



Nova Scotia Agricultural College

Calendar
1986-1987



'Serving Atlantic Canada'

Eighty-First Annual Calendar 1986-1987

of the
Nova Scotia
Agricultural College
Truro

Under
The Nova Scotia Department
of Agriculture and Marketing

Contents

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Application for Admission to the Degree Courses (1986)

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 1985-86 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.Sc.(Agr.Eng.))

- 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 (1986)

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 _____

— from which you graduated ^{or} _____

If you were not in high school during the 1985-86 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 1987)

	First Year	Advanced Standing
Technician:		
Agricultural Business	<input type="checkbox"/>	<input type="checkbox"/>
Agricultural Mechanization	<input type="checkbox"/>	<input type="checkbox"/>
Animal Science	<input type="checkbox"/>	<input type="checkbox"/>
Farm Equipment	<input type="checkbox"/>	<input type="checkbox"/>
Plant Science	<input type="checkbox"/>	<input type="checkbox"/>
Special	<input type="checkbox"/>	<input type="checkbox"/>
Technology:		
Biology Laboratory	<input type="checkbox"/>	<input type="checkbox"/>
Chemistry Laboratory	<input type="checkbox"/>	<input type="checkbox"/>
Landscape Horticulture	<input type="checkbox"/>	<input type="checkbox"/>
Farming	<input type="checkbox"/>	<input type="checkbox"/>
Agricultural	<input type="checkbox"/>	<input type="checkbox"/>

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.



1986-1987 Calendar

1986

July 1986
S M T W T F S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

August 1986
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

September 1986
S M T W T F S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

October 1986
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31

November 1986
S M T W T F S
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30

December 1986
S M T W T F S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

1987

January 1987
S M T W T F S
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

February 1987
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28

March 1987
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

April 1987
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30

May 1987
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

June 1987
S M T W T F S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

Calendar for Session 1986-1987

1986

September 8 Registration for students registering for the first time.

September 9 Registration for returning students.

September 10 Lectures commence at 8:15 a.m.

October 13 Thanksgiving Day. No classes.

October 31 College Royal Showday. No classes.

November 10 & 11 Long weekend and Remembrance Day. No classes.

December 9-19 First semester examinations.

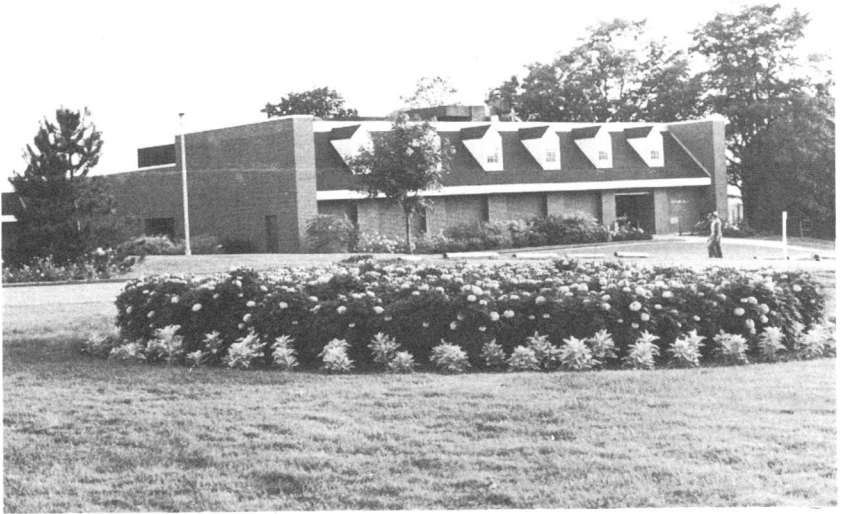
1987

January 5 Second semester lectures commence at 8:15 a.m. Registration for second semester and for pre-tech.

February 23-27 Mid-term break for individual study.

April 7-16 Second semester examinations.

May 6 Convocation.



Jenkins Hall, dining room for on-campus students, NSAC



Cox Institute of Agricultural Technology, NSAC

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), LL.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)

Business Manager

R.F. McEwan

Secretary

Mrs. A. Marie Hartigan

Farm Manager

E.G. Maynard, B.S.A. (Toronto), B.Ed. (Mt. Allison), M.S.A. (Guelph)

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

D.A. Allen, B.Sc. (Eng.) (Guelph), M.Sc. (Agr.Eng.) (Purdue)

Associate Professor

J.D. Cunningham, B.S.A. (Toronto), B.E. (Nova Scotia Technical College), M.A.Sc. (Technical University of Nova Scotia)

Associate Professor

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

Assistant Professor

P.L. Havard, B.Sc. (Agr. Eng.) (McGill), M.Sc. (McGill)

Associate Professor

S.A. Madani, B.Sc. (Pahlavi), M.Sc. (British Columbia), Ph.D. (Washington)

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

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

N.L. Firth, B.Sc. (Edinburgh), M.S. (Purdue), Ph.D. (Cornell)

Assistant Professor

A.H. Fredeen, B.S.A. (Saskatchewan), M.Sc. (Guelph), Ph.D. (California)

Assistant Professor

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

D.L. Patterson, B.Sc. (Alberta), M.Sc. (Guelph), Ph.D. (Guelph)

Assistant Professor

T. Tennessen, B.A. (Alberta), B.Sc. (Alberta), M.Sc. (Alberta), Ph.D. (Alberta)

Assistant Professor

Faculty

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), LL.D. (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)
Associate Professor

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

A.B. Gray, B.Sc. (Bishops), M.Sc. (McGill)
Assistant Professor

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

A.R. Olson, B.A. (Augustana), M.Sc. (Wisconsin), Ph.D. (Alberta)
Associate Professor

M.G. Sampson, B.Sc. (Dalhousie), B.Sc. (Agr.) (McGill), M.Sc. (McGill)
Assistant Professor

G.W. Stratton, B.Sc. (Agr.) (Guelph), M.Sc. (Guelph), Ph.D. (Guelph)
Associate Professor

Chemistry-Soils

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)
Assistant Professor

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)
Professor

P.R. Warman, B.Sc. (Agr.) (Rutgers), M.Sc. (Guelph), Ph.D. (Guelph)
Associate Professor

Faculty

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

J.J. Brennan, B.Sc. (Agr.) McGill, M.Sc. (Alberta)
Assistant Professor

K.G. Grant, B.A. (Acadia), M.A. (Western Ontario), Ph.D. (Western Ontario)
Assistant Professor

P. Lederman, B.A. (Queens), M.A. (Dalhousie), LL.B. (Queens), BCL (Oxford)
Sessional Lecturer

S.J.B. Stackhouse, B.Sc. (Agr.Ec.) (Guelph), M.Sc. (Guelph)
Associate Professor

Y.R. Surry, B.A. (Paris), M.A. (Paris), M.Sc. (Guelph)
Assistant Professor

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

J.F. Cipolla, B.A. (Acadia), M.A. (Acadia), B.Ed. (Acadia), Ph.D. (Alberta)
Sessional Lecturer from the N.S. Teachers College

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

L.L. Sanderson, B.Sc. (Agr.) (Guelph), M.Sc. (Guelph)
Assistant Professor

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

J.M. Smith, B.P. Ed. (Dalhousie)
Assistant Professor

Mathematics and Physics

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

D.G. Bishop, B.Eng. (Agr.) (Technical University of Nova Scotia), M.Eng. (Agr.)
(Technical University of Nova Scotia)
Assistant Professor

R.V. Buckler, B.Sc. (Acadia), B.Ed. (Acadia)
Assistant Professor

Faculty

P. Dzikowski, B.Sc. (McMaster), M.Sc. (Guelph)
Sessional Lecturer from the N.S. Dept. of Agriculture and Marketing

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. (Nova Scotia
Technical College)
Associate Professor

Plant Science

R.K. Prange, B.Sc. (Acadia), M.Sc. (British Columbia), Ph.D. (Guelph)
Associate Professor and Head

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

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

C.D. Caldwell, B.Sc. (Mt. Allison), M.Sc. (Dalhousie), Ph.D. (East Anglia)
Associate Professor

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)
Associate Professor

L.R. Mapplebeck, B.Sc. (Guelph), M.Sc. (Guelph)
Lecturer

J. Nowak, M.Sc. (Olsztyn), Ph.D. (Olsztyn), Ph.D.Habil. (Olsztyn)
Associate Professor

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

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

Schedule of Payments

Deposits

In the letter that offers final acceptance the student is asked to forward to the Registrar's office, before August 2, 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. The full amount of the deposit will be refunded when students cancel their applications before August 11. After this date, there is no refund of the \$25 course deposit. The \$75 residence deposit will be refunded up to, but not after, September 1 provided the Registrar's office is notified.

Deposits are subtracted from the total payments due at registration in September (see page 13).

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 for meals and lodging specified on the next page are for the regular academic year. The weekly rate during this period is \$92. The rate in the summer months (May 1 to September 1) for students and others is \$19 per day for double occupancy.

Students who are not Canadian citizens or residents pay an additional tuition fee of \$850 per semester and must take out health insurance at a cost of \$325 per academic year.

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 do not receive their Certificate of Eligibility (Schedule I form) before registration, must pay the required fee at registration time. Students should therefore arrange the necessary temporary financing before their arrival for registration.

Schedule of Payments

Degree Courses

All charges are subject to change.

Tuition fees for students who are not Canadian citizens or residents are an additional \$1,700 (\$850 per semester).

Payment due Sept. 8 (returning students Sept. 9), 1986

Tuition _____	\$ 560.00
Board and lodging _____	\$ 1,345.00
Caution, laboratory, and key deposit _____	\$ 45.00
Students' Council and athletics _____	\$ 75.50
Medical fee and insurance _____	\$ <u>15.00</u>
	2,040.50
Books (estimated) _____	\$ 250.00

Payment due January 5, 1987

Tuition _____	\$ 560.00
Board and lodging _____	\$ <u>1,430.00</u>
	\$ 1,990.00
Books (estimated) _____	\$ 250.00

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

Technician and Technology Courses

All charges are subject to change.

Tuition fees for students who are not Canadian citizens or residents are an additional \$1,700 (\$850 per semester).

Payment due Sept. 8 (returning students Sept. 9), 1986

Tuition _____	\$ 150.00
Board and lodging _____	\$ 1,345.00
Caution, laboratory, and key deposit _____	\$ 45.00
Students' Council and athletics _____	\$ 75.50
Medical fee and insurance _____	\$ <u>15.00</u>
	\$ 1,630.50
Books (estimated) _____	\$ 250.00

Payment due January 5, 1987

Tuition _____	\$ 150.00
Board and lodging _____	\$ <u>1,430.00</u>
	\$ 250.00
Books (estimated) _____	\$ 250.00

Schedule of Payments

The United Students' Council has approved a fee of \$15 for the Medical Services Fund, to be collected from all students at the time of registration. The fund provides nonprescription drugs and other supplies for the infirmary and student insurance. 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 \$32.50 per week.)

Students who withdraw after the date on which the Dropped Failure status takes effect are not permitted to register in the following semester.

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 Services Fund does not cover that person.

Residence Accommodations

Board and lodging facilities are available for male and female students. Students who have received final acceptance and want to reserve a place in residence are required to pay a deposit of \$75. Returning students must pay this fee before June 30 and new students must pay it when they receive their letters 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 8.

Trueman House, Chapman House, and Fraser House will be open as follows:

- after dinner on September 7 for all new students,
- after dinner on September 8 for all other students.

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

Schedule of Payments

Caution and Laboratory Deposit

Every student, at the time of registration, must make a cash deposit of \$45 to the Registrar to cover breakage.

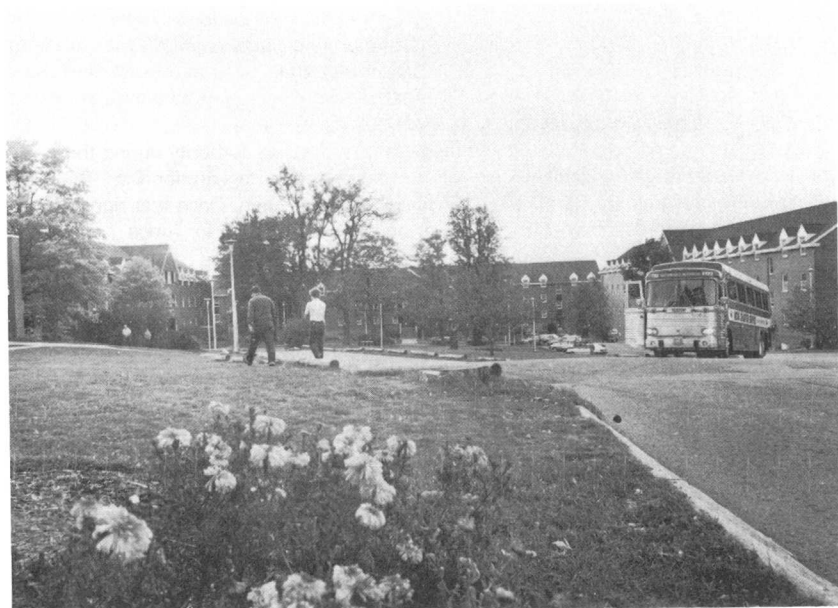
Damage to floors, walls, doors, windows, lighting, the sprinkler system, or furniture in any bedroom will be charged to the occupants of the room in equal shares, and damage to the common parts of the College and residences will be charged to the entire student body if the offender is not charged and 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.

Health Services

An infirmary is located in Trueman House. Daily hours are maintained. General health concerns and referrals to medical doctors, dentists, and other specialists are made through the person in charge. Over-the-counter medication is covered by a \$7.00 medical fee, and \$8.00 is charged to each student for insurance to provide 12-month accident coverage.

International students are required to have a sickness and accident coverage policy made available through the College.



Residences at NSAC

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 totalling more than \$4,000 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 1600 Charlottetown, P.E.I. C1A 7N3
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 his or her bank to arrange for funds.

Financial Aid for Students

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 the 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.

A.F.A.C. Student Exchange Assistance

The Association of the Faculties of Agriculture in Canada sponsors a Student Exchange Program to assist selected students to take a year of study at a Canadian Faculty of Agriculture other than their home institution. The program provides \$400 for one student in the B.Sc. (Agr.) program from each of the faculties of Agriculture in Canada. Credit for equivalent subjects is transferred to the home university. Students in their final year are not eligible. A letter of application must be received at the Registrar's Office, NSAC, not later than March 15 of the year in which the transfer is proposed.

Class of '44 Lectureship

In 1984 the Class of '44 established a fund with the Alumni Association, the annual interest from which is to be used to assist with bringing to the campus special lecturers or outstanding presentations that will enrich the educational role of the College. Selection of, and arrangements for, these presentations will be made by the Principal and two members of the Faculty Council.

The Donald E. Curren Scholarship

Scholarships with a value of \$1,000 are offered by the Canadian Paraplegic Association (Nova Scotia Division) to mobility impaired students who are Canadian citizens and residents of the Atlantic Provinces. Preference will be given to paraplegics and quadriplegics. The selection of the applicants is on the basis of merit and on other criteria as determined by the Selection Committee.

Application forms are available from the Canadian Paraplegic Association, Nova Scotia Division, 5599 Fenwick Street, Halifax, Nova Scotia, B3H 1R2. The deadline for applications to be received by the association is August 15.

Scholarships

Detailed information is given on pages 128-140.

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. Students in the B.Sc. (Agr.) program select one of seven options after the completion of the first year of the course: Plant Science, Animal Science, Agricultural Economics, Plant Protection, Agricultural Chemistry, Agricultural Soils, and Agricultural Mechanization.

Most students entering the program leading to a B.Sc. (Agr.) will complete their degrees at NSAC. Those who choose options not offered at the College can transfer at the end of the second year of the B.Sc. (Agr.) program, without interruption, to the Ontario Agricultural College of the University of Guelph, Macdonald College of McGill University, the University of Maine, or the faculty of Agriculture at another university for the final years of the program.

A wide range of courses is offered at NSAC in addition to those leading to a B.Sc. (Agr.). In 1986-87 the first three years of an Agricultural Engineering degree, a three-year Pre-Veterinary course, five technician courses, five technology courses, and numerous vocational short courses will be offered.

Students who wish to take the three-year Pre-Veterinary program to meet admission requirements of the Atlantic College of Veterinary Medicine at the University of Prince Edward Island must, after completing the first year, enter the Animal Science option and take a specific selection of subjects.

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

The various courses arranged for the 1986-87 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 less 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 fulfill a specific need. The choice of subjects will be limited to those that do not conflict when scheduled.

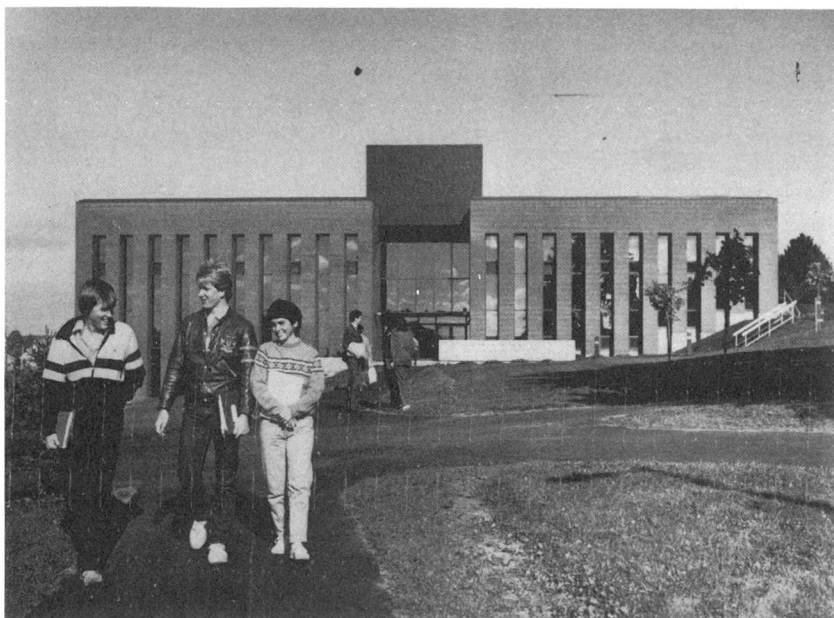
Students may write examinations in either of the two official languages of Canada.

General Information

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 81 years is conclusive evidence that students 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 with its recently opened extension, Boulden Building, Hancock Veterinary Building, the Library, an Animal Science building now under construction, MacMillan Show Centre, and a modern farm building complex — provide excellent teaching and research facilities, as well as offices and laboratories for faculty and staff, and for some of the staff of the Nova Scotia Department of Agriculture and Marketing. Fraser House, Trueman House, Chapman House, and Jenkins Hall provide excellent living and dining accommodations for male and female students. The campus has a modern and complete Athletic Centre, as well as the Alumni Theatre.



The Library, NSAC

General Information

Facilities

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 and Credit Unions

- 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
- Colchester Credit Union Ltd.

Express and Freight

Express or freight may be forwarded to the Nova Scotia Agricultural College by either Canadian National Railways or Canadian Pacific Railways.

College Colors

Royal Blue and Regular Gold

Churches

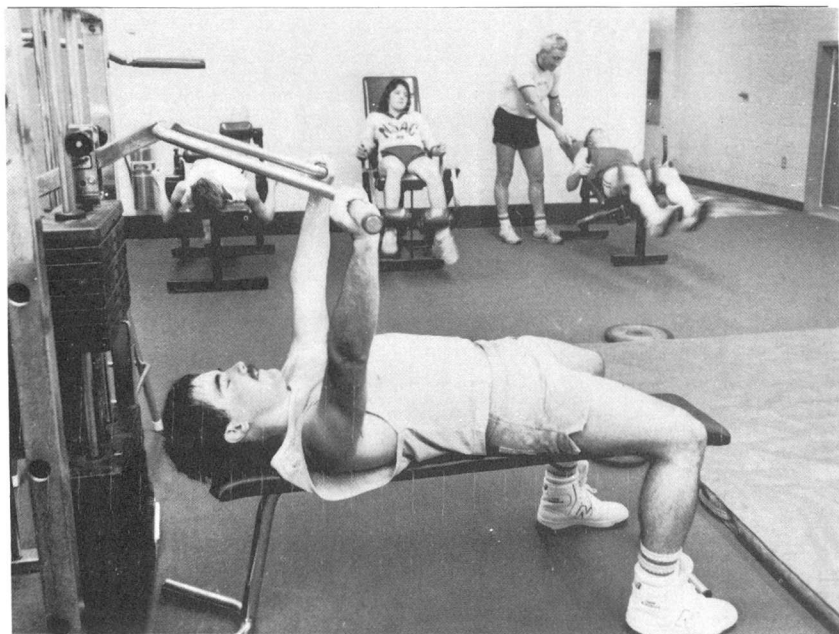
Churches representing a wide range of denominational interests are located in Truro and Bible Hill.

Chaplaincy

Rev. Douglas MacEachern is Chaplain and Dean of Students. He works in close cooperation 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.



Lunchtime intramural activities at the Athletic Centre



NSAC students using Athletic Centre facilities

General Information

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 Office contacts representatives of the agricultural industry 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 which are posted on bulletin boards at various locations on campus. General information on career planning and potential employers is also available at the Placement Office.

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.



Interior of NSAC library



Interior of residences, NSAC

General Information

Student Activities

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 the following activities:

Recreational 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 throughout 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.

Varsity athletics. NSAC is a member of the Nova Scotia College Conference which includes six other universities/colleges in Nova Scotia. Conference sports include soccer, volleyball, basketball, badminton, cross-country running, and hockey. Winners from the conference advance to the national championships administered by the Canadian Colleges Athletic Association. These championships take place in late March and move annually from province to province.

Other varsity teams include the woodsmen and cross-country skiing. Although not a part of the NSCC, these teams compete on a tournament basis.

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.

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.

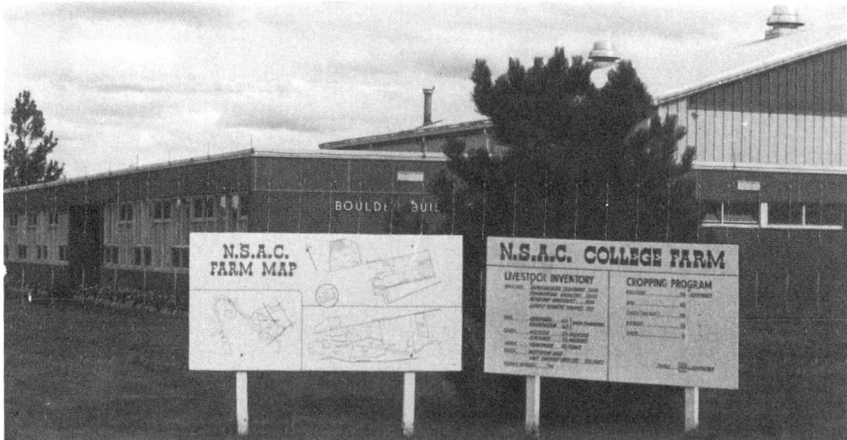
A student may, at the discretion of the instructor, be permitted to audit a course. The privilege may be withdrawn by the instructor at any time while the course is in progress. Students who are granted auditing privileges are not permitted to write tests or examinations, or to be otherwise evaluated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



Rules and Regulations

General Regulations

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

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. Hazing as a part of initiation is forbidden.

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

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, pillowcases, 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.

Rules and Regulations

Medical

Each candidate that is accepted will be sent a medical form; any student who does not receive one in his or her letter of final acceptance should ask for one. At registration, new students must have their completed forms with them. If required, students must submit to further medical examinations.

Students on holiday or accepted candidates for admission who contract any contagious or infective diseases, or who reside in any dwelling in which any such diseases exist, 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 or she will be allowed to return to the College.

Athletic Regulations

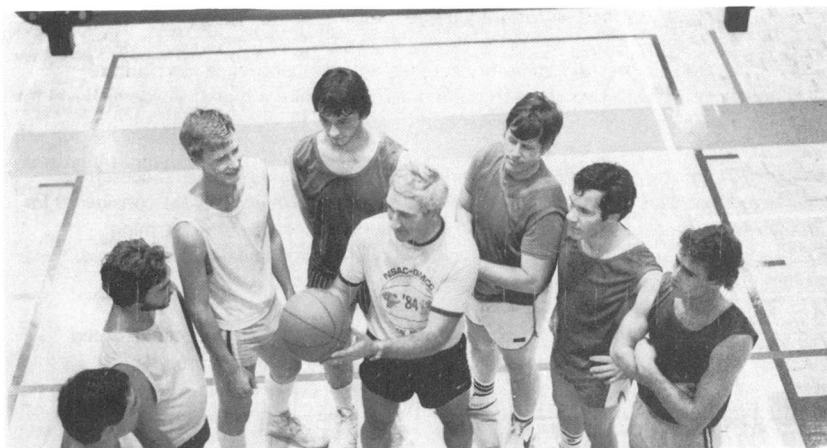
All students are eligible to play for teams representing the College, subject to conditions established by the NSAC and the Canadian Colleges Athletic Association.

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's 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 participation in outside games will not receive an attendance credit for the time lost.



Basketball in the Athletic Centre, NSAC

Summary of Academic Programs

Agricultural Science

The Nova Scotia Agricultural College offers a complete four-year program of study leading to the degree of a Bachelor of Science in Agriculture, or a B.Sc. (Agr.), with a choice of one of seven options: Animal Science, Agricultural Economics, Plant Protection, Plant Science, Agricultural Chemistry, Agricultural Soils, and Agricultural Mechanization. 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, the University of Maine, or Faculty of Agriculture at another university.

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 to the University of Guelph or they can 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 three-year program of study is offered for students who wish to attempt admission to the first year of the D.V.M. program at the University of Prince Edward Island. The same program of study can also serve as the first three years of the B.Sc. (Agr.) program.

Technician Courses

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

Technology Courses

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

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

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.

Explanation of Terms and Codes

The subjects listed in the syllabi and in the descriptions of subjects beginning on page 66 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-Soils	CS	Plant Science	PS

All subjects with numbers of 100 or over are degree credits. 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, CS12 is a Chemistry subject which is usually offered in the first year, first semester of the technician courses, while PS49 is a Plant Science subject which is 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 Technician course.

The following definitions are important for the interpretation of the information provided in the section of the Calendar entitled Description of Subjects, which begins on page 66:

A *prerequisite* is a subject that is essential preparation for success in the subject to which it is assigned. A student may, with the permission of the instructor, be admitted to the subject without obtaining a pass in the prerequisite.

A *corequisite* is a subject which, if not taken previously, must be taken concurrently with the subject to which it is assigned.

A *preparatory* is a subject which will provide the student with the best background for the subject to which it is assigned. Students may be admitted to a subject without passing the preparatory that is assigned to it, provided that they consult first with the instructor.

Category Codes — B.Sc. (Agr.) Program

In the section "Description of Subjects," most degree credit subjects have a bracketed letter or pair of letters immediately following the name of the subject. This bracketed letter or pair of letters indicates the discipline or category of the subject. Requirements for graduation from the B.Sc. (Agr.) program include a minimum number of subjects in each of these categories.

The following are the categories and their codes:

Agricultural Science	A	Humanities	H
Agricultural Engineering	AE	Mathematics	M
Economics	E	Science	S
Engineering	EN		

Degree Courses

The Nova Scotia Agricultural College offers a complete four-year course leading to a degree in Agricultural Sciences (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.) courses begin to specialize in their second year. They choose from a variety of options. The seven options available at NSAC are Plant Science, Animal Science, Agricultural Economics, Plant Protection, Agricultural Chemistry, Agricultural Soils, and Agricultural Mechanization. Other options, such as 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.

Students with a good academic standing who graduate from the B.Sc. (Agr.) program 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 three years of the Agricultural Engineering degree course can proceed to Macdonald College of McGill University or to the University of Guelph, or can apply to the Technical University of Nova Scotia or to another engineering faculty to complete their program of study.

Students who wish to take the three-year Pre-Veterinary program to meet admission requirements of the Atlantic College of Veterinary Medicine at the University of Prince Edward Island must, after completing the first year, enter the Animal Science option and take a specific selection of subjects. The Pre-Vet program also serves as the first three years of the B.Sc. (Agr.) program, Animal Science option. For other options it may take more than one more year to complete the B.Sc. (Agr.) program.

NSAC students in the Agricultural Sciences who successfully complete the prescribed subjects and number of credits, and who make a cumulative average at or above the minimum required, 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 marks below 50% of the maximum obtainable and who are in good standing are granted a Degree Course Diploma in Agricultural Engineering.

In 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 will be awarded to one who has attained an average of at least 75%.

In the B.Sc. (Agr.) program a high honours diploma will be awarded to students with a cumulative average of 80% or over and an honours diploma to students with a minimum cumulative average of 75% and under 80%. This will apply to all graduates who have taken 20 or more subjects at NSAC.

Degree Courses

Academic Standing

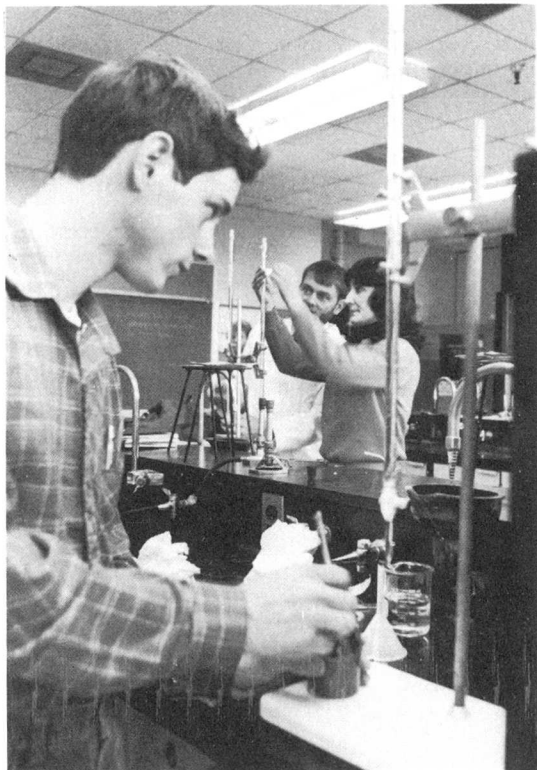
All students are assessed at the end of each semester. The passing mark for individual subjects is 50% unless otherwise specified. Those students with failing averages (less than 50%) or with failures in half or more of the subjects in which they are registered may be required to terminate their studies.

Students who attain cumulative grade averages below the following levels, and who are not required to withdraw, will be on probation:

End of first semester	50.0
End of second semester	52.5
End of third semester	55.0
End of fourth semester	57.5
End of fifth, sixth, seventh, and eighth semesters	60.0

Those who, in the semester following, do not raise their cumulative grade averages (CGA's) to the minimum level, or do not achieve semester grade averages (SGA's) of 60 or above, will be required to withdraw.

The requirements for graduation include a cumulative grade average of 60 or higher at the end of the student's program.



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 preparatory 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 three-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.

Graduates of Newfoundland Grade XII will be considered for direct entry if their average is 65% or higher in University Preparation English, Mathematics, Chemistry, Biology or Physics, and one other subject. The Grade XII level courses for Mathematics and English must be the third full year of high school study in these subjects, and for Chemistry and Biology or Physics the second full year.

Supplemental Examinations

A student who has a mark average of at least 50% and who has passed at least half of the subjects taken may write one supplemental examination in each failed subject in which the mark is 40% or higher. The supplemental examination (or examinations) must be written in the late June supplemental exam period immediately following the failure. A student in the final year may write one supplemental examination in January, if passing that examination and all final semester examinations makes the student eligible for graduation.

No student in any degree or technical program is permitted to write more than six supplemental exams.

Degree Courses

Supplemental Examinations

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 to the Registrar's Office the supplemental examination fee of \$20 per exam no later than June 10th for the June 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 formal educational requirements for Professional Agrologists in the provincial Institutes of Agrologists in the Atlantic Provinces.

The first academic year (two semesters) of this program is the same for all options. Normally, students select one of the 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
- Agricultural Chemistry
- Agricultural Mechanization
- Agricultural Soils
- 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, the University of Guelph, or the University of Maine.

Minimum Requirements

Academic requirements for the Bachelor of Science degree 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 or Agricultural Engineering
- 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.

The minimum level of academic achievement to graduate is a cumulative grade average of 60%.

Degree Courses

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

Syllabus

Year 1 — All Options

Semester I

B100	Botany
CS100	Chemical Principles
H200	Technical Writing, and English and American Authors
MP100	Calculus and Analytic Geometry I
PS100	Principles of Crop Production

Semester II

AS100	Introductory Animal Science
B110	Zoology
CS110	Organic Chemistry
EB110	Agricultural Economics
MP105	Calculus and Analytic Geometry II

The first academic year of the program is the same regardless of which option a student intends to take. By the time first-year students reach the middle of the Winter Semester (early March), they select one of the following options and register for the second year of that program:

Years 2, 3 and 4 — Agricultural Chemistry

Semester III

CS200	Bio-Organic Chemistry
CS210	Chemical Principles II
CS220	Introduction to Soil Science
MP110	Physics
MP220	Computer Science

Semester IV

CS205	Biochemistry
CS215	Organic Chemistry II
CS225	Quantitative Analytical Chemistry
H205	Canadian Literature
MP200	Statistics

Semester V

AS300	Animal Physiology
CS300	Physical Chemistry
CS305	Instrumental Analytical Chemistry I
	<i>Elective</i> ¹
	<i>Elective</i> ¹

Semester VI

B260	Plant Physiology
CS310	Radiotracers in Agriculture
CS315	Instrumental Analytical Chemistry II
CS350	Food Chemistry
MP235	Differential Equations and Linear Algebra

Semester VII

AS305	Animal Nutrition
CS410	Industrial Processing of Agricultural Products
CS449	Seminar/Project
	<i>Elective</i> ¹
	<i>Elective</i> ¹

Semester VIII

CS320	Soil Fertility and Fertilizers ²
CS400	Physical Chemistry II
CS450	Seminar/Project
EB355	Macroeconomics I
	<i>Elective</i> ¹

¹*Electives must include one course in Agricultural Science and one course in Humanities or Economics.*

²*CS320 may be replaced by CS340 if the timetable permits.*

Degree Courses

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

Years 2, 3 and 4 — Agricultural Soils

Semester III

CS200 Bio-Organic Chemistry
CS210 Chemical Principles II
CS220 Introduction to Soil Science
MP110 Physics
MP220 Computer Science

Semester V

B330 Ecology
CS305 Instrumental Analytical
Chemistry I
CS325 Soil Classification and
Survey
*Elective*²
*Elective*²

Semester VII

AE340 Soil and Water
B400 Soil Microbiology
CS425 Land Use Planning
CS449 Seminar/Project
*Elective*²

Semester IV

B260 Plant Physiology
CS225 Quantitative Analytical
Chemistry
CS230 Introduction to Geology
EB220 Production Economics¹
MP200 Statistics

Semester VI

B225 Microbiology
CS320 Soil Fertility
and Fertilizers
CS335 Soil Physics³ or CS340
Soil Chemistry³
H205 Canadian Literature
*Elective*²

Semester VIII

CS335 Soil Physics³ or CS340
Soil Chemistry³
CS450 Seminar/Project
EB355 Macroeconomics I
*Elective*²
*Elective*²

¹EB200 may substitute for EB220.

²Electives must include two Plant Science Production courses.

³These courses will be offered in alternate years.

Degree Courses

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

Years 2, 3 and 4 — Agricultural Economics

Semester III

- CS220 Introduction to Soil Science
- EB200 Microeconomics I
- EB210 Financial Accounting I
- EB260 Mathematical Economics
*Elective*¹

Semester V

- EB310 Cost Accounting
- EB335 Business Marketing
- EB340 Farm Management I
- EB360 Econometrics
*Elective*¹

Semester VII

- EB400 Resource and Environmental
Economics
- EB425 Research Methods
Seminar
- EB415 Business Law
*Elective*¹
*Elective*¹

Semester IV

- EB205 Microeconomics II
- EB215 Financial Accounting II
- H205 Canadian Literature
- MP200 Statistics
*Elective*¹

Semester VI

- EB325 Operations Research
- EB330 Agricultural Market
and Prices
- EB355 Macroeconomics I
- MP221 Computer Science
*Elective*¹

Semester VIII

- EB420 Agricultural and
Food Policy
- EB405 Macroeconomics II
- EB440 Farm Management II
*Elective*¹
*Elective*¹

¹*Electives must include two science subjects and one subject from each of Agricultural Engineering, Animal Science, and Plant Science.*

Degree Courses

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

Years 2, 3 and 4 — Agricultural Mechanization

Semester III

AE100 Graphics and Projection
CS220 Introduction to Soil Science
EB210 Financial Accounting I
MP130 Physics for Life Sciences I
MP220 Computer Science

Semester V

AE231 Agricultural Machinery
AE305 Engineering Measurements
and Controls
EB340 Farm Management I
*Elective*¹
*Elective*¹

Semester VII

AE340 Soil & Water
*Elective*¹
*Elective*¹
*Elective*¹
*Elective*¹

Semester IV

AE110 Statics
AE320 Agricultural Structures
H205 Canadian Literature
MP135 Physics for Life Sciences II
MP200 Statistics

Semester VI

AE325 Agricultural Tractors
EB355 Macroeconomics I
*Elective*¹
*Elective*¹
*Elective*¹

Semester VIII

AE330 Hydrology
AE450 Agricultural Mechanization
Project/Seminar
*Elective*¹
*Elective*¹
*Elective*¹

¹*Electives must include three Agricultural Engineering subjects.*



Degree Courses

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

Years 2, 3 and 4 — Animal Science

Semester III

B200 Cell Biology
B240 Introduction to Genetics
CS200 Bio-Organic Chemistry
CS220 Introduction to Soil Science
MP110 Physics

Semester V

AS300 Animal Physiology
AS305 Animal Nutrition
AS310 Animal Breeding
*Elective*¹
*Elective*¹

Semester VII

*Elective*¹
*Elective*¹
*Elective*¹
*Elective*¹
*Elective*¹

Semester IV

B225 Microbiology
B245 Genetics II
CS205 Biochemistry
H205 Canadian Literature
MP200 Statistics

Semester VI

AS315 Reproductive Physiology
AS320 Animal Health
AS325 Applied Animal
Nutrition
EB355 Macroeconomics I
*Elective*¹

Semester VIII

AS450 Seminar and Project
*Elective*¹
*Elective*¹
*Elective*¹
*Elective*¹

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

Degree Courses

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

Years 2, 3 and 4 — Plant Protection

Semester III

- B200 Cell Biology
- B240 Introduction to Genetics
- B265 Taxonomy of Vascular Plants
- CS200 Bio-Organic Chemistry
- MP110 Physics

Semester V

- B300 Principles of Plant Pathology
- B310 Mycology
- B320 General Entomology
- B335 Weed Science
- CS220 Introduction to Soil Science

Semester VII

- B330 Ecology
- B449 Seminar and Project
- Elective*¹
- Elective*¹
- Elective*¹

Semester IV

- B225 Microbiology
- B260 Plant Physiology
- B270 Structural Botany
- CS205 Biochemistry
- MP200 Statistics

Semester VI

- B305 Economic Plant Pathology
- B325 Economic Entomology
- EB355 Macroeconomics I
- MP221 Computer Science
- Elective*¹

Semester VIII

- B450 Seminar and Project
- H205 Canadian Literature
- Elective*¹
- Elective*¹
- Elective*¹

¹*Electives must include one Agricultural Engineering subject and either H320 or H325.*

Recommended Electives:

- B400 Soil Microbiology
 - B405 Pesticides in Agriculture
 - MP330 Agrometeorology
- At least one crop production course.

Degree Courses

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

Years 2, 3 and 4 — Plant Science

Semester III

B200 Cell Biology
B240 Introduction to Genetics
B265 Taxonomy of Vascular Plants
CS200 Bio-Organic Chemistry
MP110 Physics

Semester IV

B260 Plant Physiology
H205 Canadian Literature
MP200 Statistics
Crop Production Elective
*Elective*¹

Semester V

B300 Principles of Plant Pathology
B320 General Entomology
B335 Weed Science
CS220 Introduction to Soil Science
*Elective*¹

Semester VI

CS320 Soil Fertility and
Fertilizers
EB355 Macroeconomics I
*Elective*¹
*Elective*¹
*Elective*¹

Semester VII

PS415 Crop Adaptation
PS449 Plant Science Project I
*Elective*¹
*Elective*¹
*Elective*¹

Semester VIII

PS405 Agronomy or
PS410 Horticulture
PS450 Plant Science Project II
*Elective*¹
*Elective*¹
*Elective*¹

¹*Electives must include one Agricultural Engineering subject, two crop production subjects and one Humanity or Economics subject.*

Recommended Electives:

B245 Genetics II (Prerequisite: B240)
CS205 Biochemistry (Prerequisite: CS200)
CS425 Land Use Planning (Prerequisites: CS220 and either EB200 or EB220)
EB340 Farm Management I
MP220 or MP221 Computer Science
MP330 Agrometeorology (Prerequisite: MP110 or MP130)
PS400 Plant Breeding (Prerequisites: B240, MP200, one crop production subject; Corequisite: B245)

Bachelor of Science in Agricultural Engineering — B.Sc. (Agr.Eng.)

The B.Sc. (Agr.Eng.) degree course is a five-year course, the first three years of which are offered at NSAC. Students who successfully complete the program at NSAC are graduates of NSAC and receive an Agricultural Engineering Diploma.

These students then proceed for their final two years of the B.Sc. (Agr.Eng.) program to Macdonald College of McGill University or the University of Guelph or they apply to complete their degree at the Technical University of Nova Scotia.

Graduates of the complete B.Sc. (Agr.Eng.) program meet the formal educational requirements for admission to the Provincial Associations of Professional Engineers and the Provincial Institutes of Agrologists.

Degree Courses

Minimum Requirements

The academic requirements for the Agricultural Engineering Diploma are successful completion of:

- all subjects as specified in the syllabus of subjects
- at least 32 semester subjects
- at least 15 subjects at NSAC, plus registration for graduation and approval of the student's program in the student's final year.

Syllabus

Year 1

Semester I

AE100 Graphics and Projection
CS100 Chemical Principles
H200 Technical Writing, and
English and American Authors
MP100 Calculus and Analytic
Geometry I
MP130 Physics for Life Sciences I

Semester II

AE110 Statics
CS110 Organic Chemistry
EB110 Agricultural Economics
MP105 Calculus and Analytic
Geometry II
MP135 Physics for Life Sciences II

Spring Session

AE260 Surveying — 2 weeks

Year 2

Semester III

AE220 Dynamics I
AE231 Agricultural Machinery
CS220 Introduction to Soil Science
MP220 Computer Science
MP230 Multivariable Calculus
PS100 Principles of Crop
Production

Semester IV

AE205 Graphics and Design
AE225 Dynamics II
AS100 Introductory Animal Science
MP200 Statistics
MP235 Differential Equations and
Linear Algebra

Year 3

Semester V

AE310 Thermodynamics
AE340 Soil and Water
MP300 Electric Circuits
Humanities Elective
Elective¹

Semester VI

AE315 Strength of Materials
AE320 Agricultural Structures
AE350 Fluid Mechanics
Humanities Elective
Elective¹

¹One elective must be an Agricultural Engineering subject.

Degree Courses

Pre-Veterinary Medicine

Students prepare to enter the course leading to Doctor of Veterinary Medicine at the University of Prince Edward Island by completing three years of the B.Sc. (Agr.) program at NSAC.

Admission requirements are university preparation grade XII (N.S. 441 or 541; N.B. 121 or 122) in English, Mathematics, Chemistry, Physics, and one other subject, preferably Biology.

Syllabus

Year 1

Semester I

B100 Botany
CS100 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 Zoology
CS110 Organic Chemistry
EB110 Agricultural Economics
MP105 Calculus and Analytic
Geometry II
MP135 Physics for Life Sciences II

Year 2

Semester III

B200 Cell Biology
B240 Introduction to Genetics
CS200 Bio-Organic Chemistry
CS220 Introduction to Soil Science
PS100 Principles of Crop
Production

Semester IV

B225 Microbiology
B245 Genetics II
CS205 Biochemistry
H205 Canadian Literature
MP200 Statistics

Year 3

Semester V

AS300 Animal Physiology
AS305 Animal Nutrition
AS310 Animal Breeding
B340 Comparative Vertebrate
Anatomy
Humanity or Social Science

Semester VI

AS325 Applied Animal Nutrition
CS360 Mammalian Biochemistry
EB355 Macroeconomics I
Humanity or Social Science
Humanity or Social Science

At the successful completion of this Pre-Vet program, the student has also completed three of the four years of the B.Sc. (Agr.) program. Those who do not proceed to the D.V.M. program at U.P.E.I. may continue for one more year at NSAC to obtain their B.Sc. (Agr.) degree. Those who graduate in the Animal Science or other options may apply to other universities for graduate studies leading to a M.Sc. and/or a Ph.D. degree in one of the many specializations in Animal Science (Animal Physiology, Animal Nutrition, Animal Breeding, etc.) or other fields of agricultural science.

Pre-Tech Semester

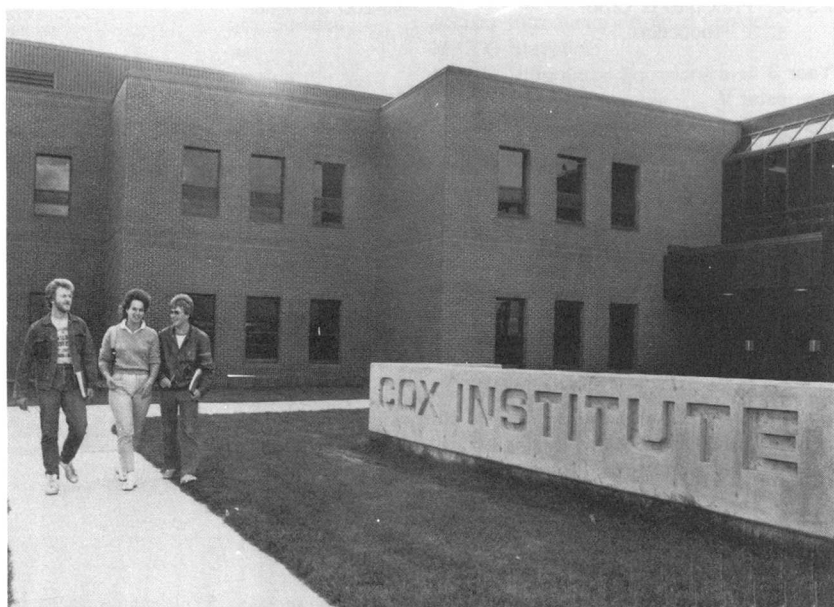
The Nova Scotia Agricultural College offers a program of studies designed to prepare high school graduates for entrance to the technician courses. Only persons who have been out of school for at least one year will be considered. The period of study will be from early January until late April (see sessional dates for 1986-87 session).

Candidates may be considered who lack entrance requirements for the technician courses in up to three subjects. All applicants with academic admission requirements must present themselves for a selection interview when invited. The following is the syllabus of subjects for the Pre-Tech semester:

- MP01 Pre-Tech Mathematics
- CS01 Pre-Tech Chemistry
- H01 Language Development
- EB01 The Agricultural Industry
- B01 Pre-Tech 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.



Entrance to the extension of Cox Institute, NSAC

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 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 different academic backgrounds 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.

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 who 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 will be awarded to one who has attained an average of at least 75%.

Technician Courses

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 40%.

Six supplemental exams is the maximum number a student is permitted to write over the duration of any program of study.

Provided that the disqualifying conditions stated above do not apply, a student may write one supplemental examination in a subject in the June supplemental exam period 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.

Application for permission to write a supplemental examination in June must be submitted to the Registrar's office before June 10.

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.



Technician Courses

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

Agricultural Business with minor in

Animal Science	Plant Science	Agricultural Mechanization
Year I		
Semester A		
CS12 Principles of Soil Science	CS12 Principles of Soil Science	CS12 Principles of Soil Science
CS14 Agr. Chemistry	CS14 Agr. Chemistry	CS14 Agr. Chemistry
EB10 Accounting	EB10 Accounting	EB10 Accounting
EB12 Macroeconomics	EB12 Macroeconomics	EB12 Macroeconomics
H10 Technical Writing	H10 Technical Writing	H10 Technical Writing
PS40 Field Crops I	PS40 Field Crops I	MP15 Physics

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

Semester B

CS13 Soil Management	AS30 Animal Science	AE15 Oil Hydraulics
EB11 App. Acct. & Taxation	CS13 Soil Management	AS30 Animal Science
EB13 Microeconomics	EB11 App. Acct. & Taxation	CS13 Soil Management
EB41 Business Law	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

Technician Courses

Syllabus

Agricultural Business with a minor in

Animal Science

Plant Science

Agricultural Mechanization

Year II

Semester C

AS34 Animal Nutrition
B18 Animal Genetics
B20 Animal Physiology
EB40 Marketing Practices
EB43 Business Project
EB340 Farm
Management I

B43 Entomology
EB40 Marketing Practices
EB43 Business Project
EB340 Farm
Management I
PS53 Vegetable
Production²
Humanities Subject

AE30 Farm Machinery^{3 4}
EB40 Marketing Practices
EB43 Business Project
EB340 Farm
Management I
PS40 Field Crops I
Humanities Subject

Semester D

AS35 Feeds & Feeding
AS50 Dairy Production¹
AS51 Beef & Sheep Prod.¹
EB42 Applied Farm
Management
EB220 Production
Economics
Humanities Subject

B40 Plant Pathology
EB41 Business Law
EB42 Applied Farm
Management
EB220 Production
Economics
PS49 Potato Production²
PS76 Plant Products
Physiology

AE34 Farm Tractors^{3 5}
AE38 Horticultural
Engineering⁵
EB41 Business Law
EB42 Applied Farm
Management
EB220 Production
Economics
PS41 Field Crops II

¹May substitute AS52 Swine Production if timetable permits.

²May substitute PS43 Small Fruit Crops and PS44 Tree Fruit Crops if timetable permits.

³May substitute AE12 Drafting, MP15 Physics, AE32 Farm Buildings, and AE36 Controls & Processing if timetable permits.

⁴May substitute AE14 Surveying if timetable permits.

⁵May 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 pursue 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 pursue 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.

Technician Courses

Agricultural Mechanization

Syllabus

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

CS12 Principles of
Soil Science

CS12 Principles of
Soil Science

CS12 Principles of
Soil Science

CS14 Agr. Chemistry

CS14 Agr. Chemistry

CS14 Agr. Chemistry

EB10 Accounting

EB10 Accounting

EB10 Accounting

H10 Technical Writing

H10 Technical Writing

H10 Technical Writing

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

MP14 Computational
Methods

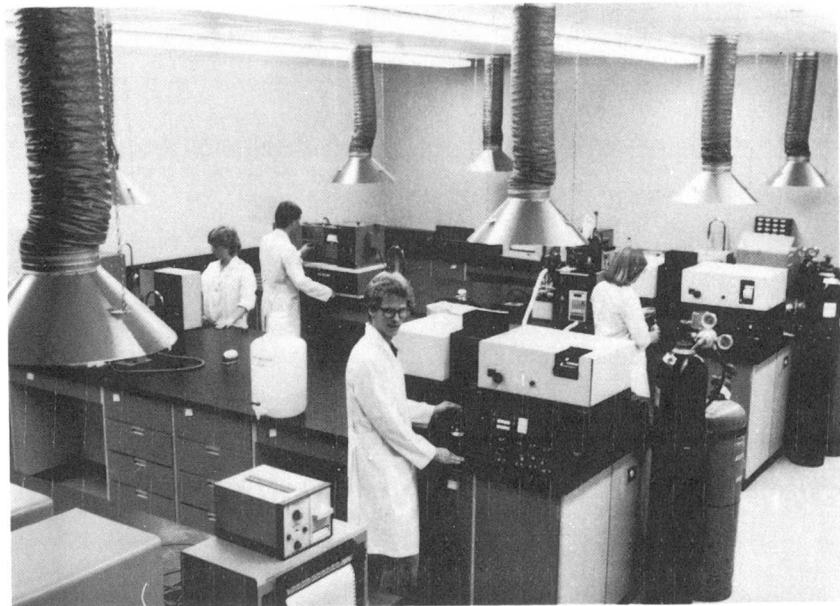
MP14 Computational
Methods

MP14 Computational
Methods

MP15 Physics

MP15 Physics

MP15 Physics



Technician Courses

Agricultural Mechanization

Syllabus

Agricultural Mechanization with minor in

Animal Science

Plant Science

Agricultural Business

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

EB40 Marketing Practices

B20 Animal Physiology

Production

EB340 Farm

Humanities Subject

Management I

Semester D

AE34 Farm Tractors

AE34 Farm Tractors²

AE34 Farm Tractors

AE36 Controls &
Processing

AE36 Controls &
Processing²

AE36 Controls &
Processing

AE45 Soil & Water
Management

AE45 Soil & Water
Management²

AE45 Soil & Water
Management

AE47 Project/Seminar

AE47 Project/Seminar

AE47 Project/Seminar

AS50 Dairy Production¹
Humanities Subject

PS41 Field Crops II
PS49 Potato Production

EB13 Microeconomics
Humanities Subject

¹Another Livestock Production course may be substituted if timetable permits.

²AE38 Horticultural Engineering 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 pursue a one-year program in Agricultural Technology.

Technician Courses

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

Animal Science with minor in

Agricultural Business

Agricultural Mechanization

Year I

Semester A

AS34	Animal Nutrition	AE12	Drafting ¹
B18	Animal Genetics	AS34	Animal Nutrition
B20	Animal Physiology	B18	Animal Genetics
CS14	Agr. Chemistry	B20	Animal Physiology
EB10	Accounting	CS14	Agr. Chemistry
H10	Technical Writing	H10	Technical Writing

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

Semester B

AS33	Applied Animal Physiology	AS33	Applied Animal Physiology
AS35	Feeds & Feeding	AS35	Feeds & Feeding
AS44	Animal Breeding	AS44	Animal Breeding
EB11	App. Acct. & Taxation		Humanities Subject
	Humanities Subject	MP14	Computational Methods
MP14	Computational Methods	MP15	Physics ¹

Technician Courses

Syllabus

Animal Science with minor in

Agricultural Business

Year II

Semester C

AS45	Project/Seminar
AS47	Animal Health
AS53	Poultry Production ²
CS12	Principles of Soil Science
EB340	Farm Management I
PS40	Field Crops I

Semester D

AS50	Dairy Production ⁴
AS51	Beef & Sheep Production ⁴
AS52	Swine Production ⁴
CS13	Soil Management
EB41	Business Law
PS41	Field Crops II

Agricultural Mechanization

AE32	Farm Buildings ^{1 3}
AS45	Project/Seminar
AS47	Animal Health
AS53	Poultry Production ²
CS12	Principles of Soil Science
PS40	Field Crops I

AE36	Controls & Processing ^{1 3}
AS50	Dairy Production ⁴
AS51	Beef and Sheep Production ⁴
AS52	Swine Production ⁴
CS13	Soil Management
PS41	Field Crops II

¹May substitute AE15 Oil Hydraulics, AE34 Farm Tractors, and AE30 Farm Machinery for these subjects if timetable permits.

²May substitute AS54 Horse Management if timetable permits.

³May substitute AE14 Surveying and AE45 Soil & Water Management if timetable permits.

⁴May substitute AS37 Lab Animal Care or AS55 Fur Production 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.

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

Technician Courses

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 satisfactory completion of the Pre-Tech semester, is required.

Syllabus

Year I

Semester A

AE12 Drafting
AE13 Shopwork
CS14 Agr. Chemistry
EB10 Accounting
H10 Technical Writing
MP15 Physics

Semester B

AE15 Oil Hydraulics
AE20 Shopwork Practices
AE27 Welding
EB11 Applied Acct. & Taxation
EB41 Business Law
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
CS12 Principles of
Soil Science
PS30 Plant Science

Semester D

AE39 Tractor Overhaul
AE40 Field Equipment
Overhaul
AE47 Project/Seminar
AE68 Farmstead Equipment
Overhaul
AS30 Animal Science
Humanities Subject

Technician Courses

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

Plant Science with minor in

Agricultural Business

Horticulture

Animal Science

Year I

Semester A

CS12 Principles of
Soil Science

AE14 Surveying
CS12 Principles of
Soil Science

B43 Entomology
CS12 Principles of
Soil Science

CS14 Agr. Chemistry

CS14 Agr. Chemistry

CS14 Agr. Chemistry

EB10 Accounting

H10 Technical Writing

H10 Technical Writing

MP15 Physics

MP15 Physics

MP15 Physics

PS40 Field Crops I

PS43 Small Fruit Crops

PS40 Field Crops I

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

Semester B

B40 Plant Pathology

B40 Plant Pathology

AE15 Oil Hydraulics

B41 Plant Physiology

B41 Plant Physiology

B40 Plant Pathology

CS13 Soil Management

CS13 Soil Management

B41 Plant Physiology

MP14 Computational
Methods

MP14 Computational
Methods

CS13 Soil Management

PS10 Plant Science Skills

PS10 Plant Science Skills

PS10 Plant Science Skills

PS41 Field Crops II

PS44 Tree Fruit Crops

PS41 Field Crops II

Technician Courses

Plant Science

Syllabus

Plant Science with minor in

**Agricultural
Business**

Horticulture

**Animal
Science**

Year II

Semester C

B43 Entomology	B43 Entomology	AE30 Farm Machinery
EB12 Macroeconomics	PS39 Greenhouse Management ¹	AS34 Animal Nutrition
EB340 Farm Management I Humanities Subject	PS47 Turfgrass Production ¹	B18 Animal Genetics
PS52 Plant Science Project	PS53 Vegetable Production ¹	B20 Animal Physiology Humanities Subject
PS53 Vegetable Production ¹	PS52 Plant Science Project	PS52 Plant Science Project
	PS60 Landscape Plant Materials I ¹	

Semester D

B46 Weed Science	AE38 Hort. Engineering	AE34 Farm Tractors
EB11 App. Acct. & Taxation	B46 Weed Science	AS51 Beef and Sheep Production ²
EB13 Microeconomics	EB41 Business Law ¹	B46 Weed Science
EB41 Business Law	PS61 Landscape Plant Materials II ¹	PS42 Cash Crops and Seed Production
PS44 Tree Fruit Crops	PS76 Plant Products Physiology ¹	PS49 Potato Production
PS49 Potato Production ¹	Humanities Subject	PS76 Plant Products Physiology

¹May substitute another Plant Science production subject if the timetable permits. In addition, those in the Horticulture minor may substitute AS30 Animal Science, if the timetable permits.

²May substitute other Animal Science Production subject 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.

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



Preparing for a chemistry lab, 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 Biology, a Diploma of Technology (Dipl. T.) in Chemistry, 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 equivalent to the above 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 66.

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 will be awarded to one who has attained an average of at least 75%. For a diploma in Agricultural Technology to be awarded, the student's mark in the farm project must also be at or above the minimum average mark required for honours and high honours diplomas.

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

B50	Microbiology
B70	Microtechniques I
B100	Botany
CS42	Organic Chemistry
CS68	Introductory Laboratory Techniques
H10	Technical Writing

Semester B

B71	Microtechniques II
B110	Zoology
CS43	Bio-Organic Chemistry
CS69	Introductory Instrumentation
MP70	Basic Statistics
MP221	Computer Science

Year II

Semester C

AS34	Animal Nutrition
AS47	Animal Health or PS30 Plant Science
B18	Animal Genetics
B20	Animal Physiology
B43	Entomology
CS12	Principles of Soil Science

Semester D

AS37	Laboratory Animal Care
B40	Plant Pathology
B41	Plant Physiology
B48	Plant Tissue Culture
B46	Weed Science
B75	Biological Photography

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

CS42 Organic Chemistry
CS45 Qualitative Analysis
CS68 Introductory Laboratory
Techniques
CS100 Chemical Principles
MP42 Electrical & Optical
Technology
MP100 Calculus and Analytic
Geometry I

Semester B

AS30 Animal Science¹
CS43 Bio-Organic Chemistry
CS69 Introductory Instrumentation
CS225 Quantitative Analytical
Chemistry
MP70 Basic Statistics
MP221 Computer Science

Year II

Semester C

CS75 Basic Food Chemistry
CS79 Project Organization
CS220 Introduction to Soil Science
CS300 Physical Chemistry
CS305 Instrumental Analytical
Chemistry I
H10 Technical Writing

Semester D

CS73 Laboratory Organization
and Management
CS80 Project Implementation
CS310 Radiotracers in
Agriculture
CS315 Instrumental Analytical
Chemistry II
CS350 Food Chemistry
H150 Agriculture Today

¹AS100 can be substituted if 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
B265	Taxonomy of Vascular Plants
CS12	Principles of Soil Science
PS47	Turfgrass Production and Management
PS50	Landscape Horticulture I
PS55	Nursery Crops
PS60	Landscape Plant Materials I

Semester B

AE38	Horticultural Engineering
B40	Plant Pathology
B41	Plant Physiology
CS13	Soil Management
PS51	Residential Landscape Design and Construction
PS61	Landscape Plant Materials II

Spring Session

PS70	Landscaping Techniques — 6 weeks
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Year II

Semester C

AE14	Surveying
B43	Entomology
EB10	Accounting
H140	Personnel Management
PS39	Greenhouse Management
PS71	Arboriculture
PS73	Landscape Horticulture II

Semester D

B46	Weed Science
EB11	Applied Accounting and Taxation
EB41	Business Law
H325	Technology in Agricultural Communication
PS72	Landscape Maintenance
PS74	Landscape Design and Construction

Technology Courses for Technician Graduates

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 the student 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 honours 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 Analytic
Geometry I
- PS100 Principles of Crop
Production

Semester B

- AE27 Welding¹
- AE36 Controls & Processing
- AS100 Animal Science
- EB110 Agricultural Economics
- MP221 Computer Science
- MP105 Calculus and Analytic
Geometry II

Summer Session

- AE260 Surveying — 2 weeks

Year II

Semester C

- AE79 Technology Project
- AE82 Engineering Measurements
- AE231 Agricultural Machinery
- AE335 Materials Handling and
Processing
- AE340 Soil and Water
Approved Elective

Semester D

- AE80 Technology Report
- AE320 Agricultural Structures
- AE345 Energy in Agriculture
- H325 Technology in Agricultural
Communications
Approved Elective
Approved Elective

¹If 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 studies includes a minimum of three semesters of prescribed courses, four months of approved farm experience, and seven months of on-farm training 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
CS12 Principles of Soil
Science
CS14 Agricultural Chemistry
EB10 Accounting
EB40 Marketing Practices
EB340 Farm Management I
PS40 Field Crops I

Semester B

AE15 Oil Hydraulics
AE34 Farm Tractors
CS13 Soil Management
EB11 App. Acct. & Taxation
EB220 Production Economics
H10 Technical Writing
MP14 Computational Methods
MP15 Physics
PS41 Field Crops II

On-farm training — a seven-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 must fulfill the experience requirement.

Technology Courses for Technician Graduates

Farming Technology

Approved Electives

Semester A

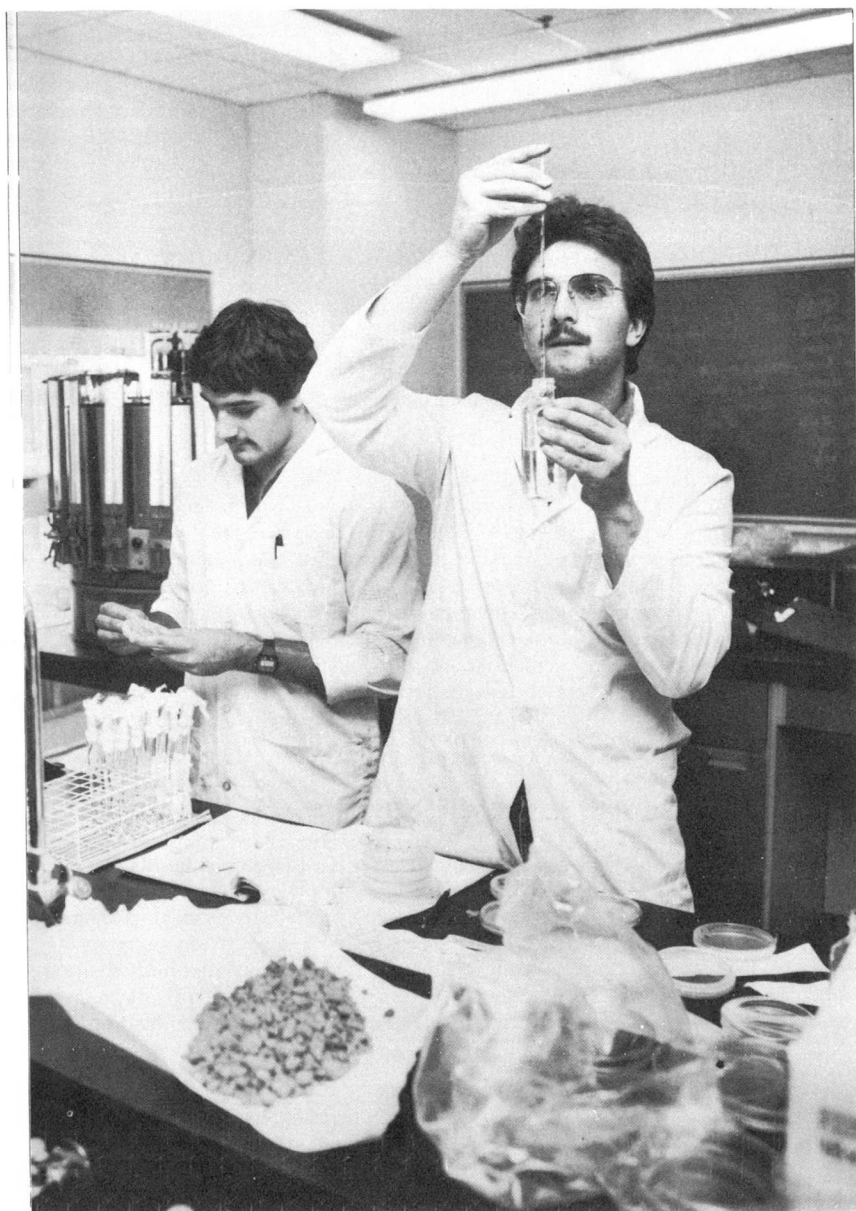
AE12	Drafting
AE13	Shopwork
AE14	Surveying
AE27	Welding
AE30	Farm Machinery
AE32	Farm Buildings
AE39	Tractor Overhaul
AS34	Animal Nutrition
AS47	Animal Health
AS53	Poultry Production
AS54	Horse Management
AS55	Fur Production
B18	Animal Genetics
B20	Animal Physiology
B43	Entomology
EB12	Macroeconomics
PS39	Greenhouse Management
PS43	Small Fruit Crops
PS53	Vegetable Production
PS147	Farm Woodlot Management 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

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 will be awarded to one who has attained an average of at least 75%. For a diploma in Agricultural Technology to be awarded, the student's mark in the farm project must also be at or above the minimum average mark required for honours and high honours diplomas.



Students working on a Soil Microbiology lab project

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 introduced.

Fall semester — 1 lec and 4 labs per week.

AE 13: Shopwork

Instructors: **Prof. Havard and Messrs. 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, and forming rolls; and of woodworking equipment such as the table saw, jointer, thicknesser, radial-arm saw and a wood lathe; 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: **Prof. Madani**

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 the 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 an 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, and repair procedures and standards are introduced.

Winter semester — 3 lecs and 2 labs per week.

Agricultural Engineering

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: **Prof. Havard and Messrs. Bhola and Hampton**

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 wood-working 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: **To be announced**

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 non-ferrous 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. Desir**

Prerequisite: AE 15

Operating principles of the basic types of farm machinery, tilling, planting, chemical and fertilizer application, harvesting and haymaking equipment are studied. Laboratory periods emphasize adjustment, calibration, and maintenance of the machinery, as well as safety.

Fall semester — 2 lecs and 4 labs per week.

Description of Subjects

AE 32: Farm Buildings

Instructor: **Prof. Allen**

Prerequisites: AE 12, MP 15

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: **Prof. Cunningham**

Prerequisite: AE 12

Preparatory: AE 32

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: **Prof. Desir**

Small gasoline engine structure and operating theory are studied, with emphasis on engine maintenance and trouble-shooting. This course includes basic hydraulic theory, emphasizing the operation of common systems in use today. A wide range of horticultural machinery is studied, as well as the principles of mixing, placing, and curing concrete, fence making, and chainsaw operation.

Winter semester — 2 lecs and 4 labs per week.

Agricultural Engineering

AE 39: Tractor Overhaul

Instructor: **Prof. Desir**

Prerequisite: AE 63

Preparatory: AE 20

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

Preparatory: AE 20

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. Madani**

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, irrigations 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**

Prerequisite: AE 23

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.

Description of Subjects

AE 49: Electrical Systems

Instructor: **Prof. Desir**

Prerequisite: MP 15

Basic principles of electricity and electrical circuits are studied. Particular emphasis is placed on the function, description, and principles of operation of tractor electrical systems and components. Methods of diagnosis of faulty systems and components are covered.

Fall semester — 2 lecs and 4 labs per week.

Text — John Deere, *FOS: Electrical Systems*.

AE 63: Tractor Power

Instructor: **Prof. Desir**

Prerequisite: MP 15

Corequisite: 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.

Text — John Deere, *FMO: Tractor Power*.

AE 68: Farmstead Equipment Overhaul

Instructor: **Prof. Cunningham**

Prerequisite: MP 15

Preparatory: AE 20

Equipment used within and around buildings is overhauled after first analyzing the individual equipment and establishing the repairs and parts required as well as 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, or 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**

A report on the technology project previously completed will account for the work done and show the knowledge and understanding required. 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.

Agricultural Engineering

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 (EN)

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 (EN)

Instructor: **Prof. Allen**

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.

Winter semester — 3 lecs and 3 labs per week.

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

Description of Subjects

AE 205: Graphics and Design (EN)

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 (EN)

Instructor: **Prof. Rifai**

Prerequisites: AE 110, MP 105

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 (EN)

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 231: Agricultural Machinery (AE)

Instructor: **Prof. Rifai**

Prerequisite: MP 110 or MP 130

The selection, use, and principles of operation of farm machinery are studied. Emphasis is placed on crop production machinery — tillage, planting, chemical and fertilizer application, and different harvesting systems. Other types of farm machinery will also be covered. Principles and methods of power transfer (hitching, pto, hydraulics) will be examined.

Fall semester — 3 lecs and 3 labs per week.

Text — Kepner, Bainer, and Badger, *Principles of Farm Machinery*.

AE 260: Surveying (EN)

Instructor: **Prof. Madani**

Prerequisite: MP 100

Preparatory: MP 105

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.

Two weeks following winter semester.

Text — Kissan, *Surveying Practice*.

AE 305: Engineering Measurements and Controls (AE)

Instructor: **Prof. Havard**

Prerequisite: MP 110 or MP 130

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*, Instrument Society of America.

AE 310: Thermodynamics (EN)

Instructor: **Prof. Allen**

Prerequisite: MP 135

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 Sonntag, *Fundamentals of Classical Thermodynamics*, S1 Version (2nd edition).

AE 315: Strength of Materials (EN)

Instructor: **Prof. Allen**

Prerequisites: AE 110, MP 105

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 — Beer and Johnson, *Mechanics of Materials* 1985.

AE 320: Agricultural Structures (AE)

Instructor: **Prof. Allen**

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.

Reference — Whitaker, *Agricultural Buildings and Structure*.

Description of Subjects

AE 325: Agricultural Tractors (AE)

Instructor: **Prof. Desir**

Prerequisite: MP 110 or MP 130

The principles and methods of power generation and transmission in farm tractors are studied. Theory and operation of two- and four-stroke diesel and gasoline engines are covered, as well as clutches, different types of transmissions, and tractor final drives. Traction, hydraulics, and electrical systems are also covered, as well as field operation and tractor safety.

Winter semester — 3 lecs and 3 labs per week.

Text — Jones and Alfred, *Farm Power and Tractors*.

AE 330: Hydrology (AE)

Instructor: **Prof. Madani**

Prerequisites: MP 105, and either MP 110 or MP 130

Introduction to the basics of hydrology investigations. Topics include the use of maps, elementary statistics applied to hydrology, climatic measurements, infiltration soil moisture analysis, evaporation, evapotranspiration, runoff, hydrographics, probability analysis, and applications to agricultural engineering problems.

Winter semester — 3 lecs and 3 labs per week.

Text — Shulz, *Problems in Applied Hydrology*.

AE 335: Materials Handling and Processing (AE)

Instructor: **Prof. Cunningham**

Prerequisite: MP 105

Preparatory: MP 110 or MP 130

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.

Text — Agriculture Canada, *Agricultural Materials Handling Manual*.

AE 340: Soil and Water (AE)

Instructor: **Prof. Madani**

Prerequisite: MP 105

Corequisite: CS 220

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 in 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*.

Agricultural Engineering

AE 345: Energy in Agriculture (AE)

Instructor: **Prof. Havard**

Prerequisite: MP 105

Preparatory: MP 110 or MP 135

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.

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

AE 350: Fluid Mechanics (EN)

Instructor: **Prof. Madani**

Prerequisite: AE 220

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 — Robertson and Crowe, *Engineering Fluid Mechanics*, 2nd edition.

AE 400: Agricultural Mechanization Systems (AE)

Instructor: **To be announced**

Prerequisite: AE 231

Fundamental principles of machinery selection for particular cropping systems will be studied. Principles will be developed for matching equipment type and size, and tractor power for maximum efficiency, according to energy, cultivation, cropping soil, and cost consideration.

A term project is required in which the principles and techniques presented in the course will be used as well as library and other sources.

Winter semester — 2 lecs and 4 labs per week.

Text — To be announced.

AE 450: Agricultural Mechanization Project/Seminar (AE)

Coordinator: **Prof. Adams**

Restricted to Agricultural Mechanization students in their final year.

A specific subject in agricultural mechanization will be studied and researched by the student, and a written and oral presentation made in a required format. Advice and direction will be given by staff advisors. This is a final semester course but the subject must be selected in the previous semester and a written proposal agreed to by the instructor.

Winter semester — Time to be announced.

Animal Science

AS 29: Farm Practices

Coordinator: **Prof. Maynard**

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

- ploughing
- welding
- operation and use of a chain saw
- 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. Some weekend work is involved. The time for completing this course may be extended to cover more than one semester.

AS 30: Animal Science

Instructor: **Prof. Mathewson**

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

Instructors: **Profs. Connor and 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**

The principles of the nutrition of domestic animals are discussed as a foundation for understanding the application of nutrition to the farm situation. Emphasis is given to the needs and use of specific nutrients.

Fall semester — 3 lecs per week.

AS 35: Feeds and Feeding

Instructor: **Prof. Anderson**

Prerequisite: AS 34

The basic composition of feeds, the methods of feed formulation, and the use of nutrient requirements tables are studied. Specialized feeding programs for all common domestic species are demonstrated. Application of basic nutrition principles are discussed in relation to on-farm conditions.

Winter semester — 3 lecs and 2 labs per week.

Text — Church, *Livestock Feeds and Feeding*.

Animal Science

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. Patterson**

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 fall semester.

Winter semester — 2 labs per week.

AS 47: Animal Health

Instructor: **To be announced**

Teaches the student about organismal and other causes of disease, how to recognize health and ill-health, and how 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 animals, 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.

Description of Subjects

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 4 labs per week.

Text — Krider, Conrad, and Carroll, *Swine Production*.

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 4 labs per week.

AS 54: Horse Management

Instructor: **To be announced**

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: **Prof. Tennesen**

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.

Winter 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.

Animal Science

AS 100: Introductory Animal Science (A)

Instructor: **Prof. Crober**

An introduction to the principles of animal science and commercial animal agriculture. A description of the nature and scale of animal production within the region and beyond is followed by an examination of the relevance of such basic areas of animal biology as physiology, genetics, and nutrition to commercial objectives and practices. Laboratory exercises provide an introduction to the operation and management of the range of animal industries of the region and to selected areas of commercial application of animal science technology.

Winter semester — 3 lecs and 2 labs per week.

AS 201: Ruminant Animal Production (A)

Instructor: **Prof. Mathewson**

Prerequisite: AS 100

A study of the principles and systems of efficient production from ruminant species, with emphasis on dairy, beef, and sheep. This is not a credit course for students majoring in Animal Science. This course is offered in alternate years.

Fall semester — 3 lecs and 2 labs per week.

AS 203: Non-Ruminant Animal Production (A)

Instructor: **Prof. Cock**

Prerequisite: AS 100

A study of the principles and systems of efficient production from non-ruminant species, with emphasis on swine, poultry, and horses. This is not a credit course for students majoring in Animal Science. This course is offered in alternate years.

Fall semester — 3 lecs and 2 labs per week (offered in 1987).

AS 300: Animal Physiology (A)

Instructor: **Prof. Connor**

Prerequisites: AS 100, B 110

Preparatory: CS 205

The systems within the animal body and changes occurring during its activities are studied. Through this course, the student should develop a fundamental understanding of the integrated physiological processes responsible for normal body function.

Fall semester — 3 lecs and 3 labs per week.

AS 305: Animal Nutrition (A)

Instructor: **Prof. Fredeen**

Prerequisite: CS 200

Preparatory: CS 205

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 and 2 labs per week.

Text — Lloyd, MacDonald, Crampton, *Fundamentals of Nutrition*.

Description of Subjects

AS 310: Animal Breeding (A)

Instructor: **Prof. Patterson**

Prerequisites: B 245, MP 200

Deals with variation in animal performance and with the means whereby transmissible 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 and 2 labs per week.

AS 315: Reproductive Physiology (A)

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 — 3 lecs and 2 labs per week.

AS 320: Animal Health (A)

Instructor: **To be announced.**

Prerequisites: AS 100, B 225

Preparatory: CS 205

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 — 2 lecs and 2 labs per week.

AS 325: Applied Animal Nutrition (A)

Instructor: **Prof. Fredeen**

Prerequisite: AS 305

Feedstuff classification, characteristics, and regulations governing their use are described. Methodology for evaluating the relative merits of typical feedstuffs is discussed. The principles of nutrition are applied in the formulation of rations for monogastric, avian, and ruminant species.

Winter semester — 3 lecs and 2 labs per week.

Text — Church, *Livestock Feeds and Feeding*.

AS 335: Environmental Physiology (A)

Instructor: **Prof. Tennessen**

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 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.

Animal Science

AS 340: Animal Behavior (A)

Instructor: **Prof. Tennesen**

Corequisite: AS 300

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.

AS 346: Egg and Dairy Products (A)

Instructor: **Prof. Firth**

Prerequisites: AS 100, B 225, CS 200

The nature and composition of eggs, milk, butter, and cheese. Their processing, hygiene, grading, storage, and nutritional value, and how these are affected by production practices.

Fall semester — 2 lecs and 2 labs per week.

AS 350: Meat Science (A)

Instructor: **Prof. Firth**

Prerequisites: AS 100, CS 200, B 225

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.

AS 360: Avian Biology (A)

Instructor: **Prof. Crober**

Prerequisites: AS 100, CS 200, B 200, B 240

A study of topics in biology of special relevance to the commercial use of avian species. Physiological, biochemical, and genetic control and manipulation of such processes as reproduction, growth and development, and immunity will be examined.

Fall semester — 3 lecs and 2 labs per week - offered alternate years beginning in 1986.

AS 435: Poultry Product Technology (A)

Instructor: **Prof. Firth**

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.

Description of Subjects

AS 450: Seminar and Project (A)

Instructors: **Animal Science Faculty**

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 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.

Animal Production Courses

(AS 400 to 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 (A)

Instructor: **Prof. Fredeen**

Fall semester — 3 lecs and 2 labs per week.

Text — Schmidt and Van Vleck, *Principles of Dairy Science*.

AS 405: Swine Production (A)

Instructor: **Prof. Anderson**

Fall semester — 3 lecs and 3 labs per week.

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

AS 410: Horse Management (A)

Instructor: **To be announced**

Winter semester — 2 lecs and 2 labs per week.

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

AS 415: Beef Production (A)

Instructor: **To be announced**

Winter semester — 2 lecs and 2 labs per week.

AS 420: Sheep Production (A)

Instructor: **Prof. Mathewson**

Fall semester — 3 lecs and 2 labs per week.

AS 425: Poultry Production (A)

Instructor: **Prof. Crober**

Winter semester — 3 lecs and 3 labs per week.

Text — North, *Commercial Chicken Production Manual*.

AS 430: Fur Animal Production (A)

Instructor: **Prof. Tennessen**

Winter semester — 2 lecs and 2 labs per week (first offered: to be announced).

Biology

B 01: Pre-Tech Biology

Instructors: **Prof. Gray 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 — To be announced.

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.

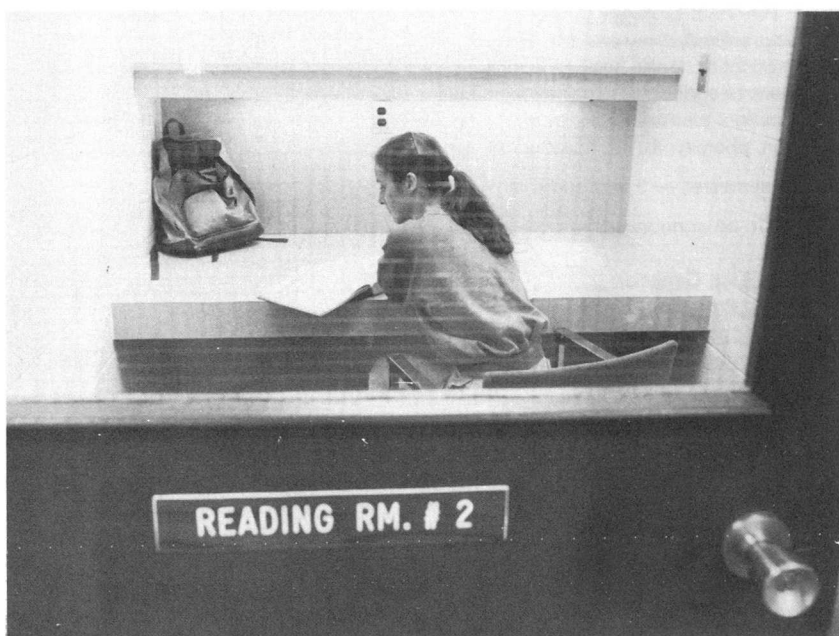
Winter semester — 2 lecs and 3 labs per week.

B 41: Plant Physiology

Instructor: **Prof. Eaton**

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.



NSAC Library



Degree laboratory class, NSAC

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 2 labs per week.

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

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 48: Plant Tissue Culture

Instructor: **Prof. Olson**

This subject has limited enrollment.

An introduction to the basic methods of initiation and maintenance of plant tissues in sterile culture. *In vitro* propagation, callus formation, and cell suspensions are among the general topics to be discussed. In addition, the course will provide a basic understanding of the structure and organization of plant cells, tissues, and organs.

Winter semester — 3 lecs and 3 labs per week.

B 50: Microbiology

Instructor: **Prof. Stratton**

An introduction to the science of microbiology. Topics will include microbial classification, isolation, cultivation, and identification, as well as agricultural, industrial, applied, and environmental microbiology. Laboratory work will stress the preparation of microbial media, basic microbiology techniques, and the qualitative and quantitative enumeration of microbes in foods and environmental samples.

Fall semester — 2 lecs and 4 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; preparation of blood smears and use of hemacytometer; study of the principles of operation of the microscope.

Fall semester — 3 lecs and 4 labs per week.

Description of Subjects

B 71: Microtechniques II

Instructor: **Prof. Crosby**

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

Winter semester — 2 lecs and 4 labs per week.

B 75: Biological Photography

Instructors: **Prof. Le Blanc and Mr. Adams**

This subject has limited enrollment.

A practical introduction to the production of publication-grade still photographs comprised of the necessary elements for high-quality illustration of technical books, articles, and reports. Basic black-and-white photography from processing to mounting, photomacro- and photomicrography as well as dark-room management are considered.

This course requires the preparation of a final portfolio and includes a theoretical mid-term examination.

Winter semester — 2 lecs and 4 labs per week.

Text — Blaker, *Handbook for Scientific Photography* W.H. Freeman and Company, San Francisco.

B 100: Botany (S)

Instructor: **Prof. McFadden**

An introductory course in plant biology. Topics discussed include plant form and function, procaryotic and eucaryotic cells, cell division, alternation of generations and classification. The diversity of plants in the kingdoms Monera, Protista, Fungi, and Plantae is stressed.

Fall semester — 3 lecs and 4 labs per week.

B 110: Zoology (S)

Instructor: **Prof. Crosby**

A general introduction to zoology. Topics include animal cells and tissues, animal form and function including reproduction and development, genetics and evolution, and the diversity of animals. The kingdom of Protista will also be discussed.

Winter semester — 3 lecs and 4 labs per week.

B 200: Cell Biology (S)

Instructor: **Prof. Crosby**

An introduction to the structure and function of the cell. Emphasis is placed in the structure and function of the organelles of the eucaryotic cell. Other topics included are cell growth, molecular constituents of cells, cell metabolism, tools and methods of cell biology, the procaryotic cell, and special cell functions.

Fall semester — 3 lecs per week.

B 225: Microbiology (S)

Instructor: **Prof. Stratton**

Preparatories: B 100, B 110

A general introduction to microbiology. Topics include history, morphology, structure, cultivation, reproduction, metabolism, genetics, classification, and control of microorganisms. The importance of microorganisms to soil productivity, foods, industry, veterinary science, public health, and sanitation is discussed. Students are required to have a laboratory coat.

Winter semester — 3 lecs and 3 labs per week.

B 240: Introduction to Genetics (S)

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.

B 245: Genetics II (A)

Instructor: **Prof. Padmanathan**

Prerequisite: B 240

A study of the genetic basis for plant and animal improvement including population and molecular genetics.

Winter semester — 3 lecs and 2 labs per week.

B 260: Plant Physiology (S)

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 3 labs per week.

Text — Bidwell, *Plant Physiology* (2nd edition).

B 265: Taxonomy of Vascular Plants (S)

Instructor: **Prof. Olson**

Preparatory: B 100 or equivalent

An introduction to the principles and methods of plant taxonomy with examples taken from the flora of Nova Scotia. Course work includes classification, nomenclature, major families, identification using keys, and field recognition of common species. Students planning to enroll in this course are expected to make a collection of pressed plants during the preceding summer.

Fall semester — 3 lecs and 3 labs per week.

Texts — Roland and Smith, *Flora of Nova Scotia*.

Smith, *Vascular Plant Families*.

Description of Subjects

B 270: Structural Botany (S)

Instructor: **Prof. Olson**

The basic morphology and anatomy of the seed plants are presented from a developmental perspective. The structural aspects of the various modes of plant reproduction are also included. The emphasis of the course is placed on obtaining an understanding of plant structure that will complement crop physiology, weed biology, and plant pathology.

Winter semester — 3 lecs and 3 labs per week.

Text — Esau, *Anatomy of Seed Plants* (2nd edition).

B 300: Principles of Plant Pathology (A)

Instructor: **Prof. Gray**

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

Fall semester — 3 lecs and 3 labs per week.

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

B 305: Economic Plant Pathology (A)

Instructor: **Prof. Gray**

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 3 labs per week.

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

B 310: Mycology (S)

Instructor: **Prof. Sampson**

Prerequisite: B 100

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

Fall semester — 3 lecs and 3 labs per week.

B 320: General Entomology (S)

Instructor: **Prof. Le Blanc**

Preparatory: B 110

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.

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 (A)

Instructor: **Prof. Le Blanc**

Prerequisite: B 320

Preparatory: B 110

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

Winter semester — 3 lecs and 3 labs per week.

B 330: Ecology (S)

Instructor: **Prof. Olson**

Prerequisites: B 100, B 110

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 (A)

Instructor: **Prof. Sampson**

Prerequisite: B 100

Preparatory: B 260

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 340: Comparative Vertebrate Anatomy (S)

Instructor: **Prof. Crosby**

Prerequisite: B 110

The aim of this course is to present a general survey of vertebrate animals from an evolutionary perspective. A systematic detailed analysis of form and function of the various vertebrate groups will be discussed. This will be supplemented in the laboratory by detailed dissections of specific vertebrate animals.

Fall semester — 3 lecs and 4 labs per week.

Description of Subjects

B 400: Soil Microbiology (A)

Instructor: **Prof. Stratton**

Prerequisites: B 225, CS 220

A study of the biology of the various classes of microorganisms in soil, including bacteria, blue-green algae, fungi, algae, protozoa, 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.

B 405: Pesticides in Agriculture (A)

Coordinator: **Prof. Sampson**

Preparatories: B 300, B 320, B 335

A course dealing with various aspects of pesticides used in agriculture. The course will look at pesticides from their origin and development to their registration, sale, distribution, and use. Also included are discussions of pesticide safety and toxicology. Specific topics will be dealt with by guest lecturers.

Winter semester — 3 lecs and 1 discussion period per week.

B 449: Seminar and Project (A)

Coordinator: **Prof. Gray**

A course designed to introduce students in the Plant Protection option to independent research, including data acquisition, analysis, and presentation (written and oral). The research project and faculty advisor is to be chosen, in consultation with the course coordinator, during Semester VI. Other written and seminar topics will be assigned. This course is intended for students in the final year of the option.

Fall semester — 2 lecs and 4 labs per week.

B 450: Seminar and Project (A)

Coordinator: **Prof. Gray**

Prerequisite: B 449

A continuation of B 449. Students will continue with their projects and will present a final written report, as well as a conference-style seminar. Other seminar topics and written assignments may be given.

Winter semester — 2 lecs and 4 labs per week.

Description of Subjects

Chemistry-Soils

CS 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 3 labs per week.

Text — Seese and Daub, *Basic Chemistry* (3rd edition).

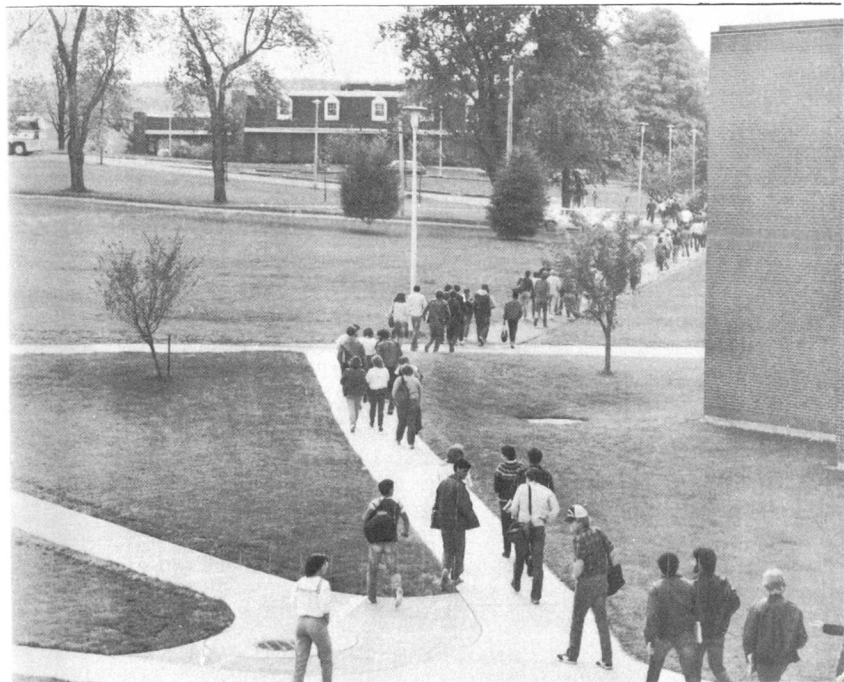
CS 12: Principles of Soil Science

Instructor: Prof. Miller

Designed to form a basis for the understanding of soil productivity. The physical, chemical, and biological properties of soil are presented, and soil management and land use are discussed. Laboratory periods, using soils from the Atlantic region, are designed to illustrate the lecture material and introduce methods of soil analysis.

Fall semester — 3 lecs and 2 labs per week.

Text — To be announced.



NSAC campus

CS 13: Soil Management

Instructor: **Prof. Miller**

Prerequisite: CS 12

A study of the chemical, physical, and biological properties of soil as they relate to crop production. Soil fertility and fertilizer use, tillage and water management, and biological husbandry are discussed. Labs take the form of problem-solving tutorials in soil management. After completing CS 12 and CS 13, students should possess the ability to deal with soils on the farm, in agribusiness, and in the laboratory.

Winter semester — 3 lecs and 2 labs per week.

Text — To be announced.

CS 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* (4th edition).

CS 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 — Hart, *Organic Chemistry: A Short Course* (6th edition).

CS 43: Bio-Organic Chemistry

Instructor: **Prof. Payne**

Prerequisite: CS 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 — Hart, *Organic Chemistry: A Short Course* (6th edition).

Description of Subjects

CS 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*.

CS 68: Introductory Laboratory Techniques

Instructors: **Chemistry-Soils Staff**

An introduction to general laboratory techniques, safety, and chemical calculations and to problems associated with solution and classical chemical analysis. Techniques include: weighing, titrimetry, extraction, digestion, colorimetry, and T.L.C.

Fall semester — 2 lecs and 4 labs per week.

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

CS 69: Introductory Instrumentation

Instructors: **Chemistry-Soils Staff**

Prerequisite: CS 68

An introduction to the practical basic skills of the more commonly used instrumental methods of analysis and the chemical calculations and problems involved in these analyses. The areas covered are: chromatography, radioisotopes, atomic absorption, and flame photometry.

Winter semester — 2 lecs and 4 labs per week.

Text — To be announced.

CS 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.

CS 75: Basic Food Chemistry

Instructor: **Prof. Robinson**

Prerequisites: CS 42, CS 43, CS 45

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.

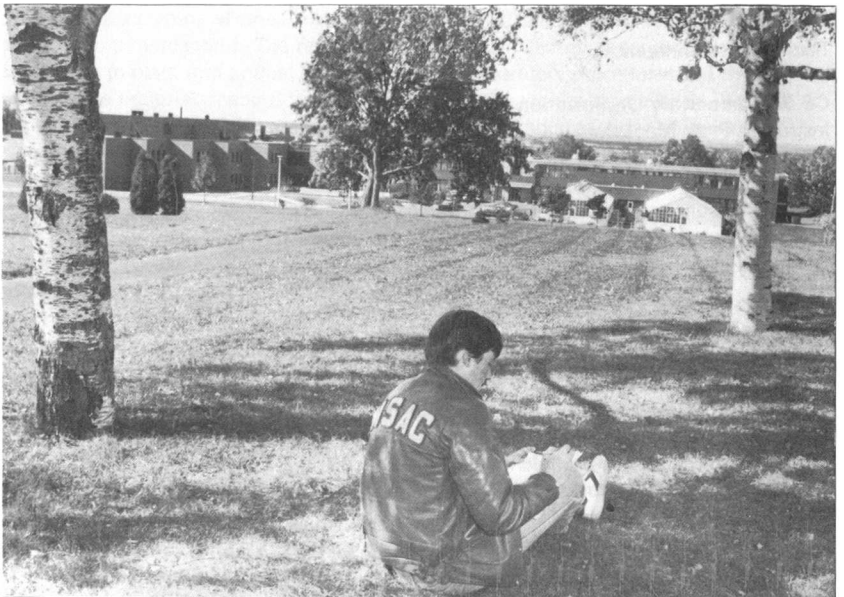
Fall semester — 3 lecs and 4 labs per week.

Text — Meyer, *Food Chemistry*.

Description of Subjects



Picnic area of Jenkins Hall, NSAC



Overview of campus

CS 79: Project Organization

Coordinator: **Prof. Payne**

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

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

CS 80: Project Implementation

Coordinator: **Prof. Payne**

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

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

CS 100: Chemical Principles (S)

Instructors: **Profs. MacConnell, Payne, and Mr. Crosby**

Prerequisite: University Preparation Grade XII Chemistry (N.S. 441 or 442, N.B. 121 or 122)

A study of atomic theory, periodicity, chemical reactions, thermochemistry, 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 — Mortimer, *Chemistry* (5th edition).

CS 110: Organic Chemistry (S)

Instructor: **Prof. Hawley**

Prerequisite: CS 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 — Morrison and Boyd, *Organic Chemistry* (4th edition).

CS 200: Bio-Organic Chemistry (S)

Instructor: **Prof. Robinson**

Prerequisite: CS 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*.

CS 205: Biochemistry (S)

Instructors: **Profs. MacConnell, Payne, and Robinson**

Prerequisite: CS 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*.

Description of Subjects

CS 210: Chemical Principles II (S)

Instructor: **Prof. MacConnell**

Prerequisite: CS 100

This course is a continuation of CS 100 and includes a study of gases, liquids, and solids; interaction of electromagnetic energy and matter; reaction rates; electro-chemistry; descriptive chemistry of selected metals and non-metals; and coordination compounds. The laboratory portion of the course will consist of qualitative analysis.

Fall semester — 3 lecs and 4 labs per week.

Text — Mortimer, *Chemistry* (5th edition).

CS 215: Organic Chemistry II (S)

Instructor: **To be announced**

Prerequisite: CS 110

This course is a continuation of CS 110 and includes a study of reaction mechanisms, aromatic compounds, polynuclear aromatic compounds, heterocyclic compounds, and polymers.

Winter semester — 3 lecs and 4 labs per week.

Text — Morrison and Boyd, *Organic Chemistry* (4th edition).

CS 220: Introduction to Soil Science (A)

Instructor: **Prof. Warman**

Prerequisites: CS 100, CS 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 Soils* (9th Edition).

CS 225: Quantitative Analytical Chemistry (S)

Instructors: **Prof. MacConnell and Mr. Mullin**

Prerequisites: CS 100 and either CS 210 or CS 45

This course includes evaluation of analytical data; preparation of samples for analysis; wet chemistry methods; uv-visible spectrophotometry; and the use of an autoanalyzer.

Winter semester — 3 lecs and 4 labs per week.

Text — Skoog and West, *Fundamentals of Analytical Chemistry* (4th edition).

CS 230: Introduction to Geology (A)

Instructor: **Prof. Miller**

Topics of this course are: geological history of the earth, structure of the earth, materials of the earth's crust, weathering and soil development, and changing landscapes. Factors which influence soil development will be emphasized.

Winter semester — 3 lecs and 3 labs per week.

Text — To be announced.

CS 300: Physical Chemistry (S)

Instructor: **Prof. MacConnell**

Prerequisites: CS 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.

Text — Chang, *Physical Chemistry with Applications to Biological Systems* (2nd edition).

CS 305: Instrumental Analytical Chemistry I (S)

Instructor: **Prof. MacLean**

Prerequisites: CS 225 and either CS 110 or CS 42

Introduction to the basic theory underlying important techniques in instrumentation chemistry. Design of instruments, operation, and applications will be studied.

Laboratory work will include experiments in soils, plant and biological tissue, food, drugs, and vitamins. Instruments in the field of absorption and emission spectrophotometry, chromatography, and electrochemistry will be studied.

Fall semester — 3 lecs and 4 labs per week.

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

CS 310: Radiotracers in Agriculture (A)

Instructor: **Prof. Robinson**

Prerequisites: CS 200 or CS 43, and MP 100

This course has limited enrollment.

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.

Text — Wang, Willis, Loveland, *Radiotracer Methods in the Biological, Environmental and Physical Sciences*.

CS 315: Instrumental Analytical Chemistry II (S)

Instructor: **Prof. MacLean**

Prerequisites: CS 225 and either CS 110 or CS 42

A continuation of Instrumental Analytical Chemistry I.

Winter semester — 3 lecs and 4 labs per week.

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

Description of Subjects

CS 320: Soil Fertility and Fertilizers (A)

Instructor: **Prof. Warman**

Prerequisite: CS 220

Preparatory: B 260

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.

Text — Tisdale, Nelson, and Beaton, *Soil Fertility and Fertilizers* (4th edition).

CS 325: Soil Classification and Survey (A)

Instructor: **To be announced**

Prerequisite: CS 220

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 5 labs per week. (First offered in 1986-87.)

Text — To be announced.

CS 335: Soil Physics (A)

Instructor: **Prof. Miller**

Prerequisites: CS 220, MP 105, and MP 220

A study of the physical properties of soil, as well as the measurement, prediction, and control of physical processes taking place in soil. This course will investigate the solid, liquid, and gaseous phases of soil, their interrelationships, and their effects on plant growth.

Winter semester — 3 lecs and 4 labs per week.

Text — To be announced.

CS 340: Soil Chemistry (A)

Instructor: **Prof. Warman**

Prerequisite: CS 220

Chemical composition of soils, soil acidity, alkalinity, and salinity; ion exchange, oxidation and reduction; clay minerals and organic matter — composition and transformations; soil pollution; methods of soil chemical analysis.

Winter semester — 3 lecs and 4 labs per week. (First offered 1987-88.)

Text — To be announced.

CS 350: Food Chemistry

Instructor: **Mrs. Havard**

Prerequisites: CS 225, CS 305, and either CS 200 or CS 75

A study of the functions of the basic group compounds found in foods. The subject matter includes the functions of water, carbohydrates, lipids, proteins, enzymes, vitamins, minerals, and food additives in foods and their relationship to food characteristics and quality. An introduction to food preservation methods is also included. The laboratory section of the course will involve the use of instrumentation for the analytical determination of various food constituents.

Winter semester — 3 lecs and 4 labs per week.

Text — Fennema, *Food Chemistry*, 2nd edition.

CS 360: Mammalian Biochemistry

Instructor: **Prof. Robinson**

Prerequisites: CS 205, AS 300

A study of how basic biochemical principles are applied to gain insight into the molecular functions of the diverse mammalian organ systems. The subject matter is divided into three parts: (1) "Body Fluids and Their Constituents," which includes such subjects as blood coagulation, the complement system, the immune system, and their control; (2) "Specialized Tissues", such as connective tissue, nervous tissue, and muscle tissues; and (3) "Biochemistry of the Endocrine System," with the focus on the principles of endocrine biochemistry and the mechanisms of hormone action. The topics covered include general principles and mechanisms of hormone action, prostaglandins, the thyroid gland, the gonads, as well as the hypothalamus, hypophysis, and adrenals.

Winter semester — 3 lecs per week.

Text — Smith et al., *Principles of Biochemistry: Mammalian Biochemistry*, 7th edition.

CS 400: Physical Chemistry II (S)

Instructor: **To be announced**

Prerequisites: CS 300, MP 235

This course includes a study of Quantum Theory as it is applied to spectra, atomic structure, molecule structure, spectroscopy, resonance techniques, and diffraction techniques.

Winter semester — 3 lecs and 4 labs per week. (First offered in 1987-88)

Text — To be announced.

CS 410: Industrial Processing of Agricultural Products (A)

Instructors: **Chemistry-Soils Staff**

Prerequisite: CS 200

A study of the chemistry and technology involved in pre-processing of meat products, dairy products, cereal products, fats and oils, starch, fruit and vegetable products, biomass, and utilization of agricultural wastes. The laboratory part of the course will include visits to various industrial plants which process agricultural products.

Fall semester — 3 lecs and 4 labs per week. (First offered in 1987-88)

CS 415: Special Topics in Chemistry and Soils (A)

Instructors: **Chemistry-Soils Staff**

An optional course for Agricultural Chemistry-Soils students who want to study a special topic in their final year. Course material will be arranged with Chemistry-Soils faculty. The course will be conducted by special tutorials and assigned readings.

Fall and winter semester — as arranged. (First offered in 1987-88)

CS 425: Land Use Planning (A)

Coordinator: **Prof. Miller**

Prerequisites: CS 220 and either EB 200 or EB 220

An interdisciplinary lecture and seminar course on land-use planning from an agronomic perspective. The history, ecology, economics, sociology, and politics of land-use decisions are discussed. Lecturers are drawn from various college departments, the N.S. Department of Agriculture and Marketing, and Agriculture Canada. Field trips are planned for some seminar periods.

Fall semester — 3 lecs and 4 seminar periods per week.

CS 449: Seminar-Project (A)

Coordinator: **Prof. MacLean**

A required course for all Agricultural Chemistry-Soils students. Each student will be assigned a research project requiring library and laboratory investigative procedures. Each student will present periodic oral reports and a written report on the subject of investigation. Other written and seminar topics may be assigned.

Fall semester — 1 lec and 7 labs per week. (First offered in 1987-88)

CS 450: Seminar-Project (A)

Coordinator: **Prof. MacLean**

A continuation of CS 449. Students will continue with their projects and will present an undergraduate thesis as well as a final conference-style seminar presentation. Other assignments may be given.

Winter semester — 1 lec and 7 labs per week. (First offered in 1987-88)

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 and 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 examined to emphasize the theory.

Fall semester — 3 lecs per week.

Text — Lyons, *Canadian Macroeconomics*.

EB 13: Microeconomics

Instructor: **Prof. Brennan**

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. Brennan**

Preparatory: EB 13

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 legal 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, liens, 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 72: Farm Project

Coordinator: **Prof. Tait**

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 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 110: Agricultural Economics (A or E)

Instructor: **Prof. Grant**

This course is designed to introduce the students to the economic analysis of agriculture. Selected principles of economics are developed with an emphasis on microeconomic analysis.

Winter semester — 3 lecs per week.

Description of Subjects

EB 200: Microeconomics I (E)

Instructor: **Prof. Stackhouse**

Prerequisite: EB 110

Introduces the principles of microeconomic theory as applied to the firm using graphical and mathematical analysis. Areas of emphasis include: evaluation of market supply and demand, measurement and interpretation of elasticity, 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 (E)

Instructors: **Profs. Stackhouse and Surry**

Prerequisites: EB 200, EB 260

A continuation of the principles presented in Microeconomics I. The course examines utility theory and its application to consumers' decisions, 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 (E)

Instructor: **Prof. Arnfast**

A study of the basic principles and procedures 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 students acquire a working knowledge of these principles and procedures.

Fall semester — 3 lecs and 2 labs per week.

EB 215: Financial Accounting II (E)

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 (E)

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 (E)

Instructor: **Prof. Stackhouse**

Prerequisites: MP 100, EB 110

Introduction to the frequently used mathematical methods of economic analysis. The course provides the student with the basics required in more advanced economics courses. Areas of concentration include: elements of mathematical economics models, linear models and matrix algebra, applications of calculus to economic problems, and optimization theory.

Fall semester — 3 lecs per week.

EB 310: Cost Accounting (E)

Instructor: **Prof. Brennan**

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 (E)

Instructor: **Prof. Stackhouse**

Prerequisite: EB 260

An introduction to mathematical programming. Major emphasis is placed on linear programming and the role of matrix algebra in determining linear programming solutions. The information requirements, organization, and skills of model building are also developed.

Winter semester — 3 lecs and 2 labs per week.

EB 330: Agricultural Market and Prices (A)

Instructor: **Prof. Surry**

Prerequisite: EB 205

Designed to introduce students to agricultural market and price analysis. In general, course topics include econometric estimation of supply and demand relationships to agricultural commodities, applications of price theory, and discussion of pricing institutions in the agricultural industry.

Winter semester — 3 lecs per week.

EB 335: Business Marketing (E)

Instructor: **Prof. Brennan**

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. Class participation is a vital component of this course.

Fall semester — 3 lecs per week.

EB 340: Farm Management I (A)

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 355: Macroeconomics I (E)

Instructor: **Prof. Stackhouse**

An introduction to the study of macroeconomics. 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, and fiscal policy.

Winter semester — 3 lecs per week.

EB 360: Econometrics (E)

Instructor: **Prof. Surry**

Prerequisites: EB 260, MP 200

An applied course in statistics and economic theory using the classical linear regression model. Topics covered include a review of probability theory, estimation and specification of single and simultaneous equation models, violations of the assumptions of the classical linear model, hypothesis testing, and tests of significance. Exercises illustrating the statistical concepts developed in the lectures and applications of econometric techniques to agricultural economics problems and economic theory are provided and fully explained in the labs.

Fall semester — 3 lecs and 2 labs per week.

EB 400: Resource and Environmental Economics (A)

Instructor: **Prof. Grant**

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.

EB 405: Macroeconomics II (E)

Instructor: **Prof. Grant**

Prerequisite: EB 355

Development of the integrated aggregate model of the Canadian economy, which includes consideration of money, product, and labor markets, and aggregate demand and supply.

Winter semester — 3 lecs per week.

EB 415: Business Law (E)

Instructor: **Prof. Lederman**

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.

Fall semester — 3 lecs per week.

EB 420: Agricultural and Food Policy (A)

Instructor: **Prof. Surry**

Prerequisites: EB 330, EB 400

The course reviews policy problems affecting the agricultural and food industry and examines approaches to solve them. An analysis of Canadian agricultural and food policy and discussion of its main issues are also part of the course.

Winter semester — 3 lecs per week.

EB 425: Research Methods Seminar (E)

Instructor: **Prof. Grant**

Prerequisites: EB 325, EB 360

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.

Fall semester — 2 lecs and 2 labs per week.

EB 440: Farm Management II (A)

Instructor: **Prof. Brennan**

Prerequisites: EB 325, EB 340

An applied course intended to utilize the 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 week.

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 studied. There is one major term paper and a final examination.

Winter semester — 3 lecs per week.

H 10: Technical Writing

Instructor: **Prof. Sanderson**

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 semester — 3 lecs per week.

H 12: Leadership in the Rural Community

Instructor: **Prof. Sanderson**

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 (H)

Instructor: **Prof. MacEachern**

Through assigned readings from the text and in lectures, students are challenged to examine the question of the extent to which the person is predetermined and/or predefined by one's 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.

Texts — Arrick, *Tunnel of Vision*.

Coser, Rhea, Steffan, Nock, *Introduction to Sociology*.

Klagsburn, *Too Young to Die*.

H 125: Sociology II (H)

Instructor: **Prof. MacEachern**

An examination of society with an emphasis on the person in community. Special attention is given to an understanding of the self and others, and to the question of death and dying.

Winter semester — 3 lecs per week.

Texts — Buscaglia, *Personhood*.

James & Jongeward, *The People Book*.

James & Jongeward, *Born to Win*.

H 140: Personnel Management (H)

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 — Kossen, *The Human Side of Organizations*.

H 150: Agriculture Today (H)

Instructor: **To be announced**

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 (H)

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 (H)

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 (H)

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 (H)

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.

H 305: Nature and Rural Life (H)

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 (H)

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 (H)

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 — 3 lecs and 2 labs per week.

Description of Subjects

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, Buckler, and Mr. Bullerwell**

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 arithmetic and algebraic skills needed for the course are developed as the need arises through self-instructional modules.

Winter semester — 3 lecs and 2 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.

Text — Tippens, *Basic Technical Physics*.

MP 42: Electrical and Optical Technology

Instructor: **Prof. Buckler**

A basic course designed to cover electricity, electrical measurements, light, and optics at a practical level. Many problems are covered on a weekly assignment basis throughout the entire course. Measurement skills are developed through practice in the laboratory.

Fall semester — 3 lecs and 3 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 semester — 3 lecs per week.

Text — To be announced.

Mathematics and Physics

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. This 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 (M)

Instructors: **Profs. Fraser and Madigan**

Prerequisite: University Preparation Grade XII Mathematics (N.S. 441 or 541, N.B. 121 or 122)

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. Students are required to confirm their eligibility for admission to this course by means of a Mathematic Diagnostic Test, to be taken the day following registration. Students not admitted must take MP 080.

Both semesters — 4 lecs per week.

Text — Munem and Foulis, *Calculus*.

MP 105: Calculus and Analytic Geometry II (M)

Instructors: **Profs. Fraser and Madigan**

Prerequisite: MP 100

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 — Munem and Foulis, *Calculus*.

Description of Subjects

MP 110: Physics (S)

Instructor: **Prof. S. Smith**

Prerequisite: University Preparation Grade XII Physics (N.S. 441 or 541, N.B. 121 or 122) or NSAC MP 090

A treatment of the conceptual foundations of physical quantities, including kinematics, Newton's Laws, momentum, energy, and the conservation principles. The behavior of fluids, heat, and thermal transport are also studied.

Fall semester — 3 lecs and 4 labs per week.

Text — Fuller, *Physics, Including Human Applications*.

MP 130: Physics for Life Sciences I (S)

Instructor: **Prof. S. Smith**

Prerequisite: University Preparation Grade XII Physics (N.S. 441 or 541, N.B. 121 or 122) or NSAC MP 090

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 — Kane and Sternheim, *Physics*.

MP 135: Physics for Life Sciences II (S)

Instructor: **Prof. S. Smith**

Prerequisite: MP 130 or MP 110

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 — Kane and Sternheim, *Physics*.

MP 200: Statistics (M)

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 (M)

Instructors: **Prof. Bishop and Mr. Bullerwell**

Introduction to problem-solving methods and algorithm development. Emphasis is on designing, coding, debugging, and documenting programs, using FORTRAN. This is not a credit course for students who have a credit for MP 221.

Fall semester — 3 lecs and 2 labs per week.

Mathematics and Physics

MP 221: Computer Science (M)

Instructors: **Prof. Bishop and Mr. Bullerwell**

Introduction to problem-solving methods and algorithm development. Emphasis is on designing, coding, debugging, and documenting programs, using BASIC. This is not a credit course for students who have a credit for MP 220.

Winter semester — 3 lecs and 2 labs per week.

MP 230: Multivariable Calculus (M)

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 (M)

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 (S)

Instructor: **Prof. S. 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 (M)

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. Offered in 1986-87 and alternate years thereafter.

MP 330: Agrometeorology (A)

Instructors: **Prof. S. Smith and Mr. Dzikowski**

Prerequisites: MP 110 or MP 130

Introduction to the weather and climate of the Atlantic region. The course will cover the basics of the surface weather systems, the energy balance of crops, and the factors determining the climate of the region. The final phase will look at how weather information is used to predict crop maturity, yield, disease severity, or insect pest levels.

Winter semester — 3 lecs and 2 labs per week.

Plant Science

PS 10: Plant Science Skills

Instructor: **Prof. Mapplebeck**

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 the fall semester).

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: **Prof. Haliburton**

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, 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 the 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, Stamp, *Principles of Field Crop Production* (3rd edition).

PS 42: Cash Crops and Seed Production

Instructor: **Prof. Caldwell**

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.

Text — Martin, Leonard, Stamp, *Principles of Field Crop Production* (3rd edition).

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 47: Turfgrass Production and Management

Instructor: **Prof. Daniels**

A study of cool season turfgrasses, their characteristics and proper usage. The establishment, maintenance, and renovation of turfgrass will be studied. Cultural topics covered will emphasize proper fertilizing, watering, and pest control.

Fall semester — 3 lecs and 2 labs per week.

Text — Beard, *How to Have a Beautiful Lawn*.

PS 49: Potato Production

Instructor: **Prof. Haliburton**

Cultural practices involved in the production 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, shrub, 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, PS 60

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 — Hannebeum, *Landscape Design*.

PS 52: Plant Science Project

Coordinator: **Prof. Nowak**

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: **Prof. Nowak**

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 Materials 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**

Prerequisites: PS 47, PS 51

This is a spring course in which students learn techniques used in landscape construction and maintenance. Techniques for plant production and marketing are also included.

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 part of this course.

Fall semester — 3 lecs and 4 labs per week.

Text — Harris, *Care of Trees, Shrubs and Vines in the Landscape*.

PS 72: Landscape Maintenance

Instructor: **Prof. Higgins**

Prerequisites: PS 47, PS 71, PS 73, AE 38

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 student. Plant identification and seminars are important components of this course.

Winter semester — 3 lecs per week.

Text — Brown, *The Pruning of Trees, Shrubs and Vines*.

Description of Subjects

PS 73: Landscape Horticulture II

Instructor: **Prof. Higgins**

Prerequisites: PS 51, PS 61

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.

Fall semester — 3 lecs and 4 labs per week.

Text — Buckley, *Canadian Garden Perennials*.

PS 74: Landscape Design and 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 4 labs per week.

Text — Walker, *Site Design and Construction Detailing*.

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

Instructor: **Prof. Caldwell**

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.

Plant Science

PS 100: Principles of Crop Production (A)

Instructor: **Prof. Bubar**

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* (3rd edition).

PS 147: Farm Woodlot Management (A)

Instructor: **Prof. Robertson**

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

Fall semester — 2 lecs and 3 labs per week.

PS 300: Forage Crops (A)

Instructor: **Prof. Fraser**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

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 (A)

Instructor: **Prof. Caldwell**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

Study of cereals, pulses, oilseeds, and other grains, their classification, adaptation, distribution, culture, improvement, seed production, handling, grading, and utilization.

Fall semester — 3 lecs and 2 labs per week.

PS 310: Vegetable Crops (A)

Instructor: **Prof. Haliburton**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

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.

Description of Subjects

PS 315: Tree Fruit Crops (A)

Instructor: **Prof. Ju**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

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. This course is offered in alternate years. Offered next in 1987-88.

Winter semester — 3 lecs and 2 labs per week.

PS 320: Small Fruit Crops (A)

Instructor: **Prof. Ju**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

Principles and practices of small fruit production, history, biosystematics, adaptation, distribution, pest control, breeding of new cultivars, and propagation, storage, and marketing are studied. This course is offered in alternate years. Offered in 1986-87.

Fall semester — 3 lecs and 2 labs per week.

PS 325: Potato Production (A)

Instructor: **Prof. Prange**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

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.

Winter semester — 3 lecs and 2 labs per week.

PS 330: Greenhouse Crop Production and Floriculture (A)

Instructor: **Prof. Daniels**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

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.

PS 335: Landscape Plant Production (A)

Instructor: **Prof. Mapplebeck**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

Production of landscape plant materials is studied in detail. More specifically, this course covers plant propagation techniques, nursery culture and equipment, harvesting, storage, transportation, and garden centre handling and sales of plants. This course is offered in alternate years.

Winter semester — 3 lecs and 2 labs per week.

Plant Science

PS 340: Turfgrass Culture and Management (A)

Instructor: **Prof. Daniels**

Prerequisites: PS 100, B 100

Preparatories: B 260, B 265

Culture and management of turfgrass. Emphasis is on functional, recreational, and ornamental use of turf and on solving problems in turfgrass production. This course is offered in alternate years. Offered in 1986-87.

Fall semester — 3 lecs and 2 labs per week.

PS 345: Introductory Plant Biotechnology (A)

Instructor: **Prof. Nowak**

Prerequisites: B 240, B 260

Corequisite: CS 205

Preparatory: One crop production subject

This subject has limited enrollment.

Culture of plant cells, tissue, and organs. Application of these techniques in plant propagation, breeding, production of virus-free material, and screening for pathogen and stress tolerance. Production of secondary metabolites, induction of somatic embryogenesis and organogenesis, germplasm maintenance and storage, and genetic manipulations will also be considered.

Winter semester — 3 lecs and 4 labs per week.

Text — Mantel and Smith, *Plant Biotechnology*.

PS 400: Plant Breeding (A)

Instructor: **Prof. Bubar**

Prerequisites: B 240, MP 200, one crop production subject

Corequisite: B 245

Improvement of crops through the application of genetic principles to breeding methods. A term report is required.

Winter semester — 3 lecs per week.

PS 405: Agronomy (A)

Instructors: **Prof. Bubar and Agronomy Staff**

Available only to students in their final year who have completed at least two 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.

PS 410: Horticulture (A)

Instructors: **Prof. Daniels and Horticultural Staff**

Available only to students in their final year who have completed at least two 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 horticulturists.

Winter semester — 3 lecs per week.

Description of Subjects

PS 415: Crop Adaptation (A)

Instructor: **Prof. Caldwell**

Prerequisites: Two crop production subjects

Preparatory: B 330

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.

Fall semester — 3 lecs per week.

PS 449: Plant Science Project I (A)

Coordinator: **Prof. J. Fraser**

A course involving preparation of a literature review and oral report on the topic written for PS 450. The research project and faculty advisor is to be chosen in consultation with the course coordinator during semester 6, and work initiated soon thereafter. This course is required by students in the final year of the Plant Science option as a prerequisite for PS 450.

Fall semester — 1 lec per week.

PS 450: Plant Science Project II (A)

Coordinator: **Prof. Padmanathan**

Prerequisite: PS 449

Directed study of a topic that will involve research and require both an oral presentation and a written thesis.

Winter semester — 1 lec per week.

Vocational Courses

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 1986-87 year:

Accounting and Taxation (Farm)
Blueberry Production and Marketing
Christmas Tree Production (Basic)
Dairy Herd Operation
Draft Horses (Introduction to)
Farm Skills I
Farm Skills II
Farrier (Basic)
Floral Design
Fox Production
Grain Production
Horse Care Program
Ironwork
Landscape Construction
Meat Cutting
Mink Production
On-Farm Computers
Pesticides — Crop Protection, Application, and Safety
Preventive Maintenance and Repair of Farm Machinery
Sheep Husbandry (Basic)
Strawberry Production and Marketing
Swine Farm Management
Swine Herd Operation
Tree Fruit Production and Marketing
Turf Production
Vegetable Production
Welding (Basic Farm)
Woodlot Management (Farm) and Chain Saw Safety

Entrance Requirements

These are specific for each course. In most cases, a candidate for admission must:

- be at least 17 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 \$92 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 \$25.

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

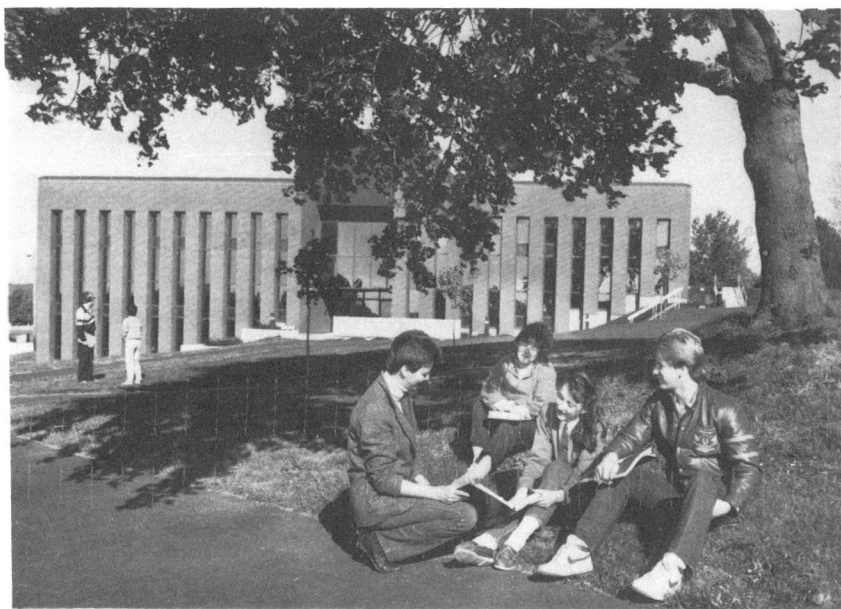
Persons interested in any of the vocational courses should write a letter of application to the Coordinator of Vocational Courses, Nova Scotia Agricultural College, P.O. Box 550, Truro, Nova Scotia B2N 5E3.

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. In recent years, night courses have been 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. Other courses are currently being developed.

For information on courses offered and costs, write Continuing Education, Nova Scotia Agricultural College, P.O. Box 550, Truro, Nova Scotia B2N 5E3. Telephone 895-1571, Local 300.



NSAC Library

Scholarships and Bursaries

Entrance Scholarships

The Nova Scotia Department of Agriculture and Marketing Scholarships for Students in Degree Programs

The Nova Scotia Department of Agriculture and Marketing offers entrance scholarships to all residents of Nova Scotia accepted for the degree courses with averages of 80% or higher in the subjects required for admission. These scholarships are at two levels:

\$1,500

Three scholarships of \$1,500 each are offered annually to students with the highest averages in the subjects required for entrance. All students who apply for admission before April 1 are considered.

These scholarships are continuous at NSAC for the normal duration of the course. Provided the recipients maintained the 80% level in the work of the previous year with no failed subjects, \$1,500 will be offered at the beginning of each academic year. For those whose averages at NSAC drop below 80%, but remain above 75%, the amount of the annual scholarship will be \$500.

\$1,000

Scholarships of \$1,000 each are offered to all students (except those selected for the \$1,500 level) who are accepted and have averages of 80% or higher in the subjects required for entrance.

These entrance scholarships become continuous for those students who maintain scholarship level at NSAC. For those who maintain an 80% average with no failed subjects, \$1,000 is offered each year for the normal duration of the course. For those whose averages at NSAC drop below 80%, but remain above 75%, the amount of the annual scholarship will be \$500.

The Nova Scotia Department of Agriculture and Marketing Scholarships for Students in Technical Programs

The Nova Scotia Department of Agriculture and Marketing offers entrance scholarships of \$200 for all residents of Nova Scotia accepted for the technical courses with averages in the subjects required for admission of 80% or higher.

These entrance scholarships become continuous for those students who maintain scholarship level at NSAC. For those who maintain an 80% average with no failed subjects, \$200 is offered for students admitted to the second and third years of their programs.

The Prince Edward Island Department of Agriculture Scholarships for Students in Degree Programs

The Prince Edward Island Department of Agriculture offers scholarships to students in each year of courses leading to a Bachelor of Science in Agriculture.

Those students with an average of 80% or higher in the previous year of study are eligible for scholarships of \$700.

Those students with an average of 75% to 79.9% in the previous year of study are eligible for a scholarship of \$600.

Scholarships and Bursaries

Those students with an average of 60% to 74.9% in the previous year of study are eligible for a scholarship of \$500.

For further information and/or application forms, contact the Rural Development Section — Training, Prince Edward Island Department of Agriculture, P.O. Box 1600, Charlottetown, Prince Edward Island, C1A 7N3, or telephone 892-5465.

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.Sc. (Agr.Eng.) 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.

Nova Scotia Institute of Agrologists Scholarship

The Nova Scotia Institute of Agrologists has provided a scholarship of \$1,000 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, participation in school and community activities, and financial need. Applicants should write the Registrar, Nova Scotia Institute of Agrologists, NSAC, Truro, N.S., B2N 5E3, for an application form. The application and the applicant's Grade XII certificate should be in the Registrar's Office not later than July 1.

Nova Scotia Agricultural College Alumni Scholarships

The Nova Scotia Agricultural College Alumni Association offers two scholarships of \$1,000 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.

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 \$1,000 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 or the Registrar's Office, NSAC.

Description of Subjects

Hank DeBoer Memorial Scholarship

The Hank DeBoer Memorial Scholarship with a value of \$1,000 is offered to a Nova Scotia student who enters any one of the degree or technical courses at NSAC and who receives no other scholarship with a higher value. The selection of the recipient will be based mainly on academic standing. Financial need will be a consideration where two candidates are close in academic standing, and where a difference in need can be established.

The selection of the recipient will be made by the Scholarships Committee of NSAC, and the presentation will be made at Autumn Assembly.

The F.W. Walsh Memorial Scholarship

As a tribute to the memory of the outstanding agriculturalist F. Waldo Walsh, this scholarship of about \$800 is financed from the interest on a fund established in his memory. The scholarship is awarded annually to a student who is admitted to the degree program at NSAC. Academic standing is a major consideration in the selection of the candidate, but financial need and participation in school and community affairs will also be considered. Applications are available from the Registrar's Office, NSAC, Truro, N.S. B2N 5E3. The deadline for receiving applications is August 1.

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.

Co-op Atlantic Bursaries

Co-op Atlantic offers three bursaries of \$500 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 endeavor. Applications should be sent to the Corporate Secretary, Co-op Atlantic, Box 750, Moncton, N.B. E1C 8N5, no later than August 15. Recipients of these bursaries are eligible for the same bursaries in their second year provided they forward their first year marks and confirm their enrolment. The recipients of these scholarships may be offered summer employment with Co-op Atlantic.

Entrance Scholarships

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, 1986.

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.

Scholarships and Bursaries

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 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.

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.

Continuation Scholarships

The Nova Scotia Department of Agriculture and Marketing Scholarships for Students in Degree Programs

The Nova Scotia Department of Agriculture and Marketing offers scholarships for all NSAC students who are residents of Nova Scotia and who are admitted to the second, third, or fourth year of the degree courses with averages in the work of the previous year at NSAC of 75% or higher.

\$1,000 is awarded to all these students with averages in the work of the previous year of 80% or higher and with no failed subjects.

\$500 is awarded to all these students with averages in the work of the previous year of 75% to 80% and with no failed subjects.

The Nova Scotia Department of Agriculture and Marketing Scholarships for Students in Technical Programs

The Nova Scotia Department of Agriculture and Marketing offers scholarships of \$200 to all NSAC students who are residents of Nova Scotia and who are admitted for their second or third year of the technical courses with averages in the work of the previous year at NSAC of 80% or higher and with no failed subjects.

The Prince Edward Island Department of Agriculture

The Prince Edward Island Department of Agriculture offers scholarships to all residents registered in the second, third, and fourth years of 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, P.O. Box 1600, Charlottetown, P.E.I. C1A 7N3 or telephone: 892-5465.

The Atlantic Fertilizer Institute Scholarship (Degree)

The Atlantic Fertilizer Institute offers an annual scholarship, valued at \$1,000, to a student from one of the Atlantic Provinces who is entering the second year in the Plant Science option of the B.Sc. (Agr.) course. The student receiving this scholarship must have a farming background. In selecting the recipient, the Scholarships Committee of NSAC will take into consideration: scholastic standing (not necessarily the first priority); participation in student life; contribution to the college community; and financial need. The presentation of this scholarship takes place at Autumn Assembly. Application forms are available at the Registrar's Office, NSAC. The deadline for receiving applications is September 1.

The Atlantic Fertilizer Institute Scholarship (Technical)

The Atlantic Fertilizer Institute offers an annual scholarship, valued at \$500, to a student in the technician or farming technology course who has satisfactorily passed the first academic year and has entered the second year of studies. Only students who intend to farm will be considered. The selection of the recipient by the Scholarships Committee of NSAC will be based upon leadership qualities within the college community, combined with a desirable scholastic standing. The presentation of this scholarship takes place at the Autumn Assembly. Application forms are available from the Registrar's Office, NSAC. The deadline for receiving applications is September 1.

Scholarships and Bursaries

Continuation Scholarships

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 August 1. Application forms are available from the Registrar's Office.

The Colonel Charles Coll Memorial Scholarship

A scholarship with a value of approximately \$500 is offered by Mr. Harry Coll and heirs, in memory of Colonel Charles H. Coll, to a student from the Maritime Provinces in the final year of an Animal Science option (or program) in a degree or technical course. Candidates are considered on the basis of (1) academic standing, (2) involvement and interest in poultry, and (3) achievement and contribution to 4-H.

The selection of the recipient is made on the recommendation of the Animal Science Department, and the scholarship is awarded at the Autumn Assembly.

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 1.

A.B. Banks Memorial Scholarship

A scholarship in memory of the late A.B. Banks with a value of about \$250 is offered annually to a student with the highest cumulative average at the completion of the first year of the B.Sc. (Agr.) program and who enters the second year of the B.Sc. (Agr.) program in the Animal Science option.

The Dorothy Creelman Cox Scholarship

A scholarship with a value of approximately \$200 is offered annually to a female student who successfully completes the first year of the B.Sc. (Agr.) program and enters the Plant Science option. Scholastic standing and contribution to the college community are the important criteria in the selection of the recipient. The selection of the recipient will be made by the NSAC Scholarships Committee on the recommendation of the Plant Science Department.

Continuation Scholarships

A.W. Mackenzie Scholarship

A scholarship of \$150 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. A letter of application must be submitted to Mr. George Smith, Supervisor of Poultry, N.S. Dept. of Agriculture and Marketing, Box 550, Truro, N.S. B2N 5E3 no later than September 20.

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 Atlantic Veterinary College 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 possess otherwise equal qualifications for an annual award, preference shall be given to a student from New Brunswick.

The Edith Main Memorial Bursary

The Auxiliary to the Nova Scotia Veterinary Medical Association offers a bursary of \$100 in memory of Edith Main. The recipient must be a student from Nova Scotia who has attended the NSAC and has been admitted to a Canadian veterinary college. The selection is made by the Scholarships Committee, NSAC, and no application is required.

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.

Scholarships and Bursaries

Continuation Scholarships

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 deadline for applications to be at the Registrar's office is September 1.

The Dr. Robert C. Rix Family Farm Bursary

This bursary of \$300 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 Autumn Assembly. No application is required.

Raymond Webber Memorial Scholarship

A scholarship with a value of \$300 will be presented to the most promising first-year Landscape Horticulture Technology student. The recipient will be selected on academic achievement and on performance of practical skills. The recipient will be recommended by the Plant Science Department staff and the award will be presented at Autumn Assembly. No application is required.

Scholarships for Third- and Fourth-Year Degree 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. The deadline for applications to be at the Registrar's office is February 1.

The A.C. Neish Memorial Trust Scholarship

The A.C. Neish Memorial Trust awards a \$1,000 scholarship to a student of the Nova Scotia Agricultural College who completes, in a satisfactory manner, the third year of study. The award is tenable at NSAC for a fourth year of study. The criteria for the selection of the recipient are high academic standing and qualities of leadership as indicated by participation and achievement in both academic and non-academic activities. The deadline for applications to be at the Registrar's office is February 1.

Scholarships and Bursaries

Scholarships for Third- and Fourth-Year Degree Students

Farm Credit Corporation Bursary

The Atlantic Region of the Farm Credit Corporation offers a \$1,000 scholarship to a Canadian student (citizen or permanent resident) entering the fourth or final year of the B.Sc.(Agr.) program in the Agricultural Economics option.

The criteria for the selection of the recipient in order of priority are: (1) An average of 75% or over (70% or over if fewer than two students have averages of 75% or over) in the work of the student's third year (not less than eight subjects). Among the students with this qualifying average only minor emphasis will be placed on academic standing. (2) Interest and competence in farm management and in the subjects associated with the economics of the farm business. (3) Interest and involvement in college and home community as demonstrated by participation in organizations and affairs. (4) Farm experience. (5) Financial need where significant differences between candidates can be identified.

The selection of the recipient will be made by the NSAC Scholarships Committee, on the recommendation of the Agricultural Economics Department. The bursary will be presented at Autumn Assembly.

Nova Scotia Milk Producers Scholarship

The Nova Scotia Milk Producers Assoc. offers a scholarship of \$1,000 to a Nova Scotia student who enters the third year of the B.Sc. (Agr.) program. The recipient will be selected by the Scholarship Committee, NSAC, and the presentation will be made at Autumn Assembly. No application is required.

Co-op Atlantic Scholarship

Co-op Atlantic offers a scholarship of \$1,000 to a student at the Nova Scotia Agricultural College who is from the Atlantic Provinces and is entering the third year of the B.Sc.(Agr.) program at NSAC. The scholarship is awarded on the basis of scholastic ability, financial need, and knowledge and appreciation of co-operatives. The award may be tenable for two years. Application forms may be obtained from the Registrar's Office, NSAC. Applications must be submitted to the Registrar by August 1.

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.

Scholarships and Bursaries

Scholarships for Third- and Fourth-Year Degree Students

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. Application forms are available at the Registrar's Office. The deadline for applications to be at the Registrar's Office is September 1.

The Vice-Principal's Scholarship

A scholarship is offered each year to a worthy student who has completed three years of the degree program and is enrolled in the fourth year. The selection is to be made by the Vice-Principal of NSAC.

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. Interested students should write a letter of application to Mr. George Smith, Supervisor of Poultry, N.S. Dept. of Agriculture and Marketing, Box 550, Truro, N.S., B2N 5E3 no later than September 20.

The Dr. Kenneth Cox Scholarship

As a tribute to their retiring Principal, the Class of 1964 of the Nova Scotia Agricultural College established a fund of \$2,000. The interest on this fund is awarded annually to a worthy student entering the final year of the B.Sc. (Agr.) program. No application is necessary.

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.

Scholarships for Third- and Fourth-Year Degree Students

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 Scholarships 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.

Medals and Prizes

Governor-General's Medals

A gold Governor-General's Medal is awarded annually to the student in the degree programs who achieves the highest academic standing in the graduating class.

A silver Governor-General's Medal is awarded annually to the student in the technical courses who achieves the highest academic standing in the graduating class.

Atlantic Provinces Swine Producers' Awards

The Newfoundland Swine Producers Association, the New Brunswick Pork Producers Association, the Pork Producers Association of Nova Scotia, and Prince Edward Island Quality Swine Incorporated jointly sponsor two awards annually, with a total value of \$1,000, as follows:

\$300 is awarded to a student in the technology or technician program in the graduating class who, through performance in the Swine Production course and in light of other swine-related endeavors, shows the best combination of academic performance and practical swine husbandry ability. The prize is awarded on the recommendation of the Animal Science Department of the College.

\$450 is awarded to a student in the graduating class of the B.Sc.(Agr.) program in recognition of academic excellence, combined with a genuine interest in the swine industry in Atlantic Canada. Performance in the degree-level swine production course and in other course work associated with swine production is the major consideration in selecting the recipient.

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.

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.

Medals and Prizes

Ketchum Manufacturing Company Limited Prize

The Ketchum Manufacturing Company Limited has provided \$2,000 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. The selection of the recipient is made by the Scholarships Committee of NSAC. No application is necessary.

The Lorne C. Callback Prize

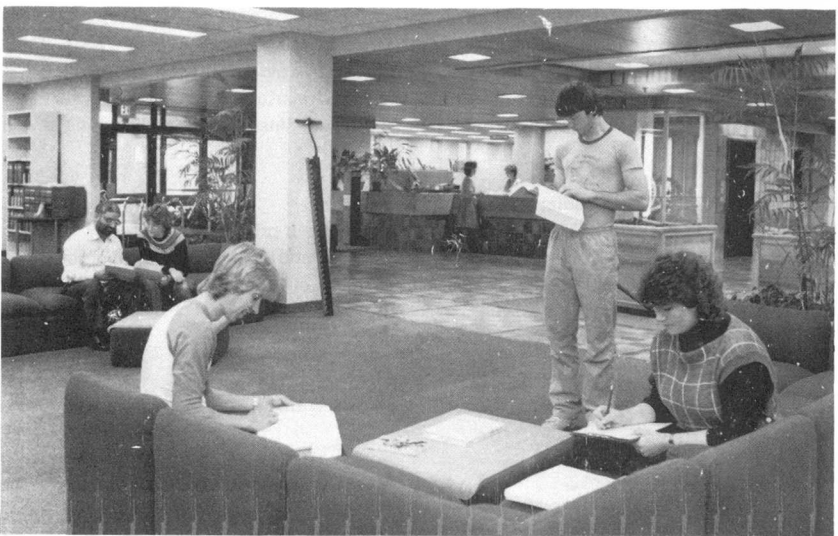
A prize of \$50 is awarded each autumn from the estate of the late Mr. Lorne C. Callback to a second-year degree student who excelled in the Plant Science course in his or her first year.

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. de Geus Memorial Prize for Plant Science

In memory of the late K. de Geus, 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 given to students in the horticultural field. No application is necessary.



Interior of library, NSAC

NSAC Enrollment 1985-86

B.Sc. (Agr.) or Pre-Veterinary

First Year — Class of '89

- Charles Awa-Leyi Agobia*, NSAC, P.O. Box 550, Truro, N.S. B2N 5E3
Kimberly Marlene Allen, R.R. #1, Mouth of Keswick, York Co., N.B. EOH 1N0
James Stewart Anderson, R.R. #2, Sussex, N.B. EOE 1P0
Donald Reagh Balch, 1 Maxwell Place, Kentville, N.S. B4N 1A4
Joanne Elizabeth Beaton, R.R. #1, Port Hood, N.S. BOE 2W0
John K.A. Bore, Kenya
Jane Caroline Doreen Brooks, R.R. #6, Kingston, N.S. BOP 1R0
Tamara Joy Brooks, 265 Lakeview Drive, Saint John, N.B. E2J 3M8
Nancy Carol Butt, P.O. Box 185, Springdale, Nfld. AOJ 1T0
Thomas Charles Byers, Belleisle Creek, N.B. EOG 1E0
Susan Eleanor Cameron, P.O. Box 25, Banks Road, Inverness, N.S. BOE 1N0
Leslie Cecilia Campbell, 421 Park Street, Kentville, N.S. B4N 1M5
Susan Elizabeth Anne Chesnutt, Shinimicas Bridge, R.R. #4, Amherst, N.S. B4H 3Y2
Lisa Chisholm, P.O. Box 7, Heatherton, N.S. B0H 1R0
Marion Beate Collisi, R.R. #4, New Glasgow, N.S. B2H 5C7
Karen Louise Crawford, R.R. #2, Middleton, N.S. BOS 1P0
Jennifer Gail Crossley, 494 Chisholm Street, New Glasgow, N.S. B2H 3J3
Cheryl Dawn DeYoung, 1018 Waverley Road, R.R. #1, Waverley, N.S. BON 2S0
Gregory Allan Donald, R.R. #2, Kensington, P.E.I. COB 1M0
Steven Lloyd Eadie, R.R. #2, Antigonish, N.S. B2G 2K9
James Kenelm Eaton, R.R. #1, Great Village, N.S. B0M 1L0
Leonard Andrew Ells, R.R. #5, Bridgewater, N.S. B4V 2W4
Glen Francis Ellsworth, Skinners Pond, P.E.I. COB 2B0
James Clifford Foote, R.R. #1, Pine Tree, Thorburn, N.S. B0K 1W0
Fiona Anne Foster, R.R. #4, Amherst, N.S. B4H 3Y2
Bernard Hubert Gallant, R.R. #1, Site 7, Box 6, Grande-Digue, N.B. E0A 1S0
Paul Dmondi Gamba, Kenya
Daniel Laurence Arthur Gehrken, R.R. #1, Havelock, N.B. E0A 1W0
Robert Brenton Giffen, Milford Station, N.S. BON 1Y0
Jennifer Gilmore, 7 Skeena Street, Dartmouth, N.S. B2W 1P7
James Goodfellow, R.R. #1, Box 764, Newcastle, N.B. E1V 3L8
Stephanie Joy Gow, 5850 Chain Rock Drive, Halifax, N.S. B3H 1A1
R. Scott Grant, 15 Parker Street, Truro, N.S. B2N 3R2
Arnold Joseph Hagen, R.R. #1, Breadalbane, P.E.I. COA 1E0
Davide Dean Haley-Sweeney, R.R. #3, P.O. Box 2020, Yarmouth, N.S. B5A 4A7
Abra Jean Haliburton, 34 Ryland Avenue, Truro, N.S. B2N 2V4
Jennifer Marianna Harper, Box 4, Site 25, R.R. #1, Enfield, N.S. BON 1N0
Heleen Teresa Harrison, R.R. #2, New Germany, N.S. BOR 1E0
Eric Heuver, P.O. Box 819, Strathmore, Alta. TOJ 3H0
Susan Hickey, P.O. Box 196 Whitbourne, Nfld. AOB 3K0
Kevin Dwayne Hicks, R.R. #2, St. Anthony, Box 780, N.B. E0A 2X0
Eileen Dorothea Higginbotham, Lower Montague, P.E.I. COA 1R0
Jonathan Martin Hill, 14 Nelson Drive, Lower Sackville, N.S. B4C 1Z7
Christopher Life Howatt, R.R. #2, Kensington, P.E.I. COB 1M0
Jill Suzanne Hume, P.O. Box 277, Chester, N.S. BOJ 1J0
Davide Russelle Johnson, P.O. Box 471, Kensington, P.E.I. COB 1M0

B.Sc. (Agr.) or Pre-Veterinary**First Year — Class of '89**

Rachel Lynne Jones, P.O. Box 130, Berwick, N.S. BOP 1E0
Robert Donald Pepper Jones, P.O. Box 940, Carbonear, Nfld. AOA 1T0
Lisa Jane Kent, R.R. #2, Stewiacke, N.S. BON 2J0
Curry Gerald Keoughan, 11 Lebreton Drive, Chatham, N.B. E1N 3R4
Paul Sigurd Kittlesen, R.R. #1, Newport, N.S. BON 2A0
Beth Leanne Kyle, R.R. #2, Amherst, N.S. B4H 3X9
Carmencita Joyce Lake, P.O. Box 223, Bridgetown, N.S. BOS 1C0
Peter Donald Lawson, 111 Maple Avenue, Sherwood, P.E.I. C1A 6G4
Robert Bruce Locke, 42 Hickman Street, Amherst, N.S. B4H 2M4
Dianne Marie Lowe, R.R. #2, Middleton, N.S. BOS 1P0
Dean Edward Manning, R.R. #2, Falmouth, N.S. BOP 1L0
Ronald Garth Manning, R.R. #2, Falmouth, N.S. BOP 1L0
Terry Dean Martin, P.O. Box 76, Centreville, N.S. BOP 1J0
Philip William Maxwell, 143 Pictou Rd., Truro, N.S. B2N 2S6
Wade George Melanson, R.R. #7, P.O. Box 1690, Bathurst, N.B. E2A 4P6
Richard Douglas Melvin, P.O. Box 43, New Ross, N.S. BOJ 2M0
Karen Anne Mills, Head of St. Margaret's Bay, Halifax Co., N.S. BOJ 1R0
Diane Marie Moores, 40 Moulton Avenue, North Sydney, N.S. B2A 1Z3
Lawrence Obae Mose, Kenya
Neal Edward Mundle, 58 Dominion Street, Moncton, N.B. E1C 6G7
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Gordon Bruce Murray, R.R. #6, Truro, N.S. B2N 5B4
Ndwigah Stephen (Ephantus) Muthee, Kenya
Krista Leigh McAllister, R.R. #1, Millerton, N.B. EOC 1R0
Corrina McCarthy, Highlands, Nfld., AON 1N0
Donna Faye McCormick, R.R. #3, Salisbury, N.B. E0A 3E0
Bryce Gerard McInnis, 157A Brunswick Street, Truro, N.S. B2N 2H7
John Peter MacIntyre, R.R. #2, P.O. Box 206, Bras d'Or, N.S. B0C 1B0
Donna Lee MacIsaac, R.R. #1, Dunvegan, Inverness, N.S. BOE 1N0
Douglas Wayne MacKay, 148 Linden Avenue, Summerside, P.E.I. C1N 2K1
Ian Robert MacNearney, Site 23, P.O. Box 15, R.R. #1, Windsor Jnct., N.S. BON 2V0
Patricia Ann MacNeil, R.R. #6, Truro, N.S. B2N 5B4
Sarah Nettleton, P.O. Box 1212, Truro, N.S. B2N 5H1
Shannon Lee O'Neill, 319 Pleasant St., Box 531, Newcasttle, N.B. E1V 2S3
Colin Wallace Palmer, R.R. #1, Aylesford, N.S. BOP 1C0
Christopher James Parker, R.R. #1, Millerton, N.B. EOC 1R0
Jock Michael Peill, R.R. #5, Canning, N.S. BOP 1H0
Stephanie Alice Peppard, R.R. #1, Great Village, N.S. BOM 1L0
Shelley Maureen Pick, R.R. #1, Upper Rawdon, N.S. BON 2N0
Donald Alan Porter, R.R. #1, Belmont, N.S. BOM 1C0
Terrance Alan Prescott, R.R. #1, Moncton, N.B. EOC 8J5
Michael Albert Price, R.R. #1, Mouth of Keswick, N.B. EOH 1N0
Lynda Ellen Ramsay, R.R. #1, Miscouche, South West Lot 16, P.E.I. COB 1T0
Shawn Eugene Rankin, Judique, Inverness Co., N.S. BOE 1P0
Andrew Stuart Reynolds, P.O. Box 62, Hillsboro, N.B. E0A 1X0
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NSAC Enrollment 1985-86

B.Sc. (Agr.) or Pre-Veterinary

First Year — Class of '89

Robert Bruce Robar, 12 Belmont Avenue, Bedford, N.S. B4B 1G2
Theresa Rebecca Roberts, 58 Quinton Avenue, Saint John, N.B. E2M 4E5
Theresa Ann Rogers, 58 Rigby Road, Sydney, N.S. B1P 4T6
Sally Bridget Steeves, 116 Elm St., P.O. Box 982, Woodstock, N.B. E0J 2B0
Christina Helen Stewart, 3 Hedley Street, Saint John, N.B. E2L 3W3
Kevin Bartley Sullivan, P.O. Box 5, Pouch Cove, Nfld. A0A 3L0
Margot Jill Sullivan, 7 Heather Terrance, Fredericton, N.B. E3B 2S7
Kristi Belle Tattie, R.R. #1, Montague, P.E.I. COA 1R0
Walter Conrad Termeer, R.R. #6, Kensington, P.E.I. COB 1M0
Loretta Lynn Thibault, R.R. #1, Saulnierville, Box 5B, Digby Co., N.S. B0W 2Z0
Katherine Margaret Trueman, R.R. #3, Sackville, N.B. E0A 3C0
Thomas George Trueman, R.R. #3, Sackville, N.B. E0A 3C0
Elto Herman van Cingel, R.R. #1, Upperkent, N.B. E0J 1Y0
Richard Paul Van Ingen, R.R. #1, Enfield, Box 40, Site 16, N.S. B0N 1N0
Stephen Gene Varner, 83 Main St., P.O. Box 178, St. George, N.B. E0G 2Y0
Janice Margaret Verhulp, R.R. #3, Bonshaw, P.E.I. COA 1C0
Arthur Versloot, 648 Trip Road South, R.R. #3, Mouth of Keswick, N.B. E0H 1N0
Gerard Edward Versteeg, P.O. Box 137, Shubenacadie, N.S. B0N 2H0
Sven Hugo von Kintzel, R.R. #5, Tatamagouche, N.S. B0K 1V0
Jeffrey Allan Walker, R.R. #5, Sussex, N.B. E0E 1P0
Steven Wade Watts, Cornwall, R.R. #3, P.E.I. COA 1H0
Angela Welsh, 54 Nelson Drive, Lower Sackville, N.S. B4C 2A2
Jeffrey Harold Wentzell, R.R. #1, Bridgewater, N.S. B4V 2V9
John Michael Whelton, R.R. #7, P.O. Box 1425, Bathurst, N.B. E2A 4P6
Peter Henry White, 335 Robie Street, Truro, N.S. B2N 1L9
Horace Brian Willis, P.O. Box 761, Charlottetown, P.E.I. C1A 7L3

Second Year — Class of '88

Claire Louise Adams, R.R. #2, Box 5, Comp. 23, Hampton, N.B. E0G 1Z0
Jeffrey Hantz Allen, R.R. #2, Centreville, N.S. B0P 1J0
Ira Robert Andrews, P.O. Box 155, Guysborough, N.S. B0H 1N0
Darren James Baglole, Freetown, P.E.I. COB 1L0
Sophie Marie Bernard, 10 Downsvie Avenue, Moncton, N.B. E1A 4C5
Paula Audrey Black, 48 Gorge Road, Moncton, N.B. E1G 1E6
Peter Wade Boswall, Marshfield, R.R. #3, Charlottetown, P.E.I. C1A 7J7
Sarah Emily Bowers, R.R. #4, Shubenacadie, N.S. B0N 2H0
Andrew Paul Boyer, P.O. Box 1041, Perth-Andover, N.B. E0J 1V0
Pansy Edith Brydon, Waterville, R.R. #3, N.S. B0P 1V0
Suzanne Marie Bulman, 10 Shibu Court, Fredericton, N.B. E3A 4T5
Brian Charles Burgess, Harvey Station, N.B. E0H 1H0
Karen Lynn Burgher, P.O. Box 246, Port Williams, N.S. B0P 1T0
Gillian Fiona Margaret Calder, Jersey Lodge, Burgeo, Nfld. A0M 1A0
Jacqueline Lynn Chesley, R.R. #2, Kingston, N.S. B0P 1R0
Lise Ann Cohrs, 8 Rosemount Avenue, Halifax, N.S. B3N 1X8
David Archibald Colborne, P.O. Box 569, Hampton, N.B. E0G 1Z0

NSAC Enrollment 1985-86

B.Sc.(Agr.) or Pre-Veterinary

Second Year — Class of '88

Sherrri Joyce Coldwell, P.O. Box 310, Trenton, N.S. B0K 1X0
Kathleen Elizabeth Collins, R.R. #1, Truro, N.S. B2N 5A9
Phyllis Margaret Cummings, 29 St. Mary's Street, Antigonish, N.S. B2G 2A6
Lloyd Robert Dalziel, Charlottetown, R.R. #5, P.E.I. C1A 7J8
Mark Gerald DesRoches, P.O. Box 1748, Charlottetown, P.E.I. C1A 4N7
Siegmar Doelle, Granville Beach, N.S. B0S 1K0
Bernadette Catherine Donovan, Gillis Road, New Victoria, N.S. B0A 1R0
Cynthia Agnes Doucette, Box 327, Lower Wedgeport, N.S. B0W 2B0
Janice Lynn Foster, Middleton, R.R. #3, N.S. B0S 1P0
Marcel Gallant, R.R. #1, Box 7, Site 7, Grand-Digue, N.B. E0A 1S0
Gail Elaine Gibbons, 39 Brooklyn Avenue, Sydney Mines, N.S. B1V 2W2
Janice May Gill, P.O. Box 759, Bishop's Falls, Nfld. A0H 1C0
Barbara Jean Gilroy, 6993 Churchill Drive, Halifax, N.S. B3L 3H6
David Edward Haliburton, c/o E. Haliburton, Avonport, N.S. B0P 1B0
Sandra Ann Hall, 28 Roblea Drive, Dartmouth, N.S. B2W 1Y7
Kimberly Ruth Hancock, 143 Sullivan Avenue, Gander, Nfld. A1V 1S4
Russell Charles Hogue, R.R. #1, Hubbards, N.S. B0J 1T0
Scott Peter Hosking, 47A Andover Street, Halifax, N.S. B2X 2M1
Rebecca Susan Hunter, R.S.B. 87, R.R. #1, Bedford, N.S. B4A 2W9
Eric Wayne Jackson, R.R. #2, Upper Stewiacke, N.S. B0N 2P0
Andrew James Johnson, 158 Queen Street, Truro, N.S. B2N 2B5
Angela Margaret Kent, R.R. #3, Lunenburg, N.S. B0J 2C0
Lise Alberte LeBlanc, 74 Muncey Drive, Riverview, N.B. E1B 1A7
Emery Roger Leger, P.O. Box 892, Shediac, N.B. E0A 3G0
Derek Lynch, P.O. Box 850, Kaslo, B.C. V0G 1M0
Carolyn Dawn Miller, 713 Cleveland Avenue, Riverview, N.B. E1B 1Y7
Christine Lynn Murray, R.R. #3, Oromocto, N.B. E2V 2G3
Cynthia Marie MacDonald, 24 York Avenue, Stephenville, Nfld. A2N 1Z7
Sarah Catherine Macdonald, 262 Brunswick Street, Truro, N.S. B2N 2J3
Sheila Anne MacDonald, P.O. Box 140, R.R. #2, Judique, N.S. B0E 1P0
Grant MacKenzie, R.R. #3, Bonshaw, P.E.I. COA 1C0
James Nealon MacLelland, North Grand Pre, N.S. B0P 1M0
George Edward Macmillan, 1008 Redden Avenue, New Minas, N.S. B4N 3H9
William Archibald MacMurdo, Kensington, R.R. #4, P.E.I. COB 1M0
Sarah Nettleton, P.O. Box 1212, Truro, B2N 5H1
Donna Bernice Noble, Wilmot, N.S. B0P 1W0
Tracey Lynn Norwood, 167 Highland Road, Saint John, N.B. E2K 1P8
Catherine Victoria Palmer, R.R. #2, Trenton, N.S. B0K 1X0
Kimberly Edith Parker, Westfield Post Office, Kings Co., N.B. E0G 3J0
Glenna Denise Parsons, 112 Ridgeview Drive, Lower Sackville, N.S. B4C 1M1
David Vernon Patterson, Apt. 514, 81 Lakecrest Drive, Dartmouth, N.S. B2X 1V6
Joanne Brenda Rafuse, R.R. #3, New Germany, N.S. B0R 1E0
Kimberly Dawn Redden, R.R. #1, Windsor, N.S. B0N 2A0
Karen Lynn Rodgers, R.R. #2, Harnpton, N.B. E0G 1Z0
Helen Grace Sampson, R.R. #3, St. Stephen, N.B. E3L 2Y1
Steven Law Saunders, R.R. #4, Bridgewater, N.S. B4V 2W3
Anne Michelle Savard, 47 Nappan Drive, Halifax, N.S. B4C 2E1
Wilma Mae Schenkels, Red Bank, N.B. E0C 1W0

NSAC Enrolment 1985-86

B.Sc.(Agr.) or Pre-Veterinary

Second Year — Class of '88

Colleen Anine Simms, 5223 Artz Street, Halifax, N.S. B3K 1J9
Darrell Rowland Smith, R.R. #2, Southampton, N.S. B0M 1W0
Nancy Ellen Statts, R.R. #1, Crapaud, P.E.I. COA 1J0
Dianne Elise Stevens, Western Shore, N.S. B0J 3M0
Heather Susan Stevens, R.R. #1, Hopewell Cape, N.B. E0A 1Y0
John Gerard Suidgeest, R.R. #2, Shubenacadie, N.S. B0N 2H0
Karen Janine Thomson, R.R. #5, West River, Antigonish, N.S. B2G 2L3
Heidi Lynn Turner, R.R. #2, Belleisle Creek, N.B. E0G 1E0
Helene Marie Van Doninck, 631 George Street, New Waterford, N.S. B1H 4E5
Thomas Rene Van Oirschot, R.R. #2, Antigonish, N.S. B2G 2K9
Cherryl Anne Vaughan, 3 Marsha Avenue, Yarmouth, N.S. B5A 2C8
Marjolynn Barbara Vezina, 361 Iony Hill Drive, Lower Sackville, N.S. B4E 1N1

Third Year — Class of '87

Yolande Babineau, R.R. #4, Box 2, Site 12, Acadieville, N.B. E0A 2T0
Ian Blenkharn, R.R. #3, Saltsprings, N.S. B0K 1P0
Ralph Eric Bosveld, R.R. #1, Kentville, N.S. B4N 3V7
Kendall Bowness, R.R. #2, Elmsdale, P.E.I. COB 1K0
Veronika Mlakar Brandt, R.R. #1, Merigomish, N.S. B0K 1G0
Catherine Christine Chown, Belleisle Creek, R.R. #1, N.B. E0G 1E0
Beverly Tremain Connell, Lawrencetown, R.R. #3, N.S. B0S 1M0
Melania Lynn Cornish, North Main Street, Trenton, N.S. B0K 1X0
Jacob John Cox, R.R. #2, Mabou, N.S. B0E 1X0
Kent Jason Curtis, 404 Gibson St., Fredericton, N.B. E3A 4E6
Mary Catherine Daley, P.O. Box 574, Hampton, N.B. E0G 1Z0
Brenda Elizabeth Currie Dean, 151 City Line, Saint John, N.B. E2M 4Z3
Carl Duivenvoorden, P.O. Box 60, Jacquet River, N.B. E0B 1T0
Jane Wilhelmina Duivenvoorden, P.O. Box 60 Jacquet River, N.B. E0B 1T0
Christopher Luke Eyking, R.R. #1, Bras d'Or, N.S. B0C 1B0
Donald Edward Finck, Avonport, N.S. B0P 1B0
Sean Alfred Firth, R.R. #2, Canning, N.S. B0P 1H0
Daniel Peter Gallagher, P.O. Box 85, Minto, N.B. E0E 1J0
Alexandra George, Alder Grange, Caie Crescent, Yarmouth, N.S. B5A 1E2
Sheldon Scott Howatt, Albany, R.R. #2, P.E.I. COB 1A0
Glenda Maria Hunter, 3 Webster Lane, Apt. 6, Truro, N.S. B2N 1W8
Terry Arthur Jones, P.O. Box 1600, Woodstock, N.B. E0J 2B0
Graham Collins Kempton, Box 91, Port Williams, N.S. B0P 1T0
Mary Christina Lecky, Summerside, R.R. #2, P.E.I., C1N 4J8
David Wendell Livingstone, R.R. #1, Debert, N.S. B0M 1G0
Michael Hugh Main, R.R. #1, Maitland, N.S. B0N 1T0
Jane Elizabeth Morton, R.R. #1, New Germany, N.S. B0R 1E0
Brian Colin MacCulloch, R.R. #2, New Glasgow, N.S. B2H 5C5
Paul David MacDonald, R.R. #4, St. Peter's Bay, P.E.I. COA 2A0
William Brian MacDonald, R.R. #1, Heatherton, N.S. B0H 1R0
Yvonne Marie MacIsaac, R.R. #3, Georgeville, N.S. B2G 2L1
Brian Scott MacLeod, 400 Munroe Avenue, N.S. B2H 2E7
John William MacLeod, 69 Lake Rd., Glace Bay, N.S. B1A 2H2
Peter John MacLeod, R.R. #1, Deep Brook, N.S. B0S 1J0

B.Sc.(Agr.) or Pre-Veterinary**Third Year — Class of '87**

Andrew Raymond MacPherson, Birch Grove, N.S. BOA 1A0
Seyed Ali Nejat, c/o Hossein Nejat, 52 St., Apt. #113, Tehran, Iran
Ian William Newcombe, R.R. #2, Centreville, N.S. BOP 1J0
Gwendolyn Dawn Petherick, 301 Ayer Avenue, Moncton, N.B. E1C 8W2
Clinton William Pinks, P.O. Box 29, Site 10, R.R. #1, Tantallon, N.S. BOJ 3J0
Lisa Marie Purcell, 206 Hill Heights Rd., Saint John, N.B. E2K 2H3
Lynda Rankin, 104 Willow Ave., Fredericton, N.B. E3A 2E2
Heather Elizabeth Read, Berwick, R.R. #2, N.S. BOP 1E0
Lee Anne Reeves, R.R. #3, Sydney, N.S. B1P 6G5
Alexander Kent Rogers, Coleman, R.R. #1, P.E.I. COB 1H0
Shelley Diane Roode, R.R. #6, Truro, N.S. B2N 5B4
Jacqueline Mary Smith, R.R. #3, Windsor, N.S. B0N 2T0
Kimberley Jane Smith, 24 Kimberley Drive, Truro, N.S. B2N 2Z1
Kathleen Margaret Swan, R.R. #2, Debert, N.S. B0M 1G0
Bethany Ellen Uttaro, 21 Harnum Crescent, Mt. Pearl, Nfld. A1N 2H3
Christopher Isaac Uy, 45 Bell Manor Drive, Saint John, N.B. E2K 2J5
John Herman Van der Linden, P.O. Box 64, Heatherton, N.S. B0H 1R0
Marianne Jean Ward, R.R. #1, Granville Ferry, N.S. BOS 1K0

NSAC Enrollment 1985-86

B.Sc.(Agr.)

Fourth Year — Class of '86

Darlene Ina Acton, R.R. #2, Sackville, N.B. EOA 3C0
Ann Marie Allen, 2C Hillcrest St., Truro, N.S. B2N 3M1
Helen Jane Archibald, R.R. #5, New Glasgow, N.S. B2H 5C8
Susan Elaine Archibald, R.R. #5, New Glasgow, N.S. B2H 5C8
Kimberly Anne Barkhouse, P.O. Box 207, Hubbards, N.S. B0J 1T0
Laurel Gloria Bartlett, R.R. #2, Wm. George Johnson Rd., Truro, N.S. B2N 4B1
David Raymond Bell, P.O. Box 130, Tatamagouche, N.S. B0K 1V0
Kathryn Anne Broadbent, P.O. Box 1065, Sackville, N.B. EOA 3C0
Allan Vernon Weldon Brown, Southampton, R.R. #1, N.S. B0M 1W0
Darlene Lynne Cameron, P.O. Box 579, Margaree Forks, N.S. B0E 2A0
John Paul Cant, P.O. Box 1482, Sackville, N.B. EOA 3C0
Sean Wesley Carson, R.R. #1, Sydney Forks, N.S. B0A 1W0
Gregg Carl Cunningham, 72 Guysborough Avenue, Dartmouth, N.S. B2W 1S7
John Myers DeLong, 116 Athabaska Avenue, Riverview, N.B. E1B 2T1
Juanita Florence Diamond, Winsloe, R.R. #1, P.E.I. COA 2H0
Carl Edward Dingee, Glassville, R.R. #2, N.B. EOJ 1L0
Deborah Douglas, Tyne Valley, R.R. #1, P.E.I. COB 2C0
Charles Isaac Gallagher, 257 Woodstock Road, Fredericton, N.B. E3B 2H8
Sandra Lynn Gamble, Alexandra, R.R. #1, Charlottetown, P.E.I. C1A 7J6
Diane Geneve Gardiner, 7 Hemlock Avenue, Truro, N.S. B2N 5M2
Elizabeth Margaret Hale, 201 Clark St., Summerside, P.E.I. C1N 2J4
Anthony David Hall, P.O. Box 885, New Glasgow, N.S. B2H 5K7
David Frederick Harvey, Glassville, R.R. #2, N.B. EOJ 1L0
Paul Allan Holt, R.R. #1, Port Williams, N.S. B0P 1T0
Margaret Ellen Hope-Simpson, Box 486, Wolfville, N.S. B0P 1X0
James Stewart Keen, R.R. #2, Murray River, P.E.I. COA 1W0
Gerry Leonard Kennie, R.R. #3, Wolfville, N.S. B0P 1X0
David Ross Landry, 119 Spruce Drive, Truro, N.S. B2N 5H6
Serge Joseph LeBlanc, 146 Rue Eglise, St. Antoine, N.B. EOA 2X0
Gilberte Marie Leger, R.R. #1, Site 30, Box 7, Cap-Pele, N.B. EOA 1J0
Debbi Lorraine Levy, 17 Western Avenue, Parrsboro, N.S. B0M 1S0
Margot Joan Lownds, 12 Ross St., Halifax, N.S. B3M 2A5
Thomas Jack Mailman, R.R. #1, Bridgewater, N.S. B4V 2V9
John Ronald Martin MacDonald, P.O. Box 1149, Antigonish, N.S. B2G 2L7
Sandra Marie MacNeil, 1 Bay Street, Antigonish, N.S. B2G 2G4
Fiona Nettleton, P.O. Box 1212, Truro, N.S. B2N 5H1
Robert Craig Newcombe, Belcher Street, Port Williams, N.S. B0P 1T0
William Lloyd Parsons, 592 Queen Mary Street, Ottawa, Ont. K1K 1W1
Kevin Ralph Patterson, P.O. Box 955, Windsor, N.S. B0N 2T0
Gloria Anne Audrey Penny, Charlottetown, R.R. #1, P.E.I. C1A 7J6
Constance Angela Priest, P.O. Box 2, Belmont, N.S. B0M 1C0
Joanne Elizabeth Rutledge, 1215 Johnson Ave., Bathurst, N.B. E2A 3T4
Charles Francis Smith, 480 Pictou Road, Truro, N.S. B2N 2V1
Russell Michael Steen, 17 Orkney Drive, Dartmouth, N.S. B2X 1K1
Rebecca Anne Steeves, 116 Elm Street, Woodstock, N.B. EOJ 1B2
Jean Michal Stevens, Box 221, Hampton, N.B. EOG 1Z0
Peter William Swetnam, R.R. #2, Centreville, N.S. B0P 1J0
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B.Sc. (Agricultural Engineering)

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Howard Brenton Crooks, R.R. #1, Hopewell, N.S. BOK 1CO
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Reid Edward Culberson, R.R. #6, Woodstock, N.B. EOJ 2BO
Emmett Joseph Curran, Vernon River, P.E.I. COA 2EO
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Harold Leroy Marsh, R.R. #2, Bras d'Or, N.S. B0C 1B0
Shawn Gordon Arthur Maxwell, R.R. #4, Amherst, N.S. B4H 3Y2
Brian James Morrissey, Earnscliffe, Vernon P.O., R.R. #3, P.E.I. COA 2E0
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David Leslie Weatherhead, Upper Rawdon, N.S. B0N 2N0
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James Austin Chisholm, R.R. #3, St. Andrew's, N.S. B0H 1X0
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Alexandra Crozier, R.R. #2, Truro, N.S. B2N 5B1
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Christopher John Franklin, R.R. #6, Truro, N.S. B2N 5B4
Scott Douglas Freeman, Bear River, R.R. #1, N.S. BOS 1B0
Jonathan Adriel Fuller, Avonport, N.S. BOP 1B0
Christine Roberta Garber, Bridgewater, R.R. #6, N.S. B4V 2W5
Anthony James Gorham, R.R. #10, Fredericton, N.B. E3B 6H6
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Kevin Eugene Kelly, Pisquid East, R.R. #3, Mt. Stewart, P.E.I. COA 1T0
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Alan Joseph McLaughlin, R.R. #5, Perth-Andover, N.B. EOJ 1V0
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Victor Douglas Oulton, R.R. #1, Windsor, N.S. BON 2T0
Bradley Kirk Palmer, R.R. #1, Berwick, N.S. BOP 1E0
Daniel Kevin Phinney, R.R. #4, Bridgetown, N.S. BOS 1C0
Harlene Donna Pick, R.R. #3, Newport, N.S. BON 2A0
Carl Duncan Picketts, Kensington, R.R. #4, P.E.I. COB 1M0
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Andrew Mark Spence, R.R. #1, Windsor, N.S. B0N 2T0
Susan Augusta Sullivan, R.R. #2, Rexton, N.B. EOA 2L0
Shelly Kimberly Thistle, Box 7, R.R. #1, Corner Brook, Nfld. A2H 2N2
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George William Van den Broek, Cardigan, P.E.I. COA 1G0
Andrew Gordon Watson, R.R. #1, Northport, N.S. B0L 1E0
Craig Darryll Wheaton, R.R. #2, Sackville, N.B. EOA 3C0
Ronald Melvin White, West Royalty, R.R. #7, Charlottetown, P.E.I. C1A 7J9

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Susan Lynn Aalders, R.R. #3, Springfield, N.S. B0R 1H0
Sylvia Arlene Adams, R.R. #2, Kensington, P.E.I. COB 1M0
Kimberly Anne Allaby, R.R. #2, Westfield, N.B. EOG 3J0
Milo Shirlene Barbour, Elmsdale, P.E.I. COB 1K0
Richard George Baxter, 341 Sackville Drive, Lower Sackville, N.S. B4C 2R7
Margaret Denise Bennett, R.R. #1, North Sydney, N.S. B2A 3L7
Margaret Jean Clyburne, R.R. #1, New Glasgow, N.S. B2H 5C4
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NSAC Enrollment 1985-86

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