'Serving Atlantic Canada'

Nova Scotia Agricultural College

Calendar 1983·84

Seventy-Eighth Annual Calendar

OF THE

NOVA SCOTIA
AGRICULTURAL COLLEGE
TRURO

Under
The Nova Scotia Department
of Agriculture and Marketing

1983-84

Contents

APPLICATION FOR ADMISSION TO THE **DEGREE** COURSES (1983)

NOVA SCOTIA AGRICULTURAL COLLEGE

Date . . . . . .

Name in full . . . . . .

Address . . . . . .

Postal Code

Birthdate . . . . . Telephone . . . . . .
Day Month Year

Citizenship: Canadian . . . . . Other . . . . . .

If *not* Canadian: Country of birth . . . . . .

Immigration status . . . . . .

Date of entry (if in Canada now) . . . . . .

Names of Parents, Next of Kin, or Contact Person . . . . . .

Relationship to applicant . . . . . .

Address . . . . . .

High School: - from which you expect to graduate . . . . . .

or

- from which you graduated . . . . . .

If you were not in high school during the 1982-83 school year, what educational institution(s) have you attended since you were in high school? . . . . . .

Applications will not be considered until a complete transcript of high school marks has been submitted. Candidates who have attended a post-secondary institution(s) are also required to submit a complete transcript(s) of their record from there.

COURSE DESIRED (Indicate by check mark ☑)

Degree in Agricultural Science [B.Sc. (Agr.)]

Regular (First Year)	☐
Pre-Veterinary	☐
Advanced Standing	☐

Degree in Agricultural Engineering [B.E. (Agr.)]

First Year	☐
Advanced Standing	☐

Special (to take degree subjects) ☐

In submitting this application form, I hereby agree to abide by the rules and regulations of the college.

Signature of Applicant . . . . . .

Signature of Parent or Guardian . . . . . .
(Required only if applicant is under 19.)

For application to TECHNICAL COURSES see page 2.

APPLICATION FOR ADMISSION TO THE **TECHNICAL** COURSES (1983)

NOVA SCOTIA AGRICULTURAL COLLEGE

Date . . . . . .

Name in full . . . . . .

Address . . . . . .

Postal Code

Birthdate . . . . . Telephone . . . . . .
Day Month Year

Citizenship: Canadian . . . . . Other . . . . . .

If *not* Canadian: Country of birth . . . . . .

Immigration status . . . . . .

Date of entry (if in Canada now) . . . . . .

Names of Parents, Next of Kin, or Contact Person . . . . . .

Relationship to applicant . . . . . .

Address . . . . . .

High School: - from which you expect to graduate . . . . . .
or
- from which you graduated . . . . . .

If you were not in high school during the 1982-83 school year, what educational institution(s) have you attended since you were in high school? . . . . . .

Applications will not be considered until a complete transcript of high school marks has been submitted. Candidates who have attended a post-secondary institution(s) are also required to submit a complete transcript(s) of their record from there.

COURSE DESIRED (Indicate by check mark ☑)

Pre-Tech Semester (January 1984) ☐

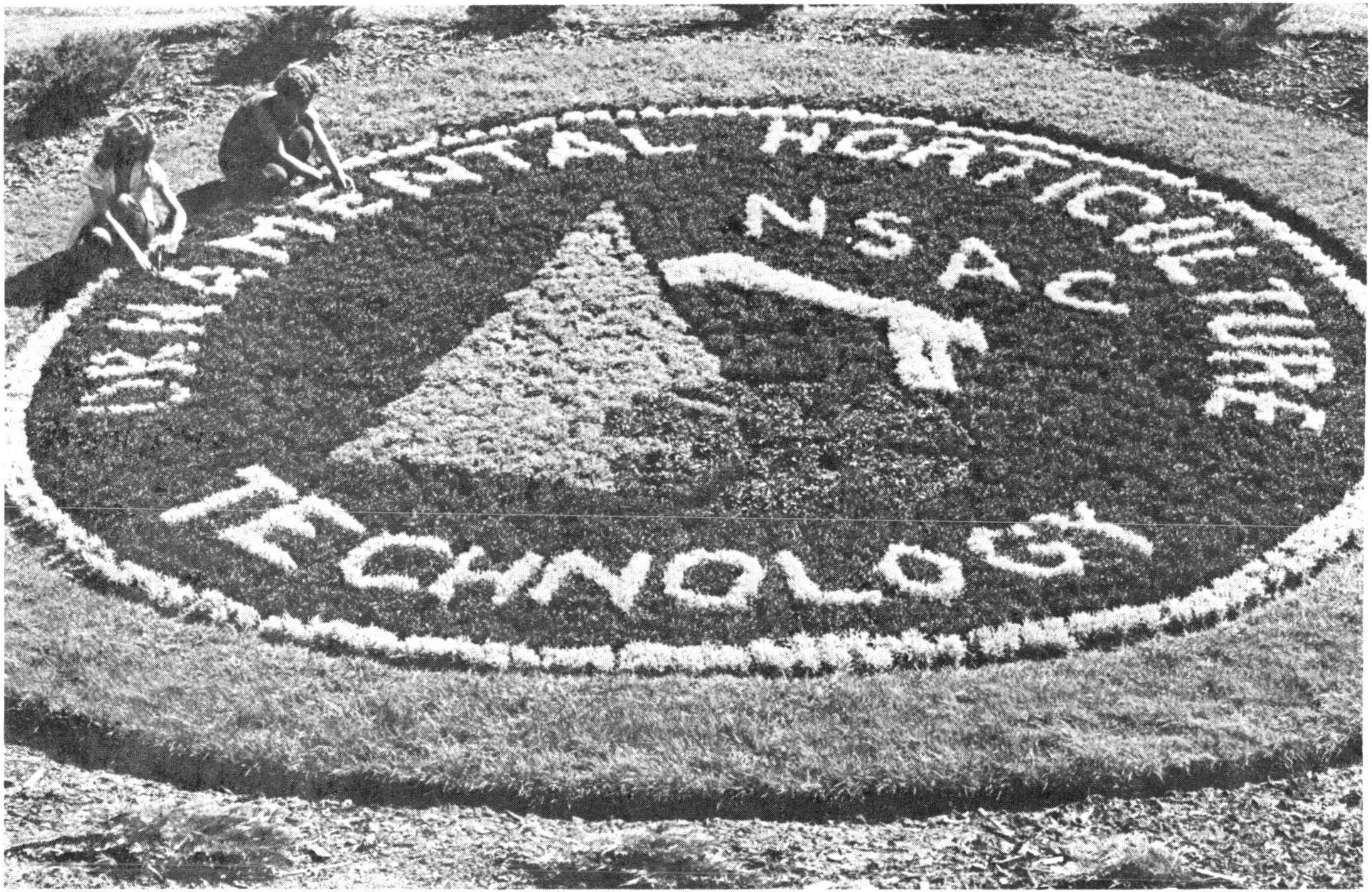
	First Year	**Advanced Standing**
Technician:		
Agricultural Business	☐	☐
Agricultural Mechanization	☐	☐
Animal Science	☐	☐
Farm Equipment	☐	☐
Plant Science	☐	☐
Special	☐	☐
Technology:		
Biology Laboratory	☐	☐
Chemistry Laboratory	☐	☐
Landscape Horticulture	☐	☐
Farming	☐	☐
Agricultural	☐	☐

In submitting this application form, I hereby agree to abide by the rules and regulations of the college.

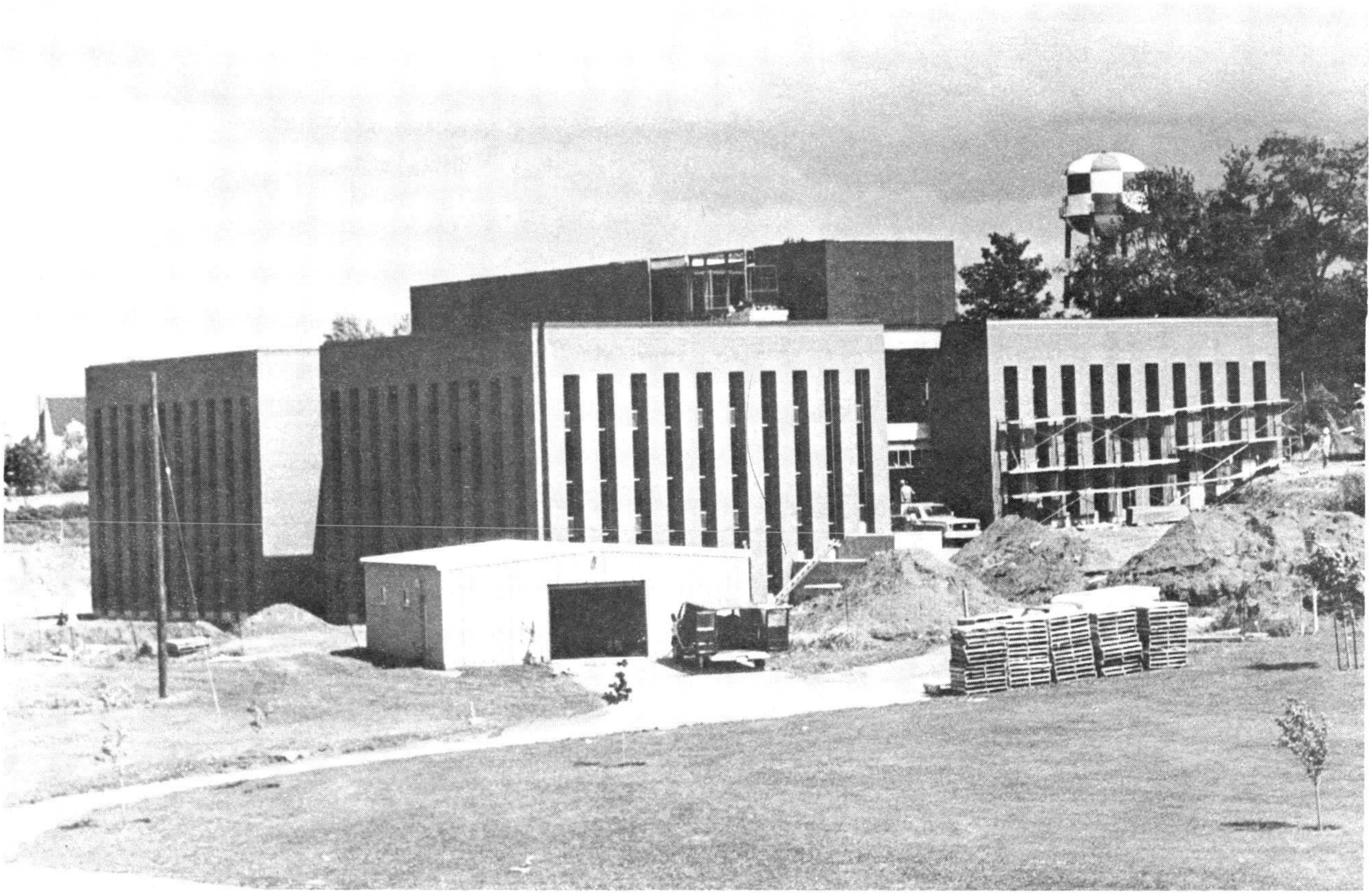
Signature of Applicant . . . . . .

Signature of Parent or Guardian . . . . . .
(Required only if applicant is under 19.)

For application to DEGREE COURSES see page 1.


AUSTRALIAN HORTICULTURE
TECHNOLOGY

Lockins Hall, the dining facility at NSAC



Newly constructed Library Building, NSAC.

1983

JULY

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31						

AUGUST

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SEPTEMBER

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OCTOBER

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30	31					

NOVEMBER

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DECEMBER

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1984

JANUARY

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25	26	27	28	29	30	31

APRIL

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29	30					

MAY

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27	28	29	30	31		

JUNE

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17	18	19	20	21	22	23
24	25	26	27	28	29	30

Calendar for Session 1983-1984

1983

Sept. 7	Registration for students registering for the first time.
Sept. 8	Registration for returning students.
Sept. 9	Lectures commence at 8:15 a.m.
Oct. 10	Thanksgiving Day. No classes.
Oct. 28	College Royal Showday. No classes.
Nov. 7	Long weekend. No classes.
Dec. 9 - 20	First semester examinations.

1984

Jan. 3	Second semester lectures commence at 8:15 a.m. Registration for second semester and for pre-tech.
Feb. 20 - 24	Mid-term break for individual study.
April 9 - 19	Second semester examinations.
May 2	Graduation exercises.

Officers of Administration

Principal
H.F. MacRAE, B.Sc. (Agr.) (McGill), M.Sc. (McGill), Ph.D. (McGill)

Principal Emeritus
KENNETH COX, B.S.A. (Toronto), M.S.A. (McGill), L.L.D. (McGill)

Vice-Principal
I.M. FRASER, B.Sc. (Dalhousie), M.A. (Maine)

Dean, Vocational and Technical Education
A.D. ELLS, B.Sc. (Agr.) (McGill), M.A. (Acadia)

Registrar
P.Y. HAMILTON, B.Sc. (Agr.) (McGill), M.Sc. (Maine)

Librarian
B.S. SODHI, B.A. (Punjab), M.A. (Punjabi), Dip. L. Sc. (Punjab)

Dean of Students—Chaplain
REV. D.I. MacEACHERN, B.A. (Mt. Allison), M. Div. (Pine Hill)

Director of Athletics
K.S. MARCHANT, B.P. Ed. (New Brunswick), M.S. (Springfield)

Placement Officer
D.E. MacLEOD, B.A. (Dalhousie), B.Ed. (Acadia)

Farm Manager
J.J. BRENNAN, B.Sc. (Agr.) (McGill)

Business Manager
R.F. McEWAN

Secretary
MRS. A. MARIE HARTIGAN

Faculty

Principal
H.F. MacRAE, B.Sc. (Agr.) (McGill), M.Sc. (McGill), Ph.D. (McGill)

Agricultural Engineering
JAMES ADAMS, B.Sc. (Strathclyde), M.Sc. (Reading)
Associate Professor and Head

J.D. CUNNINGHAM, B.S.A. (Toronto), B.E. (Nova Scotia Technical College)
Assistant Professor

F.L. DESIR, B.Sc. (Agr. Eng.) (McGill), M.Sc. (McGill)
Lecturer

P.L. HAVARD, B.Sc. (Agr. Eng.) (McGill), M.Sc. (McGill)
Assistant Professor

M.N. RIFAI, M.Sc. (Nitra), Ph.D. (Nitra)
Assistant Professor

Animal Science
L.M. COCK, B.Sc. (Agr.) (McGill), M.S. (Wisconsin), Ph.D. (Maine)
Professor and Head

D.M. ANDERSON, B.S.A. (Manitoba), M.Sc. (Manitoba), Ph.D. (Saskatchewan)
Associate Professor

G.W. CHANT, B.S.A. (Guelph)
Sessional Lecturer from N.S. Dept. of Agriculture and Marketing

M.L. CONNOR, B.Sc. (Agr.) (Guelph), M.Sc. (Manitoba), Ph.D. (Manitoba)
Assistant Professor

D.C. CROBER, B.Sc. (Agr.) (McGill), M.Sc. (McGill), Ph.D. (British Columbia)
Professor

M.A. FORBES, B.S. (Animal and Veterinary Sciences) (Maine)
Lecturer

P.Y. HAMILTON, B.Sc. (Agr.) (McGill), M.Sc. (Maine)
Associate Professor and Registrar

J.R. LONG, D.V.M. (Toronto), M.S. (Cornell), Ph.D. (Guelph)
Sessional Lecturer from N.S. Dept. of Agriculture and Marketing

W.G. MATHEWSON, B.Sc. (Agr.) (Aberdeen), D.T.A. (Trinidad), M.Sc. (Aberdeen)
Associate Professor

Biology

L.A. McFADDEN, B.Sc. (Agr.) (McGill), M.Sc. (Cornell), Ph.D. (Cornell)
Professor and Head

A.E. ROLAND, B.A. (Acadia), M.A. (Toronto), Ph.D. (Wisconsin), D.Sc. (Acadia), D.Sc. (Dalhousie), F.A.I.C.
Professor Emeritus

M.E. NEARY, B.Sc. (Agr.) (McGill)
Professor Emeritus

L.E. CROSBY, B.Sc. (Acadia), M.Sc. (Acadia)
Assistant Professor

L.J. EATON, B.Sc. (Acadia), M.Sc. (Dalhousie)
Associate Professor

J.-P.R. Le BLANC, B.A. (Montreal), B.Sc. (Quebec), Ph.D. (McGill)
Assistant Professor

R.K. PRANGE, B.Sc. (Acadia), M.Sc. (British Columbia), Ph.D. (Guelph)
Assistant Professor

R.G. ROBERSTON, B.Sc. (For.) (Aberdeen)
Sessional Lecturer from N.S. Dept. of Lands and Forests

M.G. SAMPSON, B.Sc. (Dalhousie), B.Sc. (Agr.) (McGill), M.Sc. (McGill)
Lecturer

G.W. STRATTON, B.Sc. (Agr.) (Guelph), M.Sc. (Guelph), Ph.D. (Guelph)
Assistant Professor

Chemistry

H.M. MacCONNELL, B.Sc. (Agr.) (McGill), M.Sc. (McGill)
Associate Professor and Head

W.M. LANGILLE, B.Sc. (Acadia), M.Sc. (McGill)
Professor Emeritus

J.E. HAWLEY, B.Sc. (Agr.) (McGill)
Assistant Professor

K.S. MacLEAN, B.Sc. (Dalhousie), M.Sc. (McGill)
Associate Professor

H.F. MacRAE, B.Sc. (Agr.) (McGill), M.Sc. (McGill), Ph.D. (McGill)
Principal and Professor

J.C. MILLER, B.Sc. (Agr.) (Guelph), M.Sc. (Alberta)
Lecturer

A.S. PAYNE, B.Sc. (Agr.) (McGill), M.Sc. (McGill)
Associate Professor

A.R. ROBINSON, B.Sc. (Agr.) (McGill), M.Sc. (McGill), Ph.D. (McGill)
Associate Professor

P.R. WARMAN, B.Sc. (Agr.) (Rutgers), M.Sc. (Guelph), Ph.D. (Guelph)
Assistant Professor

Economics and Business Management
J.C. TAIT, B.Sc. (Agr.) (McGill), M.Sc. (New Hampshire)
Associate Professor and Head

D.E. ARNFAST, B.B.A. (St. Francis Xavier)
Assistant Professor

A.D. ELLS, B.Sc. (Agr.) (McGill), M.A. (Acadia)
Associate Professor

S.J.B. STACKHOUSE, B.Sc. (Agr. Ec.) (Guelph), M.Sc. (Guelph)
Assistant Professor

Y.R. SURRY, B.A. (Paris), M.A. (Paris), M.Sc. (Guelph)
Lecturer

Humanities
K.S. MARCHANT, B.P.Ed. (New Brunswick), M.S. (Springfield)
Associate Professor and Head

PARKER COX, B.A. (Acadia), M.A. (Toronto)
Professor Emeritus

REV. D.I. MacEACHERN, B.A. (Mt. Allison), M.Div. (Pine Hill)
Associate Professor

D.E. MacLEOD, B.A. (Dalhousie), B.Ed. (Acadia)
Assistant Professor

J.F. MILDON, B.A. (Sussex)
Sessional Lecturer

L.L. SANDERSON, B.Sc. (Agr.) (Guelph), M.Sc. (Guelph)
Lecturer

P.M. SANGER, B.A. (Melbourne), B.Ed. (Acadia), M.A. (Victoria)
Associate Professor

J.M. SMITH, B.P. Ed. (Dalhousie)
Lecturer

Mathematics and Physics
S.G. SMITH, B.Sc. (Mt. Allison), M.Sc. (Windsor)
Associate Professor and Head

R.V. BUCKLER, B.Sc. (Acadia), B.Ed. (Acadia)
Associate Professor

I.M. FRASER, B.Sc. (Dalhousie), M.A. (Maine)
Associate Professor and Vice-Principal

C.T. MADIGAN, B.Sc. (Windsor), M.Sc. (Windsor)
Associate Professor

V.L. SAXON, B.Sc. (Dalhousie), M.B.A. (Dalhousie), B.Ed. (Acadia), B.Eng. (N.S. Technical College)
Associate Professor

Plant Science

J.S. BUBAR, B.Sc. (Agr.) (McGill), M.S. (Pennsylvania State), Ph.D. (McGill)
Professor and Head

J.E. SHUH, B.S.A. (Toronto), M.Sc. (McGill)
Professor Emeritus

R.W. DANIELS, B.Sc. (Agr.) (McGill), M.S. (Michigan State)
Associate Professor

J. FRASER, B.Sc. (London), M.Sc. (Aberdeen), Ph.D. (Canterbury)
Assistant Professor

T.H. HALIBURTON, B.Sc. (Agr.) (McGill), M.S. (Cornell)
Associate Professor

W.J. HIGGINS, B.Sc. (Mt. Allison), M.S. in Ed. (Niagara)
Associate Professor

H-Y. JU, B.Sc. (Agronomy) (Seoul), M.Sc. (McGill), Ph.D. (McGill)
Assistant Professor

B.E. MULKEWYTCH, B.A. (Toronto), M.A. (Toronto), B.Ed. (Toronto), B.Sc. (Agr.) (Guelph), M.Sc. (Guelph)
Assistant Professor

K. PADMANATHAN, B.Sc. (Madras), B.Sc. (Agr.) (Colombo), M.Sc. (Pennsylvania State), Ph.D. (Pennsylvania State)
Professor

Schedule of Payments

Deposits

In the letter that offers final acceptance, the student is asked to forward, before August 15, a $25 registration deposit and, for students who want a place in residence, a $75 room deposit. The receipt for $100 confirms the student's acceptance of the offer of admission, assures the student of a place in the course, and reserves a place for the student in residence. The receipt of the $25 deposit only, confirms the student's acceptance of the offer of admission, assures the student's place in the course, and indicates that the student does not want to have a place reserved in residence.

Deposits are subtracted from the total payments due at registration in September (see page 12).

The student must have **final** acceptance before submitting a deposit. Deposits submitted by students who have not received final acceptance will be returned.

Payments at Registration

The College reserves the right to make changes without notice in its published scale of charges for tuition, board and lodging, and other fees. Refunds will not be made except as stated below.

The amounts indicated are for the regular academic year. Students who take courses or projects in the summer period and use residence facilities will be charged for room and board at the rate of $69 a week.

All payments are due on the dates stated.

Late registration is not permitted unless the circumstances are exceptional. When late registration is permitted, there is a penalty of $20 for each day of lectures missed unless late registration is due to illness or other compelling compassionate reasons.

Students who intend to finance their education with Canada Student Loan funds but have not received their Certificate of Eligibility before registration must pay the required fee at registration time. Students should therefore arrange the necessary temporary financing before their arrival for registration.

Degree Courses

All charges are subject to change.

Payment due Sept. 7 (returning students Sept. 8), 1983	
Tuition	$ 450
Board and lodging	$1,040
Caution, laboratory, and key deposit	$ 32
Students' Council and athletics	$ 70
Medical fee	$ 6
	$1,598
Books (estimated)	$ 175
Payment due January 3, 1984	
Tuition	$ 450
Board and lodging	$1,100
	$1,550
Books (estimated)	$ 175

Every student registering for a chemistry course should purchase and use a laboratory coat.

Technician and Technologist Courses

All charges are subject to change.

Tuition is free to residents of the Atlantic Provinces; the governments of these provinces are sharing operating costs of the courses. For all other students, tuition fees are $450 per semester.

Payment due Sept. 7 (returning students Sept. 8), 1983	
Board and lodging	$1,040
Caution, laboratory, and key deposit	$ 32
Students' Council and athletics	$ 70
Medical fee	$ 6
	$1,148
Books (estimated)	$ 150
Payment due January 3, 1984	
Board and lodging	$1,100
Books (estimated)	$ 150

The United Students' Council has approved a fee of $6.00 for the medical services fund to be collected from all students at time of registration. The fund provides non-prescription drugs and other supplies for the infirmary. It will not provide for prescription drugs, hospitalization, or operations. All doctors' services will be requested by the College Health Service.

Except for health or other compelling compassionate reasons, students who withdraw after three weeks from the commencement of classes will receive no refund of the tuition fee. The amount of the refund for students who withdraw within those three weeks will be 75% of the total tuition fee for a student who withdraws during the first week of classes, 50% for a student who withdraws during the second week, and 25% for a student who withdraws during the third week. Students who withdraw after the first two weeks of the term will receive a refund of the balance of their payment for board but no part of their payment for room rent. (The rate for room rent is $22.00 per week.)

Students' Council and Medical Services fees will be refunded to students who withdraw during the first week of the academic year. After the first week there will be no refund except for a withdrawal for health or other compelling compassionate reasons. After a student has withdrawn, the Students' Medical Fund is not responsible for that person.

Residence Accommodations

Board and lodging facilities are available for male and female students. Students who want to reserve a place in residence are required to pay a deposit of $75.00. Returning students must pay this before June 30 and new students when they receive their letter of admission to the College. The deposit will be credited to the student's board and lodging account. It will be refunded to any applicant who finds it necessary to cancel the reservation, provided that notice of cancellation reaches the Registrar's Office not later than August 15.

Trueman House, Chapman House, and Fraser House will be open as follows:
—after dinner on August 30 for students who have to write supplemental examinations,
—after dinner on September 6 for all new students,
—after dinner on September 7 for all other students.

Any student who wishes to use residence facilities before these dates will be charged at the regular rate.

Caution and Laboratory Deposit

Every student, at time of registration, must make a cash deposit of $32.00 with the Registrar to cover breakage.

Damage to floors, walls, doors, windows, lighting, sprinkle system or furniture in any bedroom will be charged to the occupants of the room in equal shares, and damage to the common parts of the College and residences will be charged to the entire student body if the offender is not charged and punished. The sum charged in any case will be in excess of the amount necessary to repair the damage.

All caution deposits are subject to a general levy through the office of the Dean of Students for breakage and damage to buildings and equipment that cannot be traced.

This fee, less deductions, will be refunded before the beginning of the next college year.

Financial Aid For Students

Canada Student Loans Plan

Eligible students enrolled in the Degree and Technical courses can apply for Government of Canada loans and bursaries totaling more than $3,000 in one year. Application for a Certificate of Eligibility must be made to the issuing authority of the applicant's province of residence.

Under the plan borrowers are required to repay principal and pay interest, but no payments are required as long as they are full-time students at a specified post-secondary educational institution.

Application forms are available as follows:

Nova Scotia students	Department of Education Box 578 Halifax, N.S. B3J 2S9
New Brunswick students	Department of Youth Centennial Building Fredericton, N.B. E3B 5H1
Prince Edward Island students	Department of Education Box 2000 Charlottetown, P.E.I. C1A 7N8
Newfoundland students	Department of Education Confederation Building St. John's, Nfld. A1C 5R9

The application should be completed and filed with the issuing authority during the early summer, so that an eligibility form can be issued before Registration Day. The applicant then presents the Certificate of Eligibility at registration. Once it is signed by the Registrar, the student may take it to their bank to arrange for funds.

Living Allowance for Prince Edward Island Students

A living allowance of approximately $25.00 per week will be provided from Federal-Provincial funds for Prince Edward Island students in technical courses who are in good standing if an application is made to the Director of Rural Development, Department of Agriculture and Forestry, Charlottetown, at as early a date as possible. Students who present a letter from this department at registration, indicating eligibility for assistance, are credited with the allowance.

Canadian Army Welfare Fund Bursaries

Bursaries of up to $1,000 annually may be awarded to dependents of former members of the Canadian Army who enter the degree, technician, or technology courses at Nova Scotia Agricultural College.

Financial need is the determining factor in the selection of recipients.

Applications can be obtained from the Manager, Canadian Army Welfare Fund, East Memorial Building, Wellington Street, Ottawa, K1A 0P4.

Applications must be submitted by July 1.

Scholarships

Detailed information is given on pages 132-140.

General Information

Programs Offered

The Nova Scotia Agricultural College was formally opened in 1905 to assume and expand the work which for several years had been carried on by the School of Horticulture in Wolfville and the School of Agriculture in Truro. The College operates under the authority of an Act of the Legislature of Nova Scotia.

In 1980, NSAC received approval to offer all four years of the B.Sc. (Agr.) degree course. Expansion is proceeding on schedule and students who entered the first year of the B.Sc. (Agr.) course in the fall of 1981 or later can complete all four years at NSAC in one of the four options: Plant Science, Animal Science, Agricultural Economics, and Plant Protection. It is expected that students who are admitted to the first year of this program in 1983 will have additional options—Agricultural Chemistry and Soils—available to them.

During the seventy-eight years of its existence, the College has had very close affiliations with the Ontario Agricultural College of the University of Guelph and Macdonald College of McGill University. Most of its graduates from the first two years of the degree course have completed their studies for a degree at these two institutions. Although most students now entering the program leading to a B.Sc. (Agr.) will complete their degree at NSAC, those who choose options not offered at the College can transfer, without interruption, to these institutions for the final two years of the program.

A wide range of courses are offered at NSAC in addition to those leading to a B.Sc. (Agr.). In 1983-84, credits towards an engineering degree in Agriculture, a Pre-Veterinary course, five Technician courses, five Technology courses, and numerous vocational short courses will be offered.

Students who take the one-year Pre-Veterinary course and are successful can apply for admission to the University of Guelph to continue in the course leading to a Doctor of Veterinary Medicine. Those who take this course, but are not admitted to the Veterinary program, may enter the second year of the Agricultural Science Degree course at NSAC and proceed in the program leading to a B.Sc. (Agr.).

Graduates of the NSAC engineering course are admitted without interruption to McGill University or they may apply to the Technical University of Nova Scotia, or other institutions with engineering programs, for their final years.

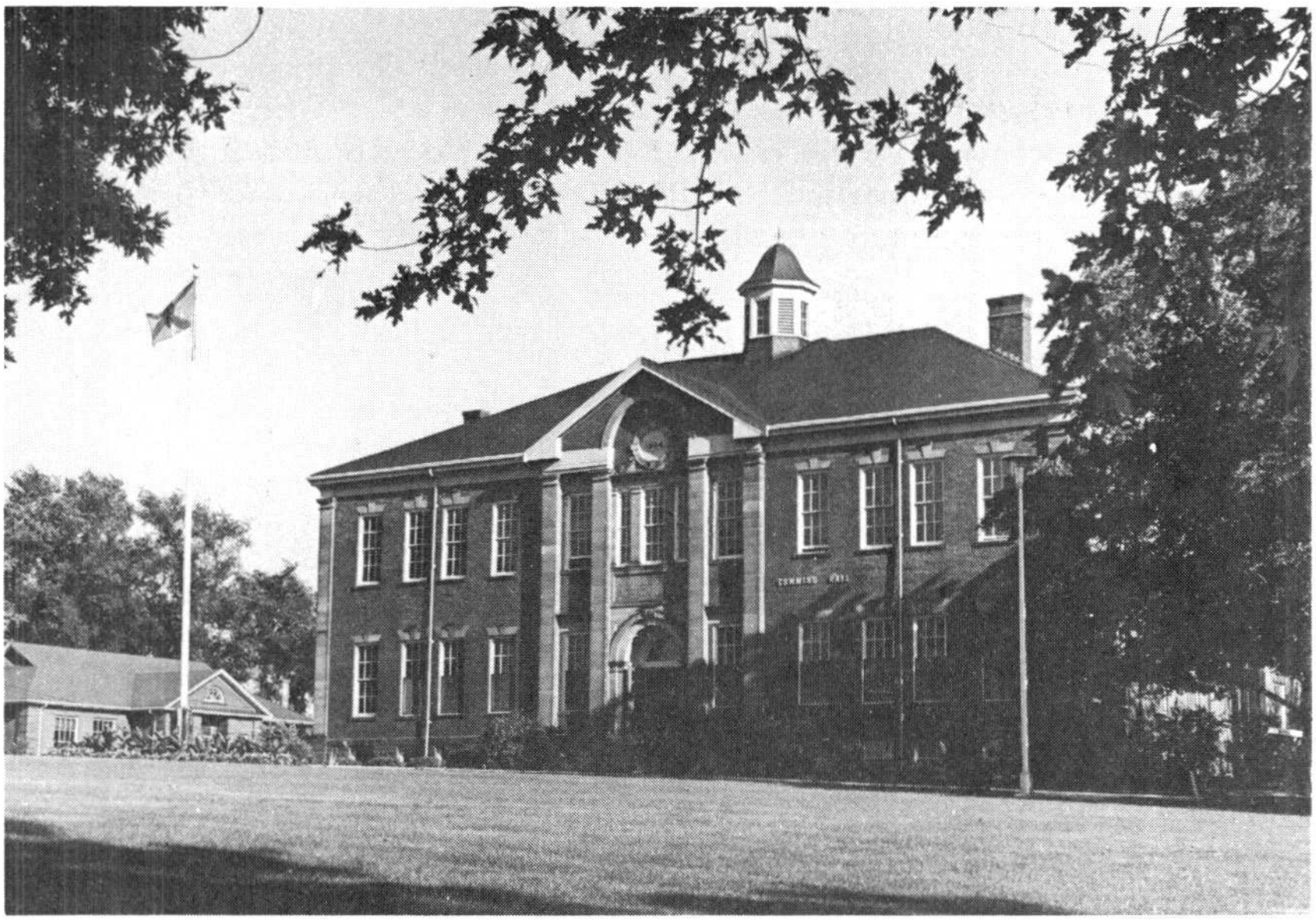
Students who wish to farm, to accept employment in a farm-related industry, or to engage in professional agriculture can take college courses designed to better prepare them for the line of endeavour they wish to follow.

Agriculture offers the alert person the widest possible field for study and opportunity. Its problems challenge the keenest minds. Agriculture also offers young people the possibility of a career that will bring opportunity for useful service and distinction.

Facilities

The Nova Scotia Agricultural College is located on a 550-acre property at Bible Hill, a mile northeast of Truro, Nova Scotia. The record of the College's graduates in the past 78 years is conclusive evidence that students can obtain a sound agricultural education in the courses offered.

The College buildings—Cumming Hall, Harlow Institute, Banting Building, Collins Horticultural Building, Cox Institute of Agricultural Technology, Boulden Building, Hancock Veterinary Building, and a modern farm building complex—provide excellent teaching facilities for all subjects offered, and offices and laboratories for faculty and staff as well as for some of the staff of the Nova Scotia Department of Agriculture and Marketing. Fraser House, Trueman House, Chapman House, and Jenkins Hall provide living and dining accommodations for male and female students. Recent additions include a complete and modern Athletic Centre, an Alumni Theatre, and a modern library building.



The various courses arranged for the 1983-84 college year are listed and described in this Calendar. The Faculty reserves the right to make any necessary revisions and additions.

The Faculty reserves the right to withhold any courses for which fewer than five students apply.

The Faculty will give sympathetic consideration to any student who wishes to take a special selection of courses in order to fill a specific need. The choice of subjects will be limited to those that do not conflict when scheduled.

Students may write examinations in either of the two official languages of Canada.

Post Office Address

Nova Scotia Agricultural College, P.O. Box 550, Truro, N.S. B2N 5E3

Telephone

Nova Scotia Agricultural College, Truro, 902-895-1571

Banks

—The Bank of Nova Scotia
—The Bank of Montreal
—The Canadian Imperial Bank of Commerce
—The Royal Bank of Canada
—The Toronto-Dominion Bank
—The Bank of Montreal, Bible Hill
—The Continental Bank of Canada

Express and Freight

Express or freight may be forwarded to the Nova Scotia Agricultural College by either the Canadian National Railways or the Canadian Pacific Railways; both lines maintain offices in Truro.

College Colors

Royal Blue and Regular Gold

Churches

Churches representing a wide range of denominational interests are located in Truro and Bible Hill.

Chaplaincy

Rev. Douglas MacEachern is Chaplain and Dean of Students. He works in close co-operation with the Executive of the United Students' Council and with the Chapel Committee. The Chaplaincy is concerned with the spiritual needs of the students and the development of a religious program, often in conjunction with churches in the community.

Student Placement Service

The Nova Scotia Agricultural College provides facilities and personnel to assist graduates and undergraduates to obtain part-time, summer, and permanent employment.

The Placement Officer contacts representatives of industry, business, and government to arrange for on- and off-campus recruitment of students.

Individual counselling related to career planning and employment information associated with agriculture is available. Students are informed of employment opportunities in the college newspaper and by notices posted on bulletin boards at various locations on campus. Information on career planning and potential employers is also available at the Placement Office and College Library.

Student Government

Through a system of self-government, students are encouraged to accept the greatest possible amount of responsibility in connection with their own affairs. Only full-time students taking regular courses are allowed to act as executive members of the United Students' Council or as members of student committees.

A committee of Faculty members, appointed by the Faculty to act in an advisory capacity, cooperates with student committees on financial, literary, social, and athletic affairs so that every possible benefit may be derived from these activities.

Student Activities

College Royal Winter Fair

Each College year, the students put on a College Winter Fair, or College Royal as it is frequently called. The show is a competition in fitting and showmanship rather than in the quality of the horses, cattle, sheep, swine, and poultry shown in the exhibition.

Besides livestock classes, the show also features competition in agronomy, horticulture and farm management, and a series of educational demonstration booths.

The program and show are administered and operated by students.

Animal Science Club

Students interested in animal studies are welcome to join and take part in the Animal Science Club. The activities of this student-operated club include visits to livestock operations, meetings, livestock evaluation studies, and competitions. Special guests are also invited to speak on livestock topics.

A major project of the club is the selection and training of a livestock evaluation team to take part in the livestock evaluation competition at the Royal Winter Fair in Toronto.

Social Activities

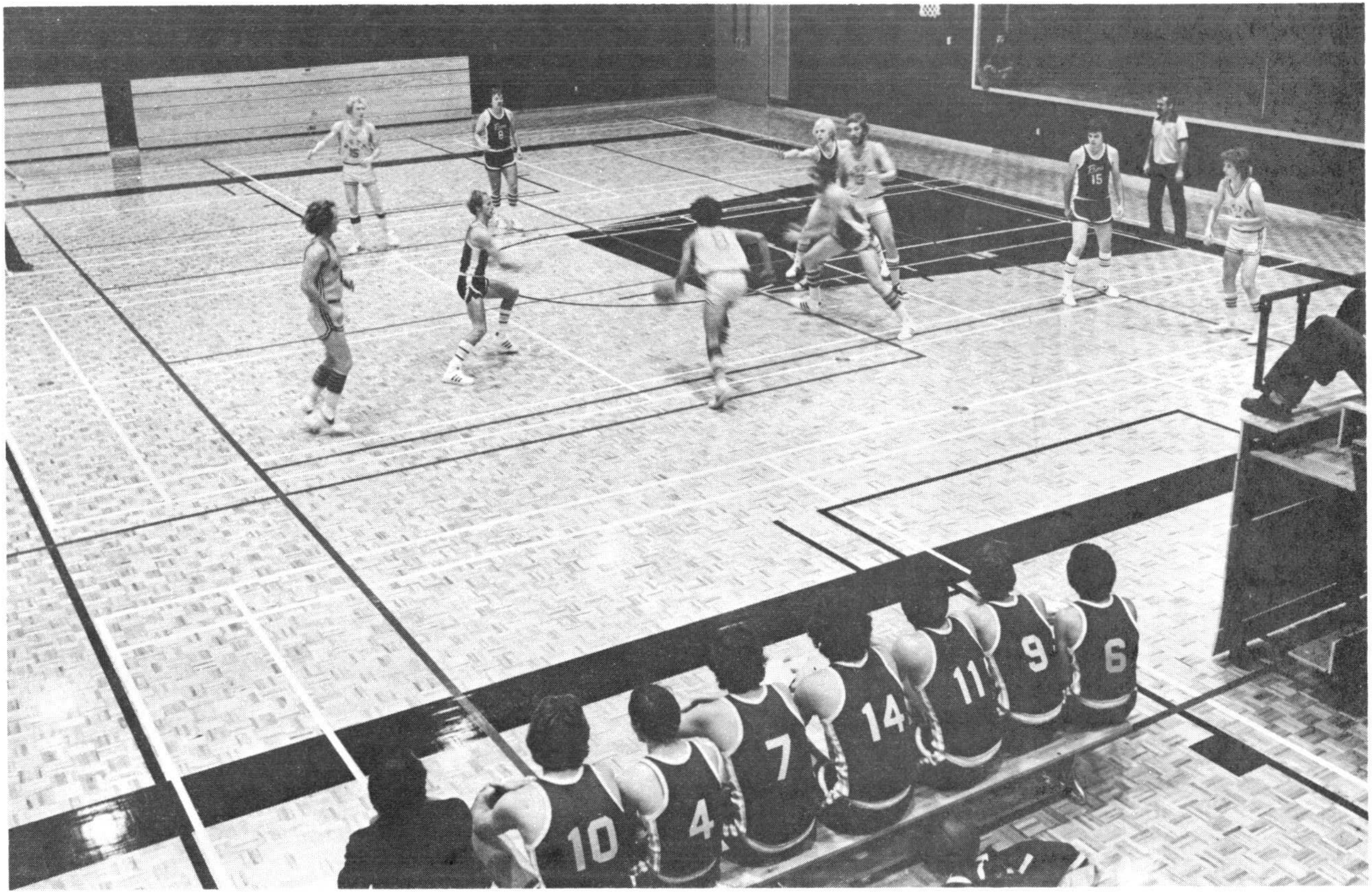
All social activities on the campus are supervised by a committee appointed by the United Students' Council. Informal dances and other social functions are held from time to time.

Athletics

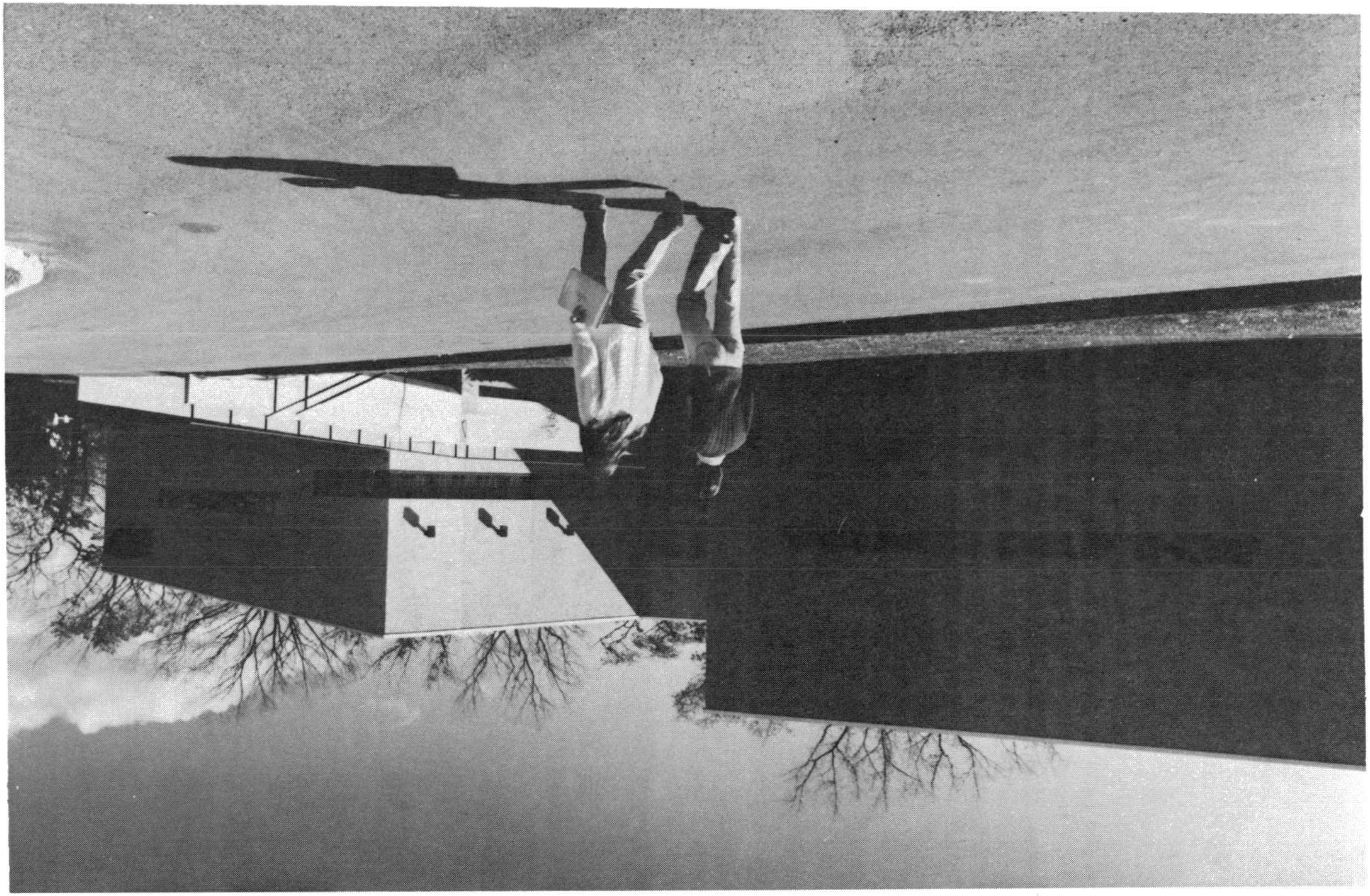
The athletic program involves:

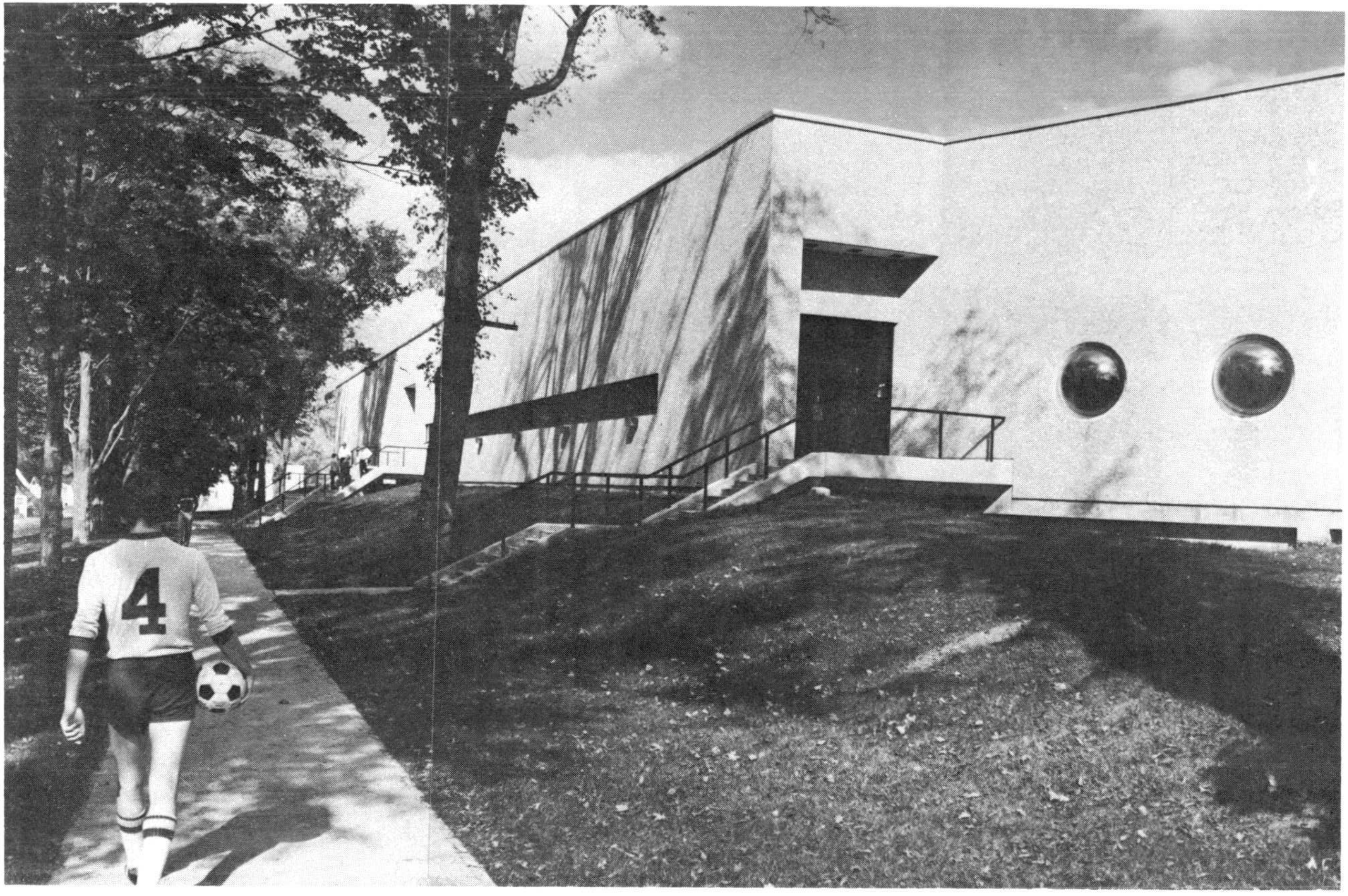
—Recreation activities. The Athletic Centre provides an opportunity for students to choose a number of activities to enjoy during their leisure time. Racquetball, squash, and badminton are very popular racquet games. The spacious weight room allows the enthusiast the use of a universal machine, three hydra machines, and free weights. Other equipment available to students for off-campus activity includes cross-country skis, golf clubs, and tennis racquets. Swimming and curling facilities are also available to students during the academic term.

—Intramural athletics. The intramural program continues through the year with units of competition including soccer, softball, volleyball, hockey, basketball, badminton, table tennis, racquetball, and squash. Competition may be on a co-ed, class, residence floor, or league draft system.



Action in the Double Gym, NSAC.

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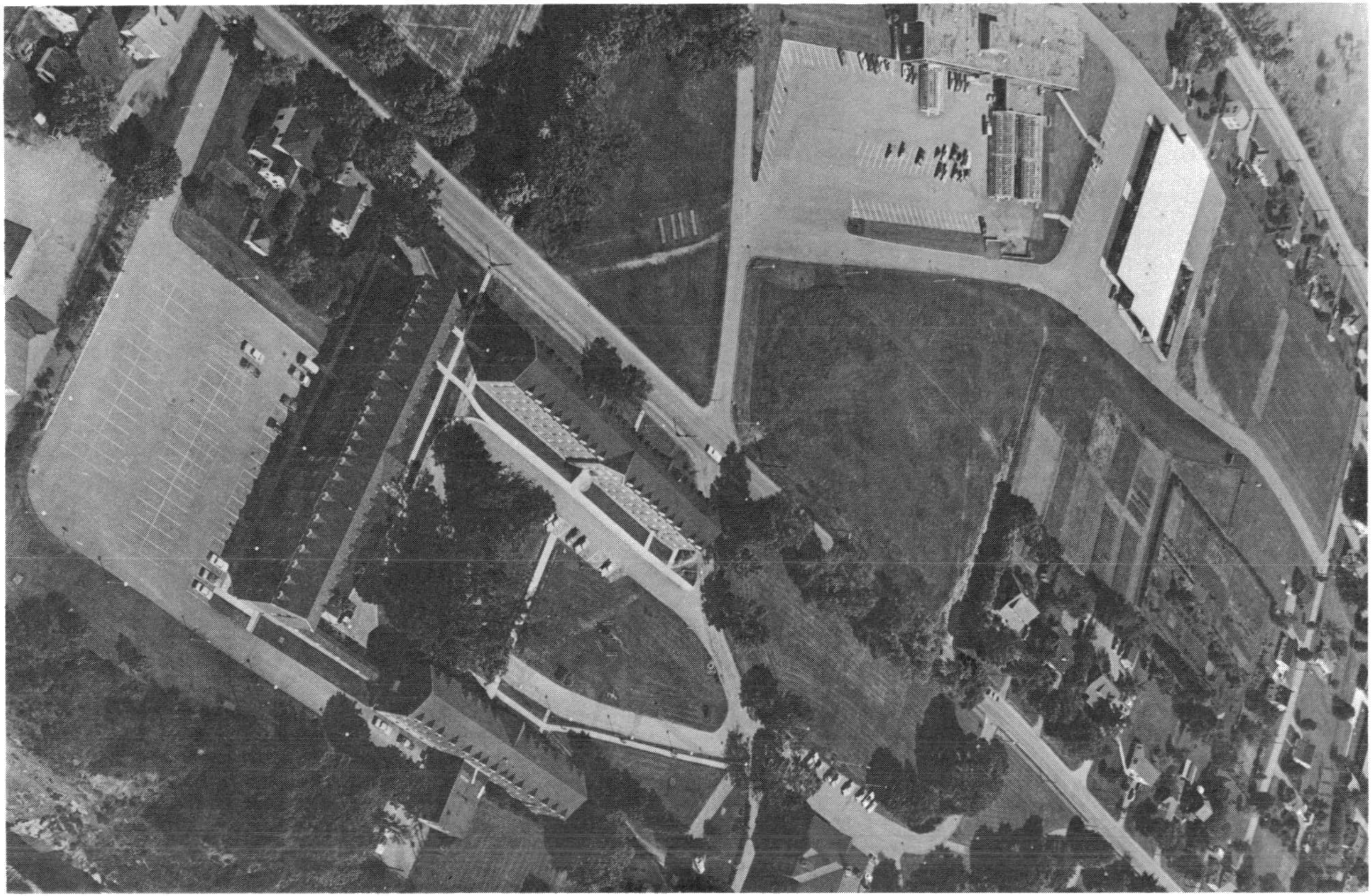

Residences and Cox Institute

Rules and Regulations

General Regulations

All students are under the charge of the Principal and are responsible to him at all times for their conduct. The Principal is authorized to make any additional regulations found necessary for the discipline of the College and to impose fines or other penalties for any infraction of rules and regulations.

All students are expected to attend all lectures and laboratory periods in the subjects for which they are registered, whether scheduled on the timetable or announced by the instructor. Members of the Faculty believe that a student should miss as few instructional periods as possible.

Students wishing to absent themselves from classes for compassionate reasons must obtain permission from the Registrar or, in his absence, from the Dean of Students.

A student who arrives late for class may be refused admission.

A student may, at the discretion of the instructor, be permitted to audit a course. The privilege may be withdrawn by the instructor at any time while the course is in progress. Students who are granted auditing privileges are not permitted to write tests or examinations, or to be otherwise evaluated in the course audited.

An illness must be reported through the nurse to the Registrar's Office.

Tampering with fire protection equipment is forbidden.

Students must not destroy, deface, or meddle with College property.

Every student is expected to show, both within and without the College, such respect for order, morality, and the rights of others, and such sense of personal honour as is demanded of good citizens. Students found guilty of immoral, dishonest, or improper conduct, violation of rules, or failure to make satisfactory progress shall be liable to College discipline, including: suspension from classes or residence, disqualification from competing for honours or prizes, or expulsion from the College.

Smoking is not allowed in classrooms or laboratories during regular class and laboratory hours or in the dining areas, the Library, the Athletic Centre, or the Alumni Theatre, at any time.

Any form of disorderly conduct, drunkenness, or public display of intoxicating beverages is forbidden on campus and at all College functions.

Firearms that are to be kept on campus must be left at the owner's risk in the custody of the Dean of Students.

Students are required to participate in approved orientation activities. All forms of initiation and hazing are forbidden.

Students found in unauthorized places on campus may be subject to immediate explusion.

Residence Regulations

Residence regulations are to be found in the Student Handbook, which is distributed to all students.

Students living out of residence must obey all residence rules and regulations while visiting in the residences.

Students are required to provide their own towels, soap, and drinking glasses. Sheets, pillows, pillow cases, blankets, and furniture will be provided by the College.

Students requiring accommodation for overnight visitors in a residence must obtain permission from the Dean of Students.

Single meals may be purchased by paying the cashier at the front end of the cafeteria line.

Use of Motor Vehicles

Operation of a motor vehicle on campus by a student living in residence is a privilege that may be withdrawn at the discretion of the Principal.

Traffic and Parking Regulations

Any member of the College community—faculty, staff, or student—who brings a vehicle on campus must have it registered.

Students must register vehicles at registration. At that time, they receive a sticker that is to be displayed on the lower right-hand corner of the rear window of the vehicle. A $10.00 fee is charged for registration. Vehicles brought to campus during the year must be registered with the Traffic Control Committee.

Off-campus students bringing vehicles to the campus must register their vehicles and park in their designated areas. They are subject to the same regulations as on-campus students.

Faculty and staff can obtain registration forms and stickers from the Traffic Control Committee.

The parking areas which are to be used are noted on campus maps and by signs at parking locations.

On-campus student parking areas are located behind Chapman House and beside the poultry building. All other areas which comprise the NSAC campus are off-limits to in-residence student parking.

The parking and traffic regulations are enforced by the Traffic Control Committee, Resident Deans, Grounds Superintendent, and Student Monitors.

Vehicles parked in unauthorized areas are towed away at the owners' expense.

Medical

All candidates who are accepted will be sent a medical form; those who do not receive one in a letter of final acceptance should ask for one. At registration, new students must have a completed form. If required, students must submit to further medical examinations.

Students on holiday or accepted candidates for admission who contract any contagious or infective disease, or who reside in any dwelling in which any such disease exists, are subject to quarantine regulations approved by the medical profession. A medical certificate is required from any student or accepted candidate for admission who has suffered from, or come in contact with those suffering from, any contagious or infective disease before he/she is allowed to return to the College.

Athletic Regulations

All students are eligible to play for teams representing the College, subject to conditions established by the NSAC and the Canadian Colleges Athletic Association.

All teams or groups that go to any community or institution to participate in athletic activities must be accompanied by a member of the College staff.

A student wishing to participate in athletics other than those sponsored by the College must apply in writing to, and obtain permission from, the Principal before participating either as a player or an official.

Any expenses incurred through injury while playing in outside games are the responsibility of the student concerned, and not the responsibility of the Students' Medical Fund.

Students who lose time from classes due to participating in outside games will not receive an attendance credit for the time lost.

Summary of Academic Programs

Agricultural Science

The Nova Scotia Agricultural College offers a complete four-year program of study leading to the degree Bachelor of Science in Agriculture, or B.Sc. (Agr.), with a choice of one of four options: Animal Science, Agricultural Economics, Plant Protection, and Plant Science. Students can take other options without interruption by transferring to the third year of the B.Sc. (Agr.) program at Macdonald College of McGill University, the University of Guelph, or the University of Maine.

Agricultural Engineering

NSAC offers the first three years of a four- or five-year program in Agricultural Engineering. Students can transfer without interruption to Macdonald College of McGill University or apply to the Technical University of Nova Scotia or another engineering faculty for the final year(s) of this professional engineering degree course.

Pre-Veterinary Medicine

A one-year program of study is offered for students who wish to attempt admission to the Ontario Veterinary College of the University of Guelph in the course leading to Doctor of Veterinary Medicine.

Technician Courses

Five two-year programs of study are offered leading to Technician diplomas: Agricultural Business, Agricultural Mechanization, Animal Science, Farm Equipment, and Plant Science.

Technology Courses

Six programs are offered leading to diplomas of Technology; five are two-year courses and one is a one-year course for graduate technicians.

The Biology and Chemistry Laboratory Technology courses and the Landscape Horticulture Technology course are two years in duration. They require a higher academic level of admission than the technician courses.

Farming Technology is a two-year program. Only students who have successfully completed one year of a specified Technician course (or equivalent) are considered for admission. For eleven months (including summers) students in the Farming Technology course work on farms. Seven of those months consist of structured training under a farmer/instructor.

Agricultural Technology is a one-year program tailored to meet the needs of the student. Only Technician graduates are eligible to apply for this course.

Vocational Courses

Short courses and Continuing Education courses, varying in length, are offered in a wide range of agricultural topics.

Key to Identification and Scheduling of Subjects

The subjects listed in the syllabi and in the descriptions of subjects beginning on page 62 are identified as to discipline and approximate academic level by letter and number codes. The disciplines are coded as follows:

Agricultural Engineering	**AE**	Economics and Business	**EB**
Animal Science	**AS**	Humanities	**H**
Biology	**B**	Mathematics and Physics	**MP**
Chemistry	**C**	Plant Science	**PS**

All subjects with numbers of 100 or over are degree credit. Most subjects with numbers between 100 and 190, inclusive, are part of the first year of the curriculum and numbers 200 to 290 are part of the second year. Subjects with numbers in the three hundreds and four hundreds are, respectively, third and fourth year subjects. For example, B100 is a Biology course offered in the first year of the degree course curriculum. EB260 is an Economics and Business course offered in the second year of the curriculum. Both courses are credits toward a B.Sc. (Agr.) degree.

Subjects with numbers between 10 and 90 are offered in one or more of the Technician and/or Technology courses. In general, the number indicates the level at which the subject is offered in the program of study. For example, C12 is a Chemistry subject usually offered in the first year, first semester of the Technician courses, while PS49 is a Plant Science subject offered in the second year, second semester of the Technician programs. B71 is a Biology subject offered in the second year, second semester of the Chemistry Laboratory Technology course.

Degree Courses

The Nova Scotia Agricultural College offers a complete four-year course leading to a degree in Agricultural Science, B.Sc. (Agr.), and the first three years of a four- or five-year course leading to a degree in Agricultural Engineering.

Students in the Agricultural Sciences, B.Sc. (Agr.) begin to specialize in their second year. They choose from a variety of options. The four major options available at NSAC are Plant Science, Animal Science, Agricultural Economics, and Plant Protection. Other options, such as Agricultural Chemistry, Soils, General Agriculture, and options in the Biological Sciences, Environmental Sciences, Food Sciences, and Renewable Resources, are available at the University of Guelph, Macdonald College of McGill University, or the University of Maine. Students who successfully complete the first two years at NSAC can transfer directly into the third year at these universities.

Graduates of the B.Sc. (Agr.) program in good standing will usually have opportunities to take post-graduate studies through Assistantships for a Master of Science or Doctor's (Ph.D.) degree at faculties of Agriculture in Canada and the U.S.A., if they so wish.

Engineering students who successfully complete the first three years of the Agricultural Engineering degree course can proceed to Macdonald College of McGill University, or can apply to the Technical University of Nova Scotia or to another engineering faculty to complete their program of study.

NSAC offers a one-year Pre-Veterinary course for students from the Atlantic Provinces who intend to apply for admission to the program leading to Doctor of Veterinary Medicine at the University of Guelph. Students who successfully pass this one-year program but are not admitted to the Veterinary program usually continue at NSAC in the second and subsequent years of the Agricultural Science Degree course.

NSAC students in the Agricultural Sciences who complete the prescribed subjects and number of credits with no mark below 50% of the maximum mark obtainable and who are in good standing will be granted the degree of Bachelor of Science in Agriculture, B.Sc. (Agr.).

Students in Agricultural Engineering at NSAC who complete the prescribed subjects with no mark below 50% of the maximum obtainable and who are in good standing are granted a Degree course diploma in Agricultural Engineering.

In Agricultural Science and Agricultural Engineering, a high honours diploma will be awarded to a student who has attained a cumulative average of 80% or better on the work of the entire course, and an honours diploma awarded to one who has attained an average of at least 75%.

Academic Standing

All students are assessed at the end of each semester. Those with failing averages (less than 50%) or failures in half or more of the subjects in which they are registered may be required to terminate their studies.

Entrance Requirements

All candidates for admission to the course leading to a B.Sc. (Agr.) degree must present certificates showing an average of at least 60% with no mark below 50% in Grade XII (Nova Scotia 441 or 541, New Brunswick 121 or 122, Prince Edward Island university preparatory, or equivalent) English, Mathematics, Chemistry, Biology, or Physics, plus one additional subject. Students who are accepted but who have not successfully completed Physics at the grade XII university preparation level must take Physics MP090 in their first year at NSAC.

All candidates for admission to the Agricultural Engineering course must present certificates showing an average of at least 60% with no mark below 50% in Grade XII (Nova Scotia 441 or 541, New Brunswick 121 or 122, Prince Edward Island university preparatory, or equivalent) English, Mathematics, Chemistry, Physics, and one other subject, preferably Biology.

All candidates for admission to the one-year Pre-Veterinary course must present certificates showing an average of at least 60% with no mark below 50% in Grade XII (Nova Scotia 441 or 541, New Brunswick 121 or 122, Prince Edward Island university preparatory, or equivalent) English, Mathematics, Chemistry, Physics, and one other subject, preferably Biology.

All candidates must present a satisfactory medical certificate dated not more than thirty days before registration.

Graduates of Newfoundland Grade XI are required to complete, with an average of at least 60%, an academic year beyond that year in the subjects indicated above.

Supplemental Examinations

A student who has a mark average of at least 50% and has passed at least half of the subjects taken may write one supplemental examination in each failed subject in which the mark is 35% or higher. The supplemental examination (or examinations) must be written in either late June or early September immediately following the failure. A student in final year may write one supplemental examination in January if passing that examination and all final semester examinations makes the student eligible for graduation.

Students apply to write a supplemental examination or examinations by notifying the Registrar's Office of the subject or subjects they intend to write, and by submitting the supplemental examination fee of $20 per exam no later than June 8th for the June supplemental examination period and by August 17 for the September supplemental examination period.

No supplemental examination is to be written until the required fee has been paid. If a student does not show up to write a supplemental examination, the fee is forfeited. Should a candidate for a supplemental examination not give notice or pay the required fee on time, but arrive to write an examination, permission to write may be granted at the discretion of the Registrar and the instructor, and upon payment of $30 per examination.

Bachelor of Science in Agriculture — B.Sc. (Agr.)

The B.Sc. (Agr.) Degree course is a four-year program designed to provide a sound education in the science of agriculture. Graduates of this course meet the educational requirements for Professional Agrologists in the provincial Institutes of Agrologists of the Atlantic Provinces.

The first academic year (two semesters) of this program is the same for all students. Normally students select one of four options before the commencement of the third semester and continue in that major field of study until they graduate. Options offered at NSAC are:

— Agricultural Economics
— Animal Science
— Plant Protection
— Plant Science

Other options are available to students if they transfer at the end of their second year to Macdonald College of McGill University or to the University of Guelph.

NSAC has offered a program leading to a degree in Agricultural Science for 78 years. In 1980, it received approval to offer all four years of that course. The third-year program will be offered first in 1983-84 and the fourth year in 1984-85. Students who were admitted to the first year in the fall of 1981 and those admitted in the fall of 1982 and subsequent years can complete their B.Sc. (Agr.) program at NSAC.

Minimum Requirements

Academic requirements for the degree Bachelor of Science in Agriculture consist of successful completion of:

— all subjects as specified in the syllabus of subjects
— not less than 12 semester subjects in Agricultural Science
— not less than 6 semester subjects in Basic Sciences
— not less than 5 semester subjects in Humanities and Economics
— at least 40 semester subjects
— at least 15 subjects at NSAC plus registration in the final year at NSAC.

Syllabus

Year 1 — ALL OPTIONS

Semester I

B100 The Plant Kingdom
C100 Chemical Principles
H200 Technical Writing and English & American Authors
MP100 Calculus and Analytic Geometry I
PS100 Principles of Crop Production

Semester II

AS100 Introductory Animal Science
B100 The Animal Kingdom
C110 Organic Chemistry
EB110 Economics of Agriculture
MP105 Calculus and Analytic Geometry II

Years 2, 3, and 4 — AGRICULTURAL ECONOMICS

Semester III

C220 Soil Science
EB200 Microeconomics I
EB210 Financial Accounting I
EB260 Mathematical Economics
Elective[1]

Semester IV

EB205 Microeconomics II
EB215 Financial Accounting II
H205 Canadian Literature
MP200 Statistics
Elective[1]

Semester V

EB310 Cost Accounting
EB335 Business Marketing
EB340 Farm Management I
EB360 Econometrics
Elective[1]

Semester VI

EB325 Operations Research
EB330 Agricultural Price & Market Analysis
EB350 Macroeconomics
MP220 Computer Science
Elective[1]

Semester VII

EB400 Resource & Environmental Economics
EB405 Macroeconomics II
EB415 Business Law
Elective[1]
Elective[1]

Semester VIII

EB420 Agricultural Policy
EB425 Research Methods
EB440 Farm Management II
Elective[1]
Elective[1]

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[1]Electives must include one subject in each of Agricultural Engineering, Animal Science, and Plant Science.

Years 2, 3, and 4 — ANIMAL SCIENCE

Semester III

B200 Cell Biology
B240 Introduction to Genetics
C200 Bio-Organic Chemistry
C220 Introduction to Soil Science
MP110 Modern Physics

Semester IV

B225 Microbiology
B245 Agricultural Genetics
C205 Biochemistry
H205 Canadian Literature
MP200 Statistics

Semester V

AS300 Physiology of Farm Animals
AS305 Animal Nutrition
AS310 Animal Breeding
Elective[1]
Elective[1]

Semester VI

AS315 Reproductive Physiology
AS320 Animal Health
AS325 Feeds & Feeding
EB255 Macroeconomics I
Elective[1]

Semester VII

Elective[1]
Elective[1]
Elective[1]
Elective[1]
Elective[1]

Semester VIII

AS450 Seminar & Project
Elective[1]
Elective[1]
Elective[1]
Elective[1]

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[1]Electives must include three Animal Production, two Humanities or Economics, and two Agricultural (not Animal Science) subjects.

Years 2, 3, and 4 — PLANT PROTECTION

Semester III

B200 Cell Biology
B240 Introduction to Genetics
C200 Bio-Organic Chemistry
C220 Introduction to Soil Science
MP110 Modern Physics

Semester IV

B225 Microbiology
C260 Plant Physiology
C205 Biochemistry
H205 Canadian Literature
MP200 Statistics

Semester V

B300 Principles of Plant Pathology
B310 Mycology
B320 General Entomology
B330 Ecology
B335 Weed Science

Semester VI

B305 Economic Plant Pathology
B325 Economic Entomology
MP220 Computer Science
Crop Production Elective
Elective[1]

Semester VII

B400 Soil Microbiology
B449 Seminar and Project
PS400 Plant Breeding
Elective[1]
Elective[1]

Semester VIII

B450 Seminar and Project
EB255 Macroeconomics I
H210 Communications & Extension Methods
Elective[1]
Elective[1]

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[1]Electives must include one Economics or Humanities subject and one Agricultural Engineering subject.

Years 2, 3, and 4—PLANT SCIENCE

Semester III

B200 Cell Biology
B240 Introduction to Genetics
C220 Introduction to Soil Science
MP110 Modern Physics
Agronomic or
Horticultural Production
Course

Semester IV

B260 Plant Physiology
EB255 Macroeconomics I
H205 Canadian Literature
Crop Production Elective
Elective[1]

Semester V

B300 Principles of Plant Pathology
B320 General Entomology
B335 Weed Science
C200 Bio-Organic Chemistry
Elective[1]

Semester VI

C320 Soil Fertility and
Fertilizers
MP200 Statistics
Elective[1]
Elective[1]
Elective[1]

Semester VII

C420 Soil Classification and Survey
or PS400 Plant Breeding
PS415 Crop Adaptation
Elective[1]
Elective[1]
Elective[1]

Semester VIII

PS405 Agronomy *or*
PS410 Horticulture
PS450 Seminar and Project
Elective[1]
Elective[1]
Elective[1]

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[1]Electives must include one Agricultural Engineering subject.

Bachelor of Agricultural Engineering

The Bachelor of Agricultural Engineering is a four- or five-year program designed to combine all the engineering requirements for the status of a professional engineer with a knowledge of agriculture.

The first three years of this program are offered at NSAC. Students who successfully complete the course graduate with a Diploma in Agricultural Engineering. Graduates may complete the degree program without interruption at Macdonald College of McGill University or may apply to the Technical University of Nova Scotia or other engineering faculty for the final years

Syllabus

YEAR I

Semester I

AE100	Graphics and Projection
C100	Chemical Principles
H200	Technical Writing and English & American Authors
MP100	Calculus & Analytic Geometry I
MP130	Physics for Life Sciences I

Semester II

AE110	Statics
C110	Organic Chemistry
EB110	Economics of Agriculture
MP105	Calculus & Analytic Geometery II
MP135	Physics for Life Sciences II

Spring Session

AE260	Surveying—2 weeks

YEAR 2

Semester III

AE220	Dynamics I
AE230	Agricultural Mechanization
C220	Introduction to Soils
MP220	Computer Science
MP230	Multivariable Calculus
PS100	Principles of Crop Production

Semester IV

AE205	Graphics & Design
AE225	Dynamics II
AE220	Agricultural Structures
AS100	Introductory Animal Science
MP235	Differential Equations & Linear Algebra

YEAR 3

Semester V

AE310	Thermodynamics
AE340	Soil & Water
MP300	Electric Circuits
	Humanities Elective
	Elective[1]

Semester VI

AE315	Strength of Materials
AE350	Fluid Mechanics
H150	Agriculture Today
MP200	Statistics
	Elective[1]

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[1]One elective must be an Agricultural Engineering subject.

Pre-Veterinary Medicine

Students who want to attempt a program of study that can lead to a Degree in Veterinary Medicine (D.V.M.) take the degree course subjects listed below. Only applicants who have successfully completed two years in Chemistry and Physics, in addition to Mathematics and English, and one additional subject (preferably Biology) at the university preparatory Grade XII level can complete this program of study in one year.

Syllabus

Semester I

B100	The Plant Kingdom
C100	Chemical Principles
H200	Technical Writing and English and American Authors
MP100	Calculus and Analytic Geometry I
MP130	Physics for Life Sciences I

Semester II

AS100	Introductory Animal Science
B110	The Animal Kingdom
C110	Organic Chemistry
EB110	Economics of Agriculture
MP105	Calculus and Analytic Geometry II
MP135	Physics for Life Sciences II

Selection of students for admission to the Pre-Veterinary year of study at the University of Guelph occurs at NSAC during or after successful completion of the above program. An average of 75% or higher is required to assure consideration by the selection committee.

Students selected at NSAC to continue in the program leading to a D.V.M. are admitted to another Pre-Veterinary year of subjects at the University of Guelph before admission to the four-year course in Veterinary Medicine.

Students who successfully complete the Pre-Veterinary course at NSAC but are not selected to continue in the program of study leading to a D.V.M. are admitted to the second year of the Agricultural Science Degree course at NSAC. These students may choose Animal Science or any one of the options offered in the B.Sc. (Agr.) program.

Most options in the B.Sc. (Agr.) program lead to opportunities for graduate studies at the M.Sc. and Ph.D. levels.

Poultry Building and Feed Mill, NSAC Farm.

Technician Courses

To satisfy the needs of the farm and farm-related businesses and services, the Nova Scotia Agricultural College offers a broad program of studies leading to Technician Diplomas.

Entrance Requirements

All candidates for admission

— should be 18 years of age, on or before the opening day of the College year (mature younger candidates will be considered,

— must present a satisfactory medical certificate dated no more than 30 days before registration;

— must produce evidence of senior high school graduation with three university preparatory courses in English, two in Mathematics, one in Chemistry, and one in Biology, or satisfactory completion of the pre-tech semester;

— must present themselves for a selection interview when required.

Candidates of mature age and from a different academic background may apply and have their study records evaluated for admission.

Candidates with at least 60% in a senior high school course in Physics will be exempt from Physics MP15.

Possession of the minimum entrance requirements does not guarantee admission.

Pre-Tech Semester

The Nova Scotia Agricultural College offers a program of studies designed to prepare high school graduates for entrance into our Technician courses. The period of study will be from early January until late April (see Calendar for 1983-84 Session).

Candidates may be considered who lack entrance requirements in up to three subjects. The following is the syllabus of subjects for the pre-tech semester:

MP01	Mathematical Concepts
C01	Chemistry
H01	Language
EB01	The Agricultural Industry
B01	Biology

All students accepted for this pre-tech semester must take at least four of these subjects.

Upon satisfactory completion of the semester, a student may be granted acceptance into one of the courses leading to a Technician Diploma.

Academic Standing

All students are assessed at the end of each semester. Those with failing averages (less than 50%) or failures in half or more of the subjects in which they are registered may be required to terminate their studies.

Students who complete all the course requirements with no mark below 50% of the maximum mark obtainable and are in good standing will be awarded Technician Diplomas and thus become "Associates of the Nova Scotia Agricultural College with all the rights and privileges pertaining thereto."

A high honours diploma will be awarded to a student who has attained an average of at least 80% and an honours diploma awarded to one who has attained an average of at least 75%.

Supplemental Examinations

A student in a Technician course may write a supplementary examination in up to half of the subjects for which he/she is enrolled, if the combined average for all subjects is above 50% and the mark in each failed subject is at least 35%.

Provided that the disqualifying conditions stated above do not apply, a student may write one supplemental examination in a subject, in either June or September immediately following the failure. A student who fails to pass more than two subjects after writing supplemental examinations may not register for the regular second academic year.

A student in his/her final year may write one supplemental examination in January if passing that examination and all final semester examinations makes the student eligible for graduation.

Application for permission to write a supplemental examination in June must be submitted before June 8; for permission to write in September, the application must be submitted before August 17.

The fee for a supplemental examination in any subject is $20. If a student does not show up for a supplemental examination, the fee is forfeited. A candidate for a supplemental examination who does not give notice and pay the required fee on time but arrives for an examination, may, at the discretion of the Registrar and the instructor, be permitted to write, upon payment of a fee of $30 per examination.

Collins Building, Landscape Horticulture, NSAC

Agricultural Business

The Nova Scotia Agricultural College offers a two-year course in Agricultural Business to help students prepare themselves for careers on the farm as business managers or as managers and supervisors in farm-related business firms.

Academic Entrance Requirements

High school graduation with three university preparatory courses in English, two in Mathematics, one in Biology and one in Chemistry, or satisfactory completion of the pre-tech semester is required.

Syllabus for Agricultural Business with minor in

Animal Science	Plant Science	Agricultural Mechanization
YEAR I		
Semester A		
C12 Introductory Soils	C12 Introductory Soils	C12 Introductory Soils
C14 Agr. Chemistry	C14 Agr. Chemistry	C14 Agr. Chemistry
EB10 Accounting	EB10 Accounting	EB10 Accounting
EB12 Macroeconomics	EB12 Macroeconomics	EB12 Macroeconomics
~~EB40 Marketing Practices~~	~~EB40 Marketing Practices~~	~~EB40 Marketing Practices~~
PS40 Field Crops I	PS40 Field Crops I	MP15 Physics[3]

An additional subject, AS29 Farm Practices, is optional for all students.

Semester B		
C13 Manageme;nt for Crop Production	AS30 Animal Science	AE15 Oil Hydraulics[3]
EB11 App. Acct.& Taxation	C13 Management for Crop Production	AS30 Animal Science
EB13 Microeconomics	EB11 App. Acct. & Taxation	C13 Management for Crop Production
~~H10 Technical Writing~~	EB13 Microeconomics	EB11 App. Acct. & Taxation
MP14 Computational Methods	MP14 Computational Methods	EB13 Microeconomics
PS41 Field Crops II	PS41 Field Crops II	MP14 Computational Methods
YEAR II		
Semester C		
AS34 Animal Nutrition	B43 Entomology	AE30 Farm Machinery[3, 4]
B18 Animal Genetics	EB43 Business Project	EB43 Business Project
B20 Animal Physiology	EB240 Farm Management	EB240 Farm Management
EB43 Business Project	~~H10 Technical Writing~~	~~H10 Technical Writing~~
EB240 Farm Management	PS53 Vegetable Production[2]	PS40 Field Crops I
~~Humanities Subject~~	Humanities Subject	Humanities Subject

Semester D

AS35	Feeds & Feeding	B40	Plant Pathology	AE34	Farm Tractors[3]
AS50	Dairy Production[1]	EB41	Business Law	AE38	Hort. Engineering[5]
AS51	Beef & Sheep Prod.[1]	EB42	App. Farm Management	EB41	Business Law
~~EB41~~	~~Business Law~~	EB220	Production Economics	EB42	App. Farm Management
EB42	App. Farm Management	PS49	Potato Production[2]	EB220	Production Economics
EB220	Production Economics	PS76	Plant Products Physiology	PS41	Field Crops II

[1]May substitute AS52 Swine Production if timetable permits.
[2]May substitute PS43 Small Fruit Crops and PS44 Tree Fruit Crops if timetable permits.
[3]May substitute AE12 Drafting, MP15 Physics, AE32 Farm Buildings, and AE36 Controls & Processing if timetable permits.
[4]May substitute AE14 Surveying if timetable permits.
[5]May substitute AE45 Soil & Water Management if timetable permits.

A student who has successfully completed the first year with a good study record may apply for consideration to follow a two-year program in Farming Technology.

A student who has successfully completed the two years of Agricultural Business with a good study record may apply for consideration to follow a one-year program in Agricultural Technology.

Agricultural Mechanization

The Nova Scotia Agricultural College offers a two-year course to help students prepare themselves for careers as agricultural mechanization technicians on farms or in farm-related firms and services.

Academic Entrance Requirements

High school graduation with three university preparatory courses in English, two in Mathematics, one in Biology, and one in Chemistry, or satisfactory completion of the pre-tech semester is required.

Syllabus for Agricultural Mechanization with minor in

Animal Science	Plant Science	Agricultural Business
YEAR I		
Semester A		
AE12 Drafting	AE12 Drafting	AE12 Drafting
AE13 Shopwork	AE13 Shopwork	AE13 Shopwork
~~C12 Introductory Soils~~ C13 Intro Soil	C12 Introductory Soils	C12 Introductory Soils
C14 Agr. Chemistry	C14 Agr. Chemistry	C14 Agr. Chemistry
EB10 Accounting	EB10 Accounting	EB10 Accounting
H10 ~~MP15 Physics~~	H10 ~~MP15 Physics~~	H10 ~~MP15 Physics~~

An additional subject, AS29 Farm Practices, is optional for all students.

Semester B		
AE15 Oil Hydraulics	AE15 Oil Hydraulics	AE15 Oil Hydraulics
AE19 Technical Drawing	AE19 Technical Drawing	AE19 Technical Drawing
AE20 Shopwork Practices	AE20 Shopwork Practices	AE20 Shopwork Practices
EB11 App. Acct. & Taxation	EB11 App. Acct. & Taxation	EB11 App. Acct. & Taxation
MP15 ~~H10 Technical Writing~~	MP15 ~~H10 Technical Writing~~	MP15 ~~H10 Technical Writing~~
MP14 Computational Methods	MP14 Computational Methods	MP14 Computational Methods
YEAR II		
Semester C		
AE14 Surveying	AE14 Surveying	AE14 Surveying
AE30 Farm Machinery	AE30 Farm Machinery	AE30 Farm Machinery
AE32 Farm Buildings	AE32 Farm Buildings	AE32 Farm Buildings
AS34 Animal Nutrition	PS40 Field Crops I	EB12 Macroeconomics
B18 Animal Genetics	PS53 Vegetable Production	EB40 Marketing Practices
B20 Animal Physiology	Humanities Subject	EB240 Farm Management
Semester D		
AE34 Farm Tractors	AE34 Farm Tractors[1]	AE34 Farm Tractors
AE36 Controls & Processing[1]	AE36 Controls & Processing[1]	AE36 Controls & Processing[1]
AE45 Soil & Water Mgt.[1]	AE45 Soil & Water Mgt.[1]	AE45 Soil & Water Mgt.[1]
AE47 Project/Seminar	AE47 Project/Seminar	AE47 Project/Seminar
AS50 Dairy Production[1, 2]	PS41 Field Crops II	EB13 Microeconomics
Humanities Subject	PS49 Potato Production	Humanities Subject

[1] AE38 Horticultural Engineering may be substituted if timetable permits.
[2] Another Livestock Production course may be substituted if timetable permits.

A student who has successfully completed the first year with a good study record may apply for consideration to pursue a two-year program in Farming Technology or Agricultural Engineering Technology.

A student who has successfully completed the two years of Agricultural Mechanization with a good study record may apply for consideration to follow a one-year program in Agricultural Technology.

Animal Science

The Nova Scotia Agricultural College offers a two-year course in Animal Science to help students prepare themselves for careers on farms as animal specialists or as animal science technicians in farm-related services and industries.

Academic Entrance Requirements

High school graduation with three university preparatory courses in English, two in Mathematics, one in Biology, and one in Chemistry, or satisfactory completion of the pre-tech semester is required.

Syllabus for Animal Science with minor in

Agricultural Business

YEAR I

Semester A

AS34 Animal Nutrition
B18 Animal Genetics
B20 Animal Physiology
~~C12 Introductory Soils~~ H10
C14 Agr. Chemistry
EB10 Accounting

Agricultural Mechanization

AE12 Drafting[3]
AS34 Animal Nutrition
B18 Animal Genetics
B20 Animal Physiology
~~C12 Introductory Soils~~ H10
C14 Agr. Chemistry

An additional subject, AS29 Farm Practices, is required of all students.

Semester B

AS33 Applied Animal Physiology
AS35 Feeds & Feeding
AS44 Animal Breeding
~~C13 Soil Management for Crop Production~~ Humanities
EB11 App. Acct. & Taxation
MP14 Computational Methods

AS33 Applied Animal Physiology
AS35 Feeds & Feeding
AS44 Animal Breeding
~~C13 Soil Management for Crop Production~~ Humanities
MP14 Computational Methods
MP15 Physics[3]

YEAR II

Semester C

AS47 Animal Health
AS53 Poultry Production[1]
EB240 Farm Management
~~H10 Technical Writing~~ AS45
PS40 Field Crops I
~~Humanities Subject~~ C12 Intro Soil

AE32 Farm Buildings[3,4]
AS47 Animal Health
AS53 Poultry Production[1]
~~H10 Technical Writing~~ AS45
PS40 Field Crops I
~~Humanities Subject~~ C12 Intro Soil

Semester D

~~AS45 Project/Seminar~~ C13 Soil Mgt. for Crop Pdn.
AS50 Dairy Production[2]
AS51 Beef & Sheep Production[2]
AS52 Swine Production[2]
EB41 Business Law
PS41 Field Crops II

AE36 Controls & Processing[3,4]
~~AS45 Project/Seminar~~ C13 Soil Mgt. for Crop Pdn.
AS50 Dairy Production[2]
AS51 Beef and Sheep Production[2]
AS52 Swine Production[2]
PS41 Field Crops II

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[1]May substitute AS55 Fur Production or AS54 Horse Production if timetable permits.
[2]May substitute AS37 Lab Animal Care for one of these if timetable permits.
[3]May substitute MP15 Physics, AE15 Oil Hydraulics, AE34 Farm Tractors, and AE30 Farm Machinery for these four subjects if timetable permits.
[4]May substitute AE14 Surveying and AE45 Soil & Water Management if timetable permits.

A student who has successfully completed the first year with a good study record may apply for consideration to follow a two-year program in Farming Technology.

A student who has successfully completed the two years of Animal Science with a good study record may apply for consideration to follow a one-year program in Agricultural Technology.

Farm Equipment

The Nova Scotia Agricultural College offers a two-year course to help students prepare themselves for careers in farm equipment dealerships involving the adjustment, maintenance, and repair of farm equipment.

Academic Entrance Requirements

High school graduation with three university preparatory courses in English, two in Mathematics, one in Biology, and one in Chemistry, or a satisfactory completion of the pre-tech semester is required.

Syllabus

YEAR I

Semester A

AE12 Drafting
AE13 Shopwork
~~C12 Introductory Soils~~ H20 Tech
C14 Agr. Chemistry
EB10 Accounting
MP15 Physics

Semester B

AE15 Oil Hydraulics
AE20 Shopwork Practice
AE27 Welding
EB11 App. Acct. & Taxation
EB47 ~~H10 Technical Writing~~
MP14 Computational Methods

Spring Program

AE23 Farm Equipment Dealership—6 weeks

YEAR II

Semester C

AE30 Farm Machinery
AE48 Shop Management
AE49 Electrical Systems
AE63 Tractor Power
C12 ~~Humanities~~
PS30 Plant Science

Semester D

AE47 Project/Seminar
AE39 Tractor Overhaul
AE40 Field Equipment Overhaul
AE68 Farmstead Equipment Overhaul
AS30 Animal Science
~~EB41 Business Law~~
— Humanities —

Plant Science

The Nova Scotia Agricultural College offers a two-year course in Plant Science to help students prepare themselves for careers on farms as plant specialists or as plant science technicians in farm-related services and industries.

Academic Entrance Requirements

High school graduation with three university preparatory courses in English, two in Mathematics, one in Biology, and one in Chemistry, or satisfactory completion of the pre-tech semester is required.

Syllabus for Plant Science with minor in

Agricultural Business

YEAR I

Semester A

C12	Introductory Soils
C14	Agr. Chemistry
EB10	Accounting
H10	Technical Writing
MP15	Physics
PS40	Field Crops I

An additional subject, AS29 Farm Practices, is optional for all students.

Semester B

B40	Plant Pathology
B41	Plant Physiology
C13	Soil Management for Crop Production
MP14	Computational Methods
PS10	Plant Science Skills
PS41	Field Crops II

YEAR II

Semester C

~~B13~~	~~Plant Identification~~
B43	Entomology
EB12	Macroeconomics
EB240	Farm Management
PS52	Plant Science Project
PS53	Vegetable Crops[1]

~~PS43 Small Fruit Crops.~~

Horticulture

AE14 Surveying
B43 Entomology
~~B13 Plant Identification~~

C12	Introductory Soils
C14	Agr. Chemistry
H10	Technical Writing
MP15	Physics
PS43	Small Fruit Crops

B40	Plant Pathology
B41	Plant Physiology
C13	Soil Management for Crop Production
MP14	Computational Methods
PS10	Plant Science Skills
PS44	Tree Fruit Crops

~~AE14~~	~~Surveying~~
~~B43~~	~~Entomology~~
PS39	Greenhouse Management[3]
PS45	Turf Production I[3]
PS60	Landscape Plant Material I[3]
PS52	Plant Science Project

PS 53 Veg. Crops[3]
B43 Entomology.

Animal Science

B43 Entomology
~~B13 Plant Identification~~

C12	Introductory Soils
C14	Agr. Chemistry
H10	Technical Writing
MP15	Physics
PS40	Field Crops I

AE15	Oil Hydraulics
B40	Plant Pathology
B41	Plant Physiology
C13	Soil Management for Crop Production
PS10	Plant Science Skills
PS41	Field Crops II

AE30	Farm Machinery
AS34	Animal Nutrition
B18	Animal Genetics
B20	Animal Physiology
~~B43~~	~~Entomology~~
PS52	Plant Science Project

– Hemmitis.

Semester D

B46	Weed Science	AE38	Hort. Engineering	AE34	Farm Tractors
EB11	App. Acct. & Taxation	B46	Weed Science	AS51	Beef and Sheep Production
EB13	Microeconomics	EB41	Business Law	B46	Weed Science
EB41	Business Law	PS46	Turf Production II	PS49	Potato Production
PS49	Potato Production	PS61	Landscape Plant Material II	PS76	Plant Products Physiology
	~~Humanities Subject~~		Humanities Subject		~~Humanities Subject~~

PS44 Tree Fruits

PS42 Cash Crops & Seed Prod.

PS47 for Woodlot mgr.

[1] May substitute ~~PS43 Small Fruit Crops~~ if timetable permits.
[2] ~~May substitute PS44 Tree Fruit Crops if timetable permits.~~
[3] May substitute other Plant Science Production subject if timetable permits.
[4] May substitute PS49 Potato Production, PS76 Plant Products Physiology, and AS30 Animal Science if timetable permits.
[5] May substitute other Animal Science Production subject if timetable permits.
[6] ~~May substitue PS42 Cash Crops & Seed Production for one of these subjects if timetable permits.~~

A student who has successfully completed the first year with a good study record may apply for consideration to follow a two-year program in Farming Technology.

A student who has successfully completed the two years of Plant Science with a good study record may apply for consideration to follow a one-year program in Agricultural Technology.

Recording crop production data. Cox Institute, NSAC.

Technology Courses for High School Graduates

The Nova Scotia Agricultural College offers specialized courses to help persons prepare themselves for careers associated with laboratory techniques in Biology and Chemistry, and with the practice of Landscape Horticulture. These studies respectively lead to a Diploma of Technology (Dipl. T.) in Chemistry, a Diploma of Technology (Dipl. T.) in Biology, and a Diploma of Technology (Dipl. T.) in Landscape Horticulture.

Entrance Requirements for Biology, Chemistry Laboratory Technology, and Landscape Horticulture Technology

A candidate for a Diploma of Technology may qualify for admission to the two-year courses in one of two ways:

— completion of Grade XII (N.S. 441 or 541, N.B. 122, P.E.I. Academic XII) or its equivalent with marks of not less than 60% in English, Mathematics, Chemistry, and Biology;

— completion of degree or technical subjects in other post-high school courses.

Accepted students are asked to complete and submit medical information on the form provided.

Each candidate must be available for an interview when requested.

Accepted candidates will follow the syllabus for the course in which they have registered. Descriptions of each individual subject are found in the section of the Calendar beginning on page 64.

Biology Laboratory Technology

The Nova Scotia Agricultural College offers a course to help students prepare for work as biology laboratory technologists with agricultural and biological research agencies, university biology departments, food processing and distribution companies, environmental control services, quality control and testing services, or with product development programs.

Academic Entrance Requirements

High school graduation with completed Grade XII (N.S. 441 or 541, N.B. 122, P.E.I. Academic XII) or its equivalent with marks not less than 60% in English, Mathematics, Chemistry, and Biology is required.

Syllabus

YEAR I

Semester A

~~B44~~ Microbiology
B70 Microtechniques I
B100 The Plant Kingdom
C40 Chemistry Laboratory Techniques I
C42 Organic Chemistry
H10 Technical Writing

Semester B

~~B45 Applied Microbiology~~
B71 Microtechniques II
B110 The Animal Kingdom
C41 Chemistry Laboratory Techniques II
C43 Bio-Organic Chemistry
MP70 Basic Statistics

YEAR II

Semester C

AS34 Animal Nutrition
~~B13 Plant Identification~~
B18 Animal Genetics
B20 Animal Physiology
B43 Entomology
C12 Introductory Soils
C77 Instrumentation

Semester D

AS37 Laboratory Animal Care
B40 Plant Pathology
B41 Plant Physiology
B42 Biological Techniques
B46 Weed Science
MP220 Computer Science

Chemistry Laboratory Technology

The Nova Scotia Agricultural College offers a course to help students prepare for work as Chemistry Laboratory Technologists with agricultural and chemical research agencies, university chemistry departments, food processing and distribution companies, environmental control services, quality control and analysis services, or with product development programs.

Academic Entrance Requirements

High school graduation with completed Grade XII (N.S. 441 or 541, N.B. 122, P.E.I. Academic XII) or its equivalent with marks not less than 60% in English, Mathematics, Chemistry, and Biology is required.

Syllabus

YEAR I

Semester A

C40 Chemistry Laboratory Techniques I
C42 Organic Chemistry
C45 Qualitative Analysis
C100 Chemistry (lectures only)
MP40 Electricity and Electrical Measurements
MP100 Calculus and Analytical Geometry I

Semester B

C41 Chemistry Laboratory Techniques II
C43 Bio-Organic Chemistry
C44 Instrumentation I
C46 Quantitative Analysis
MP70 Basic Statistics
AS100 Introductory Animal Science

YEAR II

Semester C

C70 Instrumentation II
C75 Food Chemistry I
C79 Project Organization
C300 Physical Chemistry
MP41 Light and Optics
C220 Soil Science *or* PS100 Principals of Crop Production[1]

Semester D

C71 Instrumentation III
C73 Laboratory Organization and Management
C76 Food Chemistry II
C80 Project Implementation
C310 Radiotracers in Agriculture
MP220 Computer Science

[1]Another suitable Agriculture subject may be substituted if the timetable permits.

Landscape Horticulture Technology

The Nova Scotia Agricultural College offers a two-year course to help students prepare themselves for careers with landscaping firms, planning agencies, recreational parks, institutions, or in self-employed roles as landscape horticultural technologists.

Academic Entrance Requirements

High school graduation with a completed Grade XII (N.S. 441 or 541, N.B. 122, P.E.I. Academic XII) or its equivalent with marks not less than 60% in English, Mathematics, Chemistry, and Biology is required.

Syllabus

YEAR I

Semester A

AE12 Drafting
~~B13 Plant Identification~~ B265 Pl Tax.
C12 Introductory Soils
PS45 Turf Production I
PS50 Landscape Horticulture I
PS55 Nursery Crops
PS60 Landscape Plant Materials

Semester B

AE38 Horticultural Engineering
B40 Plant Pathology
B41 Plant Physiology
C13 Soil Management for Crop Production
PS46 Turf Production II
PS51 Residential Landscape Design
PS61 Landscape Plant Materials II

Spring Session

PS70 Landscaping Techniques—6 weeks

YEAR II

Semester C

AE14 Surveying
B43 Entomology
EB10 Accounting
PS39 Greenhouse Management
PS71 Arboriculture
PS73 Landscape Horticulture II

Semester D

AE45 Soil and Water ~~Management~~
EB11 Applied Accounting and Taxation
EB41 Business Law
H140 Personnel Management
H325 Technology in Agricultural Communication
PS72 Landscape Maintenance
PS74 Landscape Design and Construction
PS75 Landscape Horticulture Project

Technology Courses for Technician Students

Agricultural Technology

The College also offers courses designed to help technicians become more proficient in their chosen fields of agricultural endeavour. These studies lead to a Diploma of Technology (Dipl. T.) in Agricultural Technology.

A person with a NSAC Technician Diploma or with equivalent standing may apply to continue studies in the Technical Program. A combination of courses and projects may be selected to help prepare for a chosen field of agricultural endeavour.

The program of study must be developed with the Dean of Vocational and Technical Education. A Technology Project course (AE90, AS90, EB90, or PS90) is to be included and must first be approved by the corresponding department. In doing so, the department will consider the appropriateness and feasibility of the specific project idea, as well as the student's ability to pursue independent project study, based on performance in the previous technician or equivalent programs. Other subjects may include those normally taken by other technical or degree students, providing all subject prerequisites are met.

A Diploma of Technology (Dipl.T.) in Agricultural Technology will be awarded to the student who satisfactorily completes twelve approved courses, including a Technology Project course, and who earns an average of at least 60%. A Diploma with honours is awarded if an average of at least 75% is attained and a mark of at least 75% is attained on the Technology project. A Diploma with high honors is awarded if an average of at least 80% is attained and a mark of at least 80% is attained on the Technology project.

Agricultural Engineering Technology

The Nova Scotia Agricultural College offers a two-year course for students who wish to achieve high levels of proficiency in Agricultural Engineering Technology.

Students who have completed or are completing the first year of the Agricultural Mechanization or Farm Equipment Technician course, and have a good study record, may apply for admission to the Agricultural Engineering Technology course.

Syllabus

Year I

Semester A

AE48 Shop Management
AE49 Electrical Systems
AE63 Tractor Power
H140 Personnel Management
MP100 Calculus and Analytical Geometry I
PS100 Plant Science

Semester B

AE27 Welding[1]
AE36 Controls & Processing
AS100 Animal Science
EB110 Economics of Agriculture
~~MP220 Computer Science~~ MP 10 Skills.
MP105 Calculus and Analytical Geometry II

Summer Session

AE260 Surveying—2 weeks

YEAR II

Semester C

~~AE79 Technology Project~~
~~AE62 Engineering Measurements~~ AE318 Agr Eng Measurements Controls.
AE230 Agricultural Mechanization
AE335 Material Handling and Processing
AE340 Soil and Water Engineering
2 Approved Electives

Semester D

~~AE80 Technology Report~~ AE90 Agr Eng Proj.
AE220 Agricultural Structures
AE345 Energy in Agriculture
H325 Technology in Agricultural Communications
MP220 Computer Science
1 Approved Elective

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[1]If students have completed AE27, but not AE19, then AE19 will be required during the semester.

Farming Technology

The Nova Scotia Agricultural College offers a course to help students prepare for a career as a farmer on a self-employed basis, or as a manager on a commercial farm.

Students wishing to pursue studies leading to a Diploma of Technology in Farming register for the first year of the Agricultural Business, Animal Science, Plant Science, or Agricultural Mechanization Technician course. After successful completion of the first year, their applications are considered for the Farming Technology course. Students with equivalent prerequisites from other college programs can also be considered. If accepted, the student's program of study includes a minimum of three semesters of prescribed courses, ~~and eleven~~ four months of ~~on-farm training~~ spread for harvest and seven months of the on-farm training ~~is~~ under the direction of a farming instructor.

Entrance Requirements

Satisfactory completion of Year One in the Agricultural Business, Agricultural Mechanization, Animal Science, or Plant Science Technician course and a satisfactory selection interview are required.

Syllabus

Four months of approved farm experience must be completed before Semester A.

YEAR I Required Subjects

Semester A

AS29 Farm Practices
C12 Introductory Soils
C14 Agricultural Chemistry
EB10 Accounting
EB40 Marketing Practices
EB340 Farm Management I
PS40 Field Crops I

Semester B

AE15 Oil Hydraulics
AE34 Farm Tractors
C13 Soil Management for Crop Production
EB11 App. Acct. & Taxation
EB220 Production Economics
H10 Technical Writing
MP14 Computational Methods
MP15 Physics
PS41 Field Crops II

On-farm training—a seventh-month contract is developed between the College, the student, and a training farmer, following the first year of the program. This is considered Semester C of the program.

YEAR II Required Subjects

Semester D

EB42 Applied Farm Management
EB72 Farm Project

All students accepted into the course must have 12 credits based on the work of the previous year.

In order to satisfactorily complete the requirements for a Diploma of Technology in Farming, a student must complete all required subjects, the on-farm training, and thirteen of the approved electives, and fulfill the experience requirement.

Approved Electives

Semester A

AE12 Drafting
AE13 Shopwork
AE14 Surveying
AE30 Farm Machinery
AE32 Farm Buildings
AS34 Animal Nutrition
AS47 Animal Health
AS53 Poultry Production
AS54 Horse Production
AS55 Fur Production
~~B13 Plant Identification~~
B18 Animal Genetics
B20 Animal Physiology
B43 Entomology
B47 Farm Woodlot Management
EB12 Macroeconomics
PS39 Greenhouse Management
PS43 Small Fruit Crops
PS53 Vegetable Crops
Humanities Subject

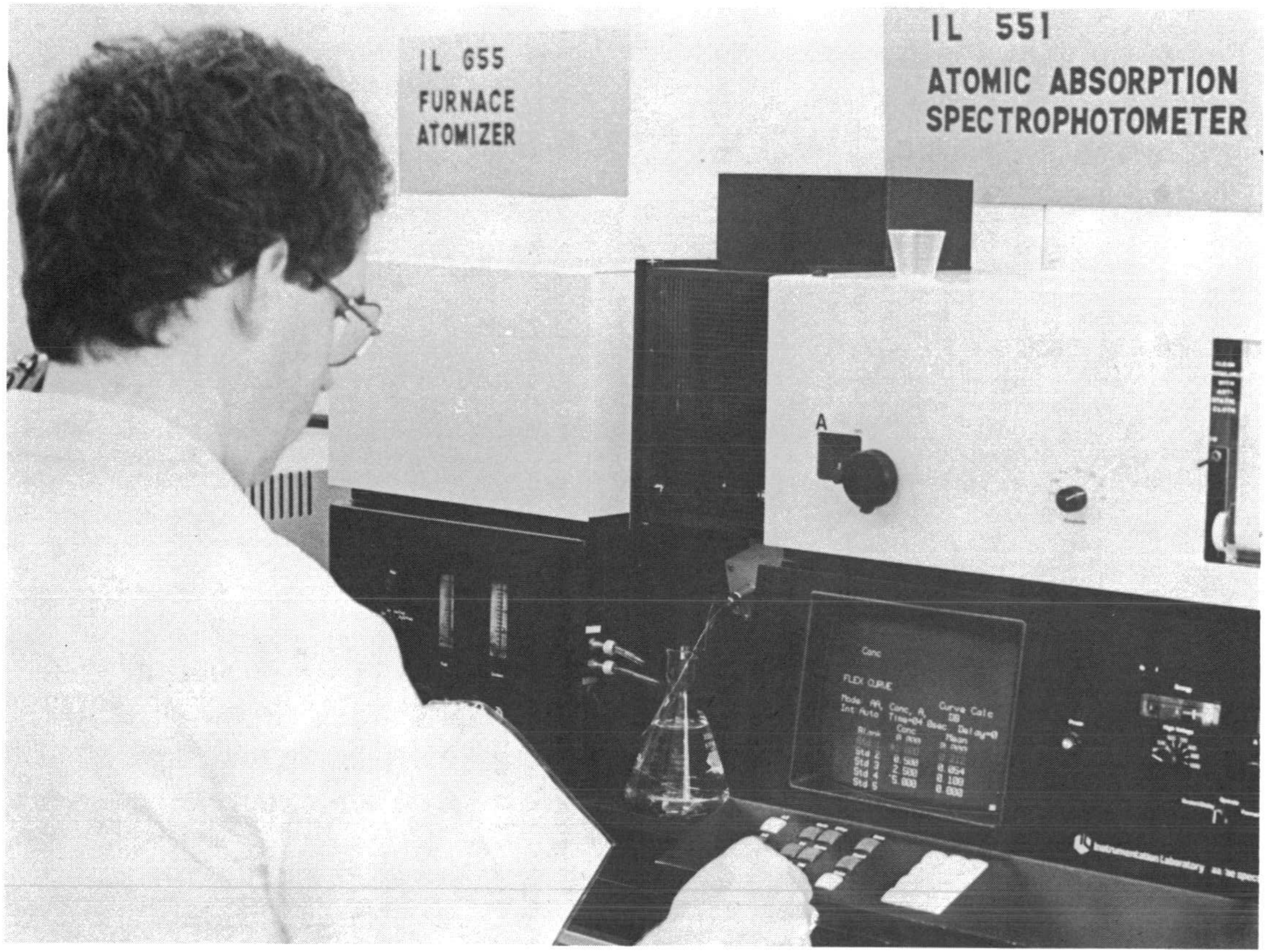
Semester B or D

AE20 Shopwork Practices
AE36 Controls & Processing
AE38 Horticultural Engineering
AE45 Soil and Water Management
AS33 Applied Animal Physiology
AS35 Feeds & Feeding
AS44 Animal Breeding
AS50 Dairy Production
AS51 Beef & Sheep Production
AS52 Swine Production
B40 Plant Pathology
B41 Plant Physiology
B46 Weed Science
EB13 Microeconomics
EB41 Business Law
PS10 Plant Science Skills
PS42 Cash Crops & Seed Production
PS44 Tree Fruit Crops
PS49 Potato Production
PS76 Plant Products Physiology

Qualification for all Diplomas of Technology

Students who complete all the requirements with no mark below 50% of the maximum mark obtainable will be granted a Diploma of Technology (Dipl. T.).

A high honours diploma will be awarded to a student who has attained an average of at least 80%, and an honours diploma to one who has attained an average of at least 75%.



Chemistry Laboratory, NSAC

Engineering Laboratory, NSAC

Description of Subjects

The subject descriptions are grouped according to discipline and are in alphabetical and numerical order.

The Faculty reserves the right to make any necessary revisions or additions.

Agricultural Engineering

AE 12: **Drafting**
Instructor: **Prof. Cunningham**

Designed to help the student become proficient in this field. This is accomplished by practice printing, the use of instruments and freehand sketches, or orthographic, oblique, and isometric drawings. Blueprint reading and tracing are also introuced.

Fall semester—1 lec and 4 labs per week.

AE 13: **Shopwork**
Instructors: **Messrs. Burr, Hampton, and Bhola**

The selection, operation, and maintenance of workshop tools, including the power grinder, drill press, fly press, metal- and wood-cutting bandsaws, iron worker, metal bender, squaring shears, box and pan and cornice brake, forming rolls; and of woodworking equipment such as: table saw, jointer, thicknesser, radial arm saw, wood lather, etc.; also use of portable wood- and metalworking tools. Students are introduced to the operation of a metal lathe and milling machine. Considerable welding is done using electric, acetylene, and spot welding machines. Some practice is given on the hard-to-weld metals such as aluminum and magnesium alloys. Identification and heat treatment of metals are also studied.

Fall semester—2 lecs and 4 labs per week.

AE 14: **Surveying**
Instructor: **To be announced**

An introduction to surveying principles, methods, and recording techniques. Fall students are given lectures and assignments to assist in understanding the principles employed in surveying and they practice these during the labs by conducting various surveying exercises. Practice is gained in proper use of surveying instruments—tape, level, and transit—through exercises involving measurements of horizontal and vertical distances and angles. These include chaining, stadia, benchmark, profile and contour leveling, triangulation and traverse exercises, and construction surveying, with emphasis on their application to farm construction projects.

Fall semester—2 lecs and 4 labs per week.

AE 15: **Oil Hydraulics**
Instructor: **Prof. Rifai**

Introduction to pressure and flow concepts of oil as applied to hydraulic systems. Pressure and flow theory and principles of pump, actuator, and valve operations are discussed. Open centered, closed centered, and pilot-operated hydraulic systems, hydrostatic transmission, power steering, hydraulic motors, and other accessories found on farm machinery are studied. Selection, maintenance, repair procedures and standards are introduced.

Winter semester—3 lecs and 2 labs per week.

AE 19: **Technical Drawing**
Instructor: **Prof. Cunningham**
Prerequisite: **AE 12**

Includes pictorial drawings and sketches, both architectural and mechanical. Practice is obtained in drawing sections, developing irregular shapes, preparing construction drawings for farm buildings, and measuring areas using various methods, including planimeters. Throughout the course, students are encouraged to develop their own style, building on basics gained in drafting. They also make their own blueprints to determine the effect of varying line weights and drafting aids.

Winter semester—1 lec and 4 labs per week.

AE 20: **Shopwork Practices**
Instructors: **Messrs. Burr, Hampton, and Bhola**
Prerequisite: **AE 13**

Consists of individual projects undertaken by students, using the skills acquired in shopwork. These projects are selected by the student from prescribed projects and may be of metal or wood or a composite, utilizing the shop equipment and machinery in the metalworking, welding, and woodworking shops. Projects are agriculturally oriented.

Winter semester—2 lecs and 4 labs per week.

AE 23: **Farm Equipment Dealership**
Instructor: **Prof. Cunningham**

A spring course during which the student studies and works with a selected farm equipment dealer-instructor. Instruction covers all aspects of the farm equipment dealership operation. Students are rated on a specific list of skills and procedures.

Spring term—6 weeks.

AE 27: **Welding**
Instructors: **Messrs. Burr and Hampton**
Prerequisite: **AE 13**

Principles and practices of oxyacetylene and electric arc welding, cutting and brazing of cast iron and steel in flat, vertical, and overhead positions. Safety precautions, electrode selection, welding and spot welding machine design are investigated. Demonstrations and practice include ferrous and nonferrous welding. Weld strength may be determined by the use of a modern tensile testing machine.

Winter semester—2 lecs and 4 labs per week.

AE 30: **Farm Machinery**
Instructor: **Prof. Rifai**
Prerequisite: **AE 15**

Operating principles of the basic types of farm machinery. Tilling, planting, chemical and fertilizer application, harvesting equipment and power transfer are studied. Functional requirements and economic analysis of machinery selection are covered. Laboratory periods emphasize adjustment, calibration, and maintenance of the machinery.

Fall semester—2 lecs and 4 labs per week.

AE 32: **Farm Buildings**
Instructor: **Prof. Cunningham**
Prerequisites: **AE 12** MPIS

Deals with construction and layout of farm buildings and includes the study of construction techniques and design considerations. Included are such topics as materials, space requirements and building layout, structural requirements, and insulation and ventilation. Students are required to prepare drawings of building features and components, as well as material lists from construction drawings, and to become familiar with standards of all classes of farm buildings through use of codes of recommended building practice.

Fall semester—2 lecs and 4 labs per week.

AE 34: **Farm Tractors**
Instructor: **Prof. Rifai**
Prerequisite: **AE 15**

Introduction to the principles of power generation and transmission as applied to farm tractors. Two and four stroke gasoline and diesel engines are studied and compared. Operation principles and components of transmissions are discussed, including gear types and ratios, lubrication, auxiliary transmissions, hydraulic drives and differentials. Basic concepts of performance testing, maintenance, and operation are introduced.

Winter semester—2 lecs and 4 labs per week.

AE 36: **Controls and Processing**
Instructor: **To be Announced**
Prerequisite: **AE 12**

The study of AC and its application in the processing and handling of various farmstead materials. Students gain knowledge of basic wiring, special switches and controls, AC motor operation, and electric heaters, enabling them to identify troubles during critical situations and to correct them. Processing and handling methods and the related equipment are studied. The area of materials handling is explored through various problems and assignments, and field visits are arranged for students to view various related materials handling equipment.

Winter semester—2 lecs and 4 labs per week.

AE 38: **Horticultural Engineering**
Instructor: **To be announced**

Small gasoline engine structure and operating theory with emphasis placed on maintenance of the engine wherever possible. This course includes basic hydraulic theory emphasizing the operation of common systems in use today. Horticultural machinery selection, operation, and adjustments are discussed. The principles of mixing, placing, and curing concrete, along with the use of iron and wood for fences, walls, and furnishings, are taught with regard to the importance of durability.

Winter semester—2 lecs and 4 labs per week.

AE 39: **Tractor Overhaul**
Instructor: **Prof. Desir**
Prerequisite: **AE 63**

Complete diagnosis, cost estimating, and overhaul of tractor engines and transmissions. The theory and knowledge gained in previous courses are used along with overhaul techniques introduced in this course.

Winter semester—1 lec and 6 labs per week.

AE 40: **Field Equipment Overhaul**
Instructor: **Prof. Desir**
Prerequisite: **AE 30**

Experience in overhauling of field equipment is given by developing a system of inspection, estimating repairs and parts required, and developing probable cost. Overhauling of equipment is carried out and appropriate records and tests are made.

Winter semester—1 lec and 6 labs per week.

AE 45: **Soil and Water Management**
Instructor: **Prof. Havard**
Prerequisite: **AE 14**

Fundamentals of soil and water engineering with application to agricultural and recreational lands. The course deals with rudimentary hydrology, soil erosion, drainage systems, irrigation systems, marshland improvement, and other associated topics. Laboratory periods cover design problems, project field labs, and tours.

Winter semester—2 lecs and 4 labs per week.

AE 47: **Project/Seminar**
Coordinator: **Prof. Adams**

Presentation of a seminar and written report on an approved agricultural mechanization or farm equipment topic. Lectures review method of presentation and preparation of selected topics. Projects are under the supervision of selected staff members.

Winter semester—1 lec per week and labs to be arranged.

AE 48: **Shop Management**
Instructor: **Prof. Cunningham**

A study of the management of a farm equipment dealership. Topics include organizational structure, responsibilities of each level of management and of each department within the dealership, communication within each department, with each other, and with the customer, and controls involved, including work orders, time records, and part inventory control.

Fall semester—3 lecs and 2 labs per week.

AE 49: **Electrical Systems**
Instructor: **Prof. Desir**

Electric circuits and components on engines and tractors are studied. Basic theory is given and test equipment is used for checking electrical systems.

Fall semester—2 lecs and 4 labs per week.

AE 63: **Tractor Power**
Instructor: **Prof. Desir**
Prerequisite: **AE 15**

The theory and types of diesel and gasoline engines and the principles and theory of power development and transmission in farm tractors are studied. Small engines are included. Test equipment is used during the lab work.

Fall semester—2 lecs and 4 labs per week.

AE 68: **Farmstead Equipment Overhaul**
Instructor: **Prof. Cunningham**
Prerequisite: **AE 15**

Equipment used within and around buildings is overhauled after first analyzing the individual equipment and establishing the repairs and parts required with the probable costs.

Winter semester—1 lec and 6 labs per week.

AE 79: **Technology Project**
Coordinator: **Prof. Adams**

This project will consist of a comprehensive study of a specific topic of agricultural engineering in which the student is interested or has experience. The project should be technical in nature and may consist of testing, developing, examining, or an in-depth literature study.

A written synopsis of the proposed project will be presented to the supervising staff member before the project is started.

Fall semester —1 lec per week and labs to be arranged.

AE 80: **Technology Report**
Coordinator: **Prof. Adams**

The report on the technology project previously completed will account for the work done and show the knowledge and understanding required by the students. Factual results, observations, and conclusions will be included in a prescribed format. A seminar on the project will be presented when the report is complete.

Winter semester—1 lec per week and labs to be assigned.

AE 82: **Engineering Measurements**
Instructor: **To be Announced**

Introduces measurement fundamentals and examines techniques for measuring and controlling pressure, stress, strain, temperature, humidity, etc. Laboratory work will identify agricultural engineering measuring problems and instrumentation and measurements will be carried out in conditions experienced in agriculture. Various measuring instruments will be used, including computers and microprocessors, for measurement and control applications.

Fall semester—3 lecs and 3 labs per week.

Text— Moore, *Basic Instrumentation Lecture Notes and Study Guide. Measurement Fundamentals* (2nd edition).

AE 90: **Technology Project**
Coordinator: **Prof. Adams**

This project provides an opportunity for the students to study in detail an Agricultural Engineering topic of special interest. This must be a new topic, but may build on other aspects of the study program. The student pursues studies under a project supervisor. The project plan developed with the advisor must include the purpose of the study, the procedures and materials used, a time schedule for the work involved, the method in which the information will be collected, the way in which the comparisons and conclusions will be developed, and the format for the final report. Both a written and oral report will be required. The mark is normally reported in the student's final semester, but studies should commence early in the first semester.

Time to be announced.

AE 100: **Graphics and Projection**
Instructor: **Prof. Adams**

Freehand sketching and instrument drawing are used to explore the fundamental principles of projection and to apply these to the solution of problems of orthographic projection in descriptive geometry as required by the design process. Emphasis is placed on the application of graphical techniques to the solution of engineering problems.

Fall semester—2 lecs and 4 labs per week

Text—Levens, *Graphics-Analysis and Conceptual Design.*

AE 110: **Statics**
Instructor: **Prof. Havard**

Deals with forces acting on bodies at rest and three dimensions. Concepts of equilibrium and equivalent force systems are used to analyze structures, frames, and machines. Friction, centroids, and moments of inertia are introduced to develop the student's ability to analyze and solve problems in a logical manner.

Fall semester—3 lecs and 3 labs per week.

Text—Beer and Johnson, *Vector Mechanics for Engineers.*

AE 205: **Graphics and Design**
Instructor: **Prof. Adams**
Prerequisite: **AE 100**

Graphical techniques are applied to vector analysis of design problems and to the presentation of design data. Design practices are investigated and used in student projects aimed at developing creativity in the design process.

Winter semester—1 lec and 4 labs per week.

Text—Levens, Graphics-Analysis and Conceptual Design.

AE 220: **Dynamics I**
Instructor: **Prof. Desir**
Prerequisite: **AE 110**

Provides the background for describing particle and line motion. This includes relative, rectilinear, curvilinear, and rotational motion of particles. Force, impulse, momentum, and work methods of analysis are introduced.

Fall semester—3 lecs and 3 labs per week.

Text—Beer and Johnson, *Vector Mechanics for Engineers.*

AE 225: **Dynamics II**
Instructor: **Prof. Rifai**
Prerequisite: **AE 220**

A continuation of the dynamics of particles developed in AE 220 to apply to rigid bodies. Plane motion of rigid bodies is emphasized.

Winter semester—3 lecs and 3 labs per week.

Text—Beer and Johnson, *Vector Mechanics for Engineers.*

AE 230: **Agricultural Mechanization**
Instructor: **Prof. Rifai**

Crop production equipment, including tillage, application, and harvesting machinery, is studied as separate units and as part of the production system. Operating principles and design parameters are covered and machinery management and selection principles introduced.

Fall semester—3 lecs and 3 labs per week.

Text—Hunt, *Farm Power and Machinery Management.*

AE 235: **Agricultural Structures**
Instructor: **Prof. Adams**

An introduction to farmstead design, layouts and plans, environmental conditions, and functional requirements of structures for product storage and livestock. Construction methods and material standards are considered.

Winter semester—3 lecs and 3 labs per week.

Texts—*Canadian Farm Building Code.*
—*Midwest Plan Service Structures and Environment Handbook.*

AE 260: **Surveying**
Instructor: **Prof. Harvard**

An introduction to the use of surveying instruments and practices. Distance measurements, differential and profile leveling, and transit traverses are covered. Error calculating is introduced and principles of surveying for construction are developed.

2 weeks following winter semester.

Text—Kissan, *Surveying Practice.*

AE 310: **Thermodynamics**
Instructor: **Prof. Havard**

A study of the conservation of energy and mass in flow and non-flow systems and processes; application of the first and second laws in cycles using ideal gases and vapors, including the properties of liquids and vapors, processes and cycles, and energy balances.

Fall semester—3 lecs and 3 labs per week.

Text — Von Wylen and Sonnatog, *Fundamentals of Classical Thermodynamics,* S1 Version (2nd edition).

AE 315: **Strength of Materials**
Instructor: **Prof. Saxon**

Consists of the analysis of mechanical structures with respect to the loads applied and the resulting deformations. This permits the selection of materials with the required dimensions for the structures. Topics covered include centric loading, principal stresses, flexural loading, deflection of beams and shafts, torsional loading, and combined loadings.

Winter semester—3 lecs and 2 labs per week.

Text — Higdon, Ohlsen, Stiles, and Weese, *Mechanics of Materials* (3rd edition).

AE 335: **Material Handling and Processing**
Instructor: **To be announced**

Conception and operating principles of handling and processing equipment used on the farm. Characteristics, selection, and design are covered. Principles of system analysis and operation research are introduced.

Fall semester—2 lecs and 4 labs per week (first offered in 1984-85).

Text—Hall, *Processing Equipment for Agricultural Products,* AVI.

AE 340: **Soil and Water**
Instructor: **Prof. Harvard**

Fundamental hydrology related to soil and water products in agriculture. Design criteria for land drainage, land forming, land clearing, irrigation, and ditching. Special problems inherent to Atlantic agriculture are studied, such as marsh reclamation, erosion control practices, and stream bank stabilization.

Fall semester—3 lecs and 3 labs per week.

Text—Schwab et al., *Soil and Water Conservation Engineering.*

AE 345: **Energy in Agriculture**
Instructor: **To be announced**

Introduction to the world energy situation and use of energy in agriculture and food production. Production and conversion of energy in rural conditions. Energy use and conservation in field production and tractor operation, animal production, horticultural and greenhouse production, and in irrigation and water management practices.

Winter semester—3 lecs and 3 labs per week (first offered in 1984-85).

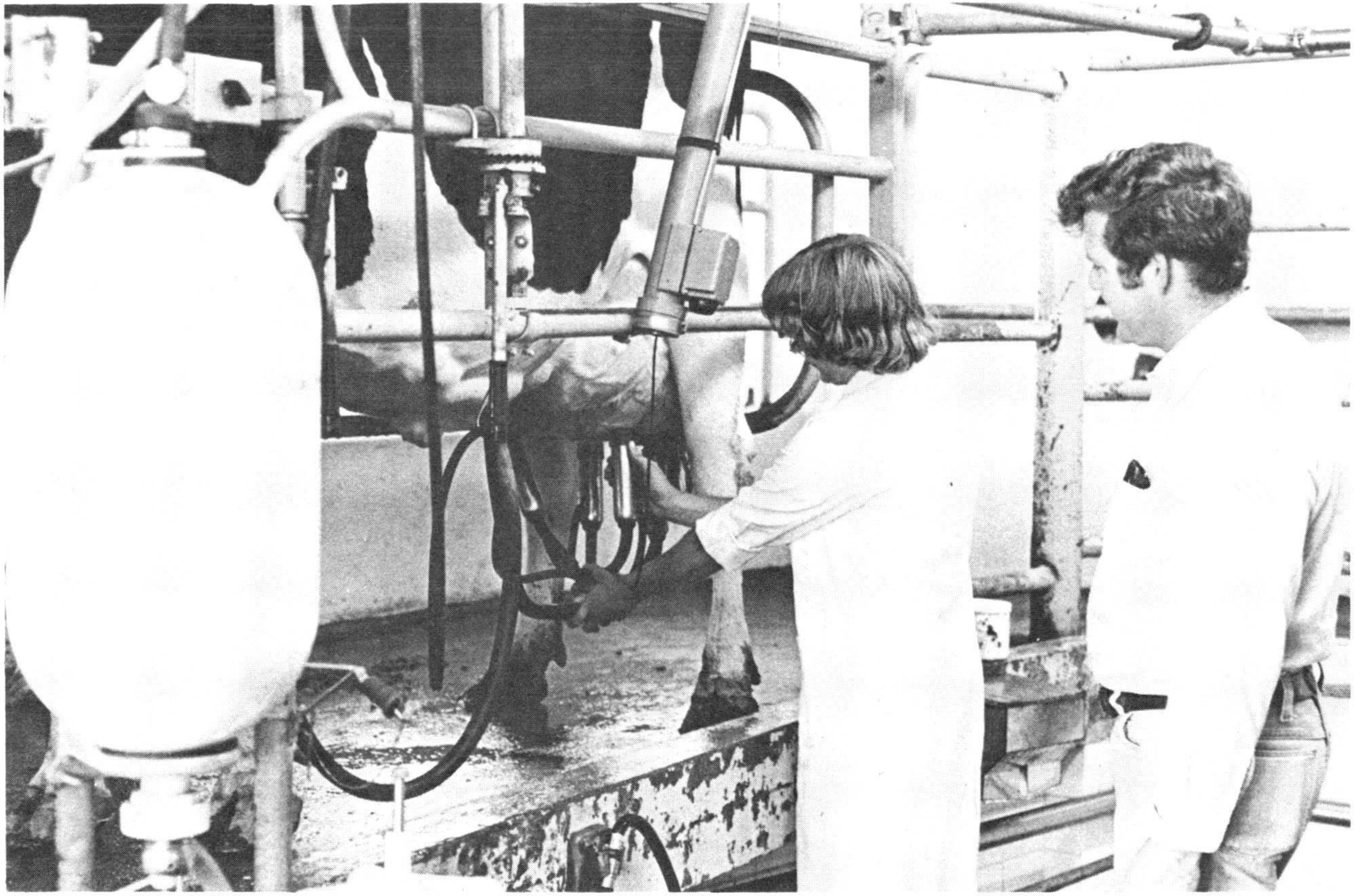
Text—Stout, *Energy for World Agriculture,* FAO.

AE 350: **Fluid Mechanics**
Instructor: **Prof. Havard**

A study of physical properties of liquids and gases, fluid statics, and fluid flow—including pressure, manometry, hydrostatic forces, stream lines and tubes, continuity, momentum, Bernoulli equation, flow measurement, viscous flow, and dimensionless numbers.

Winter semester—3 lecs and 2 labs per week.

Text—Streeter, *Fluid Mechanics.*



Techniques for milking high producers — Animal Science class, NSAC.

Animal Science

AS 29: **Farm Practices**
Coordinator: **Prof. Brennan**

Students are required to develop a basic understanding of, and competence in, tractor operation and in such other practices as:

- ~~operation of forage harvesting equipment~~
- operation of ~~tillage equipment~~ ploughing
- typing
- farm production recording
- milking
- farm animal restraint and handling
- welding
- operation and use of a chain saw
- ~~calibration of crop application equipment~~
- fencing
- field measurement and yield calculation.

These abilities may be learned on campus or on approved farms, and a final evaluation of each is recorded. The time for completing this course may be extended to cover more than one semester.

AS 30: **Animal Science**
Instructor: **Prof. Forbes**

Examines the place of livestock on Atlantic region farms with some emphasis on the integration of crops and livestock. Studies the needs of livestock for feeding, housing, and the maintenance of health, and includes an examination of management.

Winter semester—3 lecs and 2 labs per week.

AS 33: **Applied Animal Physiology**
Instructor: **Prof. Crober**

Deals with aspects of animal function of particular relevance to animal production. Subject areas include reproduction, growth and development, digestion and metabolism, and environmental physiology. Emphasis is placed on practical details.

Winter semester—2 lecs and 2 labs per week.

AS 34: **Animal Nutrition**
Instructor: **Prof. Anderson**

Covers the principles of the nutrition of animals. Emphasis is given to the needs and use of specific nutrients.

Fall semester—3 lecs per week.

Text—Maynard and Loosli, *Animal Nutrition.*

AS 35: **Feeds and Feeding**
Instructor: **Prof. Anderson**
Prerequisite: **AS 34**

Teaches the basic composition of feeds, the methods of feed formulation, and the use of nutrient requirements tables. Specialized feeding programs are discussed in relation to domestic animals.

Winter semester—2 lecs and 2 labs per week.

Text—Church, *Livestock Feeds and Feeding.*

AS 37: **Laboratory Animal Care**
Instructor: **Prof. Crober**
Prerequisites: **B 18, B 20, AS 34**

Designed to instruct the student in the proper care and handling of the laboratory animal. Characteristics and requirements of relevant species are reviewed. Additional techniques learned are those regularly used in research and teaching.

Winter semester—2 lecs and 2 labs per week.

AS 44: **Animal Breeding**
Instructor: **Prof. Mathewson**
Prerequisite: **B 18**

Deals with the principles and mechanisms of inheritance in farm animals, with the principles and methods of selection and breeding, and with the improvement programs currently employed with different farm species.

Winter semester—3 lecs per week.

Text—Dalton, *An Introduction to Practical Breeding.*

AS 45: **Project/Seminar**
Coordinator: **Prof. Mathewson**

Provides an opportunity to examine, in detail, specific agricultural topics of interest to the students. Projects are organized and carried out by the students under the supervision of various staff members. Students are required to start their projects at the beginning of the first semester.

Winter semester—2 labs (to be assigned) per week.

AS 47: **Animal Health**
Instructor: **Prof. Long**

Teaches the student about organismal and other causes of disease, how to recognize health and ill-health, and to understand the principles of disease prevention and treatment.

Fall semester—2 lecs and 2 labs per week.

AS 50: **Dairy Production**
Instructor: **Prof. Cock**
Prerequisites: **B 18, B 20, AS 34**

Deals with management of dairy cattle and goats, and the production of dairy products. Lectures and laboratories cover breeding, feeding, housing, marketing, processing, and economics.

Winter semester—3 lecs and 2 labs per week.

AS 51: **Beef and Sheep Production**
Instructor: **Prof. Mathewson**
Prerequisites: **B 18, B 20, AS 34**

Deals with the objectives and methods of producing beef cattle, sheep, and wool, both from an industry viewpoint and (at greater length) from the viewpoint of the individual producer. There is practical emphasis with visits to outside herds and flocks as well as use of the college animals.

Winter semester—3 lecs and 2 labs per week.

AS 52: **Swine Production**
Instructor: **Prof. Anderson**
Prerequisites: **B 18, B 20, AS 34**

A study of swine production both as an industry and as a major farm enterprise. The economic swine production unit is the framework for the course with studies in the practical aspects of reproduction, feeding, breeding, and management integrated to maximize the operation of the swine enterprise as a whole.

Winter semester—2 lecs and 2 labs per week.

Text — Pond and Maner, *Swine Production in Temperate and Tropical Environments.*

AS 53: **Poultry Production**
Instructor: **Prof. Crober**
Prerequisites: **B 18, B 20, AS 34**

Covers the principles and procedures relating to the production and marketing of poultry meat and eggs, including operation and management. Practical aspects are emphasized.

Fall semester—2 lecs and 2 labs per week.

AS 54: **Horse Production**
Instructor: **Prof. Forbes**
Prerequisites: **B 18, B 20, AS 34**

Includes both the theoretical and practical aspects of horse care. Lectures cover history, local industry, breeds and selection, nutrition, reproduction, health, and management. Laboratory work emphasizes the practical aspects of the lecture material.

Fall semester—2 lecs and 2 labs per week.

AS 55: **Fur Production**
Instructor: **To be anounced**
Prerequisites: **B 18, B 20, AS 34**

Covers the principles and procedures relating to the production and marketing of fur, including the operation and management of fur ranches in the Atlantic region. Emphasis is on practical aspects.

Fall semester—2 lecs and 2 labs per week.

AS 90: **Technology Project**
Coordinator: **Prof. Anderson**

This project provides an opportunity for the students to study in detail an Animal Science topic of special interest. This must be a new topic, but may build on other aspects of the study program. The student pursues studies under a project supervisor. The project plan developed with the advisor must include the purpose of study, the procedures and materials used, a time schedule for the work involved, the method in which the information will be collected, the way in which comparisons and conclusions will be developed, and the format for the final report. Both a written and oral report will be required. The mark is normally reported in the student's final semester, but studies should commence early in the first semester.

Time to be announced.

AS 100: **Introductory Animal Science**
Coordinator: **Prof. Crober**

A team teaching approach is used to introduce the principles of commercial animal agriculture. Topics include breeding systems, physiology of reproduction and lactation, animal nutrition, a survey of animal agriculture, and applied management skills.

Winter semester—3 lecs and 2 labs per week.

Text—Hammond, *Farm Animals*.

AS 300: **Physiology of Farm Animals**
Instructor: **Prof. Crober**
Prerequisites: **AS 100, B 110**

A study of the function of the animal body with particular emphasis on digestion, metabolism, growth, reproduction, and endocrine regulation. Other areas covered include respiration, excretion, and the cardiovascular and nervous systems.

Fall semester—3 lecs and 2 labs per week.

AS 305: **Animal Nutrition**
Instructor: **Prof. Anderson**
Prerequisite: **C 200**

A study of the principles of nutrition, including the digestion, absorption, and metabolism of nutrients by domestic animals. Functions of protein, lipids, carbohydrates, vitamins, and minerals are studied.

Fall semester—3 lecs per week.

Text—Maynard, Loosli, Hintz and Warner, *Animal Nutrition.*

AS 310: **Animal Breeding**
Instructor: **To be announced**
Prerequisite: **B 240**

Deals with variation in animal performance and with the means whereby transmissable superiority may be recognized and put to use in achieving genetic improvement. Goals in improvement are discussed for each farm species and programs employed are studied in each case.

Fall semester—3 lecs per week.

AS 315: **Reproductive Physiology**
Instructor: **Prof. Connor**
Prerequisite: **AS 300**

A study of the physiology of reproductive processes in animals and birds. Areas discussed include gamete production, reproduction cycles, control mechanisms, artificial insemination, modification of reproductive rate, embryo transfer, and subfertility.

Winter semester—2 lecs and 2 labs per week.

AS 320: **Animal Health**
Instructor: **To be announced**
Prerequisite: **AS 100**

Seeks to impart an understanding of animal health and its importance in livestock production enterprises. Students are taught to recognize signs of health and ill-health and to understand the principles and practices of disease prevention and treatment.

Conditions of disease and ill-health common in Atlantic Canada are studied. The need for veterinary collaboration is emphasized and the circumstances in which this should be sought are discussed.

Winter semester—3 lecs and 2 labs per week.

AS 325: **Feeds and Feeding**
Instructor: **Prof. Cock**
Prerequisite: **AS 305**

A study of typical feedstuffs and commercial feeding practice. The principles of nutrition are applied in the formulation of rations.

Winter semester—2 lecs and 2 labs per week.

Text—Church, *Livestock Feeds and Feeding.*

AS 335: **Environmental Physiology**
Instructor: **To be announced**
Prerequisite: **AS 300**

A study of animals in relation to their environment. The influence of environmental factors on body processes and their relationship to productive efficiency in intensive and extensive production systems are examined. Major topics include temperature regulation and body homeostasis, biological rhythms, photoperiodism, and environmental and hormonal interrelationships.

Winter semester—2 lecs and 2 labs per week (first offered in 1984-85).

AS 340: **Animal Behavior**
Instructor: **To be announced**
Prerequisites: **AS 300, AS 310**

A study of the behavior of farm animals, including poultry. Topics covered include domestication, learning and conditioned response, animal communication, agonistic and social behavior, reproductive and maternal behavior, behavior modification, development of behavior, genetics of behavior, the influence of management systems and practices on behavioral characteristics, and the relationship between behavior and performance.

Fall semester—2 lecs and 2 labs per week (first offered in 1984-85).

AS 345: **Dairy Processing**
Instructor: **To be announced**
Prerequisite: **AS 100**

A study of the composition and processing of milk and milk products. Marketing and consumer acceptance are also discussed.

Winter semester—3 lecs and 2 labs per week (first offered in 1984-85).

AS 350: **Meat Science**
Instructor: **To be announced**
Prerequisites: **AS 100, C 200**

Deals with the preparation of red meat and poultry carcasses and with the proportionate and quality aspects of their component tissues. There is discussion of methods of carcass appraisal and grading in the different species and of the effects of storage, freezing, chilling, transportation, cutting, and processing, and consumer acceptance and pricing.

Winter semester—2 lecs and 2 labs per week (first offered in 1984-85).

AS 435: **Poultry Product Technology**
Instructor: **Prof. Crober**
Prerequisites: **AS 100, B 225**

A study of the nature and composition of poultry products and by-products, and of appropriate handling and processing procedures for particular products. Areas covered include sanitation and grade standards for eggs and poultry meat, storage of eggs, and processing of egg products and poultry.

Fall semester—2 lecs and 2 labs per week (first offered in 1984-85).

AS 450: **Seminar and Project**
Co-ordinator: **To be announced**
Prerequisite: **Animal Science major in final year or consent of the instructor**

Animal Science majors in their final year select, in consultation with a faculty advisor, a research area. This area is investigated and reported on orally and in a scientific paper. Other areas of current interest are also presented and discussed in the weekly seminar period. The subject is credited in the winter semester but will commence with the fall semester.

Both semesters—2 labs per week (first offered in 1984-85).

Animal Production Courses
(AS 400-AS 430 inclusive)

Application of the science of genetics, physiology, nutrition, and behavior to farm animals. Management systems that apply and integrate these sciences for maximum production and economic return are examined. Courses include studies of the individual species industries in the Atlantic Provinces, Canada, and the world. The resources for production and marketing, and the efficiency of animals as producers of human food are examined and compared.

Prerequisites: **AS 300, AS 305, AS 310**

AS 400: **Dairy Production**
Instructor: **Prof. Cock**

Fall semester—3 lecs and 2 labs per week (first offered in 1984-85).

Text—Schmidt and VanVleck, *Principles of Dairy Science.*

AS 405: **Swine Production**
Instructor: **Prof. Anderson**

Fall semester—3 lecs and 3 labs per week (first offered in 1984-85).

Text — Pond and Maner, *Swine Production in Temperate and Tropical Environments.*

AS 410: **Horse Production**
Instructor: **Prof. Forbes**

Winter semester—2 lecs and 2 labs per week.

Text—Evans, Borton, Hintz, Van Vleck, *The Horse.*

AS 415: **Beef Production**
Instructor: **Prof. Mathewson**

Fall semester—2 lecs and 2 labs per week (first offered in 1984-85).

AS 420: **Sheep Production**
Instructor: **Prof. Mathewson**

Fall semester—3 lecs and 2 labs per week (first offered in 1984-85).

AS 425: **Poultry Production**
Instructor: **Prof. Crober**

Winter semester—3 lecs and 3 labs per week.

Text—North, *Commercial Chicken Production Manual.*

AS 430: **Fur Animal Production**
Instructor: **To be announced**

Winter semester—2 lecs and 2 labs per week (first offered in 1984-85).

Biology

Biology Lab at NSAC.

B 01: **Pre-Tech Biology**
Instructors: **Prof. Le Blanc and Mr. Fergus**

An introduction to the basic principles of plant and animal biology that are most important to agriculture. Topics include plant structure and function, growth and reproduction, plant nutrition, animal anatomy and function, animal systems, animal nutrition, photosynthesis, introductory genetics, and introductory ecology.

Winter semester—3 lecs and 4 labs per week

Text and laboratory manual—Weisz, Keogh, *Science of Biology* (5th edition).
Weisz, *Laboratory Manual in the Science of Biology for the 5th edition.*

B 13: **Plant Identification**
Instructor: **Prof. Prange**

Covers the classification and naming of plants, with special attention to common species of the Atlantic Provinces. Important plant families are considered, and there is laboratory work in identification. Students are required to make a collection of pressed plants, properly identified and labeled.

Fall semester—2 lecs and 3 labs per week.

Texts—Roland, *The Flora of Nova Scotia.*
—Mulligan, *Common Weeds of Canada.*

B 18: **Animal Genetics**
Instructor: **Prof. Eaton**

A study of the basic principles of inheritance and variation in animal populations and the application of those principles to animal breeding, particularly in relation to farm animals.

Fall semester—3 lecs and 2 labs per week.

B 20: **Animal Physiology**
Instructor: **Prof. Eaton**

Designed to provide a basis in the knowledge of animal physiology as it applies to farm animals. The course includes topics on blood and circulation, digestion and absorption, excretion, respiration, and reproduction, as well as a brief consideration of the skeletal and muscular systems.

Fall semester—3 lecs and 2 labs per week.

Text—Frandson, *Anatomy and Physiology of Farm Animals.*

B 40: **Plant Pathology**
Instructor: **Prof. McFadden**

An introductory course dealing with the nature, cause, and control of plant diseases due to infectious and noninfectious agents. Included are discussions on the infection process, resistance mechanisms, and the effects of environment on disease development, as well as the safe use and handling of fungicides to control important diseases in the region.

Winter semester—2 lecs and 3 labs per week.

B 41: **Plant Physiology**
Instructor: **Prof. Prange**

Deals with plant structure and function, as well as plant growth, development, and reproduction. Various plant processes, such as photosynthesis, respiration, absorption, and nutrition, water movement, transpiration, and growth, are studied. Topics of importance to agriculture, such as growth regulators, photoperiodism, and dormancy, are also considered.

Winter semester—3 lecs and 3 labs per week.

B 42: **Biological Techniques**
Instructor: **Prof. Eaton**

A practical course dealing with some important techniques commonly encountered in biological science laboratories. Emphasis will be placed upon the following topics: greenhouse techniques (propagation, transplanting, and hydroponics), an introduction to tissue culture, biological photography, and dark-room techniques, and the organization and design of laboratory experiments.

Winter semester—3 lecs and 3 labs per week.

B 43: **Entomology**
Instructor: **Prof. Le Blanc**

An introduction to the study of the phylum Arthropoda, with particular reference to the class Hexapoda (insecta), emphasizing some insect pests of Atlantic Canada. Anatomy, physiology, taxonomy, behavior, and ecology of insects are considered during lectures and laboratory work. Discussions on the relation of insects to man, basics of insect control methods, and pesticide safety are included.

Fall semester—2 lecs and 3 labs per week.

Text—Elzinga, *Fundamentals of Entomology* (2nd edition).

B 44: **Microbiology Techniques**
Instructor: **Prof. Stratton**

An introduction to the science of microbiology. Lectures are concerned with the concepts of microbial classification, structure, microscopic observation, isolation, cultivation, nutrition, growth, metabolism, and identification. Special attention is given to the relationships of micro-organisms of water and foods. Laboratory work stresses the principles and procedures of staining, preparation of microbial media, isolation techniques, culturing, biochemical tests, and identification.

Fall semester—2 lecs and 4 labs per week.

Text—Pelczar and Chan, *Elements of Microbiology.*

B 45: **Applied Microbiology**
Instructor: **Prof. Stratton**

A continuation of Microbiology Techniques. Lectures are concerned with infection and immunity, mutation, soil microbiology, ruminant microbiology, mycotoxins in feeds, silage microbiology, and production of industrial and medicinal compounds. Laboratory work stresses isolation and identification of unknowns, followed by detailed studies of certain agricultural topics, including soil, milk, water, and foods.

Winter semester—2 lecs and 4 labs per week.

Text—Pelczar and Chan, *Elements of Microbiology.*

B 46: **Weed Science**
Instructor: **Prof. Sampson**

Deals with the principles of weed science in relation to agricultural practices in the region. Included are discussions on weed recognition and chemical and non-chemical approaches to controlling weeds in vegetable, fruit, and grain crops, as well as in lawns and non-crop areas. Selection, safe use, handling, and storage of herbicides are stressed.

Winter semester—3 lecs and 3 labs per week.

B 47: **Farm Woodlot Management**
Instructor: **Prof. Robertson**

The farm woodlot resource is described and management procedures are explained and illustrated. Special attention is given to the production and harvesting of saw logs, pulpwood, Xmas trees, fuel wood, and maple sap. Development programs administered by provincial government departments are covered.

Fall semester—2 lecs and 3 labs per week.

B 70: **Microtechniques I**
Instructor: **Prof. Crosby**

Preparation of temporary and permanent whole mounts for microscopic examination; preparation of bio-plastic mounts and of blood smears; use of haemocytometer; study of the principles of operation of the microscope, including the light microscope and several other types.

Fall semester—3 lecs and 4 labs per week.

Texts—Knudsen, *Biological Techniques.*
—Berlyn and Miksche, *Botanical Microtechnique and Cytochemistry.*

B 71: **Microtechniques II**
Instructor: **Prof. Crosby**
Prerequisite: **B 70**

A continuation of Microtechniques I. Use of the microtome; staining and slide preparation; and histochemical techniques.

Winter semester—2 lecs and 4 labs per week.

Text—Preece, *A Manual for Histologic Technicians.*

B 100: **The Plant Kingdom**
Instructor: **Prof. McFadden**

An evolutionary approach to the study of the members of the plant kingdom, including algae, fungi, bryophytes, vascular cryptogams, and the seed-bearing plants. Emphasis is placed on their habitats, morphology, and reproductive cycles.

Fall semester—3 lecs and 4 labs per week.

Text—Burns, *The Plant Kingdom.*

B 110: **The Animal Kingdom**
Instructor: **Prof. Crosby**

An evolutionary review of the animal kingdom with reference to the classification, morphology, and life cycles of representatives of the kingdoms Protista and Animalia. An introduction to vertebrate embryology and vertebrate histology is also considered.

Winter semester—3 lecs and 4 labs per week.

Text and laboratory manual—Storer, Usinger, Stebbins and Nybakken, *General Zoology* (6th edition).
Wodsedalek and Lytle, *General Zoology, Laboratory Guide, Complete Version* (8th edition).

B 200: **Cell Biology**
Instructor: **Prof. Crosby**

An introduction to the structure and function of procaryotic and eucaryotic cells. Emphasis is placed on the ultra-structure and biochemical significance of cellular organelles. Topics considered include bioenergetics, biosynthesis of macromolecules, regulation of metabolic processes, photosynthesis, glycolysis, respiration, membranes, and several types of specialized cells.

Fall semester—3 lectures per week plus a major assignment.

Text—Novikoff and Holtzman, *Cells and Organelles.*

B 225: **Microbiology**
Instructor: **Prof. Stratton**

A general introduction to microbiology. Topics include history, morphology, structure, cultivation, reproduction, metabolism, genetics, classification, and control of micro-organisms. The importance of micro-organisms to soil productivity, foods, industry, veterinary science, public health, and sanitation is discussed.

Winter semester—3 lecs and 3 labs per week.

Text—Pelezar, Reid and Chan, *Microbiology* (4th edition).

B 240: **Introduction to Genetics**
Instructor: **Prof. Padmanathan**

Study of heredity and variation in plants and animals, including man; the relationships of genetics to evolution and breeding practices.

Fall semester—3 lecs and 2 labs per week.

Text—To be announced.

B 245: **Agricultural Genetics**
Instructor: **Prof. Padmanathan**
Prerequisite: **B 240**

Further study of genetic material and population genetics. Emphasis is placed on application of genetics to plant and animal improvement.

Winter semester—3 lecs and 2 labs per week.

B 260: **Plant Physiology**
Instructor: **Prof. Eaton**

A study of the different functions of the plant, including growth, photosynthesis, mineral nutrition, water relations and translocation of solutes, and plant orientation, development, and reproduction.

Winter semester—3 lecs and 2 labs per week.

Text—Salisbury and Ross, *Plant Physiology* (2nd edition).

B 300: **Principles of Plant Pathology**
Instructor: **Prof. McFadden**

Deals with the principles of plant pathology and the control of diseases caused by bacteria, fungi, mycoplasmal-like organisms, viruses, and nematodes.

Fall semester—3 lecs and 2 labs per week.

Text—Agrios, *Plant Pathology* (2nd edition).

B 305: **Economic Plant Pathology**
Instructor: **Prof. McFadden**
Prerequisite: **B 300**

An in-depth study of the important diseases in the Atlantic Region with particular attention to diseases affecting field crops, fruit and vegetable crops, turfgrasses, and greenhouse crops. Included are a research project and seminar.

Winter semester—3 lecs and 2 labs per week.

Text—Agrios, *Plant Pathology* (2nd edition).

B 310: **Mycology**
Instructor: **To be announced**

An introductory course dealing with the morphology, taxonomy, and physiology of the members of the kingdom Fungi, with special emphasis on important plant parasites.

Fall semester—3 lecs and 2 labs per week.

Text—To be announced.

B 320: **General Entomology**
Instructor: **Prof. Le Blanc**

An introduction to the science of entomology from an agricultural perspective. Insect anatomy, physiology, and taxonomy are considered; also included are discussions on insect behavior, reproduction, life cycles, and population ecology. Basics of monitoring techniques and population dynamics are illustrated with some Atlantic Canada insect pests.

Fall semester—3 lecs and 3 labs per week.

Text—Borror et al., *Introduction to the Study of Insects* (5th edition).

B 325: **Economic Entomology**
Instructor: **Prof. Le Blanc**
Prerequisite: **B 320**

An introduction to the study of economic entomology from an agricultural perspective. Principles of insect control—natural, mechanical, physical, cultural, biological, and legal—in the Atlantic region are covered. Includes chemical control: pesticide development, formulation and application, and pesticide safety. This course stresses the theory of integrated pest management (IPM).

Winter semester—3 lecs and 3 labs per week.

B 330: **Ecology**
Instructor: **Prof. Prange**

An introductory course dealing with ecological principles as they relate to individuals, population, and communities. The interactions between organisms and the physical environment are discussed, along with the various types of communities found in the Atlantic Provinces.

Fall semester—3 lecs and 3 labs per week.

Text—To be announced.

B 335: **Weed Science**
Instructor: **Prof. Sampson**

Deals with the principles of weed science in relation to agricultural practices in the region. Included are discussions on weed recognition, chemical and non-chemical approaches to controlling weeds in vegetable, fruit and grain crops, as well as in lawns and non-crop areas. The selection, safe use, handling, and storage of herbicides are stressed along with the environmental impact of the different methods of weed control.

Fall semester—3 lecs and 3 labs per week.

Text—To be announced.

B 400: **Soil Biology**
Instructor: **Prof. Stratton**

A study of the biology of the various classes of organisms in soil, including bacteria, blue-green algae, fungi, algae, protozoa, lower invertebrates, and viruses. This course includes details of biochemical transformation of carbon, nitrogen, sulfur, and phosphorous, as well as pesticides and wastes in the environment.

Fall semester—3 lecs and 3 labs per week (first offered in 1984-85).

B 449: **Seminar and Project**
Coordinator: **Prof. McFadden**

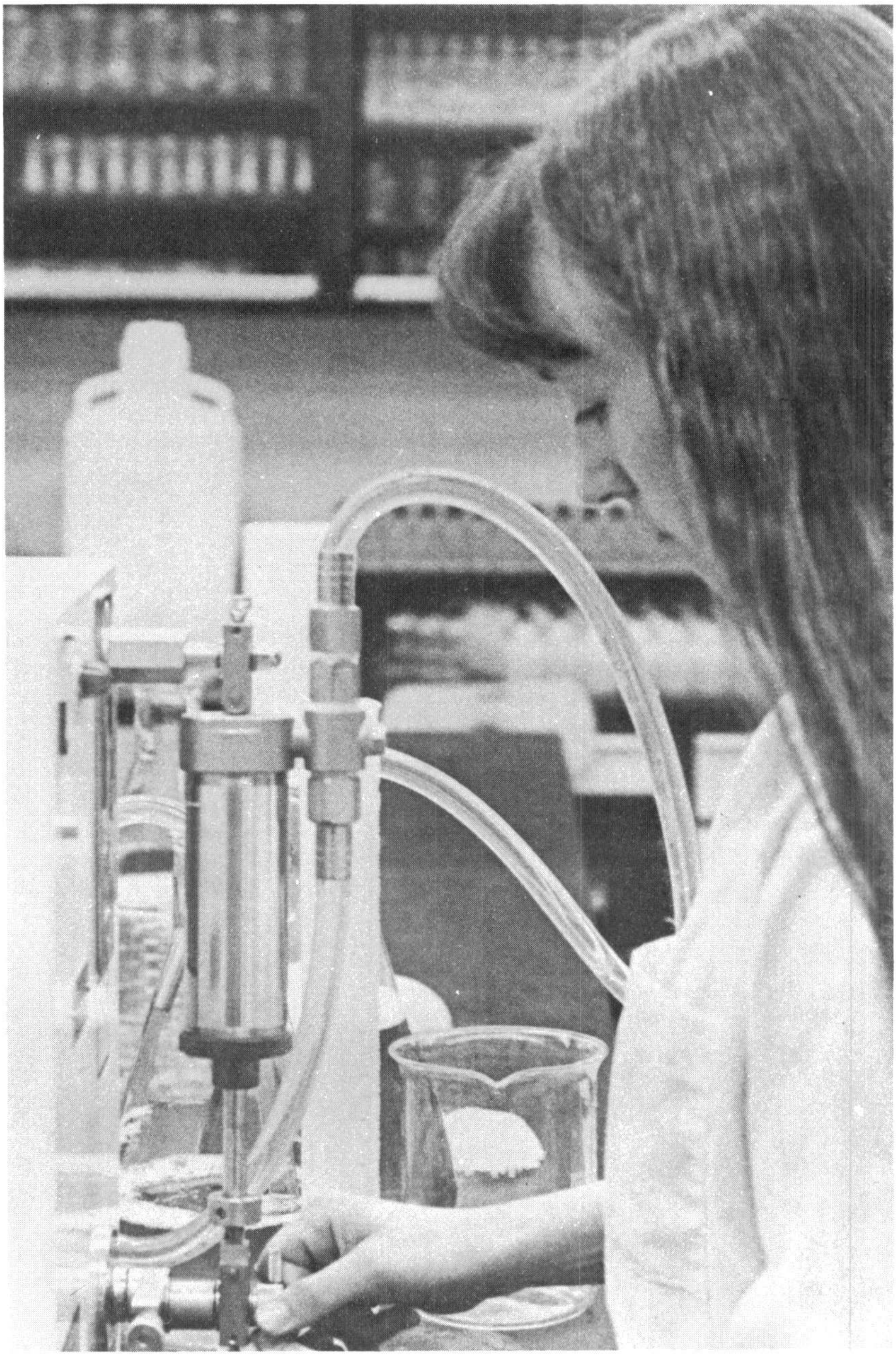
Critical reviews of important topics in plant protection, including discussions and written and oral presentations. Projects are designed to assist students in understanding the basic principles of disease development and control.

Fall semester—3 lecs per week (first offered in 1984-85).

B 450: **Seminar and Project**
Coordinator: **Prof. McFadden**

Critical reviews of important topics in plant protection, including discussions and written and oral presentations. Projects are designed to assist students to understand the principles of disease development and control.

Winter semester—3 lecs per week (first offered in 1984-85).



Chemistry

C 01: **Pre-Tech Chemistry**
Instructor: **Prof. Payne**

An introductory course emphasizing measurement in chemistry, matter and energy, atomic structure, electronic arrangement of the atom, and chemical bonding. The periodic table is studied and considerable emphasis is placed on the use of symbols, formulae, equations, and reactions. Some time is also spent on chemical kinetics, problem solving, solutions and electrolysis, and acid-base reaction.

Winter semester—3 lecs and 2 labs per week.

Text—To be announced.

C 12: **Introductory Soils**
Instructor: **Prof. Warman**

Designed to introduce the importance of properties of soils related to fertility and productivity. Soils are studied with particular reference to soil composition, texture, structure, clay content, organic matter, soil water, soil air, soil temperatures, compaction, drainage, soil development processes, and soil profiles. Atlantic Provinces' soils are examined in the laboratory to help students understand and manage soils from a physical aspect.

Fall semester—3 lecs and 2 labs per week.

Text — Donahue et al., *Soils: An Introduction to Soils and Plant Growth* (4th edition).

C 13: **Soil Management for Crop Production**
Instructor: **Prof. Warman**
Prerequisite: **C 12**

A study of the chemical properties of soils and chemical reactions associated with soil components and additives, such as fertilizers, limestones, and organic materials, as they relate to plant growth. Essential plant nutrients are emphasized. The relationship of soil additives to growing crops and soil management is discussed.

Winter semester—3 lecs and 2 labs per week

Text — Donahue et al., *Soils: An Introduction to Soils and Plant Growth* (4th edition).

C 14: **Agricultural Chemistry**
Instructor: **Prof. Hawley**

Stresses the application of basic chemistry to the agricultural industry. Topics include chemical arithmetic, protection chemicals, sewage disposal, explosives, energy, iron, useful materials from the earth, sea, and air; chemurgy; water; metallurgy; nuclear chemistry; chemical hazards. Students are also introduced to organic chemistry and applied biochemistry, and are taught to identify carbohydrates, proteins, fats, oils, and the vitamins, enzymes, hormones, and nucleic acids.

Fall semester—3 lecs and 2 labs per week.

Text—Jones et al., *Chemistry Man and Society* (3rd edition).

C 40: **Chemistry Laboratory Techniques I**
Instructor: **Prof. Robinson**

An introduction to general chemistry techniques relating to normal laboratory procedures. Instruction in the use and handling of toxic chemicals and in the potential hazards associated with various pieces of laboratory equipment; also studied are laboratory reports, glass working, responsibilities of a chemistry laboratory worker, and the mathematical calculation of typical chemical problems. The laboratory exercises serve as an introduction to some of the chemicals, methods, and equipment used in the normal chemistry laboratory.

Fall semester—4 labs per week.

Text—Shugar et al., *Chemical Technicians Ready Reference Handbook.*

C 41: **Chemistry Laboratory Techniques II**
Instructors: **Prof. Hawley and Mr. Higgins**

Designed to assist students in organizing, understanding, using, and evaluating chemical calculations and problems. The material presents a practical foundation for techniques of solving chemical laboratory problems in the preparation of solutions, expressions of concentration, dilution problems, preparation of graphs, calculations in gravimetric and titrimetric analysis, and miscellaneous calculations. The subject material also deals with various hazards encountered in a chemistry laboratory and introduces the students to glass blowing procedures and methods.

Winter semester—4 labs per week.

C 42: **Organic Chemistry**
Instructor: **Prof. Payne**

An introductory course designed to familiarize the student with the theories and principles of organic chemistry as they apply to certain basic classes of organic compounds, including alkanes, alkenes, alkynes, polyolefins, aromatic hydrocarbons, alcohols, and mercaptans. The nomenclature of these classes of compounds and their application to plant and animal life are stressed. Laboratory procedures are correlated with lecture material; modern procedures and techniques are employed to illustrate the preparation, extraction, purification, and properties and reactions of various organic compounds discussed.

Fall semester—3 lecs and 4 labs per week.

Text—To be announced.
Laboratory Manual—Mimeographed procedures.

C 43: **Bio-Organic Chemistry**
Instructor: **Prof. Payne**
Prerequisite: **C 42**

A continuation of the introduction to the basic classes of organic compounds. Aldehydes, ketones, amines, carboxylic acids and their derivatives are studied. The student is also introduced to biochemistry through a preliminary study of carbohydrates, lipids, proteins, nucleic acids, vitamins, hormones, and enzymes. Laboratory exercises closely parallel the topics presented in lecture and are designed to make the student aware of the properties and reactions characteristic of the organic and biochemical compounds studied.

Winter semester—3 lecs and 4 labs per week.

Text—To be announced.

Laboratory manual—Mimeographed procedures.

C 44: **Instrumentation I**
Instructors: **Profs. MacLean, Robinson, and Mr. Crosby**

An introduction to the theory and practical basic skills of the more commonly used instrumental methods of analysis. The areas covered are: colorimetry including auto-analyser techniques, atomic absorption, flame photometry, turbidimetry, polarimetry, and refractometry.

Winter semester—2 lecs and 3 labs per week.

Text—Bauer et al., *Instrumental Analysis.*

C 45: **Qualitative Analysis**
Instructor: **Prof. Hawley**

Semi-microanalysis is used to evaluate the qualitative nature of inorganic and organic agricultural materials. Theory includes separations and reactions of Groups I-V cations and anions, solutions, equilibria, Law of Mass Action, solubility products, hydrolysis, common ion effect, electrolytes, electrolysis, redox reactions, complex ions, oxidation potentials, pH indicators, and buffers.

Fall semester—3 lecs and 4 labs per week.

Text—Layde and Busch, *Introduction to Qualitative Analysis.*

C 46: **Quantitative Analysis**
Instructors: **Prof. MacConnell and Mr. Mullin**
Prerequisite: **C 45**

Introduces the student to basic analytical principles and techniques. The lecture portion of the course includes evaluation of analytical data, preparation of samples for analysis, principles of gravimetric analysis, acid-base titrations, oxidation-reduction methods including potentiometric titrations, precipitation and complex formation titrations, colorimetry, and an introduction to instrumentation. The laboratory portion of the course is designed to illustrate the analytical principles studied in lecture and to enable the student to develop good analytical technique. Wherever possible, agricultural materials are used for analysis.

Winter semester—3 lecs and 4 labs per week.

Text—Fritz and Schenk, *Quantitative Analytical Chemistry* (4th edition).

C 70: **Instrumentation II**
Instructor: **Prof. MacLean**

A study of the more advanced methods of absorption and emission spectroscopy and an introduction to thermo- and electro-chemistry. The following methods are studied: ultra violet and infrared absorption, spectroscope and optical emission spectography, calorimetry, and potentiometry, including specific ion electrodes and conductivity.

Fall semester—3 lecs and 4 labs per week.

Text—Bauer et al., *Instrumental Analysis.*

C 71: **Instrumentation III**
Instructor: **Prof. MacLean**

A continuation of the study of the theory and practical techniques of electrochemistry followed by a study of instrumental separation techniques and an introduction to radioactivity measurements. Topics are electroysis, polarography, gas-liquid, paper, thin-layer, column and ion exchange chromatography, electrophoresis, and radioactivity.

Winter semester—3 lecs and 4 labs per week.

Text—Bauer et al., *Instrumental Analysis.*

C 73: **Laboratory Organization and Management**
Instructor: **Prof. MacLean**

Intended to familiarize students with the design, planning, organization, and operation of modern chemistry laboratories. Recording and keeping of records and reports of analytical results are also studied. Specifically arranged for Chemistry Laboratory Technology students, the course emphasizes the understanding of all phases of laboratory operation, with special reference to a technologist's area of participation in it.

Winter semester—2 lecs and 4 labs per week.

C 75: **Food Chemistry I**
Instructor: **Prof. Robinson**
Prerequisites: **C 42, C 43, C 45, C 46**

A study of the chemistry and technology of carbohydrates, fats, and proteins. Attention is directed towards the basic principles involved in their determination in foods and feeds. The laboratory deals with the qualitative and quantitative physical and chemical techniques used in the analysis of foods and feeds.

Fall semester—3 lecs and 4 labs per week.

Text—Meyer, *Food Chemistry.*

C 76: **Food Chemistry II**
Instructor: **Prof. Robinson**
Prerequisite: **C 75**

A study of the composition, chemistry, and technology of various products such as milk, eggs, meats, and cereals. The laboratory deals with the qualitative and quantitative physical and chemical techniques used in the analysis of agricultural products.

Winter semester—3 lecs and 4 labs per week.

Text—Myer, *Food Chemistry.*

C 77: **Chemistry Instrumentation Techniques**
Instructors: **Profs. MacLean and Robinson**

This is a practical course designed for Biology Laboratory Technology students. Laboratory work will include the manipulation and practical uses of the colorimeter, the autoanalyzer, electrophoresis, TL and GL chromatography, and radioactivity. Lectures will explain the operation and care of these instruments.

Fall semester—2 lecs and 3 labs per week.

C 79: **Project Organization**
Coordinator: **Prof. MacLean**

A chemistry project organized on an individual basis with each student.

Fall semester—6 to 8 labs per week as assigned.

C 80: **Project Implementation**
Coordinator: **Prof. MacLean**

A seminar program with subject matter related to material covered in C 79 project.

Winter semester—6 to 8 labs per week as assigned.

C 100: **Chemical Principles**
Instructors: **Profs. MacConnell, Payne, and Mr. Crosby.**

A study of atomic theory, periodicity, chemical reactions, thermo chemistry, geometrical forms of molecules, chemical equilibrium, and oxidation-reduction reactions. Also included is an extensive study of the chemistry of solutions of weak electrolytes.

Fall semester—3 lecs and 4 labs per week.

Text—Brown, Lemay, *Chemistry: The Central Science* (2nd edition).

C 110: **Organic Chemistry**
Instructor: **Prof. Hawley**
Prerequisite: **C 100**

A study of basic classes of organic compounds, including alkanes, alkynes, petroleum and petrochemicals, cycloparaffins, alcohols, aldehydes, ketones, alkyl halides, monocarboxylic acids, acid anhydrides, salts, amides, ethers, and amines.

Winter semester—3 lecs and 4 labs per week.

Text—Fessenden and Fessenden, *Organic Chemistry.*

C 200: **Bio-Organic**
Instructor: **Prof. MacConnell**
Prerequisite: **C 110**

This course consists of a study of biological elements, buffers, amino acids and peptides, proteins, lipids, membrane structures, carbohydrates, nucleic acids, and enzymes.

Fall semester—3 lecs and 4 labs per week.

Text—Lehninger, *Principles of Biochemistry.*

C 205: **Biochemistry**
Instructors: **Profs. MacConnell, Payne, and Robinson**
Prerequisite: **C 200**

Includes a study of enzyme kinetics, mechanisms of enzyme action, vitamins and coenzymes, digestion and absorption, bioenergetics, catabolism of carbohydrates, lipids and nitrogen compounds, selected biosyntheses, nitrogen fixation, and metabolism control mechanisms.

Winter semester—3 lecs and 4 labs per week.

Text—Lehninger, *Principles of Biochemistry.*

C 220: **Introduction to Soil Science**
Instructor: **Prof. Warman**
Prerequisites: **C 100, C 110**

General principles of soil science relating to the origin, development, and classification of soils; the physical and chemical properties of soils and their relation to soil management, crop production, soil problems, land use, trace elements, and pesticides.

Fall semester—3 lecs and 4 labs per week.

Text—Brady, *The Nature and Properties of Soil* (8th edition).

C 300: **Physical Chemistry**
Instructor: **To be announced**
Prerequisites: **C 100, MP 100**

An introductory course which includes a study of gas laws, kinetic theory of gases, thermodynamics, the liquid and solid states, phase changes, chemical equilibrium, nonelectrolyte solutions, electrolyte solutions, colloids, electrochemical cells, chemical kinetics, and photochemistry.

Fall semester—3 lecs and 4 labs per week.

C 310: **Radiotracers in Agriculture**
Instructor: **Prof. Robinson**
Prerequisites: **C 200 or C 43, and MP 100**

Intended to set forth the concepts of radioactivity necessary for the practical use of radiotracers in agriculture. The course covers radiation theory, radiation counting, sample preparation techniques for counting, applied tracer techniques in soil, plant, and animal studies, isolation and identification of isotope label, and localization of label in a molecular structure.

Winter semester—3 lecs and 4 labs per week.

C 320: **Soil Fertility and Fertilizers**
Instructor: **Prof. Warman**
Prerequisite: **C 220**

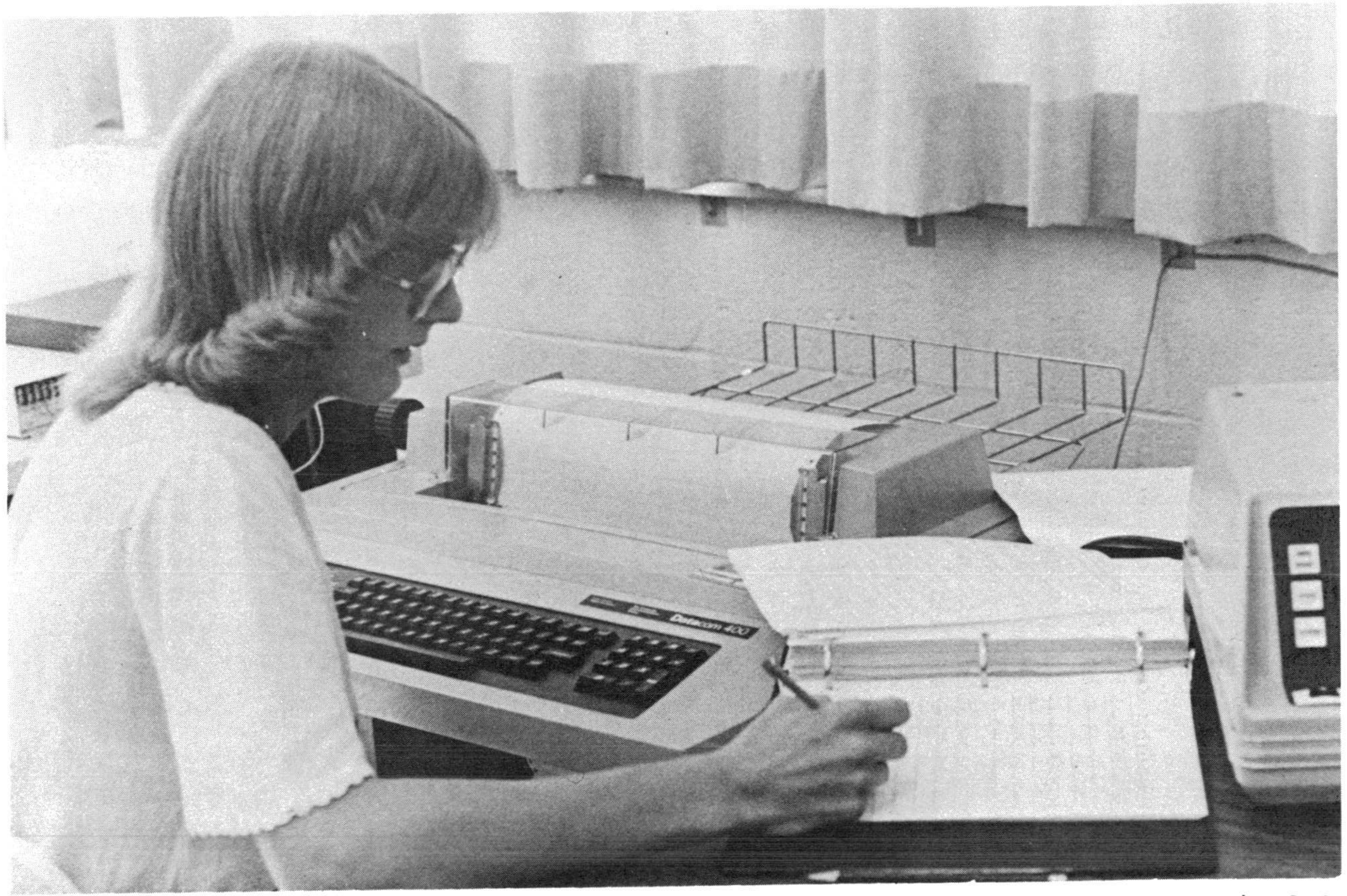
Includes essential plant nutrients in the soil, influence of soil chemical and physical properties on nutrient absorption and plant growth, methods of evaluating soil fertility and composition, and use of organic and inorganic sources of nutrients.

Winter semester—3 lecs and 4 labs per week.

C 420: **Soil Classification and Survey**
Instructor: **To be announced**

Includes classification, distribution, and use of major soil groups of the world, techniques of describing and mapping soils, and interpretation and use of soil survey reports and aerial photography. Students are required to spend 2-3 weeks in the field before registration for training in soil mapping.

Fall semester — 3 lecs and 4 labs per week (first offered 1984-85).



Computers in a Management Lab, NSAC.

Economics and Business

EB 01: **Agricultural Industry**
Coordinator: **Mrs. Crewe**

Major emphasis is placed on information about the agricultural industry, rather than on specific agricultural topics or skills. The course is organized into 4 majors (segments): Animal Science, Plant Science, Agricultural Business, Agricultural Mechanization. During each segment, on-campus instruction is supplemented by visits to farms and farm-related businesses.

Winter semester—2 lecs and 4 labs per week.

EB 10: **Accounting**
Instructor: **Prof. Arnfast**

The basic principles and procedures relevant to the accounting function of a business. Some topics discussed are recording transactions in an accounting system, year-end adjustments, purchases and sales, control of cash transactions, and financial statements.

Fall semester—3 lecs and 2 labs per week.

Text—Meigs et al., *Accounting: The Basis for Business Decisions.*

EB 11: **Applied Accounting & Taxation**
Instructor: **Prof. Arnfast**
Prerequisite: **EB 10**

Emphasizes the application of accounting principles and procedures to farm accounting situations. Some topics discussed are fixed assets and depreciation, inventories, payrolls, and financial statements. Considerable time is spent on the study of Canadian income tax laws as they apply to the farm business.

Winter semester—3 lecs and 2 labs per week.

EB 12: **Macroeconomics**
Instructor: **Prof. Tait**

An introduction to the study of macroeconomics in a Canadian context. Topics covered include national accounts, public finance, money and banking, and international trade. Current problems in the Canadian economy are drawn on to emphasize the theory.

Fall semester—3 lecs per week.

Text—Armstrong, *The Canadian Economy & Its Problems.*

EB 13: **Microeconomics**
Instructor: **Prof. Tait**

An introduction to the theory of the firm. The course examines the theory of demand and supply, distribution of income, forms of business organizations in Canada, and the levels of competition in the agricultural industry. Application of the various theories to explain the agricultural industry is stressed.

Winter semester—3 lecs per week.

EB 40: **Marketing Practices**
Instructor: **Prof. Ells**

Current practices involved in marketing farm products produced in the Atlantic Provinces are studied. The conditions affecting these practices and the groups of people that can bring about changes are identified. Special attention is paid to consumer behavior, supplier behavior, market structures, price determination, marketing boards, and marketing commissions. Students visit a series of firms and organizations involved in marketing farm products. Managers of these organizations assist with the instruction.

Fall semester—2 lecs and 3 labs per week.

EB 41: **Business Law**
Instructor: **Prof. Arnfast**

Introduces several topics relevant to the management of a business. Major topics discussed and studied are: types of business organizations, legal structure in Canada, criminal and civil law, contracts, mortgages, leins, insurance, and marketing boards. Emphasis is placed on relating these topics to farm and farm-related business.

Winter semester—3 lecs per week.

EB 42: **Applied Farm Management**
Instructor: **Prof. Tait**

Designed to transfer classroom teaching to real farm situations. Students have an opportunity to apply the principles of farm management on production farms. Some of the requirements involve analyzing farm records, doing credit analysis, developing farm plans, and evaluating machinery, livestock, and crop decisions, based on actual farm cases.

Winter semester—2 lecs and 4 labs per week.

EB 43: **Business Project**
Coordinator: **Prof. Tait**

An opportunity to examine, in detail, specific agricultural topics of interest. Projects are organized and carried out by the students under the supervision of various staff members.

Fall semester—5 labs per week.

EB 90: **Technology Project**
Coordinator: **Prof. Tait**

This project provides an opportunity for the students to study in detail an Economics and Business topic of special interest. This must be a new topic, but may build on other aspects of the study program. The student pursues studies under a project supervisor. The project plan developed with the advisor must include the purpose of the study, the procedures and materials used, a time schedule for the work involved, the method in which the information will be collected, the way in which comparisons and conclusions will be developed, and the format for the final report. Both a written and an oral report will be required. The mark is normally reported in the student's final semester, but studies should commence early in the first semester.

Time to be announced.

EB 72: **Farm Project**
Instructors: **Committee headed by member of the Farm Management Department**

The farm project relates the course program to the on-farm training. It stresses the application of information to a specific farm situation. For this project, the farm may be the home farm or any other farm. An intimate knowledge of the farm is necessary. The student, therefore, must have access to the farm and to detailed information about it.

The prepared project consists of three sections:

—a detailed inventory of land, buildings, machinery, and all other farm resources. An analysis of the present farm operation.

—an outline of the student's objectives and projected plans for the farm.

—a practical step-by-step (year-by-year) program for the changes necessary to reach these goals.

The farm project is introduced in the first technology year, before the beginning of the seven months of on-farm training. All the required data for the farm inventory are collected during the on-farm training period. The final work on the prepared project is done in the last college semester. Though most of the work is done outside of the scheduled class time, one afternoon per week is scheduled for special instruction and for presentations. Each student is required to present a minimum of one seminar on his or her farm plan to the project class and the instructor committee.

Winter semester—5 labs per week.

EB 110: **Economics of Agriculture**
Instructor: **Prof. Stackhouse**

An introductory course designed to survey the areas of concentration in the agricultural economics and agribusiness discipline. Throughout the course, economic and business principles are presented and applied in an agricultural context. This introduces the student to the various areas of the discipline and provides a means of understanding the structure and objectives of Canadian and Atlantic agriculture. Specific topic areas include introductions to the market model, market and price analysis, production economics, farm agribusiness analysis, and policy and resources development.

Winter semester—3 lecs per week.

EB 200: **Microeconomics I**
Instructor: **Prof. Stackhouse**

Introduces the principles of microeconomic theory. Alternate models of consumer and firm behavior are examined. Areas of emphasis include evaluation of individual and market demand and supply analysis, measurement and interpretation of elasticity, the theories of consumer choice, cost analysis of the firm, market classifications of competition, and evaluation of the firm in the various forms of competition.

Fall semester—3 lecs per week.

EB 205: **Microeconomics II**
Instructor: **Prof. Stackhouse**
Prerequisite: **EB 200**

A continuation of the principles presented in Microeconomics I. The course examines firm decisions under conditions of imperfect competition, studies wages, rents, income distribution, and general equilibrium, and introduces welfare economics.

Winter semester—3 lecs per week.

EB 210: **Financial Accounting I**
Instructor: **Prof. Arnfast**

A study of the basic principles of procedure relevant to the accounting function of a business firm. Project work with farm and farm-related business records is included in the course to help the student acquire a working knowledge of these principles and procedures.

Fall semester—3 lecs and 2 labs per week.

EB 215: **Financial Accounting II**
Instructor: **Prof. Arnfast**
Prerequisite: **EB 210**

Continues the study of financial accounting with emphasis on special topics and reporting of accounting information. Includes a brief introduction to income tax.

Winter semester—3 lecs and 2 labs per week.

EB 220: **Production Economics**
Instructor: **Prof. Tait**

An introduction to the study of economic principles used to analyze production and resource use in agriculture. Areas of emphasis include economic examination of the factor-factor, factor-product, and product-product relationships of the farm production system. Practical examples and lab exercises are used to illustrate and reinforce the concepts presented in the classroom.

Winter semester—2 lecs and 4 labs per week.

EB 260: **Mathematical Economics**
Instructor: **Prof. Stackhouse**
Prerequisites: **MP 100, EB 110, EB 200**

Introduction to the frequently used mathematical methods of economic analysis. The course also provides the student with the basics required in more advanced economics that have a quantitative content. Areas of concentration are: elements of mathematical economics models, linear models and matrix algebra, linear programming, applications of classical calculus to economic problems, and optimization theory.

Winter semester—3 lecs per week.

EB 310: **Cost Accounting**
Instructor: **To be announced**
Prerequisite: **EB 210**

An introductory course in cost accounting principles, techniques, and procedures. Topics necessary for management planning and control are examined. An attempt is made to relate these topics to farm business situations.

Fall semester—3 lecs and 2 labs per week.

EB 325: **Operations Research**
Instructor: **To be announced**
Prerequisites: **EB 260, MP 200**

Introduction to mathematical programming and gaming theory. Topics include linear programming, integer programming, sensitivity analysis, and decisions under risk and uncertainty.

Fall semester—3 lecs and 2 labs per week.

EB 330: **Agricultural Market and Price Analysis**
Instructor: **Prof. Stackhouse**
Prerequisite: **EB 200**

Designed to introduce students to agricultural marketing and price analysis. In general, course topics represent applications of microeconomic theory and the purely competitive market model. The course also includes discussion of institutions in the agricultural industry.

Fall semester—3 lecs per week.

EB 335: **Business Marketing**
Instructor: **To be announced**

Designed to introduce basic marketing principles and their application to marketing problems. Topics such as promotion, pricing, distribution, and marketing research are examined. The case method of instruction is used extensively.

Winter semester—3 lecs per week.

EB 340: **Farm Management I**
Instructor: **Prof. Tait**

Principles and methods of organizing and analyzing farm businesses are examined. Practical problems associated with financial analysis, planning, capital budgeting, resource use, and credit acquisition are included. The role of the farm manager is identified throughout.

Fall semester—2 lecs and 4 labs per week.

EB 350: **Macroeconomics I**
Instructor: **Prof. Stackhouse**

An introduction to the study of economics. The course is designed to acquaint the student with the main elements of macroeconomic theory. Emphasis is placed on the application of theories to current Canadian economic problems. Topics covered include system overview, national income analysis, monetary policy, fiscal policy, and international trade.

Winter semester—3 lecs per week.

EB 360: **Econometrics**
Instructor: **To be announced**
Prerequisites: **EB 260, MP 200**

An applied course in statistics and economic theory using the classical linear regression model. Topics covered include specification of single and simultaneous models, violations of the assumptions of the classical linear model, hypothesis testing, and tests of significance.

Fall semester—3 lecs and 1 lab per week (first offered 1984-85).

EB 400: **Resource and Environmental Economics**
Instructor: **To be announced**
Prerequisite: **EB 205**

Advanced microeconomics applied to issues of environmental quality and resource use. Topics include welfare economics, market failure, externalities, pricing of renewable and non-renewable resources, and cost benefit analysis.

Fall semester—3 lecs per week (first offered 1984-85).

EB 405: **Macroeconomics II**
Instructor: **To be announced**
Prerequisite: **EB 255**

Development of the integrated aggregate model of the Canadian economy, which includes consideration of money, product and labor markets, and aggregate demand and supply.

Fall semester—3 lecs per week.

EB 415: **Business Law**
Instructor: **To be announced**

An introduction to general principles of law relating to the management of a business. Major areas studied are torts and contracts. Specialized topics include forms of business organizations, sale of goods, conditional sales, real property, mortgages, insurance, and wills.

Winter semester—3 lecs per week.

EB 420: **Agricultural Policy**
Instructor: **To be announced**
Prerequisites: **EB 205, EB 325, EB 330, EB 355, EB 400, EB 410**

Goals and instruments of the policy process are examined and applied to national, provincial, and regional issues. A thorough background in economic theory and methods is required.

Winter semester—3 lecs per week (first offered 1984-85).

EB 425: **Research Methods Seminar**
Instructor: **To be announced**
Prerequisites: **EB 325, EB 330, EB 410**

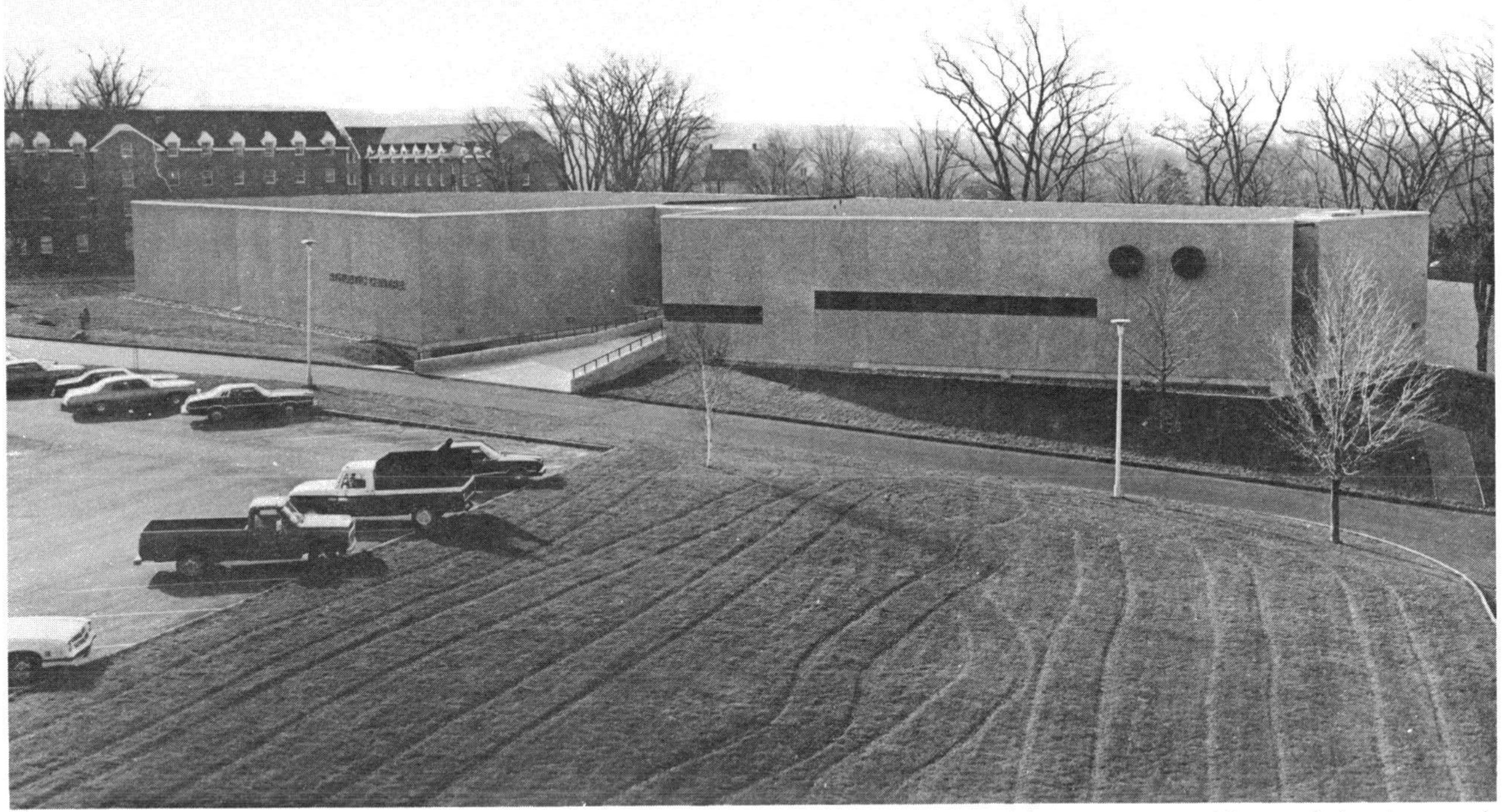
Designed to evaluate specific methods used by agricultural economics researchers. Selected papers which address issues examined by the discipline are used. Students are expected to critically evaluate the methods and conclusions presented. Preparation of a research proposal and seminar on the topic area is also required.

Winter semester—2 lecs and 2 labs per week (first offered 1984-85).

EB 440: **Farm Management II**
Instructor: **To be announced**
Prerequisites: **EB 325, EB 340**

An applied course intended to utilize farm management principles developed in Farm Management I. Students are introduced to computerized farm planning models and are required to apply these methods to actual farm problems.

Winter semester—2 lecs and 3 labs per week (first offered 1984-85).



Athletic Centre residences in background.

Humanities

H 01: **Language Development**
Instructor: **Prof. Sanger**

Designed to ensure that pretechnical students have an adequate grounding in grammar, spelling, and punctuation to meet the requirements for admission to H 10 Technical Writing; that they get exercise in technical communication; and that they have the opportunity to read and write about Canadian history and literature. The course consists of classroom instruction in grammar, spelling, and punctuation. There is heavy emphasis on the writing of tool and machine descriptions, notetaking, letter writing, and essays. At least two Canadian novels are studies. There is one major term paper and a final examination.

Winter semester—3 lecs per week.

H 10: **Technical Writing**
Instructor: **Prof. Sanger**

Objective is to provide instruction in basic scientific report and review paper writing in grammar and spelling, in business letter writing with specific reference to the employment application letter and data sheet, and in the cultural, social, and historical background of agriculture and its related trades. Students must write a major term paper.

Fall
Both semesters—3 lecs per week.

H 12: **Leadership Development**
Instructor: **To be announced**

Designed to help students develop discussion techniques, leadership styles, and skills in group dynamics. The tools of communication and related leadership skills are applied to problem-solving exercises involving study groups on work simplification topics. Through group study, practical solutions are applied to work problems with the object of finding easier and better ways to do special tasks, thus avoiding the waste of time, money, materials, equipment, and human resources. The role of community and agricultural organizations in initiating change is also considered.

Winter semester—3 lecs per week.

H 20: **The Human Body and Fitness**
Instructors: **Profs. Marchant and J. Smith**

Designed to give students a basic understanding of human anatomy and physiology and its relationship to fitness. Emphasis is placed on applied anatomy and kinesiology, as well as on the effects of physical activity on the physiological processes in the human body (exercise physiology). Most lab work takes place in the gymnasium and stresses testing, lifelong recreation activities and their exercise value, and training principles.

Fall semester—2 lecs and 2 labs per week.

H 120: **Sociology I**
Instructor: **Prof. MacEachern**

Through assigned readings from the text and in lectures, students are challenged to examine the question of the extent to which man is predetermined and/or predefined by his society. In this way, insight is provided into basic sociological concepts. The first part of the course focuses on the individual and the socialization process. The second part deals with concepts used to analyze the social organization of society. The third part centers on concepts related to social change. An in-depth study is made of society from a sociological base with the examination of a contemporary book.

Fall semester—3 lecs per week.

Text—Landis, *Sociology Concepts and Characteristics* (3rd edition).

H 125: **Sociology II**
Instructor: **Prof. MacEachern**

An examination of society with an emphasis on man in community. Special attention is given to an understanding of the self and others, and to family and human values.

Winter semester—3 lecs per week.

Texts—James & Jongeward, *The People Book*
James & Jongeward, *Born to Win*
Readings in Marriage and Family 83/84

H 140: **Personnel Management**
Instructors: **Profs. MacLeod and Saxon**

Introduces students to the basic concepts needed to understand the behavior of people at work. Included are topics associated with motivation, communication, and group relationships. Emphasis is placed on how students, as potential supervisors, may apply behavioral concepts in the work place and thereby contribute to improved employee performance. Students also examine the features of supervisory styles, elements of job design, effective introduction of change, and overcoming barriers to communication. Besides the lectures, films, and assigned readings, case studies are made by students on an individual and group basis. Case studies enable students to develop their decision-making abilities and to experience group dynamics.

Both semesters—3 lecs per week.

Text—Reber and Terry, *Behavioral Insights for Supervision.*

H 150: **Agriculture Today**
Instructor: **Prof. Cock**
Prerequisites: **PS 100, AS 100**

Deals mainly with the agricultural industry in the Atlantic Provinces. The influences of history, research, farm organization, and other factors are discussed. Issues of world food problems, regional agricultural self-sufficiency, and the changing public attitude towards agriculture are considered.

Winter semester—3 lecs per week.

H 200: **Technical Writing and English and American Authors**
Instructor: **Prof. Sanger**

Objective is to provide instruction in basic scientific report and review paper writing, in business letter writing, with specific reference to the employment application letter and data sheet, and in American and British literature from the end of the eighteenth to the middle of the nineteenth centuries. Students must write a major term paper in the literature section of the course.

Fall semester—3 lecs per week.

H 205: **Canadian Literature**
Instructor: **Prof. Sanger**

Objectives of this course are to provide a general survey of Canadian literature from colonial times to the present and to examine specifically four or five twentieth century Canadian novels. Books by Callaghan, MacLennan, Ringuet, Aguin, O'Hagan, Atwood, and Buckler have been used. Students must write a major term paper.

Winter semester—3 lecs per week.

H 220: **Introductory French**
Instructor: **Prof. Cipolla**

Designed to develop the student's use of French in the four language skills of listening, speaking, reading, and writing. A basic text and a workbook are used as well as various supplementary materials such as French films, newspapers, additional texts, recordings of speeches by public figures, and learning kits. Students also are assigned individual projects. A number of hour-long evaluations are given and the average of these is used to arrive at a summative mark.

Winter semester—3 lecs per week.

Text—Valette and Valette, *Contacts, Langue et Culture Française.*

H 300: **History of Agriculture**
Instructor: **Prof. Sanger**

Objective of this course is to examine the development of agriculture from the seventeenth to the mid-twentieth centuries. Particular emphasis is placed upon North American changes. Students are encouraged to carry out local historical field work. The course also involves work with the NSAC Archival and Historic Collections. Students must write a major term paper.

Winter semester—3 seminars per week (first offered in 1983-84).

H 305: **Nature and Rural Life**
Instructor: **Prof. Sanger**

The objective of this course is to examine work by some of the naturalists and writers on farming and country life during the last two hundred years. Among those who may be studied are Gilbert White, John Young ("Agricola"), Cobbett, Audubon, Thoreau, Darwin, W.H. Hudson, and Richard Jefferies. Modern writers such as Wendell Berry, Loren Eiseley, and Franklin Russell will also be discussed.

In addition to a final exam, students must either write one major term paper or submit an acceptable journal of natural observations.

Fall semester—3 seminars per week.

H 320: **Extension Education in the Rural Community**
Instructor: **Prof. Sanderson**
Prerequisites: **Twenty degree subjects or approval of the instructor.**

The aim of this course is to provide students with a basic understanding of the principles and theories of extension education in rural society. The first part of the course will discuss trends in the rural community which affect the extension education process. Principles and procedures in conducting extension programs will be examined in the second part of the course. Through the utilization of guest lectures and class presentations, past and present extension efforts in the Maritimes will be analyzed in the final section of the course. Students will be required to prepare a major class presentation.

Fall semester—3 lecs per week.

H 325: **Technology in Agricultural Communications**
Instructor: **Prof. Sanderson**
Prerequisites: **Twenty degree subjects including H 200, or twelve Technical subjects. Technician students require H 10.**

This course is designed to provide students with an understanding of the basic concepts involved in communicating ideas in an agricultural setting. The adult as a learner is featured in a discussion of the basic concepts involved in planning adult programs. Emphasis is placed on gaining practical experience in the use of media. Various types of media, such as radio, newspapers, television, and film, are examined. Assignments include: preparing advertising or publicity, using photography, and developing scripts. The term project requires the student to produce an audio-visual presentation with integrated sound track.

Winter semester—2 lecs and 2 labs per week.

Mathematics and Physics

MP 01: **Pre-Tech Mathematics**
Instructor: **Prof. Buckler**

Mathematical concepts are applied to problems in agriculture. Topics are mathematical operations, percentage, linear and simultaneous equations, quadratic equations, exponents, logarithms, math of finance, ratio, proportion, and variation. The S1 system of units is used throughout the course.

Winter semester—2 lecs and 2 labs per week.

MP 14: **Computational Methods**
Instructors: **Profs. Madigan, Smith, and Buckler**

A course to develop problem-solving and decision-making abilities and computational skills, both manual and machine. The course is based around the computer; mini- and micro-computer use in decision-making and computations is stressed. The problems are of a scientific and managerial nature, emphasizing agricultural applications. Some use of statistics is also included. The arithmatic and algebraic skills needed for the course are developed as the need arises through self-instructional modules.

Winter semester—1 lec and 3 labs per week.

MP 15: **Physics**
Instructor: **Prof. Buckler**

The Physics course for technicians is designed to bring students deficient in physics principles up to the grade XII level in topics important to the practice of agriculture. Such topics as measurement, mechanics, heat, and principles of electricity in both direct and alternating current are introduced. The laboratory part of the course consists of demonstration experiments and problem sessions.

Both semesters—3 lecs and 2 labs per week.

MP 40: **Electricity and Electrical Measurements**
Instructor: **Prof. Buckler**

A basic course in electricity and electrical measurements. Emphasis is placed on the study of series and parallel circuits, Ohm's Law, and Kirchhoff's Law. Both direct current and alternating current problems and exercises are employed. Elements of magnetism, resistance, capacitance, inductance, impedence, power, and resonance of the A.C. circuit are considered. The laboratory part of the course involves carrying out actual electrical measurements of a technical nature, in addition to verifying the laws studied. The techniques of handling and using electrical instruments are stressed and combined with theory to develop solutions to practical problems.

Fall semester—2 lecs and 2 labs per week.

Text—Buhan and Schmitt, *Technical Electricity and Electronics.*

MP 41: **Light and Optics**
Instructor: **Prof. Buckler**

A course in light and optics. It consists of the study of photometry, regular and diffused reflections, laws of reflection, mirrors, images, mirror formulas, optical density, index of refraction, laws of refraction, critical angle, lenses, ray diagrams, images, color, constructive and destructive interference, diffraction, and polarization. In the laboratory part of the course, the student becomes involved in optical measurements that verify and demonstrate the elements studied and extend the techniques of solving problems.

Winter semester—2 lecs and 2 labs per week.

Text—To be announced.

MP 70: **Basic Statistics**
Instructor: **Prof. Padmanathan**

Populations and samples, frequency distributions, sampling theory, tests of hypotheses, linear regression and correlation, analysis of variance, and discussion of experimental designs.

Winter ~~Fall~~ semester—3 lecs per week.

Text—To be announced.

MP 080: **Transition Mathematics**
Instructor: **Prof. Saxon**

This is a review of high school mathematics. Topics include manipulation of algebraic expressions, equation solving, linear and quadratic functions, trigonometric functions, graphing, inverse functions and specifically logarithmic and exponential functions, sequences and series. The course will be conducted on a lecture/seminar/tutorial basis.

Fall semester—4 lecs per week.

MP 090: **Introductory Physics**
Instructor: **Prof. Saxon**

An introductory course for entering students who do not have the equivalent of Nova Scotia Grade XII Physics. Course topics are mechanics, heat, light, and electricity. The laboratory emphasizes the experimental foundations of physics and allows the student to acquire skills in measurement through practice.

Winter semester—3 lecs and 4 labs per week.

Text—To be announced.

MP 100: **Calculus and Analytic Geometry I**
Instructors: **Profs. Fraser and Madigan**

A study of limit and the derivative, with applications to maxima and minima, velocity and acceleration, and differentiation of the trigonometric, exponential, and logarithmic functions. Topics from analytic geometry are covered at appropriate stages throughout the course.

Both semesters—4 lecs per week.

Text—Swokowski, *Calculus—A First Course.*

MP 105: **Calculus and Analytic Geometry II**
Instructors: **Profs. Fraser and Madigan**

A continuation of MP 100 dealing mainly with the integral calculus. Both definite and indefinite integrals are studied, with application to areas, volumes, hydrostatic pressure, and work. The final part of this course deals with sequences and series. As in the case of MP 100, topics from analytic geometry are covered at appropriate stages of the course.

Both semesters—4 lecs per week.

Text—Swokowski, *Calculus—A First Course.*

MP 110: **Modern Physics**
Instructor: **Prof. Smith**

A treatment of the conceptual foundations of physics, including mass, length, time, kinematics, Newton's Laws, frames of reference, relative motion including Galileon Relativity and Special Relativity, momentum, energy and the conservation principle. The quantum nature of energy and an introduction to quantum mechanics, an investigation of the nucleus with regard to nuclear structure, binding energy, and nuclear size; and nuclear reactions, particles, and fission are discussed.

Fall semester—3 lecs and 4 labs per week.

Text—Kone and Sternheim, *Physics.*

MP 130: **Physics for Life Sciences I**
Instructor: **Prof. Smith**

Basic physics principles necessary for the understanding of instrumentation and biophysical topics form the core of the course. Topics include mechanics, motion and force, concepts of energy, pressure, and fluid flow. Calorimetry and heat transfer methods are applied to such topics as the basic metabolic rate and size of an animal. Elementary optics and optical instruments are treated, with application to biological research.

Fall semester—3 lecs and 4 labs per week.

Text—Kone and Sternheim, *Physics.*

MP 135: **Physics for Life Sciences II**
Instructor: **Prof. Smith**

A continuation of Physics MP 130. The electric charge and field, and potential and simple electric circuits are taken up, and their importance in instrumentation is explored. The magnetic field is included. The atom and the nucleus are studied with relation to the process called radioactivity.

Winter semester—3 lecs and 4 labs per week.

Text—Kone and Sternheim, *Physics.*

MP 200: **Statistics**
Instructor: **Prof. Padmanathan**

Descriptive statistics; frequency distributions; probability; normal, standard normal, binomial and chi-square distributions; tests of significance; t and F distributions, simple linear regression and correlation; sampling; planning of experiments; analysis of variance of simple designs; non-parametric tests.

Winter semester—3 lecs and 1 lab per week.

MP 220: **Computer Science**
Instructor: **Prof. Madigan**

Introduction to problem-solving methods, algorithm development, and a high level programming language. Emphasis is on designing, coding, debugging, and documenting programs.

The coding is done in FORTRAN in the fall semester, and in BASIC in the winter semester.

Fall and winter semesters—3 lecs and 2 labs per week.

MP 230: **Multivariable Calculus**
Instructor: **Prof. Madigan**
Prerequisites: **MP 100, MP 105**

Covers vectors, differential calculus of several variables, multiple integration.

Fall semester—4 lecs and 2 labs per week.

MP 235: **Differential Equations and Linear Algebra**
Instructor: **Prof. Madigan**
Prerequisites: **MP 100, MP 105**

Course covers elementary differential equations, first order equations, types of second order equations and solutions, applications to physical problems, vectors and vector products, differentiation, integration, matrices, linear transformations, and eigenvalues.

Winter semester—4 lecs and 2 labs per week.

MP 300: **Electric Circuits**
Instructor: **Prof. Smith**
Prerequisite: **MP 135**

Includes theory of circuits and power engineering; DC circuits; AC currents and voltages, phasors and complex algebra; AC circuits; current-voltage; power; frequency response; polyphase circuits; transients; magnetic circuits; si phase transformers; electrical machinery; DC machines; alternators; induction and synchronous motors.

Fall semester—3 lecs and 2 labs per week.

Text—Johnson, Hilburn, Johnson, *Basic Electric Circuit Analysis.*

MP 320: **Statistical Methods**
Instructor: **Prof. Madigan**
Prerequisite: **MP 200**

Covers methods of analysis of variance and covariance, experimental designs, sampling techniques, multiple regression, and correlation.

Fall semester—3 lecs and 2 labs per week.

Plant Science

PS 10: **Plant Science Skills**
Instructor: **To be announced.**

Techniques and skills used in plot seeding, forage harvesting, corn harvesting, yield and dry matter determinations are studied. Seed testing, seed stratification, bulb forcing, as well as propagation of hardwood and softwood cuttings, are undertaken. Course includes studies in the uses and operation of instruments used to monitor plant growth conditions. Automatic watering and feeding of greenhouse crops, various methods of grafting, and the preparation of exhibition materials are also studied. Requires two semesters to complete.

Winter semester—4 labs per week (2 labs per week in Semester A).

PS 30: **Plant Science**
Instructor: **Prof. Bubar**

Selected topics on crop plants with emphasis on characteristics that relate to the selection and adjustment of equipment.

Fall semester—3 lecs and 2 labs per week.

PS 39: **Greenhouse Management**
Instructor: **To be announced**

Available only to students who have successfully completed the first year of the Horticulture Minor of the Plant Science Technician course, the first year of the Landscape Horticulture Technology course, or subject PS 10. Covers types of greenhouses, heating systems, ventilation, relative humidity and automatic controls, culture of individual vegetable and floral crops, and bedding plants.

Fall semester—3 lecs and 2 labs per week.

PS 40: **Field Crops I**
Instructor: **Prof. Fraser**

A study of grasses, legumes, and other crops grown for forage or grain; factors influencing adaptation and distribution of these crops. Emphasis is placed on crops and conditions in the Atlantic Provinces.

Fall semester—3 lecs and 2 labs per week.

Text — Martin, Leonard and Stamp, *Principles of Field Crop Production* (3rd edition).

PS 41: **Field Crops II**
Instructor: **Prof. Fraser**
Prerequisite: **PS 40**

A continuation of PS 40 dealing with establishment, production management, and harvesting and storage of forage and grain crops. The overall objective is to provide a basis for sound feed production decisions on livestock farms in the Atlantic Region.

Winter semester—3 lecs and 2 labs per week.

Text — Martin, Leonard and Stamp, *Principles of Field Crop Production* (3rd edition).

PS 42: **Cash Crops and Seed Production**
Instructor: **Prof. Bubar**
Prerequisite: **PS 40**

A follow-up to PS 40. It deals with production of field crops for industrial and commercial markets and with pedigreed and non-pedigreed seed production.

Winter semester—3 lecs and 2 labs per week.

PS 43: **Small Fruit Crops**
Instructor: **Prof. Ju**

Berry crops studied include strawberries, raspberries, cranberries, blueberries, currants, gooseberries, and grapes. All aspects of berry production, from planting to marketing, are covered, as well as tree fruit production and harvesting. Course also includes visits to orchards and processing plants.

Fall semester—3 lecs and 2 labs per week.

Text—Shoemaker, *Small Fruit Culture.*

PS 44: **Tree Fruit Crops**
Instructor: **Prof. Ju**

The culture and handling of apples, pears, peaches, plums, and cherries. Topics studied are soil management, use of fertilizers, pruning, thinning, harvesting, storage, and marketing.

Winter semester—3 lecs and 2 labs per week.

Text—Teskey, Shoemaker, *Tree Fruit Production.*

PS 45: **Turf Production I**
Instructor: **Prof. Daniels**

A study of cool season turfgrasses, their individual characteristics and value. The relationship of the development of a specific turfgrass and its best growing environment and use are studied. Laboratory periods deal with seasonal applied practices in turfgrass production.

Fall semester—2 lecs and 3 labs per week (offered next in 1984-85).

Text—Beard, James, *How to Have a Beautiful Lawn.*

PS 46: **Turf Production II**
Instructor: **Prof. Daniels**
Prerequisite: **PS 45**

A study of the applied management of turfgrass. Topics include establishment and renovation of turfgrass, proper fertilizing, watering, and pest control programs. Laboratory periods deal with formulation of applied turfgrass care management programs.

Winter semester—2 lecs and 3 labs per week.

Text—Beard, James, *How to Have a Beautiful Lawn.*

PS 49: **Potato Production**
Instructor: **Prof. Haliburton**

Cultural practices involved in the production of potatoes are discussed in relation to the botanical characteristics of the potato plant. Physiological changes involved in sprouting, tuber initiation, crop development, and storage are considered in detail. Seed potato production is given particular attention.

Winter semester—3 lecs and 2 labs per week.

PS 50: **Landscape Horticulture I**
Instructor: **Prof. Higgins**

Fundamental principles and industry practices for the growth, selection, moving, and maintenance of trees, shrubs, and ground covers are discussed, as well as the functional uses of these ornamental plants for the contemporary landscape.

Fall semester—3 lecs and 4 labs per week.

Text—Carpenter, Walker, Lanphear, *Plants in the Landscape.*

PS 51: **Residential Landscape Design and Construction**
Instructor: **Prof. Higgins**
Prerequisites: **AE 12, PS 50**

Residential landscape design is studied in detail with special emphasis on a systematic approach to creative solutions in design problems. Landscapes of private homes and multiple family complexes are studied.

Winter semester—3 lecs and 4 labs per week.

Text—Hannenbaum, *Landscape Design.*

PS 52: **Plant Science Project**
Coordinator: **Prof. Haliburton**

A study of an agronomic or horticultural topic, which usually includes plant growing experimentation, that the student pursues in much more detail than is possible in lecture or laboratory course presentations. Students are evaluated on initiative in developing the project, on competence in carrying out its practical aspects, and on demonstrated progress towards objectives set when the project is initiated. The work is begun in the Fall semester.

Winter semester—Time to be arranged.

PS 53: **Vegetable Production**
Instructor: **Prof. Haliburton**

Production practices for vegetables grown in the Atlantic region are studied in detail, including botanical and horticultural characteristics, soil and fertility requirements, cultivar selection, pest management, and harvesting and storage. Commercial vegetable enterprises are visited.

Fall semester—3 lecs and 2 labs per week.

Text—Ware and McCollum, *Producing Vegetable Crops.*

PS 55: **Nursery Crops**
Instructor: **To be announced**

Covers the production of woody landscape plant materials and herbaceous perennials. More specifically, it covers plant propagation techniques and equipment, nursery culture and equipment, and garden center handling and sales of the plants.

Fall semester—3 lecs and 2 labs per week.

Text—Hartmann and Kester, *Plant Propagation.*

PS 60: **Landscape Plant Material I**
Instructor: **Prof. Higgins**

Landscape plants are studied with respect to their identification, landscape value, hardiness, growth characteristics, diseases and insects, and propagation. Plants studied are deciduous trees and shrubs, perennials, and annual bedding plants.

Fall semester—3 lecs per week.

Text—Dirr, *Manual of Woody Landscape Plants.*

PS 61: **Landscape Plant Materials II**
Instructor: **Prof. Higgins**

Involves the study of narrow leaf and broad leaf evergreens and their identification, landscape value, hardiness, growth characteristics, diseases and insects, and propagation. Identification of woody plants in winter is also covered. Sketching will be taught in this course.

Winter semester—3 lecs per week.

Text—Dirr, *Manual of Woody Landscape Plants.*

PS 70: **Landscape Techniques**
Instructor: **Prof. Higgins**

This is a spring course in which students learn techniques used in landscape construction and maintenance. Techniques for plant production and marketing are also involved.

Spring semester—6 weeks.

PS 71: **Arboriculture**
Instructor: **Prof. Higgins**
Prerequisite: **PS 50**

Special emphasis is placed on advanced arboriculture, including environmental and non-parasitic injuries to trees, bracing and cabling, street trees, and evaluation of shade trees. Plant identification is an important segment of this course. Students are required to submit a plant collection.

Fall semester—3 lecs and 6 labs per week.

Text—Pirone, *Tree Maintenance.*

PS 72: **Landscape Maintenance**
Instructor: **Prof. Higgins**
Prerequisite: **PS 73**

Deals with landscape maintenance. Emphasis is placed on scheduling horticultural work, on horticultural maintenance equipment, and on pesticides and their applications. Time studies and organization of horticultural tasks are considered. A calendar of landscape maintenance tasks is developed by the students. Plant identification is an important component of this course.

Winter semester—3 lecs per week.

PS 73: **Landscape Horticulture II**
Instructor: **Prof. Higgins**
Prerequisite: **PS 50**

A study of herbaceous plants and their uses in the landscape. Other special groups of plants, such as vines, roses, and indoor landscaping plants, are studied. Special gardening techniques and styles will be examined. Students in this course are required to submit a plant collection.

Fall semester—3 lecs and 4 labs per week.

Text—Buckley, *Canadian Garden Perennials.*

PS 74: **Landscape Design & Construction**
Instructor: **Prof. Higgins**
Prerequisite: **PS 73**

Advanced landscape design problems and techniques. Topics, such as paving materials, site furniture, retaining walls, curbing, roof gardens, and planters, are covered. A systematic approach to site planning, design, and construction of a design is thoroughly examined.

Winter semester—3 lecs and 6 labs per week.

Text—Walker, *Site Design and Construction Detailing.*

PS 75: **Landscape Horticulture Project**
Instructor: **Prof. Higgins**

Involves the pursuit of a horticultural topic, by a student, in much greater detail than is possible in regular lecture and laboratory course presentations. The student is evaluated on initiative, presentation techniques, and competence in carrying out the objectives of the project from the time the study is initiated until it is completed. The topic to be studied must be decided on before the end of the fall semester.

Winter semester—4 labs per week.

PS 76: **Plant Products Physiology**
Instructors: **Profs. Prange and Haliburton**
Prerequisite: **B 41 (can be taken concurrently)**

The principles of plant physiology as they apply to plant products in storage environments. Course deals with management practices associated with the harvesting and storage of crops and the effect of time period and conditions of storage on the quality of the plant products. Storage structures are studied and representative types of commercial storages visited.

Winter semester—3 lecs and 2 labs per week.

PS 90: **Technology Project**
Coordinator: **Prof. Mulkewytch**

This project provides an opportunity for the student to study in detail a Plant Science topic of special interest. This must be a new topic, but may build on other aspects of the study program. The student pursues studies under a project supervisor. The project plan developed with the advisor must include the purpose of the study, the procedures and materials used, a time schedule for the work involved, the method in which the information will be collected, the way in which comparisons and conclusions will be developed, and the format for the final report. Both a written and an oral report will be required. The mark is normally reported in the student's final semester, but studies should commence early in the first semester.

Winter semester—Time to be announced.

PS 100: **Principles of Crop Production**
Instructors: **Profs. Bubar and Mulkewytch**

This is a prerequisite for all Plant Science production subjects. General principles underlying adaptation, improvement, culture, and utilization of agronomic and horticultural crop plants are studied. Special attention is paid to crops and discussion of principles in relation to the crops grown in the region.

Fall semester—3 lecs and 2 labs per week.

Text — Janick, Schery, Woods, and Ruttan, *Plant Science, An Introduction to World Crops* (2nd edition).

PS 300: **Forage Crops**
Instructors: **Profs. Fraser and Bubar**

Study of principal underlying characteristics, tolerances, requirements, uses of forage crops, and the production of forage plants for hay, pasture, silage, haylage, soilage, or cover.

Winter semester—3 lecs and 2 labs per week.

PS 305: **Grain Production**
Instructor: **To be announced**

Study of cereals, pulses, oilseeds, and other grains, their classification, adaption, distribution, culture, improvement, seed production, handling, grading, and utilization.

Fall semester—3 lecs and 2 labs per week.

PS 310: **Vegetable Crops**
Instructor: **Prof. Haliburton**

Botanical and horticultural features of major families of vegetable crops. Production technology, pest management, harvesting, and storage requirements of major vegetable crops are studied in detail.

Fall semester—3 lecs and 2 labs per week.

PS 315: **Tree Fruit Crops**
Instructor: **Prof. Ju**

Origins, history, biosystematics, adaptation, distribution, and culture of tree fruits. Propagation, pruning, training, harvesting and storage, pest control, and breeding of new cultivars and marketing of these crops are included in the course.

Winter semester—3 lecs and 2 labs per week.

PS 320: **Small Fruit Crops**
Instructor: **Prof. Ju**

Principles and practices of small fruits production, history, biosystematics, adaptation, distribution, pest control, breeding of new cultivars, and propagation, storage, and marketing are studied.

Fall semester—3 lecs and 2 labs per week.

PS 325: **Potato Production**
Instructor: **Prof. Mulkewytch**

History, biosystematics, growth, and development of the crop. Culture through seed preparation, sprouting, growth, tuberization, maturation and storage for seed, table, and processing are studied in detail. Fertility practices and pest management, breeding and use of cultivars, and nutritional qualities of the crops are considered. Production practices in the Atlantic Provinces are examined in detail.

Fall semester—3 lecs and 2 labs per week.

PS 330: **Greenhouse Crop Production and Floriculture**
Instructor: **Prof. Daniels**

Construction and equipment of greenhouses and related structures. Physiological principles involved in the growing and correct timing of vegetable and flower crops are studied and related to commercially viable plant production. Plant nutrition, propagation, and greenhouse management are also considered.

Winter semester—3 lecs and 2 labs per week (first offered in 1984-85).

PS 335: **Landscape Horticulture**
Instructor: **Prof. Higgins**

A survey course of the landscape industry. Aspects covered are plant production in nurseries, landscape design, landscape construction, and landscape maintenance.

Fall semester—2 lecs and 4 labs per week.

PS 340: **Turfgrass Culture and Management**
Instructor: **Prof. Daniels**

Culture and management of turfgrass. Emphasis is on functional, recreational, and ornamental use of turf and on solving problems in turfgrass production.

Fall semester—3 lecs and 2 labs per week (offered next in 1984-85).

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PS ~~345~~: **Woodlot Production**
Instructor: **To be announced**

Trees and forests of Eastern Canada, forest ecology, product multiple use potentials, silviculture, management, and marketing.

Fall semester—3 lecs and 2 labs per week.

PS 400: **Plant Breeding**
Instructor: **To be announced**
Prerequisites: **B 240, MP 200, one crop production subject**

Improvement of crops through the application of genetic principles to breeding methods. A term report is required.

Fall semester—3 lecs per week (first offered in 1984-85).

PS 405: **Agronomy**
Instructor: **To be announced**

Available only to students who have completed all the required subjects in the first seven semesters, including two agronomic production subjects. The objective is to review and integrate material from prerequisite subjects on field crop production soils, climate, and basic sciences into crop management systems. Students successfully completing this course qualify to be identified as agronomists.

Winter semester—3 lecs per week (first offered in 1984-85).

PS 410: **Horticulture**
Instructor: **To be announced**

Available only to students who have completed all the required subjects in the first seven semesters, including two horticultural production subjects. Objective is to review and integrate material, from prerequisite courses on horticultural crops production, soil, climate, and basic sciences, into crop management systems. Students successfully completing this course qualify to be identified as horticulturalists.

Winter semester—3 lecs per week (first offered in 1984-85).

PS 415: **Crop Adaptation**
Instructor: **To be announced**
Prerequisites: **Two crop production subjects**

Crops in relation to environmental influences, such as temperature, light, soil, water, and biotic factors of where crops are grown. Approaches to expanding areas of adaptation and distribution are considered. A term report is required.

Winter semester—3 lecs per week (first offered in 1984-85).

PS 420: **Storage Physiology**
Instructor: **To be announced**
Prerequisites: **PS 415, PS 430, PS 435**

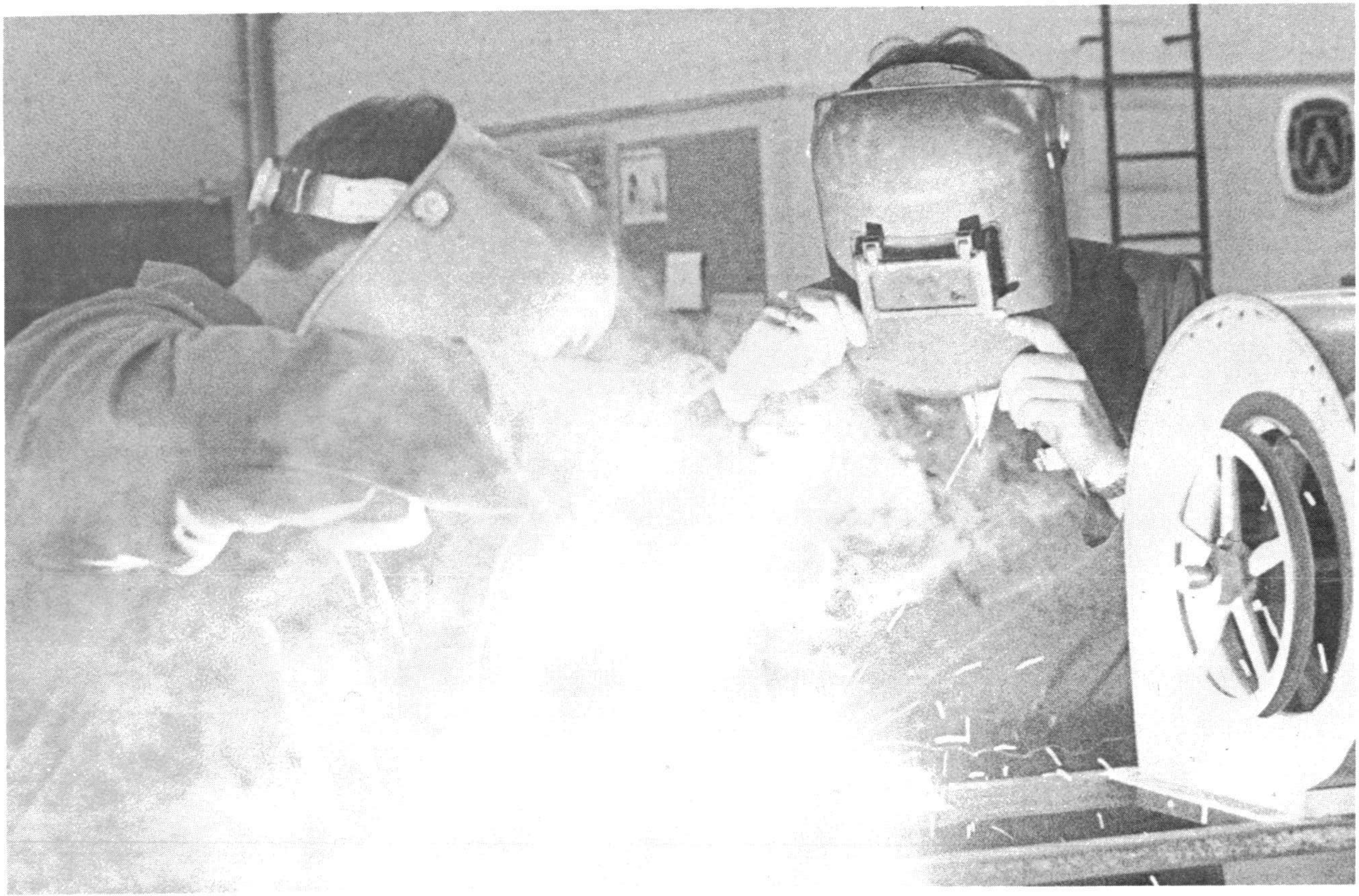
Post-harvest physiology of fruits and vegetables in relation to storage, handling techniques, and storage life of the product. Respiration, transpiration, maturation, and storage diseases are considered in relation to the condition of the crop being stored and the storage environment.

Winter semester—3 lecs and 2 labs per week (first offered in 1984-85).

PS 450: **Seminar and Project**
Coordinator: **Prof. Bubar**

Directed study of a topic that may involve original research and require both an oral and a written presentation in semester 7 or 8. All students registered in Plant Science in semesters 3 to 8 are expected to attend oral presentations. Topics for directed study are selected in the penultimate year. Students are encouraged to work on their topics during the summer before final year and classes commence in the Fall semester.

Winter semester—1 lec per week (first offered in 1984-85).



Welding—Part of Shopwork at NSAC.

Vocational and Continuing Education Courses

Vocational

The Nova Scotia Agricultural College offers pre-employment and upgrading courses for several specific farm and farm-related careers. These may be of varying lengths and offered at different times of the year depending upon the topic(s) being studied. All vocational courses lead to vocational certificates.

The following courses are tentatively planned for the 1983-84 year:

Accounting & Taxation (Farm)
Blueberry Production
Christmas Tree Production (Basic)
Dairy Herd Operation
Draft Horses In Basic Woodlot Operations
Draft Horses (Introduction to)
Draft Horses (Use of) In Commercial Forest Operations
Farm Skills I
Farm Skills II
Farrier (Basic)
Floral Design
Fox Production
Goat Husbandry
Horse Care Program
Ironwork (Basic)
Ironwork (Advanced)
Meat Cutting
Mink Production
On-Farm Computers
Pesticides—Crop Protection, Application & Safety
Preventative Maintenance & Repair of Farm Machinery
Sheep Husbandry (Basic)
Strawberry Production
Swine Farm Management
Swine Herd Operation
Tree Fruit Production
Turf Production
Vegetable Production
Welding (Basic Farm)
Woodlot Management (Farm) & Chain Saw Safety

Entrance Requirements

These are specific for each course. In most cases, a candidate for admission must:

—be at least seventeen years of age
—demonstrate interest in the occupation being studied
—have an opportunity for using information gained on the course in employment and/or be presently employed (or have experience) in work related to the course.

Cost

Room and board at the Nova Scotia Agricultural College is $69 per week. The cost for books, student fees, and other similar charges depends upon the length of the course and the topics being covered. Rarely do such costs exceed $10.

Living Allowances

Some adults on the long courses qualify for living assistance from Employment and Immigration Canada. The amount of the assistance is determined by the department according to the student's financial responsibilities.

Applications

Persons interested in any of the vocational courses should write a letter of application to the Coordinator of Vocational Courses, Nova Scotia Agricultural College, P.O. Box 550, Truro, Nova Scotia B2N 5E3.

Continuing Education

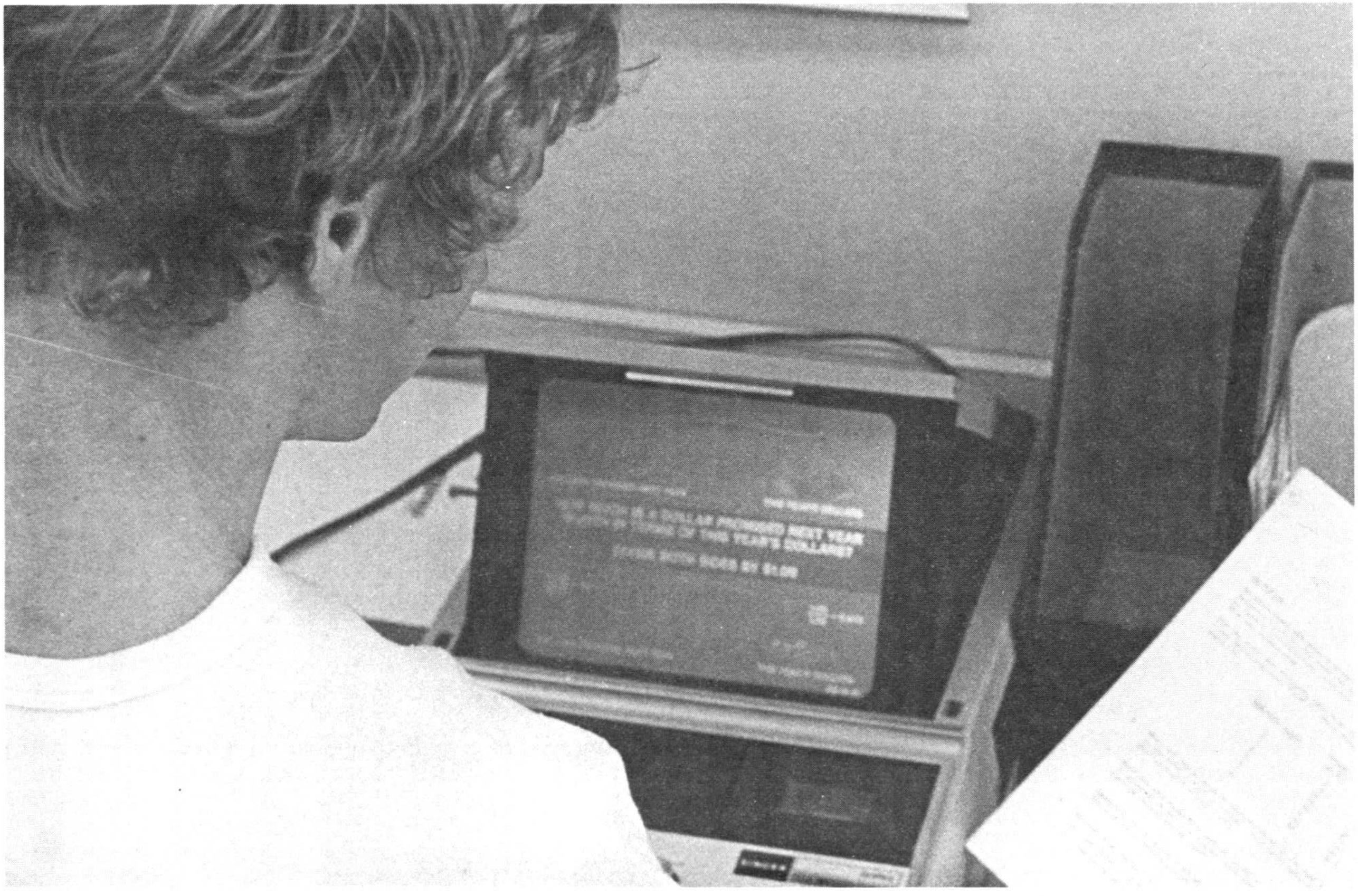
The NSAC offers evening courses, summer schools, and block programs from time to time for special interest groups within the agriculture and related industries. During the 1982-83 year, night courses were offered on Solar Greenhouses, Home Gardening, and Micro-computer Use.

In addition, home study courses were available on Sheep Production, Vegetable Production, and Chain Saw Use.

For information on courses offered and costs, write Continuing Education, Nova Scotia Agricultural College, P.O. Box 550, Truro, Nova Scotia B2N 5E3.

Microbiology in Agriculture at NSAC.

Practical demonstration—NSAC swine herd.



New ways to study at NSAC.

Scholarships and Bursaries

Entrance Scholarships

Nova Scotia Institute of Agrologists Scholarship

The Nova Scotia Institute of Agrologists has provided a scholarship of $500 for a resident of Nova Scotia entering one of the Degree courses at the Nova Scotia Agricultural College. In awarding this scholarship, the selection committee will take into consideration academic standing and financial need. Applicants should write the Registrar, Nova Scotia Institute of Agrologists, NSAC, Truro, N.S., B2N 5E3, for an application form, which will be available by July 1. The application and the applicant's Grade XII certificate should be in the Registrar's office not later than August 15.

Provincial Scholarships: Nova Scotia and New Brunswick

The Provinces of Nova Scotia and New Brunswick offer scholarships to their residents who have good marks and are entering the Degree courses at the Nova Scotia Agricultural College. Scholarships are awarded on the basis of the matriculation year. In the case of students with high marks, a scholarship may be offered on the basis of mid-year and Easter marks. No application is necessary.

The Provinces of Nova Scotia and New Brunswick offer scholarships of $200 to their residents entering one of the Technical courses at the Nova Scotia Agricultural College with an average of 80% or better. No application is necessary.

Provincial Scholarships: Prince Edward Island

The Province of Prince Edward Island offers scholarships to all residents admitted to the Degree courses at the Nova Scotia Agricultural College. For information and application forms, contact: Rural Development Section—Training, Prince Edward Island Department of Agriculture & Forestry, P.O. Box 2000, Charlottetown, P.E.I. C1A 7N8.

Newfoundland Provincial Scholarships

The Newfoundland Government, through its Department of Education, offers three scholarships of $700 each to Newfoundland students who enter the first year of the B.Sc. (Agr.) or B.E. (Agr.) courses at NSAC with the highest averages in the subjects required for admission. If there are insufficient students admitted to the first year of the course, the remaining scholarship(s) are offered to a student (or students) entering the second and, if necessary, subsequent years with the highest average (or averages). No application is required. The scholarships are presented at Autumn Assembly.

I.O.D.E. Bursaries

I.O.D.E. Bursaries of $100 to $300 are awarded to entering students who show academic ability and financial need. For details, contact the Provincial Education Secretary, Provincial Chapter I.O.D.E., Room 505, The Roy Building, 1657 Barrington St., Halifax, N.S. B3J 2A1. Applications open March 1 and close May 1, 1982.

Nova Scotia Agricultural College Alumni Scholarships

The Nova Scotia Agricultural College Alumni Association offers two scholarships of $500 to worthy students entering the first year of the Degree or Technician course. Academic standing and financial need are taken into consideration in awarding the scholarships. No application is necessary.

Henry Austin Memorial 4-H Scholarship

In memory of Henry Austin, a devoted friend to everyone and a dedicated leader who faithfully served the County of Cumberland for more than seven years as Agricultural Representative, a memorial fund has been established by his friends. This fund provides an annual scholarship to a deserving 4-H Club member from Cumberland County attending first year in either a Technician or Degree course at the Nova Scotia Agricultural College, or a Home Economics course at the college of his or her choice.

The Scholarship Committee of the Cumberland County Federation of Agriculture administers the fund and selects the recipient.

The value of the scholarship is $100, payable in two parts: $50 on successful completion of the first term and the balance on completion of the year's course.

Applicants must possess a Grade XI High School Certificate, have completed at least two years in 4-H Club work in Cumberland County, and be recommended by the District Federation of Agriculture. Candidates are selected according to their leadership ability, interest in community activities, scholastic standing, and financial need.

Applications must be submitted to the Secretary of the County Federation of Agriculture, not later than August 31. Application forms may be obtained from the Secretary of the District Federation of Agriculture in the candidate's area, or from the Agricultural Office, Amherst.

Leonard Best Memorial Scholarship

The Nova Scotia 4-H Alumni Association presents a $50 scholarship in memory of Leonard Greenwood Best. This scholarship is awarded annually to the most outstanding 4-H Club member in Nova Scotia. The selection is made at the Provincial 4-H Leadership Week in Truro and is based on personality, leadership qualities, contribution to 4-H, and all-round ability. This scholarship is to be used toward further education in any field. No application is necessary.

Canadian National Exhibition Scholarship for 4-H Club Members

Each year, the Canadian National Exhibition awards, in each province, a scholarship of the value of $1000 and an all-expense paid trip to the Canadian National Exhibition to a candidate who is currently in, or who has completed, the first year of a degree course in Home Economics, a degree course in Agriculture, or a degree course in Veterinary Medicine.

Candidates must be at least 17 years of age, have completed at least two years in 4-H Club work, and have shown qualities of leadership and an interest in community activities. The successful candidate will receive his or her award at a ceremony at the Canadian National Exhibition in the year in which it is won. The successful candidate has five years in which to use his or her scholarship. Application forms may be obtained from the Agricultural Representative.

Co-op Atlantic Bursaries

Co-op Atlantic offers three bursaries of $200 each to students entering the Technician course. Selection is based on the recommendation of a local co-operative or district Federation of Agriculture, on need, and on potential for community leadership and/or co-operative endeavour. Applications should be sent to Co-op Atlantic, Box 750, Moncton, N.B. E1C 8N5, no later than August 15.

The Lorne S. Fisher Memorial Scholarship

The Cumberland County Federation of Agriculture has set up a scholarship of $100, in memory of the late Lorne S. Fisher, a leader and a good friend of farm organizations in his community, his county, and his province, and a member of the Federation of Agriculture. It is open to a candidate who is a son or daughter of a Federation member and who is enrolled in a Technician course at this institution. The scholarship will be payable in two parts: $50 on completion of the first year and $50 on completion of the second year.

Applications must be approved by the District Federation of Agriculture and must be submitted to the Secretary of the Cumberland Federation of Agriculture by August 31. Application forms may be obtained from the Secretary of the District Federation of Agriculture in the candidate's area.

The Benny Duivenvoorden Memorial Scholarship

The Benny Duivenvoorden Memorial Scholarship of $500 is offered by the New Brunswick Central Artificial Breeding Co-operative to a New Brunswick 4-H member who enters a recognized college of agriculture. Applications must be made to the N.B. Central A.B. Co-op, Box 1567, Fredericton, N.B., E3B 5H1. The deadline for applications to be received at this address is August 31.

Continuation Scholarships At the Nova Scotia Agricultural College

The Nova Scotia Federation of Agriculture Scholarship

The Nova Scotia Federation of Agriculture offers two scholarships of $300 each to residents of Nova Scotia. One is awarded to a student who has completed the work of the first year of the Degree course and is entering the second year; the other is awarded to a student who has completed the work of the first year of the Technician course and is entering the second year of that program. Financial need and academic standing are considered in making the award. No application is necessary.

The David W. Brown Bursary

The A.C.A. Co-operative Association Ltd. offers two bursaries of $500 each: one to a worthy student in the second year of the Degree Program and one to a worthy student in the second year of the Technician Program. The bursaries are awarded on the basis of scholastic achievement, need, interest in farming and in the poultry industry in particular. Applications for the bursaries must be made by May 1. Application forms are available from the Registrar's Office.

Ira L. Rhodenizer Memorial Scholarship

The Nova Scotia Federation of Agriculture offers a scholarship of $300 to a student in the Second Year Technician class or the Second Year Degree class as a memorial to the late Ira. L. Rhodenizer, long-time friend of organized agriculture and the 4-H movement. The recipient must be a Nova Scotian of high academic standing who has taken an active part in student affairs and has been active in the 4-H movement. The scholarship is payable after the winner has registered for second year. A letter of application indicating 4-H experience must be received at the Registrar's Office, NSAC, not later than September 20.

The Dr. Kenneth Cox Scholarship

As a tribute of their retiring Principal, the Class of 1964 of the Nova Scotia Agricultural College established a fund of $2000. The interest on this fund is awarded annually to a worthy student entering the final year in agriculture. No application is necessary.

Provincial Scholarships: Nova Scotia and New Brunswick

The provinces of Nova Scotia and New Brunswick offer scholarships to their residents who are registered in the second year of the Degree and Technical courses at the Nova Scotia Agricultural College and who have attained a high standard in the work of the previous year. No application is necessary.

Provincial Scholarships: Prince Edward Island.

The province of Prince Edward Island offers scholarships to all residents registered in the second year of Degree courses at the Nova Scotia Agricultural College. For information and application forms, contact: Rural Development Section—Training, Prince Edward Island Department of Agriculture and Forestry, P.O. Box 2000, Charlottetown, P.E.I., C1A 7N8.

A.W. MacKenzie Scholarship

A scholarship of $50 is offered by A.W. MacKenzie for a student entering the second year of the Degree course. The scholarship is awarded on the basis of scholastic standing, need, and participation in 4-H Club activities. A letter of application indicating 4-H experience must be received at the Registrar's Office, NSAC, not later than September 20.

Atlantic Provinces Hatchery Federation Scholarship (Technical)

The Atlantic Provinces Hatchery Federation offers a scholarship of $200 to a resident of the Atlantic Provinces who is admitted to the final year of a Technical Program and who has a specific interest in poultry.

The Farm Focus Bursary

The Farm Focus newspaper offers a bursary of $200 to a worthy student entering the second year of the Degree or Technician courses. Academic standing and financial need are taken into consideration in awarding this bursary. No application is necessary.

New Brunswick Poultry Council Scholarship

The New Brunswick Poultry Council offers an annual scholarship of $450 to a student of the Pre-Veterinary course at NSAC who is admitted to the Ontario Veterinary College of the University of Guelph or other similar Canadian veterinary college.

The selection of the recipient of this award shall be made by the Veterinary Selection Committee and approved by the New Brunswick Poultry Council. In the event that more than one student possesses otherwise equal qualifications for an annual award, preference shall be given to a student from New Brunswick.

Donald E. Clark Memorial Scholarship

In memory of the late Professor and Head of the Agricultural Engineering Department, Donald E. Clark, a scholarship(s) is(are) offered to final year students in the Agricultural Engineering Department, awarded on the recommendation of the Agricultural Engineering Department Staff.

The value of the scholarship(s) is determined by the number offered and the interest accrued from a fund established by friends and associates of the late Donald E. Clark in the fields of teaching and industry. The awarding of the scholarship(s) is based on academic standing, interest, and aptitude in the engineering field. No application is necessary.

The Wilfred Cyr Memorial Scholarship

The New Brunswick Sheep Breeders Association, in memory of the late Wilfred Cyr, offers two scholarships of $100 each (one to an Anglophone and one to a Francophone) to students who have completed the first year of a Degree or Technical course at the Nova Scotia Agricultural College and who enter the second year of the program. Application forms can be obtained from the office of the N.B. Sheep Breeders Association or from the Registrar's Office, NSAC.

The Dr. Robert C. Rix Family Farm Bursary

This bursary of $200 is offered annually to a student who enters the final year of the Farming Technology course. It is awarded on the recommendation of the Economics and Business Department staff. The selection of the recipient is to be based on determination and dedication to the objective of operating a family farm, the extent to which the student is hard-working and conscientious, and financial need. The bursary is presented at the Fall Assembly. No application is required.

Scholarship for Third and Fourth Year Students

Canada Packers Scholarship

Canada Packers Inc. offers an annual scholarship valued at $1,000 to a student who completes the third year in the Animal Science option of the B.Sc.(Agr.) course and has registered for the final year. The student may also be offered an internship with the company for the summer period between the third and fourth academic years. Candidates are considered on the basis of academic standing, leadership qualities, and participation in student and community affairs. Selection of the recipient is made following the fifth semester (first term of the third academic year) of the student's program by company representatives and on the recommendation of the NSAC Scholarships Committee. The presentation of the scholarship takes place at Autumn Assembly in the final year of the student's program. Application forms are available at the Registrar's Office, NSAC.

Women's Institutes Scholarship

The Women's Institutes of Nova Scotia offer a $500 scholarship to a student who enters the third year of the program leading to a B.Sc.(Agr.) degree. Selection of the recipient is made by the Scholarship Committee of the W.I.N.S. on recommendation of the NSAC Scholarships Committee. First priority is given to academic standing. Consideration is also given to leadership and participation in student and community affairs, and to financial need. The scholarship is presented at Autumn Assembly.

Applications are available at the W.I.N.S. or Registrar's Office at NSAC. The application must be accompanied by an up-to-date transcript of marks and a letter outlining the applicant's career plans. Applications with enclosures must be received at the office of the W.I.N.S., Cumming Hall, Nova Scotia Agricultural College, P.O. Box 550, Truro, Nova Scotia, B2N 5E3 by May 31.

The Ernest L. Eaton Scholarships

Two scholarships of $500 each, one for a male and one for a female, are offered to students with the highest averages in the work of the second year B.Sc.(Agr.) program. Candidates must be enrolled in the third year of the course. The scholarships are presented at Autumn Assembly. No application is required.

Canadian Feed Industry Association (Atlantic Division) Scholarship

The Atlantic Division of the Canadian Feed Industry Association offers a $400 scholarship to a student who has successfully completed the second year of the B.Sc.(Agr.) program and who has enrolled in the third year. Academic standing and leadership in student and community affairs are important considerations in selecting the recipient. No application is necessary.

New Brunswick Poultry Council Scholarship

The New Brunswick Poultry Council offers a scholarship of $200 to a student in the third or final year of the B.Sc.(Agr.) program. Eligible candidates must be in a program of study that includes specialized training in poultry production. Preference is given to residents of New Brunswick. Selection of the candidates is based on academic standing, interest and involvement in poultry production, and leadership in student and community affairs. It is awarded on the recommendation of the Animal Science Department.

Atlantic Provinces Hatchery Federation Scholarship

The Atlantic Provinces Hatchery Federation offers a scholarship of $300 to a resident of the Atlantic Provinces who is admitted to the third or fourth year of the B.Sc.(Agr.) program and is enrolled in subjects that make poultry a major area of study.

Scholarships Available at Macdonald College

Two Eliza M. Jones Entrance Scholarships, valued at $700 each, for one year, are awarded to two students who obtain high standing in the graduating year at the Nova Scotia Agricultural College and who subsequently enroll in the Faculty of Agriculture. These scholarships are made available in September when the students register at Macdonald College.

University of Maine Scholarship

Under an agreement between the University of Maine at Orono and the Nova Scotia Agricultural College, up to five graduates each year from the two-year Degree course in Agricultural Science who are residents of the Maritime Provinces and are recommended by the Vice-Principal may enter the penultimate year at Maine and pay the same tuition as the residents of Maine. The tuition is a varying figure, but the arrangement represents a saving of about $1,000 per year.

Cobequid Dog Club Scholarship

The Cobequid Dog Club offers a scholarship of $200 to a student of the Nova Scotia Agricultural College who is admitted to a veterinary college. Preference in the awarding of this scholarship is given to a resident of Nova Scotia. Selection of the recipient is made by the Scholarship Committee, NSAC. No application is necessary.

Dr. J.G. Taggart Scholarship

The Ontario Agricultural College offers a scholarship of $250 in memory of Dr. J.G. Taggart, former Deputy Minister of the Canada Department of Agriculture. The scholarship is awarded annually to the outstanding graduate of the Nova Scotia Agricultural College who enters the fifth semester of the B.Sc. (Agr.) Degree Program. Apply to the Assistant Registrar, University of Guelph, before April 1.

Co-op Atlantic Scholarship

Co-op Atlantic offers a scholarship of $300 to a graduate of the Nova Scotia Agricultural College who is from the Maritime Provinces and is entering the final two years at an approved agricultural college. The scholarship is awarded on the following basis and may be tenable for two years: scholastic ability, financial need, and knowledge and appreciation of co-operatives. Application forms may be obtained from the Registrar of the Nova Scotia Agricultural College. Applications must be submitted to the Registrar by April 1.

Medals and Prizes

Governor-General's Medal

A silver medal was first offered for annual competition by His Excellency, the Governor-General of Canada, in 1914. It is awarded each year by the members of the faculty to the student of the graduating class who has attained the highest standing during his or her college courses. In determining "highest standing," scholarship and leadership in student activities, in that order, are the deciding factors.

The H.J. Fraser Memorial Prize for English

In memory of the late Professor H.J. Fraser, a prize is awarded each autumn, on the recommendation of the English Department, to a second-year student who has achieved excellence in a first-year English course at this institution.

The R.H. Stevenson Memorial Prize for Mathematics and Physics

In memory of the late Professor R.H. Stevenson, a prize is awarded each autumn, on the recommendation of the Mathematics and Physics Department, to a second-year student who has achieved excellence in the first year of Mathematics and Physics at this institution.

Masterfeeds Award

Maple Leaf Mills Limited provides two prizes of $50: one for the Feeds and Feeding course and one for the Animal Nutrition course.

Nova Scotia Veterinary Medical Association Prize

The Nova Scotia Veterinary Medical Association provides a prize of $200 to a deserving student who excels in the Animal Physiology and Animal Health courses offered to Technical students (Animal Science) and who subsequently enrolls in suitable courses of the Technology year.

Ketchum Manufacturing Company Limited Prize

The Ketchum Manufacturing Company Limited has provided $2000 in Dominion of Canada Bonds, the interest on which is used for an annual prize available to a Nova Scotia Agricultural College graduate registered in the Animal Science option. The prize is awarded to a worthy student with a satisfactory academic standing. Application for this prize must be made to the Registrar before April 15 of the applicant's last year at the Nova Scotia Agricultural College.

The Lorne C. Callbeck Prize

A prize of $50 is awarded each autumn by the late Mr. Lorne C. Callbeck to a second year degree student who excelled in the Plant Science course in his or her first year.

The G.G. Smeltzer Award

An award is presented annually by King Grain Ltd. in recognition of contributions made to agriculture by Mr. G.G. Smeltzer. This award is presented to a student registered in a second year of study at NSAC and who excels in the work of the first year Plant Science Technician course.

K. Degeus Memorial Prize for Plant Service

In memory of the late K. Degeus, a prize is awarded annually at graduation, on the recommendation of the Plant Science Department, to a student who has completed a Technical course at NSAC. The award is based on high standing in course work and preference is to be given to students in the horticultural field. No application is necessary.

Engineering Technician Award

The Society for Engineering Technicians and Technologists of Nova Scotia awards a prize of $50, on the recommendation of the Agricultural Engineering Department, to a graduating student in the Agricultural Engineering Technician course who has made outstanding achievements. No application is necessary.

Landscape Horticulture at NSAC.

NSAC Enrollment 1982-83

Courses Leading to B.Sc. (Agr.) or Pre-Vet

First Year—Class of '86

Darlene Ina Acton, R.R. No. 2, Sackville, N.B. E0A 3C0
Sharon Rose Anderson, R.R. No. 2, Sussex, N.B. E0E 1P0
Helen Jane Archibald, R.R. No. 5, New Glasgow, N.S. B2H 5C8
Susan Elaine Archibald, R.R. No. 5, New Glasgow, N.S. B2H 5C8
Catherine Ann Arsenault, Box 72, Lakeview Avenue, R.R. No. 4, Sackville, N.S. B4C 3B1
Marie Lucille Aube, R.R. No. 1, Box 106, Petit-Rocher, N.B. E0B 2E0
Christopher Patrick Aylward, 47 Smithville Crescent, St. John's, Nfld. A1B 2V1
Yolande Babineau, R.R. No. 4, Box 2, Site 12, Acadieville, N.B. E0A 2T0
Michele Joy Banks, 950 Millidge Avenue, Saint John, N.B. E2K 2P4
Antje Andrea Barczyk, R.R. No. 3, Port Elgin, N.B. E0A 2K0
Kimberly Anne Barkhouse, P.O. Box 207, Hubbards, N.S. B0J 1T0
Laurel Gloria Bartlett, R.R. No. 2, Wm. George Johnson Road, Truro, N.S. B2N 5B1
Joanne Elizabeth Beaton, R.R. No. 1, Port Hood, N.S. B0E 2W0
Timothy George Beatty, 617A Cleveland Avenue, Riverview, N.B. E1B 1Y5
David Raymond Bell, P.O. Box 130, Tatamagouche, N.S. B0K 1V0
Gisele Sarah Blanchard, St. Anne de Kent, N.B. E0A 2V0
Brian Keith Ritcey Boates, Kinsmans Corner, N.S. B0P 1S0
Colleen Dawn Boone, 44 Renfrew Street, Dartmouth, N.S. B2Y 2M5
Ralph Eric Bosveld, R.R. No. 1, Kentville, N.S. B4N 3V7
Kendall Bowness, Elmsdale, R.R. No. 2, P.E.I. C0B 1K0
Kathryn Anne Broadbent, P.O. Box 1065, Sackville, N.B. E0A 3C0
Peter Elmer Buck, R.R. No. 2, Moncton, N.B. E1C 8J6
Colleen Buffett, 8 Maria Street, North Sydney, N.S. B2A 2M5
Gillian Fiona Margaret Calder, Jersey Lodge, Burgeo, Nfld. A0M 1A0
Colleen Elaine Cameron, c/o Mr. George Wm. Meekins, R.R. No. 3, Truro, N.S. B2N 5B2
John Paul Cant, P.O. Box 1482, Sackville, N.B. E0A 3C0
Cheryl Marlene Carter, 376 Hampton Road, Quispamsis, N.B. E0G 2W0
Jane Patricia Charbonneau, 40 Andrew Street, Campbellton, N.B. E3B 2B5
Alyson Denise Chisholm, 613 Dysart Street, Dieppe, N.B. E1A 5M9
Denene Marie Clifford, 6A View Street, Sydney, N.S. B1V 1G7
Karen Lynn Coldwell, R.R. No. 3, Wolfville, N.S. B0P 1X0
Gregory Lawrence Cosman, 166 Bedell Avenue, Saint John, N.B. E2K 2C4
Chrystal Darlene Crews, Queensland, R.R. No. 2, Hubbards, N.S. B0J 1T0
Alexandra Bea Crozier, Upper Kennetcook, N.S. B0N 2L0
Pamela Joan Currie, 228 Fulton Avenue, Fredericton, N.B. E3A 2B8
Barbara Jean Daniels, 18 1/2 Chestnut Lane, Dartmouth, N.S. B2Y 3Y2
John Myers DeLong, 116 Athabaska Avenue, Riverview, N.B. E1B 2T1
Juanita Florence Diamond, Winsloe, R.R. No. 1, P.E.I. C0A 2H0
Carl Edward Dingee, Glassville, R.R. No. 2, N.B. E0J 1L0
Deborah Douglas, Tyne Valley, R.R. No. 1, P.E.I. C0B 2C0
Susan Lynne Fitch, R.R. No. 6, Kingston, N.S. B0P 1R0
Timothy David Flemming, Meagher's Grant, N.S. B0N 1V0
Jillian Mary Foster, Linden, R.R. No. 4, Amherst, N.S. B4H 3Y2
Loralie Freeman, P.O. Box 190, Inverness, N.S. B0E 1N0
Daniel Peter Gallagher, P.O. Box 85, Minto, N.B. E0E 1J0

Sandra Lynn Gamble, Alexandra, R.R. No. 1, Charlottetown, P.E.I. C1A 7J6
Kimberly Lorretta Gardiner, 3570 Plummer Avenue, New Waterford, N.S. B1H 2A1
Diane Geneve Gardiner, 20 Dominion Street, Truro, N.S. B2N 3N8
Paula Marie Grezel, 76 Green Acres Drive, Sydney River, N.S. B1S 1K6
Elizabeth Margaret Hale, 201 Clark Street, Summerside, P.E.I. C1N 2J4
Anthony David Hall, P.O. Box 885, New Glasgow, N.S. B2H 5K7
Paul Allan Holt, R.R. No. 1, Port Williams, N.S. B0P 1T0
Margaret Hope-Simpson, P.O. Box 486, Wolfville, N.S. B0P 1X0
Deborah Leigh Hovey, 85 Quispamsis Road, Gondola Point, Rothesay, N.B. E0G 2W0
Harold Quentin Hughson, 1683 Edward Street, Halifax, N.S. B3H 3J2
Charlotte Lynn Isenor, R.R. No. 1, Truro, N.S. B2N 5A9
Dympna Marie Jackson, P.O. Box 401, Perth-Andover, N.B. E0J 1V0
Peter Brent Jamieson, 1439 LeMarchant Street, Halifax, N.S. B3H 3P8
John McKenzie Jardine, R.R. No. 3, Chatham, N.B. E1N 3A3
Marian Rita Kay, 32 Inverness Avenue, Halifax, N.S. B3P 1X7
Gregory Paul Keefe, Kinkora, P.E.I. C0B 1N0
James Stewart Keen, R.R. No. 1, Crapaud, P.E.I. C0A 1J0
Graham Collins Kempton, P.O. Box 91, Port Williams, N.S. B0P 1T0
Gerry Leonard Kennie, R.R. No. 3, Wolfville, N.S. B0P 1X0
Nancy Joyce Kent, R.R. No. 1, Truro, N.S. B2N 5A9
Linda Louise Kirkpatrick, 4315 Loch Lomond Road, Saint John, N.B. E2N 1C8
David Ross Landry, 119 Spruce Drive, Truro, N.S. B2N 5H6
Deanna Faye Langley, 94 Green Road, Sydney, N.S. B1P 3E5
Joanne Tracy Lawrence, 63 Bridge Street, Sackville, N.B. E0A 3C0
Catherine Wendy LeBlanc, 153 Park Road, Florence, N.S. B0C 1J0
Darlene Eva LeBlanc, Box 6, R.R. No. 2, D'Escousse, N.S. B0E 1K0
Serge Joseph LeBlanc, 146 Rue Eglise, St. Antoine, N.B. E0A 2X0
Suzanne Marie LeBlanc, 203 Cedar Street, Moncton, N.B. E1C 7L6
Mary Christina Lecky, Summerside, R.R. No. 2, P.E.I. C1N 4J8
Gilberte Marie Leger, R.R. No. 1, Site 30, Box 7, Cap-Pele, N.B. E0A 1J0
Darryl Burton Levy, Box 315, Mahone Bay, N.S. B0J 2E0
Debbi Lorraine Levy, 17 Western Avenue, Parrsboro, N.S. B0M 1S0
Larry Hardy Lutz, R.R. No. 1, Berwick, N.S. B0P 1E0
Thomas Jack Mailman, R.R. No. 1, Bridgewater, N.S. B4V 2V9
Heather Mary-Patricia Mayhew, R.R. No. 5, Antigonish, N.S. B2G 2L3
Hilda Joanne Miller, R.R. No. 6, Truro, N.S. B2N 5B4
Robin Anne Marie Muzzerall, 33 1/2 Woodberry Drive, Rockingham, Halifax, N.S. B3M 1Z7
Valerie Ann McCann, Wilmot Station, N.S. B0P 1W0
Donald Robert MacDonald, R.R. No. 2, Port Hood, N.S. B0E 2W0
William Brian MacDonald, R.R. No. 2, Heatherton, N.S. B0H 1R0
Lawrence Harris MacIntosh, 115 Coxheath Road, Sydney, N.S. B1R 1R5
Darrell McIsaac, R.R. No. 1, Stickney, N.B. E0J 1X0
Catherine Ellen MacKinnon, 33 Pine Hill Road, Dartmouth, N.S. B3A 2G2
Mary Aileen MacLean, Box 223, R.R. No. 1, Long Point, N.S. B0E 1P0

Mary Elizabeth MacLellan, Wellington, R.R. No. 1, P.E.I. C0B 2E0
Jessica M. Macnab, Belle River Post Office, P.E.I.
Robert Alexander MacNeil, R.R. No. 1, Truro, N.S. B2N 5A9
Sandra Marie MacNeil, 1 Bay Street, Antigonish, N.S. B2G 2G4
Alexander James MacQuarrie, Cornwall, R.R. No. 2, P.E.I. C0A 1H0
John Kevin MacQuarrie, 38 Henry Street, Kentville, N.S. B4N 2L4
Andrew Findlay MacRae, P.O. Box 1426, 52 Kent Avenue, Wolfville, N.S. B0P 1X0
Robert Craig Newcombe, Port Williams, N.S. B0P 1T0
Cindy Jo-Anne Palmer, R.R. No. 4, Box 16, Kyte's Hill Drive, Sydney, N.S. B1P 6G5
Janet Elizabeth Parker, 1 Normandie Street, Campbellton, N.B. E3N 2Y4
Kevin Ralph Patterson, P.O. Box 955, Wentworth Road, Windsor, N.S. B0N 2T0
Madeleine-Louise Pelletier, 32 Lawson Street, Edmonston, N.B. E3V 1Z4
Gloria Anne Penny, Charlottetown, R.R. No. 1, P.E.I. C1A 7J6
Thomas George Peppard, R.R. No. 1, Brookfield, N.S. B0N 1C0
Joseph Keith Poirier, 290 St. Louis Street Ext., Atholville, N.B. E0K 1A0
Dana Margaret Power, Coldbrook Station, N.S. B0P 1K0
Constance Angela Priest, Box 2, Belmont, N.S. B0M 1C0
John Eldon Read, R.R. No. 6, Amherst, N.S. B4H 3Y4
Carla Ann Riley, 66 North Cedar Street, Pictou, N.S. B0K 1H0
Shelley Diane Roode, R.R. No. 6, Truro, N.S. B2N 5B4
Joanne Elizabeth Rutledge, 1215 Johnson Avenue, Bathurst, N.B. E2A 3T4
Karen M. Ryan, Belle River, P.E.I. C0A 1B0
Walter Michael Ryba, R.R. No. 6, Keltic Drive, Box 4, Site 25, Sydney, N.S. B1P 6T2
Charles Francis Smith, 480 Pictou Road, Truro, N.S. B2N 2V1
Sonya Jean Spencer, R.R. No. 7, Armdale, Box 27, Site 4, N.S. B3L 4R7
Michael Russell Steen, 17 Orkney Drive, Dartmouth, N.S. B2X 1K1
Rebecca Anne Steeves, P.O. Box 982, Woodstock, N.B. E0J 1B2
Jean Michal Stevens, Box 221, Hampton, N.B. E0G 1Z0
Lowell Allan Stevenson, Hunter River, R.R. No. 4, P.E.I. C0A 1N0
Phyllis Annette Marie Tarrant, R.R. No. 5, Glen Road, Antigonish, N.S. B2G 2L3
Claudette Theresa Theriault, Box 196, Arichat, N.S. B0E 1A0
James Gordon Tilley, R.R. No. 1, Cody's, N.B. E0E 1E0
Michelle Rose Tweed, 11 Lyngby Avenue, Dartmouth, N.S. B3A 3T6
Cynthia Anne Van Alstyne, 28 Churchill Drive, Sydney, N.S. B1S 2B1
Andrew Gerald Van Kessel, R.R. No. 1, New Glasgow, N.S. B2H 5C4
Donald Neil Van Nostrand, Box 243, Port Williams, N.S. B0P 1T0
Susan Kathleen Vermeir, R.R. No. 1, Gaspereaux Lake, N.S. B2G 2K8
Sonja May Williams, 703 Valley View Street, Fredericton, N.B. E3B 4E9
Catherine Marie Warren, P.O. Box 269, Trenton, N.S. B0K 1X0
Kathaleen Ann Yurchesyn, Pier P.O. Box 25, Sydney, N.S. B1N 3B1

Second Year—Class of '85

Bernice Mae Allison, 108 Poulsen Avenue, Apt. 11, Newcastle, N.B. E1V 2P5
Allan Frederic Archibald, 279 King Street, Windsor, N.S. B0N 2T0
Ronda Ruth Bellefontaine, R.R. No. 2, Middle Musquodoboit, N.S. B0N 1X0
Catherine Ann Bennie, 28 Charlotte Drive, Charlottetown, P.E.I. C1A 2N5
Margret Ann Brink, Tantallon, R.R. No. 1, N.S. B0J 3J0
Allan Vernon Weldon Brown, Southampton, R.R. No. 1, N.S. B0M 1W0
Peter Thomas Brown, R.R. No. 6, St. Stephen, N.B. E3L 2Y3
Kelly Mark Burke, 173 Dominion Street, Truro, N.S. B2N 3P7
Sean Wesley Carson, R.R. No. 1, Sydney Forks, N.S. B0A 1W0
Jeffrey Damon Carter, Staples Brook Road, Debert, N.S. B0M 1G0
Donald Ralph Christie, 17 1/2 Lyman Street, Truro, N.S. B2N 4R9
Blair Campbell Clark, Cavendish, R.R. No. 1, P.E.I. C0A 1N0
Sandra Ann Coleman, P.O. Box 873, Greenwood, N.S. B0P 1N0
Ronald Gordon Coles, Suffolk, Charlottetown, R.R. No. 3, P.E.I. C1A 7J7
Jeffrey Randolph Colwell, 5 Meadow Drive, Renforth, Saint John, N.B. E2H 1K9
Carmen Comeau, P.O. Box 195, Weymouth, N.S. B0W 3T0
Donald Joseph Cooper, Box 4, Cleveland, N.S. B0E 1J0
Gregg Carl Cunningham, 72 Guysborough Avenue, Dartmouth, N.S. B2W 1S7
Yvonne Mary Dawe, P.O. Box 125, Kelligrews, Conception Bay, Nfld. A0A 2T0
Marcel Joseph Dawson, 572 Harold Street, Dieppe, N.B. E1A 1Z1
Sylvia Lynn DeChamp, R.R. No. 2, Glen Drive, St. Eleanors, P.E.I. C1N 4J8
James Michael Donnelly, R.R. No. 1, Prince William, N.B. E0H 1S0
Diane Marion Dunlop, 14 Archibald Street, Truro, N.S. B2N 4R4
John Ralph Earle, 59 Bennett Drive, Gander, Nfld. A1V 1N1
Margaret Noreen Ells, R.R. No. 5, Canning, N.S. B0P 1H0
Pamela Grace, 414 Old Sackville Road, Lower Sackville, N.S. B4C 2J9
David Frederick Harvey, Glassville, R.R. No. 2, N.B. E0J 1L0
John Michael Hughes, R.R. No. 1, Blockhouse, N.S. B0I 1E0
Dorothy Denise Hurley, 14 John Cross Drive, Dartmouth, N.S. B2W 1X3
James Lyle Stuart Johnson, P.O. Box 283, Sydney, N.S. B1P 6H1
Gregory Stephen Jones, 22 Pauline Crescent, Dartmouth, N.S. B2W 2A6
Irene Michele Joostema, R.R. No. 6, Kensington, P.E.I. C0B 1M0
Andrew John Kelly, Mt. Stewart, R.R. No. 3, P.E.I. C0A 1T0
Richard James Kennedy, P.O. Box 25, Site 4, R.R. No. 3, Charlottetown, P.E.I. C1A 7J6
Marshall David Klevorick, P.O. Box 26, Corner Brook, Nfld. A2H 6C3
Ann Marie Langille, 56 Elm Street, Springhill, N.S. B0M 1X0
Margot Joan Lownds, 12 Ross Street, Halifax, N.S. B3M 2A5
Randall Wade Murphy, R.R. No. 1, Scotch Village, N.S. B0N 2G0
Kevin Vernon McCully, Great Village, N.S. B0M 1L0
John Ronald MacDonald, P.O. Box 1481, Antigonish, N.S. B2G 2L7
Kimberley Rae McGinnis, 108 Desbrisay Drive, Bridgewater, N.S. B4V 3E5
Janice Lee McKenzie, R.R. No. 2, Truro, N.S. B2N 5B1
Morven Ann McLean, 30 Woodward Crescent, Halifax, N.S. B3M 1J7

Leonard Harris North, P.O. Box 261, Canning, N.S. B0P 1H0
Fern Louise Patterson, R.R. No. 1, Walton, N.S. B0N 2R0
Heidi Elizabeth Patterson, 321 McAllister Avenue, Riverview, N.B. E1B 1T9
Daniel Kevin Phinney, Bridgetown, R.R. No. 4, N.S. B0S 1C0
Harlene Donna Pick, Upper Rawdon, R.R. No. 1, N.S. B0N 2N0
Gerard Thomas Pickard, R.R. No. 3, Bath, N.B. E0J 1E0
Laurene Theresa Power, R.R. No. 5, Charlottetown, P.E.I. C1A 7J8
Wayne Glen Richards, Vernon P.O., P.E.I. C0A 2E0
Michael Christopher Schaad, R.R. No. 1, Tatamagouche, N.S. B0K 1V0
John Anthony Sipos, P.O. Box 471, Waverley, N.S. B0N 2S0
Peter MacPhail Smith, 37 Pine Drive, Sherwood. P.E.I. C1A 6R6
Constance Elizabeth Starratt, 30 Windale Drive, Truro, N.S. B2N 2X5
Darlene Marie Stevenson, P.O. Box 1155, Middleton, N.S. B0S 1P0
Peter William Swetnam, R.R. No. 2, Centreville, N.S. B0P 1J0
Bruce Leonard Thomson, R.R. No. 5, Antigonish, N.S. B2G 2L3
Margareta Veronica van de Riet, R.R. No. 1, Shubenacadie, N.S. B0N 2H0
Brent Alton Wallace, 103 Bird Avenue, Fredericton, N.B. E3A 2H8
Michael Allan Walsh, Georgetown, R.R. No. 1, P.E.I. C0A 1L0
Osbourne Kenneth Ward, R.R. No. 2, Centreville, N.S. B0P 1J0
Elizabeth Ann Wardrop, 121 Berkley Avenue, St. Lambert, Que. H4P 3C9
Donna Lynn Wilkins, Middleton, R.R. No. 3, N.S. B0S 1P0
Charlotte Lois Wilson, R.R. No. 1, Stanley, N.B. E0H 1T0
Heather Anne Wilson, 6 Beechwood Terrace, Halifax, N.S. B3M 2C2
Nancy Belle Yeo, 360 Beaver Street, Summerside, P.E.I. C1N 2A4

Courses Leading to B.E.(Agr.)

First Year—Class of '85

Robert Leslie Chambers, P.O. Box 53, Lawrencetown, N.S. B0S 1M0
Paul Glenford Gilbert, R.R. No. 1, Springhill, N.S. B0M 1X0
Wilfred Norman Kaiser, R.R. No. 2, Baddeck, N.S. B0E 1B0
Raymond Wilbert MacKenzie, Millview, P.E.I. C0A 2E0
Ian Roderick MacKinnon, R.R. No. 5, Truro, N.S. B2N 5B3
Lloyd Ronald McLean, Port Hastings, P.O. Box 156, N.S. B0E 2T0
Robert J. Visser, Orwell Cove, Vernon P.O., P.E.I. C0A 2E0
Robert Lewis Wright, Kinkora, P.E.I. C0B 1N0

Second Year—Class of '84

Robert John Gordon, 36 John Cross Drive, Dartmouth, N.S. B2W 1X3
Dale Jeffrey Hebb, Centreville, R.R. No. 2, N.S. B0P 1J0
Richard William Jebbink, P.O. Box 151, Newcastle, N.B. E1V 3M3
Keng-Wei Sim, P.O. Box 123, Kuching, Sarawak, Malaysia

Technician Diploma
First Year—Class of '84

Michael Wayne Beck, R.R. No. 1, Wilmot Station, N.S. B0P 1W0
Michael David Berry, R.R. No. 1, Fox Creek, N.B. E0A 1R0
Danny James Bezanson, Cambridge Station, N.S. B0P 1G0
Newton Dwayne Biggar, Kensington, P.E.I. C0B 1M0
Janet Deborah Blayney, R.R. No. 2, Port Elgin, N.B. E0A 2K0
Terrance Eugene Boyle, Afton, Antigonish County, N.S. B0H 1A0
Glen Patrick Briggins, 25 Ruth Street, Monton, N.B. E1A 4B3
Pansy Edith Brydon, Waterville, R.R. No. 3, N.S. B0P 1V0
Andrew Allison Bubar, Hartland, R.R. No. 5, N.B. E0J 1N0
Alexander Joseph Cameron, Box 1424, Antigonish, N.S. B2G 2L7
Donald Glenn Campbell, Kensington, R.R. No. 6, P.E.I. C0B 1M0
Kevin Charles Campbell, Box 1048, Perth, N.B. E0J 1V0
Kevin Leonard Carver, Montague, R.R. No. 1, P.E.I. C0A 1R0
Leo Donald Chisholm, Shucksherri Farm, Harbour Centre, Antigonish, N.S.
Christine Virginia Clark, Kensington, R.R. No. 1, P.E.I. C0B 1M0
Darla Ann Clow, Lower Freetown, P.E.I. C0B 1C0
Lisa Ann Cohrs, 8 Rosemount Avenue, Halifax, N.S. B3N 1X8
Beverly Tremain Connell, Lawrencetown, R.R. No. 3, N.S. B0S 1M0
Joanne Elizabeth Colpitts, R.R. No. 1, Salisbury, N.B. E0A 3E0
Gary Shawn Cooper, 17 Seminary Street, Yarmouth, N.S. B5A 2B3
Gordon Michael Cromwell, R.R. No. 1, Douglastown, N.B. E0C 1H0
Robert Ivan Cummings, R.R. No. 1, Goshen, Guysborough County, N.S. B0H 1M0
Robert Richard DeLong, R.R. No. 1, New Germany, N.S. B0R 1E0
Christopher Richard DeMerchant, Woodstock, R.R. No. 3, N.B. E0J 2B0
Gordon Stewart Dolliver, Kingston, R.R. No. 5, N.S. B0P 1R0
Alphonsus Peter Dwyer, Upper Rawdon, N.S. B0N 2N0
June Alicia Fulton, R.R. No. 1, Pleasant Hills Road, Bass River, N.S. B0M 1B0
Steven Weldon Gartley, Woodstock, R.R. No. 7, N.B. E0J 2B0
Anthony Charles George, R.R. No. 2, Brookfield, N.S. B0N 1C0
Martin Gerald Gillies, Belleisle Creek, N.B. E0G 1E0
Nora Katherine Glidden, R.R. No. 2, Pokemouche, Box 5, Site 2, N.B. E0B 2J0
Paul Michael Gregory, Box 420, Mt. Carmel, Nfld. A0B 2M0
Scott Owen Hamlin, R.R. No. 1, New Ross, N.S. B0J 2M0
Jennifer Dawn Helm, R.R. No. 7, Amherst, N.S. B4H 3Y5
Susan Ann Holmes, Box 36, Smiths Cove, N.S. B0S 1S0
Dawn Marie Holt, 15 Guest Drive, Truro, N.S. B2N 5M1
Sandy John Horsnell, Aylesford, N.S. B0P 1C0
Sharon Leslie Jones, Box 123, Newport, N.S. B0N 2A0
Jeffrey John Kay, R.R. No. 2, Sackville, N.B. E0A 3C0
Deanna Gail Keen, R.R. No. 1, Crapaud, P.E.I. C0A 1J0
Scott Robert Brenton Kennedy, R.R. No. 2, Brookfield, N.S. B0N 1C0
Blanche Elizabeth Kennedy, Box 98, Bear River, N.S. B0S 1B0
Byron Alexander Lamb, Berwick, R.R. No. 2, N.S. B0P 1E0
Louis Lang, 65 Principal Street, Clair, N.B. E0L 1B0
Barry Paul Lewis, R.R. No. 1, Arthurette, N.B. E0J 1C0
Petronella Maria Maas, R.R. No. 1, St. Andrews, N.S. B0H 1X0

Anita Phyllis Maund, Winsloe, R.R. No. 1, P.E.I. C0A 2H0
Michel J. Mazerolle, C.P. 214, Richibouctou, N.B. E0A 2M0
Suzanne Joy Misner, Centreville, R.R. No. 3, N.S. B0P 1J0
Clifford Paul Montgomery, Albany, R.R. No. 2, P.E.I. C0B 1A0
Jeffrey Donald Morse, Kingston, R.R. No. 5, N.S. B0P 1R0
Gerald Henry Mostert, R.R. No. 2, Shubenacadie, N.S. B0N 2H0
John Edward Murray, 36 Crescent Drive, Truro, N.S. B2N 1N6
Paula Louise MacAfee, 235 West Lane, Moncton, N.B. E1C 6V5
Joseph Dwain MacAulay, Souris West, P.E.I. C0A 2B0
Charlotte Joanne MacDonald, 221 Station Street, Glace Bay, N.S. B1A 4T6
Carol Deborah McDonald, Box 2084, Sussex, N.B. E0E 1P0
Gina Norene MacDonald, R.R. No. 1, Pictou, N.S. B0K 1H0
Jennifer Ellen MacDonald, Box 193, R.R. No. 2, St. Mary's, N.B. E0A 3A0
John Timothy MacDonald, 168 Main Street, Springhill, N.S. B0M 1X0
Leo Dunstan MacDonald, 28 Goodwill Avenue, Charlottetown, P.E.I. C1A 3E1
Paul David MacDonald, R.R. No. 4, St. Peter's Bay, P.E.I. C0A 2A0
John Patrick MacDonnell, R.R. No. 2, Antigonish, N.S. B2G 2L5
Eva Marie McDow, Falmouth, R.R. No. 1, N.S. B0P 1L0
Frances Maureen MacInnis, Big Pond Centre, Cape Breton, N.S. B0A 1H0
Vans Garth MacLean, Southwest Lot 16, Miscouche, R.R. No. 1, P.E.I. C0B 1T0
Mark Allison McMonagle, Florenceville, N.B. E0J 1K0
Angus Hugh MacNeil, R.R. No. 2, Cloverville, Antigonish County, N.S. B2G 2K9
Donald Sterling MacSwain, Morrell, P.E.I. C0A 1S0
Hugh Stanley O'Neill, Belleisle Creek, N.B. E0G 1E0
Paul Vincent Overmars, R.R. No. 3, St. Andrews, N.S. B0H 1X0
Shona Christine Patterson, 20 Ernest Avenue, Dartmouth, N.S. B3A 2H5
Sidney Carl Peters, Box 526, Middleton, N.S. B0S 1P0
Edward Francis Pickard, Bath, R.R. No. 3, N.B. E0J 1G0
Susan Ann Pynn, 13 Munden Drive, Mount Pearl, Nfld. A1N 2T2
Clair Charles Rankin, Box 38, St. Peter's, N.S. B0E 3B0
Keith Norman Richardson, R.R. No. 4, New Glasgow, N.S. B2H 5C7
Austin Raymond Roberts, Kinkora, P.E.I. C0B 1N0
Bruce Wayne Roberts, Box 18, Site 7, R.R. No. 3, Monton, N.B. E1C 8J7
Pamela Jane Ross, 76 Miller Road, Truro, N.S. B2N 4Z1
Gregory Scott Rossiter, 793 Hillsborough Road, Riverview, N.B. E1B 3W1
Richard Paul Rumbolt, Box 4, Site 14, R.R. No. 2, Deer Lake, Nfld. A0K 2E0
Kirk Tobias Saint, Comp. 96, R.R. No. 1, Greenforest Sub., Lower Sackville, N.S. B4C 2S6
Dean Gregory Schofield, Hantsport, N.S. B0P 1B0
Bruce Lloyd Sinclair, Goshen, Guysborough County, N.S. B0H 1M0
Karen May Spence, 1289 Warden Avenue, Scarborough, Ont. M1R 2R5
Stephen Reagh Spinney, R.R. No. 1, Kingston, N.S. B0P 1R0
Constance Stewart, 1351 Barrington St., Apt. 2, Halifax, N.S. B3J 1Y9
Lorraine Ruth Tedford, R.R. No. 3, Truro, N.S. B2N 5B2
Peter Paul van Dyk, Caledonia, N.S. B0T 1B0
John Lambert Van Ekris, Covehead Road, P.E.I. C0A 1P0
Ian David Varty, 24 Brighton Court, Fredericton, N.B. E3B 4N6
Melis Visser, Vernon Bridge, R.R. No. 2, P.E.I. C0A 2E0
Francis John Vosman, R.R. No. 3, St. Andrew's, N.S. B0H 1X0
Kim Robert Wheaton, 2 Admore Avenue, Amherst, N.S. B4H 1K8
Wesley Nicholas Whidden, R.R. No. 3, Truro, N.S. B2N 5B2
Robert Edward Whitelaw, R.R. No. 1, Scotsburn, N.S. B0K 1R0

Stephen Brian Williams, Avonport, R.R. No. 1, N.S. B0P 1B0
Helen Doreen Wilson, R.R. No. 2, Stewiacke, N.S. B0N 2J0
Harold John Withrow, Upper Rawdon, R.R. No. 1, N.S. B0N 2N0

Second Year—Class of '83

Byron Luther Andrews, Hunter River, R.R. No. 2, P.E.I. C0A 1N0
Robert Banks, R.R. No. 2, Kingston, N.S. B0P 1R0
John Francis Benere, Enfield, N.S. B0N 1N0
Bernice Mary Bissett, Bissett Road, R.R. No. 1, Dartmouth, N.S. B2W 3X7
Ian Blenkharn, R.R. No. 3, Saltsprings, N.S. B0K 1P0
Margaret Ursula Blikslager, Vernon, R.R. No. 1, P.E.I. C0A 2E0
Robert John Booth, P.O. Box 81, Norton, N.B. E0G 2N0.
Kevin Andrew Brown, Glassville, R.R. No. 2, N.B. E0J 1L0
David Shawn Bulger, Folley River, Portage, R.R. No. 1, P.E.I. C0B 1W0
Richard Dale Burt, P.O. Box 613, Kensington, P.E.I. C0B 1M0
Rosaria Jacinta Campbell, Box 84, R.R. No. 2, Port-au-Port, Nfld. A0N 1T0
Jocelyn Irene Carroll, Milford Station, N.S. B0N 1Y0
George Morris Caseley, Kensington, R.R. No. 4, P.E.I. C0B 1M0
Myrtle Charlotte Chisholm, P.O. Box 12, Port Hawkesbury, N.S. B0E 2V0
Stephen John Cousins, Box 1, Sherwood Forest Subdivision, Crapaud, P.E.I. C0L 1J0
Elaine Frances Craswell, Hunter River, R.R. No. 3, P.E.I. C0A 1N0
Earl Brent Dunphy, R.R. No. 3, Mouth of Keswick, N.B. E0H 1N0
Lloyd Douglas Elliott, Anagance, R.R. No. 2, N.B. E0E 1A0
Donald Edward Finck, Avonport, N.S. B0P 1B0
Mark Edward Franklin, R.R. No. 6, Truro, N.S. B2N 5B4
Gordon Lloyd Furness, Vernon Bridge P.O., P.E.I. C0A 2E0
Daniel Hubert Gallant, St. Peter's Bay, P.E.I. C0A 2A0
Graham Michael Gardiner, 24 Queen Street, Truro, N.S.
Wayne Scott Gardiner, R.R. No. 1, Port Borden, P.E.I. C0B 1X0
Mark Alexander Gibbon, Milford Station, R.R. No. 1, N.S. B0N 1Y0
Moira Elizabeth Giffin, 174 Colonial Heights, Fredericton, N.B. E3B 5M1
Perry Robert Green, R.R. No. 3, Truro, N.S. B2N 5B2
Carol Marie Grove, Duncan's Cove, Ketch Harbour P.O., N.S. B0J 1X0
Krista Gaye Harvey, 2037 Prince Street, Truro, N.S. B2N 5B2
Harold Neil Haslam, Breadalbane, R.R. No. 1, P.E.I. C0A 1E0
Edison Heaney, Clinton, Kensington, R.R. No. 6, P.E.I. C0B 1M0
Beverly Ann Hill-Turner, 165 Brunswick Street, Apt. 3, Truro, N.S. B2N 5A9
Gerard Wilbur Horgan, P.O. Box 524, Rothesay, N.B. E0G 2W0
Mary Inez Jenkins, R.R. No. 1, Chatham, N.B. E1B 3A1
Marion Nancy Jennings, R.R. No. 1, Debert, N.S. B0M 1G0
Brian Christian Kelly, 19 Forest Hill Drive, Halifax, N.S. B3M 1X2
John Ernest Kelly, R.R. No. 2, Heatherton, N.S. B0H 1R0
Timothy Roy Linton, R.R. No. 1, Arthurette, N.B. E0J 1C0
Gary Wayne Maddison, R.R. No. 2, Waterville, N.S. B0P 1V0
Kent Ellis Molyneaux, Cornwall, R.R. No. 4, P.E.I. C0A 1H0
Edward Bernard MacAulay, Souris, R.R. No. 3, P.E.I. C0A 2B0
John Ernest McCabe, R.R. No. 3, Westville, N.S. B0K 2A0
Douglas Lloyd McDonald, R.R. No. 1, Port Morien, N.S. B0A 1T0
Gordon Harvey MacDonald, Victoria, P.E.I. C0A 2G0
Mary Colleen MacDonald, Box 89, Judique, N.S. B0E 1P0
Darlyne Ann MacEachern, Ballantyne's Cove, N.S. B2G 2L2
Edwin Charles MacGregor, P.O. Box 155, Eastern Passage, N.S. B0J 1L0
George Douglas Macintosh, Glencoe, R.R. No. 1, Pictou, N.S. B0K 1B0

Carl Joseph MacKinnon, North Wiltshire, P.E.I. C0A 1Y0
Allen Howard MacLeod, 59 Dolbin Street, Sydney, N.S. B1P 1S4
Donna Bernice Noble, Wilmot, N.S. B0P 1W0
Suzanne Elizabeth Orr, Red Bank Road, R.R. No. 1, Center Burlington, N.S. B0N 1E0
Kenneth Fraser Patterson, R.R. No. 1, Bras d'Or, Box 114, N.S. B0C 1B0
Jean Marie Peinsznski, 33 Dolbin Street, Sydney, N.S. B1P 1S4
Linda Diane Petite, P.O. Box 332, Port Hawkesbury, N.S. B0E 2V0
Dwight Glendon Phillips, 99 Willow Avenue, Fredericton, N.B. E3A 2E1
Stephen Harold Power, Coldbrook, N.S. B0P 1K0
Lisa Marie Purcell, 206 Hill Heights Road, Saint John, N.B. E2K 2H3
Catherine Ann Romans, 23 Howland Drive, Lower Sackville, N.S. B4C 1S5
Paul Martin Richardson, R.R. No. 4, New Glasgow, N.S. B2H 5C7
Peter John Marshall Settle, R.R. No. 2, Stewiacke, N.S. B0N 2J0
Brendan Paul Sherry, Bedeque, R.R. No. 1, P.E.I. C0B 1C0
Charles Albert Smith, R.R. No. 1, Port Howe, N.S. B0K 1K0
David Joel Smith, Berwick, R.R. No. 1, N.S. B0P 1E0
Patricia Janet Stacey, P.O. Box 597, Goulds, Nfld. A0A 2K0
David Norman Steeves, 208 Summit Drive, Riverview, N.B. E1N 1N3
Mark Tamplin Stirling, Centreville, R.R. No. 2, N.S. B0P 1J0
Allan MacDonald Sullivan, R.R. No. 2, Rexton, N.B. E0A 2L0
Sharon Marie Thompson, St. Peter's Bay, P.E.I. C0A 2A0
Tony Scott Trenholm, 100 Simpson Drive, Saint John, N.B. E2H 2B9
David John Turnbull, 297 College Road, Apt. 3, Truro, N.S. B2N 2P6
Anthony J.J. Van Vonderen, R.R. No. 1, Afton, N.S. B0H 1A0
Verna Bonita Vermeulen, Milford Station, N.S. B0N 1Y0
James Andrew Walker, R.R. No. 3, Sussex, N.B. E0E 1P0
Robert Jeffrey Walton, 147 Noble Street, Fredericton, N.B. E3A 3C1
James Kenneth Yeo, Charlottetown, R.R. No. 3, P.E.I. C1A 7J7

Technology Diploma

First Year—Class of '84

Douglas Wilson Anderson, R.R. No. 3, Baddeck, N.S. B0E 1B0
Christopher Michael Brown, R.R. No. 2, Bridgewater, N.S. B4V 2W1
Heidi Lynn Brown, 52 Evergreen Drive, Truro, N.S. B2N 5J3
Karin Nerida Robertson Chodakowski, P.O. Box 42, Grande Pré, N.S.
Michael Vincent Comeau, P.O. Box 158, Meteghan, N.S. B0W 2J0
Paul Jeffrey Cook, R.R. No. 2, Bridgewater, N.S. B4V 2W1
Sharas Ahmed Dauda, c/o A.H.J. Jibrillah, P.O. Box 16, Mubi, Gongola State, Nigeria
Karin Frances Debertin, R.R. No. 1, P.O. Box 2218, Station "A", Moncton, N.B. E1C 8J5
Karen Theresa Delorey, Box 158, Pomquet, Antigonish, N.S. B2G 2L4
John Potter Ferguson, R.R. No. 5, Tatamagouche, N.S. B0K 1V0
Joyce Angela Ferguson, R.R. No. 5, Tatamagouche, N.S. B0K 1V0
Christina Paige Fields, R.R. No. 2, Port Elgin, N.B. E0A 2K0
Stuart Arthur Gibb, 286 Bedford Highway, Halifax, N.S. B3M 2K8
Gerard Joseph Gilbert, R.R. No. 1, Oromocto, N.B. E2V 2G2
Gert (Gerry) Groenenberg, R.R. No. 2, Lakeville, N.B. E0G 1S0
Tracey Farrell Harvie, R.R. No. 2, Kennetcook, N.S. B0N 1P0
Donald Mitchell Henry, R.R. No. 2, Plaster Rock, N.B. E0J 1W0
Arthur James Hustins, P.O. Box 100, Bedford, N.S. B4A 2E3
Keith Joseph Kickham, Charlottetown, R.R. No. 5, P.E.I. C1A 7J8

Joyce Marie Kiley, R.R. No. 1, Eureka, N.S. B0K 1B0
Frederick William Charles Laurette, 37 Hickman Street, Amherst, N.S. B4H 2M3
Christina Dorthea Madsen, R.R. No. 2, River John, N.S. B0K 1N0
Pasum Halilu Mujah, P.O. Box 3, Numan, Gongola State, Nigeria
Mohamed Dalhat Mustapha, c/o M.M.D. Mohammad, Agric. & Natural Resources Division, Kaduna, Nigeria
Leonard Warren McBurnie, R.R. No. 1, Economy, N.S. B0M 1J0
Fraser Sydney McCallum, R.R. No. 2, P.O. Box 97, Tabusintac, N.B. E0C 2A0
James Everett McCara, R.R. No. 1, Scotsburn, N.S. B0K 1R0
Erna Louise MacLeod, R.R. No. 1, Louisbourg, N.S. B0A 1M0
Cynthia Ellen Northup, 1251 King Street, Windsor, N.S. B0N 1H0
Kimberley Darlene Parker, 23 Albert Avenue, Truro, N.S. B2N 2W1
David Christopher Richards, Box 111, Brookfield, N.S. B0N 1C0
Katherine Elizabeth Roach, R.R. No. 1, Grand Falls, N.B. E0J 1M0
Joshua Vandi Sini, c/o Alahaji Abbo Jimeta, M.O.W. Yola, Gongola State, Nigeria
Christina Dorothy Stephenson, 125 MacRae Avenue, Sydney River, N.S. B1S 1M1
Donald John Streatch, R.R. No. 2, Upper Stewiacke, N.S. B0N 2P0
Terrilee Jill Trafford, P.O. Box 1193, Sackville, N.B. E0A 3C0
David John Wisener, Watervale, P.E.I. C0A 1T0
Joanne Kathleen Wright, 547 Pictou Road, Truro, N.S. B2N 2V2

Second Year—Class of '83

Carol Marie Anstey, 3 Orkney Drive, Dartmouth, N.S. B3B 1J8
Rita Maria Bekkers, Site 2, Comp. 132, Lake Echo, N.S. B0J 2S0
Cheryl Lynn Belliveau, 357 Windsor Street, Saint John, N.B. E2M 2Z4
Steven Douglas Berry, Havre Boucher, N.S. B0H 1P0
Daniel Joseph Boudreau, Box 15, Monastery, N.S. B0H 1W0
Abraham Victor Buttimer, R.R. No. 1, Box 595, Bathurst, N.B. E2A 3Y5
George Conrad Chisholm, R.R. No. 1, Bear River, N.S. B0S 1B0
Sherry Lee Collins, c/o James Matheson, R.R. No. 3, Pictou, N.S. B0K 1H0
Wendy Rose Coolen, 31A Crestfield Drive, Bedford, N.S. B4B 1E8
Douglas Herbert Cox, R.R. No. 1, Scotch Village, N.S. B0N 2G0
Carl Duivenvoorden, Armstrong Brook, N.B. E0B 1B0
Valerie Elaine Ervin, R.R. No. 2, Stewiacke, N.S. B0N 2J0
Gregory Charles Fergus, 45 Grandview Avenue, Trenton, N.S. B0K 1X0
David Frederick Fullerton, Great Village, N.S. B0M 1L0
Robert William Glenwright, 47 Churchill Street, Truro, N.S. B2N 1M9
Philip Eldon Hicks, R.R. No. 4, Centreville, N.B. E0J 1H0

Carey Michael Isenor, R.R. No. 1, Truro, N.S. B2N 5A9
Karen Lorraine Janes, R.R. No. 3, Bridgewater, N.S. B4V 2W2
Timothy George Jansen, P.O. Box 101, Greenwood, N.S. B0P 1N0
Graeme Alan Jones, c/o Eldon Thorne, Sussex Corner, N.B.
Carmelle Louise LeBlanc, Margaree Forks, N.S. B0E 2A0
John William MacLeod, 69 Lake Road, Glace Bay, N.S. B1A 2H2
Scott Wade MacLeod, 96 Main Street, Springhill, N.S. B0M 1X0
Kevin Paul MacNaughton, 30 Phillip Street, Truro, N.S. B2N 3B3
Judith Ann Nolan, R.R. No. 6, West North River Road, Truro, N.S. B2N 5B4
Jennifer Diane Racine, 46 Dahlia Street, Dartmouth, N.S. B3A 2S2
Beverley Lynn Richardson, Site 8, Box 20, R.R. No. 1, Waverley, N.S. B0N 2S0
Janet Florence Robicheau, Westport, Brier Island, Digby, N.S. B0V 1H0
Roberta Lynn Sanford, P.O. Box 1384, Liverpool, N.S. B0T 1K0
Johanne Laurence Skora-Gallant, 132 Young Street, Truro, N.S. B2N 3X4
Margaret Elizabeth Tate, R.R. No. 1, Heatherton, N.S. B0H 1R0
Florence Yvonne Vallis, 1331 Main Street, Louisbourg, N.S. B0A 1M0
Kathryn Elizabeth Watson, 9 Nightingale Drive, Halifax, N.S. B3M 1V2
Michael Donald Weston, Centreville, N.B. E0J 1H0
Deborah Jean Wynberg, R.R. No. 9, Moncton, N.B. E1C 8K3
Marian Christena Wilson Zinck, R.R. No. 1, Milford Station, N.S. B0N 1Y0

Special Students

Roderick Gordon Harris Campbell, P.O. Box 483, Waverley, N.S. B0N 2S0
Steven Ross Comeau, Nappan, N.S. B0L 1C0
Melania Lynn Cornish, P.O. Box 174, Trenton, N.S. B0K 1X0
Joyce Elaine Fredericks, 36 Grant Street, Dartmouth, N.S. B2W 1C3
Charles Isaac Gallagher, 2 McLellan Street, Truro, N.S. B2N 2L1
Bonita Lynn George, P.O. Box 10, Marwayne, Alta. T0B 2X0
Jo-ann Kimberley Godfrey, General Delivery, Turner Valley, Alta. T0L 2A0
T. Bruce Harvey, 310 King St., Truro, N.S. B2N 3L6
Roger Gordon Kinsman, 68 Lawnwood Drive, Truro, N.S. B2N 1S1
Jeanette Kuelken, P.O. Box 51, Fort Assiniboine, Alta. T0G 1A0
Calvin R. Piggott, 6675 Edward Arab Avenue, Halifax, N.S. B3L 2C9
Kathy Shields, 1317-4th Avenue South, Lethbridge, Alta. T1J 0R3
Terri Elaine Tanner, R.R. No. 7, Calgary, Alta. T2P 2G7
Steven Wade Watts, R.R. No. 3, Cornwall, P.E.I. C0A 1H0
Virginia Marie Yakimovich, c/o Abby Road Flowers, Lloydminster, Alta.

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