

1964

University of Maine Catalog for 1965, part 1

University of Maine

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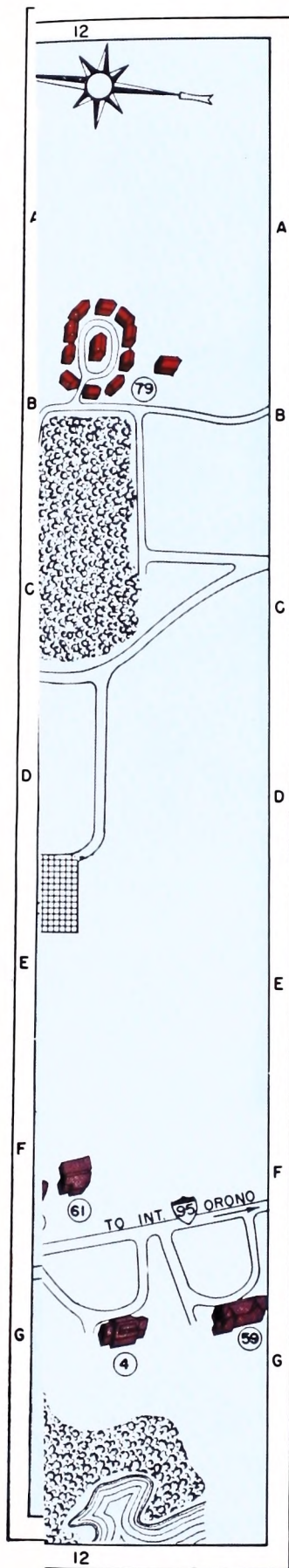


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
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INDEX

1 Administration Building (President's Office)	D6	35 Gannett Hall (Dorm)	A3
2 Agricultural Engineering Bldg. & Shop	C7	36 Greenhouses	D9
3 Alpha Gamma Rho	F12	88 Hancock Hall (Dorm)	E4
4 Alpha Tau Omega	G12	37 Hannibal Hamlin Hall (Dorm)	E4
1 Alumni Hall	D6	38 Hart Hall (Dorm)	D4
47 Alumni Office, Fogler Library	D6	39 Heating Plant	F6
5 Alumni Memorial Field House and Gym	D2	40 Hitchner Hall	C8
52 Androscoggin Hall (Dorm)	A3	41 Holmes Hall	D7
85 Aroostook Hall (Dorm)	E11	43 Infirmary	E3
6 Aubert Hall	D5	44 Kappa Sigma	G8
7 Auditorium (Arthur A. Hauck)	C6	45 Kennebec Hall (Dorm)	D10
8 Balentine Hall (Dorm)	E8	46 Lambda Chi Alpha	G10
9 Baseball Field	C2	86 Lengyel Hall (Women's Physical Education)	F10
10 Beta Theta Pi	E4	47 Library (Raymond H. Fogler)	D6
11 Boardman Hall	C4	48 Lord Hall	D5
7 Bookstore	C6	49 Maples	D8
13 Botanical Plantation	G7	50 Mechanical Shop	C4
14 Carnegie Hall	E8	7 Memorial Union	C6
15 Carpenter Shop	B6	53 Merrill Hall	D8
16 Chadbourne Hall (Dorm)	F9	55 Oak Hall (Dorm)	E4
89 Classroom Building	C4	56 Observatory	B7
17 Coburn Hall	E6	57 Penobscot Hall	F8
18 Co'vin Hall (Dorm)	D9	58 Phi Eta Kappa	G8
20 Corbett Hall (Dorm)	D3	59 Phi Gamma Delta	G12
21 Crosby Laboratory	C5	60 Phi Kappa Sigma	G10
22 Cumberland Hall (Dorm)	A3	61 Phi Mu Delta	F12
23 Deering Hall	D9	62 Physics Building	C3
24 Delta Tau Delta	G8	63 President's House	E7
25 Department of Inland Fisheries & Game	F1	64 Residences	
26 Dunn Hall (Dorm)	E3	65 Rogers Hall	C7
27 East Annex	B5	66 Service Building	A6
51 East Commons - Dining Hall	A2	67 Sigma Alpha Epsilon	G7
28 Education (College of, Building)	B6	68 Sigma Chi	G9
1 Educational Television	D6	69 Sigma Nu	E3
29 Barrows Hall and Hill Lecture Wing	B4	70 Sigma Phi Epsilon	G1
30 Estabrooke Hall (Dorm)	D9	71 Skating Rink	F3
31 Experiment Station Poultry Plant	B11	72 Stevens Hall	C5
32 Federal Agencies Bldg.	C10	73 Stock Judging Pavilion	D7
12 Fernald Hall	E5	74 Stodder Hall (Dorm)	F8
33 Football Field, Track	D1	75 Tau Epsilon Phi	F1
		76 Tau Kappa Epsilon	F1
		77 Tennis Courts	
		78 Theta Chi	G1
		1 Treasurer's Office, Alumni Hall	D6
		79 University Cabins	B12
		80 University Farm Buildings	B7
		81 University Press	D4
		19 West Commons - Dining Hall	E4
		82 Wingate Hall	E5
		83 Winslow Hall	D7
		87 York Hall (Dorm)	D10
		Parking Areas	

Bulletin

UNIVERSITY
OF MAINE

Catalog for 1965



Vol. 67

SEPTEMBER 20, 1964

No. 4

Published by the University of Maine
Second-class postage paid at Orono, Maine

Issued monthly in March and May; twice in July, September, November, and January; three times in October, December, February, and April.

The University of Maine Centennial

During 1965 the University of Maine celebrates the 100th anniversary of its founding. Born of necessity 100 years ago when the college-educated man was the exception rather than the rule, the University has established a proud record of instruction, research, and service.

The accomplishments of its graduates throughout this 100-year period provide testimony as to the quality of instruction. The knowledge that its researchers have contributed to the world and the effectiveness of its expanding service and extension programs show clearly the valuable work of these two areas.

During this Centennial year the University of Maine will review the accomplishments of the past 100 years and set its goals for the next century. Many decisions which will mold the future of the University will be made.

Some of the University's history is told by the buildings pictured on the division pages separating the various sections of this catalog:

White Hall (page 11), the first building erected on the Orono campus, was constructed in 1868. Later called Wingate Hall, it housed the president's office. The building was destroyed by fire in 1890, and the present Wingate Hall was erected on its site. Alumni Hall, 1901, houses the offices of the president, vice-president for academic affairs, controller, treasurer and educational television.

Coburn Hall, 1888, housed the Department of Natural History and Agriculture and had accommodations for a library (page 79). It is now used by the Department of Zoology. Hitchner Hall, 1959, provides modern facilities for agricultural programs in instruction, research, and extension.

Estabrooke Hall (page 141) was the result of renovations of the old Commons built in 1871 near the site of the present West Commons. It was first used as a boarding house and then became a recitation building for the English Department. Headquarters now for the College of Arts and Sciences is Stevens Hall, which was erected in 1924.

South Stevens, 1933, was the first home of the School of Education, which was established in 1930 (page 227). A modern Education Building was erected in 1961 to give the College of Education improved facilities for its expanding programs and enrollment.

Fernald Hall, 1870, was first known as the Chemical Laboratory (page 249). It now houses the Department of Journalism and a snack bar. Barrows Hall was constructed in 1963 to provide offices, classrooms, and laboratories for the Department of Electrical Engineering.

The Student Union building at the Portland campus (page 285) was acquired through a merger with Portland Junior College in 1957. Now used as a gymnasium, it was first a barn on the Deering Estate. Payson Smith Hall, 1959, contains administrative offices, classrooms, laboratories, and a cafeteria.

Carnegie Hall, 1906, was the former library until new facilities were provided with the construction of the Fogler Library in 1941 (page 293).

A College of Law (page 295) was opened in Bangor in 1898 by the University. New quarters for the college after the great Bangor fire of 1911 were located in Stewart Hall, part of the old Merrill Estate, until the college was closed in 1920. A School of Law in Portland was acquired in 1961 through a merger with Portland University.

Oak Hall (page 297), 1871, was the first dormitory building. Stodder Hall, 1956, is typical of the many modern dormitories now provided for students.

CONTENTS

Admission	33
Board of Trustees	6
Calendar	4
College of Life Sciences and Agriculture ..	80
Forestry, School of	105
Home Economics, School of	111
College of Arts and Sciences	142
Business Administration, School of ..	155
Nursing, School of	190
College of Education	228
College of Technology	250
Continuing Education Courses	304
Financial Information	39
General Information	12
Graduate Study	294
Information for Veterans	34
Loan Funds, Scholarships	43
Military Science	298
Officers of Administration	7
Personnel	306
Physical Education, Athletics	301
Prizes	74
School of Law	296
Student Activities	28
Summer Session	305
University of Maine in Portland	286

CALENDAR FOR 1964-65

Fall 1964

		1964	
Freshman Week, Opening	Thurs., 6:30 P.M.	Sept. 10	
Freshman Week Registration	Fri., 7:30-12:00 M. 1:00-4:30 P.M.	Sept. 11	
Registration of Upperclass, Former, Transfer and Graduate Students who have not previously completed it by mail	Sat., 8:00-12:00 M. 1:00-4:30 P.M.	Sept. 12	
Classes begin	Mon., 8:00 A.M.	Sept. 14	
Registration of Two-Year Agriculture Students	Mon., 9:00 A.M.	Oct. 12	
Midsemester reports due (covering the first half semester to Nov. 4)	Mon. noon	Nov. 9	
Thanksgiving recess begins	Wed., 11:50 A.M.	Nov. 25	
Classes resumed	Mon., 8:00 A.M.	Nov. 30	
Christmas recess begins	Fri., 5:00 P.M.	Dec. 18	
		1965	
Classes resumed	Mon., 8:00 A.M.	Jan. 4	
Classes end (Fall Semester)	Sat., 11:50 A.M.	Jan. 16	
Final Examinations begin	Mon., 8:00 A.M.	Jan. 18	
Registration of Freshman and Upperclass Students	Mon-Sat.	Jan. 18-23	
Final Examinations end	Tuesday	Jan. 26	
Registration of Former and Transfer Students	Sat., 8:00-11:00 A.M.	Jan. 30	

Spring 1965

Classes begin	Mon., 8:00 A.M.	Feb. 1	
Written Comprehensive Examinations—Arts and Sciences	Saturday	Mar. 6	
Spring recess begins	Fri., 5:00 P.M.	Mar. 26	
Midsemester reports due (covering the first half semester to March 25)	Mon. noon	Mar. 29	
Classes resumed	Mon., 8:00 A.M.	Apr. 5	
Oral Comprehensive Examinations—Arts and Sciences	Saturday	Apr. 17	
Graduation Exercises, Two-Year Course in Agriculture	Saturday, 1:00 P.M.	May 1	
Maine Day (if approved)	Wednesday	May 5	
Master's Theses due	Mon.	May 17	
Classes end	Sat., 11:50 A.M.	May 22	
Final Examinations begin	Mon., 8:00 A.M.	May 24	
Class Day (Tentative)		June 1	
Final Examinations end	Wednesday	June 2	
Commencement Exercises	Wed., 2:30 P.M.	June 2	
Alumni Day	Saturday	June 6	

Summer Camp

Forestry Junior Camp begins	Monday	June 7
Forestry Junior Camp ends	Saturday	Aug. 7

Summer Session

Summer Session (three-week courses begin)	Mon., 7:45 A.M.	June 14
Summer Session (six-week courses begin)	Mon., 7:45 A.M.	July 5
Classes end	Friday	Aug. 13
Commencement Exercises	Fri., 7:45 P.M.	Aug. 13
Summer Session (three-week courses begin)	Mon., 7:45 A.M.	Aug. 16

JULY 1964						
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CALENDAR FOR 1965-66 (Tentative)

Fall 1965

Freshman Week, Opening	Thurs., 6:30 P.M.	1965 Sept. 9
Freshman Week Registration	Fri., 7:30-12:00 M. 1:00-4:30 P.M.	Sept. 10
Registration of Upperclass, Former, Transfer and Graduate Students who have not previously completed it by mail	Sat., 8:00-12:00 M. 1:00-4:30 P.M.	Sept. 11
Classes begin	Mon., 8:00 A.M.	Sept. 13
Midsemester reports due (covering the first half semester to Nov. 3)	Mon. noon	Nov. 8
Thanksgiving recess begins	Wed., 11:50 A.M.	Nov. 24
Classes resumed	Mon., 8:00 A.M.	Nov. 29
Christmas recess begins	Fri., 5:00 P.M.	Dec. 17
Classes resumed	Mon., 8:00 A.M.	1966 Jan. 3
Classes end (Fall Semester)	Sat., 11:50 A.M.	Jan. 15
Final Examinations begin	Mon., 8:00 A.M.	Jan. 17
Registration of Freshman and Upperclass Students	Mon.-Sat.	Jan. 17-22
Final Examinations end	Tuesday	Jan. 25
Registration of Former and Transfer Students	Sat., 8:00-11:00 A.M.	Jan. 29

Spring 1966

Classes begin	Mon., 8:00 A.M.	Jan. 31
Written Comprehensive Examinations—Arts and Sciences	Saturday	Mar. 7
Spring recess begins	Fri., 5:00 P.M.	Mar. 27
Midsemester reports due (covering the first half semester to March 26)	Mon. noon	Mar. 30
Classes resumed	Mon., 8:00 A.M.	Apr. 6
Oral Comprehensive Examinations—Arts and Sciences	Saturday	Apr. 18
Maine Day (if approved)	Wednesday	May 6
Master's Theses due	Monday	May 18
Classes end	Sat., 11:50 A.M.	May 23
Final Examinations begin	Mon., 8:00 A.M.	May 25
Class Day	Tuesday	May 31
Final Examinations end	Wednesday	June 1
Commencement Exercises	Wednesday, 2:30 P.M.	June 1
Alumni Day	Saturday	June 7

Summer Camp

Forestry Junior Camp begins	Monday	June 8
Forestry Junior Camp ends	Saturday	Aug. 8

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Summer Session (three-week courses begin)	Mon., 7:45 A.M.	June 15
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Classes end	Friday	Aug. 14
Commencement Exercises	Fri., 7:45 P.M.	Aug. 14
Summer Session (three-week courses begin)	Mon., 7:45 A.M.	Aug. 17

JULY 1965

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MAR. 1966

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JUNE 1966

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BOARD OF TRUSTEES

LAWRENCE MARK CUTLER, B.A., M.D., President	31 Grove Street, Bangor
Term expires September 2, 1971	
W. GORDON ROBERTSON, Vice President	84 Harlow Street, Bangor
Term expires September 29, 1969	
ARTHUR HENRI BENOIT, B.S.	Monument Square, Portland
Term expires September 2, 1971	
FRANK C. BROWN	30 Rockefeller Plaza, New York 20, New York
Term expires March 28, 1967	
RALPH HENRY CUTTING	Keyes Fibre Company, Waterville
Term expires September 18, 1970	
ROBERT NELSON HASKELL, B.S.	33 State Street, Bangor
Term expires December 8, 1967	
HUBERT HOWARD HAUCK, A.B.	400 Congress Street, Portland
Term expires September 7, 1969	
BEATRICE J. LITTLE (MRS. CLARENCE C.)	RFD 1, Ellsworth
Term expires September 29, 1965	
WILLIAM T. LOGAN, JR., A.B., M.Ed., <i>ex officio</i>	State House, Augusta
HELEN WORMWOOD PIERCE (MRS. LEONARD A., JR.) B.A.	Rumford Road, Bethel
Term expires November 20, 1966	
OWEN HALBERT SMITH, B.S.	Presque Isle
Term expires December 20, 1968	
EXECUTIVE COMMITTEE: Cutler, Benoit, Cutting, Robertson, Smith	
CLERK OF THE BOARD: Edith G. Wilson, B.A., M.A.	

OFFICERS OF ADMINISTRATION

OFFICERS OF ADMINISTRATION*

OFFICERS OF THE UNIVERSITY

- PRESIDENT. Lloyd Hartman Elliott, Alumni Hall.
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ASSISTANT TO THE PRESIDENT FOR INSTITUTIONAL RESEARCH. Edith Grace Wilson, Alumni Hall.
CONTROLLER AND BUDGET DIRECTOR. Prescott Hale Vose, Alumni Hall.
TREASURER. Harry Wight Gordon, Alumni Hall.
DEAN OF MEN. John Emmons Stewart, 205 Fogler Library.
DEAN OF WOMEN. Mary Stillman Zink, 219 Fogler Library.
LIBRARIAN. James Curtis MacCampbell, Fogler Library.
REGISTRAR AND DIRECTOR OF STUDENT SERVICES. George Howard Crosby, Wingate Hall.
DIRECTOR OF ADMISSIONS. James Arnold Harmon, Wingate Hall.
DIRECTOR OF DEVELOPMENT. Peter C. Crolius, Alumni Hall.
DIRECTOR OF ENGINEERING SERVICES. Parker Grindell Cushman, 208 Fogler Library.
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DIRECTOR OF PLACEMENT. Philip Judd Brockway, 102 College of Education Building.
DIRECTOR OF PHYSICAL PLANT. Francis Stephen McGuire, 210 Fogler Library.
DIRECTOR OF PUBLIC INFORMATION AND CENTRAL SERVICES. Howard Arthur Keyo, 25 Winslow Hall.
DIRECTOR OF PURCHASES. Murray R. Billington, 204 Fogler Library.
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DIRECTOR OF RESEARCH. Franklin Paul Eggert, 76 Fogler Library.
DIRECTOR OF RESIDENCE AND DINING HALLS. William Carl Wells, Commons.
DIRECTOR OF STUDENT AID. Robert Clifton Worrick, 101 East Annex.
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DIRECTOR OF UNIVERSITY TESTING AND COUNSELING SERVICE. Robert Alexander Apostol, 114 College of Education Building.
EXECUTIVE DIRECTOR, GENERAL ALUMNI ASSOCIATION. T. Russell Woolley, 44 Fogler Library.

OFFICERS OF DIVISIONS OF THE UNIVERSITY

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SCHOOL OF FORESTRY. Albert Deane Nutting, Director, 104 Deering Hall.
SCHOOL OF HOME ECONOMICS. Jane H. Crow, Director, 24 Merrill Hall.
COLLEGE OF ARTS AND SCIENCES. Joseph Magee Murray, Dean, 100A Stevens Hall.
SCHOOL OF BUSINESS ADMINISTRATION. William Stanley Devino, Director, Stevens Hall, South.
SCHOOL OF NURSING. Jean MacLean, Director, Wingate Hall.
COLLEGE OF EDUCATION. Mark Richard Shibles, Dean, 151 College of Education Building.
COLLEGE OF TECHNOLOGY. Thomas Harvey Curry, Dean, 110 Boardman Hall.

* A complete list of teaching personnel is given in the back of this catalog.

UNIVERSITY OF MAINE CENTENNIAL

- GRADUATE STUDY AND RESEARCH. Franklin Paul Eggert, Dean and Director,
76 Fogler Library.
- SUMMER SESSION. Mark Richard Shibles, Director, 151 College of Education
Building.
- UNIVERSITY OF MAINE EXTENSION SERVICE. Winthrop Charles Libby, Director,
16 Winslow Hall.
- CONTINUING EDUCATION. Winthrop Charles Libby, Director,
16 Winslow Hall.
- COOPERATIVE EXTENSION SERVICE. Winthrop Charles Libby, Director, 16 Winslow
Hall.
- MAINE AGRICULTURAL EXPERIMENT STATION. George Farrington Dow, Director,
Holmes Hall.
- MAINE TECHNOLOGY EXPERIMENT STATION. Thomas Harvey Curry, Director,
110 Boardman Hall.
- DEPARTMENT OF INDUSTRIAL COOPERATION. Thomas Harvey Curry, Director,
110 Boardman Hall.
- UNIVERSITY OF MAINE IN PORTLAND.
- SCHOOL OF LAW. Edward S. Godfrey, Dean.
- UNDERGRADUATE STUDIES. William L. Whiting, Director.

OFFICERS OF THE DEPARTMENTS

- AGRICULTURAL BUSINESS AND ECONOMICS. Professor Homer Bastian Metzger,
36 Winslow Hall.
- AGRICULTURAL ENGINEERING. Professor Byron L. Bondurant, 2 Agricultural En-
gineering Building.
- ANIMAL SCIENCES. Professor Bruce R. Poulton, 26 Rogers Hall.
- ANIMAL PATHOLOGY. Professor John Franklin Witter, Hitchner Hall.
- ART. Professor Vincent Andrew Hartgen, Art Gallery, 204 Carnegie Hall.
- BACTERIOLOGY. Professor Alvin R. Whitehill, 229 Hitchner Hall.
- BIOCHEMISTRY. Professor Frederick Herbert Radke, 231 Hitchner Hall.
- BOTANY AND PLANT PATHOLOGY. Professor Richard John Campana, 215 Deering
Hall.
- BUSINESS AND ECONOMICS. Professor William Stanley Devino, Stevens Hall, South.
- CHEMICAL ENGINEERING. Professor Lyle Clayton Jenness, 275 Aubert Hall.
- CHEMISTRY. Professor John William Beamesderfer, 261 Aubert Hall.
- CIVIL ENGINEERING. Professor George Knowlton Wadlin, Jr., 101 Boardman Hall.
- EDUCATION. Professor Mark Richard Shibles, 151 College of Education Building.
- ELECTRICAL ENGINEERING. Professor Ralph E. Armington, 101 Barrows Hall.
- ENGINEERING GRAPHICS. Professor Matthew McNeary, 122 East Annex.
- ENGLISH. Professor John Erskine Hankins, 225 Stevens Hall.
- ENTOMOLOGY. Professor Geddes Wilson Simpson, 306 Deering Hall.
- FOOD SCIENCE. Professor Matthew Edward Highlands, 17 Holmes Hall.
- FOREIGN LANGUAGES AND CLASSICS. Professor E. Kenneth Miles, 1 Stevens Hall,
North.
- FORESTRY. Director Albert Deane Nutting, 104 Deering Hall.
- HISTORY AND GOVERNMENT. Professor Edward French Dow, 145 Stevens Hall.
- HOME ECONOMICS. Professor Jane H. Crow, 24 Merrill Hall.
- INDUSTRIAL COOPERATION. Dean Thomas Harvey Curry, 110 Boardman Hall.
- JOURNALISM. Associate Professor Brooks Witham Hamilton, 2 Fernald Hall.

CORRESPONDENCE

MATHEMATICS AND ASTRONOMY. Professor Spofford Harris Kimball, 304 College of Education Building.

MECHANICAL ENGINEERING

MILITARY SCIENCE. Colonel John Stephen Gerety, Armory.

MUSIC. Professor Herrold Eugene Headley, Carnegie Hall.

NURSING. Professor Jean MacLean, Wingate Hall.

PHILOSOPHY. Professor Charles Franklin Virtue, 335 Stevens Hall.

PHYSICAL EDUCATION AND ATHLETICS. Professor Rome Rankin, 160 College of Education Building.

PHYSICS. Professor Clarence Edwin Bennett, Physics Building.

PLANT AND SOIL SCIENCES. Professor Roland August Struchtemeyer, 114 Deering Hall.

PSYCHOLOGY. Professor Arthur Mark Kaplan, Stevens Hall, North.

SOCIOLOGY AND ANTHROPOLOGY. Professor Glenn Morley Vernon, 44 Stevens Hall, South.

SPEECH. Professor Wofford Gordon Gardner, 310 Stevens Hall.

ZOOLOGY. Professor Kenneth William Allen, Coburn Hall.

CORRESPONDENCE

Inquiries should be directed as indicated below:

General administrative matters President, Lloyd H. Elliott
Scholarship records Registrar, George H. Crosby
Admission to the freshman class and to
 advanced standing (Orono) Director of Admissions, James A. Harmon
 University of Maine in Portland Director of Admissions, Alfred E. Clarke
Financial affairs of students Treasurer, Harry W. Gordon
College of Life Sciences and Agriculture Dean of the College, Winthrop C. Libby
College of Arts and Sciences Dean of the College, Joseph M. Murray
College of Education Dean of the College, Mark R. Shibles
College of Technology Dean of the College, Thomas H. Curry
University of Maine in Portland:
 School of Law, Edward S. Godfrey, Dean
 Undergraduate Studies, William L. Whiting, Director
Graduate study and scholarships available
 for graduate students Dean of Graduate Study, Franklin P. Eggert
Summer Session for teachers and college students Director, Mark R. Shibles
Extension Courses in Continuing Education Director, Winthrop C. Libby
Senior and alumni placement Placement Director, Philip J. Brockway
Student employment, scholarships, loans
 Director of Student Aid, Robert C. Worrick
Dormitory rooms for women
 Manager, Women's Housing, Miss Velma K. Oliver
Dormitory rooms for men, rooms in private homes,
 and apartments Manager, Men's and Family Housing, Vernon C. Elsemore

ABBREVIATIONS AND SYMBOLS

Ab	Agricultural Business and Economics	Gm	German
AE	Agricultural Engineering	Gt	Government
Agr	General Agriculture	Gy	Geology
An	Animal Sciences	He	Home Economics Education
AnP	Animal Pathology	Hm	Home Management and Housing
As	Astronomy	Hr	Honors
At	Art	Hy	History
Ay	Anthropology	Jr	Journalism
Ba	Business Administration	Lt	Latin
Bt	Botany	Mc	Music
By	Bacteriology	Me	Mechanical Engineering
Cd	Clothing and Design	Ms	Mathematics
Ce	Civil Engineering	Mt	Military
Cf	Child Development and Family Relationships	My	Modern Society
Ch	Chemistry	Nu	Nursing
ChE	Chemical Engineering	P	Plants
Cp	Comparative Literature	Pa	Pulp and Paper
Ec	Economics	Pe	Physical Education
Ed	Education	Pl	Philosophy
Ee	Electrical Engineering	Ps	Physics
Eg	Engineering Graphics	Py	Psychology
Eh	English	Ru	Russian
En	Entomology	S	Soils
Fn	Food and Nutrition	Sh	Speech
Fr	French	Sp	Spanish
Fv	Forestry	Sw	Social Work
Gc	General Engineering	Sy	Sociology
Gk	Greek	Zo	Zoology

† Courses offered during 1965-66 and alternate years.

‡ Courses offered during 1964-65 and alternate years.

Buildings—AE, Agricultural Engineering Bldg.; Al, Alumni; Arm, Armory; A, Aubert; Bn, Boardman; C, Coburn; Com, Commons; Cr, Carnegie; Cy, Crosby; D, Arthur Lowell Deering Hall; EA, East Annex; E, Education Bldg.; EE, Electrical Engineering Bldg.; F, Fernald; G, Greenhouse Bldg.; H, Holmes; Hr, Hitchner; Inf., Infirmary; L, Lord; Ly, Library; Ml, Merrill; Mm-Gym, Memorial Gymnasium; Mm. Union, Memorial Union; Ps, Physics Bldg.; PSH, Payson Smith; R, Rogers; S, Stevens; SN, Stevens, North Wing; SS, Stevens, South Wing; W, Wingate; Ww, Winslow; W-Gym, Women's Gymnasium.

INFORMATION IN THIS CATALOG COVERS 1964-65
ACADEMIC YEAR

The information contained in this catalog covers rules, regulations, curricula, and programs for the 1964-65 academic year. The University reserves the right to make changes at any time.



White Hall 1868

GENERAL INFORMATION



Alumni Hall 1901

General Information

The University of Maine is part of the public educational system of the State. It is located in Orono, an attractive town of 5,000 population, about half way between Kittery, the most southerly town in the State, and Fort Kent on the northern boundary.

The extensive campus of over 1,100 acres is situated about a mile from the business section of Orono and borders the Stillwater River, a branch of the Penobscot. The University is approximately eight miles from Bangor, the third largest city of the State, on U. S. Route 2A.

History—The University was established originally as the State College of Agriculture and the Mechanic Arts under the provisions of the Morrill Act, approved by President Lincoln in 1862. The next year the State of Maine accepted the conditions of the Act and in 1865 created a corporation to administer the affairs of the college. The original name was changed to the University of Maine in 1897.

The institution opened September 21, 1868, with 12 students and two faculty members; Dr. Merritt Caldwell Fernald was appointed acting president. By 1871 curricula had been arranged in Agriculture, Civil Engineering, Mechanical Engineering, and Elective. From these curricula the Colleges of Agriculture, Technology, and Arts and Sciences gradually developed. Women have been admitted since 1872. The School of Education was established in 1930 and became the College of Education in 1958. The University operated a College of Law from 1898 to 1920. After this unit was discontinued in 1920, the University did not offer law courses until 1961 when a School of Law, located in Portland, was added through a merger with Portland University.

By an act of the Maine Legislature, the University of Maine in Portland was established in 1957.

The merger of Portland University and the University of Maine was approved by the 100th Maine Legislature in 1961.

Schools of Business Administration, Forestry, Home Economics, and Nursing were established in 1958.

The Maine Agricultural Experiment Station was established as a division of the University by act of the Legislature of 1887, as a result of the passage by Congress of the Hatch Act. It succeeded the Maine Fertilizer Control and Agricultural Experiment Station, which had been established in 1885.

Graduate instruction has been given by various departments for many years. The first master's degree was conferred in 1881 and the first doctor's degree in 1960. Since 1923 graduate work has been a separate division in charge of a dean.

Beginning in 1895, a Summer Session has usually been held each year. The former six-week program was extended to nine weeks in 1961 and to 12 weeks in 1962. This session is designed for teachers, school administrators, and for college students who desire to accelerate their work.

The institution has been served by the following presidents: The Rev. Charles Frederick Allen, Dr. Merritt Caldwell Fernald, Dr. Abram Winegardner Harris, Dr. George Emory Fellows, Dr. Robert Judson Aley, Dr. Clarence Cook Little, Dr. Harold Sherburne Boardman, and Dr. Arthur Andrew Hauck.

Organization of the University—The University is controlled by a Board of Trustees. Eight members are appointed by the Governor of the State, with the advice and consent of the Council, for a term of seven years. Two members are ap-

GENERAL INFORMATION

pointed for three years by the Governor upon the nomination of the General Alumni Association. The Commissioner of Education is ex officio a member of the Board. The Board of Trustees has supreme authority in all matters pertaining to the University, and all policies applying to the University as a whole must be approved by the Board. Administrative units of the University include the Colleges of Life Sciences and Agriculture, Arts and Sciences, Education, and Technology; University of Maine in Portland; School of Law in Portland; Graduate Study, Summer Session, Cooperative Extension Service, Maine Agricultural Experiment Station, Maine Technology Experiment Station, Continuing Education Division, and Department of Industrial Cooperation. Each division regulates those affairs which concern itself alone.

THE COLLEGE OF LIFE SCIENCES AND AGRICULTURE offers programs leading to the Bachelor of Science degree in the following fields: Agricultural Business and Economics, Agricultural Engineering (jointly with the College of Technology), Animal Sciences, Bacteriology, Biochemistry, Biology, Botany, Entomology, Forestry, Home Economics, Plant and Soil Sciences, and Wildlife Management. It also offers two-year courses in Pre-Veterinary, Pre-Dairy Manufacturing, and Pre-Food Processing, a two-year technical training program, short courses, and annually holds Farm and Home Week.

THE COLLEGE OF ARTS AND SCIENCES offers curricula in an approved field of concentration or in any of the following subjects: Business Administration, Business and Economics, Chemistry, English, Geology, Government (option in Public Management), History, International Affairs, Journalism, Mathematics, Medical Technology, Music, Nursing, Philosophy, Physics, Psychology, Romance Languages, Sociology, Speech, Theatre, and Zoology.

THE COLLEGE OF EDUCATION offers during the academic year and its Summer Session program professional training for prospective elementary and secondary school teachers, principals, guidance counselors, physical education instructors, and school supervisors. The degree of Bachelor of Science in Education is given to those who have successfully completed the requirements for the degree.

THE COLLEGE OF TECHNOLOGY offers curricula in Agricultural Engineering (jointly with the College of Life Sciences and Agriculture), Chemical Engineering, Pulp and Paper Technology, Pulp and Paper Management, Pulp and Paper Computer Technology, Chemistry, Civil Engineering, Electrical Engineering, Engineering Physics and Mechanical Engineering.

THE UNIVERSITY OF MAINE IN PORTLAND offers basic programs in the Colleges of Life Sciences and Agriculture, Arts and Sciences, Education, and Technology. Curricula covering work of the first two years are available in the College of Arts and Sciences and Education, however, students enrolled in the School of Business Administration may complete all their work for a degree on the Portland campus. Transition to the Orono campus at the end of the first year is necessary for those students who wish to continue programs in the College of Life Sciences and Agriculture, Technology, or in certain preprofessional programs.

THE FACULTY OF GRADUATE STUDY offers programs of study leading to the degrees of Master of Arts, Master of Arts in Teaching, Master of Arts in Teaching (Foreign Language), Master of Science, Master of Science in Agriculture, Master of Business Administration, Master of Science in Engineering, Master of Education, and Doctor of Philosophy. The doctoral program is offered in the fields of animal nutrition, chemical engineering, chemistry, American history,

UNIVERSITY OF MAINE CENTENNIAL

plant science, general-experimental psychology, and zoology. The professional degree of Forest Engineer is granted upon completion of the appropriate requirements.

THE SUMMER SESSION offers a wide variety of academic and educational courses on both the elementary and secondary level. College students by enrolling in selected subjects can accelerate graduation. For teachers and school administrators there are workshops in elementary and secondary education as well as numerous other courses and conferences especially designed for those engaged in the teaching profession.

THE COOPERATIVE EXTENSION SERVICE is an educational agency representing the University of Maine and the U. S. Department of Agriculture. Educational and informational assistance in a broad range of subjects in or related to agriculture and home economics is provided to individuals, families and organized groups in rural and urban areas of the state.

County Extension Associations are the sponsoring organizations of the Extension program in each county. They function under the leadership of an Executive Committee with the assistance of local committees organized in nearly 500 Maine communities.

Extension Service personnel includes state and area specialists, administrative staff, and Extension agents. The latter, which make up the major part of the staff, are located in each county, usually at the county seat, and carry out work with the assistance of specialists in agriculture, home economics, 4-H and other youth education, resource development, and public affairs education. Extension agents also provide general information about other programs and services of the University of Maine and the U. S. Department of Agriculture in serving the people of Maine.

THE MAINE AGRICULTURAL EXPERIMENT STATION maintains its offices and principal laboratories at Orono. Experimental farms include Highmoor Farm at Monmouth, Aroostook Farm at Presque Isle, Chapman Farm at Chapman, and Blueberry Hill Farm at Jonesboro.

THE MAINE TECHNOLOGY EXPERIMENT STATION, established in 1915, carries on practical research in engineering subjects, makes investigations for various state and municipal departments, and on request furnishes scientific information to industries. Research is conducted in the fields of geology and chemical, civil, electrical, and mechanical engineering. The Station maintains offices and laboratories in Boardman Hall and is under the control of the Dean of the College of Technology and the heads of the departments of that college.

THE DEPARTMENT OF INDUSTRIAL COOPERATION is the liaison office between: (1) University departments and (2) outside agencies sponsoring University research work. The department is located in Boardman Hall and is administered by the Dean of the College of Technology.

Buildings — The following are dormitories and dining facilities:

ANDROSCOGGIN HALL (1963), capacity 248. Named for the county having the sixth largest number of regular full-time students enrolled at the University at the time of its construction.

AROOSTOOK HALL (1963), capacity 179. Named for the county having the fifth largest number of regular full-time students enrolled at the University at the time of its construction.

BALENTINE HALL (1914-1916), capacity 107. Named in honor of the late Elizabeth Abbott Balentine, secretary and registrar of the University, 1894-1913.

GENERAL INFORMATION

CHADBOURNE HALL (1948), capacity 156. Named for Dr. Ava Harriet Chadbourne, Professor Emerita of Education.

COLVIN HALL (1930), capacity 48. Named in honor of the late Caroline Colvin, Professor Emerita of History and Government and the first dean of women at the University. It became a cooperative dormitory for women in 1961.

CORBETT HALL (1947), capacity 228. Named in honor of the late Lamert Seymour Corbett, formerly professor of Animal Industry and Dean of Men.

CUMBERLAND HALL (1961), capacity 260. Named for the county having the second largest number of regular full-time students enrolled at the University at the time of its construction.

DUNN HALL (1947), capacity 228. Named in honor of the late Charles John Dunn, formerly Chief Justice of the Supreme Judicial Court of Maine and Treasurer of the University from 1909 to 1923.

ESTABROOKE HALL (1940), capacity 172. Named in honor of the late Kate Clark Estabrooke, a former superintendent of the first women's dormitory, the Mount Vernon House.

GANNETT HALL (1959), capacity 260. Named in honor of Registrar Emeritus James Adrian Gannett.

HANNIBAL HAMLIN HALL (1911), capacity 89. Named for the late Hon. Hannibal Hamlin of Hampden and Bangor, the first president of the Board of Trustees.

HART HALL (1955), capacity 233. Named in honor of the late James Norris Hart of Orono, Dean of the University and Professor of Mathematics and Astronomy.

KENNEBEC HALL (1961), capacity 180. Named for the county having the third largest number of regular full-time students enrolled at the University at the time of its construction.

OAK HALL (1937), capacity 96. Named for the late Hon. Lyndon Oak of Garland, a long time member and president of the Board of Trustees.

PENOBSCOT HALL (1960), capacity 180. Named for the county having the largest number of regular full-time students enrolled at the University at the time of its construction.

EAST COMMONS (1963) is a dining hall having a capacity for serving 800 persons, cafeteria style. This dining hall serves Androscoggin, Cumberland and Gannett Halls.

WEST COMMONS (1958) is a dining hall having a capacity for serving 1500 persons, cafeteria style. This dining hall serves Corbett, Dunn, Hannibal Hamlin, Hart and Oak Halls.

THE UNIVERSITY CABINS (1945), capacity 42 men students. These are cooperative units.

STODDER HALL (1956), capacity 170. Named in honor of the late Mrs. Anne E. Stodder of Bangor, a benefactress of the University. Its dining hall serves 700 students.

YORK HALL (1962), capacity 260. Named for the county having the fourth largest number of regular full-time students enrolled at the University at the time of its construction. Its dining hall serves 700 students.

UNIVERSITY PARK (1961) is a family housing development which provides apartments for 120 families (24 three-bedroom, 48 two-bedroom and 48 one-bedroom apartments).

UNIVERSITY OF MAINE CENTENNIAL

The following are used mainly for administration and instruction.

AGRICULTURAL ENGINEERING BUILDING (1938) houses the Agricultural Engineering Department and its laboratories for teaching and research.

ALUMNI HALL (1901) contains administrative offices, the studio for Educational Television, and the Little Theatre. It received its name because of contributions made by alumni to supply a part of the funds for its erection.

ALUMNI MEMORIAL, consisting of an Indoor Field, Armory, and Gymnasium, was erected as a memorial to the Maine men who died in the service of their country in the Spanish-American War and World War I and is the gift of alumni, students, faculty, and friends of the University. The Indoor Field (1926), one of the largest in the country, provides ample facilities for indoor track, winter baseball practice, and military drill. The Armory (1926) houses offices and classrooms of the military unit, including an indoor rifle range. The Gymnasium (1933) contains the offices of the Department of Physical Education and Athletics, equipment and rooms for handball, boxing, wrestling, and corrective exercise, shower and locker rooms, and an auditorium with a seating capacity of approximately 3,000, used for basketball, lectures, student assemblies, banquets, and dances.

AUBERT HALL (1914) houses the Departments of Chemistry and Chemical Engineering, including the Pulp and Paper Division. It was named in honor of the late Alfred Bellamy Aubert, professor of chemistry from 1874 to 1909. A wing was added in 1940 to increase the facilities in Chemical Engineering and the Pulp and Paper Division. Two additional wings were added in 1958 to provide more facilities for Chemistry and Chemical Engineering including the Pulp and Paper Division. The Gottesman Computer and Analysis Laboratory is located in this building.

BARROWS HALL (1963) contains offices, classrooms and laboratories for the Department of Electrical Engineering. It was named for the late William Edward Barrows, formerly professor and Head of the Department of Electrical Engineering.

BOARDMAN HALL (1949) houses the Department of Civil Engineering including Geology and Sanitary Engineering, Department of Mechanical Engineering, Technology Experiment Station laboratories, Department of Industrial Cooperation, and office of the Dean of the College of Technology. It was named in honor of President Emeritus Harold Sherburne Boardman.

CARNEGIE HALL (1948), the former library building erected in 1906 through the generosity of Andrew Carnegie, is now devoted to the Departments of Arts and Music. It was named in honor of the original donor.

COBURN HALL (1888) houses the Department of Zoology. It was named for the late Hon. Abner Coburn, a former president of the Board of Trustees and benefactor of the University.

COLLEGE OF EDUCATION BUILDING (1961) contains facilities for the College of Education and, on the top floor, for the Department of Mathematics of the College of Arts and Sciences. The Audio-Visual Service, Placement Bureau, and laboratories for teacher training, including closed-circuit television, are located in this building.

CROSBY LABORATORY (1928) contains the laboratories of the Department of Mechanical Engineering. It was named for the late Hon. Oliver Crosby, Class of '76, who bequeathed \$100,000 for its construction.

DEERING HALL (1949) contains the Departments of Agronomy, Botany,

GENERAL INFORMATION

Entomology, Forestry, and Horticulture, also part of the facilities for the Agricultural Experiment Station and the Cooperative Extension Service. It was named in honor of Dr. Arthur L. Deering, Dean Emeritus of Agriculture, who served the University from 1912-1957.

EAST ANNEX (1947) houses the Department of Engineering Graphics, Wildlife Conservation, Offices of Student Aid, and provides classroom and offices for the several colleges. The building, formerly a unit of the Naval base at Sanford, was erected on the campus by the Bureau of Community Facilities of the Federal Works Agency.

FERNALD HALL (1870) the oldest building on the campus, contains offices and classrooms used by the Department of Journalism and editorial offices of "The Maine Campus" until they are moved to Lord Hall in 1964. The building also contains a University snack bar.

FOGLER LIBRARY (1941-47) was erected and furnished with the aid of a fund-raising campaign by alumni, faculty, students and friends of the University. The completion in 1950 of the main reading room has increased the seating capacity of the library to 570, and made possible the utilization of the science and technology room for the purpose it was originally planned. In this building are located the Louis Oakes Room, designed for exhibits and to serve the needs of small group meetings; the Joseph P. Bass Room, comfortably furnished for recreational reading; and reading rooms for education and for the use of reserved books. The Library was named in 1962 in honor of Dr. Raymond H. Fogler, a former president of the Board of Trustees.

HAUCK AUDITORIUM (1963) was erected and furnished with the aid of a fund-raising campaign by alumni, faculty, students and friends of the University. It contains an auditorium providing seating for 600 persons, stage facilities and the University Store. It was named in honor of Dr. Arthur A. Hauck, President Emeritus, who served the University as president from 1934 to 1958.

HITCHNER HALL (1959) contains offices, laboratories, and classrooms for the Departments of Animal Pathology, Bacteriology, Biochemistry, and Poultry science for programs in instruction, research, and extension. It was named for Dr. E. Reeve Hitchner, Professor Emeritus of Bacteriology.

HOLMES HALL (1888) is used by the Maine Agricultural Experiment Station for its administrative offices, and Departments of Chemistry and Food Science. It received its name from the late Dr. Ezekiel Holmes, writer, editor, and pioneer in Maine agriculture.

LENGYEL HALL (1963) contains offices, classrooms and a gymnasium for the Department of Physical Education, women. It was named for Helen Anna Lengyel, Professor Emerita of Women's Physical Education.

LORD HALL (1904) contains offices and laboratories for the Maine Cooperative Fisheries and the remainder of the building is to be renovated to provide classrooms and offices for the Departments of Journalism and Music and to provide offices and interview rooms for the Department of Student Aid. It was named for the late Henry Lord, a former President of the Board of Trustees.

MEMORIAL UNION (1953) is a memorial to the University of Maine men who died, and a tribute to all who served, in World War II. It is the gift of alumni, students, non-alumni faculty, and friends. This Union is the center of student activities and recreational programs on the campus. It has a Memorial Room, meeting rooms, lounges, offices, snack bar, and game room. Bowling alleys, offices for the director of Religious Affairs and for student organizations, a

UNIVERSITY OF MAINE CENTENNIAL

faculty-alumni lounge and dining room to serve the University community, and additional meeting rooms were added in 1961.

MERRILL HALL (1931) is used for work in Home Economics. It was named for the late Dr. Leon S. Merrill, dean of the College of Agriculture from 1911 to 1933.

PHYSICS BUILDING (1959) contains offices, classrooms, and laboratories for the Department of Physics.

ROGERS HALL (1928) houses administrative offices of the Department of Animal Sciences and contains research laboratories in animal nutrition and related work. It was named in honor of Dr. Lore A. Rogers, Class of '96, chief of research laboratories (retired), Bureau of Dairy Industry, U. S. Department of Agriculture.

STEVENS HALL (1924), with two wings constructed in 1933, supplies accommodations for the larger part of the work of the College of Arts and Sciences. It was named in honor of the late Dr. James S. Stevens, for many years dean of the College of Arts and Sciences.

WINGATE HALL (1892) contains offices and a classroom, the office of the Director of Admissions, the office of the Registrar and Director of Student Service, the office of the Director of the School of Nursing, quarters for the Data Processing Center, and the University Planetarium. It was named for the late William P. Wingate, a former president of the Board of Trustees.

WINSLOW HALL (1909) is used by the College of Life Sciences and Agriculture, the Cooperative Extension Service, and the Department of Public Information and Central Services. It was named for the late Edward B. Winslow, a former president of the Board of Trustees.

Other buildings include the Horticultural Greenhouses, Dairy Barns and Milk House, Federal Office Building, Poultry Buildings, Stock Judging Pavilion, Mechanical Engineering Shops, Agricultural Engineering Shop Building, Observatory, Infirmary, University Press, Home Management House, the Central Heating Plant, the President's House, several residences occupied by faculty members, and various farm buildings.

UNIVERSITY OF MAINE IN PORTLAND.—Please see section on University of Maine in Portland for list of the buildings at that campus.

FRATERNITY HOUSES.—The following fraternities have houses on or near the campus: Beta Theta Pi, Delta Tau Delta, Kappa Sigma, Lambda Chi Alpha, Phi Kappa Sigma, Sigma Chi, Sigma Nu, Theta Chi, Phi Eta Kappa, Alpha Gamma Rho, Alpha Tau Omega, Phi Gamma Delta, Phi Mu Delta, Tau Epsilon Phi, Tau Kappa Epsilon, and Sigma Phi Epsilon.

Residence and Dining Halls.—The rooms in Androscoggin, Aroostook, Balentine, Chadbourne, Estabrooke, Kennebec, Penobscot, Stodder, and York Halls accommodate one or two students each. In general, rooms in the north section of Hannibal Hamlin, Oak, Corbett, Cumberland, Dunn, Gannett, and Hart Halls will accommodate two students each; and those in the south section of Hannibal Hamlin Hall, four students each. The rooms in Colvin Hall, the cooperative dormitory for women, accommodate two or four students each. Selection for this dormitory is based on financial need, cooperation, and satisfactory scholarship. The University Cabins will each accommodate four men students.

Dining facilities in Stodder and York Halls serve their residents as well as

GENERAL INFORMATION

students living in Aroostook, Balentine, Chadbourne, Estabrooke, Kennebec, and Penobscot Halls. Colvin Hall has its own dining room operated by residents in the dormitory. Two separate dining halls, East Commons and West Commons, serve Corbett, Dunn, Hannibal Hamlin, Hart, and Oak Halls; and Androscoggin, Cumberland, and Gannett Halls, respectively. Residents in the University Cabins prepare their own meals on facilities provided in each building.

Men assigned to the dormitories are expected to reside within the dormitory system for the complete semester unless relations with the University are terminated or permission is granted by the Housing Office for a student to withdraw to live elsewhere. This permission is granted only in unusual circumstances. No refund of room and board charges will be made to a student leaving the dormitory system without prior permission from the Housing Office for such a move. Established dormitory regulations are to be observed at all times.

Students will furnish towels, pillows, and blankets. Dormitory residents are furnished bed linen each week without extra charge.

Dormitories will be closed to students during scheduled recess periods.

Undergraduate women not living at home are required to live in one of the women's dormitories. In exceptional circumstances, other arrangements may be approved upon application to the Dean of Women.

All men students who are members of the freshman class and who do not live at home are required to live in a University dormitory, except that the Dean of Men may authorize off-campus residence in exceptional cases.

Residents of dormitories are assigned to specific dining halls for their meals, except for the noon meals Monday through Friday when they may eat in the dining hall of their choice.

Athletic Facilities—The University's facilities for athletics and physical education include the Memorial Gymnasium, the Memorial Indoor Field House, the Helen A. Lengyel Gymnasium, outdoor hockey rink, and numerous athletic fields.

The athletic fields for men include 10 tennis courts, two baseball fields, a football stadium, football practice fields (one of which is illuminated for evening practice), a quarter-mile cinder track, a 220-yard straightaway, hammer and discus fields, fields for intramural sports, a two-mile-and-a-half cross country course, a four-mile cross country course, skiing facilities, and a skating rink.

The Helen A. Lengyel Gymnasium has two large floors which are used by the department for intramural activities in team and individual sports, recreational games, and club activities, as well as for classes. The building includes an indoor archery range, a first aid room, and a remedial gymnasium, which is also used for folk, modern, and square dancing classes.

The women's athletic field is located at the south end of the campus near the women's residences. It has a hockey field, practice area and an archery range. In season, the field is also used for soccer, speedball, and softball.

University Farms—The University farms include approximately 900 acres of land used primarily for a dairy operation. One farm adjoins the campus; others are located in the Stillwater section of Old Town.

The campus farm includes a modern dairy barn housing an outstanding herd of registered dairy cattle representative of the leading breeds. A sizable poultry laying flock and a flock of sheep are also maintained on the campus farm. A herd of registered beef cattle located off campus is also a part of the total farm operation.

UNIVERSITY OF MAINE CENTENNIAL

The farms serve several purposes. They are utilized for student instruction, as laboratories for agricultural courses, and as demonstration projects for Extension programs. Research projects are continuously in progress in various segments of the operation. Milk and eggs produced on the farm are utilized by the University dormitory system.

University Forest—The University forest, totaling 1,750 acres and located in the Stillwater-Old Town area, is administered by the School of Forestry for student instruction, project demonstration, and research. An additional two acres are operated as a forest nursery. Indian Township, a tract of 17,000 acres, is managed by the School of Forestry for summer instructional purposes. Headquarters for the summer training program is the Robert I. Ashman Forestry Camp on Long Lake, near Princeton.

The University Computing Center in Aubert Hall provides digital computing facilities and service for the instructional, research, and consulting needs of University students and faculty. Courses in computer programming are offered by the Department of Mathematics and Astronomy, the Department of Business and Economics, and the College of Technology. Complete computing service is provided to students and faculty doing research and consulting work, but the facilities are also made available to persons who wish to do their own programming and machine operation.

The Center is equipped with an IBM 1620 digital computer with a 40,000-position memory and card input/output, an IBM 407 accounting machine, and other peripheral equipment.

The Libraries—The University Libraries attempt to serve the intellectual needs of students and faculty and to stimulate the use of books both for research and recreational reading. The Libraries contain about 370,000 books and pamphlets and receive some 2,000 periodicals in three divisions. They are the regional depository for northern New England for U. S. Government publications and have a file of maps of the Army Map Service. They extend these resources to other libraries through the interlibrary loan service, to visiting scholars, and to graduates of the University whenever they can do so without interference with local needs. Periodical articles and similar materials not available for lending may often be photocopied, subject to copyright regulations.

The University of Maine Art Collection—The University of Maine Art Collection in Carnegie Hall contains materials depicting the history of art through all ages. More than 10,000 photographs, color reproductions, and slides of art masterpieces are available to students and faculty for study and loan. Through generous gifts in recent years the collection has been augmented by some 1,000 original sculptures, paintings, and graphic arts by outstanding American artists: Inness, Homer, Hassam, Marin, Hartley, Sprinchorn, Kienbusch, Wyeth, Pleissner, Kingman, Peirce, Hamabe, Langlais, and others. Many of these items are hung in public areas throughout the campus.

The University of Maine Program of Exhibitions—Throughout the academic year, the Department of Art presents, each month, six different art exhibitions: three in Carnegie Hall, and one each in the Oakes Room, Library, the lobby of the Memorial Union Building, and the lobby of Alumni Hall. These exhibits, open without charge, display only original art, with special preference given to professional artists and craftsmen living or working in Maine. All inquiries about these exhibits should be addressed to Professor Vincent A. Hartgen, Head of the Department of Art.

GENERAL INFORMATION

Scientific Collections—The following collections are located on the campus:

BOTANY—The herbarium in Deering Hall includes several collections, the most important of which is the one made by the late Rev. Joseph Blake and presented to the University by Mr. Jonathan G. Clark, of Bangor. The late Professor F. L. Harvey left to the herbarium the general collections accumulated during his connection with the University. Other important collections are Collins's Algae of the Maine Coast, Halsted's Lichens of New England, Halsted's Weeds, Ellis and Everhart's North American Fungi, Cook's Illustrative Fungi, Underwood's Hepaticae, Cummings and Seymour's North American Lichens, and Bartholomew's Fungi Columbiana.

The herbarium has been enriched recently by the personal collections of Mrs. Frank Hinckley, Helen Paine Scoullar, Charles Curtis, Henry Wilson Merrill, Maynard Quimby, Louise Coburn, Sue Gordon, Ralph C. Bean, George B. Rossboch, and K. P. Jansson. Numerous Centuries of Plantae Exsiccatae Grayanae are significant additions. Fifty thousand herbarium sheets are available.

Approximately three acres of land extending southward from the Heating Plant and between the Forest Nursery and the Stillwater River were assigned to the Department of Botany for the establishment of a Botanical Plantation in the autumn of 1934. The first three plantings were made in conjunction with Maine Day of 1935. At present, more than 300 species of trees and shrubs have been introduced. Many species of ferns and flowering plants have also been included.

ENTOMOLOGY—A small area partly enclosed by trees of the Botanical Plantation and near the southern boundary of the Forest Nursery forms a site for a small University Apiary. This Apiary has approximately five colonies which are used for pollination studies.

The Edith M. Patch aphid collection, housed in Deering Hall, is one of the outstanding aphid collections in North America. It is a major portion of the insect collection maintained by the University for reference purposes in dealing with inquiries concerning insect pests sent in by citizens of Maine.

GEOLOGY—The geological collections of minerals, rocks, and fossils are housed in Boardman Hall. One case containing mineralogical specimens is located in the Agricultural Engineering Building.

ZOOLOGY—These collections in Coburn Hall consist of a working collection of bird skins, a display of bird mounts, and a study collection of various other groups of both vertebrates and invertebrates. The Anson Allen collection of Invertebrates and of Maine Birds, presented by Mrs. Mattie Munson, and the Eckstorm Collection of birds, presented by Mrs. Fannie H. and Mrs. P. F. Eckstorm, form an important part of the whole.

Planetarium—A Planetarium, operated under the supervision of the Department of Mathematics and Astronomy, is located on the second floor of Wingate Hall. The Planetarium is used in connection with courses in astronomy but is also open to the public. Groups may visit by making arrangements in advance through the Department of Mathematics and Astronomy.

University Publications—The following are included in the various bulletins and reports regularly issued by the University:

UNIVERSITY OF MAINE BULLETIN is issued 24 times a year to give information to students, faculty, alumni, and the general public.

UNIVERSITY OF MAINE STUDIES, SECOND SERIES, consists of research studies by members of the faculty and graduate students, published under the direction of the Faculty of Graduate Study. A price list may be obtained from the Bulletin

UNIVERSITY OF MAINE CENTENNIAL

Room, Winslow Hall. Orders and exchanges should be sent to the Bulletin Room.

AGRICULTURAL EXPERIMENT STATION PUBLICATIONS include bulletins, miscellaneous publications, and miscellaneous reports in which are contained the results of research studies; and Official Inspections which contain the results of inspection of feeding stuffs, fertilizers, agricultural seeds, fungicides and insecticides, and foods and drugs. A report of progress is issued quarterly as *Maine Farm Research*. A free copy of each publication is available upon request.

COOPERATIVE EXTENSION SERVICE BULLETINS AND CIRCULARS are issued by the Cooperative Extension Service on a wide variety of subjects relating to agriculture, home economics, and 4-H clubs. Maine residents may secure a list of available bulletins and circulars upon request.

THE MAINE ALUMNUS, an illustrated magazine of campus and alumni news published seven times during the college year, is sent to former students of the University who subscribe, and to those making donations to the Annual Alumni Fund.

THE UNIVERSITY OF MAINE LAW REVIEW is a continuation of the former *Maine Law Review* last published in 1920. It was revived as a student activity in 1962.

Student publications are described in a section of this catalog called "Student Activities."

The Coe Research Fund—The Trustees of the University have set aside the sum of \$100,000 to form a permanent fund, the income to be used by the faculty for carrying on various kinds of research work. Applications for grants from this fund should be addressed to the Secretary, Coe Research Fund Committee.

Placement Bureau—A University Placement Bureau was established in 1935 in cooperation with the General Alumni Association. Its services are available to graduating students and alumni of the University seeking employment in teaching and non-teaching fields.

Purposes of the Placement Bureau are: (1) to counsel and assist students and alumni seeking employment; (2) to refer suitable employment opportunities to registered students and alumni; (3) to cooperate with employers in developing more effective employment for University men and women and in locating new fields of opportunity. For teaching positions guidance is given to prospective candidates in compiling essential credentials. Service is rendered to presently employed teachers in maintaining continuous records of achievement to facilitate professional advancement. No charge to students, graduates, or employers is made. The Bureau also offers assistance to students in securing employment during the summer vacation.

Office of Student Aid—The Office of Student Aid receives applications for student aid including part-time employment, scholarships, University loans, and loans under the National Defense Education Act. Detailed information on student aid will be found on pages 35, 42, 43 and 48.

Health Service—The University Health Service is organized and operated for the benefit of students. Supervision of medical care and health needs afforded by a family physician is the goal of this program. Insofar as possible, all aspects of a personal doctor-patient relationship are preserved. The following services are offered at no charge to the student:

1. Twenty-four-hour emergency care, including weekends when the University is in session; emergency visits by the physician when necessary.

GENERAL INFORMATION

2. In-patient care in the Infirmary as needed, including physician visits, nursing care, medicines, and diagnostic tests.
3. Consultations with staff physicians and surgeons for diagnosis and treatment during regular clinic hours.
4. Limited dispensing of medicines on an out-patient basis.
5. Routine immunization, allergy injections, etc.
6. Limited diagnostic laboratory tests, x-rays, and physical therapy.
7. Follow-up examinations for various athletic activities, pre-employment physical examinations, and other routine physical examinations.
8. Coordination of the Health Insurance Program to insure maximum benefits to the students when illness requires hospital treatment or consultation with physicians not on the Health Service Staff.
9. Supervision of the University environment to minimize exposure of students to health hazards.
10. A Mental Health Section, under the direction of a clinical psychologist, provides evaluation and therapy for students with personal and emotional problems. Treatment is offered for problems of long standing as well as those acute problems brought on by the pressures of University life. The length of therapy is dependent upon the needs of the student.

To meet these goals, the Health Service maintains a 25-bed Infirmary, a medical staff of three physicians, two of whom are full-time employees of the University, a clinical psychologist, and adequate nursing and technical help.

No major steps in health care of individual students are undertaken without consultation with the student's parents except in extreme emergency cases when the parents cannot be located.

Office of Religious Affairs—The Office of Religious Affairs consists of a Committee on Religious Affairs and a Director of Religious Affairs.

The Committee on Religious Affairs serves as the policy making group in the area of religion at the University of Maine. It oversees the activities of the Student Religious Association and functions as the official body through which the religious foundations serving the Maine campus are related to the administration of the University.

The Director of Religious Affairs, whose office is on the second floor of the Memorial Union, serves as adviser to the Student Religious Association and counselor to students. As administrator of the Office of Religious Affairs, he works toward coordination among the faith groups and between these groups and the University, and seeks to underline the religious dimension of the University.

Use of Laboratory Apparatus—Many laboratory courses involve instruction in and the use of various types of power equipment and laboratory apparatus. The University takes every precaution to provide competent instruction and supervision of such courses. It is expected that students will cooperate by following instructions and exercising precaution. In case an accident does occur, resulting in personal injury, the University can assume no responsibility except for medical care that is provided by the Student Health Service. Student Health and Accident Insurance is recommended.

Registration—Undergraduates will register in accordance with the following:

FRESHMEN—All members of the incoming freshman class are required to attend the period known as Freshman Week. The dates are announced in the calendar in the front of the catalog. This period will be devoted to tests whereby the University authorities may obtain accurate information concerning the type

UNIVERSITY OF MAINE CENTENNIAL

and degree of mental qualifications of the new students, and to lectures and conferences by which the students may be more intelligently informed of the University and its customs.

About August 1 parents of each candidate admitted will receive from the Registrar's office a letter giving detailed instruction about arrangements for Freshman Week. Parents of candidates admitted after August 1, will receive the information at the time the candidate is admitted to the University.

UPPERCLASSMEN—In the fall, upperclassmen will be required to register by mail prior to, or in person on, the day specified or to present written evidence that they have been allowed by their dean to register late. Upperclassmen must communicate in advance with the dean of their college giving their reason for wishing to register late, and have received from him written permission to do so. In the event of an unusual circumstance wholly beyond the control of the student, and occurring just prior to the opening of the fall term, the student may present his case in person to the dean upon his arrival at the University.

Academic advisers are assigned all students for help in planning their educational programs, to ensure their meeting graduation requirements, for counsel and guidance in academic work, and for advice about study or classwork problems. The final responsibility for fulfilling degree requirements, however, rests with each student.

Degrees—The degree of Bachelor of Arts (B.A.) with specification of the major subject, is conferred upon students who complete a curriculum in the College of Arts and Sciences, except students in Business Administration and Nursing.

The degree of Bachelor of Science (B.S.) in the curriculum pursued is conferred upon students who complete the prescribed work of four years in the College of Life Sciences and Agriculture or Technology, or in Business Administration and Nursing in the College of Arts and Sciences.

The degree of Bachelor of Science in Education (B.S. in Ed.) is conferred upon students who complete the prescribed work in the College of Education.

A minimum residence of one year is required for the attainment of any Bachelor's degree. This regulation refers to the senior year.

No student will be recommended for a degree who, having been reported to the Committee on Student's Use of English of his college, has failed to satisfy the requirements of the committee.

The degree of Master of Arts (M.A.), Master of Science (M.S.), Master of Arts in Teaching (M.A.T.), or Master of Education (M.Ed.) is granted for one year's graduate work completed with distinction. The degree Master of Business Administration (M.Bus.Ad.) is offered at the Portland campus through a Continuing Education Division program of courses.

The Doctor of Philosophy degree (Ph.D.) is offered in animal nutrition, chemical engineering, chemistry, American history, plant science, psychology and zoology.

DEGREES WITH DISTINCTION are conferred at Commencement for the following attainments in rank:

Seniors having an average grade of 3.50 or above will be graduated with highest distinction, 3.25 to 3.49 with high distinction, and 3.00 to 3.24 with distinction if they meet the criteria listed below.

The average grade is based on the work of the first three and one-half years, which must include at the time of graduation three years of resident study at the

GENERAL INFORMATION

University of Maine. Candidates must have completed seven-eighths of the required hours at the end of the fall semester of the senior year. Candidates must take their senior year at the University of Maine.

DEGREES WITH HONORS, WITH HIGH HONORS, OR WITH HIGHEST HONORS are awarded to seniors who successfully complete the Honors program.

Grading System—Grades at the University are given in terms of letters. For this purpose the letters A, B, C, D, E, P, Abs., and Def. are used.

The meaning of these symbols is: A, high honors; B, honors; C, satisfactory, successful, and respectable meeting of the course objectives; D, low level passing work; E, failed; P, passed non-credit course; Abs., absent from examination; Def., deficient in some specific class activity. The term "Acceptable" is used in reporting on the completion of a Master's or Doctoral thesis. For purposes of comparison these letters carry the following arbitrary values for undergraduate students: A=4, B=3, C=2, D=1, E=0; for graduate students both D and E grades=0.

Each college sets its own graduation requirements in terms of grades or grade points.

A candidate for a Bachelor's degree must, (a) receive passing grades in all courses required by his major department; (b) accumulate the number of degree hours specified by the College in which he is registered; (c) achieve an accumulative average of not less than 1.80, except in the College of Education, which requires an accumulative average of not less than 2.00.

The degree hours are the sum of the course credit hours of those courses which may be counted toward a degree, provided a passing grade has been received.

The accumulative average is the quotient of the grade points divided by the total hours, carried to two decimal places. The grade points are the product of the course credit hours and the numerical value of the letter grade: A=4, B=3, C=2, D=1, E=0. The total hours are the sum of the course credit hours from all courses.

GRADE REPORTS are sent to the parents of freshmen at the middle and end of each semester and to the parents of sophomores, juniors, and seniors and graduate students at the end of each semester. Grade reports for the Summer Session are sent to the parents of all students from the University who are attending the Session.

Parents are notified whenever a student is placed on, continued on, or removed from probation. (This procedure is omitted in the case of veteran students who are of legal age.)

CREDIT HOUR—One credit hour is assigned to a class that meets 50 minutes a week over a period of a semester; or laboratory, field work, computation or other type of instruction that meets, in general, at least two hours a week or the equivalent thereof over a period of a semester. Semesters are approximately 17 weeks in length from the beginning until the close of classes.

Student Regulations—It is assumed that all students entering the University are willing to subscribe to the following: *A student is expected to show both within and outside the University, respect for order, morality, and the rights of others, and such sense of personal honor as is demanded of good citizens.*

The University requires certain standards of academic performance and of general good character for admission; if these are not maintained, the University suspends or dismisses the student. Every effort is made to provide ade-

UNIVERSITY OF MAINE CENTENNIAL

quate academic and personal counseling for all students, with the aim of enabling them to successfully complete their courses of study.

Freshmen are not permitted to have or operate motor vehicles at the University of Maine. This regulation prohibits a freshman from keeping an automobile on the campus or in Orono or vicinity. Students are expected to observe the spirit as well as the letter of the regulation and the cooperation of parents is solicited in the operation of the rule. Exceptions may be made by the Dean of Men or the Dean of Women in cases of freshmen who commute daily from their homes.

Upperclass students are allowed to have and to operate motor vehicles on the campus, but all such vehicles must be registered in the Office of the Dean of Men or Dean of Women and bear an official University sticker. There is a registration fee of \$1.00. In addition, evidence of automotive liability insurance must be shown.

Each student is expected to be present at every college exercise for which he is registered.

DISMISSAL AND SUSPENSION—Students may be dismissed or suspended from the University for unsatisfactory work (academic dismissal or suspension), for misbehavior (disciplinary dismissal or suspension), or for mental or physical health problems (administrative disenrollment). Dismissed students are ineligible to *apply* for readmission for one year from date of dismissal; suspended students may apply for readmission effective upon termination of suspension.

WITHDRAWAL—Students who desire to withdraw from the University for any reason must secure a withdrawal slip from the Registrar's Office and have it completed. Failure to do so may result in failing grades being recorded in all courses at the end of a semester. Additionally, withdrawal after the final date of the "withdrawal with penalty" period set by the University as detailed in student regulations, except for approved emergency reasons, will also result in failing grades.

DRINKING—The possession or use of intoxicating beverages is prohibited on the University of Maine campus and at all University functions whether held on or off the campus.

PHYSICAL EXAMINATION—The University requires that all entering students, freshman, transfer, graduate, and special, have a physical examination, tuberculin skin test and also chest X-ray if the latter seems indicated. Physical examinations and tuberculin tests as outlined above may also be required of readmission students.

Detailed information about the regulations affecting students is contained in a pamphlet entitled *The Maine Handbook* obtainable at the office of the Registrar.

Responsibility for Personal Property—*The University does not under any circumstances assume responsibility for loss of or damage to personal property through fire, theft, or other causes. Persons desiring protection against possible loss or damage should purchase appropriate insurance unless it is found that parents already have desired coverage by means of a family policy.*

THE UNIVERSITY HONORS PROGRAM

General—The University Honors Program is open to all qualified undergraduate students in the University. Its purpose is twofold: (1) to introduce students of high scholastic potential to the major areas of knowledge — mathematics and science, social studies, literature, philosophy, and the fine arts—

GENERAL INFORMATION

through individual reading and small group discussion; and (2) to develop their skills to as high a degree as possible in the field in which they choose to concentrate.

The program in the freshman and sophomore years is the same for all colleges and is administered by the Honors Council; its task is the orientation of the student to the broad perspectives of the academic world.

The programs for the junior and senior years vary somewhat from college to college and are administered by the Honors Committee of each college; their task is to sharpen and focus the student's abilities in his own field of specialization.

Content—Students who are designated as Distinguished Maine Students, as well as a limited number of other highly qualified students (see page 28), may begin Honors work in the fall semester of the freshman year in a seminar in which a limited number of books, chosen to cover the major intellectual disciplines, are discussed under the leadership of a faculty member. In the spring semester other qualified freshmen join the program. Honors work in that semester consists of a colloquium in which readings concerned with the seminal ideas of Western Civilization are discussed by students with a faculty leader. The sections of the freshman seminar and colloquium are limited to 12 to 14 students each.

During the sophomore year, Honors work is based on small group tutorials, each group consisting of no more than three students. Each group meets weekly with a tutor for the discussion of books and ideas from the Honors reading list. Every group does substantial reading in three or four major areas of thought each semester.

In the junior year the student begins his concentration in his major field. His work in Honors may be a course of study under tutorial supervision designed to acquaint him with his major field, or, at the option of his college Honors Committee, he may take an interdisciplinary seminar in one semester of the year.

For the senior year, a thesis or research project, within or closely related to his field of primary interest, is the major part of his Honors Program. A final comprehensive examination before a faculty board tests the student's accomplishments in both objectives of the program: breadth of knowledge and depth of specialization within his major field.

Degree—The degree of Honors awarded—Honors, High Honors, Highest Honors—depends upon three factors: the student's accumulative average over seven semesters; the quality of his senior thesis or project; his performance on the comprehensive examination. In order to receive a degree with Honors, a student must have a minimum of four semesters of work in the Honors Program, including both semesters of the senior year, and at least one semester of sophomore group tutorials.

Entry—Normally, entry into the Honors Program, except for Distinguished Maine Students and a few others, occurs at the start of the second semester in the freshman year. However, a substantial number of students are admitted at the beginning of the sophomore year, some at mid-years in the sophomore year, and a small number at the beginning of the junior year.

Admission—Students are recommended for the Honors Program by the Honors Committee of the college in which they are registered and admitted to the Freshman and Sophomore programs by the Honors Council. To be eligible

UNIVERSITY OF MAINE CENTENNIAL

for consideration for the Honors Program, a student should normally have a point average of 3.0 or better, have high C.E.E.B. test scores, and show curiosity, initiative, and intellectual flexibility in the work he has done. Students wishing to join the Honors Program should consult the secretary of their college Honors Committee: Agriculture, Associate Professor W. M. Bain, 256 Hitchner Hall; Arts and Sciences, Associate Professor R. B. Thomson, 205 East Annex; Education, Professor G. H. Davis, 132 Education Building; Technology, Professor R. C. Hill, 201 Boardman Hall; University of Maine in Portland, Assistant Professor J. Jaques, Payson Smith Hall.

Council—The University Honors Council, consisting of Vice President Peck, chairman, Professor Hill, Associate Professors Bain, Fink, Thomson, and Assistant Professor Jaques, administers the common program of the first two years and coordinates the work of the College Honors Committees. All questions in regard to the University Honors Program should be addressed to Associate Professor Thomson, 205 East Annex, Secretary of the Honors Council.

Descriptions of Honors courses will be found in the Arts and Sciences section of the catalog.

DISTINGUISHED MAINE STUDENTS PROGRAM

The Board of Trustees, in 1963, approved a program aimed at recognizing outstanding graduates of Maine secondary schools who are admitted to the University of Maine as regular, full-time students. Such students are designated as "Distinguished Maine Students." Recipients of this honor are selected primarily on the basis of three criteria: (1) outstanding preparatory school records; (2) strong potential as indicated by test scores, and (3) excellent personal recommendations from secondary school officials.

Students who are selected receive certificates of recognition from the University which are sent prior to the date of secondary school commencement. Each Distinguished Maine Student also receives a financial award equivalent to one semester's tuition. Larger awards may be made in some cases and are determined by the financial need of the student, as calculated by the Office of Student Aid. The secondary school from which each Distinguished Maine Student graduates is also notified of the student's selection for this honor.

Distinguished Maine Students, along with a few other highly qualified students, may enroll in a special first-semester seminar course during their freshman year. In this course students read a limited number of books, which are representative of the major fields of learning, and discuss them under the guidance of a faculty member. The seminar presents a unique opportunity for first-semester freshmen to participate in an unusual academic program.

A primary aim of the Distinguished Maine Students Program is to call attention to the academic accomplishments of talented Maine youth and to give these accomplishments suitable recognition. At the present time 50 students per year are selected for this honor. Recipients of the Distinguished Maine Student designation are selected by the Director of Admissions and the University Honors Council, acting jointly. Credentials of all applicants for regular admission are reviewed in the selection process; no special application is required or accepted.

STUDENT ACTIVITIES

Cooperative Government—The organizations through which cooperative government is affected are the following.

GENERAL INFORMATION

THE GENERAL STUDENT SENATE seeks to promote the general welfare of the student body and the best interests of the University. It is composed of representatives of various student organizations and resident groups, plus the four officers who are elected by vote of the students. The Senate is responsible for appointing student members of committees, campus elections, events such as Maine Day and for consideration of any business properly brought before it.

THE ASSOCIATED WOMEN STUDENTS, composed of all regularly enrolled under-graduate women, is organized to promote the welfare of the women students and to administer self-governing regulations. They belong to the New England Association of Women's Student Government associations as well as to the National Intercollegiate Association of Women Students.

Religious Affairs—Four major religious groups provide opportunities for worship, study, conversation, and witness: The Episcopal Church at the Maine campus for Episcopal students, Hillel Foundation for Jewish students, Maine Christian Association for Protestant students, and Our Lady of Wisdom Chapel and the Newman Apostolate for Roman Catholic students. The chaplains are available for counseling or instruction.

THE STUDENT RELIGIOUS ASSOCIATION, called "SRA," is the campus-wide religious organization promoting religiously motivated activities for the entire campus and for coordinating student activities among the four major religious groups serving the University community. The Association's most recent programs include the Religious Arts Festival, Brotherhood Week, emergency loan service, Book Mart, lectures, symposia, and "Dialogue on Campus." The SRA cabinet is responsible to the Committee on Religious Affairs of the University.

The churches and synagogues of Orono, Old Town, and Bangor always welcome the attendance of University students. A small meditation chapel next to the Office of Religious Affairs on the second floor of the Memorial Union is open at all times.

Scholastic Honor Societies—These groups recognize attainment and promise in the academic field by selecting for membership undergraduates whose accumulative point averages are not lower than 3.0 after completing five or more semesters of college work or 3.3 after completing less than five semesters. The date indicates when the chapter was established at the University.

PHI KAPPA PHI (1900)—All colleges.

TAU BETA PI (1911)—Engineering.

PHI BETA KAPPA (1923)—College of Arts and Sciences.

NEAI MATHETAI (1925)—Freshman Women.

OMICRON NU (1931)—Home Economics.

KAPPA DELTA PI (1932)—College of Education.

SIGMA XI (1948)—Scientific research.

Departmental Honor and Professional Honor Societies—These organizations elect undergraduates from those who have demonstrated superior scholarship in a particular departmental or professional field. Minimal scholastic membership requirements are lower than 3.0 accumulative average.

ALPHA ZETA (1906)—Agriculture.

ETA KAPPA NU (1961)—Electrical Engineering.

XI SIGMA PI (1917)—Forestry.

SIGMA PI SIGMA (1949)—Physics.

UNIVERSITY OF MAINE CENTENNIAL

Other Student Organizations—

a. Professional Societies—Many departments or divisions of the University sponsor an organization to bring together students having a common interest. Such clubs follow.

STUDENT BRANCH OF THE AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS.
STUDENT CHAPTER OF THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS.
STUDENT AFFILIATES OF THE AMERICAN CHEMICAL SOCIETY.
STUDENT BRANCH OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS.
BRANCH OF THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
BRANCH OF THE INSTITUTE OF RADIO ENGINEERS.
BRANCH OF THE AMERICAN HOME ECONOMICS ASSOCIATION.
BRANCH OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
PERSHING RIFLES—Military.
SCABBARD AND BLADE—Military.
STUDENT NATIONAL EDUCATION ASSOCIATION.
*STUDENT CHAPTER OF MUSIC EDUCATORS NATIONAL CONFERENCE.

b. Departmental Clubs:

AGRICULTURAL CLUB.	HOME ECONOMICS CLUB.
ANIMAL-DAIRY SCIENCE CLUB.	PHILOSOPHY CLUB.
ASSOCIATED NURSING STUDENTS.	PHYSICAL EDUCATION MAJORS.
COLLEGE 4-H CLUB.	PRESS CLUB—Journalism.
FORESTRY CLUB.	ROCK AND HAMMER—Geology.
FUTURE FARMERS OF AMERICA.	

The following organizations elect to membership students who have achieved distinction in the field represented:

NATIONAL	MAINE DEBATING COUNCIL—Forensics.
PI KAPPA DELTA—Forensics.	MAINE MASQUERS—Theatre.
LOCAL	MU ALPHA EPSILON—Music.
DEUTSCHER VEREIN—German.	SIGMA MU SIGMA—Psychology.

c. Additional Student Clubs and Associations:	
ALL-MAINE WOMEN	MEN'S CENTRAL DORMITORY COUNCIL
AMATEUR RADIO CLUB	MODERN DANCE CLUB
BIOLOGY CLUB	OCUMMO
BUSINESS CLUB	OFF-CAMPUS WOMEN
CIRCLE K CLUB	PANHELLENIC COUNCIL
INTERFRATERNITY COUNCIL	PUBLIC MANAGEMENT CLUB
INTERNATIONAL CLUB	SAILING CLUB
INTERVARSITY CHRISTIAN FELLOWSHIP	SENIOR SKULLS
INTRAMURAL ATHLETIC ASSOCIATION	SOPHOMORE EAGLES
MAINE BUSINESS CLUB	SOPHOMORE OWLS
MAINE OUTING CLUB	SQUARE DANCE CLUB
MATHEMATICS CLUB	WOMEN'S ATHLETIC ASSOCIATION
"M" CLUB	YOUNG DEMOCRATS CLUB
MEMORIAL UNION ACTIVITIES BOARD	YOUNG REPUBLICAN CLUB
MEN'S ATHLETIC ASSOCIATION	

* Preliminary approval granted.

Musical Organizations—Students have many opportunities to continue their musical training and experience, either through the degree programs in music

GENERAL INFORMATION

(details of these programs are listed under the College of Arts and Sciences, and the College of Education), or through participating in any one of the several organizations either for credit or non-credit. There are also smaller instrumental ensembles for the more advanced musicians.

For a description and course numbers of the following musical organizations, see the Music Courses listed in the College of Arts and Sciences section of this catalog.

UNIVERSITY BAND—This is a band of symphonic proportions which plays extensively throughout the school year. In the early fall it is a marching band which plays at the football games. The remainder of the year it is a concert band. In the spring the band makes a tour to high schools and communities of the state.

UNIVERSITY OF MAINE CHOROPHONIC SOCIETY—This is a chorus of one-hundred and fifty singers, which presents concerts of the larger choral works.

UNIVERSITY ORCHESTRA—This full symphony orchestra presents three or more concerts during the school year. The orchestra also assists in the presentations of the Chorophonic Society.

UNIVERSITY SINGERS—This group sings extensively on the campus throughout the year and because of its large size and versatility is able to present concerts in the communities and high schools over the state.

Maine Masque Theatre—As the University Theatre, it is an integral part of the academic and co-curricular program of the Department of Speech. The Theatre provides an opportunity for all students to participate in every aspect of theatrical production, including stage and house managing, lighting, costuming, acting, directing, publicity, scenery, properties, and make-up. As a contribution to the cultural growth of the University community, the Theatre offers productions which cover the full range of dramatic expression. Membership in the Maine Masquers, a local theatre honor society, may be gained through participation in the Theatre's program.

Debate and Forensics—The University forensic program provides opportunities for experience in debate, discussion, extemporaneous speaking, oral interpretation, and original oratory. The program, under the administration and supervision of the Department of Speech, is open to all undergraduate students. Representatives participate in extensive intercollegiate competition with major colleges and universities from the entire United States, as well as engaging in intramural programs on campus. Membership in the Maine Debating Council and Pi Kappa Delta may be obtained through participation in forensic activities.

Radio Station WMEB-FM—Students from the entire University have an opportunity, through working on Station WMEB-FM, to participate in all forms of radio broadcasting. WMEB-FM, operated with a faculty and a student staff, is an integrated part of the academic and co-curricula program of the Department of Speech. The varied programs of the station enable the student to gain valuable experiences in engineering, programming, announcing, and writing. Studios are located in 275 Stevens Hall.

Student Publications—The University's regular student publications are:
THE MAINE CAMPUS, a newspaper published weekly during the academic year.

THE PRISM, an illustrated annual sponsored by the junior class.

The Student Publication Committee, a joint faculty-student group, is the publishing board for all the University's student publications.

UNIVERSITY OF MAINE CENTENNIAL

Social Fraternities and Sororities—The following fraternities and sororities have chapters at the University, the figures in parentheses giving the dates they were established.

FRATERNITIES.—National: Beta Theta Pi (1879), Kappa Sigma (1886), Alpha Tau Omega (1891), Phi Kappa Sigma (1898), Phi Gamma Delta (1899), Sigma Alpha Epsilon (1901), Sigma Chi (1902), Theta Chi (1907), Delta Tau Delta (1908), Lambda Chi Alpha (1913), Sigma Nu (1913), Phi Mu Delta (1923), Alpha Gamma Rho (1924), Tau Epsilon Phi (1929), Sigma Phi Epsilon (1948), Tau Kappa Epsilon (1948). Local: Phi Eta Kappa (1906).

SORORITIES.—National: Alpha Omicron Pi (1908), Phi Mu (1912), Delta Delta Delta (1917), Pi Beta Phi (1920), Chi Omega (1921), Delta Zeta (1924), Alpha Chi Omega (1958), Alpha Phi (1963).

Admission

All correspondence concerning undergraduate admission and financial aid should be addressed to the Director of Admissions, Wingate Hall, University of Maine, Orono, Maine 04473. Maine students who desire to attend the University of Maine in Portland (see section of catalog devoted to University of Maine in Portland) should write to the Director of Admissions, University of Maine in Portland, 96 Falmouth Street, Portland, Maine 04103. All applications are filed at our Orono office.

ADMISSION TO THE FRESHMAN CLASS

The approval of candidates for admission is on a selective basis. The University is interested in candidates whose scholastic achievement, aptitudes, interests, character, health, and established study habits give definite promise of success in a senior college program. The University admits men and women, both residents of Maine and non-residents; it reserves the right to terminate admissions whenever the capacity of the University to care properly for the students has been reached.

The candidate is required to submit a carefully answered questionnaire concerning favorite studies, school activities, community interests, hobbies, choice of college course, choice of a life work, and other matters bearing upon preparation for a college course. This information is required so that the University may better guide the student in selecting courses of study best suited to his individual abilities, aptitudes, and interests. The principal, teachers, and adult acquaintances of the applicant may be asked to give confidential information regarding character, personality, school and community activities, and ability to pursue successfully a college course.

All candidates are required to submit the scores on the College Entrance Examination Board Scholastic Aptitude Test (S.A.T.), and the scores on three C.E.E.B. Achievement Tests. (See section concerning the C.E.E.B. Tests which follows.) Applicants for the Two-Year Technical Programs in the College of Life Sciences and Agriculture are not required to take the Achievement Tests.

Candidates for admission to the freshman class should file their applications in October or November of the year prior to the date they plan to begin their studies.

The required application forms (which are revised each year) may be obtained by writing to the Director of Admissions. A non-refundable application fee of \$10 is required of all applicants. Resident students must apply for admission prior to March 1 (non-resident students prior to February 1) for equal consideration with other candidates. Applications received after these dates will be considered only as classroom and dormitory capacities allow.

Candidates for the freshman class are normally accepted for the opening of the academic year in September. The priority of the housing assignment is based primarily upon the date of formal acceptance by the Committee on Admissions.

Certificates of admission issued prior to the completion of the current school year may be rescinded if the final report is unsatisfactory.

SCHOLASTIC APTITUDE AND ACHIEVEMENT TESTS

All candidates for admission are required to take the Scholastic Aptitude Test (S.A.T.) and three Achievement Tests administered by the College En-

UNIVERSITY OF MAINE CENTENNIAL

trance Examination Board. (Candidates for the two-year technical programs in the College of Life Sciences and Agriculture take the S.A.T. Test only.) Candidates are urged to take the December or January Aptitude Test. The Achievement Tests may be delayed until March of the senior year in high or preparatory school. The Achievement Tests should include English Composition (Level I [Standard] in Mathematics is also required of all engineering candidates) and two other tests of the candidates' choice, or as recommended by the Director of Admissions. High school juniors are encouraged to take achievement tests in *non-continuing* subjects on the May or July testing dates. Guidance counselors should be consulted prior to registering for such tests.

Arrangements to take the C.E.E.B. Tests should be made by writing to the College Entrance Examination Board, P. O. Box 592, Princeton, New Jersey, for application forms and information. *Arrangements must be made at least one month in advance of the testing date.*

The College Entrance Examination Board will administer tests on each of the following dates:

Saturday, December 5, 1964

Saturday, May 1, 1965

Saturday, January 9, 1965

Wednesday, July 14, 1965

Saturday, March 6, 1965

ADVANCE PLACEMENT

In certain subjects, candidates who have completed advanced work in secondary schools may apply for advanced placement and credit at the University of Maine. Candidates interested in advanced placement and credit must take the Advanced Placement Test, or Tests, administered by the College Entrance Examination Board. Each case will be considered individually on its own merits.

INFORMATION FOR VETERANS

Miss Elizabeth S. Reid, Assistant Registrar, is prepared to help former service men and children of deceased veterans with their educational plans. Any requests for information concerning veterans' educational privileges should be forwarded to the Registrar's Office, Wingate Hall, University of Maine, Orono, Maine 04473.

Former students of the University as well as prospective students should submit their applications for admission to the University to the Director of Admissions. Applications for a Certificate of Eligibility should be made at a Regional V.A. Office.

SPECIAL LIVING ARRANGEMENTS

Applications for residence in Colvin Hall, women's co-operative dormitory, and the University Cabins for men, should be included with the application for admission. The necessary forms (financial aid forms) may be obtained from the Director of Admissions.

Unmarried freshman students shall live in one of the University housing units unless they can live at home. Exceptions to this rule are seldom considered by the University. Students requesting such exceptions must indicate this fact on the application card. In addition, the student must write a separate letter (to be sent along with the application) explaining in detail his housing plans and the reason for requesting an exception to the rule. Such requests will be carefully reviewed by the Dean of Women, or the Dean of Men.

FINANCIAL AID AND SCHOLARSHIPS

Application for financial aid and loans under the National Defense Education Loan Plan may be obtained from the Director of Admissions. Parents of all applicants for financial aid are required to file a *Parents Confidential Statement* with the College Entrance Examination Board Scholarship Service. Forms and information are available in each local high school. Requests for aid will be reviewed by the Committee after the applicant has been formally notified of acceptance by the Director of Admissions. Applications should be filed prior to March 1.

Part-time work opportunities, both on-campus and off-campus, are available for students. From applications filed each year, the Office of Student Aid refers students to suitable job openings as they are received. A satisfactory academic standing must be maintained during the working period. Freshman students, with the exception of a limited number of men assigned to cafeteria jobs, are not encouraged to undertake part-time jobs that require an excessive amount of time.

REQUIREMENTS FOR ADMISSION

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

I. Animal Sciences, Plant and Soil Science, Agricultural Business and Economics, Agricultural Engineering, Biological Sciences, School of Forestry:

English	4 units
Algebra	2 units
Plane Geometry	1 unit
Trigonometry (Agric. Engineering only)	½ unit or its equivalent
Science	2 units (one of which must be chemistry or physics)
History or Social Science	1 unit
Electives	5½-6 units
<hr/>	
Total	16 units

II. School of Home Economics:

English	4 units
Mathematics	2 units (at least 1 yr. of algebra)
Science	1 unit (Chemistry recommended)
History or Social Science	1 unit
Electives	8 units
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Total	16 units

III. Two-Year Technical Division:

Candidates for admission to the Two-Year Technical Programs must have graduated from high school and must complete the C.E.E.B. Scholastic Aptitude Test. In exceptional cases, mature individuals who are not high school graduates may be admitted by special permission. Students who contemplate transfer to the regular four-year curriculum must satisfy entrance requirements for the College of Life Sciences and Agriculture.

UNIVERSITY OF MAINE CENTENNIAL

COLLEGE OF ARTS AND SCIENCES

English	4 units
Foreign Language	2 units in one language
Algebra*	1 unit
Plane Geometry	1 unit
History or Social Science	1 unit
Electives†	7 units
<hr/>	
Total	16 units

* Two units of Algebra are required in the curricula for Chemistry, Geology, Mathematics, Physics, Public Management, the School of Business Administration, Pre-Medical, Medical Technology, Zoology, and recommended for the Business Economics curriculum.

† Chemistry is recommended as an elective for Science, Medical Technology and similar curricula, and required for the Nursing program.

COLLEGE OF EDUCATION

(Includes curriculum in Physical Education)

English	4 units
Three units from one and two units from another of the following:	
Foreign Languages	} 5 units
Mathematics	
Natural Sciences	
Social Studies	
Electives	7 units
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Total	16 units

United States History, Natural Sciences, and two units of Mathematics are recommended.

COLLEGE OF TECHNOLOGY

English	4 units
Foreign Language	— — (Two or more units in one language recommended but not required)
Algebra	2 units
Trigonometry	½ unit or its equivalent
Plane Geometry	1 unit
Chemistry or Physics	1 unit
History or Social Science	1 unit
Electives	6½ units
<hr/>	
Total	16 units

In addition to these course requirements, applicants must further qualify themselves by satisfactory performance on the Level I (Standard) Mathematics Achievement Test administered by the College Entrance Examination Board and an acceptable grade in trigonometry or its equivalent.

ADMISSION OF SPECIAL AND SHORT COURSE STUDENTS

In exceptional cases, a mature person who presents satisfactory evidence of ability to benefit from work of a special college program may be admitted to the University as a special student. Such students are not candidates for degrees but will be registered in the College where the principal courses in their program are taught. Application forms may be obtained from the Director of Admissions.

**ADMISSION TO THE CONTINUING EDUCATION COURSES
ADMINISTERED BY THE UNIVERSITY OF MAINE
EXTENSION SERVICE**

The University of Maine has undertaken a broadened program of adult education at various locations throughout Maine. This program includes credit courses, non-credit courses, short courses, and conferences as appropriate.

The categories of admission under the programs in Continuing Education are:

1. Degree Program Admission — Regular admission requirements are in effect for both undergraduate and graduate degree applicants. Applications should be filed with the Director of Admissions (undergraduate degree status) or with the Dean of the Graduate Division.
2. Deferred Degree Program — An undergraduate-trial program with a specific 18-hour program planned to give a candidate an opportunity to prove his capabilities to continue as a degree candidate.
3. Special Student Admission — For students who are not candidates for degree credit, but who are qualified, according to University standards and regulations, to enroll in selected courses.

Information and application forms may be obtained by writing the Associate Director, Continuing Education, Winslow Hall, University of Maine, Orono, Maine 04473; or Payson Smith Hall, University of Maine, 96 Falmouth Street, Portland, Maine 04103.

FORMER STUDENTS

Former students who desire to return to the University must file an early application for re-admission with the Director of Admissions. The applicant must arrange for official transcripts and catalogs to be forwarded to the Director of Admissions from all schools and colleges attended since leaving the University of Maine. Application forms may be obtained from the Director of Admissions.

ADMISSION BY TRANSFER

A student desiring to transfer to the University of Maine from another college of recognized standing must file application with the Director of Admissions at least two months before the opening of the semester. This request must include a statement of the names and addresses of all high schools, preparatory schools, junior colleges, colleges, and universities attended as well as information indicating the desired curriculum.

The applicant must arrange for official transcripts and catalogs to be forwarded from all previously attended junior colleges, colleges, and universities to the Director of Admissions, University of Maine, Orono, Maine 04473.

The evaluation of transcripts of academic work completed at institutions previously attended must be accepted as final at the time of admission.

NEW ENGLAND REGIONAL COOPERATION

New England's six state universities are working together to increase the number and variety of educational opportunities for the young people of the region. Under this new cooperative program, qualified New England residents are given preferential admission at other state universities in certain specialized programs not available at their own state university. Students accepted in these programs are also granted the benefit of in-state or resident tuition and fees which are considerably lower than those usually charged out-of-state students. This plan makes available to the residents of the region a wider variety of programs at low cost — without additional funds being spent to duplicate specialized staff and expensive facilities in each state.

Each university has designated which of its programs are to be offered on a regional basis and maintains control over its own courses and programs. A few of these programs begin at the freshman level. Other regional programs begin at the sophomore, junior, senior, or graduate level, that is, at the level where the specialized courses are first introduced. In most cases, a student will attend his own state university until he reaches the level at which the specialized courses begin.

Information may be obtained from the New England Board of Higher Education, 31 Church Street, Winchester, Mass., or from the admission offices of the various New England state universities.

Financial Information

STUDENT EXPENSES

The student expenses outlined in the following paragraphs are the anticipated charges for the academic year 1964-65. Changing costs may require an adjustment of these charges.

Tuition and Fees for the Academic Year*

	Residents of Maine	Non-Residents of Maine
Regular Students		
Tuition	\$400.00	\$800.00
Two-Year Applied Agriculture Students		
Tuition	\$285.00	\$555.00

Estimate of Student Expenses

A partial list of necessary expenses for a SEMESTER is indicated below. It includes only items which are fairly uniform for all students.

	Residents of Maine	Non-Residents of Maine
Rates for One Semester		
Tuition	\$200.00	\$400.00
Board and Room (University Dormitories)	387.50	387.50
	\$587.50	\$787.50

Textbooks, personal laboratory equipment, etc., are not furnished by the University and are estimated to cost from \$90 to \$160 per year.

The activities of each of the four undergraduate classes are supported from dues paid by individual members. These dues, which range from \$5 to \$9 per year, are incorporated as part of the Spring Semester term bill.

The University has arranged to provide a student health and accident insurance plan on an optional basis for a premium of \$16.75 for 12 months following fall registration. The insurance is routinely charged to every fully-enrolled student on the fall semester bill; if it is not desired the student must so notify the Treasurer's Office at the time of registration.

Matriculation Fee—This fee of \$25 is required of all students registering for the first time who are candidates for a degree. It must be paid as part of the first term bill.

Payment of Bills—All University bills including those for rooms and board in University buildings are due and payable on or before registration day for each semester. An academic year consists of two semesters, fall and spring.

Installment Program—Students whose circumstances are such that payment of their semester bills in full at the time of registration would work a real hardship will be permitted to use the following schedule:

* Please see Catalog section on University of Maine in Portland for charges at that campus.

Fall Semester

- ½ the total semester charge at registration
- ¼ the total semester charge on October 1
- ¼ the total semester charge on November 1
- ¼ the total semester charge on December 1

Spring Semester

- ½ the total semester charge at registration
- ¼ the total semester charge on March 1
- ¼ the total semester charge on April 1
- ¼ the total semester charge on May 1

For the 1964-65 academic year no extra assessment will be made to students using the above deferment schedule, but if it is found that too many take advantage of its provisions it will become necessary in the future to make a service charge for its use.

Freshman Charges—The following table shows the fixed charges for the fall semester for freshmen:

	Residents of Maine	Non-Residents of Maine
Tuition	\$200.00	\$400.00
Room and Board (University Dormitories)*	387.50	387.50
Freshman Orientation Period	9.00	9.00
Matriculation Fee	25.00	25.00
	<hr/> \$621.50	<hr/> \$821.50

* See Statement under Room and Board.

For freshmen who do not room and board in University dormitories, the charge is \$229.50 for residents of Maine and \$429.50 for non-residents.

For students in the Two-Year Technical Division of the College of Life Sciences and Agriculture, the semester tuition charge is \$142.50 for residents of Maine and \$277.50 for non-residents.

For graduate students and students classified as "special," and for those registered for less than a normal program, the rate will be \$20 (\$40 for non-residents) per semester hour up to and including ten semester hours. *Full tuition is charged all students registered for more than 10 semester hours.*

All fully-enrolled students may avail themselves of the services provided by the University Health Service. Students registered for more than 10 semester hours are admitted without charge to athletic events and the Concert Series. Generally students registered for 10 or fewer hours may purchase tickets for these events.

Room and Board—Due to the difficulty of estimating the cost of food, fuel, and services, it is impossible to guarantee the exact cost of room and board. The charge for room and board in the permanent dormitories for the fall semester, 1964, is \$387.50. The charge for room and board in Hannibal Hamlin Hall for the fall semester, 1964, is \$337.50. For students enrolled in the Two-Year Technical Division of the College of Life Sciences and Agriculture the charge for room and board is \$295 for the fall semester and \$275 for the spring semester.

FINANCIAL INFORMATION

In the Cooperative dormitory for women, the charge for room and board is based upon student effort in management and operation, and is at less than regular rates.

All University dormitories are closed to students during scheduled vacation periods.

Miscellaneous—A fee of \$10 is charged a student who registers after the prescribed day of registration.

The prescribed gymnasium uniform for women costs approximately \$25. Information regarding the uniform and where it may be purchased will be sent to incoming students during the summer.

Tuition fees for work taken in the Continuing Education Division are at the rate of \$20 per credit hour, except as indicated otherwise in the Continuing Education bulletin.

The fees for students registered in Applied Courses in Music are indicated in the catalog section on Music.

Deposits—a deposit of \$25 is due when the applicant is notified of acceptance by the Director of Admissions. If a dormitory room is required, an additional \$25 is due. These deposits will be applied toward the student's account when he registers. (They should not be confused with the Matriculation Fee of \$25, which is a non-refundable charge.)

If a freshman, transfer, or readmission applicant notifies the Director of Admissions of withdrawal prior to JUNE 15, the deposits will be refunded. *The deposits are forfeited in case of withdrawal after June 15.* (For students in the Two-Year Technical Division of the College of Life Sciences and Agriculture the date is October 1.)

All upperclassmen desiring to live in a dormitory must pay a room deposit of \$25 during the spring in order to assure that rooms will be reserved for them in the fall. This deposit will be deducted from the fall semester bill. If it is found that dormitory accommodations are not desired the deposit will be refunded if the Housing Office is notified by *August 1*. If notice is not given by that date the deposit will be forfeited.

Locks for gymnasium lockers may be secured from the Physical Education Department and must be returned at the end of the spring semester. No deposit is required, but a charge of \$2.50 is made if the lock is not returned at the end of the year.

Refunds—Students leaving the University before the end of a semester will receive refunds correlated with the Installment Program. Tuition and room payment refunds will be paid as follows:

Fall Semester

Withdrawal before October 1 — $\frac{1}{2}$ of semester charge
before November 1 — $\frac{1}{3}$ of semester charge
before December 1 — $\frac{1}{6}$ of semester charge

Spring Semester

Withdrawal before March 1 — $\frac{1}{2}$ of semester charge
before April 1 — $\frac{1}{3}$ of semester charge
before May 1 — $\frac{1}{6}$ of semester charge

UNIVERSITY OF MAINE CENTENNIAL

Board payments for all students will be refunded on the basis of the number of full weeks remaining in the semester.

Summer Forestry Camp—The charges for Summer Forestry Camp (near Princeton, Maine) described in the catalog section on Forestry are:

	Resident	Non-Resident
Tuition	\$160.00	\$320.00

Room and Board and the Course Fee for Fy 19S are assessed in addition to the above charges.

Rules Governing Residence

A student is classified as a resident or a non-resident for tuition purposes at the time he is admitted to the University. The decision is based upon information furnished by the student, and all available relevant information. The tuition status as determined at the time of initial enrollment normally prevails as long as the student remains in attendance. Members of the Armed Forces and their dependents are normally granted in-state tuition rates during the period when they are on active duty within the State of Maine. In all cases the University reserves the right to make the final decision as to resident status for tuition purposes.

Communications

Communications with reference to financial affairs of students should be addressed to the Treasurer of the University of Maine.

STUDENT AID

The student aid program is designed to help students with financial problems who have shown themselves willing to help themselves, who have done creditable academic work, who are of good character, and who can be expected to be a credit to themselves and their University.

The Student Aid Program for the Orono campus, University of Maine in Portland, and the Law School is administered through the Office of Student Aid and includes the following activities: 1) part-time employment; 2) student loans; 3) scholarships; 4) special living arrangements (University Cabins and Colvin Hall).

Part-Time Work—Work opportunities, both on-campus and off-campus, are available for students. From applications filed each year, the Office of Student Aid refers students to suitable job openings as they are received. The actual acceptance of the student for employment is the responsibility of the employer, and the performance of the student in respect to efficiency, promptness, and general attitude will determine his or her continuance on the job. It is required, also, that a satisfactory academic standing be maintained during the working period. Students on academic probation will not be approved for employment. Freshman students, with the exception of a limited number of men assigned to cafeteria jobs, are not encouraged to undertake regular part-time jobs, at least during their first semester. Work opportunities at the Portland campus and at the Law School are administered by the Director or the Dean.

Student Loans—Assistance from University Loan Funds is available to members of the Junior and Senior classes.

The record of the applicant in conduct, character, and satisfactory academic

standing is considered in granting loans. Evidence of financial need is essential, together with indication of ability to repay.

Provision is also made for temporary loans, regardless of class, not to exceed \$50 in amount, to meet unexpected emergencies. Such loans can be granted on short notice.

Applications for loans should be filed in the Office of Student Aid. The Office will supply information on loan limits, interest rates, and terms of repayment.

National Defense Education Act Loan Program—The University participates in the Loan Program established under the National Defense Education Act of 1958. Loans may be granted to full-time students in the undergraduate or graduate programs on evidence of financial need and required academic standing. In the case of superior students, special consideration may be given to applicants who have expressed a desire to teach in elementary or secondary schools, or to applicants whose background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language. Complete information concerning the program is available in the Office of Student Aid. Applications should be filed on or before May 1st for the next college year. The month of May is reserved for applicants who wish to be considered for National Defense Loans during any of the Summer Sessions.

LOAN FUNDS

The American Institute of Electrical Engineers Loan Fund, now amounting to \$495, was established by the University of Maine Branch in 1918 for the purpose of assisting needy students majoring in electrical engineering.

The Androscoggin County Alumni Loan Fund, now amounting to \$8,990, is available to State of Maine students with first preference given to those who are residents of Androscoggin County. Loans are made by and through the usual methods in use at the University.

The Bangor Business and Professional Women's Loan Fund, now amounting to \$2,031, was established for needy and deserving women students, preferably from Bangor and vicinity, who have been in attendance at least one year and who have maintained an average grade of "C" or better. Loans shall not exceed \$250 per student.

The William E. Barrows Loan Fund of \$1,293 was established in 1958 by William E. Barrows of the Class of 1902, head of the department of Electrical Engineering from 1912 to 1945. The fund is used to assist needy students in Electrical Engineering in good academic standing. Loans are limited to one-third the value of the fund for each individual and will be authorized by a committee made up of the head of the Department of Electrical Engineering and two ranking professors. Loans authorized by this committee shall then come under the jurisdiction of the Office of Student Aid.

The O. Merrill Bixby Loan Fund of \$5,470 was established in 1959 through a bequest of the late Oscar Merrill Bixby, to be used for needy and worthy students who reside preferably in rural areas of the State of Maine.

The Boston Alumnae Fund, now amounting to \$1,794, is available for women of high scholastic standing who have completed at least two years of college work. Loans shall in no case exceed \$200.

The Carleton Orchard Fund originated in the gift to the State of Maine by

UNIVERSITY OF MAINE CENTENNIAL

James A. Gregory of one interest-bearing first mortgage bond for \$1,000, the interest on which was to be used for the promotion of scientific orcharding in Maine. At first administered by the Maine Department of Agriculture, the income from this bond was transferred in 1925 to the College of Life Sciences and Agriculture of the University "for the assistance of needy students who shall be residents of the State of Maine, majoring in horticulture at the said college of agriculture."

The Gordon L. Chapman Loan Fund of \$863 was established in 1956 by friends of the late Gordon L. Chapman, Class of 1939, formerly a member of the University of Maine faculty. It is to be loaned to worthy students under such conditions as may be established by the University.

The Class of 1907 Loan Fund, amounting to \$2,912, was established as a 50th reunion gift in 1957. Loans are to be made to needy and worthy students under such conditions as may be established by the University.

The Class of 1914 Loan Fund, now amounting to \$1,811, is available for loans to needy upperclass students.

The Class of 1926 Loan Fund, now amounting to \$2690, is loaned to worthy students of good scholastic standing in their senior year. The maximum amount to be loaned is \$500 per person.

The Class of 1931 Loan Fund, now amounting to \$2,406, is to be used for loans to students of good character, satisfactory academic standing, who are in need of financial assistance.

The Class of 1933 Loan Fund, amounting to \$4,224, was established as a 25th reunion gift in 1958. Loans are to be made to deserving students under University loan policies. Preference is to be given to sons and daughters or grandsons and granddaughters of the Class of 1933.

The Class of 1935 Loan Fund, amounting to \$2,045, was established as a 25th reunion gift in 1960. Loans are to be made to worthy students under such conditions as may be established by the University.

The Class of 1936 Loan Fund, amounting to \$4,767, was established as a 25th reunion gift in 1961. Loans are to be made to students who have demonstrated qualifying character, scholastic potential, and need of temporary financial assistance. Preference is to be given to descendants of members of the class of 1936.

The Class of 1939 Loan Fund, amounting to \$2,500, was established in 1964 as a 25th reunion gift. Loans are to be made to worthy students under such conditions as may be established by the University.

The Class of 1941 Memorial Fund, now amounting to \$1,261, is to be used for students who have shown themselves able and willing to help themselves, who have done creditable work and who are of good character.

The Frederick W. Conlogue Loan Fund, established in September, 1960, by Frederick W. Conlogue, Class of 1910, supersedes a program established in 1950 under which \$2,000 was awarded annually for scholarships. This fund, now amounting to \$4,189, is to be loaned to students enrolled at the University under such terms as the Office of Student Aid, with the approval of the President of the University, may establish, with the understanding, however, that loans shall be repaid within three years and that loans shall not be made to students who own or support an automobile, unless the car is considered by the Office of Student Aid to be essential to the student's attendance at the University.

The Cumberland County Alumni Association Student Loan Fund, now

amounting to \$2,251, was established by the Cumberland County Alumni Association to assist needy seniors whose scholarship presumes graduation with their class, preference to be given to students from Cumberland County. Loans are made by and through the usual methods in use at the University.

The Charles D. Darling, Jr. Memorial Fund, established in 1959 by his parents and friends, now amounts to \$1,489. Loans are to be made to deserving students by and through the usual methods in use at the University.

The George P. Davenport Student Loan Fund, now amounting to \$10,512, was established in 1959 by the Trustees under the will of George P. Davenport. Loans are to be made to needy and deserving students who are residents of the State of Maine, preferably graduates of Morse High School, Bath, Maine. The notes are to be written with interest at not less than three per cent per annum. Interest collected on the notes is to be added to the principal amount of the fund.

The Delta Chi Alpha Loan Fund, now amounting to \$1,220, is loaned to male members of the senior class whose average college grade has been "C" or better.

The Delta Delta Delta Loan Fund of \$1,204 was established in 1954 by joint contributions from Alpha Kappa Chapter of Delta Delta Delta and the Bangor Alliance of Delta Delta Delta. This fund, both principal and income, shall be used for making loans to women students at the University of Maine who need and merit financial assistance. The loans shall be in such amounts and made under such terms as the University may determine.

The Robert W. DeWolfe Fund of \$81,599 was established in 1957 through a bequest to the University of Maine Foundation by Robert W. DeWolfe, Class of 1907, of Portland. The income is available for loans to University students under such conditions as may be established by the Office of Student Aid with first consideration to be given to students residing in Cumberland County.

The Drummond Fund of \$1,272 was established in memory of Frank Hayden Drummond, of Bangor, by his widow and children. It is loaned to needy students of good character who have attained an average of "C" or better.

The Esther Eayres Chapter, Daughters of American Revolution Loan Fund, now amounting to \$451, is a gift of the Orono Chapter of the D.A.R. and is to be loaned to women students who are juniors or seniors.

The Thomas G. Feltman-John E. Field, Jr. Loan Fund of \$1,000 was established in 1963 in memory of these former students, class of 1964, for the benefit of deserving junior and senior wildlife curriculum majors in the School of Forestry. The maximum loan is \$200 per year, interest free. Loans to juniors are payable in four years and to seniors in three years. Loans are approved by a Wildlife Faculty Committee with the Director of the School of Forestry serving as Chairman.

The John Fils Memorial Fund of \$640 was established in 1963 by his parents and friends. Loans are to be made to deserving students by and through the usual methods in use at the University.

The Maine State Florists Association Loan Fund of \$705 was established in 1950. Loans are available to juniors and seniors in ornamental horticulture.

The Ralph E. Fraser Loan Fund of \$369 was established in 1961. Loans are to be made to needy students who are doing graduate work in engineering or related fields

The General Loan Fund, now amounting to \$9,231, was donated by friends,

UNIVERSITY OF MAINE CENTENNIAL

James A. Gregory of one interest-bearing first mortgage bond for \$1,000, the interest on which was to be used for the promotion of scientific orcharding in Maine. At first administered by the Maine Department of Agriculture, the income from this bond was transferred in 1925 to the College of Life Sciences and Agriculture of the University "for the assistance of needy students who shall be residents of the State of Maine, majoring in horticulture at the said college of agriculture."

The Gordon L. Chapman Loan Fund of \$863 was established in 1956 by friends of the late Gordon L. Chapman, Class of 1939, formerly a member of the University of Maine faculty. It is to be loaned to worthy students under such conditions as may be established by the University.

The Class of 1907 Loan Fund, amounting to \$2,912, was established as a 50th reunion gift in 1957. Loans are to be made to needy and worthy students under such conditions as may be established by the University.

The Class of 1914 Loan Fund, now amounting to \$1,811, is available for loans to needy upperclass students.

The Class of 1926 Loan Fund, now amounting to \$2690, is loaned to worthy students of good scholastic standing in their senior year. The maximum amount to be loaned is \$500 per person.

The Class of 1931 Loan Fund, now amounting to \$2,406, is to be used for loans to students of good character, satisfactory academic standing, who are in need of financial assistance.

The Class of 1933 Loan Fund, amounting to \$4,224, was established as a 25th reunion gift in 1958. Loans are to be made to deserving students under University loan policies. Preference is to be given to sons and daughters or grandsons and granddaughters of the Class of 1933.

The Class of 1935 Loan Fund, amounting to \$2,045, was established as a 25th reunion gift in 1960. Loans are to be made to worthy students under such conditions as may be established by the University.

The Class of 1936 Loan Fund, amounting to \$4,767, was established as a 25th reunion gift in 1961. Loans are to be made to students who have demonstrated qualifying character, scholastic potential, and need of temporary financial assistance. Preference is to be given to descendants of members of the class of 1936.

The Class of 1939 Loan Fund, amounting to \$2,500, was established in 1964 as a 25th reunion gift. Loans are to be made to worthy students under such conditions as may be established by the University.

The Class of 1941 Memorial Fund, now amounting to \$1,261, is to be used for students who have shown themselves able and willing to help themselves, who have done creditable work and who are of good character.

The Frederick W. Conlogue Loan Fund, established in September, 1960, by Frederick W. Conlogue, Class of 1910, supersedes a program established in 1950 under which \$2,000 was awarded annually for scholarships. This fund, now amounting to \$4,189, is to be loaned to students enrolled at the University under such terms as the Office of Student Aid, with the approval of the President of the University, may establish, with the understanding, however, that loans shall be repaid within three years and that loans shall not be made to students who own or support an automobile, unless the car is considered by the Office of Student Aid to be essential to the student's attendance at the University.

The Cumberland County Alumni Association Student Loan Fund, now

amounting to \$2,251, was established by the Cumberland County Alumni Association to assist needy seniors whose scholarship presumes graduation with their class, preference to be given to students from Cumberland County. Loans are made by and through the usual methods in use at the University.

The Charles D. Darling, Jr. Memorial Fund, established in 1959 by his parents and friends, now amounts to \$1,489. Loans are to be made to deserving students by and through the usual methods in use at the University.

The George P. Davenport Student Loan Fund, now amounting to \$10,512, was established in 1959 by the Trustees under the will of George P. Davenport. Loans are to be made to needy and deserving students who are residents of the State of Maine, preferably graduates of Morse High School, Bath, Maine. The notes are to be written with interest at not less than three per cent per annum. Interest collected on the notes is to be added to the principal amount of the fund.

The Delta Chi Alpha Loan Fund, now amounting to \$1,220, is loaned to male members of the senior class whose average college grade has been "C" or better.

The Delta Delta Delta Loan Fund of \$1,204 was established in 1954 by joint contributions from Alpha Kappa Chapter of Delta Delta Delta and the Bangor Alliance of Delta Delta Delta. This fund, both principal and income, shall be used for making loans to women students at the University of Maine who need and merit financial assistance. The loans shall be in such amounts and made under such terms as the University may determine.

The Robert W. DeWolfe Fund of \$81,599 was established in 1957 through a bequest to the University of Maine Foundation by Robert W. DeWolfe, Class of 1907, of Portland. The income is available for loans to University students under such conditions as may be established by the Office of Student Aid with first consideration to be given to students residing in Cumberland County.

The Drummond Fund of \$1,272 was established in memory of Frank Hayden Drummond, of Bangor, by his widow and children. It is loaned to needy students of good character who have attained an average of "C" or better.

The Esther Eayres Chapter, Daughters of American Revolution Loan Fund, now amounting to \$451, is a gift of the Orono Chapter of the D.A.R. and is to be loaned to women students who are juniors or seniors.

The Thomas G. Feltman-John E. Field, Jr. Loan Fund of \$1,000 was established in 1963 in memory of these former students, class of 1964, for the benefit of deserving junior and senior wildlife curriculum majors in the School of Forestry. The maximum loan is \$200 per year, interest free. Loans to juniors are payable in four years and to seniors in three years. Loans are approved by a Wildlife Faculty Committee with the Director of the School of Forestry serving as Chairman.

The John Fils Memorial Fund of \$640 was established in 1963 by his parents and friends. Loans are to be made to deserving students by and through the usual methods in use at the University.

The Maine State Florists Association Loan Fund of \$705 was established in 1950. Loans are available to juniors and seniors in ornamental horticulture.

The Ralph E. Fraser Loan Fund of \$369 was established in 1961. Loans are to be made to needy students who are doing graduate work in engineering or related fields.

The General Loan Fund, now amounting to \$9,231, was donated by friends,

UNIVERSITY OF MAINE CENTENNIAL

students, and faculty of the University. The first donation was made in May, 1930, and has been increased at various periods since that time. In 1963 a bequest of \$2,000 from the late Joy L. Nevens of Quincy, Massachusetts was added to this fund.

The Henry Fairfield Hamilton Loan Fund, now amounting to \$8,973, was established in December, 1955 by Mrs. H. F. Hamilton of Winter Park, Florida, in memory of her husband, Henry Fairfield Hamilton, of the Class of 1876. Loans are made to needy and worthy students of the three upper classes, under such terms as the Board of Trustees may determine.

The Maynard A. Hinks Memorial Fund of \$690 was established in 1963 by his widow and friends. Loans are to be made to deserving students by and through the usual methods in use at the University.

The Chester A. Jenkins Loan Fund, now amounting to \$625, was established in 1962 by the family and friends of the late Chester A. Jenkins, a distinguished Maine coach and teacher. Loans are to be made to needy and worthy students under such conditions as may be established by the University.

The Kappa Psi Loan Fund, now amounting to \$452, was donated in the spring of 1933, to be used for the benefit of women students.

The Francis Gregory King Memorial Loan Fund of \$1,116 was established, anonymously, in 1960 in memory of Francis Gregory King, Class of 1953. Loans are to be made to students whose major studies are in the field of history and government in such amounts, and under such terms, as the University may determine.

The Kittredge Fund, now amounting to \$3,931, was established by Nehemiah Kittredge, of Bangor. It is in the control of the President and the Treasurer of the University, by whom it is loaned to needy students in the three upper classes. Individual loans are limited to \$50.

The H. Walter Leavitt Loan Fund of \$819 was established in 1960 by former students of the late H. Walter Leavitt to assist students in the Department of Civil Engineering who show a special interest in highway work. Loans are to be made to needy students, who maintain a satisfactory scholastic standing, by the Office of Student Aid with the approval of the Head of the Department of Civil Engineering.

The A. D. T. Libby Loan Fund, now amounting to 2,265, was established in 1959 by Dr. A. D. T. Libby of the Class of 1898. Loans are to be made to needy and worthy students under such conditions as may be established by the University.

The Philip W. Lown Loan Fund, amounting to \$11,872, was established in 1954, by Mr. Philip W. Lown of the Class of 1918. Loans are made to needy and worthy students of the three upper classes under such terms as the Board of Trustees may determine.

The Maine Alumni Association of Boston Loan Fund, now amounting to \$1,971, was established in 1940 and aims to be helpful particularly to male students whose homes are in Massachusetts, though any male student at the University is eligible for a loan. Loans are made on the basis of need, character, scholastic standing, personality, and leadership in extracurricular activities.

The Maine Alumni Teachers Association Loan Fund was established in 1945 by a contribution of \$1,458 from the Maine Alumni Teachers Association. Loans are made to students in any department of the University who from the nature of their courses are training to become teachers. Satisfactory academic

record, good character, and conduct shall be the basis for making the loans. While this fund is intended primarily for seniors, it may be used to assist juniors. Loans are made by and through the usual methods in use at the University.

The Maine Association of Engineers Loan Fund, now amounting to \$1,143, established in 1961 by contributions from the Past Presidents of the Association on the occasion of the 50th Anniversary of the founding of that organization and, beginning in 1962, added to by individual members of the Association, is to be used for loans to undergraduates enrolled in the College of Technology under such terms as the Trustees of the University may determine.

The Maine Campus Fund, now amounting to \$1,205, is loaned to juniors and seniors whose conduct and scholarship are satisfactory; preference to be given, first, to journalism major students, second, to student in the College of Arts and Sciences, and third, to any other student in the University. Loans otherwise to be made to needy students under such conditions as may be established by the University Administration.

The Leslie E. Norwood Loan Fund, now amounting to \$1,145, was established in 1958 by members of the Maine Bar Association in memory of the late Leslie E. Norwood. Loans are made by the Office of Student Aid to students attending the University of Maine School of Law who intend to practice law in the State of Maine and who have completed at least one semester of law school studies with a grade average of "C" or better. The maximum amount to be loaned is \$500 per person.

The Charles H. Payson Loan Fund, now amounting to \$9,550, was given by the late Mrs. Charles H. Payson, of Portland, Maine, in memory of her husband. It is to be loaned to needy students under such conditions as may be established by the University Administration.

The Pulp and Paper Foundation Loan Fund, amounting to \$8,549, was established in 1951 by the University of Maine Pulp and Paper Foundation and is available to students who plan to enter the pulp and paper industry.

The Sigma Chi Loan Fund of \$1,005 was established in 1961 by the Rho Rho Chapter of Sigma Chi Fraternity. Loans are to be made to male students who merit financial assistance, preference to be given to members of Rho Rho Chapter of Sigma Chi Fraternity.

The Mary S. Snow Memorial Loan Fund consisting of \$1,266 from the Mary S. Snow Memorial Fund (see Endowed Scholarships) is used for granting loans to home economics students of such character and scholarship as give promise that the education thus made possible will be of genuine value to the students and to society. The control of this fund is by the Director of the School of Home Economics, the Dean of the College of Life Sciences and Agriculture, and the President of the University.

The Southern New Hampshire Alumni Loan Fund, now amounting to \$961, is available for loans to worthy students who are in need of financial assistance.

The Bertha Joy Thompson Loan Fund of \$15,130 was bequeathed, in trust, to the University of Maine, by the late Mrs. Bertha Joy Thompson, of Ellsworth, Maine. The fund now amounts to \$14,150 and the net income is loaned to worthy, deserving, and needy students of the University of Maine under such terms and conditions at the Board of Trustees may determine.

The George W. Treat Fund, now amounting to \$45,173, was established in 1959 from a trust fund created by the late George W. Treat of Boston. By vote

UNIVERSITY OF MAINE CENTENNIAL

of the University Board of Trustees, this fund is used as a student loan fund.

The Ernest A. Turner Loan Fund, amounting to \$5,406, was established in 1952 by Ernest A. Turner of Plattsburg, New York. Loans are to be made to needy and worthy students under such terms as the Board of Trustees may determine.

The Diong Diek Uong Loan Fund, established in 1956 by a gift of \$1,198 to the University of Maine Pulp and Paper Foundation by Diong Diek Uong, Class of 1926, is used as a scholarship loan fund for foreign students of the following national origin: China, Korea, Japan and the Philippines. The fund is administered by the University of Maine Pulp and Paper Foundation Scholarship Committee. The maximum limit of the loan to one person is \$500 per year.

The Wheelden-Bassett Fund of \$100,000 was established in 1964 by a bequest, in trust, to the University of Maine by the late Eben P. Bassett of Northport, Maine. The income from this fund is to provide a loan fund for deserving students from Penobscot County, Maine. If the income is not used in any one year for loans, it may be used for scholarship awards to any deserving students.

The Women's Loan Fund, now amounting to \$9,640, was established by the American Association of University Women, University of Maine Branch, in 1925. It provides for loans to undergraduate women of the University who have successfully completed one or more years of university work, and have been found by the University to be thoroughly satisfactory in regard to character, scholarship, and general ability, and to be in genuine need. Loans to one student shall not exceed \$300 a year.

The Frances D. Young Loan Fund of \$53,370 was established in 1962 by a bequest from the late Frances D. Young (Ella Frances Dunning of the Class of 1921). Loans are to be made to any needy or deserving person, who is a resident of the State of Maine entering or attending the University of Maine, under such conditions as the President and the Board of Trustees may determine.

SCHOLARSHIPS

The Scholarship Program is administered by the Office of Student Aid, and financial assistance is granted to approved applicants on the basis of demonstrated financial need.

The University has scholarship funds available for both upper-class students and entering freshmen.

For upper-class awards applications must be filed at the Office of Student Aid each year. A stated application period — usually December and January — is announced for applications to be filed for the next academic year.

Scholarships will be approved by the office only for those students who have an accumulative academic average of 2.0 (C) or better *and* at least a 2.0 (C) average for the semester immediately preceding receipt of an award. The amount of each award will be determined after evaluation of the application and parent's financial statement, and will very rarely exceed the amount of one year's tuition. In the event that a student, already approved for a scholarship, subsequently qualifies for a larger award, the Office of Student Aid reserves the right to withdraw the smaller award in order to assist a greater number of persons.

Freshman Scholarships—The Office of Student Aid considers written applications filed during the winter and spring preceding entrance. All freshman applications are obtained from and returned to the Director of Admissions. No

application will be considered by the office until the applicant has been officially admitted to the University. Selection of recipients is based on the school record of the applicant, references from school and personal sources, community and school activities, and evidences of financial need as determined from the application and parent's financial statement. The amount of each award varies according to the need of the applicant and the availability of funds. Generally awards are made in amounts equal to half or full tuition.

The Maine Business and Industry Scholarship Program—The Maine Business and Industry Scholarships, a program established in 1959 through contributions primarily from Maine business and industrial firms, are designed to make possible University attendance for a number of young Maine men and women who have unusual academic abilities and good preparation but for whom college is not possible without initial and substantial financial assistance.

The scholarships are awarded according to the following plan: 1) Awards are made to residents of each of the 16 counties in Maine; 2) High academic achievement, urgent financial need, and good citizenship are considered in the selection of recipients; 3) A maximum of \$1,000 may be awarded each recipient, the exact amount to be determined by the student's need.

Additional information may be obtained from the Director of Admissions.

Trustee Undergraduate Tuition Scholarships

The Merritt Caldwell Fernald Scholarship, a tuition credit of \$400 established by the Trustees and named in honor of the first acting president of the University and President of the University from 1879 to 1893, is awarded to the student in the junior class, who, at the end of two and one-half years of study at the University, has attained the highest rank in his class.

The James Stacy Stevens Scholarship, a tuition credit of \$400, established by the Trustees and named in honor of the first Dean of the College of Arts and Sciences, is awarded to the highest ranking student, resident of Maine, in the junior class in that college, the winner of the Fernald Scholarship being excepted.

The Harold Sherburne Boardman Scholarship, a tuition credit of \$400, in Technology, in honor of the first Dean of the College of Technology and the President of the University from 1926 to 1934, is awarded on the same terms as the foregoing.

The Leon Stephen Merrill Scholarship, a tuition credit of \$400, in Agriculture, in honor of the Dean of the College of Agriculture from 1911 to 1933, is awarded as are the foregoing.

The Charles Davidson Scholarship, a tuition credit of \$400, in the College of Education, in honor of the first professor of education in the University, is awarded as are the foregoing.

The John Homer Huddilston Scholarship, a tuition credit of \$400, in the College of Arts and Sciences in honor of the late Dr. John Homer Huddilston, Professor Emeritus of Ancient Civilization, who served the University as teacher of Classics, Art, and Ancient Civilization from 1899 to 1942, is awarded on the same terms as the University Scholarships.

The Rising Lake Morrow Scholarship, a tuition credit of \$400, in the College of Arts and Sciences, in memory of Doctor Morrow who was a member of the Department of History and Government from 1934 to 1944 and Acting Dean from 1942 to 1944, is awarded on the same terms as the University Scholarships.

The Maine Teacher Colleges and Normal School Scholarships, three of a

UNIVERSITY OF MAINE CENTENNIAL

tuition credit of \$400 each, are awarded on a competitive basis to Maine teacher college and normal school students who, after two years of training for elementary teaching, desire to transfer to preparation at the University for secondary school teaching. Only those are eligible whose teacher college or normal school record places them in the highest decile of their class, whose principal recommends them as having personal qualities which indicate probable success in high school teaching and who enter the College of Education as juniors, *for two years* of preparation for that field.

The University Scholarships, thirteen, of a tuition credit of \$400 each, established by the Trustees in 1935, are awarded annually to students of high scholastic standing and intellectual promise whose general record is also satisfactory and who are in need of financial assistance. Preference is given to students residing in the State of Maine.

The Science Scholarship, a tuition credit of \$200, established by the Trustees in 1955, is awarded annually by the Office of Student Aid to a Maine secondary school graduate named as a winner in the Maine Science Talent Search, a contest sponsored each spring by the University and the Maine Chapter of the Sigma Xi, the Honorary Society of research scientists. Only students who have competed in the National Science Talent Search conducted by Science Clubs of America for the Westinghouse Science Scholarships are eligible to compete in the state contest.

Endowed Scholarship

The Appreciation Scholarship Fund was established in 1941 by R. H. West, of the Class of 1938. Further contributions have been made by others and the fund now amounts to \$1,657. Awards are made from income to needy and deserving students in the College of Agriculture by a committee appointed by the Dean.

The Robert I. Ashman Fund of approximately \$3,210 was established in 1957 by the friends and students of Professor Emeritus Robert I. Ashman, a member of the University of Maine Faculty from 1930 to 1957. Income from this fund, not to exceed \$100, shall be awarded annually to the outstanding senior in the School of Forestry as selected by the Forestry faculty and approved by the Dean of the College of Life Sciences and Agriculture. The basis of award is excellent character, high moral standards, and devotion to the profession of forestry as exemplified by Professor Ashman. The recipient shall be selected at the start of his senior year, and shall be known, (throughout his final year) as the *Robert I. Ashman Award Student*. The award shall be paid by the Treasurer of the University upon completion of all requirements for graduation by the student.

The disposition of all income beyond the amount of the award shall be at the judgment of the Forestry faculty, subject to the approval of the Dean of the College of Life Sciences and Agriculture and the President of the University and may be used for loans, addition to the principal or other approved necessary disbursements to maintain the fund.

The Bancroft and Martin Scholarship Fund of \$26,043 was established in 1957 by the Bancroft and Martin Rolling Mills Company of South Portland, Maine. The income only from this fund is to be used. The minimum objective shall be to provide a full tuition scholarship for a junior and a senior majoring in Civil Engineering at the University of Maine who are residents of Maine. If in any year the income exceeds the minimum requirements, one-half of the

excess shall be added to the principal fund and one-half used for further objectives, each to be accomplished fully in the order stated below before the next is undertaken: (1) to provide full tuition to a member of the sophomore class majoring in Civil Engineering who is a resident of Maine; (2) to provide payment of laboratory and other required fees for the three students hereinbefore mentioned; (3) to provide necessary books and equipment for these students; (4) to provide the above benefits to one additional Maine resident member of each class majoring in Civil Engineering, beginning with the senior; (5) to provide similar benefits to children of employees of Bancroft and Martin Rolling Mills Company or its successor, regardless of course or year of study.

The students to receive the benefits as stated above shall be selected by the Office of Student Aid.

The Harold H. Beverage Award Fund of \$3,452 was established in 1959 by friends and associates of Dr. Harold H. Beverage of the Class of 1915. The income from this fund is to be awarded in cash annually by the Office of Student Aid, upon recommendation of the Electrical Engineering Faculty, to a student, undergraduate or graduate, who has excelled in communications studies at the University of Maine.

William Bingham, 2nd, Scholarships, established in 1956 by an annual grant of \$1,000 from the "Betterment Fund" created by the will of the late William Bingham, 2nd, of Bethel, Oxford County, Maine, were placed on a permanent basis by a gift of \$25,000 from the Trustees of the Betterment Fund in 1961. Awards are to be made from the income of the fund by the Office of Student Aid after consultation with the Headmaster of Gould Academy in the Town of Bethel, preference to be given to acceptable candidates (in the following order) from the Town of Bethel, from other towns in Oxford County, or from elsewhere in the State of Maine.

The William E. Bowler Scholarship Fund of \$1,000 was established in 1955 by Marie Z. Bowler in memory of her husband, William E. Bowler, a graduate of the University in the Class of 1915. The income from this fund is to be awarded annually to a deserving student enrolled in the College of Technology at the University of Maine.

The Geraldine Brewster Scholarship Endowment Fund was established in 1957 through a bequest of \$4,287.50 by Miss Geraldine Brewster of Downingtown, Pennsylvania, a former resident of Owls Head, Maine. The income from this fund is used for the assistance of students whose character, ability, promise and financial need make them worthy of scholarship aid.

The Edgar W. Brigham Scholarship Fund was established in 1963 by a bequest of \$50,000 under the will of the late William E. Brigham in memory of Edgar W. Brigham who was born in Bridgton, Maine in 1863. The entire net income from this fund is to be awarded annually as a scholarship to a student attending the University of Maine who shall have graduated from the Southwest Harbor High School and who shall be deemed worthy of said scholarship by the Dean of Admissions of said University (or other officer performing similar functions); or if there shall be none such, to any worthy student from Mount Desert, or, if none, from elsewhere in the State of Maine.

The Adelaide G. Bunker Educational Fund of \$5,000 was established in 1959 through a bequest of the late Adelaide G. Bunker. The net income from this fund shall from time to time be used toward the payment of regular tuition fees of students, male or female, from the Town of Franklin, Maine, who are

UNIVERSITY OF MAINE CENTENNIAL

attending the University of Maine who may be recommended by the Superintendent of Schools and Chairman of the Board of the Superintending School Committee of the Town of Franklin. In the event there are no students from the Town of Franklin attending the University of Maine, the income from this fund may be used "for some students who are least pecuniarily able to pay their tuition and who are morally, mentally, and physically worthy and competent and who may be attending said University."

The Class of 1905 Scholarship, the income from a fund of \$1,079, donated by members of the Class of 1905, is awarded to a man of the freshman class pursuing a regular curriculum, whose department is satisfactory, and who attains the highest rank in the mid-year examinations.

The Class of 1943 Student Aid Fund, the income of a gift of \$1,200 made by the Class at the time of their graduation, is to be used by the President of the University at his discretion, with eventual preference to be given to students who are sons and daughters of the Class of 1943.

The Class of 1954 Scholarship, the income from a fund of \$2,109, donated by members of the Class of 1954, is awarded annually to a senior student of good character who is in need of financial assistance during his last semester. In case of no award the income shall be added to the principal.

The Class of 1957 Scholarship, the income from a gift of \$2,000 made by the members of the Class at the time of their graduation, is to be awarded in accordance with the following provisions: (1) The income is not to revert back to principal if not used in a given year. (2) The recipients of these scholarship awards are to be either male or female students. (3) The awards may be given to students entering the University as freshmen or to those enrolled. (4) The awards are not to exceed two semesters but may be renewed on recommendation of the scholarship committee of the class of 1957 and approval of the Office of Student Aid. (5) The awards may in no case exceed the amount of tuition and fees. (6) Awards shall be made on a basis of need, promise of academic success, and capacity and promise of leadership and success. (7) Preference shall be given to sons and daughters of the Class of 1957.

The Class of 1961 Scholarship, the income from a fund of \$2,061 donated by members of the Class of 1961, is awarded annually to any worthy student in need of financial assistance.

The Albert D. Conley Fund, now amounting to \$5,000, was established in 1961 by Albert D. Conley, Class of 1911, through an initial gift of \$2,500.

The income from this Fund is used annually to aid handicapped students at the University, with preference to be given to students with speech handicaps.

Administration of this Aid program is to be conducted by proper officials of the University.

The Donald P. Corbett Fund had its beginning in 1956 when Donald P. Corbett of Winslow, Maine, a graduate of the College of Agriculture in the class of 1934, made an initial contribution of \$1,000, and now amounts to \$3,000. The intent is to add to this fund from time to time.

The income from this fund is to be used for scholarships or for loans to students in the College of Life Sciences and Agriculture. The awards shall be on the basis of character, need, and satisfactory scholarship, in the order given and under such other conditions as prescribed. A committee shall be appointed annually by the Dean of the College of Life Sciences and Agriculture to recommend the amounts, nature of the award and select the recipients.

The Walter Joseph Creamer Fund of \$2,061 was established in 1961 by former students of the Department of Electrical Engineering to honor Professor Creamer. The income from this fund is awarded at various intervals to worthy students in Electrical Engineering.

The Oliver Crosby Scholarship Fund of \$10,000 was established in 1954 by Mrs. Ernest Trowbridge Paine of Prospect Harbor, Maine, and Schenectady, New York, in memory of her father, Oliver Crosby, B.S. in Mechanical Engineering, Class of 1876. The income of the fund provides a scholarship for a deserving student in Mechanical Engineering, preferably a student whose home is in the State of Maine.

The Harold R. Cummings Scholarship Fund of \$10,000 was established in 1963 through a bequest by the late Alice C. Cummings in memory of her late husband, Harold R. Cummings. The income from this fund is to be used for an annual scholarship to be awarded by the Office of Student Aid to a sophomore, junior, or senior enrolled in the College of Technology and preparing for a B.S. degree who meets the requirements of being in need of financial assistance and being outstanding in character, integrity, aptitude and all-round ability. Preference is to be given a student from the City of Portland, Maine who meets the requirements.

The Mabel and Mary Daveis Fund of \$5,000 was established in 1955 by the Trustees of the Mabel and Mary Daveis Charitable Fund. The income of this fund is to be used for scholarships to needy and deserving students.

The Arthur Lowell Deering Fund of \$3,000 was established in 1955 by a gift to the University from Dean Arthur L. Deering, Class of 1912, and Mrs. Deering. The income from this fund (and such amounts as may subsequently be added to it) is to be used: (1) for scholarships, or (2) for loans to assist students in the College of Life Sciences and Agriculture. Students are to be selected on the basis of character, financial need, and satisfactory scholastic attainment. A committee shall be appointed annually by the Dean of the College of Life Sciences and Agriculture to recommend the amounts and nature of the awards.

The Charles Alexius Dickinson Scholarship Fund of \$2,122 was established in 1950 by Sigma Mu Sigma, honorary psychology society, in honor of Dr. Charles Alexius Dickinson, Professor of Psychology from 1926 to 1950. This fund includes a gift of \$1,100 from Dr. Louise Bates Ames, '30. The income is awarded annually by Sigma Mu Sigma to a psychology major and a current member of the junior class who has completed two semesters of the course in General Psychology with a standing of B or better, on the basis of proficiency, interest, and general promise in the field of Psychology.

The Lloyd H. Elliott Fund of \$5,000 was established in 1963 by the General Alumni Association. The income from this fund is to be used for scholarship purposes and shall be administered by the Office of Student Aid.

The Rachel W. Engel Scholarship Fund of \$16,269, was established in 1963 through a bequest by the late Rachel W. Engel of Bangor, Maine. The income of this fund is to be used to aid meritorious students who may need financial assistance. Preference is to be given to students who are residents of Bangor, Maine.

The Fred S. N. Erskine Scholarship Fund was established in 1960 by a bequest of \$7,533.49 under the will of the late Georgetta A. Erskine of Boston, Massachusetts, in memory of her brother, Fred S. N. Erskine, Class of '07. The

UNIVERSITY OF MAINE CENTENNIAL

income from this fund is to be awarded annually by the Office of Student Aid to a student who needs and merits financial assistance.

The Joseph Rider Farrington Scholarship, the income from a fund of \$1,078, a gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of Maine and sons of Mr. and Mrs. Joseph Rider Farrington, is awarded annually in honor of their parents, in the following order of preference: (a) Any direct descendant of Joseph Rider and Ellen Holyoke Farrington, or anyone whom three of such descendants may select; (b) Any student bearing the surname of Farrington or Holyoke; (c) A high-ranking student in the College of Life Sciences and Agriculture of good character and personality who, in the judgment of the Office of Student Aid is most deserving of the award.

In 1963 an additional gift of \$1,000 was made by Ruth M. Dana in memory of her mother, Sarah Farrington Merrill, the only daughter of Joseph Rider and Ellen Holyoke Farrington and sister of the brothers who made the original gift.

The Edward Files Scholarship Fund was established in 1948 through a bequest of \$5,000 by the late Esther Files of Salem, Massachusetts. The income of this fund is to be used to provide scholarships for worthy students.

The Deacon Ephraim Flint Scholarship Fund is provided from a fund established in 1880 by descendants of Deacon Ephraim Flint of Baldwin, Maine. The Trustees of that Fund gave \$10,000 to the University of Maine in 1952 to establish the Deacon Ephraim Flint Scholarship Fund, the income of which shall be awarded to students enrolled at the University of Maine in the following order of priority: (a) To descendants of the late Deacon Ephraim Flint of Baldwin, Maine; (b) To a boy or girl who was born in and still maintains legal residence in Baldwin, Maine; (c) To a boy or girl who was born in and still maintains legal residence in Dover-Foxcroft, Maine, and who is a graduate of Foxcroft Academy.

In each case the entire amount of the income shall be awarded to the individual who meets University minimum academic requirements in scholarship and also who meets good citizenship requirements. The amount of the award, however, shall not exceed the total cost of tuition, board and room, text books and other essential class room and laboratory equipment and supplies.

If more than one descendant applies concurrently for the award, the University's Office of Student Aid shall determine the amount of the award which shall be made to each.

Any unused balance at the close of each college year shall be added to the principal of the fund, which now amounts to \$12,909.

Should the fund grow to provide more than one scholarship, each additional scholarship shall be handled in the manner described for the first.

The Fort Kent Future Farmers Scholarship Fund of \$2,000 was established in 1948 by the Fort Kent Chapter of Future Farmers of America. The income from this fund is awarded annually to a male student majoring in agriculture who is a graduate of Fort Kent High School, on the basis of character, financial need, and qualities of leadership. The Dean of the College of Life Sciences and Agriculture, and two others selected by him shall constitute the committee on award.

The Ella Somerville Foster Scholarship was established in 1946 through a

bequest of \$1,000 by the late Ella Somerville Foster. The income of this fund is to be devoted to assisting a deserving Canadian or Newfoundland student.

The Salomie and Eulalia Gardner Fund was established in 1953 through a bequest of \$6,000 by Randall D. Gardner of Belmont, Massachusetts, in memory of his mother Salomie Gardner and his sister Eulalia. The income of this fund is to be used to aid students attending the University of Maine from the town of Pembroke, Washington County, Maine. If such students are not found the income may be applied to the aid of needy students from said Washington County.

The Fred H. and Alice V. Gould Scholarship Fund of \$1,000 was established in 1957 by a bequest of Gladys M. Gould, Class of 1922. The income is to be used for a worthy student in Home Economics. The committee on awards shall be the Director of the School of Home Economics and the Dean of the College of Life Sciences and Agriculture.

The Henry L. Griffin Scholarship Fund was established in 1950 through a bequest of \$6,500 by the late Lucy K. Griffin in memory of her late husband, Henry L. Griffin of Bangor, Maine. The income of this fund is to be used annually for the benefit of a graduate of Bangor High School during his or her first year at the University and who, in the opinion of the President and Board of Trustees, on the basis of character and scholarship, is the most deserving to receive such benefit.

The Eugene Hale Scholarship Fund of \$1,542 was established by Mrs. Eugene Hale and her two sons, Frederick Hale and Chandler Hale, in honor of the late United States Senator, Eugene Hale. The income is utilized in awarding one scholarship yearly to a boy or girl entering the College of Life Sciences and Agriculture who is or has been a 4-H club member. The award is to be based on his or her record as a 4-H club member, on scholarship, character, and qualities of leadership. The award will be made by a committee appointed by the Dean of the College of Life Sciences and Agriculture.

The Helen C. Hardison Scholarship Fund of approximately \$3,000 was established in 1961 through a bequest under the will of the late Helen C. Hardison. The income of this fund is to be used "to establish, support and maintain a scholarship for the study of English." The amount and conditions of the award are to be determined from time to time by a scholarship committee designated by the governing board of said University.

The Philip R. Hathorne Scholarship was established in 1936 through a bequest of \$5,000 by the late David Ernest Hathorne, of Woolwich, Maine, and an additional gift of \$2,000 by Mrs. Carrie E. Hathorne, as a memorial to their son, Philip R. Hathorne, of the Class of 1923. The income is used to help needy students in the Civil Engineering curriculum, preference to be given to natives of Maine.

The Helen B. Hemingway Memorial Fund of \$169,165 was established in 1950 through the Edward D. and Helen B. Hemingway Trust. The income of this fund is to be used for granting scholarships at the University of Maine to worthy and needy students under such regulations as may apply to the award of scholarships.

The Lillie C. Hemphill Scholarship Fund was established in 1949 through a bequest of \$4,000 by the late Mrs. Lillie C. Hemphill of Houlton and Portland, Maine. The income of this fund is to be used for the assistance of students whose character, ability, promise, and financial need make them worthy of scholarship aid.

UNIVERSITY OF MAINE CENTENNIAL

income from this fund is to be awarded annually by the Office of Student Aid to a student who needs and merits financial assistance.

The Joseph Rider Farrington Scholarship, the income from a fund of \$1,078, a gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of Maine and sons of Mr. and Mrs. Joseph Rider Farrington, is awarded annually in honor of their parents, in the following order of preference: (a) Any direct descendant of Joseph Rider and Ellen Holyoke Farrington, or anyone whom three of such descendants may select; (b) Any student bearing the surname of Farrington or Holyoke; (c) A high-ranking student in the College of Life Sciences and Agriculture of good character and personality who, in the judgment of the Office of Student Aid is most deserving of the award.

In 1963 an additional gift of \$1,000 was made by Ruth M. Dana in memory of her mother, Sarah Farrington Merrill, the only daughter of Joseph Rider and Ellen Holyoke Farrington and sister of the brothers who made the original gift.

The Edward Files Scholarship Fund was established in 1948 through a bequest of \$5,000 by the late Esther Files of Salem, Massachusetts. The income of this fund is to be used to provide scholarships for worthy students.

The Deacon Ephraim Flint Scholarship Fund is provided from a fund established in 1880 by descendants of Deacon Ephraim Flint of Baldwin, Maine. The Trustees of that Fund gave \$10,000 to the University of Maine in 1952 to establish the Deacon Ephraim Flint Scholarship Fund, the income of which shall be awarded to students enrolled at the University of Maine in the following order of priority: (a) To descendants of the late Deacon Ephraim Flint of Baldwin, Maine; (b) To a boy or girl who was born in and still maintains legal residence in Baldwin, Maine; (c) To a boy or girl who was born in and still maintains legal residence in Dover-Foxcroft, Maine, and who is a graduate of Foxcroft Academy.

In each case the entire amount of the income shall be awarded to the individual who meets University minimum academic requirements in scholarship and also who meets good citizenship requirements. The amount of the award, however, shall not exceed the total cost of tuition, board and room, text books and other essential class room and laboratory equipment and supplies.

If more than one descendant applies concurrently for the award, the University's Office of Student Aid shall determine the amount of the award which shall be made to each.

Any unused balance at the close of each college year shall be added to the principal of the fund, which now amounts to \$12,909.

Should the fund grow to provide more than one scholarship, each additional scholarship shall be handled in the manner described for the first.

The Fort Kent Future Farmers Scholarship Fund of \$2,000 was established in 1948 by the Fort Kent Chapter of Future Farmers of America. The income from this fund is awarded annually to a male student majoring in agriculture who is a graduate of Fort Kent High School, on the basis of character, financial need, and qualities of leadership. The Dean of the College of Life Sciences and Agriculture, and two others selected by him shall constitute the committee on award.

The Ella Somerville Foster Scholarship was established in 1946 through a

bequest of \$1,000 by the late Ella Somerville Foster. The income of this fund is to be devoted to assisting a deserving Canadian or Newfoundland student.

The Salomie and Eulalia Gardner Fund was established in 1953 through a bequest of \$6,000 by Randall D. Gardner of Belmont, Massachusetts, in memory of his mother Salomie Gardner and his sister Eulalia. The income of this fund is to be used to aid students attending the University of Maine from the town of Pembroke, Washington County, Maine. If such students are not found the income may be applied to the aid of needy students from said Washington County.

The Fred H. and Alice V. Gould Scholarship Fund of \$1,000 was established in 1957 by a bequest of Gladys M. Gould, Class of 1922. The income is to be used for a worthy student in Home Economics. The committee on awards shall be the Director of the School of Home Economics and the Dean of the College of Life Sciences and Agriculture.

The Henry L. Griffin Scholarship Fund was established in 1950 through a bequest of \$6,500 by the late Lucy K. Griffin in memory of her late husband, Henry L. Griffin of Bangor, Maine. The income of this fund is to be used annually for the benefit of a graduate of Bangor High School during his or her first year at the University and who, in the opinion of the President and Board of Trustees, on the basis of character and scholarship, is the most deserving to receive such benefit.

The Eugene Hale Scholarship Fund of \$1,542 was established by Mrs. Eugene Hale and her two sons, Frederick Hale and Chandler Hale, in honor of the late United States Senator, Eugene Hale. The income is utilized in awarding one scholarship yearly to a boy or girl entering the College of Life Sciences and Agriculture who is or has been a 4-H club member. The award is to be based on his or her record as a 4-H club member, on scholarship, character, and qualities of leadership. The award will be made by a committee appointed by the Dean of the College of Life Sciences and Agriculture.

The Helen C. Hardison Scholarship Fund of approximately \$3,000 was established in 1961 through a bequest under the will of the late Helen C. Hardison. The income of this fund is to be used "to establish, support and maintain a scholarship for the study of English." The amount and conditions of the award are to be determined from time to time by a scholarship committee designated by the governing board of said University.

The Philip R. Hathorne Scholarship was established in 1936 through a bequest of \$5,000 by the late David Ernest Hathorne, of Woolwich, Maine, and an additional gift of \$2,000 by Mrs. Carrie E. Hathorne, as a memorial to their son, Philip R. Hathorne, of the Class of 1923. The income is used to help needy students in the Civil Engineering curriculum, preference to be given to natives of Maine.

The Helen B. Hemingway Memorial Fund of \$169,165 was established in 1950 through the Edward D. and Helen B. Hemingway Trust. The income of this fund is to be used for granting scholarships at the University of Maine to worthy and needy students under such regulations as may apply to the award of scholarships.

The Lillie C. Hemphill Scholarship Fund was established in 1949 through a bequest of \$4,000 by the late Mrs. Lillie C. Hemphill of Houlton and Portland, Maine. The income of this fund is to be used for the assistance of students whose character, ability, promise, and financial need make them worthy of scholarship aid.

UNIVERSITY OF MAINE CENTENNIAL

deserving students of the University of Maine in obtaining their education, preference to be given to students from the State of Maine.

The Calvin H. Nealley Scholarships were established in 1942 through a gift of \$5,000 by Calvin H. Nealley, of the Class of 1892. In 1963, through a bequest of the late Calvin H. Nealley, \$100,033 was added. The net income of the fund is to be used for scholarships for needy men students of the University whose homes are in Maine; whose character, industry, and promise make them worthy of assistance in obtaining their education.

The Gilbert Crosby Paine Scholarship, amounting to about \$600 a year, was established by Ernest T. and Louise Crosby Paine of Prospect Harbor in memory of their son, Lieutenant (j.g.) Gilbert Crosby Paine, who was cited by the Navy and awarded the Silver Star (posthumous) for conspicuous gallantry when the U. S. Destroyer Callaghan was sunk by a Japanese suicide plane off Okinawa, July 29, 1945. This scholarship is awarded annually to a male student of high scholastic attainment and otherwise deserving, preference being given to students from Hancock County, Maine. Failing such candidates, other male students whose homes are in Maine will be considered for the award.

The Edward E. Palmer Scholarship Fund of approximately \$3,000 was established in 1956 by Edward E. Palmer of Braintree, Massachusetts, Class of 1899. The income is to be awarded annually to a student enrolled in the College of Technology.

The Perley Burnham Palmer Scholarship Fund of \$1,500 was established in 1946 by Mrs. Perley B. Palmer in memory of her late husband. The income from this fund is to be used for a scholarship to be awarded annually to a needy and deserving student in the College of Technology.

The William Emery Parker Scholarship, the income from a fund of \$1,200 donated by the late Hosea B. Buck, of the Class of 1893, in memory of William Emery Parker, of the Class of 1912, is awarded annually to that male student of the sophomore or junior class who, in addition to being above the average rank scholastically, shows most clearly those qualities of manliness, honesty, and constructive effort which characterized the college career of the alumnus in whose memory the scholarship is given.

The William N. Patten Scholarship Fund of \$20,000 was established in 1952 by William N. Patten, Class of 1891, of Salem, Massachusetts. The income of the fund is to be expended annually if there is occasion therefor, in the discretion of the Trustees of said University, as a scholarship for the benefit of residents of Cherryfield, Maine, who shall have graduated with satisfactory rank at Cherryfield Academy, in the manner best calculated to aid such pupils. Applicants for scholarship benefits shall be of good moral character and be recommended by the Academy Principal and the University of Maine. If in any year there is no eligible Cherryfield student as above described, said income may be applied in the discretion of the Trustees of said University to aid any worthy student who is a resident of Washington County, Maine.

The Charles H. Payson Scholarships were established in 1935 through a gift of \$20,000 made by the late Mrs. Charles H. Payson, of Portland, Maine, in memory of her husband. The principal of the fund was increased by \$26,000 through a contribution received from Mrs. Payson in 1945. These scholarships are awarded to students in the University whose homes are in Maine and whose high character, qualities of leadership, creditable academic record, and financial

need make them worthy of scholarship aid, or to entering students of outstanding merit who without financial assistance could not attend the University.

The Ralph H. Pearson Fund was established in 1951 through a bequest of \$1,000 by the late Richard D. Pearson, of Guilford, Maine, in memory of his brother Ralph H. Pearson. The income of this fund is to be used to provide a scholarship for a worthy student, preference to be given to a resident of the State of Maine.

The Stanley Plummer Scholarship, the income from \$1,036, the bequest of Colonel Stanley Plummer, of Dexter, Maine, is used for the assistance of a needy and deserving student selected by the Office of Student Aid. Students born in Dexter, Maine, shall have preference.

The Portland Junior College Fund of \$2,581 was established in 1957. This fund was created by using the surplus of anonymous gifts which had been made to Portland Junior College before it became the University of Maine in Portland. The income of this fund shall be used for scholarship awards to be made to needy and deserving students of good character and satisfactory academic record.

The Frank P. Preti Scholarship Fund of \$5,000 was established in 1949 by the late Frank P. Preti, Class of 1917, of Portland, Maine. The income is to be used for a scholarship to be awarded annually by the Office of Student Aid to a male student on the basis of need, promise of academic success, physical ability, and capacity and promise of leadership and future success.

The Frederick G. Quincy Scholarship Fund of \$5,000 was established in 1963 through a bequest by the late Frederick G. Quincy. The income of this fund is to be awarded annually by the Office of Student Aid, subject to the approval of the President of the University, to a senior student in forestry who is most entitled, from his interest and scholastic record, to the award.

The Henri Raffy Memorial Fund, now amounting to \$5,700, was established in 1956 by a gift to the University from Mrs. Katherine Foote Raffy in memory of her husband, Henri Raffy. The income from this fund is to be used: (1) for scholarships, or (2) for loans to assist students in the School of Forestry. Students are to be selected on the basis of character, financial need and satisfactory scholastic attainment. Awards are to be made by the Office of Student Aid.

The Arthur E. Silver Scholarship Fund, now amounting to \$11,600, was established in 1962 by Arthur E. Silver, Class of 1902. The income from this fund is awarded annually to a student or students in the College of Technology of good character, promise of academic and professional success, and who demonstrate financial need. Commencing with the year 1985, awards of this scholarship need not be confined to students in the College of Technology but may be made in part, or entirely, to students in other colleges of the University of Maine, if such use fills a greater need in the opinion of the Board of Trustees.

The Leroy C. Smith Scholarship Fund of \$66,234.65, named in memory of Leroy Smith, a graduate of the University, Class of 1904, was established in 1957 through a bequest by his widow, the late Reba Morehouse Smith of Tangerine, Florida. The income from this fund is used for scholarship awards to entering or upperclass students whose character and satisfactory academic records make them worthy of the benefits of the University and of financial aid.

The Mary S. Snow Memorial Fund, now amounting to \$13,150, was established by students and friends of Mary S. Snow, one-time superintendent of schools in Bangor, Maine, and later a leader in home economics education, as a

UNIVERSITY OF MAINE CENTENNIAL

tribute to her memory. From the total of the fund, approximately \$11,884 is set up as a scholarship fund, with one or more annual scholarships being awarded from the income to earnest and deserving students in home economics. The committee on awards consists of the Director of the School of Home Economics, the Dean of the College of Life Sciences and Agriculture and the President of the University.

The Frank Elwyn Southard Fund of \$2,600 was established in 1962 by Mr. Frank E. Southard of Augusta, Maine. The net income is to be awarded to a deserving student in the College of Arts and Sciences with preference to be given to a student from Augusta, Maine or Kennebec County, Maine.

The Anne E. Stodder Scholarship Fund was established in 1943 through a bequest of \$50,000 by the late Mrs. Anne E. Stodder, of Bangor, Maine. The net income of the fund is to be used for the assistance of needy and deserving students in obtaining their education under such University regulations as may apply to the award of scholarships.

The Bertha Joy Thompson Scholarship Fund was established in 1935 through a bequest of \$15,000 by the late Mrs. Bertha Joy Thompson of Ellsworth, Maine. The income of this fund is awarded to students whose qualities of character, scholarship, initiative, and need make them worthy of financial assistance.

The James E. Totman Fund of \$50,160 was established in 1952 by James E. Totman of Baltimore, Maryland, a graduate of the College of Agriculture in the class of 1916. The income from this fund is to be used for: (1) scholarship assistance to superior men and women students in the College of Life Sciences and Agriculture and to freshmen entering the College of Life Sciences and Agriculture, (2) financial aid in sponsoring agricultural research by graduate assistants under the supervision of the Agricultural Experiment Station, and (3) loan assistance to outstanding men and women who are seniors in the College of Life Sciences and Agriculture and who are in need of additional funds to complete their college program.

A committee shall be appointed annually by the Dean of Agriculture to recommend the amounts and nature of the awards.

The Nathan Pratt Towne Scholarship Fund of \$15,947 was established in 1949 through a bequest by the late Mrs. Eugene Towne Vail of Philadelphia, Pennsylvania, in memory of her father, the late Nathan Pratt Towne of Augusta, Maine. The income of this fund is to be used for a scholarship in mechanical engineering; "Wherever possible preference is to be given to a boy (1) from Augusta, Maine; (2) from the State of Maine."

The University Store Company Scholarship Fund of \$15,263 was established in 1949 by the University Store Company. The income of this fund is to be used annually for three scholarships to be awarded to a senior, a junior, and a sophomore on the basis of character, scholarship, service, financial need, qualities of leadership and personality. A student shall not be eligible for a second University Store Company Scholarship award.

The Mary Maxfield Valentine Memorial Scholarship was established in 1953 by William A. Valentine, Class of 1891, in memory of his wife, Mary Maxfield Valentine. The income from the fund of \$500 is to be used for an annual award to a worthy woman student in the junior or senior class.

The Sergeant Walter McClymonds Wales Scholarship Fund of \$25,000 was established at the request of the late Sergeant Walter McClymonds Wales, of the First Infantry Division, A.U.S., before he left for service overseas in 1942,

because of his love for and interest in Northport, Maine. The annual income from the fund is used for scholarship aid for students whose character and promise make them worthy of financial assistance in obtaining their education. Preference shall always be given to prospective or enrolled students from Northport, Maine, but if, in any year, available income from the fund is not needed for Northport students, it may be used to assist worthy students whose homes are in other Maine communities. Especially meritorious young men and women from Northport who have completed their undergraduate education at the University of Maine may be given grants in aid from the income of the fund for graduate or professional study at the University or at other institutions. Awards shall be made by the University committee responsible for the granting of scholarships and aid, subject to the approval of the President of the University.

The Donald S. Walker Scholarship Fund of \$15,700 was established by the late Donald S. Walker of Liberty, Maine, and New York City in 1953. The income of this fund is to be used annually, in the discretion of the Trustees of the University, to provide scholarship aid for one or more worthy students who are residents of Liberty, Appleton, Montville, Palermo or Searsmont, Maine, with preference to be given residents of Liberty.

The Mott F. Wilson Scholarship Fund was established in 1946 through a bequest of \$4,300 by the late Mott F. Wilson of Bangor, Maine. The net annual income is to be awarded to a deserving male student of the University whose home is located in Maine, and whose character, industry, and promise make him worthy of financial assistance.

The Gerald E. Wing Scholarship Fund of \$1,500 was established in 1957 by friends and associates of the late Gerald E. Wing, Class of 1926, an executive in the Scott Paper Company. The income from this fund is awarded annually to a deserving and promising freshman in the School of Forestry for use during his sophomore year in the School of Forestry. The award is made by the Office of Student Aid.

The Charles F. Woodman Fund, amounting to \$17,419, was established in 1939 through a bequest by the late Charles F. Woodman, of Auburn, Maine. The net income is to be used annually under the direction of the President and Trustees of the University for the assistance of deserving and needy students, "especially poor boys who are desirous and willing to work and earn an education."

Annual Scholarships

The American Can Company Foundation Scholarship, established in 1962 by the Dixie Cup Division of the American Can Company, is an annual award of \$500 to an undergraduate student who is a candidate for a degree in Chemical Engineering, Electrical Engineering, Mechanical Engineering, Industrial Engineering and/or Pulp and Paper Technology.

The scholarship will be administered by the Office of Student Aid with the single reservation that if scholastic ability and financial need are relatively equal preference will be granted to employees or family members of employees of the Dixie Division when awarding the scholarship.

The Associated Women Students Scholarship, \$200, established in 1962, is awarded to a deserving woman student.

The Elizabeth Abbott Balentine Scholarships, \$75, the gift of the Gamma Chapter of Alpha Omicron Pi, is awarded by the Office of Student Aid to a

UNIVERSITY OF MAINE CENTENNIAL

woman student, on recommendation of the Chapter with the approval of the President, on a basis of scholarship and individual need.

The Bates and Rogers Foundation Scholarships were established in 1957. One scholarship is awarded each year to a sophomore and shall provide \$400 for the sophomore year, \$400 for the junior year, and \$500 for the senior year, each yearly amount to be disbursed in equal installments following term registration.

Awards shall be made to students enrolled in the Department of Civil Engineering possessing the following qualifications: (a) initiative; (b) good character; (c) willingness to assume responsibilities outside the classroom; (d) be in the upper third of his class and (e) deserving of scholarship aid.

The Office of Student Aid shall weigh these factors about equally and shall have discretion within reasonable limits.

William Bingham, 2nd, Scholarships in Honor of Payson Smith, established in 1963 by an annual grant of \$1,000 from the "Betterment Fund" created by the will of the late William Bingham, 2nd, of Bethel, Oxford County, Maine. Awards are to be made to students who intend to enter the field of education (including college teaching) by the Office of Student Aid after consultation with the Headmaster of Gould Academy in the Town of Bethel, Maine, preference to be given to acceptable candidates (in the following order) from the Town of Bethel, from other towns in Oxford County, or from elsewhere in the State of Maine.

The Boston Paper Trade Association Scholarship, established in 1962 by that Association, is an annual award of \$150 to an upperclassman who is a resident of New England, registered in the Pulp and Paper Technology Course, and who demonstrates serious interest in the paper industry. The recipient shall be a student of good scholarship standing, active in extracurricular activities, and who gives evidence of financial need.

The Fred C. Boyce Student Award of \$200, established by the Paper Industry Management Association (PIMA) in 1961, is to be awarded annually to an outstanding member of the Junior Class at the University of Maine who has indicated his intention to major in the field of Pulp and Paper Technology, the selection of the recipient to be made by the faculty of the Chemical Engineering Department in collaboration with the Office of Student Aid at the University.

The Louis Calder Foundation Scholarships were established in 1961 by Louis Calder, a native of New York City, who has been active in the pulp and paper business for more than sixty years. Each award carries a \$1,000 grant.

Scholarships will be available as follows:

One for the academic year 1961-62, two for 1962-63, three for 1963-64, four each during 1964-65 and 1965-66, three in 1966-67, two in 1967-68 and one in 1968-69.

First preference is given to students from the Kennebec Watershed and to students whose major interest is pulp and paper technology or chemical engineering and who indicate a desire to enter the paper-making field.

The Charles M. Cox Trust Fund Scholarship of \$300 is awarded to a student or students in the College of Life Sciences and Agriculture on the basis of need, character, and scholarship ability. Preferably the scholarships will be awarded to undergraduate majors in dairy science or poultry science. The recipients will be selected by the Office of Student Aid.

The George P. Davenport Scholarship Fund of \$1,500 was established in 1959 by the Trustees Under the Will of George P. Davenport. Awards from this fund are to be made by the Office of Student Aid to needy and deserving

students who are residents of the State of Maine, preferably graduates of Morse High School, Bath, Maine.

The Delta Delta Delta Scholarship is awarded to any woman student whose qualities of character, scholarship, and leadership make her worthy of financial assistance.

The Geigy Dyestuffs Scholarship, established by that firm in 1962, is a scholarship of \$250 to be awarded to a student majoring in Pulp and Paper Technology, with preference being given to a junior. The recipient shall be a student of good character and ability, who demonstrated financial need, who is a citizen of the United States, and who declares his intention to practice his art or science in the United States or Canada.

The General Foods Fund Scholarships will be available to agricultural students for study in the areas of biological sciences, agricultural sciences and agricultural engineering as follows: during the academic year 1963-64 ten scholarships for freshmen in the amount of \$400 each; during the academic year 1964-65 five scholarships for sophomores in the amount of \$200 each and ten scholarships for freshmen in the amount of \$400 each. The University's Office of Student Aid will be responsible for the selection of awardees and for the administration of the scholarship program.

The General Motors Scholarship is awarded annually to a freshman upon the recommendation of the Office of Student Aid and with the approval of the General Motors Corporation Committee. The amount of the scholarship may range from \$200 up to an amount sufficient to cover all regular expenses.

The Graduate "M" Club Scholarships, established in 1950 by "M" Club alumni, are awarded annually by the Office of Student Aid to male students on the basis of a good academic record, need, qualities of leadership and physical ability. The amount of each scholarship may vary from \$100 as a minimum to the cost of tuition as a maximum.

The Stanley D. Gray Scholarship Fund. The University receives from the Trustee u/w of the late Stanley D. Gray, the annual income from a trust fund established under the will of the late Mr. Gray. Scholarship awards are made under the following terms: "The entire income shall be used each year in such way as most effectively to aid in securing a liberal education to such students, male or female, whose father or mother was a Gray descended from one of the name who settled in what is now Hancock Co., Maine, prior to the year eighteen hundred, as may be decided upon as most worthy of aid. Any superintendent of schools of any town in said County of Hancock may recommend students for such aid."

The Great Atlantic and Pacific Tea Company Scholarship, three scholarships of \$100 each, are available to students in Home Economics on the basis of character, financial need, promise of leadership, and scholarship, with special consideration to needs of entering students. Four scholarships of \$100 each are available to juniors and seniors majoring in Agricultural Business and Economics on the basis of character, scholarship, qualities of leadership and interest in distribution and marketing. Awards are made by a committee comprising the Dean of the College of Life Sciences and Agriculture, the head of the department concerned, and one or more members appointed by the Dean.

The Martin Hagopian Scholarship, established in 1950 by the Undergraduate "M" Club, is awarded annually to a male student on recommendation of the Scholarship Committee of the Club by the Office of Student Aid. The award may

UNIVERSITY OF MAINE CENTENNIAL

not exceed the amount of tuition and fees and is granted on the basis of need, promise of academic success, physical ability, and capacity and promise of leadership and success.

The Homelite Forestry Scholarship of \$500, contributed annually by Homelite, a division of Textron, Inc., of Port Chester, New York, is awarded to junior or senior students enrolled in the School of Forestry. Recipients are selected by a committee of the faculty of the School of Forestry on the basis of promise, competency and need.

The Charles H. Hood Dairy Foundation Scholarships, four, of \$400 each, for students in degree programs in the College of Life Sciences and Agriculture, and two, of \$150 each, for students in the two-year course in agriculture. The awards are restricted to upperclass students who are residents of New England and who are enrolled in programs related to dairying. Recipients must rank in the upper half of their class and have demonstrated qualities of leadership and good personal character. Primary consideration shall be the promise of future achievement. Selection of recipients will be by a committee appointed by the Dean of the College of Life Sciences and Agriculture.

The Maine Consumer Finance Association Tuition Scholarship, established in 1963, is awarded annually to a member of the junior class in the School of Business Administration. The award covers the student's tuition for the senior year, and selection is made by the staff of the School of Business Administration. The recipient must be a resident of Maine, have a superior academic record, and demonstrate leadership potential.

The Maine Farmer and Homemaker Scholarship of \$100, established in 1953, is awarded annually to a member of the senior class in the College of Life Sciences and Agriculture for use during the student's final undergraduate semester. The recipient shall have demonstrated high qualities of character, leadership, and scholarship. The committee on award shall consist of the Dean of the College of Life Sciences and Agriculture, the Secretary of the Maine Extension Association, and one other selected by them.

The Maine Hoo-Hoo Club Scholarship of \$200, established in 1954, is awarded annually to a male resident of Maine who is entering his senior year in Forestry, on the basis of need, scholarship, and intent to make a career of forestry or the lumber industry. The selection is made by the Office of Student Aid in consultation with the director of the School of Forestry.

The Maine Managers' Scholarship, of \$200, established in 1957 by the Town and City Managers' Association of Maine, is awarded annually to a Public Management student in Arts or Technology on the basis of scholarship, financial need, character, and sincere interest in the profession of manager. The award is made by a committee of the Maine Town and City Managers' Association.

The Maine Poultry Improvement Association Scholarship of \$200, established in 1953, is awarded annually to one or more juniors or seniors majoring in poultry science. The award is to be made on the basis of high moral character, scholastic achievement, quality of leadership, and financial need. The committee on award consists of the Dean of the College of Life Sciences and Agriculture, the Head of the Department of Animal Sciences, and one other appointed by the Dean.

The National Plant Food Institute Scholarship of \$200, established in 1951, is available to an outstanding junior or senior student majoring in the Department of Plants and Soils, who is in the upper quarter of his class in the College of

Life Sciences and Agriculture and shows promise of advancing or promoting knowledge of the principles of sound soil fertility maintenance. The award is to be made annually in the fall semester by a committee consisting of the Dean of the College of Life Sciences and Agriculture, the Head of the Plants and Soils Department, and one other member appointed by the Dean.

The David M. Nelson Scholarship of \$100, established in 1964 by Ralph C. Ham, '52, and Marguerite F. Ham, '52, is awarded annually by the Office of Student Aid to a needy and deserving student. Preference is given to an athlete (preferably a football player) one year and the alternate year to a theatre-dramatics and/or speech major.

The Northeastern Division Paper Industry Management Association Scholarship of \$200 is awarded to a senior, taking a Pulp and Paper program, on the basis of his first three years of college work. The recipient shall be outstanding scholastically and shall have demonstrated qualities of leadership as well as be in financial need. The selection shall be made by the Chemical Engineering Department in cooperation with the Office of Student Aid.

The Ober Award, a scholarship contributed by the Scott Paper Company of Chester, Pennsylvania, and named in honor of John Larcom Ober, '13, provides stipends of \$1,000 in the fourth and fifth years of the Five-Year Pulp and Paper Program, and is awarded to an outstanding student, selected on consideration of leadership, personality, and ability. The selection is made in the spring semester of the junior year. The award includes an offer of summer employment with the Scott Paper Company.

The Paper Trade Journal Scholarship of \$750, established in 1957 by the *Paper Trade Journal* of New York, is awarded annually to an entering freshman who plans to enter the pulp and paper industry and who, because of financial need, might not otherwise enroll at the University. Awards shall be made by the Office of Student Aid on the basis of interest in and plans to enter the pulp and paper industry, academic record, and financial need. The scholarship will be continued for the sophomore year if the recipient meets or continues to meet the above requirements.

The Penick and Ford Scholarship in Pulp and Paper Technology of \$500 is awarded to a senior student majoring in pulp and paper technology who has an interest in and shows future promise in the sales and service branch of the pulp and paper industry and whose academic record is satisfactory. Selection will be made after personal interviews with students who express possible interest in the phase of the pulp and paper industry in which Penick and Ford are engaged.

The Pennsylvania, New Jersey, and Delaware Division of the Paper Industry Management Association Annual Scholarship Award of \$500 is awarded about November 1 to a man who has satisfactorily completed four years of the pulp and paper technology curriculum and who has displayed outstanding qualifications scholastically, as well as for personality, cooperation, and qualities of leadership, and in need of financial assistance. A special committee made up of the instructional staff of the Chemical Engineering Department in collaboration with the Director of Student Aid shall select the recipient.

The Barbara Bosworth Scholarship of Phi Mu, \$100, established in 1951 by the Pi Chapter of Phi Mu Fraternity, is awarded annually to a woman student of the sophomore or junior class on the basis of satisfactory scholastic record, financial need, and qualities of leadership, on the recommendation of the Chapter.

The Pi Beta Phi Scholarship, \$100, is awarded annually by the Office of student Aid to a deserving undergraduate woman student.

The Pulp and Paper Foundation Scholarships are available in two categories from the University of Maine Pulp and Paper Foundation.

(a) Tuition scholarships to qualified junior and senior students, in the Forestry curriculum and all curricula in the College of Technology, who plan to enter the pulp and paper industry, or allied companies, following graduation. Applications should be made through the Office of the Dean of the College of Technology.

(b) Grants of \$1,200 each to qualified students enrolled in the fifth year of the Pulp and Paper Management options offered in the College of Technology. Applications should be made through the Office of the Dean of the College of Technology.

The Ralston Purina Scholarship of \$500, contributed annually by the Ralston Purina Company of St. Louis, Missouri, is awarded to a senior in agriculture. The recipient is selected by a committee of the faculty of the College of Life Sciences and Agriculture on the basis of promise and financial need.

The Retail Lumber Dealers Association of Maine Scholarship, \$100, established in 1956 by that Association is awarded annually to a senior majoring in forestry at the discretion of the faculty of the School of Forestry.

The Rice and Miller Company Scholarship Fund was established in 1958 by the Company with an initial gift of \$500. The Office of Student Aid shall make an award annually to a student (or students) who needs and merits financial assistance. First consideration shall be given to sons and daughters of persons who are employed by Rice and Miller Company at the time the application is filed.

The Harrison L. Richardson Scholarship, \$50, established in 1962 by Harrison L. Richardson, Jr., in memory of his late father Harrison L. Richardson, is to be awarded to a male student at the University of Maine at Orono, Maine. This award is to be made at the discretion of the appropriate administrative officers of the University upon consideration of the following: 1) need for financial assistance; 2) satisfactory academic performance; 3) physical ability; and 4) demonstrated leadership potential.

The Sears-Roebuck Agricultural Foundation Scholarships, seven, of \$300 each, established in 1940, are available to Maine farm boys entering as freshmen in the four-year course in agriculture. The award is made by a committee comprising the Dean of the College of Life Sciences and Agriculture and such others as he may designate. The awards are to be based on character, scholarship, qualities of leadership, and financial need. An additional scholarship of \$300 is to be awarded to that sophomore who as one of the winners of the Freshman Scholarships achieves the most satisfactory record and is considered to be the most deserving from the standpoint of financial need and otherwise by the committee on awards.

Two scholarships of \$300 each, established in 1951, are available to girls entering Home Economics as freshmen. These awards, available to natives of Maine, are made on the basis of high school and community activities, scholarship, character, and financial need. The selection is made by a committee consisting of the Dean of the College of Life Sciences and Agriculture, Director of the School of Home Economics, and one other appointed by the Dean.

The Senior Skull Scholarship of \$100 is awarded annually to a male stu-

dent in the second semester of his sophomore year, to be used by him during his junior year. The recipient of the award is chosen by the Office of Student Aid on the basis of qualities of leadership, campus citizenship, creditable scholastic attainment, or a 2.00 minimum accumulative point average, and financial need.

The Carl R. and Laura Smith Scholarship of full tuition credit for one year, established in 1960, is contributed annually by the Bangor and Aroostook Railroad in honor of Mr. and Mrs. Carl R. Smith of Exeter, Maine, on the occasion of their fiftieth wedding anniversary. The scholarship is awarded to that freshman entering the College of Life Sciences and Agriculture from Aroostook, Penobscot, Piscataquis, or Waldo county who most clearly demonstrates serious financial need together with high moral character and promise of successful scholarship in a degree program. The award is to be made annually by the Office of Student Aid in consultation with the Dean of the College of Life Sciences and Agriculture.

The Joel J. and Annie H. Walker Scholarships were established by the late Donald S. Walker and his sister the late Madge H. Walker in honor of their parents. The University receives annually from a trust fund approximately \$20,000 which is administered by the Office of Student Aid for graduate and undergraduate students who have been residents of the Townships of Liberty, Appleton, Montville, Palermo, Searsmont, and Washington in the State of Maine. In order to be eligible, an applicant must have been a resident of one of these towns for at least three years immediately preceding the receipt of the award. Selection of recipients by the Office is based upon ability, character, financial need, and academic standing.

The Stanley M. Wallace Scholarship, established in 1956 by the intramural Athletic Association of the University of Maine, is awarded annually by the Office of Student Aid to an entering male student on the basis of a good academic record, need, qualities of leadership, and physical ability, with the understanding that the Intramural Athletic Association may select the recipients of this award from names recommended by the Office of Student Aid. The amount of the award may range from \$100 as a minimum to the cost of tuition and fees as a maximum.

A Western Electric Company Scholarship, amounting to from \$400 to \$800, is awarded annually to an undergraduate student in the College of Technology. The selection is made by the Office of Student Aid upon the basis of need and ability in a field of study related to the Company's operations.

The Beatrice Batchelder Wright Scholarship, a tuition credit of \$400, was established in 1961 by the Maine Branch of the Woman's National Farm and Garden Association. This scholarship is awarded annually by the Office of Student Aid to a worthy student, man or woman, who is already registered for or about to enter the University of Maine for a major course in agriculture, animal science, horticulture, landscape gardening, forestry, wildlife conservation, or other related fields.

The York County Poultry Improvement Association Scholarship of \$100, established in 1958, is awarded annually to a boy or girl, preferably from York County, who is majoring in poultry science or intends to major in poultry science. In the absence of a satisfactory candidate from York County, the award may be made to a deserving student from another county who is studying or intends to study poultry science. The basis of the award shall be need, scholarship, and potential for making a contribution to the poultry industry. The selection is made

UNIVERSITY OF MAINE CENTENNIAL

by the Office of Student Aid in consultation with the head of the department of Animal Sciences.

The Zonta Club of Bangor Scholarship of \$400 was established in 1959. This annual award is made to a worthy girl who has completed the first year in the University School of Nursing, the recipient to be chosen by a committee from that school in collaboration with the Office of Student Aid with the first consideration to be given to a student from the Bangor-Brewer area.

Alumni Association Scholarships

The Androscoggin Valley Alumnae Scholarship of \$100, the gift of the Androscoggin Valley Alumnae, is awarded by the Office of Student Aid to a needy and deserving woman student from Androscoggin County.

The Eastern Pennsylvania Alumni Association Scholarship, \$50, established in 1935, is awarded annually to some needy and deserving student, with preference given to the vicinity of Philadelphia.

The Northern Connecticut Alumni Association Scholarship, \$50, established in 1935, is awarded annually to a needy and deserving student, with preference given to students from Northern Connecticut.

The North Shore (Massachusetts) University of Maine Alumni Association Scholarship, \$100, established in 1956, is awarded to a student of good character, promise of academic success, and in need of financial assistance, with preference being given to the Massachusetts North Shore Area.

The Portland Alumnae Association Scholarship, \$100, established in 1938, is awarded annually to a deserving upperclass woman whose home is in Cumberland County. The award is made upon the basis of need of financial assistance, satisfactory record and conduct, and evidence of qualities of leadership and of scholastic attainment.

The Southern Penobscot Alumnae Association Scholarship of \$100, the gift of the Southern Penobscot alumnae, is awarded to a needy and deserving student.

The Western Pennsylvania Alumni Association Scholarship, \$100, established in 1905, is awarded annually to a member of the junior class in the College of Technology whose ability and need justify the award.

The Worcester County, Massachusetts, Alumni Association Scholarship, \$50, established in 1935, is awarded annually to a worthy student from Worcester County, preferably an entering freshman.

UNIVERSITY OF MAINE FOUNDATION FUNDS

The Maria S. Appleton Fund was established in 1939 through a bequest of \$5,000 by the late Maria S. Appleton, of Bangor, Maine, to the University of Maine Foundation. The income of this fund is to be used for scholarships to be awarded annually to deserving and needy students.

The Hosea B. Buck Memorial Scholarships, the income from a fund now amounting to \$5,000, raised through the University of Maine Foundation, of which Mr. Buck was a charter member, were established in 1938 by friends and alumni of the University, in memory of Hosea B. Buck, of the Class of 1893. One or more scholarships are awarded annually to students whose high character, qualities of leadership, creditable academic record, and financial need make them worthy of scholarship aid.

The Ava H. Chadbourne Fund was established in 1954 by a gift of \$5,198

to the University of Maine Foundation by Professor Emerita Ava H. Chadbourne, Class of 1915. The income from this fund, up to the amount of the room rent, is awarded annually to a freshman woman student residing in Chadbourne Hall (when freshman women are housed in Chadbourne Hall) who is a native born and life long resident of the State of Maine. Preference is to be given to applicants in the following order: (1) a member of the Chadbourne family (the Maine residence requirement does not apply to applicants in this category), (2) a graduate of Mattawamkeag High School, (3) a graduate of Lee Academy, and (4) a student who lives near Mattawamkeag. When there is more than one applicant, the Office of Student Aid will apply its own criteria of scholarship and need as the basis for the award.

The James W. Clarkson Fund was established in 1958 by an initial, unrestricted gift of \$1,500 by Robert N. Haskell, Class of 1925, to the University of Maine Foundation. By vote of the Directors of the Foundation, the income of this fund is to be awarded annually to a needy and deserving student, with first consideration to be given to a student who is majoring in Wildlife Management.

The Class of 1906 Scholarship, the income from a fund of \$1,800 presented to the University of Maine Foundation by the members of the Class of 1906, is awarded annually to a worthy student in need of financial aid.

The Class of 1909 Scholarship, the income from a fund of \$7,036 presented to the University of Maine Foundation by the members of the Class of 1909, is used for scholarship awards to worthy students in need of financial aid.

The Class of 1910 Scholarship, the income from a fund of \$5,255 given without restriction to the University of Maine Foundation in 1946, is awarded annually to a student of good character and ability who needs and merits financial aid.

The Class of 1911 Scholarship, the income from a fund of \$19,130 donated to the University of Maine Foundation, is awarded annually to an upper-class student of good character and satisfactory conduct and rank, who possesses qualities of leadership and who needs and merits financial aid. Special consideration is given to sons and daughters of members of the Class.

The Class of 1912 Scholarship, the income from a fund of \$3,100 presented to the University of Maine Foundation by the members of the Class of 1912 at their 50th reunion is awarded without restrictions for scholarship purposes.

The Class of 1915 Student Aid Fund, the income from a fund of \$7,015 given in trust to the University of Maine Foundation, is to be used by the President of the University at his discretion for assisting needy students in such manner and amounts as he deems expedient.

The Class of 1916 Scholarship, the income from a fund of \$1,800 donated to the University of Maine Foundation in 1941, is awarded annually to a student of good character who needs and merits financial aid.

The Class of 1917 Scholarship, the income from a fund of \$7,591 presented to the University of Maine Foundation in 1942, is awarded annually to an upperclass student of good character and satisfactory rank, who possesses qualities of leadership and who needs and merits financial aid. Special consideration is given to sons and daughters of members of the Class of 1917.

The Class of 1919 Fund, the income from a gift of \$2,710 presented to the University of Maine Foundation in 1944 is to be used for a scholarship to be

UNIVERSITY OF MAINE CENTENNIAL

awarded annually to a student of good character who needs and merits financial aid.

The Class of 1929 Scholarship, the income from a fund of \$10,166 donated to the University of Maine Foundation in 1945, is awarded annually on a basis of need, promise of academic success, physical ability and capacity and promise of leadership and success.

The Class of 1921 Scholarship, the income from \$3,350, established with the University of Maine Foundation in 1946, is awarded without restrictions for scholarship purposes.

The Class of 1923 Scholarship, the income from \$2,020 donated to the University of Maine Foundation in 1953, is to be awarded to a student of good character, satisfactory scholastic record, and who needs financial aid.

The Class of 1924 Scholarship, the income from a fund of \$16,119 presented to the University of Maine Foundation by the members of the Class of 1924, is awarded annually to a deserving student, with particular consideration to be given to character, general ability, and financial need.

The Class of 1925 Scholarship, the income from a fund of \$3,791 presented to the University of Maine Foundation in 1955, is awarded annually on such basis as the University may determine.

The Class of 1927 Scholarship, the income of \$2,550 presented to the University of Maine Foundation in 1953, is to be awarded annually to a worthy student attending the University.

The Class of 1928 Fund was established in 1953 by the gift of \$2,488 to the University of Maine Foundation by the members of that class. The income from this fund is awarded annually to a student of good character who has made a satisfactory academic record at the University and who needs and merits financial assistance.

The Class of 1929 Student Aid Fund, the income from \$3,500, presented to the University of Maine Foundation by members of that class, is to be awarded annually by the Student Aid Committee to assist needy and deserving students who will not be obligated to repay these grants.

The Class of 1930 Fund, established in 1955 by an unrestricted gift of \$2,555 with the suggestion that the income be used to assist deserving students.

The Class of 1937 Scholarship, the income from a fund of \$2,571 presented to the University of Maine Foundation by the members of the Class of 1937 at their 25th reunion is to be used without restriction for scholarship awards.

The Class of 1953 Grant-in-Aid Fund, established in 1953 by a gift of \$1,569 to the University of Maine Foundation by members of that class, the income and/or principal in the amount of \$50, to be given each year to a senior man or woman, who shows pressing financial need and is fulfilling the requirements for graduation.

The Class of 1958 Scholarship, the income from a fund of \$2,323 donated to the University of Maine in 1958, is awarded annually to an upperclass student who needs and merits financial aid. Special consideration is given to sons and daughters of members of the class.

The C. Parker Crowell Fund was established in 1961 by a gift of \$2,500 to the University of Maine Foundation by Alan W. and Robert P. Crowell in memory of their father, C. Parker Crowell, Class of 1898. The income from this fund is to be awarded annually, preferably to an entering or upperclass student who is a graduate of Bangor or Orono High Schools, who is of "fine character, who needs

and merits financial assistance and who has made a good scholastic record."

The Eugene Danforth Scholarship Fund was established in 1957 through a bequest of \$10,739 to the University of Maine Foundation by Agnes H. Danforth of Bangor. The income is to be awarded to deserving students who are legal residents of Maine and who are majoring in forestry, forest products, pulp and paper, or other courses related to the scientific and industrial development of the wood products industries.

The Emma Jane Eaton Scholarship Fund was established in 1946 through a bequest of \$10,000 to the University of Maine Foundation by the late Emma Jane Eaton of Calais, Maine. The income from this fund is awarded annually to students whose character, academic record, qualities of leadership, and need make them worthy of aid. First consideration is given to graduates of Calais Memorial High School, and if there are no eligible recipients from that school, awards may then be made to other students who are natives of Washington County. Entering students who have made an outstanding secondary school record, and who need and merit financial aid, shall be eligible for Eaton scholarships.

The James Adrian Gannett Scholarship, the income from a fund of \$2,773 presented to the University of Maine Foundation by members of the Class of 1908 in honor of their classmate, is awarded annually to a worthy student who needs financial support.

The Charles E. Gilbert Scholarship of \$200, established in 1953 through a bequest to the University of Maine Foundation by Charles E. Gilbert, Class of 1894, available for the fall semester in each year in such amount and upon such terms and conditions and for such worthy and needy student or students as the Maine Beta Upsilon Chapter of Alpha Tau Omega may determine. The award is made in accordance with University scholarship policies, and is administered by the Office of Student Aid.

The Lucy F. Griffin Fund was established in 1950 through a bequest of \$10,000 to the University of Maine Foundation by the late Jane B. Pickering, of Bangor, in memory of her sister. The income of this fund is to be used, with the approval of the Office of Student Aid and the President of the University, for the benefit of needy students who have successfully passed their examinations during the freshman year and indicate by their general standing in the institution an earnest desire to acquire an education.

The George W. Hamblen Fund was established in 1964 through a bequest of \$38,289 to the University of Maine Foundation by the late George W. Hamblen. The income of this fund is to be used for scholarships for worthy students in such manner as the Directors of the Foundation deem appropriate.

The Robert C. Hamlet Prize, established in 1935, through a bequest to the University of Maine Foundation in accordance with the will of Mr. Hamlet, a graduate of the University in the Class of 1925, the income from a fund of \$1,300, is awarded annually to that student in the University who shall have written the best original one-act play during the year. The judges are the Dean of the College of Arts and Sciences, the head of the Department of English, and the President of the Maine Masque.

The George O. Hamlin Scholarship Fund of \$1,500 was established in 1937 by George Otis Hamlin, Class of 1900. The income from this fund is awarded annually on a basis of satisfactory academic record and conduct, qualities of leadership and financial need to a student who is a resident of Lincoln County.

UNIVERSITY OF MAINE CENTENNIAL

The James Norris Hart Scholarships, the income from a fund of \$7,469 raised through the University of Maine Foundation in 1937 by alumni, faculty, and friends, in honor of the late Dean Emeritus James Norris Hart, are awarded annually to entering students, or upperclassmen who have made satisfactory scholastic records, who have been leaders in extracurricular activities, and who merit and need financial aid.

The Arthur A. Hauck Fund was established in 1944 by a fund of \$10,658 raised by alumni and friends on the occasion of Doctor Hauck's tenth anniversary as president of the University of Maine. This fund is held in trust by the University of Maine Foundation and the income may be used by the President for any University need.

The President Hauck Scholarship Fund was established in 1949 by a gift of \$2,862 to the University of Maine Foundation from the classes of 1949, 1950, 1951, and 1952. The income from this fund is to be used by the President of the University for assisting needy students in such manner and amounts as he deems expedient.

The Thelma Louise Kellogg Fund was established in 1949 through a bequest of \$25,094 by the late Theima Louise Kellogg, Class of 1918, to the University of Maine Foundation. The income of this fund is to be used for scholarships to be awarded to students whose academic record and conduct are satisfactory and who need and merit financial aid.

The Benjamin C. Kent Fund of \$6,068 was established in 1951 by gifts of alumni and friends to the University of Maine Foundation as a scholarship fund in memory of the late Benjamin C. Kent, Class of 1912, and for many years a member of the University faculty. The income from this fund is to be awarded annually to male students, either entering freshmen or upperclassmen, on a basis of need, promise of academic success, character, physical ability capacity and promise of leadership and success.

The Harriet S. Kilby Scholarship of \$100, established with the University of Maine Foundation in 1954, is to be awarded annually to a student in home economics whose academic record is satisfactory and who needs and is worthy of financial aid.

The Harland A. Ladd Scholarship Fund was established in 1955 by a gift of \$2,900 to the University of Maine Foundation in memory of Harland A. Ladd of the Class of 1925. The income is to be awarded to students who are training to become teachers and who are residents of Maine.

The Nathan Levitan Scholarship Fund was established in 1959 by Dr. Leon B. Levitan, Class of 1938, in memory of his father by gift of \$6,000 to the University of Maine Foundation. The income from this fund shall be awarded annually to a graduate or undergraduate student or students in the field of social, theoretical, or historical (but not applied) Economics who need financial assistance and whose scholastic standing indicates promise of high academic success. If in any year no student qualifies for the award, the income shall be added to the principal of the fund.

The Alfred B. Lingley Scholarship Fund of \$4,700 was established in 1952 by Alfred B. Lingley '20, the income to be awarded to a male student at the University or to an entering freshman on a basis of need, promise of academic success, physical ability, and capacity and promise of leadership.

The George E. Lord Scholarship Fund was established in 1963 through a gift of \$2,546 by friends of the late George E. Lord. The income from the fund

is to be awarded to members of the freshman class in the University of Maine who are residents of Maine and who have been active 4-H club members. Recipients will be selected by the Office of Student Aid on the basis of character, financial need, and satisfactory scholarship attainment.

The Harold P. Marsh Scholarship Fund was established in 1958 through a bequest of \$111,010 to the University of Maine Foundation by the late Harold P. Marsh, Class of 1909, the income to be used for scholarship awards for the benefit of deserving and needy students at the University under such terms as the officers of the Foundation may determine.

The Frank P. Morison Fund was established in 1952 through a bequest of \$5,000 to the University of Maine Foundation by the late Frank P. Morison. The income from this fund is to be used for one or more scholarships awarded on a basis of good character, satisfactory academic record and financial need.

The William A. Murray Fund was established in 1964 through an unrestricted bequest of \$60,566 by the late William A. Murray, a graduate of the University, Class of 1899. By vote of the Directors the income from this fund shall be used for scholarships to be awarded by the University under such terms and conditions as the President of the University and the Director of Student Aid may determine.

The Greater New York Alumni Association Scholarship, now amounting to \$4,841, was established in 1955 by an initial gift of \$2,000 to the University of Maine Foundation. The income is to be awarded to any student, entering or enrolled, on a basis of general all-round qualifications with special consideration to be given to leadership. First preference shall be given to students who reside in the Greater New York area.

The Penobscot County Alumni Association Scholarship, \$50, was established in 1920 and endowed by creating a gift of a fund of \$1,250 to the University of Maine Foundation in 1940. This scholarship is awarded by the President of the University, the Executive Director of the General Alumni Association and the Office of Student Aid, to a male student whose home is in Penobscot County, who is found to be needy and deserving, and whose scholarship and conduct are satisfactory.

The Harold M. Pierce Fund was established in 1962 through a bequest of \$5,000 to the University of Maine Foundation by the late Harold M. Pierce, Class of 1919. The income from the fund is to be used for general scholarship support to be administered by the Office of Student Aid to freshman or upperclass students as the need may arise.

The Wesley C. Plumer Scholarship, now amounting to \$8,327, was established in 1961 by Wesley C. Plumer, Class of 1921, through a gift to the University of Maine Foundation. The income from this fund is to be awarded annually to a student or students in the College of Technology at the discretion of Foundation Directors and University Officials.

The John Reed '89 Scholarship Fund was established in 1958 through a bequest of \$33,999.37 to the University of Maine Foundation by the late Elizabeth H. Reed in memory of her husband, the income to be awarded annually to some worthy student or students enrolled in the College of Technology, the scholarships to be known as the John Reed '89 Scholarships.

The Rhode Island Alumni Association Scholarship, \$50, established in 1935 and endowed in 1945 by a gift of \$1,530 to the University of Maine Foundation, is awarded to a male student from Rhode Island or that portion of

UNIVERSITY OF MAINE CENTENNIAL

Massachusetts included in that Association, whose personal and scholastic record is satisfactory and who has been prominent in extracurricular activities.

The Senior Alumni Scholarship Fund, now amounting to \$10,036, was established in 1947 by the University of Maine Senior Alumni as a gift to the University of Maine Foundation. Four scholarships of \$150 each are awarded annually to worthy students selected by the President of the University and the Office of Student Aid.

The Anna Strickland Fund was established in 1951 through a bequest of approximately \$14,700 by the late Mary R. Strickland, of Bangor, Maine, to the University of Maine Foundation in memory of her daughter who taught music at the Northern Conservatory and the University. The income from this fund is to be used for scholarships to be awarded annually to needy and deserving students, with special consideration to be given to those majoring in music.

The William Jordan Sweetser Fund was established in 1958 through a bequest of \$1,000 by Elizabeth N. Sweetser to the University of Maine Foundation in memory of her husband, William Jordan Sweetser, who was for many years professor and head of the department of mechanical engineering at the University of Maine, the income to be used for a scholarship to be awarded to a student enrolled in mechanical engineering.

The Chestina Blaisdell Urann Fund was established in 1947 though a gift of \$10,000 to the University of Maine Foundation by Marcus L. Urann of the Class of 1897 in memory of his mother. The net income of this fund is to be used for scholarships to be awarded to students of superior ability, high ideals, and excellent character who need and merit financial assistance in obtaining their education at the University.

The Alburney E. Webber, Jr. Scholarship was established by a gift of \$1,000 to the University of Maine Foundation in 1956 from the estate of Alburney E. Webber in memory of his son who was a member of the Class of 1933 at the University. The income from this fund is to be awarded annually to a needy and deserving student of good character and satisfactory academic record.

The Ralph Whittier Fund of \$5,000 was established in 1950, through a bequest of the late Ralph Whittier, Class of 1902, to the University of Maine Foundation. The income from this fund is to be used for scholarships for needy and deserving students, chosen on the basis of good character and satisfactory academic record.

The Dorothy H. and Arthur O. Willey Fund of \$10,150 was established in 1963 by a gift to the University of Maine Foundation from Mr. A. O. Willey, Class of 1924. The income from this fund is to be awarded annually by the Office of Student Aid to worthy students in need of financial assistance, with first preference being given to majors in Mechanical Engineering.

PRIZES

Endowed Prizes and Awards

The Prize of the Class of 1873, the income from \$1,220, the gift of Russell W. Eaton, of Brunswick, Maine, a member of the Class of 1873, is awarded annually to that student pursuing the basic course in mechanical drawing who shows the greatest improvement. It is expected that candidates for this prize shall have had no training in mechanical drawing previous to entering the University.

The Milton Ellis Prize, the income from a fund of \$1,075 contributed by

friends of the late Dr. Milton Ellis, is to be awarded annually to that senior English major who ranks highest in the comprehensive examinations.

The Claude Dewing Graton Prize, the income from a fund of \$1,760, donated by Mr. Graton, of the Class of 1900, is awarded annually to a regularly enrolled undergraduate student who shall have written the best essay on some current constitutional question, in accordance with rules announced by the Professor of the course in The American Constitution.

The Henry L. Griffin Prize in English Composition, the income from a fund of \$250, established in honor of the late Rev. Henry L. Griffin, of Bangor, Maine, is awarded by the Department of English for excellence in the freshman course in composition. The chief basis of the award is a competition in writing held during the month of April.

The Maine Hardwood Association Award, the income from a fund of \$1,766, established in 1939, is awarded annually to the senior student in the School of Forestry who shall have achieved the highest rating in the courses in wood utilization and technology and the basic sciences leading to this field. The Director of the School of Forestry will appoint a committee and act as chairman of that committee to determine the specifications on which the rating is based, and to select the recipient.

The John M. Oak Scholarship Prizes, the income from a fund of \$1,630, established in 1935 by the estate of Mr. Oak, a graduate of the Class of 1873 and a Trustee of the University from 1908 to 1915, for the advancement of the art of public speaking in the University, are awarded annually to those upperclass students who deliver the best speeches of the persuasive type in a contest held for that purpose, open to men and women, except that no student who has already won the first prize shall be eligible to compete.

The John Ferdinand Steinmetz Memorial Award was established in 1962 through a gift of \$1,000 by the parents and two sisters of the late John Ferdinand Steinmetz of the Class of 1943. The income of this fund is to be used annually as an award to a needy honor student of unquestionable moral character and integrity chosen by the University honors committee at the end of the first year. The award is to be in the form of books, marked with appropriate memorial book plates.

Annual Prizes and Awards

The Alpha Omicron Pi Alumnae Prize, \$10, given by the Bangor Alumnae Chapter, is awarded annually to the woman student showing the greatest improvement in her work during her freshman year. The record at the Registrar's office showing the comparison of grades of the fall semester with those of the spring semester, shall furnish the basis of award.

The Chi Omega Prize, \$25, offered bi-annually by the Chi Omega Sorority in accordance with its national policy, to the highest ranking woman of the junior or senior class who is majoring in sociology, business, psychology or political science, with special consideration given to a student whose interest lies in the field of political science. General deportment and interest in further study in one of these fields may be considered in making the award.

The Dorothy Stone Clark Memorial Prize, \$25, the gift of Chi Omega Sorority, is awarded bi-annually to the highest ranking sophomore majoring in Home Economics. The prize will be given to the girl who has the highest accumu-

UNIVERSITY OF MAINE CENTENNIAL

lative average for two semesters of the freshman year and the fall semester of the sophomore year.

The Frank H. Dalton Award in Bacteriology, \$25, the gift of Mrs. Frank H. Dalton in memory of her late husband, is presented to any sophomore or junior who has completed the course in General Bacteriology. The award is made to that student who has demonstrated exceptional interest and ability in Bacteriology during his or her initial course. The Committee of Award shall consist of the head of the department of Bacteriology and the staff members who teach the general course.

The Delta Zeta Prize in English, \$10, given by the Bangor Alumnae Club of Delta Zeta, is awarded to the freshman woman who does the best work in the first semester of Freshman English, especially in her writing.

The Freshman Algebra Prizes, \$25, \$15, and \$10, were established in 1953 by Thomas Buck of the Class of 1901. These are awarded to the three freshmen who rank highest in an examination in algebra given by the department of Mathematics early in the second semester.

The Helen A. Lengyel Award, established in 1951 by the Women's Athletic Association in honor of Professor Emerita Helen A. Lengyel, Head of the Women's Division, Department of Physical Education from 1924 to 1949, is awarded each year to a woman student on the basis of high moral character, scholastic achievement, financial need, and high standing in the Association. The Committee of Award includes the members of the senior class on the Women's Athletic Council, the Faculty Adviser, and the Head of the Women's Division, Department of Physical Education.

The Maine Association of Engineers Honor Award, \$100 in cash, together with a Certificate of Award, is presented to a member of the senior class in the College of Technology, who shall be unanimously selected by the Committee of Award on the basis of high moral character, scholastic achievement, and qualities of leadership throughout his college career. The Committee of Award shall be composed of the Director of Student Aid, the Dean of the College of Technology, and the President of the Maine Association of Engineers, or such other member of the Association as he may designate. All senior students in the College of Technology, whether graduating in February or June, who are enrolled in a course leading to a degree in Chemical, Civil, Electrical, or Mechanical Engineering, and who are residents of the State of Maine, shall be eligible for consideration by the Committee of Award.

The Carl Whitcomb Meinecke Award, \$25, the gift of Mrs. Carl W. Meinecke in memory of her late husband, is presented to a junior or senior majoring in the Department of Civil Engineering. The award is made on the basis of character, scholarship, and promise by the Dean of the College of Technology and the head of the Department of Civil Engineering.

The James Gordon Selwood Scholarships, two or more, were established in 1946 as the Mu Alpha Epsilon Scholarships and later renamed in memory of the late James Gordon Selwood. These scholarships are awarded annually to deserving students who by audition qualify for a scholarship of one year's tuition in Applied Music, voice or instrumental. Musicianship, talent, future use and need are considered in making the awards.

The Panhellenic Scholarship Award. Each spring the Panhellenic Council recognizes the achievement of the sorority which has the highest scholastic

average for the preceding two semesters. The award consists of a certificate of recognition plus the custodianship of the Panhellenic Scholarship Silver Plate for a year.

The Sigma Chi Foundation Scholarship Cup, donated in 1947 by Dr. Raymond H. Fogler of the Class of 1915, through the Sigma Chi Foundation, is awarded semi-annually to the fraternity whose active members attain the highest standing in scholarship for the preceding semester. The cup will become the permanent property of the fraternity to which it is awarded the greatest number of times during a fifteen-year period. If two or more fraternities win the cup the same number of times, the cup shall be awarded to the tying fraternity having the highest cumulative scholastic standing for the entire fifteen-year period.

The original cup was retired in 1962 by Alpha Gamma Rho and a new cup was donated by Dr. Raymond H. Fogler to be awarded under the same rules.

The Interfraternity Singing Contest Trophy. The Interfraternity Sing was initiated in 1942 and has been a yearly event since that time, with the exception of the war years 1944-46. Three trophies have been presented during this interval. The first trophy given by the Cleveland Alumni was retired by Sigma Alpha Epsilon in 1948. The second trophy was given by the Ohio Alumni Association and retired in 1953 by Theta Chi. The third trophy, donated by Colonel Joseph A. McCusker, '17, was retired in 1962 by Theta Chi.

Since the retirement of the McCusker trophy, the Interfraternity Council has awarded a trophy each year to the fraternity winning the contest.

The Charles Rice Cup, presented in 1921 by the Kappa Sigma Fraternity in honor of Charles Anthony Rice, of the Class of 1917, who was killed in service, is held for one year by the team winning the Intramural Track Championship.

The Intramural Plaques are presented each year by the Intramural Athletic Association to the fraternities making the best showing in each major intramural sport, and an all-point plaque is given to that fraternity which makes the best performance in all the sports.

The Washington Alumni Association Watch is presented annually by the Alumni Association of Washington, D. C., to the male member of the graduating class who, in the opinion of the students and the University administration, has done the most for the University during his course. This award is made as the result of a secret ballot by the students, passed upon by the President and the Deans.

The Portland Alumnae Memorial Watch is presented annually by the Portland Club of University of Maine Women to the woman member of the graduating class who, in the opinion of the students and the University administration, has done the most for the University during her course. This award is made as a result of a secret ballot by the students, passed upon by the President and the Deans.



Coburn Hall 1888

COLLEGE OF LIFE SCIENCES
AND AGRICULTURE

Winthrop C. Libby, Dean



Hitchner Hall 1959



College of Life Sciences and Agriculture

The College of Life Sciences and Agriculture is composed of the School of Forestry, the School of Home Economics, and the departments of Agricultural Business and Economics, Agricultural Engineering, Animal Science, Animal Pathology, Bacteriology, Biochemistry, Botany and Plant Pathology, Entomology, and Plants and Soils.

While considerable variation in program requirements exists among units of the College, all have as common objectives: proficiency in a professional subject-matter field and broad, liberal training for effective citizenship.

The College offers programs leading to the Bachelor of Science degree in the following fields:

1. **Agricultural Business and Economics**
2. **Agricultural Engineering (Jointly with College of Technology)**
3. **Animal Sciences**
4. **Bacteriology**
5. **Biochemistry**
6. **Biology**
7. **Botany**
8. **Entomology**
9. **Forestry and Wildlife Management**
10. **Home Economics**
11. **Plant and Soil Sciences**

In addition to the above, special programs in Agricultural Education, Dairy Manufacturing, and Food Processing are offered as part of the New England Board of Higher Education plan for regional cooperation. This agreement permits students to complete two-year preparatory programs at the University of Maine and to transfer to other specified New England universities for the remaining two years of professional training.

A two-year Pre-Veterinary curriculum is provided for those who wish to qualify for entrance into a regular college of veterinary medicine.

The two-year technical division offers associate-degree technical training to young men and women interested in farming, related technical employment, or the food distribution industry.

Freshman Year

Students admitted to degree programs of the College of Life Sciences and Agriculture will be enrolled in one of the following freshman programs:

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Agricultural Business and Economics

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject		Subject		
Ab 47	Prin. of Agri. Economics	3	Ab 24	Sociology of Rural Life	3
Agr 1	Orientation	0	Eh 2	Freshman Composition	3
Bt 1	General Botany	4	Ms 1	Trigonometry	2
Eh 1	Freshman Composition	3	Pe 2	Physical Education	0
Ms 3	College Algebra	2	Zo 3	Animal Biology	4
Pe 1	Physical Education	0		Electives	5
	Electives	5			
		<hr/>			<hr/>
		17			17

Agricultural Engineering

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject		Subject		
Agr 1	Orientation	0	Ch 2	General Chemistry	4
Ch 1	General Chemistry	4	Eh 2	Freshman Composition	3
Eh 1	Freshman Composition	3	Eg 2	Engineering Drawing	2
Eg 1	Engineering Drawing	2	Ms 27	Calculus	4
Gc 5	Orientation	0	Pe 2	Physical Education	0
Ms 12	Anal. Geom. & Cal.	4	Ps 2	General Physics	5
Pe 1	Physical Education	0			
Ps 1	General Physics	5			
		<hr/>			<hr/>
		18			18

Agricultural Sciences

(Animal Sciences—Plant and Soil Sciences)

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject		Subject		
Agr 1	Orientation	0	Ch 2	General Chemistry	4
Ch 1	General Chemistry	4	Eh 2	Freshman Composition	3
Eh 1	Freshman Composition	3	Ms 1*	Trigonometry	2
Ms 3*	College Algebra	2	Pe 2	Physical Education	0
Pe 1	Physical Education	0	S 2	Soils	} 4
Bt 1	General Botany	} 4	or Zo 4	Animal Biology	
or Zo 3	Animal Biology			Electives	4
	Electives	4			
		<hr/>			<hr/>
		17			17

* Ms 5 & 6 or Ms 12 may be substituted

UNIVERSITY OF MAINE CENTENNIAL

Biological Sciences
(Bacteriology-Biochemistry-Biology-Botany-Entomology)

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject			Subject	
Agr	1 Orientation	0	Ch	2 General Chemistry	4
Ch	1 General Chemistry	4	Eh	2 Freshman Composition	3
Eh	1 Freshman Composition	3	*Ms	12 Anal. Geom. & Cal.	4
*Ms	1 Trigonometry	2	Pe	2 Physical Education	0
*Ms	3 College Algebra	2	Bt	2 Plant Kingdom	} 4
Pe	1 Physical Education	0		or	
Bt	1 General Botany	} 4	Zo	4 Animal Biology	} 2
	or				
Zo	3 Animal Biology			Elective	
	Elective	2			17
		<hr/> 17			

* Ms 5, 6, Elements of College Mathematics, may be substituted for Ms 1, 3 and 12 for those students who seek a degree in Botany or in Biology.

Forestry and Wildlife

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject			Subject	
Bt	1 General Botany or	} 4	Ch	2 General Chemistry	4
	or				
Zo	3 Animal Biology		Eh	2 Freshman Composition	3
Ch	1 General Chemistry	4	Eg	12 Forestry Drawing	2
Eh	1 Freshman Composition	3	Fy	2 Introduction to Forestry	2
Eg	1 Engineering Drawing	2	Ms	1 Trigonometry	2
Fy	1 Introduction to Forestry	2	Pe	2 Physical Education	0
Ms	3 College Algebra	2	Zo	3 Animal Biology	} 4
Pe	1 Physical Education	0		or	
			Bt	1 General Botany	
		<hr/> 17			17

Home Economics

FALL SEMESTER			SPRING SEMESTER		
		Credit Hours			Credit Hours
	Subject			Subject	
Bc	7 Fund. of Chemistry	4	Bc	8 Elem. Phys. Chem.	4
*Cf	2 Patt. Interp. Behavior	3	Cd	21 Dress & Consumer Behavior	2
Eh	1 Freshman Composition	3	*Cd	31 Design	3
Fn	40 Prin. of Human Nutrition	2	Eh	2 Freshman Composition	3
He	1 Orientation	1	My	2 Modern Society	3
My	1 Modern Society	3	Pe	2w Physical Education	0
Pe	1w Physical Education	0		Electives	2
		<hr/> 16			17

* The semester the course is taken may vary.

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

PROGRAMS OF INSTRUCTION

Courses numbered 1-99 are for undergraduates; courses numbered 100-199 are also for undergraduates but may be taken for graduate credit with special permission; courses numbered 200-299 are for graduates but may be taken for undergraduate credit with special permission; courses numbered 300-399 are for graduates.

One number is used for a course which is given both fall and spring.

When a dash is used between the two numbers (e.g., 1-2), both semesters must be taken to obtain credit; when a semicolon is used (e.g., 1;2), the first semester may be taken by itself, but the second cannot be taken unless the first is taken previously; when a period is used (e.g., 1.2), either semester may be taken for credit.

Courses offered in 1964-65 and alternate years are indicated by the sign (‡) placed before the number of the course; courses offered in 1965-66 and alternate years are indicated by the sign (†) placed before the number of the course.

AGRICULTURAL BUSINESS AND ECONOMICS

PROFESSORS METZGER, PERRY, PLOCH, PULLEN, SAUNDERS; ASSOCIATE PROFESSORS DELPHENDAHL, TUTHILL; ASSISTANT PROFESSORS HYATT, JEWETT, ROBINSON;
EXTENSION SPECIALIST CLARK

The Department of Agricultural Business and Economics offers a curriculum leading to the B. S. degree in Agricultural Business and Economics, with emphasis in business management, marketing, resource economics, and rural sociology. The Department's program is designed to develop abilities to handle managerial responsibilities in the economic and social aspects of the food and fiber industries and allied fields and provide a broad education in agricultural business, economics, and rural sociology.

Areas of instruction include the business and economic aspects of production, with emphasis on the economic use and management of capital, labor, land, and water resources; the business aspects of marketing, with emphasis on pricing, financing, merchandising, work simplification, quality control, and consumption; economics related to development of area resources; and social and human factors associated with food production, processing, distribution, consumption, and community development. In addition, economic training is complemented with a comprehensive, integrated program of courses in the life sciences, other social sciences, communication, and humanities.

Employment opportunities exist in food and agricultural businesses such as manufacturing and processing firms, wholesale and retail distribution firms, insurance and credit agencies, cooperatives, feed, fertilizer, and farm supply companies, federal and state governments, and colleges and universities.

The B. S. degree in Agricultural Business and Economics requires satisfactory completion of at least 132 degree hours at an accumulative grade-point average of not less than 1.80 on a course of study which conforms to the following curriculum:

UNIVERSITY OF MAINE CENTENNIAL

Curriculum for Agricultural Business and Economics

Required Courses		Credit Hours	Minimum Degree Hours Required
A. ORIENTATION			0
B. BASIC SCIENCES			21
Bc 7 or Ch 1	Fundamentals of Chemistry or General Chemistry	4	
Bt 1	General Botany	4	
Zo 3 or AnP 35 or 36	Animal Biology, Anatomy or Physiology of Domestic Animals	3	
Ms 1 & 3 or 5 & 6	Trigonometry and College Algebra or Elements of College Mathematics	4	
By 21	Introduction to Bacteriology	3	
	Electives	3	
C. COMMUNICATIONS			12
Eh 1 & Eh 2	Freshman Composition	6	
Eh 5	Technical Composition	2	
Sh 1	Fundamentals of Public Speaking	2	
*Sh 3	Advanced Public Speaking	2	
D. HUMANITIES AND SOCIAL SCIENCES			17
Py	Psychology	3	
Pl	Philosophy	3	
Gt 23 or 24	Political Geography	3	
Gt 1	American Government	3	
Hy	History	3	
Eh	Literature	2	
E. LIFE SCIENCES AND AGRICULTURE			18
S 2	Soils	3	
An	Animal Science	3	
P	Plant Science	3	
	Electives in Life, Food or Agricultural Sciences	9	
F. BUSINESS AND ECONOMICS			18
Ec 1 & 2	Principles of Economics	6	
Ba 9	Principles of Accounting	3	
Ba 49	Business Economics	3	
	Electives (business and economics courses are required of Agricultural Business and Economics majors and sociology courses for Rural Sociology majors)	6	
G. AGRICULTURAL BUSINESS AND ECONOMICS			20
Ab 24	Sociology of Rural Life	3	
Ab 47	Principles of Agricultural Economics	3	
Ab 166	Food and Fiber Marketing	3	
Ab 169	Price Analysis & Forecasting	3	
Ab 193, 194	Seminar	2	
	Electives	6	
H. OTHER			3
Ms 19	Principles of Statistical Inference	3	
I. FREE ELECTIVES	Any course in the University for which the student is qualified.		23
Minimum Degree Hours Required for Graduation			132

* With permission of the student's adviser some course in a foreign language or in oral or written communication may be substituted.

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Curriculum for Rural Sociology

Students who major in Rural Sociology take the same program as major students in Agricultural Business and Economics except for the requirements listed under sections F (18 hours) and G (20 hours). The following 38 credit hours must be taken in this option:

Ec 1	Principles of Economics	3
Ab 47	Principles of Agricultural Economics	3
Ab 24	Sociology of Rural Life	3
Ab 42	World Population Resources	3
Ab 129	The Individual and the Community	3
Ab 150	Human Factors in Resource Development	3
Ab 166	Food and Fiber Marketing	3
Ab 193, 194	Seminar	2
	Sociology electives	6
	Electives	9
		<hr/>
		38

Courses in Agricultural Business and Economics (Ab)

41. World Food Supply—World food budget, analysis of the world food requirements. Physical and economic factors affecting supply of and demand for food in various regions of the world. Struggle of the emerging nations to solve their food deficit. *Rec 3, Cr 3.* MR. DELPHENDAHL

47. Principles of Agricultural Economics—A study of economic principles applied to the business firm, with consideration given to production specialization, marketing, use of human and natural resources, and governmental policy. *Rec 3, Cr 3.* STAFF

†**151. Labor Utilization and Cost Analysis**—Labor as a factor in production, manufacturing, and distribution. The principles and procedures for improving operating efficiencies. Problems will furnish practice in planning improved work methods and managerial procedures. *Rec 2, Lab 2, Cr 3.* MR. JEWETT

154. Farm Business Management—Principles in making economic decisions on farm organization, soil management, crop and animal production, and use of resources on the farm; consideration of credit, records, and tax management. Prerequisite: Ab 47 or Ec 1 & 2. *Rec 3, Lab 2, Cr 4.* MR. PULLEN

‡**159. Cooperative Business Organization and Management**—Legal framework, organization, finance, taxation, business analysis, and public relations of cooperative business and comparisons with private, partnership, and corporate businesses. Prerequisite: Ab 47 or Ec 1 & 2. *Rec 3 Cr 3.* MR. JEWETT

†**164. Statistical Quality Control**—Distribution and sampling theories with application to methods of process control and acceptance inspection. Prerequisite: No freshmen. *Rec 2, Lab 2, Cr 3.* MR. PERRY

166. Food and Fiber Marketing—Economic principles applied to marketing structures, services and agencies; analysis of costs and efficiencies; impact of industry organization and government. Prerequisite: Ab 47 or Ec 1 & 2. *Rec 3, Cr 3.* MR. PERRY

‡**167. Merchandising Food and Fiber Products**—The management approach to marketing. Includes areas of decision making such as marketing organization, products, distribution policies, pricing, advertising and personal selling. Firm visits. Lab fee \$5. *Rec 2, Lab 2, Cr 3.* MR. SAUNDERS

‡**169. Price Analysis and Forecasting**—The consideration of supply, demand,

UNIVERSITY OF MAINE CENTENNIAL

and elasticity in affecting prices of agricultural commodities; their application to price discrimination, futures markets, and agricultural price programs; and the use of correlation analysis in price forecasting. Prerequisite: juniors and seniors. Ab 47 or Ec 1 & 2. *Rec 3, Cr 3.* MR. TUTHILL

†171. *Land Resource Economics*—Principal economic and institutional factors affecting man in his use of land and resources; supply, demand, and future requirements; input-output relationships, benefit cost analysis; planning for more efficient use of resources. Prerequisite: Ab 47 or Ec 1 & 2 *Rec 3, Lab 1, Cr 3.* MR. DELPHENDAHL

†172. *Resource Use and Economic Growth*—Resource utilization and economic growth in retrospect. Importance of resources. Theories, measurements of economic development. Public policies and planning for resource development. Prerequisite: Ab 171 or permission. *Rec 3, Lab 1, Cr 3.* MR. DELPHENDAHL

‡181. *International Agriculture*—Economic factors affecting production. National agricultural policies, with emphasis upon effects on international trade in agricultural products. Public Law 480 and its impact upon economic development of underdeveloped countries. Repercussions on U. S. pattern of international trade. Prerequisite: juniors and seniors. *Rec 3, Cr 3.* MR. DELPHENDAHL

‡186. *Agricultural Policy*—State, national, and international agricultural policies, programs, the institutional framework in which they are made and implemented. Emphasis is given to the effects of governmental actions on farm businesses and consumers. Alternatives are analyzed. Prerequisite: Ab 47 or Ec 1 & 2. *Rec 3, Cr 3.* MR. TUTHILL

193. 194. *Seminar*—Discussion of current economic problems. Prerequisite: seniors and graduates. *Rec 1, Cr 1.* MR. JEWETT

199. *Problems and Readings*—Analysis of and readings on current problems in Agricultural Business and Economics, and Rural Sociology. Prerequisite: permission of instructor. *Rec 2, Cr 2.* STAFF

204. *Marketing Theory and Concepts*—Economic theory underlying the policies of marketing firms; the details of current marketing problems and current market practices for selected commodities. Prerequisite: Ab 166. *Cr 3.* MR. METZGER

207. *Production Economics*—The principles of optimum resource allocation applied to agricultural businesses under perfect knowledge and with consideration of uncertainties. The use of linear programming as a tool for attaining optimum resource allocation. Prerequisite: Ec 1 & 2, Ba 49 or Ec 73 or permission. *Cr 3.* MR. TUTHILL

259. *Research Methods in Agricultural Business and Economics*—Nature of economic and social analysis; scientific objectivity; individual and public problems; formulation of hypotheses and models; empirical techniques; evaluation of current research procedures. Prerequisite: permission of instructor. *Cr 3.* MR. PLOCH

399. *Graduate Thesis*—*Cr Ar.* STAFF

Courses in Rural Sociology

24. *Sociology of Rural Life*—Significance of rural society in American culture. The impact of forces of change, including population movement. The significance of changes in the institutions of family, religion, education, and stratification. Course same as Sy 24. *Rec 3, Cr 3.* MR. PLOCH, MR. HYATT

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

42. *World Population Resources*—An introductory course with emphasis on size and distribution of the population resource in relation to other resources essential to life. Trends in growth and migration will be analyzed. Possible alleviation of problems through policy formulation will be discussed. *Rec 3, Cr 3.*

MR. HYATT

†**129. *The Individual and the Community***—Analysis of group processes, program planning and leadership in small towns and communities. Training in and application of social research methods. Prerequisite: Ab/Sy 24 or Sy 26 or permission of instructor. *Rec 3, Cr 3.*

MR. PLOCH

‡**150. *Human Factors in Resource Development***—Methods of social change. Community and individual resistances to, and acceptance of, development programs. Consequences of development for community social systems. The development as an interactive force in the community. Prerequisite: Ab 24. *Rec 3, Cr 3.*

MR. PLOCH

Graduate Work in Agricultural Business and Economics

The degree of Master of Science in Agricultural Business and Economics is offered with an opportunity for specialization in Food Distribution and Marketing, Agricultural Business and Farm Management, Resource Development, and Rural Sociology.

Students may select a minor area of study in a related subject matter field. Candidates will be encouraged to enroll in graduate-level courses in the School of Business and Economics and in the Department of Mathematics.

AGRICULTURAL ENGINEERING

PROFESSORS BONDURANT, RHOADS; ASSOCIATE PROFESSORS MILNE,
SMITH; ASSISTANT PROFESSORS ROWE, SOULE

The curriculum in Agricultural Engineering is designed to provide training in the fundamentals of engineering, basic agricultural subjects, and the application of this knowledge to agricultural problems. In general, agricultural engineering may be separated into four major divisions — electric power and processing, agricultural power and machinery, farm structures, and soil and water control.

This curriculum prepares students for many different types of positions which include: design, field testing, or sales and service with industrial or agricultural equipment concerns, building material manufacturers, electric power companies, trade associations, and food processing plants; research and development work with government agencies; teaching, research, and extension work with colleges and experiment stations; advisory and managerial posts in connection with mechanized agricultural development here and abroad; field engineers on large farm enterprises; private business such as a consulting practice, equipment dealer, or farm operator.

This degree requires satisfactory completion of at least 141 degree hours at an accumulative grade point average of not less than 1.80 in a course of study which conforms to the following curriculum:

Agricultural Engineering Curriculum

Freshman Year. See Page 81.

See the end of each college section for new course numbers.

UNIVERSITY OF MAINE CENTENNIAL

Sophomore Year

FALL SEMESTER					SPRING SEMESTER				
Subject		Hours			Subject		Hours		
		Rec	Lab	Cr			Rec	Lab	Cr
AE 55	Mats. in Agr. Engr.	2	2	3	AE 82	Introduction to			
Ce 5	Surveying	2	3	3		Agric. Engr.	1	2	2
Eg 3	Descriptive Geometry	0	4	2	Bt 1	General Botany	2	4	4
Me 50	Statics	3	0	3	Me 33	Thermodynamics	3	0	3
Ms 28	Anal. Geom. & Cal.	4	0	4	Me 52	Dynamics	3	0	3
	*Elective			3	Ms 29	Cal. & Diff. Eq.	4	0	4
				3		*Elective			2
				18					18

Junior Year

		Rec	Lab	Cr			Rec	Lab	Cr
AE 169	Agr. Processing	2	3	3	AE 167	Agric. Power	3	3	4
†Ce 26	Hydraulics	2	3	3	SS 2	Soils	3	0	3
Ee 41	Elem. Circuits	3	0	3	Ce 52	Struct. Anal. & Des.	4	0	4
Me 23	Kinematics	3	0	3	Eh 5	Tech. Composition	2	0	2
Me 51	Strength of Mats.	4	0	4	Sh 1	Speech	2	0	2
	*Elective			2		*Elective			3
				18					18

Senior Year

		Rec	Lab	Cr			Rec	Lab	Cr
Ab 47	Agr. Economics	3	0	3	AE 163	Farm Structure Des.	2	3	3
AE 160	Agric. Machinery	2	3	3		*Electives			13
AE 165	Soil Water Engrg.	3	3	4					
AE 180	Seminar	1	0	1					
AE 183	Spec. Prob. in								
	Agric. Engr.			1					
	*Electives			5					
				17					16

† Me 59 Fluid Mechanics may be substituted by permission.

* 18 hours of elective credit must be in humanity-social science electives as specified for other engineering curricula except that three hours should be in Ab/Sy courses; sufficient additional elective credit must be in College of Life Sciences and Agriculture subjects to make a total of 40 credits.

Agr. 1 Orientation; Gc 5; 6 Orientation; AE 79 Seminar; AE 180 Senior Seminar or AE 81 Departmental Seminar is required each semester.

Students transferring to University of Maine from the Universities of Massachusetts or Rhode Island under the Regional Program should check the bulletins for those institutions for the first two years in Agricultural Engineering.

Graduate Work in Agricultural Engineering

The degree of Master of Science (Agricultural Engineering) is offered with options for specialization in soil and water engineering, farm structures, agricultural power and machinery, and electric power and processing.

Several research assistantships are available each year. Incumbents devote half time to research work on approved projects of the Agricultural Experiment Station.

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Courses in Agricultural Engineering (AE)

Courses numbered below 50 are designed primarily as service courses for students in the College of Life Sciences and Agriculture.

20. Principles of Agricultural Mechanization—Study of the principles involved in farm mechanization; measurement techniques, problem solving, functional analysis and principles of agricultural machines, structures and power sources. *Rec 2, Lab 2, Cr 3.* STAFF

31. Field Machinery Management—Functional requirements and development of systems for integrating farm field operations into food and fiber production; selection and utilization of machinery and application of power to these field operations. *Rec 2, Lab 2, Cr 3.* MR. ROWE

32. Farm Structures and Equipment—Consideration of construction practices, materials handling, processing methods, environmental control, cost analysis and operational efficiency around the farmstead with special emphasis on farm buildings and equipment. *Rec 2, Lab 2, Cr 3.* MR. MILNE

35. Soil Water Control—Field surveying, planning, layout and construction of soil and water control structures such as farm ponds, drainage systems, irrigation systems and soil erosion control systems. *Rec 2, Lab 3, Cr 3.*

MR. RHOADS

36. Forestry Power—The selection and application of power equipment in forestry activities. The construction, operation, and maintenance of internal combustion engines and related equipment. Open to students outside of Forestry by permission. *Rec 2, Lab 2, Cr 3.* MR. SMITH

Courses numbered 50 or above are designed primarily for the professional Agricultural Engineering curriculum.

55. Materials in Agricultural Engineering—An introduction to physical and rheological properties of structural and biological materials useful in agricultural design and application. Prerequisite: Ps 2 or permission of instructor. *Rec 2, Lab 2, Cr 3.* MR. SOULE

79. Seminar—Recent literature, developments and problems in the field of Agricultural Engineering. *Rec 1, Cr 0.* MR. RHOADS

80. Senior Seminar—Problems associated with professionalism and the first employment of the young agricultural engineer. *Rec 1, Cr 1.* MR. BONDURANT

81. Departmental Seminar—Presentation and discussion of current development and problems which affect Agricultural Engineering and agricultural engineers. *Rec 1 (monthly), Cr 0.* STAFF

82. Introduction to Agricultural Engineering—An introduction to engineering experimentation working with biological material. For sophomores majoring in Agricultural Engineering. *Rec 1, Lab 2, Cr 2.* MR. SMITH

83; 84. Special Problems in Agricultural Engineering—*Cr Ar.* STAFF

160. Agricultural Machinery—Analysis of functional and power requirements, capacity, and economics of agricultural machines. Principles of design; laboratory and field test. Prerequisite: Me 51. *Rec 2, Lab 3, Cr 3.* MR. ROWE

163. Farm Structures Design—Functional planning, structural design, environmental control, selection of materials and cost estimates of farm structures with consideration for integrating these factors into overall farmstead plans. Prerequisite: Ce 52. *Rec 2, Lab 3, Cr 3.* MR. MILNE

164. Instruments and Control Systems—Theory and use of instruments for measuring and controlling such factors as temperature, moisture content, and

UNIVERSITY OF MAINE CENTENNIAL

fluid flow. Use of strain gages. Prerequisite: Ps 2 and Ms 28 or permission of instructor. *Rec 2, Lab 2, Cr 3.* MR. SMITH

165. Soil and Water Engineering—Design of erosion control structures, small earth dams and farm reservoirs, drainage and irrigation systems. Study of flood control and land clearing techniques. Prerequisite: Ce 5, and Ce 26 or Me 59. *Rec 3, Lab 3, Cr 4.* MR. MILNE

167. Agricultural Power—Tractor Power Units, construction, operating principles, testing and rating; Vehicle Mechanics as applied to tractors and other cross country vehicles; Farm Electrification; new energy sources and applications for agriculture. Prerequisite: Me 33. *Rec 3, Lab 3, Cr 4.* MR. SMITH

169. Agricultural Process Engineering—Unit operations and their applications as related to agricultural processing and processing equipment. Prerequisite: Me 33, and Me 59 or Ce 26. *Rec 2, Lab 3, Cr 3.* MR. RHOADS

380. Graduate Seminar—*Rec 1, Cr 1.* STAFF

383; 384. Problems in Agricultural Engineering—*Cr Ar.* STAFF

399. Graduate Thesis—*Cr Ar.* STAFF

ANIMAL PATHOLOGY (AnP)

PROFESSORS WITTER, CHUTE; ASSOCIATE PROFESSOR PAYNE

The Animal Pathology offerings serve primarily as supporting courses for studies in the Animal Sciences and in the Wildlife Management curriculum. They also serve as elective opportunities for agricultural science and agricultural engineering students as well as for majors in the Department of Zoology.

This department also administers the Two-Year Pre-Veterinary curriculum.

135. Anatomy of Domestic Animals—Comparative anatomy of domestic mammals and birds, emphasizing histological features and those parts of the body involved in meat cutting, judging livestock, and in common diseases. *Rec 2, Lab 2, Cr 3.* MR. WITTER, MR. CHUTE, MR. PAYNE

136. Physiology of Domestic Animals—Special emphasis is placed on comparative features, especially of the circulatory, respiratory, digestive, and urogenital systems of domestic animals and birds. *Rec 3, Cr 3.* MR. PAYNE

137. Animal Diseases—Principles of herd health programs. The pathology, control, and prevention of important diseases and parasites of domestic animals. *Rec 3, Cr 3.* MR. WITTER, MR. PAYNE

140. Poultry Diseases—Principles of hygiene and sanitation applied to the prevention and control of the diseases of poultry, including a detailed consideration of the pathological processes involved in the common diseases. *Rec 3, Cr 3.* MR. CHUTE

142. Physiology of Reproduction—The comparative function of the organs of reproduction in domestic animals, with special emphasis on the areas which are commonly associated with infertility and disease. Prerequisite: AnP 35, AnP 36 or with permission. *Rec 2, Lab 2, Cr 3.* MR. WITTER

144. Disease and Parasite Control (in Wildlife)—Known infectious and parasitic diseases of game and fur-bearing animals, emphasizing preventive and control measures and practice in autopsy techniques. *Rec 2, Lab 2, Cr 3.* MR. WITTER

151. 152. Problems in Animal Pathology—*Cr Ar.*

MR. WITTER, MR. CHUTE, MR. PAYNE

200. Advanced Animal Pathology—The gross and histopathology of the

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

reaction of domestic animals to nutritional disorders and various etiologic agents, such as bacteria, viruses, fungi, parasites, poisons, and toxins. Prerequisite: AnP 35, 36, Zo 51, Bc 60 or equivalent courses. *Rec 2, Lab 2, Cr 3.*

MR. CHUTE, MR. WITTER, MR. PAYNE

ANIMAL SCIENCES

PROFESSORS POULTON, BIRD, DICKEY, GERRY, LEONARD; ASSOCIATE PROFESSOR BRUGMAN; ASSISTANT PROFESSORS APGAR, HARRIS, HOOVER, MCWARD;
LECTURERS FOX, SAWIN

The Animal Sciences curriculum is designed to provide a thorough understanding of the basic animal and poultry sciences, including nutrition, physiology, and genetics.

Because a basic knowledge in the animal and poultry sciences is fundamental to successful work in many job situations, the curriculum offers a wide choice of electives so students may adapt their courses of study to meet specific professional interests or needs. Through the proper use of electives, students can prepare for admission to graduate school or veterinary college, teaching sciences in secondary schools, pursuing technical sales and service work in the animal and poultry industries, or developing animal production enterprises such as dairy farming, poultry farming or livestock farming.

Superior students should consider continuing their studies at the graduate level. The Department of Animal Sciences offers the Master of Science degree in animal nutrition, animal physiology, and animal breeding. The Doctor of Philosophy degree can be earned in animal nutrition.

Curriculum for the B.S. Degree in Animal Sciences

	Credit Hours	Minimum Degree Hours Required
A. ORIENTATION		0
B. BASIC SCIENCES		30
Ch 1-2 General Chemistry	8	
Zo 3-4 Animal Biology	8	
Mathematics	4	
At least 10 additional hours of basic science credits should be elected from the following:		
Bc 1-2 Organic and Biochemistry	8	
AnP 35-36 Anatomy and Physiology	} 6 or 8	
or		
Zo 33, Zo 77 Anatomy and Physiology	} 3 or 5	
By 21 or By 27 Bacteriology		
C. ANIMAL SCIENCES		28
An 5 Animal Science	3	
An 55 and An 56 Nutrition	6	
An 60 Animal Genetics and Breeding	3	
An 82 or An 70 or An 72 Advanced Physiology	4	
Electives in Animal Science	12	
D. AGRICULTURAL AND LIFE SCIENCES		20
The student may elect 20 hours in the agricultural and life sciences. At least one course should be selected from each of four subject-matter areas offered in the College.		
E. COMMUNICATION		10
Eh 1-2 Freshman Composition	6	
Eh 5 Technical Composition	2	
Sh 1 Fundamentals of Public Speaking	2	

UNIVERSITY OF MAINE CENTENNIAL

F. HUMANITIES AND SOCIAL SCIENCES	10
Not less than two hours from each of the following groups:	
a. Literature, Philosophy, and Fine Arts	
b. Economics, Sociology, and Psychology	
c. History and Government	
G. FREE ELECTIVES	34
Any course in the University for which the student is qualified.	
Minimum Degree Hours for Graduation	132

Courses in Animal Science (An)

5. Animal Science—Fundamental principles of the animal sciences, including animal genetics, breeding systems, the physiology of reproduction, animal nutrition and the physiology of lactation. A brief survey of the livestock and poultry industries will be included. *Rec 3, Cr 3.* MR. POULTON, MR. BIRD

6. Dairy Technology—Studies in the composition and properties of milk and milk products, and common dairy processes such as pasteurization, homogenization and quality control methods. Testing dairy products for fat, solids, adulteration and acidity. *Rec 2, Lab 2, Cr 3.* MR. HOOVER

19. Livestock and Poultry Feeding—A course designed to acquaint the student with the nutritional value of various feedstuffs, the dietary requirements of animals and poultry, and the ingredients used to fulfill the requirements. *Rec 3, Cr 3.* MR. LEONARD, MR. GERRY

46. Dairy Cattle Management—The application of breeding, feeding, housing, selection, care, records, breed association programs and recent research findings to herd management. The laboratory is devoted to problems in and techniques of dairy cattle management. *Rec 2, Lab 2, Cr 3.* MR. LEONARD

48. Livestock Management—The selection, breeding, feeding, care, and management of beef cattle, sheep, and swine. *Rec 3, Lab 2, Cr 4.* MR. BRUGMAN

65. Meat Technology—The basic science of meat and meat processing, packing house methods and cutting of meat. *Rec 2, Lab 2, Cr 3.*

MR. BRUGMAN, MR. GERRY

153.154. Problems in Dairy Plant Management—*Cr Ar.*

MR. POULTON

155. Animal Nutrition—Principles of nutrition, and the application of nutritional theories to practical feeding problems. *Rec 3, Cr 3.* MR. DICKEY

156. Applied Animal Nutrition—A study of the nutrient requirements of livestock and avian species. The nutritive value and characteristics of feedstuffs are studied as well as methods of formulating balanced nutrient intakes. Prerequisite: An 155. *Rec 2, Lab 2, Cr 3.* MR. HOOVER, MR. GERRY

157.158. Problems in the Animal Sciences—Special study of research problems within the animal science field. *Cr Ar.* MR. POULTON AND STAFF

160. Genetics and Animal Breeding—The principles of genetics. The transmission and expression of hereditary factors in animal breeding. *Rec 3, Cr 3.*

MR. DICKEY

161. Advanced Animal Breeding—The physiology of reproduction and the principles of animal breeding. *Rec 3, Cr 3.* MR. HARRIS, MR. DICKEY

163.164. Animal Sciences Seminar—Preparation and presentation of papers dealing with topics in the animal sciences. *Rec 1, Cr 1.*

MR. POULTON AND STAFF

170. Physiology of Lactation—A detailed study of the development and function of the mammary gland. The biochemistry and physiology of milk secre-

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

tion and udder evacuation. Prerequisite: Zo 1, Bc 2 or equivalent. *Rec 3, Cr 3.*

MR. APGAR

172. Endocrinology—A detailed study of the animal endocrine system and functional relationships of each of the endocrine glands to growth, reproduction, and lactation. Prerequisite: Zo 1, Bc 2 or equivalent. *Rec 3, Lab 2, Cr 4.*

MR. POULTON

175. Behavior of Domestic Animals—A survey of the factors encompassing the fundamental behavior of domestic animals, the interrelationships of behavior and domestication. Special attention will be given to mating, defensive and nutritive behavior in several mammalian and avian species. Juniors and seniors only. *Rec 3, Lab 2, Cr 4.*

MR. APGAR

182. Avian Physiology—Anatomy and physiology of the fowl with emphasis on the physiology of reproduction; special attention will be given to the current literature. Prerequisite: An 5, and AnP 136 or permission. *Rec 2, Lab 2, Cr 3.*

Cr 3.

MR. HARRIS

185. Poultry Technology—The selection, housing and management practices involved in commercial egg and hatching egg flocks, and the technique in incubation and brooding involved in the production of broilers and layer replacements. *Rec 2, Lab 2, Cr 3.*

MR. HARRIS

186. Bioassay—A study of various bioassay techniques and associated problems illustrated by laboratory exercises. Prerequisite: permission of instructor. *Rec 1, Lab 4, Cr 3.*

MR. BIRD

210. Research Methods in Animal Science—Experimental procedures in animal research, laboratory techniques, principles of setting up experiments and methods of reporting results. Qualified seniors permitted. Permission of the instructor required. *Rec 1, Lab 4, Cr 3.*

MR. POULTON, MR. SAWIN, MR. FOX

212. Ruminology—The nutrition of ruminants as contrasted to non-ruminants; special emphasis on rumen physiology, nutrient absorption and the role of rumen microorganisms in feed utilization. Prerequisite: An 155, An 156, or equivalent. *Rec 2, Lab 4, Cr 4.*

MR. HOOVER

214. Energy Metabolism—Principles of direct and indirect calorimetry and the application of these principles to research methods. Students will conduct energy balance trials to determine heat production and the partition of ration energy. Prerequisite: An 155, An 212. *Rec 2, Lab 2, Cr 3.*

MR. POULTON

216. Advanced Animal Nutrition—Studies in the metabolism and interrelationships of proteins, fat, carbohydrates, minerals and vitamins as they pertain to monogastric findings in this area. *Rec 3, Cr 3.*

MR. MCWARD

218. Population Genetics—Application of genetic and biometric principles to the characteristics of populations. *Rec 3, Cr 3.*

MR. DICKEY

363. 364. Graduate Seminar in Animal Sciences— *Rec 1, Cr 1.*

MR. POULTON AND STAFF

390. Graduate Research in Animal Sciences—*Cr Ar.*

MR. POULTON AND STAFF

399. Graduate Thesis—*Cr Ar.*

MR. POULTON AND STAFF

See the end of each college section for new course numbers.

BACTERIOLOGY

PROFESSOR WHITEHILL; ASSOCIATE PROFESSORS BAIN, BUCK;
LECTURER WAYMOUTH

The Bacteriology curriculum is designed to give students a thorough knowledge of biological principles while providing skills needed to study microorganisms and tissue culture.

Students with interests in bacteriology are prepared for a wide variety of positions in industry, government, and public health laboratories. With proper selection of electives a student can satisfy requirements to all medical and dental schools.

Students who are well qualified and interested are encouraged to pursue graduate work for further specialization. The Department of Bacteriology offers a Master of Science degree; a Doctor of Philosophy degree can be earned in the Plant Science field.

Curriculum Leading to a Bachelor of Science Degree in Bacteriology

Freshman Year. See Page 82.

Sophomore Year

FALL SEMESTER					SPRING SEMESTER						
Subject			Hours			Subject			Hours		
			Rec	Lab	Cr				Rec	Lab	Cr
By 27	Gen. Bacteriology	.....	3	4	5	By 36	Determinative Bact.	.....	2	4	4
Ch 51	Organic Chemistry	.....	3	0	3	Ch 40	Quant. Analysis	.....	2	6	4
Ch 61	Organic Chemistry	.....	0	4	2	Ch 52	Organic Chemistry	.....	3	0	3
Sh 1	Public Speaking	.....	2	0	2	Ch 62	Organic Chemistry Lab	.....	0	4	2
	Elective	.....			5		Elective	.....			4
					17						17

Junior Year

			Rec	Lab	Cr				Rec	Lab	Cr
By 153	Bacterial Physiology	.....	2	4	4	By 152	Pathogenic Bact.	.....	2	4	4
Ps 1a	General Physics	.....	2	4	4	An 186	Bioassay	.....	1	2	3
	Elective	.....			9	Ps 2a	General Physics	.....	2	4	4
					17						17

Senior Year

			Rec	Lab	Cr				Rec	Lab	Cr
Bc 61	Physiological Chem.	.....	3	3	4	Bc 64	Biochem. Lab. Methods	.....	0	6	3
By 187	Seminar in Bact.	.....			1	By 176	Virology & Tissue Culture	.....	2	4	4
	Elective	.....			12	By 188	Seminar in Bact.	.....			1
					17						17

Courses in Bacteriology (By)

21. Introduction to Bacteriology—The basic principles of bacteriology and their application to agriculture, industry, sanitation, public health and disease. A descriptive and demonstration course for non-technical students. *Rec 3, Cr 3.*

MR. BAIN

23. Bacteriology for Nurses (3 yr.)—An elementary course in bacteriology, as it applies to nursing. Emphasis on sanitation, infection, and resistance, and bacteriology of infectious diseases. *Rec 2, Lab 2, Cr 3.* MR. WHITEHILL

27. General Bacteriology—Theoretical and laboratory study of the mor-

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

phology, physiology, and classification of bacteria and other microorganisms, and their application to everyday processes. Prerequisite: Ch 51 or Bc 1 or taken in conjunction. *Rec 3, Lab 4, Cr 5.* MR. BUCK

30. Fundamentals of Public Health—General consideration of the relationship between the health of the individual and environment. Prerequisite: By 21 or 27. *Rec 2, Cr 2.* MR. WHITEHILL

36. Determinative Bacteriology—A study of morphological, cultural and physiological characteristics of important bacterial groups with special emphasis placed on isolation and classification of organisms in our environment. Prerequisite: By 27. *Rec 2, Lab 4, Cr 4.* MR. BAIN

152. Pathogenic Bacteriology—The relationships and characteristics of microorganisms that cause disease in man and animals and the response of the latter to the invasion of the parasite. Prerequisite: By 27. *Rec 2, Lab 4, Cr 4.* MR. BUCK

153. Bacterial Physiology—A study of the properties and behaviors of bacteria with respect to their chemical and physical requirements for life and reproduction. Prerequisite: By 27. *Rec 2, Lab 4, Cr 4.* MR. BAIN

171. Food Microbiology—Relation of microorganisms to food production; role of bacteria in the preparation of food, methods of food preservation, and sanitation; control of food-borne diseases and intoxication. Prerequisite: By 27. *Rec 2, Lab 4, Cr 4.*

176. Virology and Tissue Culture—An introductory course in the study of viruses, emphasizing their nature, methods of cultivation, mode of transmission, and classification. Prerequisite: By 152 or taken in conjunction. *Rec 2, Lab 4, Cr 4.* MR. BUCK

187. 188. Seminar—Preparation and presentation of papers dealing with current research and developments in the field of bacteriology. *Cr 1.* STAFF

192. Problems in Bacteriology—A laboratory and conference course for students desiring to pursue some particular line of bacteriological investigation. Open only to students who have necessary prerequisites or permission of instructor. *Cr Ar.* STAFF

399. Graduate Thesis—*Cr Ar.* MR. BAIN, MR. BUCK, MR. WHITEHILL

BIOCHEMISTRY

PROFESSORS RADKE, PEDLOW; ASSOCIATE PROFESSOR DEHAAS; ASSISTANT PROFESSOR SMITH

Biochemistry deals with the study of (1) the nature of the chemical constituents of living matter and of chemical substances produced by living things, (2) the functions and transformations of these chemical entities in biological systems, and (3) the chemical and energetic changes associated with these transformations in the course of activity of living matter. The ultimate good of biochemistry is to describe the phenomena that distinguish the "living" from the "non-living" in the language of chemistry and physics.

The biochemist does research and development in pharmaceutical houses, medical schools and research centers on all aspects of human health. He studies all phases of foods and nutrition, including such areas as composition, utilization, preservation, additives, and contaminants.

There are many opportunities for the B. S. biochemist, and many more for those who continue for graduate degrees. The prescribed program in this catalog

UNIVERSITY OF MAINE CENTENNIAL

is a good preparation for both stopping points. A foreign language, or even two, is recommended for those definitely planning graduate study.

Courses of study can be developed to fulfill admission requirements for medical and dental schools.

Curriculum Leading to a Bachelor of Science Degree in Biochemistry

Freshman Year. See Page 82.

Sophomore Year

FALL SEMESTER					SPRING SEMESTER										
		Subject			Hours					Subject			Hours		
		Rec	Lab	Cr			Rec	Lab	Cr			Rec	Lab	Cr	
Ch 51	Organic Chemistry	3	0	3	Ch 40	Quant. Analysis	2	6	4	Ch 52	Organic Chemistry	3	0	3	
Ch 61	Organic Chem. Lab.	0	4	2	Ch 62	Org. Chem. Lab.	0	4	2	Sh 1	Public Speaking	2	0	2	
Ms 27a	Calculus	4	0	4		Elective					Elective			4	
	Elective			7											
16					15										

Junior Year

					Rec Lab Cr				
Bc 161	Physiol. Chemistry	3	3	4	Bc 164	Biochem. Lab. Meth.	0	8	4
By 27	Gen. Bacteriology	3	4	5	Eh 5	Tech. Composition	2	0	2
Ps 1	Gen. Physics	4	2	5	Ps 2	General Physics	4	2	5
	Elective			3		Elective			6
17					17				

Senior Year

					Rec Lab Cr				
Bc 157	Biological Colloids	3	3	4	Bc 158	Physical Biochem.	3	3	4
Bc 171	Seminar	1	0	1	Bc 172	Seminar	1	0	1
Bc 191	Biochem. Research	0	6	3	Bc 192	Biochem. Research	0	6	3
	Elective			9		Elective			9
17					17				

Courses in Biochemistry (Bc)

1. Organic Chemistry—Hydrocarbons, alcohols, acids, ketones, aldehydes, esters, amines, and amides. Rec 3, Lab 2, Cr 4. MR. RADKE

2. Biochemistry—H-ion concentration; the properties, digestion, metabolism, and excretion of carbohydrates, fats and proteins; enzymes, vitamins, soil, fertilizers, pesticides. Prerequisite: Bc 1. Lec 3, Lab 2, Cr 4. MR. RADKE

5. Chemistry for Nurses (3-yr.)—An introduction to the principles of inorganic, organic and biochemistry as needed for the three-year nursing curriculum. Rec 2, Lab 2, Cr 3. MISS SMITH

7. Fundamentals of Chemistry—A review of the essential material from Inorganic Chemistry followed by a study of the types and reactions of organic compounds. Prerequisite: one year of high school chemistry. Rec 3, Lab 2, Cr 4. MR. PEDLOW

8. Elementary Physiological Chemistry—Carbohydrates, lipids, proteins, digestion, enzymes, metabolism, vitamins, hormones, blood and urine. Prerequisite: Bc 7 or the equivalent. Rec 3, Lab 2, Cr 4. MR. PEDLOW

157. Biological Colloids—Colloidal chemistry with application in biological

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

systems. Open to junior, senior, and graduate students. Prerequisite: Bc 1 and 2, and Ps 3 or equivalent. *Rec 3, Lab 3, Cr 4.* MR. PEDLOW

158. Physical Biochemistry—A study of the fundamental laws, theories, and concepts of physical chemistry as they apply to biochemical problems. Prerequisite: Ch 40 and 52, Ps 2 or equivalent, Ms 12 or equivalent. *Rec 3, Lab 3, Cr 4.* MR. DEHAAS

161. Physiological Chemistry—The physiological utilization of the carbohydrates, fats, and proteins and the role of enzymes, hormones, and vitamins. Prerequisite: Ch 51 and 52. *Rec 3, Lab 3, Cr 4.* MR. DEHAAS, MISS SMITH

164. Biochemical Laboratory Methods—Chromatography, electrophoresis, tracer techniques, manometry, and other procedures employed in biological research. Prerequisite: Bc 161 or instructor's permission. *Lab 8, Cr 4.* MISS SMITH

171, 172. Seminar—Preparation and presentation of papers dealing with current research in the field of biochemistry. *Cr 1.* STAFF

191, 192. Biochemical Research—Problems in biological or agricultural chemistry. A comprehensive report is required. Seniors and graduate students only. *Cr Ar.* STAFF

‡**220. Carbohydrates and Lipids**—The chemistry and metabolism of carbohydrates and lipids as they characterize different biological forms. Prerequisite: Bc 161. *Rec 3, Cr 3.* MR. PEDLOW

‡**225. Proteins and Enzymes**—A comprehensive study of the structure and properties of proteins with special emphasis on their catalytic activity. Prerequisite: Bc 161. *Rec 3, Cr 3.* MR. RADKE

†**231. Vitamins and Hormones**—The chemistry and biological activity of the regulators of living systems. Prerequisite: Bc 161. *Rec 3, Cr 3.* MR. DEHAAS

†**236. Bioenergetics**—A quantitative study of the processes of living systems. Prerequisite: Bc 161. *Rec 3, Cr 3.* MR. PEDLOW

399. Graduate Thesis—*Cr Ar.*

MR. DEHAAS, MR. RADKE, MR. PEDLOW, MISS SMITH

BIOLOGY

The curriculum in Biology is an inter-departmental offering administered by a committee representing the departments of Bacteriology, Biochemistry, Botany, and Entomology. The curriculum's unusual degree of elective opportunities permits students to pattern programs of their choosing. Persons contemplating preparation for teaching high school biology will find this program appropriate. The curriculum is equally excellent for persons wishing to take a broad, basic science training in preparation for graduate study.

Freshman Year. See Page 82.

See the end of each college section for new course numbers.

UNIVERSITY OF MAINE CENTENNIAL

Curriculum Leading to the B.S. Degree in Biology

		Credit Hours	Minimum Degree Hours Required 69
A. BIOLOGICAL AND PHYSICAL SCIENCES			
Ch 1-2	General Chemistry	8	
Ms 1, 3, 12 or Ms 5, 6	Trigonometry, College Algebra & Analytic Geometry & Calculus Elements of College Mathematics	6 or 8	
Ps 1a-2a	General Physics	8	
Bt 1-2	General Botany	8	
Zo 3-4	Animal Biology	8	
En 26	General Entomology	4	
By 27	General Bacteriology	5	
Bc 1-2 or Ch 51-52	Organic and Biochemistry Organic Chemistry	8 or 10	
Bt 145, Zo 163	Genetics	3	
By 36, Bt 154 En 140, Bt 159	Taxonomy	4	
Bc 161, Bt 153 By 153, Zo 177	Physiology	4	
Bt 35, En 151 Zo 133	Anatomy	3 or 4	
B. COMMUNICATIONS			
Eh 1-2	Freshman Composition	6	10
Eh 5, 7, 8, 19	Composition	2 or 3	
Sh 1, Sh 31	Speech	2	
C. HUMANITIES AND SOCIAL SCIENCES			
Not less than two hours from each of the following groups:			10
a. Literature, Philosophy, and Fine Arts			
b. Economics, Sociology, and Psychology			
c. History and Government			
D. FRESHMAN ORIENTATION			
			0
E. PHYSICAL EDUCATION			
			0
F. ELECTIVES			
			43
Minimum Degree Hours For Graduation			132

BOTANY AND PLANT PATHOLOGY

PROFESSORS CAMPANA, COOPER, HYLAND; ASSOCIATE PROFESSORS RICHARDS, MILLER; ASSISTANT PROFESSORS GREGORY, MCINTYRE

The curriculum leading to a Bachelor of Science degree in Botany is designed to afford the widest latitude for majors preparing for teaching and research in one or more of the biological sciences at all levels. Majors interested in graduate study in plant physiology, plant pathology, or genetics should take mathematics through calculus (Ms 12), organic and/or biochemistry through Ch 52 or Bc 2, German and statistics. Botany majors interested in general biology should take Animal Biology (Zo 3 & 4), Comparative Anatomy (Zo 133) and Animal Physiology (Zo 177) as electives.

Freshman Year. See Page 82.

See the end of each college section for new course numbers.

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Sophomore Year

FALL SEMESTER				SPRING SEMESTER							
Subject	Hours			Subject	Hours						
	Rec	Lab	Cr		Rec	Lab	Cr				
Bt 35	Plant Anatomy	2	3	3	S 2	Soils	3	0	3		
†Ec 1	Prin. of Economics	3	0	3	†Ec 2	Prin. of Economics	3	0	3		
Bc 1	Organic Chemistry	3	2	4	Bt 54	Taxonomy of Vascular Plants	2	4	4		
	or				†Gm 2	El. German	5	0	4		
Ch 51	Organic Chemistry	3	0	3		Elective			4		
Ch 61	Organic Chemistry Lab	0	4	2							
†Gm 1	El. German	5	0	4							
	Elective			2							
				16 or 17							
								18			

Junior Year

Subject	Hours			Subject	Hours						
	Rec	Lab	Cr		Rec	Lab	Cr				
Bt 145	Genetics	3	0	3	†S 71	Experimental Design	3	2	4		
En 26	Gen. Entomology	2	4	4	†Bt 130	Ecology	2	2	3		
Eh 7	Sec. Yr. Composition	3	0	3	Eh 8	Sec. Yr. Composition	3	0	3		
†Gm 3	Intermed. German	3	0	3	†Gm 4	Intermed. German	3	0	3		
Ps 1a	General Physics	2	4	4	Ps 2a	General Physics	2	4	4		
				17							
								17			

Senior Year

Subject	Hours			Subject	Hours						
	Rec	Lab	Cr		Rec	Lab	Cr				
Bt 153	Plant Physiology	2	4	4	Bt 156	Plant Pathology	2	4	4		
†Bt 159	General Mycology	2	4	4	†Bt 162	Botany Seminar	1	0	1		
†Bt 161	Botany Seminar	1	0	1	†Gt 1	Amer. Government	3	0	3		
By 27	General Bacteriology	3	4	5	†Pl 35	Logic	3	0	3		
†Py 1	General Psychology	2	2	3	†Py 2	General Psychology	2	2	3		
						Elective			3		
				17							
								17			

† Suggested electives; other courses may be substituted at discretion of student and adviser.

Courses in Botany (Bt)

1. General Botany—An introduction to the structure, function and ecology of plants, with a brief study of plant evolution. Open to students of all colleges. *Rec 3, Lab 2, Cr 4.* STAFF

2. The Plant Kingdom—The morphology, reproduction, ecology and phylogenetic significance of the major classes of the plant kingdom. Open to students of all colleges. Prerequisite: Bt 1. *Rec 2, Lab 4, Cr 4.* MR. RICHARDS

33. Dendrology—Classroom and field work on identification and classification of trees and native shrubs of North America. Prerequisite: Bt 1. *Rec 2, Lab 4, Cr 4.* MR. HYLAND

35. Plant Anatomy—Structure of woody and herbaceous plants. Prerequisite: Bt 1. *Rec 2, Lab 3, Cr 3.* MR. HYLAND

130. Plant Ecology—Concepts and principles of plant community study with a brief survey of the vegetation of North America. Laboratory and field exercises stress systematic observations for quantitative analysis. Open to juniors, seniors, and graduates. Prerequisite: Bt 1 and permission of instructor. *Rec 2, Lab 2, Cr 3.* MR. GREGORY

145. Genetics—Principles of genetics. Prerequisite: one year of biology. Open to juniors and seniors. *Rec 3, Cr 3.* MR. GREGORY

Courses for Undergraduates and Graduates

47. 48. Problems in Botany—Open to juniors and seniors who have special interest and qualification in botany. The approval of the head of the department is required. *Cr Ar.* STAFF

53. Plant Physiology (Forestry)—Classroom and laboratory work on the physiology of plants. Prerequisite: Bt 1 and one year of chemistry. *Rec 2, Lab 3, Cr 3.* MR. COOPER

56. Plant Pathology (Forestry)—Principles of plant disease. Open to juniors and seniors. Prerequisite: Bt 1. *Rec 2, Lab 3, Cr 3.* MR. CAMPANA

110. The Plant World—A course in botany designed for teachers instructing at the elementary and secondary school levels. The role of plants in the economy of man; basic study of plants including origin, classification, structure and development, function, modification, environment and distribution. Laboratory work in plant collection, identification and preservation. Techniques in methods of preparation of materials for study, exhibits and displays. Additional requirements will be stipulated for graduate credit. *Rec 3, Cr 3.* MR. HYLAND

115. Our Common Trees and Shrubs—A field course designed primarily to familiarize elementary and secondary school teachers with our native woody plants. Emphasis is placed on identification, classification and economic importance. Labelled collections will be made by students and kept as reference material. Additional requirements will be stipulated for graduate credit. *Rec 3, Cr 3.* MR. HYLAND

120. Structure of Plants Used by Man—A course designed to familiarize elementary and secondary school teachers with the structure of our common economic plants. Emphasis will be placed on the specific part of the plant used (i.e., stem, root, leaf, fruit, seed) and the nature of the tissues, cells or cell contents useful to man. Enrollment will be limited to 24. Prerequisite: Bt 1 or the basic general botany course required in any college or university of approved standing. Additional requirements will be stipulated for graduate credit. *Rec 3, Cr 3.* MR. HYLAND

124. Local Flora—Identification and classification of the common herbaceous flowering plants and ferns of Maine. Field trips will be taken to collect and study plants in various habitats. Prerequisite: permission of instructor. Additional requirements will be stipulated for graduate credit. *Rec 3, Cr 3.*

MR. RICHARDS

125. Non-Vascular Plants of Maine—Identification and classification of common algae, fungi, lichens and mosses of Maine. Field trips will be taken to collect and study plants in various habitats. Prerequisite: permission of instructor. Additional requirements will be stipulated for graduate credit. *Rec 3, Cr 3.*

MR. RICHARDS

131. Plants and Environment—The dynamic aspects of the environmental relationships of plants. *Rec 3, Cr 3.*

MR. COOPER

132. Life Processes in Plants—A study of the fundamental life processes involved in the growth and reproduction of flowering plants. *Rec 3, Cr 3.*

MR. COOPER

142. B.S.C.S. Green Version Biology—Designed to acquaint secondary school teachers with the content and background of the Biological Sciences Curriculum Study, Green Version, program. Emphasis is placed on the community and world biome, with lesser but substantial concentration on the molecular and

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

cellular aspects of biology. Prerequisite: a background of biology, one chemistry course and three years of teaching experience. *Cr* 6. STAFF

150. Histological Technique—Methods and technique in the preparation of microscopic sections of plant material. *Rec* 1, *Lab* 6, *Cr* 3. MR. HYLAND

151. Plant Biology—A field course in botany designed to be of value in both elementary and secondary schools. The classwork will primarily be given in the field. All the major groups of plants will be covered with special attention to their type of habitat and plant relations. Student projects for use in their own classrooms will be encouraged. *Rec* 3, *Cr* 3. MR. COOPER

153. Plant Physiology—Classroom and laboratory work on the physiology of plants. Prerequisite: Bt 1 and one year of chemistry. *Rec* 2, *Lab* 4, *Cr* 4. MR. COOPER

154. Taxonomy of Vascular Plants—Identification and classification of flowering plants. Prerequisite: Bt 1. *Rec* 2, *Lab* 4, *Cr* 4. MR. RICHARDS

156. Plant Pathology—Principles of plant disease. Open to juniors and seniors. Prerequisite: Bt 1. *Rec* 2, *Lab* 4, *Cr* 4. MR. CAMPANA

159. General Mycology—Comparative morphology, classification and identification of fungi, plus investigation of unusual hereditary and physiological characteristics. Prerequisite: Bt 1. *Rec* 2, *Lab* 4, *Cr* 4. MR. MILLER

161. 162. Seminar—Literature reviews. Techniques, procedures and results in botanical research. *Rec* 1, *Cr* 1. STAFF

201. Research Methods in Plant Science—Laboratory, greenhouse, and field techniques involved in botanical research. Prerequisite: Bt 153 or Bt 156 and permission of instructor. *Cr Ar*. STAFF

216. Insect Transmission of Plant Diseases—Spread of plant diseases caused by bacteria, fungi or viruses through the agency of insects or other arthropods or other organisms. Methods of control. Prerequisite: Bt 156 and En 149. *Rec* 3, *Lab* 2, *Cr* 4. MR. CAMPANA, MR. SIMPSON

258. Advanced Plant Physiology—Advanced study of the physiology of plants, including photosynthesis, mineral nutrition, growth regulators, water relations, and respiration. Prerequisite: Bt 153. *Rec* 2, *Lab* 4, *Cr* 4. MR. COOPER

260. Comparative Morphology of Vascular Plants—Basic concepts on the origin and development of vascular plants, their morphology, anatomy, homologies and interrelationships. Prerequisite: Bt 35 or equivalent. *Rec* 2, *Lab* 4, *Cr* 4. MR. HYLAND

262. Plant Geography—The distribution of plants on the earth with emphasis on the causes of distributional phenomena. Prerequisite: Bt 154. *Rec* 3, *Cr* 3. MR. RICHARDS

269. Cytotaxonomy—The biological species concept as applied to higher plants and methods employed to define the limits of species so conceived. Prerequisite: Bt 145, Bt 154. (*Zo* 252 is suggested). *Rec* 2, *Lab* 2, *Cr* 3. MR. GREGORY

307; 308. Problems in Botany—*Cr Ar*. STAFF

399. Graduate Thesis—*Cr Ar*. STAFF

ENTOMOLOGY

PROFESSORS SIMPSON, BOULANGER; ASSOCIATE PROFESSOR DIMOND;
ASSISTANT PROFESSOR OSGOOD

The Entomology curriculum is designed to provide training for various positions in government and industry or to lay a firm basis for further training at the

UNIVERSITY OF MAINE CENTENNIAL

graduate level, leading to teaching or extension positions in colleges or to research positions in experiment stations or in industry.

Students with sufficient background and interest will be encouraged to enter graduate school for further specialization. Such students are encouraged to elect foreign languages as undergraduates.

The Department of Entomology offers a Master of Science degree. A Doctor of Philosophy degree may be taken in the Plant Science field.

Curriculum Leading to a Bachelor of Science Degree in Entomology Freshman Year. See Page 82.

Sophomore Year

FALL SEMESTER					SPRING SEMESTER						
Subject			Hours		Subject			Hours			
			Rec	Lab	Cr				Rec	Lab	Cr
Bc	1	Organic Chemistry	3	2	} 4	Bc	2	Biochemistry	3	2	} 4
		or						or			
Ch	31	Micro-Qual. Analysis	2	6		Ch	40	Quant. Analysis	2	6	
Bt	1	General Botany	2	4	4	Bt	154	Taxonomy of Vasc. Plants	2	4	4
Eh	9	Modern Literature	2	0	2						
En	26	Gen. Entomology	2	4	4	En	140	El. Tax. of Insects	2	4	4
		Elective			3			Elective			5
					17						17

Junior Year

					Rec Lab Cr							
			Rec	Lab	Cr				Rec	Lab	Cr	
Bt	145	Genetics	3	0	3	Eh	5	Tech. Composition	2	0	2	
En	151	Morph. of Insects	} 2	4	4	Sh	1	Public Speaking	2	0	2	
		or						Zo	158	Parasitology	2	4	4
En	153	Adv. Taxon. of Insects						Elective			9	
Zo	153	Invertebrate Zoology	2	4	4							
		Elective			6							
					17						17	

Senior Year

					Rec Lab Cr							
			Rec	Lab	Cr				Rec	Lab	Cr	
By	27	Bacteriology	3	4	5	Bt	156	Plant Pathology	2	4	4	
En	149	Economic Entom.	2	2	3	En	148	Prob. in Entomology	0	4	2	
En	151	Morph. of Insects	} 2	4	4							
		or								Elective			11
En	153	Adv. Taxon. of Insects										
		Elective			5							
					17						17	

Courses in Entomology (En)

26. Introductory Entomology—Fundamental principles of insect life and the relations of insects to plants, animals, and man. A study of structure, metamorphosis, ecology, and classification. An insect collection is required in the spring semester. Students may wish to start their collections prior to taking the course. *Rec 2, Lab 4, Cr 4.* MR. OSGOOD

26a. Introductory Entomology for Foresters—Principles of insect life, with emphasis in lectures on technical aspects of interest to professional foresters. Laboratories are identical with and combined with En 26. Offered in the spring semester only. *Rec 2, Lab 4, Cr 4.* MR. DIMOND

47. 48. Problems in Entomology—Open to juniors and seniors in any

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

college who have special interest and qualifications in Entomology. The approval of the head of the department is required. *Cr Ar.* STAFF

61.62. Seminar—A study of the literature and techniques of Entomology. *Rec 1, Cr 1.* STAFF

140. Elementary Taxonomy of Insects—Study of insects with emphasis on classification of lower orders and the Coleoptera. Field trips, methods of collecting, and identification. Prerequisite: En 22 or 26. *Rec 2, Lab 4, Cr 4.*

MR. OSGOOD

143. Forest Insect Ecology—Study of factors which regulate the distribution and abundance of insects, particularly in the forest environment. Characteristics of outbreaks and methods of suppression are discussed. Prerequisite: En 26. *Rec 2, Lab 2, Cr 3.*

MR. DIMOND

‡**149. Economic Entomology**—Considerations of the various methods used in the control of important pests of orchard, garden, and farm. Prerequisite: En 26. *Rec 2, Lab 2, Cr 3.*

MR. BOULANGER

†**151. Morphology of Insects**—External and internal anatomy of insects. Laboratory includes gross dissections of internal organs of a representative insect. Prerequisite: En 26. *Rec 2, Lab 4, Cr 4.*

MR. OSGOOD

‡**153. Advanced Taxonomy of Insects**—Study of wing venation; classification of Diptera, Lepidoptera and Hymenoptera. Prerequisite: En 26. *Rec 2, Lab 4, Cr 4.*

MR. OSGOOD

205.206. Problems in Entomology—*Cr Ar.*

STAFF

210. Taxonomy of Immature Insects—General morphology of immature insects. Identification of larvae in the orders Coleoptera, Lepidoptera, Diptera, and Hymenoptera. Prerequisite: En 151 and 153 or permission. *Rec 1, Lab 4, Cr 3.*

MR. BOULANGER

211. Insect Ecology—A study of factors governing distribution and abundance of insect populations in nature. Life-table approach to ecological studies using native forest insects as examples. Outside readings. Prerequisite: En 151 and 153 or permission. *Rec 1, Lab 2, Cr 2.*

MR. DIMOND

212. Biological Control of Insects—Reading of significant original contributions. May be repeated with permission by covering different areas, e.g., viruses, fungi, parasites and predators, radiation sterility, etc. Prerequisite: En 149. *Rec 1, Cr 1.*

MR. SIMPSON

213. Entomological Literature and Rules of Nomenclature—Use of indices to the entomological literature and the major research journals. Each student will be required to prepare a hypothetical revision or monograph of a genus or some other small group of insects. Prerequisite: En 151 and 153. *Rec 1, Cr 1.*

MR. DIMOND

214. Physiology and Behavior of Insects—Assigned readings from text and from current research publications. Classroom demonstrations and individual laboratory problems illustrating phases of insect physiology or behavior. Prerequisite: En 151 and Bc 1, 2. *Rec 2, Lab 2, Cr 3.*

MR. DIMOND

215. Insect Toxicology—Lectures and reading assignments. Fundamentals of insect toxicology, recent advances in the field, nature, and mechanism of insect resistance to insecticides. Laboratory problems to be arranged. Prerequisite: En 151 and Bc 1 or Bc 2. *Rec 2, Lab 2, Cr 3.*

MR. BOULANGER

216. Transmission of Plant Diseases—Spread of plant diseases caused by

bacteria, fungi or viruses through the agency of insects or other arthropods or other organisms. Methods of control. Prerequisite: Bt 156 and En 149. *Rec* 3, *Lab* 2, *Cr* 4.

MR. CAMPANA, MR. SIMPSON

399. Graduate Thesis—Cr Ar.

MR. SIMPSON

FOOD SCIENCE

PROFESSOR HIGHLANDS AND ASSOCIATE PROFESSOR HOGAN

101. Food Processing Industry Principles and Problems—Scope of the food manufacturing industry, processing principles and practices discussed in relation to product quality and problems involved. *Rec* 3, *Cr* 3.

281. 282. Problems in Food Science—Enrollment by permission. *Cr Ar.*

See the end of each college section for new course numbers.

The School of Forestry

DIRECTOR NUTTING; PROFESSORS BAKER, MENDALL, YOUNG; ASSOCIATE PROFESSORS BEYER, COULTER, GRIFFIN, PLUMMER, RANDALL; ASSISTANT PROFESSORS BANASIAK, SCHEMNITZ, CORCORAN, SCHOMAKER

Two curricula with seven sequences are offered in the School of Forestry. They have a common freshman year. The objectives are: (1) to train students in the theories and techniques for positions in forest land management, forest product harvesting, manufacture and sale, and game management; (2) to prepare qualifying students for graduate work; (3) to provide a broad education for effective citizenship.

Graduation requirements in the School of Forestry are: (1) passing grades in all required courses; (2) successful completion of 132 degree hours plus summer camp (8 hours) and spring trips (1 hour) as required in the sequence selected; (3) an accumulative average of not less than 1.80.

FORESTRY

The five sequences in forestry offer students an opportunity to qualify for a degree in forestry, membership in the Society of American Foresters, and for civil service positions in public agencies and for positions with private industry employing professional foresters. Graduates of the School have been employed in about equal numbers by private industry and public agencies. Students with qualifying grades are encouraged to pursue graduate work. All sequences provide an opportunity for a broad education by requiring both cultural and scientific courses supplemented by several hours of electives.

The University Forest is managed by the School. This tract of 1,750 acres lies within two miles of the campus and is used extensively for field laboratory work and for research. The School assists the Maine Forest Service in the management of Indian Township in eastern Maine. This tract of 17,000 acres is the location of Camp Robert I. Ashman where the summer camp courses required of Forestry and Wildlife majors are given.

Field experience is essential to foresters. Students are urged to obtain summer woods employment.

Two off-campus training periods are required of forestry students. (1) A week's field trip through New England in Silviculture or Utilization is required of all forestry students at the completion of the junior year. (2) Immediately following the junior field trips, an eight weeks' camp near Princeton, Maine (Indian Township), is required.

Students are accepted for graduate work in the fields of Forest Economics, Management, Recreation, Silviculture, and Utilization, leading to the degree of Master of Science in Forestry.

WILDLIFE MANAGEMENT

The two sequences in Wildlife Management offer a broad training in the natural sciences. The management sequence is designed to train students for forestland and game habitat management. The science sequence is designed for students with high grades who are most interested in biology and who plan to do graduate work. Upon completion of the curriculum requirements the student is granted the degree of Bachelor of Science in Wildlife Management.

UNIVERSITY OF MAINE CENTENNIAL

Off-campus training of eight weeks is required of all students in the Wildlife Management sequence at the Forestry Summer Camp near Princeton.

Field experience is important to wildlife managers. Students are urged to obtain summer field employment.

Seniors and graduates are eligible for Civil Service examinations for positions with federal and state agencies that administer natural resources.

A graduate program in wildlife is offered by the University and a number of graduate courses are available to qualified students.

The Maine Cooperative Wildlife Research Unit provides for a cooperative wildlife program jointly sponsored and financed by the University, The Maine Department of Inland Fisheries and Game, The U. S. Fish and Wildlife Service, and the Wildlife Management Institute. The Director of the School is the University representative on the Coordinating Committee. The purpose of the Unit is to sponsor the advancement, organization, and operation of wildlife research, education, extension, and demonstration programs. Graduate students in Wildlife Management are under the supervision of the Unit leader.

SCHOOL OF FORESTRY

Curricula and Sequences

Students in forestry and wildlife have seven sequences from which to choose their program.

Forestry	Wildlife
Forest Management	Wildlife Science
Forest Utilization	Wildlife Management
Forest Science (Tree growing)	
Forest Science (Wood Technology)	
General Forestry	

Freshman Year

A common freshman year program is recommended for all students in the School of Forestry (See page 82). Selection of an upperclass specialization sequence is made near the end of the second semester.

Basic Core: All students are required to take the following 65 credit hours of core courses:

	Hours Required	Fresh.	Soph.	Jr.	Senior
Ch 1 & 2 Chemistry	8	8			
Bt 1 Botany	4	4			
Bt 33 Dendrology or					
Bt 154 Taxonomy	4		4		
Ps 6 Physics	5		5		
Ms 1 & 3 Math	4	4			
Zo 3 Zoology	4	4			
Eh 1 & 2 Freshman Composition	6	6			
Eh 5 Technical Composition	2			2	
Sh 1 Speech	2		2		
Literature or Fine Arts	2		2		
History or Government	2		2		
Ec 1 & 2 Economics	6		6		
Eg 1 Engineering Graphics	2	2			
Ce 5 Surveying	3		3		
Fy 1 & 2 Introduction to Forestry	4	4			
Fy 4 & 5 Mensuration	6		6		
Fy 60 Seminar	1				1
Total	65	32	30	2	1

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Additional Required Courses

All Forestry Sequences

	Credit Hours
En 26 Entomology	4
Fy 7 Silvics	3
Fy 8 Silviculture	3
Fy 12 Wood Technology	2
Fy 35 Timber Management	3
Fy 44 Forest Economics	3
Spring Trip	1
Summer Camp	8

27

Forestry Management Sequence

	Credit Hours
S 3 Forest Soils	3
Bt 153 Plant Physiology	3
Bt 156 Forest Pathology	3
Eg 12 Forestry Drawing	2
Ba 9 Accounting	3
Fy 6 Forest Photogrammetry	3
Fy 10 Forest Planting	2
Fy 11 Forest Fire Control	2
Fy 13 Harvesting Timber Crops	2
Fy 20 Forest Administration	2
Fy 42 Forest Policy	2
Fy 43 Forest Valuation	2
Gy 6 Geology for Engineers	3

Forest Science—Forest Growth Sequence

	Credit Hours
S 3 Forest Soils	3
Bt 153 Plant Physiology	3
Fy 10 Forest Planting	2
Fy 13 Timber Harvesting	2
Fy 14 Forest Products	3
Fy 20 Forest Administration	3
Fy 42 Forest Policy	3
Gy 6 Geology for Engineers	3
Ms 12 Anal. Geom. & Calculus	4
Ps 2 Physics	5

General Forestry Sequence

	Credit Hours
Botany, Geology, Soils	6
Forestry	15

Wildlife Management Sequence

	Credit Hours
AnP 144 Disease & Parasite Cont.	3
En 26 General Entomology	4
Fy 6 Photogrammetry	3
Fy 8 Silviculture	3
Fy 35 Timber Management	3
Fy 41s Summer Camp	8
Fy 44 Forest Economics	2
Zo 132 Ichthyology	4
Zo 139 Mammalogy	3
Zo 160 Ornithology	4
Zo 171 Fish Management	4

All Wildlife Sequences

	Credit Hours
S 3 Forest Soils	3
Bt 130 Plant Ecology	3
Bt 154 Vascular Plants	4
Fy 19 Wildlife Ecology	2
Fy 27 & 28 Game Management	6
Zo 153 Invertebrate Zoology	4

22

Forest Utilization Sequence

	Credit Hours
Bt 35 Anatomy	3
Eg 12 Forestry Drawing	2
Be 9 Accounting	3
Fy 11 Fire Control	2
Fy 13 Timber Harvesting	2
Fy 14 Forest Products	3
Fy 15 Lumber Mfg.	2
Fy 16 Wood Identification	1
Fy 20 Forest Administration	2
Fy 42 Forest Policy	2
Fy 43 Forest Valuation	2

Forest Science—Wood Technology Sequence

	Credit Hours
Bt 35 Plant Anatomy	3
Bt 56 Forest Pathology	3
Fy 13 Timber Harvesting	2
Fy 14 Forest Products	3
Fy 16 Wood Identification	1
Ms 12 Anal. Geom. & Calculus	4
Ps 2 Physics	5

Wildlife Science Sequence

	Credit Hours
En 26 General Entomology	4
Gy 6 Geology for Engineers	3
Zo 160 Ornithology	4
Zo 139 Mammalogy	3
Zo 153 Invertebrate Zoology	4
Fy 7 or 8 Silvics	3
Ps 1b General Physics	5
Ps 2b General Physics	5

UNIVERSITY OF MAINE CENTENNIAL

Off-campus training of eight weeks is required of all students in the Wildlife Management sequence at the Forestry Summer Camp near Princeton.

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SCHOOL OF FORESTRY

Curricula and Sequences

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Forest Management
 Forest Utilization
 Forest Science (Tree growing)
 Forest Science (Wood Technology)
 General Forestry

Wildlife

Wildlife Science
 Wildlife Management

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Basic Core: All students are required to take the following 65 credit hours of core courses:

	Hours Required	Fresh.	Soph.	Jr.	Senior
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Bt 1 Botany	4	4			
Bt 33 Dendrology or					
Bt 154 Taxonomy	4		4		
Ps 6 Physics	5		5		
Ms 1 & 3 Math	4	4			
Zo 3 Zoology	4	4			
Eh 1 & 2 Freshman Composition	6	6			
Eh 5 Technical Composition	2			2	
Sh 1 Speech	2		2		
Literature or Fine Arts	2		2		
History or Government	2		2		
Ec 1 & 2 Economics	6		6		
Eg 1 Engineering Graphics	2	2			
Ce 5 Surveying	3		3		
Fy 1 & 2 Introduction to Forestry	4	4			
Fy 4 & 5 Mensuration	6		6		
Fy 60 Seminar	1				1
Total	65	32	30	2	1

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Additional Required Courses

All Forestry Sequences

			Credit Hours
En	26	Entomology	4
Fy	7	Silvics	3
Fy	8	Silviculture	3
Fy	12	Wood Technology	2
Fy	35	Timber Management	3
Fy	44	Forest Economics	3
		Spring Trip	1
		Summer Camp	8
			27

Forestry Management Sequence

			Credit Hours
S	3	Forest Soils	3
Bt	153	Plant Physiology	3
Bt	156	Forest Pathology	3
Eg	12	Forestry Drawing	2
Ba	9	Accounting	3
Fy	6	Forest Photogrammetry	3
Fy	10	Forest Planting	2
Fy	11	Forest Fire Control	2
Fy	13	Harvesting Timber Crops	2
Fy	20	Forest Administration	2
Fy	42	Forest Policy	2
Fy	43	Forest Valuation	2
Gy	6	Geology for Engineers	3

Forest Science—Forest Growth Sequence

			Credit Hours
S	3	Forest Soils	3
Bt	153	Plant Physiology	3
Fy	10	Forest Planting	2
Fy	13	Timber Harvesting	2
Fy	14	Forest Products	3
Fy	20	Forest Administration	3
Fy	42	Forest Policy	3
Gy	6	Geology for Engineers	3
Ms	12	Anal. Geom. & Calculus	4
Ps	2	Physics	5

General Forestry Sequence

	Credit Hours
Botany, Geology, Soils	6
Forestry	15

Wildlife Management Sequence

			Credit Hours
AnP	144	Disease & Parasite Cont.	3
En	26	General Entomology	4
Fy	6	Photogrammetry	3
Fy	8	Silviculture	3
Fy	35	Timber Management	3
Fy	41s	Summer Camp	8
Fy	44	Forest Economics	2
Zo	132	Ichthyology	4
Zo	139	Mammalogy	3
Zo	160	Ornithology	4
Zo	171	Fish Management	4

All Wildlife Sequences

			Credit Hours
S	3	Forest Soils	3
Bt	130	Plant Ecology	3
Bt	154	Vascular Plants	4
Fy	19	Wildlife Ecology	2
Fy	27 & 28	Game Management	6
Zo	153	Invertebrate Zoology	4
			22

Forest Utilization Sequence

			Credit Hours
Bt	35	Anatomy	3
Eg	12	Forestry Drawing	2
Be	9	Accounting	3
Fy	11	Fire Control	2
Fy	13	Timber Harvesting	2
Fy	14	Forest Products	3
Fy	15	Lumber Mfg.	2
Fy	16	Wood Identification	1
Fy	20	Forest Administration	2
Fy	42	Forest Policy	2
Fy	43	Forest Valuation	2

Forest Science—Wood Technology Sequence

			Credit Hours
Bt	35	Plant Anatomy	3
Bt	56	Forest Pathology	3
Fy	13	Timber Harvesting	2
Fy	14	Forest Products	3
Fy	16	Wood Identification	1
Ms	12	Anal. Geom. & Calculus	4
Ps	2	Physics	5

Wildlife Science Sequence

			Credit Hours
En	26	General Entomology	4
Gy	6	Geology for Engineers	3
Zo	160	Ornithology	4
Zo	139	Mammalogy	3
Zo	153	Invertebrate Zoology	4
Fy	7 or 8	Silvics	3
Ps	1b	General Physics	5
Ps	2b	General Physics	5

Courses in the School of Forestry (Fy)

1. Introduction to Forestry—Instruments and techniques for field measurements—orientation. Required of freshmen in the School of Forestry. *Rec 1, Lab 3, Cr 2.* STAFF

2. Introduction to Forestry—A survey of the fields of forestry and wildlife conservation. Required of freshmen in the School of Forestry. *Rec 2, Cr 2.* STAFF

4. Forest Sampling Methods—Elementary statistical background and sampling procedures based on statistics in forestry and wildlife. Use of desk calculators and introduction to electronic computers. Prerequisite: Ms 1 and 3. *Rec 2, Lab 3, Cr 3.* MR. SCHOMAKER

5. Forest Mensuration—Determination of volume of standing and felled timber. Construction of log rules, volume tables, and yield tables. Determination of growth and yield. Prerequisite: surveying. *Rec 2, Lab 3, Cr 3.* MR. SCHOMAKER

6. Forest Photogrammetry—Construction of planimetric and topographic maps by photogrammetric methods. Determination of forest types and stand composition by interpretation and measurements of air photos. *Rec 2, Lab 3, Cr 3.* STAFF

7. Silvics—Biological principles and environmental factors governing the natural establishment and development of forest trees and stands. Prerequisite: Bt 33. *Rec 2, Lab 3, Cr 3.* MR. GRIFFIN

8. Silviculture—Technical methods of controlling the composition, growth, quality, and regeneration of forest stands. Prerequisite: Fy 7. *Rec 2, Lab 3, Cr 3.* MR. GRIFFIN

8s. Silviculture Trip—One week is spent visiting public and private forests of the Northeast. Silvicultural problems and methods of managing important forest types of the region are studied. *Cr 1.* MR. GRIFFIN

109. Regional Silviculture—Applied silvicultural practices and results of current silvicultural research in important forest types of the United States. Prerequisite: Fy 8. *Rec 2, Cr 2.* MR. GRIFFIN

10. Forest Planting—The planting, care, and selection of stock in nursery and field plantings. Seed collecting and processing. Mechanical planting and field techniques. One-day field trip required. *Rec 1, Lab 3, Cr 2.* MR. PLUMMER

11. Forest Fire Control—Forest fire behavior as influenced by fuels, weather, topography. Effects of fire. Methods of preventing and controlling fires. Use of fire in forest management. *Rec 2, Cr 2.* MR. RANDALL

12. Wood Technology—The physical and mechanical properties of wood. The effect these properties have upon seasoning, machining, and use of wood. Prerequisite: Bt 33 and 35. *Rec 2, Cr 2.* MR. BAKER

13. Harvesting of Forest Crops—Harvesting methods in the various regions of the United States and Canada, with special emphasis on the Northeast. Discussion of organization, costs, equipment, and trends. *Rec 2, Cr 2.* MR. PLUMMER

14. Forest Products—Forest products other than logs and lumber. Importance, methods of manufacture, and utilization. Importance of forest industries, problems, and trends. *Rec 2, Lab 3, Cr 3.* MR. BEYER

15. Lumber Manufacture—Milling and marketing problems of the lumber industry in America. *Rec 2, Cr 2.* MR. BAKER

16. Wood Identification—Identification and classification of the commer-

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

cial woods of the United States based on simple lens inspection and gross characters. *Lab 2, Cr 1.*

MR. BAKER

17. Wood Preservation—Causes of deterioration of wood in service; preservatives, preparation of material; wood preserving process. *Rec 2, one-half semester, Cr 1.*

MR. BAKER

19. Wildlife Ecology—Geographic and ecologic distribution of game birds and mammals. Ecologic principles of game management. *Rec 2, Cr 2.*

MR. SCHEMNITZ

19s. Wildlife Ecology—Field problems in forest-wildlife ecology. Recognition, measurement, analysis and interpretation of problems in forest-wildlife relationships. Forty-four hours at camp for one week. *Cr 1.*

MR. SCHEMNITZ

20. Forest Administration—Problems in the administration of national, state, and private forests. Defining and attaining objectives. The personal element in forestry. Methods of organizing, staffing, and equipping forestry enterprises. *Rec 2, Cr 2.*

MR. RANDALL

24. Range Management—History and economic importance of the range livestock industry. Utilization and management of the forage resource; relation to other land use. National and regional problems in grazing use; administration of public grazing lands. *Rec 2, Cr 2.*

MR. RANDALL

30. Wildlife Law Enforcement—The role of law enforcement in modern wildlife management. History and development of law and relationship to present policies. Description of organizations. Operations and duties of personnel. *Rec 2, Cr 2.*

MR. SCHEMNITZ

45. 46. Special Problems—Original investigation in advanced forestry and wildlife work, the subject to be chosen after consultation with the staff. Open to high-ranking juniors and seniors. *Cr Ar.*

STAFF

48. Natural Resources—The characteristics, status, utilization, and management of natural resources. The social aspects of resource management. Open to juniors and seniors. *Rec 2, Cr 2.*

MR. BEYER AND STAFF

53. Forest Recreation Management—Methods of evaluation, planning, and development of wildlands for recreation. Importance, problems, and trends. Public and private programs and policies. School of Forestry students or by permission of instructor. Two Saturday field trips required. *Rec 2, Cr 2.*

MR. BEYER AND STAFF

60. Seminar—Reviews of literature. Current problems in forestry and conservation. *Rec 1, Cr 1.*

MR. NUTTING, MR. SCHEMNITZ

127. Game Biology—The principles of game biology and a consideration of the principles of game management based on the biological characteristics of wildlife. Seniors. *Rec 2, Lab 3, Cr 3.*

MR. SCHEMNITZ

128. Game Management—The principles of game management. A consideration of the technical methods of wildlife investigations in relation to land management. Seniors. *Rec 2, Lab 3, Cr 3.*

MR. SCHEMNITZ

132. Forest Influences—Effects of forest vegetation upon climatic factors, soil water, stream flow, floods, erosion, and soil productivity. Prerequisite: *Fy 7 and Ag 3.* *Rec 2, Cr 2.*

MR. GRIFFIN

134. Timber Management—The organization of forest properties for sustained yield of timber products. Calculation of the annual cut and preparation of timber management plans. Forestry juniors. *Rec 3, Cr 3.*

MR. RANDALL

142. Forest Policy—Forest policy in selected countries in comparison with our own. Development of federal, state, and private forest policies in U. S.

COLLEGE OF LIFE SCIENCES AND AGRICULTURE

Current problems of land ownership and use. Juniors and seniors. *Rec 2, Cr 2.*

MR. RANDALL

143. Forest Valuation—Methods of appraising the value of standing timber, forest land and growing stock as a means of controlling the forestry investment. Damage appraisal and effects of taxation. Forestry seniors. *Rec 2, Cr 2.*

MR. RANDALL

144. Forest Economics—Forest resources of U. S. and the world and prospects of meeting increased demand for forest products. Economic factors in forest production and use of economic analysis in making forest management decisions. Prerequisite: Ec 1 & 2. *Lab 2, Cr 3.*

MR. CORCORAN

147. Advanced Forest Mensuration—Advanced sampling methods and the principles of regression analysis as applied to forestry and wildlife in management and research. Applications with computers. Prerequisite: Fy 4, Ms 19 or Ag 70 and consent of instructor. *Rec. 3, Cr 3.*

MR. SCHOMAKER

171. Production Analysis in Forestry—Introduction to concepts and procedures used in the evaluation of timber production and forest product manufacturing with emphasis on study organization, work measurement, job evaluation, cost control, and schematic models. Forestry seniors, graduate students, or consent of instructor. *Rec 2, Cr 2.*

MR. CORCORAN

172. Planning and Control of Forestry Operations—Applications of scientific methods to management decision problems of forestry operations with emphasis on inventory control, allocation methods, replacement models, waiting-line analysis, sequencing, simulation, and competitive strategies. Forestry seniors, graduate students, or consent of instructor. *Rec 2, Cr 2.*

MR. CORCORAN

176. Forest Inventory and Growth—Principles and exploration in detail of approaches to inventory and growth. Field trips will be required. Forestry juniors, seniors, graduate students, and consent of instructor. Prerequisite: Fy 4 and 5. *Rec 2, Cr 2.*

MR. SCHOMAKER

201. 202. Forest Mensuration Problems—*Cr Ar.*

MR. SCHOMAKER

203. 204. Forest Management Problems—*Cr Ar.*

MR. RANDALL

205. 206. Game Management Problems—*Cr Ar.*

MR. MENDALL

207. 208. Silviculture Problems—*Cr Ar.*

MR. GRIFFIN

211. 212. Research Problems in Forest Economics—*Cr Ar.*

MR. CORCORAN

213. 214. Forest Recreation Problems—*Cr Ar.*

STAFF

399. Graduate Thesis—*Cr Ar.*

STAFF

Forestry Summer Camp

41s. Practice of Forestry—Field practice in methods and problems involved in the management of a large forestry property. Timber estimating and marking, surveying, fire control, logging, preparation of a management plan. Visits to woods operations and utilization plants. Prerequisite: Fy 5, 8. Forty-four hours a week for eight weeks. *Cr 8.*

MR. RANDALL AND STAFF

See the end of each college section for new course numbers.