing for marriage and wives with extra time on their hands. My main concern became to renovate the laboratory for easier working efficiency and cleanliness. Full co-operation was given to me by my project head so I busied myself with having storage space added, rearranging of the work space for the students and rebuilding for easier upkeep. This wasn't done overnight and today - with only one and a half months left at my site - I see I could have done a lot more. Time has gone by so fast. It seems like just yesterday that I arrived in India and my site and had the experience with the cockroaches. I lived in the room provided for me at the college for the first three months when I arrived. After getting acquainted with Chandigarh and the many pitfalls had been overcome concerning the new country I was in and the new job, I moved into an independent room. Being independent outside of my job site has, I find been more to my liking. It was quite hard to adjust to having everything done for me. I don't feel hindered in any way as far as my job is concerned. It is only a five minute bike ride from my door. The standard of living is very

high in Chandigarh and like myself, other volunteers found budgeting the only way out. We don't save much but manage our few treasured purchases for home and our holiday travelling. Chandigarh is quite a modern city. There are the typical market places of India and also more modern, almost more modern, almost supermarket type stores where almost anything can be bought. I'm not anything as much as people back home imagine. But never a day goes by when you don't gain something new in an experience or knowledge to let you know even if you are not roughing it, you're achieving more than you ever hoped for.

I will end by saying I hope many

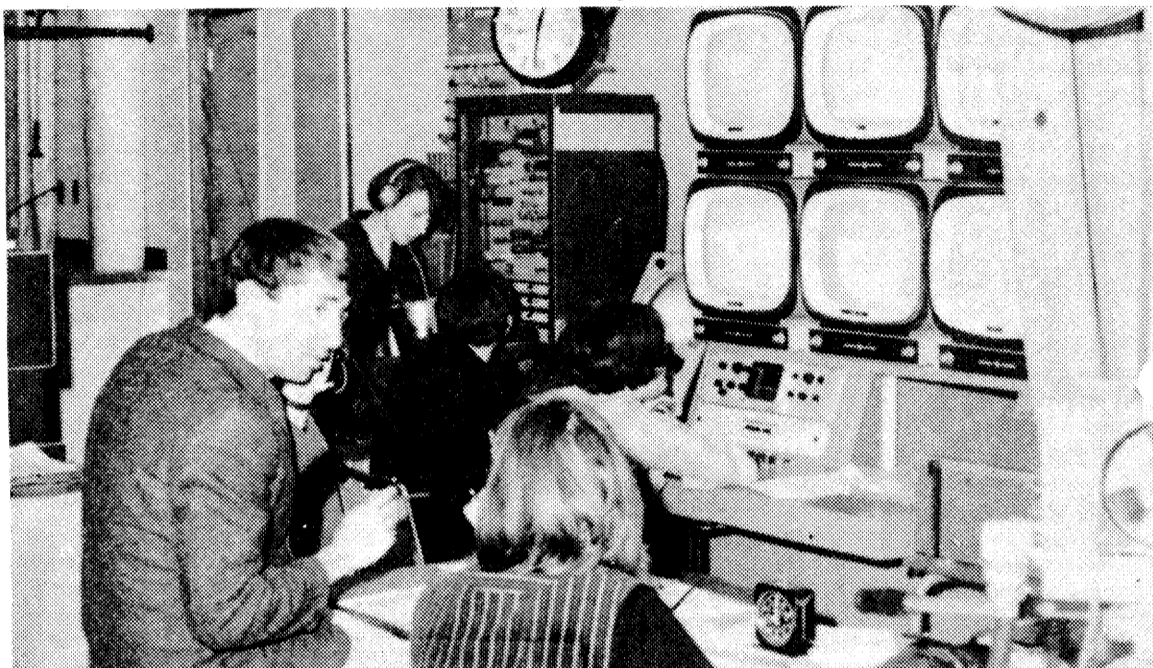
more of you from NAIT will take the opportunity as I did with CUSO. Experiences gained here will be with me for many years. Learning typical Indian foods and proper cookery of them, which was a must for my job, to learning how to ride your new bike and stay on is an experience in itself. Gradually the day comes when you are free from cuts and bruises gotten by falling into hedgerows or colliding with an ox cart. Travelling and meeting the different people of the different areas in and around India like Kashmir, Bombay, Goa, Mysore to mention a few, is fantastic. Learning to say no, though hard at first, to travelling salesmen from Kashmir, with their beautiful carved goods and orien-

tal rugs, and Jaipru, with his intricate jewelry, is an experience in itself. I could go on and on but know I should close. You arrive in this country with immature story book ideas and you leave with firsthand experiences and knowledge about the wonderful people, their culture and the country.

My heartiest congratulations to those of you accepted into CUSO this year and the best of luck.

The article by Daphne Eglinski, a graduate of Dietary technology at NAIT accompanied a recent letter from her at her posting in Chandigarh, India.

## NAIT T.V.



## NAIT RADIO

Good afternoon, ladies and gentlemen. You're listening to the sound of NAIT Radio and (anyone of a number of disc jockeys from various technologies). Hope you enjoy the music this afternoon. (The choice of music is up to the announcer. He can take it from our

over-expanding library, or bring it from home.) The music policy is a rock, middle-of-the-road format, depending on the time of day.

Our executive includes a director and assistant, program manager, engineer, secretary-treasurer, librarian, continuity director, and promotion manager. We also make use of the NAIT News Service.


We are a student service (at least we like to think so). NAIT Radio gives the announcers a chance to use their announcer's and musical taste to entertain a large group of people. We're always looking for new members because there's always room for one more. NAIT Radio - your chance to be involved with NAIT.

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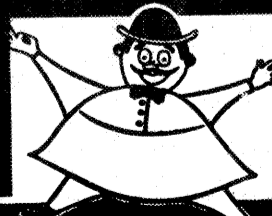
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PHOTO PETER HILL

## THE VICTORY GROUP with BARRY ALLEN-PAT COLEMAN

### NAIT HEALTH SERVICES

The Student Health Service provides all students and staff with a limited program of preventive and treatment care and supervision. The funds necessary for the maintenance of this programme are provided through an annual budget from the Department of Education.

The ultimate objectives of the health program are:

1. To maintain a state of optimum health both physical and emotional among the student body and staff
2. To reinforce healthful attitudes and
3. To instill important habits of personal and community health.

The Student Health Service has a staff of two registered nurses and a nursing aide who acts as receptionist.

### NAIT PUBLIC RELATIONS DEPARTMENT

The Public Relations Department was established by the students of NAIT and is responsible to the Students' Association. It was set up for the purpose of promoting greater interest in and knowledge of NAIT and the activities of the students. Among civic and provincial leaders, parents of high school students and people of the province and Canada in general.

The Public Relations Department handles the Shinerama Campaign for the Cystic Fibrosis Foundation, Open House activities for the school as a whole, news and sports releases to all branches of the news media, and all special events of NAIT that would be of interest to the general public.

In the short period of time that the Public Relations Department has been in existence, it has proved invaluable to the operation of NAIT, contributing both to the school spirit and general knowledge of NAIT as a whole.

### THE MANDALA

The Mandala are one of the best Canadian groups around. After catching two of their shows at Zorba's, I was very impressed with them as performers and musicians. Their stage show is very personified and reveals much of their individual humor. Roy Kenner not only displays his talents as a powerful singer but also as an acrobat and harmonica play-

### STUDENT STORES

The Nait Student Stores is operated by Business Administration in affiliation with the Nait Student Association. It is a service for the student provided by the students of the Business Administration Society.

The bookstore offers a complete line of shirts, used books and miscellaneous items at a reduced price level.

The store is used as a training ground for the students of the Business Administration Society, with all the students participating in the functional operation of the store. It is the policy of the Business Administration Society to appoint two managers to run the store on a voluntary basis with expenses paid.

The managers and staff of the Nait Store sincerely hope that you will enjoy your visit at NAIT and hope you will get the opportunity to visit us in the store in Room E131.

er. Don Troiano, lead guitar and vocalist, is one of the best guitarists I've seen. He maintains complete control of his guitar, knows the exact sound he wants and gets it. The drummer, Whity Glann does a unique drum solo, which is very amusing and expert. Organist Hugh Sullivan plays a Hammond B-3 organ with a plastic see-through cabinet. Since the group has no bassist he must play both the melody line and the bass line.

The Mandala's first LP sold very well in Canada along with "Opportunity" and "Love Ites". None of their records have, however, made it to the U.S. They are presently working on an LP which is being recorded in both Toronto and Detroit. Rod Kenner hopes it will be released in about three months along with a single.

After one of their shows they jammed for about 45 minutes. It consisted mainly of jazz riffs with Don Troiano playing a Wes Montgomery influenced style of guitar. I mentioned this to them later and asked if they were going into a jazz direction. Don Troiano said this is possibly true but that they change every day thereby never remaining static.

The Mandala were recently featured on one episode of "Ironside" and hope to be doing more movies. Right now they are primarily caught up in touring.

I'd like to commend Zorba's for bringing The Mandala to town. I don't think anybody minds paying the extra dollar to see this very talented group. I also hope that Zorba's will continue to bring in top caliber bands like The Mandala.

## IN THE GROOVE

WITH HOLGER PETERSEN

In the last month, I've noticed more and more local groups turning to what is mislabeled, "underground music". Given another couple of months, I would predict that all local groups will have a sizeable agenda of this type of music. All that is, except for The Victory Group.

The point I am making is that The Victory Group (formerly The Graeme Waifer) have been playing "underground music" (again that term) for longer than three years. They will not have to change their music to keep up to a trend. For three years they have literally starved because they refused to play commercial top 40 music. Almost all of their material has been written by the group themselves.

The Victory Group consists of four of this city's most talented musicians and a singer who was voted Canada's Most Promising Male Vocalist in 1967. They have all played with good and bad groups around the city but believe The Victory Group is the first band they've played with, where they have shared a "group concept". They've shared mutual interests, outlooks, and the same musical awareness.

Barry Allen, vocalist, has a very powerful voice with great range. As vocalist with Wes Dakus's Rebels, he has been recorded on two LP's and numerous singles, as well as receiving national television exposure. Lead guitarist, Pat Coleman, is instrumental in the group's songwriting. He is one of the group's original members and his talent composes a lot to the group's unique sound.

Geoff Eyre, as the drummer, does more than just provide a beat. He sings harmony and is largely responsible for making The Victory Group as tight sounding as they are. The organist, Bruce Nestle has had lots of experience with local bands. He's played with The Pretty Broos, James and the Bondsmen and the Time Machine. Al Treen is the best bassist I've heard. He has a double picking style that is used by very few bass players. Each member of the group sings, which results in some very tight five-part harmony.

The Victory Group just recently returned from a recording trip to Clovis, New Mexico. More of The Victory in future editions of The Nugget.



ROY ORBISON PHOTO PETER HILL

Old songs, more than any other medium, bring back memories. When one hears a song like "Only the Lonely" he immediately thinks of past experiences and of the good old days gone by. By this token, Roy Orbison still has a large drawing power at the box office, even though he has not had a "hit" record in years. Today's music has left the "Big O" behind, but I respect him because he hasn't changed his style to cash in on the changing fads.

During mid February, Roy Orbison performed in this city for his fifth time. He was on stage approximately 40 minutes, and I believe every song he sang was a million seller. The average age of the audience was about 25 and they loved it.

After talking to Roy Orbison, you soon realize that he is very sincere and personal type of person. I asked him questions for about 20 minutes, turned the tape recorder off and we chatted for an additional half hour. When I asked him if he had any personal favorites out of all the material he has recorded, he stated that "Only the Lonely" and "Pretty Woman" were, for sentimental reasons. He went on to say that his latest single, "Southbound Jerico Parkway", (released in early March)

was written by Bobby Bond of Nashville. This record is seven minutes long, and written in a suite form with five different movements.

He also said that in April he will be doing another European tour, as he does every year. There is also another film in the making for later this year. The film will be contemporary while "The Fastest Guitar Alive", his first, is of 1860's vintage.

Roy Orbison told me that he hopes he has influenced some of today's sounds. He was one of the first recording artists to use an orchestra on some of his earlier releases. Where country and western music had a strong influence on rock and roll when it first started (as a matter of fact is called "rock a billy" in the early stages) Roy Orbison feels that the "classics" are influencing many of today's sounds.

Roy Orbison was one of the really big rock and roll stars when it all started. During his 10 years as a recording artist he has sold over thirty million records, and recorded almost 125 songs. Although he can't compete in today's competitive record world where originality and image are rated so high, Roy Orbison is still a legend.



**JUST ACROSS THE WAY WHERE  
YOU RECEIVE THE BEST DOLLAR  
VALUE IN TOWN.**

## THE SPORTS SCENE

### ATHLETIC PROGRAM STUDENT SERVICES

All first year students enrolled in the Business and Vocational Technology courses are required to take two hours of physical education per week. This course is the Physical Education Service Program.

The philosophy of the Institute and the Physical Education Dept. is that our students must be prepared to successfully cope with a world of increasing leisure time and automation. In order to do this we are presenting a program which will provide students with the necessary skills, knowledge and appreciation to constructively fill their abundant future leisure time. We hope to instill in them the fact that continuous recreation is required to maintain physical fitness in a world of high pressure and competition. If we can accomplish this then we feel that we will be contributing something of inestimable value in the student's quest for a happy, healthful life.

Physical education is a vital and unique part of the sum total of life experiences which make man as we know him. The Department's philosophy is not elaborate but it does plainly state how universally important it feels physical education is in developing the total personality and in maintaining our democratic way of life.

#### INTER-SCHOOL ATHLETICS

Students at the Northern Alberta Institute of Technology can avail themselves either as spectator or player to a fairly diversified program of athletics. Competition is carried out within the Alberta College Athletic Conference, a conference formed several years ago to meet the need of competition at the Junior College level. The A.C.A.C. encompasses a large number of institutions and geographically represents almost all of the Province of Alberta. Member schools of the Conference are presently - Lethbridge Junior Col-

lege, The University of Calgary, Olds Agricultural and Vocational College, Red Deer Junior College, Camrose Lutheran College, and NAIT. Activities offered in the Conference include Cross-Country; Golf; Volleyball; Curling; Basketball; Badminton; Bowling; Wrestling; Hockey and in the near future a fall sport such as Rugby or Soccer. Most of these activities are participated in by both men and women.

In the short time of its existence, NAIT has enjoyed a great deal of athletic success and is presently the holder of the Lethbridge Herald Trophy which represents overall ACAC athletic supremacy.

#### INTRAMURAL PROGRAM

The Intramural Program at the Northern Alberta Institute of Technology is a sports recreational program that presents each student the opportunity to compete in physical activity. Possibly the motto "A sport for everyone and everyone in a sport" would be a more expressive way to indicate the above statement. NAIT attempts to present a variety of activities so that the program will encourage participation from each student in at least one activity.

We at NAIT feel that Intramurals are for the students and therefore should be run by the students. We have an Intramural Board with membership compiled of first and second year students two from each technology. A member of the Physical Education staff acts as staff advisor to the Board. This Board is directly responsible for the smooth operation of Intramurals.

We hope you will take this opportunity while you are visiting us at NAIT to look over and inquire about our intramural program. We plan to have displays set up so that you may get a better insight into the program.

### A.C.A.C. VOLLEYBALL TOURNAMENT

February 14 & 15

The NAIT Women's Volleyball team entered the annual A.C.A.C. Volleyball tournament at Olds on February 14 & 15. It proved to be a successful weekend for the women's team. The team tied for third place with SAIT which was quite good considering the little time they practiced together.

Six teams were entered in the tournament: Lethbridge Jr. College, Mount Royal Jr. College, Red Deer Jr. College, Olds Agricultural & Vocational College, SAIT and NAIT. The tournament was a Round Robin Affair and the championship was based on total wins. Each match consisted of two 15 point games. One point was awarded for each win. The NAIT women's team along with SAIT acquired 4 points.

They were able to win against SAIT (one game), Olds (two games), and Red Deer (one game). Mount Royal Jr. College and Lethbridge Jr. College proved to be too strong for the women's team and could not defeat either team.

Although the women's team was unable to come out on the top, they did look impressive. This team does have a lot of potential, and with more practice, could become a very strong team.

The team consists of the following girls:

Fran Beatty  
Sylvia Cherniawski  
Simone Eisinga  
Jane Henderson  
Lynn Lawton  
Shirley Nayowski  
Marilyn Niblett  
Peggy Park  
Frances Tallon.

GOOD LUCK  
NEXT YEAR  
COOKPIKS  
HOCKEY TEAM

## NAIT COOKPIKS BASKETBALL TEAM



Front Row L. to R. Gregg Clark (Capt.), Ken McRae, Vic Gillman, Bob Larson, Bob Butlin.

Back Row L. to R. John Simonson, Frank Answorth, Gary Young, Eric Rutt, Jim Irvine, Bob Davidson, Harvey Farill.

Basketball is over for another season at NAIT. Judging from the final stats this season, we fared not too bad:

I. Alberta College Athletic Conference (ACAC) MEN'S

- 1 NAIT beat OAVC 91-31
- 2 NAIT beat RDJC 85-54
- 3 NAIT lost to MRJC 97-75
- 4 NAIT beat U of C 51-48
- 5 NAIT lost to RDJC 76-73
- 6 NAIT beat CLC 98-50
- 7 NAIT beat CLC 119-57

- 8 NAIT lost to LJC 70-68
- 9 NAIT beat SAIT 81-45
- 10 NAIT lost to MRJC 87-76
- 11 NAIT beat U of C 72-66
- 12 NAIT beat OAVC 101-31
- 13 NAIT beat LJC 82-64
- 14 NAIT beat SAIT 101-55

II. Statistics in the Edmonton Senior Men's League.

- 1 NAIT lost to PWA Chieftains 74-51
- 2 NAIT beat YMCA Diggers 61-52
- 3 NAIT beat LDS 69-59
- 4 NAIT lost to U of A Bearcats 87-75

- 5 NAIT beat Bonnie Doon Grads 86-80
- 6 NAIT beat LDS 79-60
- 7 NAIT lost to PWA Chieftains 56-79
- 8 NAIT lost to Eskimos 75-61
- 9 NAIT beat U of A Bearcats 70-58
- 10 NAIT beat Bonnie Doon Grads by default
- 11 NAIT beat Eskimos 78-55
- 12 NAIT lost to YMCA Diggers 80-72
- 13 NAIT beat PWA Chieftains 97-89 (Exhibition game)

### GIRLS BASKETBALL

Now for the Girls final stats this season:

- Alberta College Athletic Conference (ACAC)
- 1 NAIT beat Red Deer Jr. College 12-20
  - 2 NAIT beat Mount Royal Jr. College 20-17
  - 3 NAIT lost to Red Deer Jr. College 18-13
  - 4 NAIT lost to Camrose Lutheran College 25-7
  - 5 NAIT beat SAIT 11-10
  - 6 NAIT beat Lethbridge Jr. College 51-21
  - 7 NAIT lost to Mount Royal Kit-tens 24-14
  - 8 NAIT lost to Lethbridge Jr. College 25-12
  - 9 NAIT beat SAIT 14-8

Final Standings in the Edmonton Senior Men's League.

	Wins	Losses	Points
PWA Chieftains	11	1	22
U of A Bearcats	9	3	18
Eskimos	8	4	16
NAIT	7	5	14
YMCA Diggers	4	8	8
Bonnie Doon Grads	2	10	4
LDS Saints	1	11	2

THE NUGGET STAFF WISH ALL THE BEST  
TO THE MEMBERS OF THE  
MEN'S AND WOMEN'S  
BASKETBALL TEAMS  
AFTER A SUCCESSFUL SEASON

### ACAC CURLING

Out of 14 men's teams entered in the ACAC playdown, Earl Gilles team came out on top. His team consisted of Doug Fleming third, Brian Wolfe second, and Al McDougall lead. With their victories they have earned the right to represent NAIT in Red Deer later this month. Gary Morken's team put up a fight in the last game, but could not beat the hot Gilles' team. A mixed team has not been picked yet, however, when one is, they will be going to Red Deer also - Good Luck Group.

CONGRATULATIONS TO N.A.I.T.  
STUDENTS FROM ALL FOUR



McBAIN  
CAMERA  
STORES

DOWNTOWN  
WESTMOUNT  
BONNIE DOON  
MEADOWLARK