

BULLETIN
OF
BROWN UNIVERSITY
• • •
GENERAL CATALOG

*Pre-med
room & board*



1953-1954

CORRESPONDENCE

Correspondence addressed simply to Brown University, Providence 12, Rhode Island, may be expected to reach the proper department but, in order to avoid delay, correspondents are requested to note the following directions:

Communications relating to matters directly in the charge of the Corporation, and all correspondence bearing upon the general interests of the University, should be addressed to the President.

Requests for the Annual Catalog and other publications, and general inquiries from prospective students, should be addressed to the Board of Admission, Brown University.

Definite inquiries from applicants for admission concerning requirements, undergraduate courses, scholarship aid, student loans, dormitory accommodations, and other related matters should be addressed to the Board of Admission, Brown University.

Inquiries regarding admission to the freshman class or to advanced standing at Pembroke College should be addressed to the Dean of Admission, Pembroke Hall.

Inquiries from upperclassmen concerning scholarships should be addressed to the Board of Admission.

Inquiries concerning other matters pertaining to members of all classes should be addressed to the Dean of the College.

Inquiries in regard to the Graduate School should be addressed to the Dean of the Graduate School.

Inquiries concerning Pembroke College should be addressed to the Dean of Pembroke College, Pembroke Hall.

Inquiries or information concerning Alumni should be sent to the Director of Alumni Relations, Brown University.

BULLETIN OF BROWN UNIVERSITY

Vol. L

DECEMBER, 1953

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THE BULLETIN OF
BROWN UNIVERSITY:
the General Catalog for
the year 1953-1954



One Hundred and Ninetieth year

PROVIDENCE

1953

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1953

Table with 4 columns: SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER. Each column contains a grid of days of the week (S, M, T, W, T, F, S) and dates.

1954

Table with 4 columns: JANUARY, FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER. Each column contains a grid of days of the week (S, M, T, W, T, F, S) and dates.

University Calendar

1953-1954

~ 1953 ~

SEPTEMBER 2	<i>Wednesday.</i> Annual Meeting of the Corporation.
SEPTEMBER 14	<i>Monday.</i> Freshman Week begins (<i>second Monday in September</i>).
SEPTEMBER 15-19	<i>Tuesday through Saturday.</i> Registration of graduate students.
SEPTEMBER 16-19	<i>Wednesday through Saturday.</i> Registration of new entrants and readmission students, and check-in period for upperclassmen.
SEPTEMBER 19	<i>Saturday.</i> Last day for payment of charges for the first semester of all undergraduate men and women.
SEPTEMBER 21	<i>Monday.</i> Opening of the One Hundred and Ninetieth Academic Year (<i>third Monday in September</i>). Convocation.
SEPTEMBER 21	<i>Monday, 10 a.m.</i> Classes of the first semester begin.
OCTOBER 1	<i>Thursday.</i> Examination for the President's Premiums in Greek (<i>Thursday preceding first Wednesday in October</i>).
OCTOBER 8	<i>Thursday.</i> Examination for the President's Premiums in Latin (<i>Thursday following first Wednesday in October</i>).
OCTOBER 12	<i>Monday.</i> Columbus Day. No University exercises.
OCTOBER 14, 15	<i>Wednesday and Thursday.</i> Language examinations for candidates for advanced degrees.
OCTOBER 15	<i>Thursday.</i> Examination for the Hartshorn and Hypatia Premiums in Mathematics.
OCTOBER 17	<i>Saturday.</i> Adjourned Meeting of the Corporation.
OCTOBER 22	<i>Thursday.</i> Examination for the Albert Bushnell Johnson Premiums in French.
OCTOBER 29	<i>Thursday.</i> Examination for the Caesar Misch and Asa Clinton Crowell Premiums in German.
NOVEMBER 7	<i>Saturday.</i> Mid-semester (<i>first Saturday in November</i>).

CALENDAR

NOVEMBER 10	<i>Tuesday, 12 noon.</i> Honors Convocation, Pembroke College (<i>Tuesday following Mid-semester</i>).
NOVEMBER 11	<i>Wednesday.</i> Armistice Day. No University exercises.
NOVEMBER 20	<i>Friday, 12 noon.</i> Honors Convocation, The College (<i>Friday following third Thursday in November</i>).
NOVEMBER 25-30	<i>Wednesday, 12 noon, to Monday, 8 a.m.</i> Thanksgiving recess.
DECEMBER 3	<i>Thursday.</i> The Gaston Prize in Oratory (open to men only), written orations due.
DECEMBER 10	<i>Thursday.</i> The Preston Gurney Literary Prizes, essays due.
DECEMBER 12	<i>Saturday.</i> Clarkson Abel Collins, Jr. Prize (open to men only), papers due.
DECEMBER 12	<i>Saturday.</i> Woods Hole Prize in Biology, names of contestants due.
DECEMBER 17, 1953- JANUARY 4, 1954	<i>Thursday, 12 noon to Monday, 8 a.m.</i> Christmas recess.

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JANUARY 4	<i>Monday, 8 a.m.</i> Classes resume.
JANUARY 6	<i>Wednesday.</i> The Gaston Prize in Oratory, public competition.
JANUARY 16	<i>Saturday, 12 noon.</i> Classes of the first semester end (<i>Saturday following second Thursday in January</i>).
JANUARY 20-29	<i>Wednesday to Friday, inclusive, omitting Sunday.</i> Final examinations of the first semester (<i>including third and fourth Thursdays in January</i>).
JANUARY 27-30	<i>Wednesday to Saturday, inclusive.</i> Check-in of all undergraduate men for the second semester and registration of readmitted students.
JANUARY 30	<i>Saturday.</i> Last day for payment of charges for the second semester of all undergraduate men except readmitted students.
JANUARY 30- FEBRUARY 2	<i>Saturday through Tuesday, omitting Sunday.</i> Registration of graduate students for the second semester.
FEBRUARY 1, 2	<i>Monday and Tuesday.</i> Final registration of undergraduate women for the second semester.
FEBRUARY 2	<i>Tuesday.</i> Last day for payment by all undergradu-

CALENDAR

	ate women, including special students, of charges for the second semester.
FEBRUARY 3	<i>Wednesday, 8 a.m.</i> Classes of the second semester begin (<i>Wednesday after last Sunday in January</i>).
FEBRUARY 25	<i>Thursday.</i> Hicks Prizes for Interclass Debate, preliminary debate.
MARCH 1	<i>Monday.</i> Applications for fellowships, scholarships, and assistantships for 1954-55 in the Graduate School due.
MARCH 11	<i>Thursday.</i> Annual Initiation Exercises, Sigma Xi (<i>Thursday following first Sunday in March</i>).
MARCH 13	<i>Saturday.</i> The Thomas Carpenter and Minnie Helen Hicks Prizes for Elocution, preliminary applications due.
MARCH 20	<i>Saturday.</i> Mid-semester (<i>Saturday preceding third Sunday in March</i>).
MARCH 24, 25	<i>Wednesday and Thursday.</i> Language examinations for candidates for advanced degrees.
MARCH 25	<i>Thursday.</i> Examination for the Henry Parker Manning Mathematical Prizes.
MARCH 25	<i>Thursday.</i> Hicks Prizes for Interclass Debate (open to men only), public debate.
APRIL 3-12	<i>Saturday, 12 noon, to Monday, 8 a.m.</i> Spring recess (<i>including first Wednesday in April</i>).
APRIL 15	<i>Thursday.</i> Samuel C. Lamport Prizes in Economics and in Sociology, papers due.
APRIL 15	<i>Thursday.</i> Isabel Harris Metcalf Prize (open to women only), essays due.
APRIL 15	<i>Thursday.</i> Gaspee Chapter, D.A.R. Prize (open to women only, papers due.
APRIL 19	<i>Monday.</i> The Thomas Carpenter and Minnie Helen Hicks Prizes for Elocution, public competition.
APRIL 22	<i>Thursday.</i> Examination for The Lucius Lyon Premiums in Latin.
APRIL 22	<i>Thursday.</i> Susan Colver Rosenberger Prizes in Italian and in Spanish, papers due.
APRIL 22	<i>Thursday.</i> The Philo Sherman Bennett Prize, papers due.
APRIL 22	<i>Thursday.</i> Class of 1873 Prizes, papers due.

CALENDAR

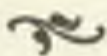
APRIL 22	<i>Thursday.</i> The Bishop McVickar Prizes, papers due.
APRIL 26	<i>Monday.</i> Theses of candidates for the degree of Doctor of Philosophy in June due.
APRIL 28, 29	<i>Wednesday and Thursday.</i> The Minnie Helen Hicks Prizes in Art (open to women only), judging of entries and public exhibit.
APRIL 29	<i>Thursday.</i> Examination for The Lafayette Sabine Foster Premium in Greek.
MAY 10	<i>Monday.</i> Theses of candidates for Masters' degrees in June due.
MAY 15-18	<i>Saturday through Tuesday, omitting Sunday.</i> Senior Review Period. Seniors excused from all classes.
MAY 17-21	<i>Monday to Friday, inclusive.</i> Senior examinations for Final Honors.
MAY 18	<i>Tuesday, 6 p.m.</i> Classes of the second semester end (<i>Tuesday following second Friday in May</i>).
MAY 19, 20	<i>Wednesday and Thursday.</i> Comprehensive examinations for seniors.
MAY 22-JUNE 1	<i>Saturday to Tuesday, inclusive, omitting Sundays.</i> Final examinations of the second semester.
JUNE 4	<i>Friday.</i> Meeting of the Board of Fellows.
JUNE 4	<i>Friday.</i> Class Day.
JUNE 5	<i>Saturday.</i> Annual Meeting of the Phi Beta Kappa Society.
JUNE 5	<i>Saturday.</i> Commencement Meeting of the Corporation.
JUNE 5	<i>Saturday.</i> Graduate School Convocation, Sayles Hall.
JUNE 6	<i>Sunday, 3 p.m.</i> Baccalaureate Sermon, First Baptist Meeting House.
JUNE 7	<i>Monday, 10 a.m.</i> One Hundred and Eighty-Sixth Annual Commencement (<i>first Monday in June</i>), First Baptist Meeting House.
JUNE 8	<i>Tuesday.</i> Summer Vacation begins.

1954-1955

~ 1954 ~

SEPTEMBER 20	<i>Monday.</i> Official opening of the One Hundred and Ninety-First Academic Year (<i>third Monday in September</i>). Preceded by Freshman Week.
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¹ On leave of absence, Semester II, 1953-54.

² Resigned August 31, 1953.

³ Effective September 1, 1953.

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¹ Resigned September 26, 1953.

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HARCOURT BROWN, Ph.D., *Professor of the French Language and Literature*

SHARON BROWN, A.B., *Professor of English*

GILBERT EUGENE CASE, Ph.D., *Professor of Education; Director, Division of University Extension*

HERMAN BURLEIGH CHASE, Ph.D., *Professor of Biology*

RODERICK MILTON CHISHOLM, Ph.D., *Professor of Philosophy*

GEORGE LYLE CHURCH, Ph.D., *Professor of Botany; Curator of the Herbarium*

¹WILLIAM FARR CHURCH, Ph.D., *Professor of History*

BENJAMIN CROCKER CLOUGH, Ph.D., *Professor of Classics*

¹ On leave of absence, Semester II, 1953-54.

PROFESSORS

- ROBERT HUGH COLE, PH.D., *Professor of Chemistry*
ARLAN RALPH COOLIDGE, PH.B., *Professor of Music*
HERBERT NEWELL COUCH, PH.D., *David Benedict Professor of Classics; Secretary of the Faculty*
SAMUEL FOSTER DAMON, A.M., *Professor of English; Curator of the Harris Collection*
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GEORGE ELLIOT DOWNING, PH.D., *Professor of Art*
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HARRY EDWARD FARNSWORTH, PH.D., *Professor of Physics*
HERBERT FEDERER, PH.D., *Professor of Mathematics*
WILLIAM LEOPOLD FICHTER, PH.D., *Professor of the Spanish Language and Literature*
ROBERT HUDSON GEORGE, PH.D., *Munro, Goodwin, Wilkinson Professor of History*
PAUL GERMAIN, PH.D., *Visiting Professor of Applied Mathematics*
¹RAY EDWIN GILMAN, PH.D., *Professor of Mathematics*
²ROLF GRAN OLSSON, ENG.D., *Visiting Professor of Applied Mathematics*
BRYAN BRAND HARPER, B.B.A., A.M., *Professor of Air Science and Tactics*
JAMES BLAINE HEDGES, PH.D., *George L. Littlefield Professor of American History*
MAURICE HASKELL HEINS, PH.D., *Professor of Mathematics*
HARRY GEOFFREY HOPKINS, SC.M., *Visiting Professor of Applied Mathematics*
DONALD FREDERICK HORNIG, PH.D., *Professor of Chemistry; Director of the Metcalf Research Laboratory; Acting Dean of the Graduate School*
WALTER SAMUEL HUNTER, PH.D., *Professor of Psychology*
DAVID ALONZO JONAH, SC.M., *Librarian; John Hay Professor of Bibliography*
ISRAEL JAMES KAPSTEIN, PH.D., *Professor of English*
BARNABY CONRAD KEENEY, PH.D., *Dean of the College; Professor of History*
HUNTER KELLENBERGER, PH.D., *Professor of French*
EDWARD STEWART KENNEDY, PH.D., *Visiting Professor of the History of Mathematics*
ROBERT WEBB KENNY, PH.D., *Professor of English*
HUGH BAXTER KILLOUGH, PH.D., *Professor of Economics*

¹ On leave of absence.

² Summer, 1953.

PROFESSORS

- CHESTER HUGO KIRBY, PH.D., *Professor of History*
 PAUL NORMAN KISTLER, SC.M., A.M., *Professor of Mechanical Engineering*
¹ERNEST JOHN KNAPTON, PH.D., *Visiting Professor of History*
 FREDERICK WILLIAMS LAING, SC.B., A.M., *Professor of Naval Science*
 ERASTUS HENRY LEE, PH.D., *Professor of Applied Mathematics*
 ROBERT BRUCE LINDSAY, PH.D., *Hazard Professor of Physics*
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Director of Educational Measurement
 JOHN HENRY MARCHANT, PH.D., *Professor of Engineering*
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 RAYMOND BRAISLIN MONTGOMERY, SC.D., *Visiting Professor of Oceanog-*
raphy
 EDMUND SEARS MORGAN, PH.D., *Professor of History*
²OTTO EDUARD NEUGEBAUER, PH.D., LL.D., *Professor of the History of*
Mathematics
 ROBERT GALE NOYES, PH.D., *Professor of English*
 RICHARD ANTHONY PARKER, PH.D., *Wilbour Professor of Egyptology*
 LEIF NORROLF PERSEN, DR.TECHN., *Visiting Professor of Applied Mathe-*
matics
³CARL PFAFFMANN, PH.D., *Professor of Psychology*
 WILLIAM PRAGER, ENG.D., *Professor of Applied Mechanics*
 ALONZO WALLACE QUINN, PH.D., *Professor of Geology*
 LORRIN ANDREWS RIGGS, PH.D., *Professor of Psychology*
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Education
 WILLIAM WALKER RUSSELL, PH.D., *Newport Rogers Professor of Chemistry*
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Observatory
 WALTER HENRY SNELL, PH.D., *Stephen T. Olney Professor of Natural History*
 RANDALL STEWART, PH.D., *Professor of English Literature*

¹ Semester II, 1953-54.

² On leave of absence, Semester II, 1953-54.

³ On leave of absence, Semester I, 1953-54.

ASSOCIATE PROFESSORS

- MARGARET BINGHAM STILLWELL, A.B., LITT.D., *Librarian of the Annmary Brown Memorial Library; Research Professor of Bibliography*
MERTON PHILIP STOLTZ, PH.D., *Professor of Economics*
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LAWRENCE COUNSELMAN WROTH, A.B., LITT.D., L.H.D., *Librarian of the John Carter Brown Library; Research Professor of American History*

Associate Professors

- WILLIAM RAMSDEN BENFORD, SC.M., *Associate Professor of Civil Engineering*
KAARE ROALD BERGETHON, PH.D., *Associate Professor of German; Associate Dean of the College*
¹ROBERT THOMAS BEYER, PH.D., *Associate Professor of Physics*
RALPH LEON BLANCHARD, A.M., *Associate Professor of English*
EDWARD JAMES BROWN, PH.D., *Associate Professor of Russian*
LEALLYN BURR CLAPP, PH.D., *Associate Professor of Chemistry*
¹DONALD EUGENE COPELAND, PH.D., *Associate Professor of Biology*
WILLIAM DINNEEN, A.M., *Associate Professor of Music; Director of Chapel Music*
WILLIAM GEORGE DOLAN, A.B., *Associate Professor of Air Science and Tactics*
MAC VINCENT EDDS, JR., PH.D., *Associate Professor of Biology*
PAUL FREDRIC FENTON, PH.D., *Associate Professor of Biology*
DONALD HARNISH FLEMING, PH.D., *Associate Professor of History*
LEWIS HALL GORDON, PH.D., *Associate Professor of Italian*
MILLARD FREEMAN GORDON, SC.D., *Associate Professor of Engineering*
²ALAN HOLSKE, PH.D., *Associate Professor of German*
¹DAVID JAMES, PH.D., *Associate Professor of French*
JOSEPH KESTIN, PH.D., *Associate Professor of Engineering*
PAUL FRITZ MAEDER, PH.D., *Associate Professor of Engineering*
WILLIAM SCHUMACHER MASSEY, PH.D., *Associate Professor of Mathematics*
KURT BERND MAYER, PH.D., *Associate Professor of Sociology*

¹ On leave of absence.

² On leave of absence, Semester II, 1953-54.

ASSISTANT PROFESSORS

- GEORGE WALTER MORGAN, PH.D., *Associate Professor of Applied Mathematics*
ROBERT WARREN MORSE, PH.D., *Associate Professor of Physics*
WESTCOTT ENOCH SUMNER MOULTON, A.M., *Associate Dean of Students, Associate Professor of Physical Education*
CONSTANTINE MYLONAS, PH.D., *Associate Professor of Engineering*
HAROLD RUSS NACE, PH.D., *Associate Professor of Chemistry*
WILLIAM HICKS PELL, PH.D., *Associate Professor of Engineering*
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VINCENT ANTHONY TOMAS, PH.D., *Associate Professor of Philosophy*
CLARENCE MERTOUN WEBSTER, PH.D., *Associate Professor of English*
PAUL B. WEISZ, PH.D., *Associate Professor of Biology*
¹JOHN ROWE WORKMAN, PH.D., *Associate Professor of Classics*

Assistant Professors

- CHARLES DOUGHTY ALLEN, JR., SC.B., *Assistant Professor of Naval Science*
CARLOS MANUEL ANGULO, M.E.E., *Assistant Professor of Engineering*
ROSALIE BEAMS, R.N., A.M., *Assistant Professor of Nursing Education*
JESS BALSOR BESSINGER, JR., PH.D., *Assistant Professor of English*
ELMER MILTON BLISTEIN, PH.D., *Assistant Professor of English*
EDWARD ALAN BLOOM, PH.D., *Assistant Professor of English*
GEORGE HERBERT BORTS, PH.D., *Assistant Professor of Economics*
HARRY GLENN BROWN, M.A., M.A. IN L.S., *Supervisor of Readers' Service; Assistant Professor of Bibliography*
RICARDO AUGUSTO CAMINOS, PH.D., D.PHIL.(OXON.), *Assistant Professor of Egyptology*
GENE BLAKELY CARPENTER, PH.D., *Assistant Professor of Chemistry*
LUCIAN MONTGOMERY CAYCE, A.B., *Assistant Professor of Naval Science*
PETER CHIARULLI, PH.D., *Assistant Professor of Applied Mathematics*
GORDON ROHDE DEWART, PH.D., *Assistant Professor of French*
NORMAN CHARLES DUQUETTE, *Assistant Professor of Air Science and Tactics*
HUBERT JEROME DYER, PH.D., *Assistant Professor of Botany*
DURAND ECHEVERRIA, PH.D., *Assistant Professor of French*
JOHN OELHAF EDWARDS, PH.D., *Assistant Professor of Chemistry*

On leave of absence, Semester I, 1953-54.

ASSISTANT PROFESSORS

- EDGARD ASHTON ELDRIDGE, Sc.B., *Assistant Professor of Naval Science*
WALTER SIDNEY FELDMAN, M.F.A., *Assistant Professor of Art*
MARTIN JOHN FISCHER, Mus.B., *Assistant Professor of Music*
¹DAVID GALE, Ph.D., *Assistant Professor of Mathematics*
LYDIA MARIAN GOODING, M.S., *Assistant Professor of Bibliography*
EDWARD FORBES GREENE, Ph.D., *Assistant Professor of Chemistry*
CHARLES MEADE GRIGG, Ph.D., *Assistant Professor of Sociology*
WALDO EMERSON HAISLEY, JR., Ph.D., *Assistant Professor of Physics*
MILFORD HARRISON HATCH, Sc.D., *Assistant Professor of Biology*
GERALD SILIAS HELLER, Ph.D., *Assistant Professor of Physics*
RICHARD HALL JESCHKE, JR., Sc.B., *Assistant Professor of Naval Science*
LESLIE ALLEN JONES, Ph.B., *Assistant Professor of English; Technical Director of Dramatics*
BJARNI JONSSON, Ph.D., *Assistant Professor of Mathematics*
JULIUS WILLIAM KLING, Ph.D., *Assistant Professor of Psychology*
EDWARD THEODORE KORNHAUSER, Ph.D., *Assistant Professor of Physics*
JOHN LADD, Ph.D., *Assistant Professor of Philosophy; Head Resident of the Quadrangle*
ELIZABETH HORTENSE LEDUC, Ph.D., *Assistant Professor of Biology*
SAMUEL LERNER, Sc.M., *Assistant Professor of Civil Engineering*
SHELDON LEONARD LEVY, Ph.D., *Assistant Professor of Applied Mathematics*
WILLIAM GORDON LISTER, Ph.D., *Assistant Professor of Mathematics*
WILLIAM CARL LOERKE, JR., M.F.A., *Assistant Professor of Art*
¹FRANCIS KING CAREY MADEIRA, *Assistant Professor of Music*
¹WILLIAM AGNEW MCCLELLAND, Ph.D., *Assistant Professor of Psychology*
HYMAN PHILIP MINSKY, M.P.A., *Assistant Professor of Economics*
DAVID MINTZER, Ph.D., *Assistant Professor of Physics*
WESLEY LEMARS NYBORG, Ph.D., *Assistant Professor of Physics*
RUSSELL ALLEN PECK, JR., Ph.D., *Assistant Professor of Physics*
HAROLD WINSTON PFAUTZ, Ph.D., *Assistant Professor of Sociology*
CHARLES HORACE PHILBRICK, II, Ph.D., *Assistant Professor of English*
PHILIP WELLS PORTER, JR., A.B., *Assistant Professor of Naval Science*
FELIX RACKOW, Ph.D., *Assistant Professor of Political Science*
EDGAR CARPENTER RECKARD, JR., A.B., B.D., *Chaplain of the University; Assistant Professor of Biblical Literature*
¹THOMAS LLOYD REED, Ph.D., *Assistant Professor of Art*
EVELYN ORA RICHARDSON, R.N., A.M., *Assistant Professor of Nursing Education*
SAUL RICKLIN, B.S., Ch.E., *Assistant Professor of Chemistry*
JOHN ROSS, Ph.D., *Assistant Professor of Chemistry*

¹ On leave of absence.

LECTURERS AND RESEARCH ASSOCIATES

- ANDREW JOSEPH SABOL, PH.D., *Assistant Professor of English*
WILLIAM HENRY SANDS, ED.M., *Assistant Professor of Air Science and Tactics*
MICHAEL ANGELO SANTONE, SC.M., *Assistant Professor of Air Science and Tactics*
WALTER JOSEPH SCHNERR, PH.D., *Assistant Professor of Romance Languages*
MORTON SMITH, PH.D., *Assistant Professor of Biblical Literature*
WALTER CZECHURA STANLEY, PH.D., *Assistant Professor of Psychology*
FRANK MOORE STEWART, PH.D., *Assistant Professor of Mathematics*
PAUL TAMARKIN, PH.D., *Assistant Professor of Physics*
THOMAS GORDON THARP, SC.B., *Assistant Professor of Air Science and Tactics*
MILLARD SPONSEL THOMSON, MUS. M., *Assistant Professor of Music*
ALAN STUBBS TRUEBLOOD, PH.D., *Assistant Professor of Spanish*
ELMER ROY TRUMBULL, PH.D., *Assistant Professor of Chemistry*
WOUTER VAN DER KULK, PH.D., *Assistant Professor of Mathematics*
JANICE OAKLEY VAN DE WATER, A.M., *Assistant Professor of English; Associate Director of Dramatics*
OTTO VAN KOPPENHAGEN, *Assistant Professor of Music*
ALBERT DOUGLASS VAN NOSTRAND, PH.D., *Assistant Professor of English; Chairman of the Honors Council*
KARL SIEGFRIED WEIMAR, PH.D., *Assistant Professor of German*
HARRY JOSEPH WEISS, SC.D., *Assistant Professor of Applied Mathematics*
PETER JOCELYN WESTERVELT, PH.D., *Assistant Professor of Physics*
ROY EDWARD WIGGIN, PH.D., *Assistant Professor of French*

Lecturers and Research Associates

- WALTER EDWARD ALBERTSON, PH.D., *Research Associate in Physics*
GORDON FRANCIS ANDERSON, SC.M., *Research Associate in Engineering*
WILFORD HOYT ANDERSON, PH.D., *Research Associate in Chemistry*
ALFRED EUGENE BAKANOWSKI, SC.M., *Research Associate in Physics*
¹JOHN KIRBY BARE, PH.D., *Research Associate in Psychology*
¹THOMAS GROGARD BARNES, SC.M., *Research Associate in Physics*
¹ROBERT MYLES BENJAMIN, PH.D., *Research Associate in Psychology*
WILLIAM TURNBULL BRADNER, PH.D., *Research Associate in Biology*
SARAH ELIZABETH CAMPBELL, ED.M., *Lecturer in Education*
BRUCE BRAGDON CHICK, SC.M., *Research Associate in Applied Mathematics*
JANET CRUM CORNSWEET, A.M., *Research Associate in Psychology*
ROBIN LIVINGSTONE CURTIS, A.M., *Research Associate in Biology*
MAX DEGEN, *Research Associate in Engineering*

¹ Summer, 1953.

LECTURERS AND RESEARCH ASSOCIATES

GURNEY EDWARDS, A.B., LL.B., *Lecturer in Contract Law*

HAROLD PORTER EUBANK, PH.D., *Research Associate in Physics*

¹DAVID HUNDEN EVANS, PH.D., *Research Associate in Applied Mathematics*

JOHN DAVID FOULKES, PH.D., *Research Associate in Applied Mathematics*

ANDREW GILCHRIST, PH.D., *Research Associate in Chemistry*

RONALD JAMES GILLESPIE, PH.D., *Visiting Lecturer in Chemistry*

HANS GOEDICKE, PH.D., *Research Associate in Egyptology*

ANDREW VINCENT GRANATO, SC.M., *Research Associate in Applied Mathematics*

²RICHARD GUY INSKEEP, PH.D., *Research Associate in Chemistry*

²ERNEST PARKER JOHNSON, PH.D., *Research Associate in Psychology*

JOSEF KOLB, PH.D., *Research Associate in Physics*

RUTH HORNE KOSOFF, PH.D., *Lecturer in Spanish*

HANS WALTER KOSTERLITZ, M.D., PH.D., SC.D., *Lecturer in Biology*

TUNG CHI LIN, PH.D., *Research Associate in Applied Mathematics*

CHANG KENG LIU, PH.D., *Research Associate in Applied Mathematics*

ALBERT EDGAR LOWNES, PH.B., A.M., *Lecturer in History of Science*

KURT LÜCKE, DOKTOR RER. NAT., DR.HABIL., *Research Associate in Applied Mathematics*

LACHLAN MACKINNON, PH.D., *Research Associate in Physics*

HOLBROOK MANN MACNEILLE, PH.D., *Research Associate in Mathematics*

LEONARD CHARLES MAXIMON, PH.D., *Research Associate in Applied Mathematics*

DONALD CAMPBELL MCKEAN, D.PHIL. (OXON.), *Research Associate in Chemistry*

DEREK NAYLOR, PH.D., *Research Associate in Applied Mathematics*

GORDON FRANK NEWELL, PH.D., *Research Associate in Applied Mathematics*

EMIN TURAN ONAT, SC.D., *Research Associate in Applied Mathematics*

GIRARD LAUTERMAN ORDWAY, PH.D., *Research Associate in Chemistry*

³ROBERT HUNTER OWENS, PH.D., *Research Associate in Applied Mathematics*

OSCAR WHITE RICHARDS, PH.D., *Lecturer in Biology*

²EDWARD WILLIAM ROSS, JR., M.SC., *Research Associate in Applied Mathematics*

VIRGINIA FRANKLIN ROSS, PH.D., *Lecturer in Geology*

JOHN LYELL SANDERS, SC.M., *Research Associate in Applied Mathematics*

PAUL NAMON SCHATZ, PH.D., *Research Associate in Chemistry*

ROBERT ELLSWORTH SCHLIER, PH.D., *Research Associate in Physics*

²RICHARD THORPE SHIELD, SC.B., *Research Associate in Applied Mathematics*

JOHN MITCHELL STEPHENSON, SC.B., *Research Associate in Engineering*

¹ Resigned October 16, 1953.

² Summer, 1953.

³ Resigned November 30, 1953.

INSTRUCTORS

WITOLD SYLWESTROWICZ, M.E., *Research Associate in Applied Mathematics*

ALEXANDER JEN WANG, PH.D., *Research Associate in Applied Mathematics*

WILLIAM HAMER WARNER, PH.D., *Research Associate in Applied Mathematics*

JOHN VROOMAN WEHAUSEN, PH.D., *Research Associate in Mathematics*

CHUNG FU YING, PH.D., *Research Associate in Applied Mathematics*

Instructors

ROY CARL ALVERSON, SC.B., *Instructor in Engineering*

RALPH GARFIELD ANDERTON, PH.B., *Instructor in Physical Education*

CHARLES EDWARD AUGHTRY, A.M., *Instructor in English*

JAMES ORRIS BARNHILL, A.M., *Instructor in English*

MILLICENT LANG BELL, A.M., *Instructor in English*

JAMES HARRY BICK, SC.B., *Instructor in Engineering*

WILLIAM THEODORE BLUHM, A.M., *Instructor in Political Science*

MATTHEW JOSEPH BOLGER, JR., SC.B., *Instructor in Physical Education*

KENNISON TILDEN BOSQUET, SC.M., *Instructor in Psychology*

WILLIAM EDWARD BRADY, A.M., *Instructor in English*

DERICKSEN MORGAN BRINKERHOFF, A.M., *Instructor in Art*

THOMAS CASSIRER, PH.D., *Instructor in Romance Languages*

WILLIAM SHEN CHIE CHANG, SC.M., *Instructor in Engineering*

AUGUSTA STUART CHAPMAN, SC.M., *Instructor in Physical Education*

ROBERT WHITFIELD COMERY, A.M., *Instructor in English*

ARCHIBALD CARY COOLIDGE, JR., A.B., *Instructor in English*

RICHARD CHRISTIAN DOENGES, A.B., *Instructor in English*

RICHARD MATEER DOUGLAS, A.M., *Instructor in History*

FRANCES ELLIOT DUNN, A.M., *Instructor in Education; Assistant to the Director of Educational Measurement*

KHODADAD FARMANFARMAIAN, A.M., *Instructor in Economics*

ELI HANSELL FREEDMAN, PH.D., *Instructor in Chemistry*

ERNEST SUNLEY FRERICHs, A.M., S.T.B., *Instructor in Biblical Literature*

IVAN WILLIAM FUQUA, SC.M., *Instructor in Physical Education*

VICTOR H. FUSIA, SC.B., *Instructor in Physical Education*

RICHARD JOHNSON GOSS, PH.D., *Instructor in Biology*

ANTHONY CABOT GOSSE, A.M., *Instructor in English*

HAROLD ALFRED JOHN GREEN, A.M., *Instructor in Economics*

ROBERT MORPHET HAYTHORNTHTWAITE, PH.D., *Instructor in Engineering*

JOHN MACLEAN HEFFERNAN, ED.M., *Instructor in Physical Education*

WILLIAM FRANCIS HIGGINS, B.S.E.E., *Instructor in Engineering*

DANIEL JOHN HUGHES, A.M., *Instructor in English*

S. W. DUKE JACOBS, SC.B. IN ED., *Instructor in Physical Education*

WALTER JAMES KENWORTHY, PH.D., *Instructor in Biology*

STAFF OF DIVISION OF ATHLETICS

ARON DAVID KOSSOFF, A.M., *Instructor in Spanish*
DAVID KRAUSE, A.M., *Instructor in English*
DAVID LAURENT, A.M., *Instructor in Music*
JOHN WILLIAM LENZ, PH.D., *Instructor in Philosophy*
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ROYCE ALTHEA MASON, SC.B., *Instructor in Physical Education*
ALLEN MCCONNELL, A.M., *Instructor in Political Science*
RUTH HASSELL MEADER, A.B., *Instructor in English*
JOHN ALBERT MEIXNER, A.M., *Instructor in English*
ROBERT MINSHALL, PH.D., *Instructor in German and Linguistics*
KAY KIRLIN MOORE, A.B., B.S. IN L.S., *Head Cataloger, John Hay Library;*
Instructor in Bibliography
WILLIAM ALBERT OLIVER, JR., PH.D., *Instructor in Geology*
HOWARD BENEDICT PALMER, PH.D., *Instructor in Chemistry*
HERBERT ALLEN PERLUCK, A.M., *Instructor in English*
JAMES ARTHUR PETERS, PH.D., *Instructor in Biology*
JOHN ROBERT PFLUG, SC.B., *Instructor in Physical Education*
ROSEMARY PIERREL, PH.D., *Instructor in Psychology*
BEVERLY SELLMAN RIDGELY, PH.D., *Instructor in French*
ELIHU ZUNDER RUBIN, PH.D., *Instructor in Psychology*
JOHN PHILLIP SCHAFER, A.M., *Instructor in Geology*
SHARON G. SEIF, *Instructor in Physical Education*
NORMAN CLIFFORD SMALL, M.M.E., *Instructor in Engineering*
ETTA SOIREF, PH.D., *Registrar of the Graduate School; Instructor in English*
JEROME LEON STEIN, A.M., *Instructor in Economics*
MARION LEE STEINMETZ, A.M., *Instructor in English*
GERALD EUGENE TANGER, SC.M., *Instructor in Engineering*
BARBARA LOIS UNDERHILL, SC.B., *Instructor in Physical Education*
JOSEPH WATMOUGH, *Instructor in Physical Education*
CHARLES HENRY WATTS, II, PH.D., *Instructor in English*

Staff of Division of Athletics and Student Recreation

RALPH GARFIELD ANDERTON, PH.B., *Instructor; Coach of Wrestling*
¹GEORGE WILLIAM BISHOP, *Director of Athletic Publicity*
MATTHEW JOSEPH BOLGER, JR., SC.B., *Instructor; Assistant Coach of Foot-
ball*

¹ Deceased October 3, 1953.

ASSISTANTS

IVAN WILLIAM FUQUA, SC.M., *Instructor; Coach of Track*
VICTOR H. FUSIA, SC.B., *Instructor; Assistant Coach of Football*
JOHN MACLEAN HEFFERNAN, ED.M., *Instructor; Director of Student Recreation and Intramural Athletics; Coach of Freshman Baseball and Basketball; Assistant Coach of Freshman Football*
S. W. DUKE JACOBS, SC.B. IN ED., *Instructor; Assistant Coach of Football*
ALVA EUGENE KELLEY, JR., SC.B., *Head Coach of Football*
JAMES JOSEPH KENNAWAY, *Coach of Soccer*
WILFRID HENRY LEFEBVRE, SC.B., *Coach of Varsity Baseball*
PAUL FRANCIS MACKESEY, PH.B., LL.B., *Director of Athletics*
ROBERT BRUCE MORRIS, A.M., *Coach of Basketball*
WESTCOTT ENOCH SUMNER MOULTON, A.M., *Associate Professor; Associate Dean of Students*
ALEXANDER FRANCIS NAHIGIAN, PH.B., *Assistant Coach of Football*
JOHN ROBERT PFLUG, SC.B., *Instructor; Assistant Coach of Football*
JOSEPH WATMOUGH, *Instructor; Coach of Swimming*
DONALD FRANCIS WHISTON, A.B., *Coach of Hockey*

Assistants, Research Assistants, Teaching Associates

HARRY AGAHIGIAN, SC.M., *Assistant in Chemistry*
RICHARD BALLENTINE ALLEN, A.M., *Research Assistant in Physics*
AMERICO BERNARDO ALMEIDA, SC.B., *Assistant in Biology*
ROBERT RAY AMMERMAN, A.B., *Assistant in Philosophy*
JOSE AMOR Y VAZQUEZ, A.M., *Assistant in Spanish*
GEORGE PHILIP ANDERSON, A.B., *Research Assistant in Applied Mathematics*
MYRON GEORGE ANDERSON, A.B., *Assistant in Philosophy*
¹JULIA BRADY BAKER, *Research Assistant in Biology*
DONALD LEE BALL, A.B., *Assistant in Chemistry*
ROSAMUND CONNOLLY BARBER, A.B., *Research Assistant in Biology*
SIMON BARENBAUM, DIPL. DE PROF. DE FRANÇAIS, *Assistant in French*
ROSWELL PARKHURST BARNES, JR., A.B., *Assistant in Physics*
DAVID ALAN BECKWITH, SC.M., *Research Assistant in Applied Mathematics*
EUGENE BELL, SC.M., *Research Assistant in Biology*
JAMES WATERHOUSE BENTLEY, A.M., *Assistant in French*
SELDEN EDWIN BERNSTEIN, A.M., *Assistant in Biology; Special Research Assistant*²
²ROBERT EDWARD BEYER, SC.M., *Special Research Assistant in Biology*
RONALD ROSSI BIELLI, A.M., *Assistant in Mathematics*

¹ November 10, 1952–February 28, 1953.

² Summer, 1953.

ASSISTANTS

- JANET MALONE BLISS, A.B., *Research Assistant in Biology*
GARY MCGREGOR BOONE, A.B., *Assistant in Geology*
JOHN BRUCE BRACKENRIDGE, Sc.B., *Assistant in Physics*
DAVID ERICKSON BRICKL, A.M., *Assistant in Physics*
¹PATRICIA JANE BROWN, A.B., *Research Assistant in Biology*
ROBERT MILLINGTON BROWN, A.M., *Assistant in English*
ROBERT MERCER BURGER, Sc.M., *Assistant in Physics*
NESTOR EDGAR CAROSELLI, Sc.M., *Assistant in Botany*
JOHN ANTHONY CARPENTER, A.M., *Assistant in Psychology; Research Assistant¹*
JAMES BARR CARROLL, Sc.B., *Research Assistant in Engineering*
¹ASHLEY HALE CARTER, Sc.M., *Research Assistant in Physics*
GRACE ANN CATANIO, Sc.B., *Research Assistant in Biology*
JOANN MADELINE CLEMENTS, A.M., *Assistant in English*
PETER ROBINSON COFFIN, A.M., *Assistant in Philosophy*
²CARL COMETTA, M.E., *Assistant in Engineering*
JOHN CHARLES CORELLI, Sc.B., *Research Assistant in Physics*
TOM NORMAN CORNSWEET, Sc.M., *Research Assistant in Psychology*
BARBARA ANN COTTER, Sc.M., *Research Assistant in Applied Mathematics*
LANGDON TEACHOUT CRANE, JR., A.B., *Research Assistant in Physics*
LELAND EARL CRATTY, JR., Sc.B., *Assistant in Chemistry*
JOHN THOMAS CRONE, A.B., *Research Assistant in Physics*
JEAN LOUISE CRONIN, A.M., *Assistant in Economics*
CHARLES ROBERT CROWE, A.M., *Teaching Associate in American Civilization*
BENJAMIN HUTTON CUNNINGHAM, Sc.B., *Assistant in Naval Science*
¹DANIEL ROONEY CURRAN, Sc.M., *Research Assistant in Physics*
ELIZABETH CARLSON DAHLIN, A.B., *Assistant in Psychology*
¹WALTER DANNHAUSER, Sc.B., *Research Assistant in Chemistry*
MARY ROBERTS FORBES DAY, A.M., *Research Assistant in Biology; Special Research Assistant¹*
WILLIAM DEMINOFF, A.B., *Assistant in English*
ESTHER AMELIA DICK, A.M., *Assistant in Botany*
MELVIN WARD DILL, Sc.M., *Research Assistant in Physics*
RONALD KRAFT EBY, Sc.B., *Assistant in Physics*
DAYTON DALE EDEN, A.B., *Research Assistant in Physics*
SAMUEL ADAMS ELDER, Sc.M., *Assistant in Physics*
ROBERT BRUCE ERWIN, A.B., *Assistant in Geology*
CARMINE CHARLES FERRISO, Sc.B., *Assistant in Chemistry; Research Assistant¹*
DAVID PAUL FLEMMING, A.B., *Research Assistant in Applied Mathematics*

¹ Summer, 1953.

¹ Semester II, 1953-54.

ASSISTANTS

- NICK PAUL FOFONOFF, A.M., *Research Assistant in Oceanography*
 VICTOR RALPH FORMISANO, Sc.B., *Assistant in Biology*
 LEONARD ALBERT FRIEDRICH, Sc.B., *Assistant in Chemistry*
 JAMES PHILLIP FRINK, A.B., *Assistant in Mathematics*
 LEONARD JOSEPH GARR, A.B., *Assistant in Mathematics*
 ELIZABETH SELMA GARTMANN, A.B., *Assistant in Biology*
 FREDERICK ARTHUR GEIB, Sc.B., *Assistant in Sociology*
 THOMAS HENRY GEORGE, A.B., *Research Assistant in Physics*
 ROBERT KENNETH GOULD, Sc.B., *Assistant in Physics*
¹CHARLES EDWARD GRABIEL, A.B., *Research Assistant in Chemistry*
 DONALD SNOWDEN GREEN, B.A., *Research Assistant in Applied Mathematics*
 ROBERT EDWARD GREEN, JR., Sc.B., *Assistant in Physics*
 LUCILLE BLANCHE GRIFFITH, A.M., *Teaching Associate in American Civilization*
 ROY MELVIN GUNDERSEN, Sc.M., *Research Assistant in Applied Mathematics*
 PETER MACDONALD GUTHRIE, Sc.M., *Assistant in Psychology*
 EARL CLIFFORD HAGSTROM, Sc.B., *Assistant in Psychology; Research Assistant*²
 ANN MARY HALD, A.B., *Research Assistant in Biology; Special Research Assistant*²
 ROBERT KINGSBURY HALING, Sc.M., *Research Assistant in Physics*
 JEANNE LILLIAN HALLAHAN, A.B., *Assistant in Sociology*
 JOHN EVERETT HARRIS, Sc.B., *Assistant in Chemistry*
 TRUETT WILSON HARRIS, A.M., *Assistant in French*
 STEPHEN HAVRILIAK, JR., A.B., *Assistant in Chemistry; Research Assistant*²
 ROBERT BERNARD HEIART, Sc.B., *Assistant in Chemistry; Research Assistant*²
 GORDON HEMS, Sc.B., *Teaching Associate in Biology*
 ROBERT WILLIAM HENDRICKS, Sc.B., *Research Assistant in Chemistry*
 JOHN HARMON HENKEL, Sc.M., *Assistant in Physics*
 ELIZABETH HERB, A.B., *Research Assistant in Biology*
 DORIS MAY HERMAN, Sc.B., *Research Assistant in Biology*
 AUDREY PHYLLIS HOLT, Sc.B., *Assistant in Biology; Special Research Assistant*²
 STEWART HARDING HULSE, JR., A.B., *Assistant in Psychology*
 BERENICE ANITA JACOBS, A.B., *Assistant in History*
 PAUL FREDERICK JOHNSON, A.M., *Assistant in French*
 HERBERT MEYER KAMOWITZ, Sc.B., *Assistant in Mathematics*
 ELLIOT ARMSTRONG KEARSLEY, A.M., *Research Assistant in Physics*
 JANE FRANCES KIEFER, A.M., *Assistant in Mathematics*

¹ Resigned October 15, 1953.

² Summer, 1953.

ASSISTANTS

- HARRY FREDERICK KING, Sc.B., *Assistant in Chemistry*
JAMES MARTIN KLINE, Sc.M., *Assistant in Physics*
ELROY OSBORNE LA CASCE, JR., A.M., *Research Assistant in Physics*
VIRGINIA ANTONIA LAFAUCI, A.B., *Research Assistant in Biology*
CARLTON ANDREWS LANE, Sc.M., *Assistant in Physics*
WILLIAM EDWIN LANGLOIS, Sc.B., *Research Assistant in Applied Mathematics*
JAMES FRANCIS SHER-YORK LEE, Sc.M., *Research Assistant in Physics*
CARL-FREDERICK AXEL LETH, Sc.B., *Research Assistant in Applied Mathematics*
WARREN GAVIN LEWIS, Sc.M., *Assistant in Psychology; Research Assistant*¹
HARRY LIGHTHALL, JR., Sc.M., *Assistant in Mathematics*
PAUL MAX LLOYD, A.B., *Assistant in Spanish*
STUART ESTES LOVELL, Sc.B., *Assistant in Chemistry; Research Assistant*¹
JACK ANDREW LUBRANO, A.M., *Technical Assistant in Physics*
¹JOHN BLAKESLEE LYON, JR., Sc.M., *Special Research Assistant in Biology*
DENNIS GEORGE MABEY, B.Sc., D.I.C., *Research Assistant in Engineering*
MALCOLM FORBES MACDONNELL, A.M., *Assistant in Psychology; Research Assistant*¹
PATRICIA MARIE MAHON, A.B., *Assistant in English*
DONALD GENE MALM, Sc.B., *Assistant in Mathematics; Research Assistant in Applied Mathematics*¹
JOHN MACCLENAHAN MARSH, Sc.B., *Assistant in Biology*
ROBERT WILLIAM MARTEL, A.B., *Research Assistant in Chemistry*
BARBARA ANN MCANDREW, A.B., *Research Assistant in Applied Mathematics*
ROBERT ELMER MCCARTHY, Sc.M., *Research Assistant in Biology*
JADVYGA MCCLOSKEY, LIC.-ES-LET., *Assistant in Russian*
EDWARD GLENN MCLEROY, JR., Sc.M., *Assistant in Physics*
WILLIAM CORYELL MEECHAM, Sc.M., *Research Assistant in Physics*
HERBERT ANTHONY MEHLHORN, A.B., *Research Assistant in Physics*
THEODORE JOSEPH MENTEL, B.APPL.SC., *Research Assistant in Applied Mathematics*
PHILIP LAURENT MERCIER, A.B., *Research Assistant in Chemistry*
CHARLOTTE FRANCES MERRILL, A.B., *Research Assistant in Biology*
KNOX EMERSON MILLER, Sc.M., *Assistant in Psychology*
ROBERT LLEWELLYN MILLER, Sc.B., *Research Assistant in Chemistry*
MELVIN PAUL MOHN, Sc.M., *Assistant in Biology; Special Research Assistant*¹
JOHN ALLAN MORRISON, Sc.B., *Research Assistant in Applied Mathematics*
JOAN MOWRY, A.B., *Research Assistant in Biology*
MAXWELL MARK MOZELL, Sc.M., *Research Assistant in Psychology*

¹ Summer, 1953.

ASSISTANTS

- ¹ELIAS SMITH MURPHY, JR., Sc.M., *Assistant in Physics*
 JOHN DAVID MURPHY, JR., A.M., *Assistant in History*
¹KAZUTOSHI NAJITA, Sc.B., *Research Assistant in Applied Mathematics*
 RICHARD ELLSWORTH NETTLETON, Sc.M., *Research Assistant in Physics*
 EARL WAYNE O'DELL, Sc.B., *Research Assistant in Physics*
 RUTH DEMBO O'DELL, Sc.B., *Assistant in Mathematics*
 FRANK PANTALEONE PALERMO, Sc.M., *Assistant in Mathematics*
 NICHOLAS PAPPAS, Sc.B., *Assistant in Chemistry*
 CAROLINE NESTMANN PECK, A.M., *Assistant in Egyptology*
²NORMA PEZZELLI, Sc.B., *Research Assistant in Biology*
 RAY ALFRED PHILLIPS, Sc.B., *Assistant in Economics*
 HARFORD WILLING HARE POWEL, JR., A.B., *Assistant in English*
 DEMETRA PROTULIS, A.B., *Research Assistant in Biology*
 JOSEPH MASON PROUD, JR., A.B., *Assistant in Physics*
 ELY QUAKER, A.M., *Assistant in Spanish*
 WALTER COLE QUEVEDO, JR., Sc.M., *Teaching Associate in Biology*
 ANN HUNTINGTON RADEMACHER, A.B., *Research Assistant in Biology; Special Research Assistant*¹
 SEYMOUR HAROLD REUTER, Sc.B., *Assistant in Biology*
 EDWARD EDDY RILEY, JR., A.M., *Assistant in Biology; Special Research Assistant*¹
³EUGENE EDWARD ROSIKIEWICZ, B.F.A., *Assistant in Art*
 ALEX THOMAS ROWLAND, A.B., *Assistant in Chemistry*
 RONALD ERNEST SANTONI, A.B., *Assistant in Philosophy*
 NEIL ROLF SCHROEDER, A.B., *Assistant in English*
 JOHN WILFRED SCHULTZ, Sc.B., *Assistant in Chemistry; Research Assistant*¹
 RAYMOND LEWIS SCUNGIO, A.M., *Assistant in Spanish*
 JAMES ALAN SEILER, Sc.B., *Research Assistant in Applied Mathematics*
 JOHN EDWARD SELBY, A.M., *Assistant in History*
 OTIS HUNG-I SHAO, A.M., *Assistant in Political Science*
 HOWARD FRANKLIN SHAWCROSS, A.M., *Assistant in English*
 FLORENCE WEINER SLEPIAN, A.B., *Assistant in Economics*
 PAUL SLEPIAN, Sc.B., *Assistant in Mathematics*
 JEAN ELIZABETH SMALL, A.B., *Assistant in Biology*
 GERALD FRANCIS SMITH, A.B., *Research Assistant in Applied Mathematics*
 SANFORD FREDERICK SMITH, A.B., *Research Assistant in Applied Mathematics*
 WILLIAM RAGAN STANTON, A.M., *Teaching Associate in American Civilization*
¹RICHARD MARTIN STAVSETH, A.B., *Research Assistant in Physics*
 DORIS SKILLMAN STOCKTON, Sc.M., *Assistant in Mathematics*

¹ Summer, 1953.

² April 15–September 19, 1953.

³ Resigned November 30, 1953.

ASSISTANTS

- WILLIAM EDWIN STRAILE, A.B., *Assistant in Biology*
HELEN BRINTZENHOFF STUART, Ph.B., *Special Assistant in Biology*
HARRISON COBB SUDBOROUGH, A.B., *Assistant in German*
JANICE EDYTHE SWANSON, A.B., *Research Assistant in Biology*
HANNA SYLWESTROWICZ, Sc.B., *Research Assistant in the Office of Educational Measurement*
THADDEUS WILBUR TATE, JR., A.M., *Assistant in History*
CHARLES CHRISTOPHER TAYLOR, Sc.M., *Research Assistant in Applied Mathematics*
¹ARTHUR RAYMOND THOMAS, JR., Sc.M., *Research Assistant in Psychology*
¹JAN PETER TOENNIES, A.B., *Research Assistant in Chemistry*
HUSEYIN CAVIT TOPAKOGLU, Sc.D., *Research Assistant in Applied Mathematics*
LEONORA TORRES, A.B., *Research Assistant in Biology*
RALPH BROOKS TURNER, Sc.M., *Research Assistant in Applied Mathematics*
JACQUELINE ZELIE VAN HEMERT, A.B., *Research Assistant in Biology*
GEORGE VERONIS, A.B., *Research Assistant in Applied Mathematics*
WERNER CLAUS VON DOHLEN, Sc.B., *Research Assistant in Chemistry*
DAVID BRADSTREET WALKER, A.M., *Assistant in Political Science*
MARTHA MANSFIELD WARREN, A.B., *Assistant in Biology*
ALLYN JARVIS WASHINGTON, Sc.B., *Assistant in Physics*
PETER CARY WATERMAN, Sc.B., *Research Assistant in Applied Mathematics*
¹ALICE WATJEN, Sc.B., *Special Research Assistant in Biology*
FORREST GEROME WEST, JR., Sc.B., *Research Assistant in Applied Mathematics*
HOWARD MORRISON WIGHT, JR., A.M., *Research Assistant in Physics*
NORMAN EUGENE WILLIAMS, A.B., *Assistant in Biology*
ALBERT DOUGLAS WOOD, Sc.M., *Research Assistant in Engineering*
WILLIAM BRUCE WOODWARD, Sc.B., *Research Assistant in Applied Mathematics*
KURT WRAY, A.B., *Research Assistant in Chemistry*
ELIS ANNA YOKELSON, *Assistant in German*
²ARTHUR ZACHARIAS, M.F.A., *Assistant in Art*

¹ Summer, 1953.

² Effective December 1, 1953.

Committees

Standing Committees of the Corporation

Advisory and Executive Committee

The PRESIDENT, Chairman, *ex-officio*; Messrs. PERKINS, A. C. THOMAS, BURWELL, J. N. BROWN, SHARPE, TANNER, LOUTTIT, MILLAR, HOMER, PARKER, and BUMPUS, and Mrs. VERNEY; Mr. COCHRAN, Secretary

Athletic Advisory Council

The PRESIDENT, the VICE-PRESIDENT and BUSINESS MANAGER, the DEAN OF THE COLLEGE, the DEAN OF STUDENTS, all *ex-officio*; Messrs. McLEOD, BRANCH, and FALES, Chairman; Professors DURGIN, JONAH, and SNELL; Messrs. K. D. CLAPP, W. J. GILBANE, and L. S. MILNER.

Audit Committee

Messrs. CASE, D. L. BROWN, Chairman, and GLOVER.

Brown Christian Association Board

The DEAN OF THE COLLEGE, the CHAIRMAN, the CORRESPONDING SECRETARY and the TREASURER OF THE BROWN CHRISTIAN ASSOCIATION GRADUATE ADVISORY COMMITTEE, the UNDERGRADUATE PRESIDENT OF THE BROWN CHRISTIAN ASSOCIATION CABINET, all *ex-officio*; Messrs. A. C. THOMAS, and MERCER, Chairman, and Professor C. W. MILLER.

Brown Outing Reservation Advisory Board

The DEAN OF THE COLLEGE, the SUPERINTENDENT, both *ex-officio*; Mr. CLAPP, Dean MOULTON, Professor NACE, Messrs. E. M. PORTER, Chairman, R. C. CLEMENT, and M. A. GAMMINO.

Commencement Committee

The PRESIDENT, the SECRETARY OF THE CORPORATION, the PRESIDENT OF THE ASSOCIATED ALUMNI, the PRESIDENT OF THE ALUMNAE ASSOCIATION, all *ex-officio*; Messrs. TEMKIN, NORTON-TAYLOR, and BALLOU; Provost ARNOLD, Chairman; Vice-President BIGELOW; Deans DURGIN, LEWIS, and KEENEY; Professor COUCH; Messrs. WORTHINGTON and McCORMICK, and Mrs. McCONNELL.

Comprehensive Planning and Development of University Property

The PRESIDENT, *ex-officio*; Messrs. HOMER, MILLAR, GODDARD, LOUTTIT, Chairman, GERRY, and PARKER.

COMMITTEES

Consultation between the Advisory and Executive Committee and the Associated Alumni

The VICE-PRESIDENT, *ex-officio*; Dr. BUMPUS.

Consultation between the Corporation and the Faculty

The PRESIDENT, Chairman, *ex-officio*; Messrs. WILLIAMS and LOWNES, and Mrs. VERNEY; Professors SCHLOSBERG, STOLTZ, and MITCHELL.

Faunce House Advisory Board

The DEAN OF THE COLLEGE, the PRESIDENT and the VICE-PRESIDENT OF THE STUDENT BOARD OF GOVERNORS, *all ex-officio*; Mr. METCALF, Professor VAN KOPPENHAGEN, Chairman, Messrs. S. C. SHERMAN, and W. T. BRIGHTMAN, JR.

Investment Committee

The PRESIDENT, the TREASURER, both *ex-officio*; Messrs. SHARPE, Chairman, BABCOCK, GODDARD, GERRY, and F. B. WILCOX; Mr. COCHRAN, Secretary.

Lectureships Committee

The PROVOST, *ex-officio*; Messrs. J. N. BROWN and L. R. THOMAS; Professors ROBINSON, Chairman, WROTH, R. STEWART, SMILEY, TWADDELL, and FLEMING.

Library Committees:

Annmary Brown Memorial Committee of Management

The PRESIDENT, Chairman, *ex-officio*; Professors WROTH and JONAH; Messrs. F. R. GOFF and A. E. LOWNES.

John Carter Brown Library Committee of Management

The PRESIDENT, Chairman, *ex-officio*; Messrs. J. N. BROWN, MILLER, SHARPE, and C. S. BRIGHAM.

University Library Committee

The PRESIDENT, Chairman, the LIBRARIAN, the DEAN OF THE GRADUATE SCHOOL, *all ex-officio*; Messrs. A. C. THOMAS, L. R. THOMAS, W. SMITH, and BALLOU, Mrs. SWAIN and Mrs. VERNEY; Professors TWADDELL, PARKER, and H. B. CHASE.

Nautical Advisory Board

The DEAN OF THE COLLEGE, the SUPERINTENDENT, both *ex-officio*; Mr. LOWNES, Professor BLISS, Chairman, Messrs. R. H. SWEET, J. E. C. HALL, B. S. TULLY, and F. H. WILSON, JR.

COMMITTEES

Pembroke College Advisory Committee

The PRESIDENT, Chairman, the DEAN OF PEMBROKE COLLEGE, Secretary, the PRESIDENT OF THE ALUMNAE ASSOCIATION, all *ex-officio*; Mrs. SWAIN and Mr. CLAPP; Professors TWADDELL and PFAFFMANN; Miss E. C. COOK, Mrs. M. H. BROWN, Miss M. L. MELVILLE, and Miss F. L. WEEDEN.

Representatives on the Administrative Board of the Rhode Island Hospital School of Nursing

The DEAN OF PEMBROKE COLLEGE, *ex-officio*; Professor WILSON.

Representatives on the Board of Trustees of the Rhode Island School of Design

Provost ARNOLD and Dean KEENEY.

Standing Committee Vacancies

Messrs. BURGESS, CLIFFORD, Chairman, and McLEOD.

Trustee Vacancies

The PRESIDENT, Chairman, the CHANCELLOR, Secretary, both *ex-officio*; Messrs. CLIFFORD, LOUTTIT, and WATSON.

Standing Committees of the Faculty¹

Board of Admission

VICE-PRESIDENT BIGELOW, Chairman, the DEAN OF THE COLLEGE, the DEAN OF PEMBROKE COLLEGE, the DEAN OF ADMISSION OF THE COLLEGE, the DEAN OF ADMISSION OF PEMBROKE COLLEGE, and the DIRECTOR OF EDUCATIONAL MEASUREMENT, all *ex-officio*; Messrs. SMILEY (to 1954), TWADDELL (to 1955), and SCHLOSBERG (to 1956).

On Academic Standing

THE DEAN OF THE COLLEGE, Chairman, the DEAN OF STUDENTS OF THE COLLEGE, the DEAN OF PEMBROKE COLLEGE, the CHAIRMAN OF THE BOARD OF ADMISSION, the DIRECTOR OF THE HONORS PROGRAM, the RECORDER OF THE COLLEGE, the RECORDER OF PEMBROKE COLLEGE, all *ex-officio*; Messrs. MITCHELL (to 1954), DRUCKER (to 1955), and LYNCH (to 1956).

¹The President of the University is *ex-officio* a member of all Standing Committees of the Faculty.

COMMITTEES

On the Curriculum

THE PRESIDENT, Chairman, the PROVOST, the DEAN OF THE COLLEGE, the DEAN OF PEMBROKE COLLEGE, the DEAN OF THE GRADUATE SCHOOL, the DIRECTOR OF THE HONORS PROGRAM, all *ex-officio*; Messrs. G. K. ANDERSON, BLISS, and W. F. CHURCH (to 1954); Messrs. DODGE, HORNIG, and PFAFFMANN (to 1955); Messrs. DOWNING, LÓPEZ-MORILLAS, and A. O. WILLIAMS (to 1956).

On Student Organizations

THE DEAN OF STUDENTS OF THE COLLEGE, Chairman, the DIRECTOR OF ATHLETICS, the ASSOCIATE DEAN OF STUDENTS OF THE COLLEGE, the ADVISER ON STUDENT ACTIVITIES OF PEMBROKE COLLEGE, all *ex-officio*; Messrs. REED and ROBBINS (to 1954); Messrs. MORSE and SALVAN (to 1955); Messrs. BLOOM and BORTS (to 1956).

On Prizes and Premiums

MESSRS. BENNETT, Chairman, J. L. CHASE (to 1954), PECK (to 1955), and BESSINGER (to 1956).

On Faculty Travel Fund

MESSRS. F. M. STEWART, Chairman (to 1954), C. A. SMITH (to 1955), and SHERMAN (to 1956).

On Schedules

THE RECORDER OF THE COLLEGE, Chairman, the RECORDER OF PEMBROKE COLLEGE, both *ex-officio*; Messrs. CASE (to 1954), MASSEY (to 1955), and RIGGS (to 1956).

On Commencement Speakers

MR. S. BROWN, Chairman, the ASSOCIATE DEAN OF THE COLLEGE, the DEAN OF PEMBROKE COLLEGE, the INSTRUCTOR IN PUBLIC SPEAKING, all *ex-officio*; Messrs. PHILBRICK (to 1954), ARMSTRONG (to 1955), and C. W. MILLER (to 1956).

On Scholarly Publications

THE LIBRARIAN, Chairman, the DEAN OF THE GRADUATE SCHOOL, both *ex-officio*; Messrs. C. R. ADAMS (to 1954), LÓPEZ-MORILLAS (to 1955), and HUNTER (to 1956).

Faculty Members of Joint Committees

Athletic Advisory Council

THE DEAN OF THE COLLEGE, the DEAN OF STUDENTS OF THE COLLEGE, both *ex-officio*; Messrs. REED (to 1954), JONAH (to 1955), and SNELL (to 1956).

On the Library

The DEAN OF THE GRADUATE SCHOOL, *ex-officio*; Messrs. TWADDELL (to 1954), PARKER (to 1955), and H. B. CHASE (to 1956).

On Consultation between the Corporation and the Faculty

Messrs. SCHLOSBERG (to 1954), STOLTZ (to 1955), and MITCHELL (to 1956).

Honors Council

The DIRECTOR OF THE HONORS PROGRAM, Chairman, Messrs. DODGE (to 1954), EDDS (to 1955), F. M. STEWART (to 1956), and HOLSKE (to 1957).

Graduate Council

The PRESIDENT, the PROVOST, the DEAN OF THE GRADUATE SCHOOL, all *ex-officio*; Messrs. BRADNER, FENTON, SCHLOSBERG, TWADDELL, DRUCKER, and WHITNEY.

Physical Sciences Council

Messrs. PRAGER, Chairman, COLE, DRUCKER, FARNSWORTH, HORNIG, LEE, LINDSAY, and TRUELL.

History



BROWN UNIVERSITY was founded in 1764 in Warren, Rhode Island, as Rhode Island College. The seventh oldest college in America and the third in New England, it came into existence at a time when conditions in the colony were ripe for the establishment of an institution of higher learning: commerce on land and sea was a growing source of wealth; the population included many men of wide intellectual interests; and the spirit of religious liberty prevailed in the commonwealth founded by Roger Williams.

The Charter

Under these conditions, the Charter of the College, which was granted by the General Assembly of the Governor and Company of the English Colony of Rhode Island and Providence Plantations, was one of the most liberal instruments of its kind written in the eighteenth century. The original incentive in the founding of Rhode Island College, as with other colonial colleges, was a desire to perpetuate an educated ministry, but in addition a broader purpose was defined and declared in the language of this Charter of 1764—“*preserving in the Community a Succession of Men duly qualify'd for Discharging the Offices of Life with usefulness and reputation.*”

As Rhode Island gave to the American colonies an example of freedom of conscience within a civil state, so Rhode Island College gave to the American colleges one of the earliest examples of full freedom in teaching. The Charter declared that there “*shall never be admitted any Religious Tests but on the Contrary all members hereof shall forever enjoy full free absolute and uninterrupted Liberty of Conscience*” and “*that the Sectarian differences of opinions shall not make any Part of the Public and Classical Instruction.*” With an outlook unusually far-sighted for the eighteenth century the Charter also required “*that the Public teaching shall in general respect the Sciences.*”

In the founding of the College the Baptists took the leadership, but in their willingness to share control with members of other faiths they made a most important contribution to the cause of education. This idea was further expressed in the Charter revision of 1942, which removed all denominational restrictions for members of the Corporation.

Colonial Beginnings

In September, 1765, the College had its first registration—a single student, with a faculty consisting of James Manning, the first President. The second member of the faculty, David Howell, was added in 1766. In 1767 the student enrollment was ten and in 1769 the first class could be graduated. Exercises were held at Warren with the degree of Bachelor in the Arts conferred upon seven young men.

During these early years, there was much agitation to have the College permanently located elsewhere in the Colony. Each town vied with the others in offering inducements. Finally Providence won, and in 1770 the College was moved to "College Hill" high above the town, where it has remained ever since. At that time, work was begun on the first building, *The College Edifice*, known since 1823 as University Hall.

Shortly after the College was moved to Providence, it was rocked by events which not only threatened the existence of New England's thriving commerce but which were destined to shape the movement for political independence. The infant College, with its slender resources, was to make an important contribution in the struggle which was soon to follow. From 1776 to 1782, during the American Revolution, the College was closed while faculty and students, "almost to a man," were engaged in the service of their country and *The College Edifice* was used as a barracks and hospital for American troops and for the French soldiers of Rochambeau.

In 1790, after peace had been restored, George Washington, then President of the United States, visited the town of Providence with Thomas Jefferson and was awarded the honorary degree, Doctor of Laws. University Hall was illuminated by candles in celebration of the event, and President Washington with his friends visited the building and viewed the illumination from the College Green. It was in response to a greeting from President Manning upon this occasion that President Washington made this declaration: "You may rely on whatever protection I am able to afford in so important an object as the education of our youth."

Early Nineteenth Century Growth

In 1804, Nicholas Brown, son of one of the founders of the College, a member of the Class of 1786, and then Treasurer of the College, made a gift of a sum of money, large for those times. In recognition of this generosity, the name of the College was changed to Brown University. The benefactions of Nicholas Brown to the University continued through many years until they aggregated approximately \$160,000. As a result of his generosity, Hope College, Manning Hall, and the Library Fund came into existence. The John Carter Brown Library, founded by and named for the

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son of Nicholas Brown, contains the finest collection of early Americana in the world and is one of the choicest material possessions of the University.

During this early period many men were graduated who later were to have positions of prominence and responsibility and whom today we remember for service to our country and for the distinction that they have brought to their Alma Mater. Samuel Snow (1782) was United States Consul in Canton, China. Jonathan Maxcy (1786) was the second President of Brown, later President of Union College and the first President of the University of South Carolina. Jonathan Russell (1791), one of the commissioners who negotiated the treaty of Ghent in 1814, later became a member of Congress and Minister to Norway and Sweden. Henry Wheaton (1802), the authority of his day on international law, served as Minister to Prussia. Adoniram Judson (1807) is remembered as a brilliant and heroic missionary to Burma. William L. Marcy (1808) served as Governor of the State of New York before becoming the Secretary of War for President Polk and Secretary of State for President Pierce. Horace Mann (1819), as Secretary of the Massachusetts Board of Education, profoundly influenced public school education throughout the country. Samuel Gridley Howe (1821) soon after graduation plunged into the Greek war of independence and later served as surgeon-in-chief of the Greek fleet, before returning home as a pioneer in humanitarian work for the blind.

Later Nineteenth Century Expansion

Brown, having grown from a small college to a well established university, called Francis Wayland in 1827 to be its fourth President. He was probably the most distinguished college president of his time, and his was an administration notable in the history of the University. His influence was felt both in the physical growth and development and in the improved intellectual and moral tone of the institution. The personnel was enlarged and the material resources were greatly increased. Entrance requirements were raised; the scope of the curriculum was enlarged and greater emphasis was given to the natural sciences and political economy. President Wayland reorganized the University on the basis of the elective principle, and in so doing showed remarkable pre-vision of the direction which collegiate education was soon to take.

During the period of the Civil War, Brown again felt the influence of a national conflict. Of the 278 men who were graduated during the war, 132 enlisted for service and it was only at the end of this civil strife that the University regained its normal stride.

Important innovations were introduced during the next twenty-five years. Athletics were organized and Brown was represented in intercollegiate sports, particularly baseball and rowing. Many new buildings were

added to the campus and the financial resources of the University were greatly increased. The Alumni Association was created during this period, enabling former students to take an ever increasing and vital interest in the growth of the institution. The time of Commencement was changed from September to June in 1870, and in 1888 the first Master of Arts degree, in course, was awarded, followed in 1889 by the first degree of Doctor of Philosophy.

In 1889, Elisha Benjamin Andrews of the Class of 1870 became the eighth President of Brown. His administration marks another important era in Brown's history. The modern University, already emerging, developed rapidly under the initiative and contagious enthusiasm of Andrews. Pembroke College, a coördinate undergraduate college for women, was established in 1891. Nine new departments of instruction were created, and graduate study was seriously encouraged. The undergraduate enrollment was more than doubled and the faculty was increased more than threefold, largely by the appointment of a group of promising young men who had prepared for teaching in the graduate schools of this country and abroad. These men were a remarkable group of teachers and scholars whose influence is still felt in the University.

From the time of President Wayland to the end of the nineteenth century many eminent men were graduated from Brown. James B. Angell (1849) was President of the University of Vermont, President of the University of Michigan, and later Minister to Turkey and to China. Alexander L. Holley (1853) became a pioneer in modern engineering, particularly in the development of the iron and steel industry. Richard Olney (1856) and John Hay (1858) were both Secretaries of State. Hay was also personal secretary to President Lincoln and Ambassador to Great Britain. William W. Keen (1859), the distinguished surgeon, served in the Civil and Spanish-American wars and in World War I. Elisha Benjamin Andrews, the President of Brown, was also Chancellor of the University of Nebraska. Benjamin Ide Wheeler (1875) was the President of the University of California. Dr. Charles V. Chapin (1876) was a pioneer in the field of preventive medicine. Charles Evans Hughes (1881) was, in succession, the Governor of the State of New York, Secretary of State, Justice of the World Court, and Chief Justice of the United States. Sam Walter Foss (1882), editor and poet, and Dana Carleton Munro (1887), medieval historian, were well-known graduates of Brown. Alexander Meiklejohn (1893), Dean at Brown and President of Amherst College, was later Chairman at the Experimental College in the University of Wisconsin and Director of the School of Social Studies in San Francisco. John D. Rockefeller, Jr. (1897), philanthropist and financier, has spent a lifetime in humanitarian endeavors.

Names of graduates in this present century will also be written indelibly into our national history. Time eventually will make its decision which of

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the graduates since 1900 will be listed on the distinguished honor rolls of the future.

The Founding of Pembroke College

Pembroke College in Brown University was established in 1891. The first building erected on the women's campus was dedicated in 1897 and was called Pembroke Hall in honor of Pembroke College in Cambridge University, the alma mater of Roger Williams. From the very beginning the aim of the coordinate college at Brown was to preserve for women the distinct social life of a separate institution, the college to be affiliated and not appended, but its graduates to be graduates of Brown University. Mary E. Woolley, a distinguished president of Mount Holyoke College was a member of the first graduating class. The great success of Pembroke is in part a tribute to the foresight of President Elisha Benjamin Andrews, for whom the main dormitory at Pembroke is named.

The Turn of the Century

Just before the turn of the century, William Herbert Perry Faunce of the Class of 1880 began his administration, 1899-1929, the longest in the history of the University. Under his direction Brown became in fact, as well as in name, a university college,—an institution primarily concerned with the liberal education of the individual student but also equipped to offer advanced and specialized study in the scholarly environment of a university.

These thirty years saw a remarkable increase in the physical plant and material resources of the University, with the endowments increasing nine-fold and the income increasing correspondingly. In 1929 the libraries of the University contained approximately four hundred thousand volumes. The undergraduate enrollment had increased to approximately 1300 men in the college and 500 women in Pembroke, and the faculty was over 200 in number.

During this period the University achieved a position of larger importance in the field of American education. Entrance requirements were raised, the curriculum was considerably broadened, study for Honors was inaugurated, and graduate study was given formal recognition by the establishment of the Graduate School. More adequate provisions were made for the administration of student life and welfare, closer relationships with the community were encouraged, and all aspects of the educational process were broadened in scope and enriched in content.

Brown in Recent Years

In 1929, Clarence Augustus Barbour, of the Class of 1888, became the tenth President of the University. During the period of his administration

the University continued to develop its educational program and to enlarge its physical and financial resources. The educational policy of the University was summed up at the beginning of his administration in the following statement: "Education proceeds best by contact between superior minds and personalities. The character of a university as an institution of higher education depends essentially upon the competence of the faculty, the quality of the students, and the adequacy of the provisions for contact between them. Out of these primary elements the educational policy of a university is constructed." With this policy as the basic principle, the University has limited the student body in size by developing a system of selective admission to the freshman class, attracted a faculty of able teachers, utilized the resources of its location in an old New England city, and encouraged investigation and research.

Henry Merritt Wriston, one of the nation's educational leaders, was inaugurated President of Brown in 1937. His administration has served to strengthen Brown's contribution to the welfare of the nation. Since 1937 the endowment and physical plant of the University have been increased, the library resources have been enlarged, new departments of instruction have been added, pioneer work in freshman-sophomore curricula has been initiated, and an extensive student housing program has been completed with the construction of a dormitory-fraternity quadrangle. The Corporation has followed a policy of maintaining a university-college, feeling that many of the advantages of both the small college and the large university may be secured at Brown. As President Wriston has stated, "The central business of the University is the increase of knowledge, the inculcation of wisdom, the refinement of emotional responses, and the development of spiritual awareness. The University has concentrated its energies deliberately and with more and more conviction and assurance upon the undergraduate colleges of liberal arts and graduate work in the arts and sciences."

General Regulations



Admission

ADMISSION to the freshman class at Brown is limited to those who, in the judgment of the Board of Admission, are best qualified to benefit from the educational opportunities which the University offers. In defining qualifications for admission, the University seeks evidence of ability to pursue academic work of collegiate grade and evidence of personal qualities which offer assurance that the candidate for admission will be a desirable member of the academic community.

New students are ordinarily admitted only in September each year, and the size of an entering class is limited to approximately 600. The College enrollment is approximately 2000.

Factors Determining Admission

The decision of the Board of Admission with respect to an applicant is based upon the following factors:

1. *Secondary school record.* Much importance is attached to the academic record and the class standing of the applicant.
2. *School Recommendation.* Admission decisions are greatly influenced by the statement of the secondary school concerning the ability, ambition, and character of the applicant.
3. *Personnel information.* In addition to the school report, further information is secured concerning the applicant's general fitness for college life at Brown.
4. *Personal interview.* All candidates for admission should, if possible, have a personal interview with an officer of the University or a designated alumnus.
5. *Scholastic Aptitude Test.* All applicants for admission who have not previously attended college are required to take the Scholastic Aptitude Test of the College Entrance Examination Board. (Transfer applicants take the College Transfer Test.)

Subject Requirements

Four years of secondary school work are normally required for admission. While the University maintains that the educational program should be adapted to the needs and aptitudes of the individual student and believes

ADMISSION PROCEDURE

that quality of academic performance is more important than subject requirements as a criterion for judging applicants, experience shows that certain specific subject requirements should be met. Beyond these, however, any subject which is acceptable to the secondary school as credit for graduation will ordinarily be accepted by the Board.

The requirements which should be fulfilled vary for the several degrees. (Exceptions are made in unusual cases.) These requirements are as follows:

Degree of Bachelor of Arts: Four years in English, two in algebra, one in plane geometry, two in one foreign language, and seven electives, preferably in the fields of English, foreign language, mathematics, history, and science. (Three years in one foreign language are recommended.)

Degree of Bachelor of Science in Engineering: Four years in English, two in algebra, one in plane geometry, one-half in solid geometry, one-half in plane trigonometry, one in history, one in physics, and six electives, preferably in the fields of English, foreign language, mathematics, history, and science.

Degree of Bachelor of Science in Chemistry: Four years in English, two in algebra, one in plane geometry, one in history, two in one foreign language, and six electives, preferably in the fields of English, foreign language, mathematics, history, and science.

Degree of Bachelor of Science in Physics: Four years in English, two in algebra, one in plane geometry, one in history, two in one foreign language, and six electives, preferably in the fields of English, foreign language, mathematics, history, and science.

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Preliminary Application

Preliminary application for admission to the University may be made at any time during a student's secondary school course. Early application is not required, but it is strongly recommended since it assures a continuing interest on the part of the University in the secondary school career of the applicant for admission. Early application, however, does not insure admission.

In addition to making early application, a prospective applicant should confer with the school officials as early as possible regarding the arrangement of his secondary school course to meet the requirements for admission to Brown.

Final Application

Final application for admission should be made early in the senior year. Application forms may be obtained by writing to the Admission Office. Brown University, Providence 12, Rhode Island. There is no application fee.

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Credentials

The Admission Office provides every candidate with a school record blank and two reference blanks, which must be submitted to the Board for consideration.

Personal Interview

An applicant should, if possible, have a personal interview with an officer of the University or a designated alumnus. Applicants who are in Southern New England or in the New York City area should arrange for a personal interview with one of the Admission Officers at the University.

The Admission Office is open from 9 a.m. to 5 p.m. on weekdays throughout the year and from 9 a.m. to 12 noon on Saturdays when the University is in session. Student guides are usually on hand to conduct visitors on tours of the campus, and detailed maps of the campus are always available at the Admission Office.

Applicants living outside of the above area would gain by an interview on the campus. If this is not possible, an interview with an alumnus living near the applicant may often be arranged through the Admission Office. The lack of an interview will not, however, prejudice the chances of such an applicant.

Scholastic Aptitude Test

Every applicant for admission who has not previously attended college must take the Scholastic Aptitude Test of the College Entrance Examination Board, given in December, January, March, May, and August in many centers throughout the world. Achievement tests are not required. Transfer applicants must take the College Transfer Test.

Applicants who take the test in December or January may receive decisions in March, but no applicant who takes the test in March is at any disadvantage in competing for entrance. While the class is largely chosen before May 1, those who take the May test are given all possible consideration.

Each candidate must write directly to the College Entrance Examination Board requesting an application for the test. (Those in Eastern, Southern, or Central states should write to the office at P.O. Box 592, Princeton, New Jersey. Those in the Mountain or Pacific states should write to the office at P.O. Box 9896, Los Feliz Station, Los Angeles 27, California.) When the test application has been received it should be filled out and returned to the Board with a fee of \$6. The Board will then send a practice form and a ticket of admission which will give the exact time and place of the test.

Applications for tests must be made three weeks in advance. Late applica-

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tions are subject to a fine of \$3, and no applications are accepted later than one week before the test date.

No special preparation is needed for the test other than a study of the practice form. Test scores are sent to the University and not to the applicant.

An applicant who has already taken the test should write to the College Board requesting that his scores be mailed to the Board of Admission. It is expected that every applicant will take the test during the year in which he wishes to be considered for entrance.

Every applicant is urged to take, in addition, any College Board Achievement Tests in which he feels he may do well. By obtaining a sufficiently high score on any of the language reading tests or the biology, chemistry, or physics test a student may meet language proficiency or distribution requirements in college, thereby making it possible for him to take additional elective courses.

Admission with Advanced Standing

Brown is one of twelve colleges participating in the School and College Study of Admission with Advanced Standing. The purpose of this plan is to encourage more intensive academic work for very able students in strong secondary schools. Selected seniors in some schools are now pursuing advanced level studies for which they will eventually receive college credit if they are able to pass validating examinations.

Selection of the Freshman Class

As soon as all of an applicant's credentials are on file he is given careful consideration by the Board of Admission. Usually, the College Board test report is the last item received; it requires approximately one month for the College Board to report test scores to the Admission Office and three weeks thereafter for the Board of Admission to send notifications of decisions to applicants. Thus, a candidate who takes the January test is notified of his status early in March; one who takes the March test is notified early in May.

Acceptance of any candidate is always made subject to satisfactory completion of the school year. Therefore, a final credential blank is mailed to the secondary school at the close of the student's last school semester.

Admission of Veterans

In addition to the usual requirements a veteran should send to the Admission Office a photostat or photoprint copy of his Certificate of Discharge (if an enlisted man) or Certificate of Service (if an officer). Arrangements for benefits under the G.I. Bill must be made by the applicant through his local Veterans Administration office.

REGISTRATION AND ENROLLMENT

Transfer Applicants

A transfer applicant should provide the Board of Admission with official transcripts of all previous college work. A statement of honorable dismissal should accompany each transcript. A tentative decision can be made by the Board on the basis of unofficial records provided by the applicant.

All transfer applicants are required to take the College Transfer Test of the College Entrance Examination Board, given on the same dates as the Scholastic Aptitude Test.

Because the number of transfer students who can be accepted is limited every such applicant should have had high standing in the college from which he wishes to transfer. Advanced standing for more than two years is not granted. An applicant who has completed less than one semester at another college must nevertheless present an official statement from the college to the effect that he left in good standing.

Admission of Special Students

A limited number of mature persons who desire to pursue special subjects and who have had the requisite training may, with the approval of the Board of Admission, enter the various courses of study without becoming candidates for degrees.

Special students are subject to the same regulations regarding attendance, examinations and fees as candidates for degrees.

Admission of Foreign Students

Applicants living outside the continental limits of the U. S. ordinarily complete the same admission credentials as other candidates. The Scholastic Aptitude Test described above is given in many foreign centers.

In addition, each student whose native language is *not* English should send a short autobiography (approximately 300 words) to the Admission Office.

Freshman Week

The program of Freshman Week, preceding the opening of college each September, includes aptitude tests, orientation lectures, medical examinations, conferences on course programs, and registration. All new entering students, freshmen and transfers, are expected to be present.

Detailed instructions are mailed to each entering student.

Registration and Enrollment

General Information

All candidates for admission to the freshman class and all other new students are expected to participate in the activities of Freshman Week.

REGISTRATION AND ENROLLMENT

This program includes proficiency tests, placement tests, aptitude tests, orientation lectures, physical and medical examinations, registration and enrollment.

The student's account must be paid at the Business Office preceding the opening of each semester. (See Page 66.)

All new students, whether candidates for a degree or special students, must arrange their program of courses before the opening of each semester. Students must present at the time of registration (1) receipt for the required payments; (2) a certificate of admission; (3) a statement from the Medical Staff; (4) a completed course program blank; (5) receipt for \$15 student deposit.

Special instructions will be sent prior to the opening of each semester to members of all classes.

All undergraduate students previously in residence and students admitted to advanced standing must report for the final registration on one of the four days preceding the opening of the first semester. A receipt for the required payment must be presented. This payment must be made before close of business on the day preceding the opening of the semester. Students to be enrolled under Public Law 16 or Public Law 346 must present a statement from the Veterans Finance Office establishing eligibility. A fee of \$10 will be charged for late payment or late registration.

Changes in courses will be allowed only as approved by a student's counselor. A fee of \$10 may be charged for each change.

Registration at Midyear

Registration. Undergraduate men in good standing whose courses for the second semester are correct as listed on the registration cards completed during spring pre-registration, or whose courses for the semester can be arranged on consultation with their counselors, may register for the second semester by presenting the receipt for payment of the semester account.

Changes in Courses. An undergraduate who finds it necessary to make changes in registration for the second semester must secure permission to do so from his counselor. An early consultation is advised.

An undergraduate who is obliged to make changes because of academic failure at midyear must consult his counselor before reporting for the check-in registration.

Enrollment Without Academic Credit

Auditing. An auditor is a student who is enrolled in a course without credit under the following conditions: (1) the student must be properly registered for it (this includes permission from the Dean and from the instructor of the course); (2) he must pay the usual course fee; (3) he is entitled to all instruc-

ATTENDANCE, GRADING, EXAMINATIONS

tion in the course, including conferences, the criticism of papers, tests, and examinations.

Vagabonding. A "vagabond" is a student who, with the permission of the instructor involved, visits a given course occasionally or regularly without payment of fee. It is understood that such a student will be entitled to participation in classes and activities, including discussions, conferences, and papers, *only* at the pleasure of the instructor.

Attendance, Grading, Examinations

Attendance

Every student is expected to attend every session of the classes in which he is registered, including the student recreation program and the chapel service. These regulations are modified for students who meet certain requirements regarding academic averages (see Dean's List, page 50).

For the dates of recesses and holidays see the University Calendar, page 5.

Grading System

At the end of each semester final grades are given in semester courses. A tentative grade is given at the end of the first semester in year courses (indicated by a dash between course numbers); at the end of the second semester, examinations in such courses cover the work of the two semesters, and a final grade for both is assigned at that time. An official report is sent to the parent or guardian of each student.

There are four passing grades: *A*, *B*, *C*, *D*. *D* is not considered a satisfactory (quality) mark.

E is assigned to those who have failed; or to those whose work during the semester has been so unsatisfactory that the instructor has notified them in advance that they will not be allowed a final examination; or to those whose absence from a final examination is not excused by the Dean; or to those who, in a laboratory course, have not completed half the work; or to those who have been absent one-half the time in a course.

F is assigned to those who are not allowed to continue in a course in which they have failed.

A student who receives the mark *E* or *F* in a required course must repeat the course unless the substitution of an equivalent course in the same department is recommended by the department concerned, or unless the Committee on Academic Standing, in conference with the department concerned, allows the deficiency to be made up by work at an approved summer school. A student who receives the mark *E* or *F* in an elective course may substitute some other course or may take an equivalent amount of work at an approved summer school.

ATTENDANCE, GRADING, EXAMINATIONS

I is assigned to those who have passed a final examination but whose work is incomplete but satisfactory so far as done. A student who receives the mark *I* must complete the work not later than the middle of the following semester; otherwise, unless an extension is granted by the Committee on Academic Standing the mark *I* will become an *E*.

Abs. is assigned to a student who has been absent from a final examination unless he has been barred from the examination and a mark of *E* or *F* assigned on the basis of the regular work of the course. A student receiving the grade of *Abs.* must apply to the Recorder for a special examination (see below). His absence from the final examination must be excused by the Dean. If the student does not take the special examination, the grade of *Abs.* will become an *E* unless an extension is granted by the Committee on Academic Standing.

A student whose work is incomplete and who was absent from the examination is assigned the mark *I*, *Abs.*

If a student is withdrawn from a course after mid-semester on account of unsatisfactory work that is lower than *D*, the mark *E* for that course will be entered in the student's record. If a student is withdrawn for a similar reason before mid-semester, the mark *E* will be recorded if so recommended by the department concerned.

D is not considered a satisfactory mark. The action of the Committee on Academic Standing in placing students on "warning" or "probation" or in dismissing students is based on the amount of work of *D* grade as well as on actual failures.

A student must maintain the minimum standards set by the Faculty and Corporation for graduation. A student whose grades fall below these standards will be subject to dismissal from college.

Academic averages are based on the following: $A=4$; $B=3$; $C=2$; $D=1$; E and $F=0$.

Examinations

Final Examinations. Examinations are held in all semester courses at the close of each semester unless omitted by vote of the Committee on the Curriculum. Final examinations covering the work of both semesters are given at the end of the second semester in year courses. Examinations in such courses may be given at the end of the first semester if a department so desires. A student may be barred from the final examination by the instructor if his work during the semester is so unsatisfactory that he cannot pass the course.

For the dates of final examination periods see the University Calendar, page 5.

Special Examinations. These examinations are given only with the approval of the Dean to students absent from final examinations.

Special examinations on the work of the first semester are given during a special examination period, in the fifth week of the second semester. A

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student eligible for such a special examination must file an application, accompanied by a fee of \$5 for each examination, with the Recorder, *not later than the second Wednesday of the second semester.*

Special examinations on the work of the second semester are given in the week preceding the opening of the academic year. A student eligible for such a special examination must file an application, accompanied by a fee of \$5 for each examination, with the Recorder, *not later than August 15.*

Placement and Achievement Tests in Foreign Language. Placement tests in the foreign languages are given on the first day of Freshman Week in the fall and during the first week of classes in each semester. Achievement tests in foreign language are given on the first day of Freshman Week in the fall and during the final examination period of each semester.

Distribution Tests. Examinations for Bachelor of Arts candidates who wish to satisfy distribution requirements by test (see page 58) are given during Freshman Week each fall and also early in the second semester. Candidates for any one of the Bachelor of Science degrees may take the anticipatory examinations. Bachelor of Science candidates who pass these examinations will not satisfy the requirements for electives in the Humanities and Social Studies, but they may satisfy the prerequisites for a more advanced course in the field of the distribution course and they will receive a additional grade point to be used in computing the graduation average.

Academic Status

Dean's List

The Dean of the College, at his discretion, may place on the Dean's List each semester those students in Semesters IV through VIII whose academic performance for the previous semester is of high quality.

Students on the Dean's List are relieved from the regular requirements with regard to attendance in classes, but not in regard to Chapel. No student who abuses this privilege will be retained on the list.

Warning, Probation, Dismissal

An undergraduate with an unsatisfactory scholastic record will be placed in one of three categories—*Warning, Probation, Dismissal*—except under extenuating circumstances concerning the merit of which the Committee on Academic Standing shall be the sole judge.

Action by the Committee on Academic Standing will depend upon the extent of the student's deficiency. The general record of the student is taken into account in making decisions. His quality grades and his academic average are given special attention.

Warning serves to caution the student that his record is below the standard required for graduation. A student with more than one failure is subject to probation or dismissal.

Probation notifies the student that unless his record improves, he will be given a dismissal at the next marking period. Probation is viewed with seriousness by the University officers, and, during the period of probation, no student will be allowed to be absent from classes without excuse or to receive financial assistance.

Dismissal may be given at any time for a very unsatisfactory academic record, regardless of whether the student has previously been placed on warning or probation. If a student's academic average falls below 1.0, he will be subject to dismissal.

The privilege of enrollment in Brown University may be withdrawn at any time from a student who does not conform to the regulations and traditions of the University or who does not make a satisfactory adjustment to the University environment.

A student suspended or dismissed from the University, or withdrawing when under investigation for misconduct, is not entitled to any refund of tuition or room rent.

Honors Program

Individual Study Plans

Properly qualified students may elect in concentration and related fields an Honors Program of study instead of the regular concentration program leading to a Bachelor's degree. Honors study provides such students with freedom from certain routine academic requirements, closer association with the faculty, and exceptional opportunities for critically guided independent work. In turn it requires of students acceptance of a large measure of responsibility, development of intellectual initiative and self-reliance, and attainment of a considerable degree of mastery over the chosen field of study.

The Honors Program is provided to give superior students at Brown and Pembroke the opportunity to participate more fully in the process of their own education; it presents the student with an opportunity to think and judge for himself, and to work actively his chosen field of study rather than merely to read about it or hear about it. The student following an Honors Program will achieve a wider degree of mastery in the field of his major interest and at the same time will be expected to undertake independent investigations of his own choosing relating to problems that attract him particularly.

Each Honors student selects that field of concentration which best satis-

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fies his own needs and, with the help of his Honors Supervisor, arranges a definite program of study covering the field. Such a program is not necessarily limited to any one department or division of the University. If the student has a clear idea of what he wants to study, he may arrange a program that cuts across traditional departmental lines. In most cases, however, a departmental program will meet his needs.

General Regulations

Eligibility. Any student with an academic average of 3.0 or above is eligible to elect the Honors Program. On special recommendation of his major department, the application of a student with a somewhat lower average will be considered.

Date of Enrollment. The student who chooses the Honors Program will normally enroll at the end of his fourth semester. Upon application superior students may be admitted to the Honors Program at the beginning of their sophomore year. In special cases, on recommendation of the major department and approval by the Director of the Honors Program, students may be admitted to Honors work as late as the beginning of the seventh semester if satisfactory plans of study can be arranged for them.

Supervision of Honors Students. Upon enrollment, each Honors student must file a program of study covering his work for Honors. This program must be approved by the Honors Supervisor in the student's major field of study and by the Director of the Honors Program. Each Honors student shall be assigned by his Honors Supervisor in his major field to a member of the faculty who will be in immediate charge of the student's plan of study for Honors.

Plans of Honors Study. Honors students will normally take at least ten semester courses (excluding elementary courses) within their field of concentration, whether this be departmental or interdepartmental. The plans of Honors study vary from field to field. In most departments preparation of a *Senior Thesis* constitutes part of the work of the student's final two semesters before graduation. Some departments provide special *Honors courses* exclusively for Honors students; some offer *tutorial courses* in which independent study of special topics under individual guidance is the rule; some make arrangements for *independent supplementary reading* or laboratory work or special reports. In each case some special Honors work is included in each semester of a student's candidacy.

The various departmental or interdepartmental plans of Honors study shall be as equal as possible in scope and standards. All plans of Honors study shall be subject to approval or rejection by the Honors Council and the Director of the Honors Program.

Candidates for Honors may be excused from not more than two courses required for distribution. The student's application for exemption from this

requirement, with a full statement of his plan of study, should be presented by him to the Department of his major concentration, and, if approved by this Department, should then be presented by his Department Supervisor to the Honors Council for final approval. Moreover, on recommendation of the Department Supervisor, the Honors Council may authorize a candidate for Honors to substitute for the normal distribution course (or courses) another course (or courses) more suited to his needs.

Recommendation for Honors. The three grades of Honors are designated as Honors, High Honors, and Highest Honors. Highest Honors are awarded only to students of exceptional performance and promise. Recommendations for Honors in any of these three grades must have the written approval of the Department or Departments concerned. Honors are awarded by the Honors Council.

The University honors publicly the successful candidate for Honors by the award, with his diploma, of a certificate of Honors, High Honors, or Highest Honors in his field of study.

Examinations. The work of every candidate for Honors will be reviewed by the Department or Departments concerned at the end of his junior year.

Before the end of the senior year, every candidate for Honors is examined in the whole work of the Honors field. The examination shall be conducted by a committee of the Department or Departments concerned. At least five hours shall be devoted to this examination, of which not more than two hours may consist of an oral test. A thesis or report may also be required at the option of the Departments. Students failing to attain the standing requisite for Honors are nevertheless given credit for their concentration work toward their degree, in accordance with the regular requirements for graduation.

Discontinuance of Candidacy. Students may withdraw voluntarily from candidacy for Honors at any time. Candidates who are found not to be qualified for unusual achievement in the field chosen, or not to be taking advantage of the special opportunities offered, will be required to discontinue candidacy for Honors. Honors students are expected to maintain a *B* average (3.0) outside their Honors field and an *A/B* average (3.5) within that field.

Candidates who fail to achieve an Honors award are given credit for their concentration work as regular course students.

Honors in Departmental and Interdepartmental Fields

Honors work is normally available in every departmental field in which concentration is possible. Nearly every department includes a statement of the specific nature of Honors work in its field in the descriptive material at the head of its announcement of courses. In other cases Honors programs

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are arranged on an individual basis. More detailed information can be obtained from the Supervisor of Honors Students in the department concerned.

Interdepartmental programs of Honors study will be arranged wherever feasible for students whose interests call for a concentration which cuts across departmental lines. Such programs will be arranged to suit the candidate's needs by the Supervisors of Honors Students in the candidate's major fields of study. Examples are the fields of Literature, History and Religions, Philosophy of Science, Social Psychology, American Civilization, and International Relations.

Interested students should consult with the Honors Supervisor in their field of concentration or with the Director of the Honors Program (Professor A. D. Van Nostrand, Department of English). The Honors Supervisors are:

Field of Concentration	Professor	Field of Concentration	Professor
<i>American Civilization</i>	D. H. FLEMING	<i>International Relations</i>	S. W. ARMSTRONG
<i>Art</i>	G. E. DOWNING	<i>Mathematics</i>	C. R. ADAMS
<i>Biology</i>	M. V. EDDS, JR.	<i>Modern Languages</i>	A. J. SALVAN
<i>Chemistry</i>	W. W. RUSSELL	<i>Music</i>	A. R. COOLIDGE
<i>Classics</i>	H. N. COUCH	<i>Philosophy</i>	R. C. TAYLOR
<i>Economics</i>	C. C. BOSLAND	<i>Physics</i>	R. B. LINDSAY
<i>English</i>	E. M. BLISTEIN	<i>Political Science</i>	G. H. DODGE
<i>Geology</i>	A. W. QUINN	<i>Psychology</i>	L. A. RIGGS
<i>History</i>	C. H. KIRBY	<i>Sociology</i>	V. H. WHITNEY

Identification and Criticism of Ideas

In the fall semester of 1953-54 Brown University will launch a five-year program to develop a group of new courses for the freshman and sophomore years. The courses will bear the common designation "The Identification and Criticism of Ideas." Initially, they will be open only to students who stand in the upper half of the entering class. This program, which has aroused widespread interest because of its experimental nature, has been made possible by a grant from the Carnegie Corporation of New York in the amount of one quarter million dollars.

The courses in the Identification and Criticism of Ideas will focus on original sources and classic expressions of vital ideas. Some courses will center about a single work, others may use several; always the emphasis will be on depth. Instead of being given the outline survey contained in the usual textbook, the student will be challenged to identify and interpret the concepts and theses of the scientific, philosophic, or creative genius.

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In small discussion groups, the students will analyze these ideas, examine their consistency and the principle of organization used by the author. Together they will define the meaningfulness of the author's views and relate them to human experience. So that his criticism and evaluation may be mature, the student will read extensively outside the central text to see how other minds have dealt with the same problems.

In the use of primary sources and the small discussion class, the new courses have features in common with many "general education" courses introduced in the recent past at other institutions. The Brown program is radical in its intensive concern with the central text and in the subordination of topical coverage to the development of critical judgment at this early stage of the student's career.

Fourteen courses in the Identification and Criticism of Ideas will be offered during the current year: Art, Biblical Literature, Biology, Classics, Economics, English (2), French, History, Mathematics, Philosophy, Political Science, Psychology, and Spanish. Course descriptions may be found in the section Courses of Instruction, beginning on page 80.

These courses form an alternate pattern for meeting the distribution requirements for the Bachelor of Arts degree (see page 57).

Counseling

Upon being admitted to Brown, each student is assigned to a counselor. Counselors are members of the faculty who undertake to advise a small number of students. Together, student and counselor formulate the program of study best suited to the student's intellectual needs and capacities. Counselors are available to students at regularly scheduled office hours during the academic year. At the beginning of the Junior year, the student normally commences his concentration program, and thereafter receives educational advice and direction from members of the department in which he has elected to concentrate.

In addition to his counselor, each freshman has a student advisor whose function is to help him adjust himself to the University.

Requirements for Degrees

Quantity Requirements

The course requirements for the baccalaureate degrees with the exception of the Bachelor of Science (in Nursing) are four semester courses each semester for eight semesters, a total equivalent to thirty-two semester courses.

REQUIREMENTS FOR DEGREES

The semester course is the unit of credit. This is defined as a course taken for the duration of one semester and, for purposes of evaluation, may be considered the approximate equivalent of four semester hours.

Quality Requirements

In order to meet the quality requirements for graduation, candidates for all baccalaureate degrees must obtain a final cumulative average of 1.75 or better based on all grades received.

General Requirements

In addition to the course requirements, all candidates for degrees must complete the prescribed work of the first two semesters in physical education, swimming and the orientation lectures.

Ordinarily, a minimum residence requirement of two academic years must be fulfilled.

BACHELOR OF ARTS

LANGUAGE REQUIREMENTS

- A. Proficiency in English composition—to be demonstrated by a proficiency test at or before the beginning of the first semester or, for a student in the IC program, before the beginning of his third semester, or to be acquired by the successful pursuit of a course¹ in college. A student may not enter his fifth semester until he has completed this requirement.
- B. A working knowledge of one foreign language—Greek, Latin, French, German, Italian, Russian, Spanish—to be demonstrated by passing an achievement test or by obtaining a grade of *C* or better in a language course on the fourth-semester (or higher) level. Each student who fails to pass this test at entrance shall enroll during his first semester in a foreign language course and shall continue with course work in that language until the requirement is met. A student who receives a *D* in a course on the fourth-semester level may repeat the course once without credit and satisfy the foreign language requirement if his work warrants a mark of *C* or better. A student who has not satisfied the language requirement by the beginning of the sixth semester will be refused registration until the requirement is met.

DISTRIBUTION REQUIREMENTS

Beginning in 1953-54, two alternate patterns are offered for meeting the distribution requirements: Pattern A-D courses, and Pattern B-IC courses.

Pattern A-D courses

Every student must complete a total of twelve semester courses in distribution: four in the Sciences, four in the Humanities, and four in the Social Studies.

¹See description of English 1 and English 2 on pages 128 and 129

REQUIREMENTS FOR DEGREES

Each of the three major divisions is subdivided as indicated below by italics. The figures in parentheses indicate the number of semester courses which are to be taken if the student elects to satisfy part of his distribution requirements from that particular subdivision. For example, (2) beside *Literature* means that a two semester sequence from that subdivision must be completed; the remaining two distribution requirements in the Humanities would have to be elected from the other subdivisions.

1. Sciences—*Physical* (2): Physics D1, Chemistry D2; Physics D1, Astronomy D1; Chemistry D1, Geology D1. *Biological* (2): Biology D1; Psychology D1. *Mathematics* (1): Mathematics D1. *One of the following* (1): Physics D1; Chemistry D1; Biology D1; Psychology D1; Geology 1; Astronomy 1 or 2; Botany 4; Geology 41; any continuing science course.
2. Humanities—*Literature* (2): Classics D5, D6; English D27, D28; French D11–D12; German D11, D12; Italian D107, D108; Spanish D11, D12. *Philosophy* (2): Philosophy D1, D2. *Art and Music* (1): Art. D1; Music D1. *Religion* (1): Biblical Literature D1.
3. Social Studies—*History* (2): Classics D1, D2; History D1, D2. *Economics—Government—Sociology* (2 out of 3): Economics D1; Political Science D1; Sociology D1.

Pattern B—IC courses

This pattern shall be elective in 1953–54 to sophomores who stood in the upper half of their freshman class, and to freshmen who are in the upper half of the entering class on the basis of their secondary school rank and College Entrance Examination Board test results. Students who elect to satisfy their distribution requirements with this pattern must complete the equivalent of twelve semester courses, IC or D, of which there shall be at least one (two-semester) IC course in each of the three fields: Sciences, Humanities, and Social Studies. No student may take more than the equivalent of six, nor less than three, semester courses, IC or D, in any of these fields. Each student must take at least one semester course in Mathematics, Physics, or Chemistry.

All students in the IC program must take at least two (two-semester) IC courses in their freshman year, and at least two in their sophomore year. They may fulfill the remaining requirement of the equivalent of four semester courses by completing either IC or D courses. No IC course may be taken after Semester IV. No D course may be taken by a student in the IC program after Semester V without permission of the Dean. Without the permission of the Dean, no student in the IC program may take more than twelve semester IC and D courses combined. D courses may not be taken in a department in which IC courses have been elected, but continuing courses in the sciences may be taken. A student may not take IC or D courses in more than one Literature, unless the material is read in different languages.

Sophomores who are admitted to the IC program in 1953–54 will be required to take no less than two (two-semester) IC courses. The remainder of their twelve required distribution courses may be either IC or D courses. As with the freshmen, these sophomores may take no more than the equivalent of six, nor less than three,

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semester courses, IC or D, in any of the three major fields. Each sophomore must take at least one semester course in Mathematics, Physics, or Chemistry. At least one two-semester sequence must be completed in each of the three fields: Sciences, Humanities, and Social Studies.

In 1953-54, fourteen IC courses will be offered as follows:

1. Sciences—Biology IC 1-2; Mathematics IC 1-2; Psychology IC 1, 2.
2. Humanities—Art IC 1-2; Biblical Literature IC 1-2; Classics IC 1, 2; *Literature*: English IC 1-2, English IC 3-4, French IC 1-2, Spanish IC 1-2; Philosophy IC 1-2.
3. Social Studies—Economics IC 1-2; History IC 1, 2; Political Science IC 1, 2.

A student may satisfy certain distribution requirements by the successful passing of examinations. IC courses may not be anticipated by examinations. Examinations taken for the purpose of satisfying distribution requirements may be taken during Freshman Week and during the Special Examination period in the fifth week of the second semester. The passing of an examination in meeting a distribution requirement does not give the student course credit but permits him to elect a course in lieu of the distribution course, thereby increasing the number of his free electives. This course he elects may be an advanced course for which the distribution course is a prerequisite, or it may be an additional course permitted in his field of concentration. For each distribution requirement met by examination, a student's total number of points used in determining his graduation average will be increased by one. Certain distribution requirements may be met by high scores on appropriate College Entrance Examination Board achievement tests, or on other approved tests.

CONCENTRATION REQUIREMENTS

Prior to his fifth semester, each candidate for the degree of Bachelor of Arts must prepare, in consultation with a departmental adviser, a plan of studies including a coordinated and progressive program of courses in concentration in some field of interest. Within this field the candidate for the degree shall take eight semester courses. The scope of the field of concentration and the program of courses is to be approved by the department or departments concerned and by the Dean of the College. The eight semester courses, and no others, taken by a student in concentration shall be the basis for a comprehensive examination at the end of his senior year.

The quality requirement in concentration is an academic average of 2.0 or better for all courses on a student's concentration program.

Courses in a student's concentration program may not be used to meet distribution requirements.

Specific statements regarding concentration precede the course descriptions in each department.

Six programs of Interdepartmental Concentration are available: American Civilization, Ancient and Medieval Culture, International Relations, Mathematical Economics, Mathematics-Physics, and Philosophy and Religion. Each program includes eight semester courses on which a comprehensive examination is given at

REQUIREMENTS FOR DEGREES

the end of the senior year. Four of the programs list additional related courses as recommended electives but these, if taken, are not included in the comprehensive examinations. A detailed statement of each program is given below.

In order to assist students in synthesizing the several courses in their programs, they may be required in their junior year to attend, and in the senior year to participate in, a conference without academic credit, the nature and number of meetings of which will be determined by the faculty committee in charge of the program.

For a student who takes an IC course in place of a distribution course which is specified as a prerequisite in any of the programs, the prerequisites may be modified by the responsible committee.

Students may be admitted to candidacy for Honors in an interdepartmental concentration on the approval of the Director of the Honors Program and the committee in charge of the particular concentration. Such candidates may be required to prepare an Honors thesis in the senior year and to take a special comprehensive examination, either written or oral, or both.

1. AMERICAN CIVILIZATION

Courses: History 151, *The Establishment of the American Colonies*; History 51, 52, *American History since 1763*, or History 161, 162, *The History of American Economic Life*; English 41-42, *American Literature*; American Civilization 191, conference course, to be taken in the senior year; and two of the following: Art 109, *American Art*; Political Science 124, *American Political Theory*; Philosophy 125, *History of Philosophy in America*; History 186, *History of Science in America*; Economics 104, *History of Economic Thought*.

Recommended Electives: Economics 131, *Labor Problems*; English 172, *The Twentieth Century Novel, English and American*; English 187, *Twentieth Century American and European Drama*; History 152, *The American Revolution and the Forming of the United States*; History 173, *The Social and Intellectual History of the United States*; Political Science 115, 116, *American Constitutional Development*.

2. ANCIENT AND MEDIEVAL CULTURE

Qualification: A minimum average of 2.0 in those distribution courses of the participating Departments which are taken by a candidate for the concentration; at least one semester course of Latin, taken in college, beyond the elementary level.

Courses: Ancient Culture—Classics D5, *Roman Literature in Translation: The Republic*; Classics 118, *Classical and Hellenistic Archaeology*; Classics 122, *Roman History to 337 A.D.*; Medieval Culture—History 101, 102, *Europe in the Middle Ages*; Art 4, *Medieval Art*; also Philosophy 101, *Ancient and Medieval Philosophy*; and one of the following: Biblical Literature 7, *History of Christianity*; Biblical Literature 198, *Topics in the History of Religions*.

Recommended Electives: Classics 61, *Greek Literature, Exclusive of the Drama, in English*; Classics 117, *Prehistoric and Archaic Greek Art*; Classics 121, *Greek History to 146 B.C.*; Latin 201, *Seminar in Latin: Medieval Latin*; English 105-106, *Chaucer*; French 239, *Old French Literature*; German 153, *Middle High German*; Italian 161, 162, *Dante's Divina Commedia*.

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3. INTERNATIONAL RELATIONS

Prerequisites: Economics D1, *Elements of Economics*; History D1, D2, *European History since the Fall of Rome*; and Political Science D1, *Principles of Political Science*. Students contemplating concentration in International Relations should take History D1, D2, for distribution but if a student has instead taken Classics D1, D2, *Ancient History*, he may be admitted to the program by consent of the committee, if he will take an additional semester course of History as prerequisite. These courses must be completed with a minimum average of 2.0.

Courses: History 119, 120, *Europe in the Twentieth Century*; Political Science 117, 118, *International Politics and Organizations*; Political Science 106, *Modern Dictatorship*, or Political Science 122, *Foreign Relations of the United States* (recommended); Economics 101, *Advanced General Economics* (special section for students in this concentration); Economics 154, *International Economics*; either Economics 107, *Theories and Programs of Economic Reform*, or Sociology 125, *Population and Migration* (Sociology prerequisite waived).

Recommended Electives: Economics 102, *Advanced General Economics*; Economics 111, *Money and Banking*; History 51, 52, *American History since 1763*, or History 161, 162, *The History of American Economic Life*; Political Science 105, *Parliamentary Democracy*.

4. MATHEMATICAL ECONOMICS

Prerequisites: Mathematics 2, *Analytic Geometry and Calculus*, or its equivalent or Mathematics IC 1-2, *A Modern Introduction to Analytic Geometry and Calculus*; Economics D1, *Elements of Economics*, or Economics IC 1-2, *Political Economy*. A grade of C or better in all prerequisite courses is required for concentration in Mathematical Economics.

Courses: Mathematics 21-22, *Analytic Geometry and Calculus*; Mathematics 151, *Linear Equations and Matrices*; Mathematics 105, *Differential Equations*; either Mathematics 161, *Mathematical Statistics* or Economics 161, *Statistical Method*; Economics 101, 102, *Advanced General Economics*; and Economics 192, *An Introduction to Mathematical Economics*.

Recommended Electives: Mathematics 121, 122, *Advanced Calculus*; Mathematics 171, *Mathematical Theory of Investment*; Economics 71, *Accounting*; Economics 111, *Money and Banking*; Economics 154, *International Economics*; Economics 118, *Public Finance*; Economics 145, *Corporations and Government Control*.

Honors: Candidates for Honors in Mathematical Economics will normally include Economics 199, *Research in Special Problems*, throughout their senior year. This course will culminate in a senior thesis concerned with mathematical economics or econometrics.

5. MATHEMATICS-PHYSICS

Prerequisites: Mathematics 2, *Analytic Geometry and Calculus*, or Mathematics IC 1-2, *A Modern Introduction to Analytic Geometry and Calculus*; Physics 3, *Fundamental Physics*.

Courses: Mathematics 21-22, *Analytic Geometry and Calculus*; Mathematics 105,

REQUIREMENTS FOR DEGREES

Differential Equations; Mathematics 108, *Introduction to Partial Differential Equations* (to be taken in the senior year); Physics 4, *Fundamental Physics*, 101, *Classical Physics of Particles*, and two additional courses in Physics in the senior year chosen from 106, *Physical Mechanics*; 107, *Theory of Electricity and Magnetism*; 109, *Heat and Kinetic Theory*; 121, *Radiation Physics A*.

6. PHILOSOPHY AND RELIGION

Courses: Philosophy (four courses): 101, *Ancient and Medieval Philosophy*; 58, *Ethics*; 151, *Philosophy of Religion*; and either 102, *Modern Philosophy*, or 122, *Recent and Contemporary Philosophy*. Biblical Literature (four courses): 3, *Primitive Religions*; 4, *Religions of the West*; 7, *History of Christianity*; and one of the following: 103, *Topics in Old Testament*; 107, *Topics in New Testament*; 198, *Topics in the History of Religions*.

Recommended Electives: Biblical Literature 171, *Hellenistic Greek*; Philosophy 102 and 122; and Biblical Literature 103, 107, and 198, if not included in the concentration program.

ELECTIVE REQUIREMENTS

Not more than two semester courses are allowed as electives in the field of concentration; these, together with the eight semester courses required for concentration, permit a maximum of ten semester courses in one department, not including distribution or language proficiency courses. The usual number of free electives necessary to complete the quantity requirement of thirty-two semester courses is nine semester courses.

BACHELOR OF SCIENCE IN CHEMISTRY

SPECIFIC REQUIREMENTS

- A. Proficiency in English composition—to be demonstrated by a proficiency test at or before the beginning of the first semester or to be acquired by the successful pursuit of a course¹ in college. A student may not enter his fifth semester until he has completed this requirement.
- B. A reading knowledge of French and of scientific German. This requirement may be met for either language by presenting two years credit for that language upon entrance. Students not presenting entrance credits in these languages are required to take a year course in French and a year course in German plus German 3S.
- C. Twenty semester courses in chemistry, mathematics, and physics, with a minimum of ten semester courses in chemistry, four semester courses in mathematics, and two semester courses in physics.
- D. Electives to make a total of thirty-two semester courses.

BACHELOR OF SCIENCE IN ENGINEERING

SPECIFIC REQUIREMENTS

- A. Proficiency in English composition—to be demonstrated by a proficiency test at or before the beginning of the first semester or to be acquired by the success-

¹ See description of English 1 and English 2 on pages 128 and 129.

REQUIREMENTS FOR DEGREES

ful pursuit of a course¹ in college. A student may not enter his fifth semester until he has completed this requirement. If proficiency is established, a course other than Engineering or a Physical Science must be elected in place of English.

- B. Two semester courses in Chemistry (17, 18); three in Mathematics (9-10; 29); and two in Physics (61, 62).
- C. Six semester courses of electives, two of which must be in the Humanities and two of which must be in the Social Studies.
- D. Seventeen semester courses in engineering.

FURTHER REQUIREMENTS

Students majoring in aeronautical, electrical, or mechanical engineering are required to take machine shop work. Students majoring in civil engineering are required to take training in surveying.

BACHELOR OF SCIENCE IN PHYSICS

SPECIFIC REQUIREMENTS

- A. Proficiency in English composition—to be demonstrated by a proficiency test at or before the beginning of the first semester or to be acquired by the successful pursuit of a course¹ in college. A student may not enter his fifth semester until he has completed this requirement.
- B. Reading knowledge of one foreign language—French, German, Italian, Russian—to be demonstrated by a proficiency test conducted by the Division of Modern Languages. Proficiency tests will be given during Freshman Week and at the end of each semester. Each student who fails to establish proficiency at entrance shall enroll during his first semester in a foreign language course and shall continue therein until the proficiency requirement is met. In addition to establishing proficiency in one foreign language, each student must pass two semesters of a *second* language (taken from the list above) at Brown or present two years credit in this language on entrance. In the latter case he must take the Brown placement test and place at least in a two-level course. One of the two languages offered must be German or Russian.

In certain physics courses of the senior year foreign language material will be used freely. Assignments of foreign language material will also be made in connection with the senior thesis.

- C. Ten semester courses in physics, namely: 3, 4, 37, 101, 102, 111, 121, 122, 198, with one additional course in the senior year chosen from 106, 109, 115, 128.
- D. Four semester courses in mathematics, including a course in partial differential equations.
- E. Two semester courses in chemistry.
- F. Two semester courses in astronomy, biological sciences, chemistry, engineering, geology, or oceanography.

¹ See description of English 1 and English 2 on pages 128 and 129.

REQUIREMENTS FOR DEGREES

- G. Two semester courses in philosophy.
- H. Two semester courses in the social studies.
- I. Two semester courses in the humanities other than philosophy.
- J. A senior thesis (to be prepared in connection with part of course 198).
- K. A comprehensive examination to be passed at the end of the senior year.

BACHELOR OF SCIENCE (IN NURSING)

SPECIFIC REQUIREMENTS

- A. Proficiency in English composition—to be demonstrated by a proficiency test at or before the beginning of the first semester or to be acquired by the successful pursuit of a course¹ in college. A student may not enter her fifth semester until she has completed this requirement.
- B. The equivalent of the prescribed courses in either Pattern A or Pattern B below:

PATTERN A

- 1. Biology D1, 4, 5, 10, 15, and 20
- 2. Chemistry D1 (with a grade of C or better) or D2, and Chemistry 5 and 41
- 3. Education 103
- 4. Psychology D1, 81, and 107
- 5. Sociology D1 and 105

PATTERN B

- 1. Humanities—four semester courses (distribution courses)
- 2. Social Studies—four semester courses including either History D1, D2 or Classics D1, D2, and Sociology D1
- 3. Sciences—Biology D1, 4, 5, 10, and 20
Chemistry D1 (with a grade of C or better) or D2, and Chemistry 5
Psychology D1
- 4. Four additional semester courses in Sociology or four additional semester courses in Psychology.
- C. Additional courses to make a total equivalent to twenty-four semester courses.
- D. Program of study at the Rhode Island Hospital School of Nursing for two years and four months.

Regulations Governing Degrees

A candidate for a degree who has maintained a satisfactory standing in his studies may, with the consent of the Committee on Academic Standing, take work in addition to the regular number of courses prescribed.

A student who at the beginning of his seventh semester lacks less than eight semester courses of completing his course requirements may, with the consent of the Committee on Academic Standing, distribute his work over the last two semesters.

SUMMER SCHOOL CREDIT

A student who lacks less than four semester courses of completing his course requirements may, with the consent of the Committee on Academic Standing, be excused from taking more than the required number of courses.

A student who at the close of his eighth semester lacks for his degree not more than three semester courses may make up the deficiency by any method approved in advance by the Committee on Academic Standing.

Degrees with Distinction

In addition to the regular degrees of Bachelor of Arts and Bachelor of Science, the same degrees are awarded with one or another of three grades of distinction, *cum laude*, *magna cum laude*, and *summa cum laude*. The award is based on the complete University scholastic record of the student, who must have been in residence for six semesters, unless exemption is voted by the Faculty on recommendation of the Committee on Academic Standing. The basis for the award of the three grades of distinction is as follows:

Cum laude, an average standing of 3.100

Magna cum laude, an average standing of 3.400

Summa cum laude, an average standing of 3.750

Any degree requiring a comprehensive examination cannot be awarded with one of these grades of distinction, however, unless the student also passes the comprehensive examination with distinction.

Summer School Credit

Any student of Brown University who wishes to take summer school work must obtain *in advance* the approval of the appropriate Dean and the Chairmen of the Departments concerned or their authorized representatives. The latter will approve the content of the courses which should be in substance equal to courses offered at Brown University. The Recorder of The College and the Recorder of Pembroke College are authorized to determine equivalent quantity credit for summer courses.

The total summer credit offered toward a degree shall not exceed three semester courses or twelve semester hours except by special permission of the Committee on Academic Standing; in general, the Committee will not approve more than two semester courses (eight semester hours) in any one summer.

Except with the permission of the Committee on Academic Standing and

SUMMER SCHOOL CREDIT

the Department concerned, no concentration or distribution course may be taken as a summer course.

Credit for summer school courses will be given if a grade of *C* or better is earned. The grades received for summer school courses will not be computed in determining the graduation average (see page 56).

Transcripts for summer courses must be submitted within six weeks after completion of the course.

Financial Information



THE TUITION paid by the students covers part of the cost of their instruction and the operations of the University. Income from endowment and contributions from the alumni and alumnae and other public-spirited men and women meet the balances.

Tuition Fee. The undergraduate comprehensive tuition fee is \$350 a semester. This fee applies to all students carrying four courses. The tuition fee for students electing less than four courses is \$87.50 for each semester course. The tuition fee for extra courses above four is \$87.50 for each semester course or its equivalent.

General Fee. A general fee of \$45 a semester is charged each undergraduate.

Dormitory Reservation Deposit. With each room application filed for a dormitory room a \$10 deposit is required. This deposit will apply to the room rental charge for the first effective semester. The deposit will be refunded to any student who cancels his room lease before August 15th. Deposits will not be refunded after August 15th.

Student Deposit. Each regular student, prior to registration for the first semester after admission or after readmission, is required to deposit \$15. This deposit serves for the duration of the student's enrollment in the University as a guaranty of payment of his account; it is not an account against which the student himself may make charges; it will be refunded in full upon the student's graduation or withdrawal from college, unless the University is forced to draw from it to clear his account, in which case any unused balance will be refunded.

Special Examinations. A fee of \$5 is charged for each special examination.

Registration Fees. A charge of \$10 will be made to each student who does not complete preliminary or final registration including the payment of tuition and other fees at the prescribed time.

A charge of \$10 will be made for each change in registration after the preliminary registration period has ended unless the change is required by action or regulations of the Faculty or of the Committee on Academic Standing.

Student Recreation Fee. A penalty of \$10 is charged in the succeeding semester to any undergraduate who has failed to fulfill the requirements of the Student Recreation Program unless excused from such requirements by

PAYMENT OF CHARGES

the Dean of the College. This penalty is relieved each subsequent semester until the student recreation requirement has been fulfilled.

The University reserves the right to change the charges whenever it is deemed advisable, the new rates to apply to all students. Published notice of any change will normally be given in advance.

Payment of Charges

As a means of education in sound business practices, including accuracy and punctuality, the University deals directly with students. Charges for tuition, general fee, room, and board, are due and payable in advance of registration each semester. No bills will be sent by the University. When making payments students are requested to give their registration number.

Students who are unable to pay the balance due on their semester bills at the time of registration, but who expect regular income during the college year, may apply for deferred payments. Arrangements for these deferred payments should be made in advance through the Director of Student Aid. Under this system a student may register by paying a minimum of one quarter of the amount due on the semester bill. The balance may be paid in three equal monthly installments, for which there is a \$2 service charge per installment. Thus a student may spread his annual charges over the academic year by making eight monthly payments.

The established schedule showing the adjustments of tuition charges available for students who withdraw from college during a semester or who, with Dean's permission, drop courses within the first five weeks of a semester is on file in the Office of the Controller.

Reservations in the dormitory system are made for the college year and no refund of room rental will be allowed unless the student who withdraws provides a satisfactory substitute. All students not living at home are required to live in University student residences.

Board is furnished at the lowest possible rate consistent with quality and good service. The University reserves the right to change the rate according to the costs. An extra charge may be made for students requiring a special diet. All students living in University student residences have their meals in the Sharpe Refectory. In order to promote closer relationships between commuting students and students living on campus, the University requires all commuting Freshmen and Sophomores and all Fraternity men to arrange for a board contract entitling the student to eat five lunches (or dinners, if he prefers this type of contract) five days a week in Sharpe Refectory. Exceptions to this ruling may be made by the Dean of Students. In September, 1954 this requirement may be extended to cover all non-resident students.

STUDENT AID

No diploma, certificate, transcript, letter of honorable dismissal or commendation will be granted to any person who has an unadjusted indebtedness to the University.

Transcripts will be issued to other institutions at the request of students, former students, and graduates. The first transcript is furnished without charge. A charge of one dollar is made for each additional transcript. If more than one transcript is ordered at one time, the first will cost one dollar and each additional one will cost fifty cents.

Student Aid

Through a comprehensive program of scholarships, grants, remissions, loans, and student employment the University helps many students with limited funds to meet their college expenses. Student aid at Brown is based on the principle that men with promise of future usefulness must not be denied the opportunity to gain a university education because of financial difficulties. This program is administered through the Office of Student Aid. All inquiries concerning scholarships, loans, and student employment should be addressed to the Director of Student Aid, Brown University, Providence 12, R. I.

Scholarships, Grants, and Remissions

Each year the University grants a considerable number of scholarships ranging from \$100 to \$1000 a year and grants-in-aid of from \$50 to \$400 a year. The competition for these funds is, of course, keen, but over 25 per cent of each entering class receives financial aid. Awards are made on the basis of financial need, scholastic achievement, character, and promise of future usefulness. Applicants for admission may obtain scholarship applications by writing to the Director of Student Aid or by indicating an interest in scholarship aid on the admission application. Scholarship applications should be returned by April 1 and will be given consideration very soon after the decisions regarding admission have been reached; applications filed after April 1 will be given every possible consideration, but it should be understood that almost all of the funds will have been awarded soon after the deadline. These awards are continued during subsequent years provided they are justified by the general college record of the recipient. It is necessary, however, that renewal applications be filed each year in the spring. Awards are subject to review at any time by the Committee and, in some cases, may be partially converted to loans during the last two years. The committee reserves the right at any time to suspend or reduce a student's award if either his academic standing or personal conduct warrant.

STUDENT AID

Without special application, a number of scholarship winners will be awarded room remissions—reductions in room rental—of \$70 per year. Students receiving these remissions will be so notified when scholarship decisions are announced.

Some of the scholarships have been endowed and are usually named for the donors. Others are appropriated from general University funds, and some of these bear the names of distinguished Brown alumni of the past century: John Hay, 1858; Horace Mann, 1819; Benjamin Ide Wheeler, 1876; and Henry Wheaton, 1802.

Some of the funds are restricted to students with special qualifications, as, for example, those limited to students from particular areas, schools, or cities. No deserving student with limited funds should hesitate to apply, however, since a majority of the awards come from unrestricted funds and are awarded only on the regular scholastic, financial, and personal criteria.

ENDOWED SCHOLARSHIPS

Scholarships and other forms of financial aid have been made possible by gifts to the University for the establishment of scholarship funds. They represent the thoughtful interest of alumni and friends of the University who have manifested in this way their interest in education, their faith in the University, and their desire to be of service to the young men for whom it carries on its work.

The list of endowed scholarship funds follows:

THE EMILY F. ABBEY ENDOWMENT FUND established in 1943 by Emily F. Abbey Gill.

THE HARRY B. ABRAMSON FUND established in 1947 by Mrs. Claus B. Abramson in memory of her son Harry B. Abramson, 1925.

THE AID FUND established in 1868 by Miss Lydia Carpenter and other friends of the University.

THE E. BENJAMIN ANDREWS SCHOLARSHIP FUND OF THE CLASS OF 1898 established in 1911 in honor of E. Benjamin Andrews, 1870; President of the University, 1889-98.

THE ANONYMOUS SCHOLARSHIP FUND established in 1942 by an anonymous donor.

THE FRANCES R. ARNOLD SCHOLARSHIP established in 1863 by Mrs. Frances R. Arnold.

THE RUFUS BABCOCK SCHOLARSHIP established by Mrs. Caroline Vassar Babcock Jones in memory of her father, the Reverend Rufus Babcock, 1821; Trustee, 1828-75.

THE WILLIAM UPSON BAILEY SCHOLARSHIP FUND established in 1951 by bequest of Mrs. L. M. Bailey in memory of her son, William Upson Bailey, 1946.

THE MARY ELIZABETH BALDWIN SCHOLARSHIP FUND (Wickford, Rhode Island) established in 1947 by Mrs. Susan B. McCoid in memory of her sister Mary Elizabeth Baldwin.

THE BANIGAN SCHOLARSHIPS established in 1896 by Joseph Banigan.

STUDENT AID

- THE BARTLETT SCHOLARSHIP FUND established by Mrs. Slater Bartlett.
- THE CHARLES L. BARTLETT FUND established in 1940 by bequest of Charles L. Bartlett, 1882; A.M., 1890.
- THE GEORGE P. BECKFORD FUND established in 1936 by bequest of George P. Beckford, 1895.
- THE TRUMAN BECKWITH SCHOLARSHIP FUND established in 1897 by bequest of Abby G. Beckwith in honor of Henry Truman Beckwith, 1838.
- THE WILLIAM H. BENNETT FUND established in 1930 by bequest of Ellen D. C. Bennett in memory of her husband, Dr. William H. Bennett, 1868; A.M. hon., 1884.
- THE GEORGE W. BERRIMAN SCHOLARSHIP FUND established in 1919 by bequest of George W. Berriman, 1920.
- THE CAPTAIN ARTHUR H. BIJUR SCHOLARSHIP established in 1945 by Nathan I. Bijur in memory of his son, Captain Arthur H. Bijur, 1941.
- THE JAMES FLETCHER BLACKINTON SCHOLARSHIP established by Mrs. Mary D. Blackinton in honor of her husband, James F. Blackinton, 1847; A.M. hon., 1867.
- THE LEONARD CARPENTER BLISS SCHOLARSHIP established in 1928 by Elmer Jared Bliss in memory of his father, Leonard Carpenter Bliss.
- THE GEORGE W. BRADBURN SCHOLARSHIP FUND established in 1948 by Mrs. W. Dorothea Bradburn in memory of her husband, George W. Bradburn.
- THE S. S. BRADFORD SCHOLARSHIPS established in 1863 by Shadrach Standish Bradford; Trustee, 1863-65; Fellow, 1865-74.
- THE BENJAMIN BRAMAN FUND established in 1911 by bequest of Chloe Braman in memory of the Reverend Benjamin Braman, 1854.
- THE JOHN S. BRAYTON FUND established in 1929 by Harriet H. Brayton in memory of her father, John S. Brayton, 1851; LL.D. hon., 1893; Fellow, 1898-1904.
- THE BRECKENRIDGE SCHOLARSHIP FUND established in 1941 by Mr. and Mrs. Harlin A. Breckenridge.
- THE JOSEPH BROWN SCHOLARSHIP established in 1861 by Mrs. Eliza B. Rogers in honor of her grandfather, Joseph Brown; A.M. hon., 1770; Trustee, 1769-85; Professor, 1784-85.
- THE NICHOLAS BROWN SCHOLARSHIPS established in 1858 by bequest of Nicholas Brown, 1786, for whom the University was named.
- THE BROWN ENGINEERING ASSOCIATION SCHOLARSHIP established in 1930 by gift from the Brown Engineering Association.
- THE WILLIAM BUCKNELL SCHOLARSHIP established by William Bucknell.
- THE CHESTER THOMAS CALDER SCHOLARSHIP established in 1940 by bequest of Mrs. Ida B. T. Calder in memory of Chester T. Calder, 1911.
- THE DR. ELBRIDGE CARPENTER SCHOLARSHIP FUND established in 1925 by Anna J. B. Carpenter in memory of Dr. Elbridge Carpenter.
- THE HAROLD P. CARVER SCHOLARSHIP FUND established in 1944 by Mr. Harold P. Carver, 1930.
- THE ALEXIS CASWELL SCHOLARSHIP established by Alexis Caswell, 1822; D.D. hon., 1841; LL.D. hon., 1865; Professor, 1828-63; President, 1868-72.
- THE ABBY WHEATON CHACE SCHOLARSHIP FUND established in 1893 by bequest of George I. Chace, 1830; LL.D. hon., 1853; Professor, 1833-72.

STUDENT AID

- THE GEORGE IDE CHACE SCHOLARSHIP FUND established in 1893 by bequest of George I. Chace, 1830; LL.D. hon., 1853; Professor, 1833-72.
- THE HEZEKIAH S. CHACE SCHOLARSHIP established in 1860 by Hezekiah S. Chace.
- THE CLARK SCHOLARSHIP established in 1863 by bequest of Moses B. Ives, 1812; Trustee, 1822-57; Treasurer, 1825-57.
- THE SCHOLARSHIP—CLASS OF 1838 established in 1874.
- THE CLASS OF 1895 SCHOLARSHIP FUND established in 1914.
- THE CLASS OF 1902 SCHOLARSHIP established in 1938.
- THE CLASS OF 1903 SCHOLARSHIP established in 1929.
- THE CLASS OF 1905 SCHOLARSHIP FUND established in 1916.
- THE CLASS OF 1907 SCHOLARSHIP established in 1923.
- THE CLASS OF 1908 AWARD established in 1933.
- THE CLASS OF 1912 SCHOLARSHIP established in 1938.
- THE CLASS OF 1921 ENDOWMENT FUND FOR SCHOLARSHIPS established in 1942.
- THE CLASS OF 1925 SCHOLARSHIP established in 1940.
- THE CLASS OF 1933 SCHOLARSHIP FUND IN MEMORY OF JAY BARRETT BOTSFORD established in 1938 in memory of Jay Barrett Botsford, Instructor and Professor, 1920-38.
- THE CLASS OF 1949 SCHOLARSHIP established in 1951.
- THE GARDNER COLBY SCHOLARSHIP established in 1862 by Gardner Colby; Trustee, 1855-79.
- THE KATE B. COLBY SCHOLARSHIP established in 1945 by bequest of Charles H. Hunkins in memory of his sister, Kate B. Colby.
- THE ELIOT LOOMIS COLLINS SCHOLARSHIP FUND established in 1909 by Clarkson A. Collins, 1876, in memory of his son, Eliot L. Collins, 1910.
- THE JENNIE L. COMSTOCK SCHOLARSHIP established in 1926 by George F. Comstock, 1879, in memory of his wife, Jennie L. Comstock.
- THE CROCKER SCHOLARSHIP FUND established in 1863 by bequest of Moses B. Ives 1812; Trustee, 1822-57; Treasurer, 1825-57.
- THE JOHN P. CROZER SCHOLARSHIP established in 1866 by Mrs. Margaret C. Bucknell in memory of her father, John P. Crozer.
- THE REV. JOSIAH N. CUSHING SCHOLARSHIP FUND established in 1912 by Samuel H. Tingley in memory of the Reverend Josiah N. Cushing, 1862; D.D. hon., 1881; Ph.D. hon., 1898.
- THE ISAAC DAVIS SCHOLARSHIP established in 1861 by Isaac Davis, 1822; LL.D. hon., 1860; Trustee, 1838-51; Fellow, 1851-79.
- THE ALBERT DAY SCHOLARSHIP established in 1864 by Lieutenant Governor Day of Connecticut; Trustee, 1853-73.
- THE ALBERT CLIFTON DAY FUND established in 1920 by bequest of Mary E. Day.
- THE ROBERT HARVEY DAY SCHOLARSHIP FUND established in 1946 by bequest of Mrs. John L. T. Boomer in memory of her brother, Robert Harvey Day, 1896.
- THE JAMES H. DUNCAN SCHOLARSHIP established in 1860 by the Honorable J. H. Duncan, 1849.
- THE SAMUEL WHITE DUNCAN SCHOLARSHIP established in 1900 by Mary Duncan Harris in honor of the Reverend Samuel W. Duncan, 1860; Fellow, 1889-98.
- THE DYER-GURNEY-REED SCHOLARSHIP FUND established in 1916 by Charles F. Reed, 1885; A.M., 1890.

STUDENT AID

- THE EATON SCHOLARSHIP FUND established in 1907 by bequest of Caroline B. Eaton confirming the will of her husband, the Reverend William Hadley Eaton, 1845; D.D. hon., 1867; Trustee, 1875-96.
- THE ROMEO ELTON SCHOLARSHIP established in 1864 by the Reverend Dr. Romeo Elton, 1813; Professor, 1825-43; Trustee, 1820-51.
- THE FAIN FAMILY ASSOCIATION FUND established in 1948 by the Fain Family Association.
- THE L. FAIRBROTHER SCHOLARSHIP established in 1865 by Mrs. Lewis Fairbrother.
- THE LESTER L. FALK SCHOLARSHIP established in 1934 by a member of his family in memory of Lester L. Falk, 1906.
- THE ALEXANDER FARNUM SCHOLARSHIP FUND established in 1910 by bequest of the Reverend Augustus Woodbury; D.D. hon., 1888.
- THE PERRY EDSON FAUNCE SCHOLARSHIP established in 1923 by Mrs. William Herbert Perry Faunce in memory of her son, Perry E. Faunce, 1919.
- THE ERWIN J. FRANCE FUND established in 1951 by bequest of Helen S. France in memory of her father, Erwin J. France, 1876.
- THE ANNIE FREEDMAN MEMORIAL FUND established in 1952 by Joseph Freedman, 1926, in memory of his mother, Annie Freedman.
- A FRIEND'S SCHOLARSHIP FUND established in 1907 by an anonymous donor.
- THE WILLIAM GASTON SCHOLARSHIP FUND established in 1899 by the widow and children of Governor William Gaston, 1840, of Massachusetts; LL.D. hon., 1875.
- THE MARY JANE BEMENT HUBBELL GEORGE MEMORIAL FUND established in 1950 by bequest of Daniel F. George, 1894, in memory of his mother, Mary Jane Bement Hubbell George.
- THE GLOVER SCHOLARSHIP FUND established by Henry R. Glover in memory of his father, the Reverend Samuel Glover, 1808, and his brother, Samuel Glover, Jr. 1839.
- THE NANCY GOODNOW FUND established in 1903 by bequest of Nancy Goodnow.
- THE CORNELIA E. GREEN SCHOLARSHIP established in 1863 by Mrs. Cornelia E. Green.
- THE CHARLES WARREN GREENE FUND established in 1939 by bequest of Elizabeth L. Chandler in memory of her father, Dr. Charles W. Greene, 1863; A.M. Hon. 1872.
- THE JAMES ALEXANDER HALL SCHOLARSHIP FUND established in 1937 by the Brown Engineering Association in honor of James A. Hall, 1908; Professor, 1912-36.
- THE HALL-MERCER SCHOLARSHIP FUND established in 1940 by bequest of Alexander G. Mercer.
- THE ALBERT HARKNESS SCHOLARSHIP FUND established in 1910 by bequest of Albert Harkness, 1842; LL.D. hon., 1869; Professor, 1855-92; Fellow, 1904-07.
- THE EDWIN A. W. HARLOW FUND established in 1906 by Edwin A. W. Harlow.
- THE ROBERT H. HARLOW FUND established in 1909 by bequest of Robert H. Harlow.
- THE JOSEPH C. HARTSHORN SCHOLARSHIPS established by the Reverend Joseph C. Hartshorn, 1841; Trustee, 1872-89.
- THE ANNIE M. HARVEY BEQUEST established in 1943 by bequest of Annie Mason Harvey.
- THE JOHN HESS FUND FOR STUDENTS established in 1919 by bequest of Iban Hess, 1867.

STUDENT AID

- THE GEORGE WOODLEY HOGG SCHOLARSHIP FUND established in 1912 by an anonymous donor in memory of George W. Hogg, 1894.
- THE HELEN F. HOPKINS SCHOLARSHIP FUND established in 1951 by Richard F. Hopkins, 1935, in memory of his mother, Helen F. Hopkins.
- THE FRANCIS EDWIN HOPPIN SCHOLARSHIP established in 1928 by Mrs. Robert Ives Gammell in memory of her father, Francis E. Hoppin, 1839.
- THE EDITH LEE HORTON SCHOLARSHIP established in 1933 by bequest of Edith L. Horton.
- THE DAVID W. HOYT SCHOLARSHIP FUND established in 1912 by the Alumni Association of the Providence English High School in memory of David W. Hoyt, 1855; A.M. hon., 1872.
- THE HENRY DWIGHT HUNT SCHOLARSHIP FUND established in 1951 by bequest of Henry Dwight Hunt.
- THE GABRIEL J. JACK FUND established in 1948 by bequest of Mrs. Barbara Jackowitz in memory of her son, Gabriel J. Jack, 1906.
- THE JACKSON MEMORIAL FUND established in 1943 by bequest of Florence E. Jackson in honor of her father, Joseph Jackson, 1868; A.M. 1879.
- THE JACKSON SCHOLARSHIPS established by bequest of Henry Jackson, 1817; D.D. hon., 1854; Trustee, 1828-63.
- THE JAMES RICHARD JEWETT SCHOLARSHIP FUND established in 1942 by James R. Jewett, Instructor and Professor in Semitic Languages and History, 1890-95.
- THE JOHNSON SCHOLARSHIP established in 1948 by bequest of Alfred S. Johnson, 1890.
- THE BENJAMIN HUTCHINSON JUDAH SCHOLARSHIP FUND established in 1900 by Charles L. Hutchinson in memory of his nephew, Benjamin H. Judah.
- THE HENRY P. KENT SCHOLARSHIP established in 1864 by Henry P. Kent.
- THE HENRY CLIFFORD KNIGHT SCHOLARSHIPS established by Miss Amelia S. Knight in memory of her brother, Henry C. Knight, 1875.
- THE WEBSTER KNIGHT SCHOLARSHIP FUND established in 1933 by bequest of C. Prescott Knight, 1885, in honor of his brother, Webster Knight, 1876; Trustee, 1923-33.
- THE GEORGE LAWTON SCHOLARSHIP established in 1865 by George Lawton.
- THE J. L. LINCOLN SCHOLARSHIP FUND established in 1897 by bequest of Abby G. Beckwith in honor of John L. Lincoln, 1836; LL.D. hon., 1859; Professor, 1845-91.
- THE WILLIAM EASTON LOUTTIT SCHOLARSHIP FUND established in 1950 by W. Easton Louttit, Jr., 1925, in memory of his father, William Easton Louttit.
- THE CHARLES B. LUTHER FUND established in 1932 by bequest of Charles B. Luther, 1883.
- THE DANIEL WANTON LYMAN FUND FOR STUDENTS established in 1890 by bequest of Daniel W. Lyman, 1865.
- THE MICHAEL J. LYNCH SCHOLARSHIP established in 1929 by Mrs. Lynch in memory of her husband, Michael J. Lynch, 1904.
- THE HENRY LYON SCHOLARSHIP established in 1914 by the Reverend William H. Lyon, 1868; D.D. hon., 1896.
- THE HERBERT E. MAINE SCHOLARSHIP established in 1942 by bequest of Clara Horton Maine in honor of her husband, Herbert E. Maine.

STUDENT AID

- THE SETH MANN SCHOLARSHIP FUND established in 1920 by bequest of Adelaide E. Mann in memory of her father, Seth Mann, II, 1839.
- THE FRANK STEAD MANTON SCHOLARSHIP established in 1942 by bequest of Edith Manton in honor of Frank S. Manton.
- THE GEORGE MARSDEN SCHOLARSHIP FUND established in 1946 by bequest of George Marsden, 1900.
- THE EARL P. MASON SCHOLARSHIP established in 1860 by Earl P. Mason; Trustee, 1866-76.
- THE EDWIN B. MAYER SCHOLARSHIP FUND established in 1949 by bequest of Edwin B. Mayer, 1909.
- THE ROBERT JAMES YORKSTON MECKEL MEMORIAL FUND established in 1914 by Mary Wehmeyer in memory of her nephew, R. J. Y. Meckel, 1912; A.M. 1913.
- THE AUSTIN MERRICK SCHOLARSHIP established by Mrs. Olive E. Merrick.
- THE DONALD G. MILLAR SCHOLARSHIP FUND established in 1951 by Donald G. Millar, 1919; Trustee, 1944-.
- THE PARDON MILLER SCHOLARSHIP established in 1861 by Mrs. Ann Eliza Miller.
- THE MUMFORD SCHOLARSHIP established by Mrs. Louisa D. Mumford.
- THE ELLEN READ NEWELL SCHOLARSHIP FUND established in 1910 by George W. Newell in memory of his wife, Mrs. Ellen R. Newell.
- THE NEWPORT SCHOLARSHIP established by William Sanford Rogers, nephew of William Rogers, 1769, the first student of Rhode Island College.
- THE J. EUGENE AND ANNIE E. OSGOOD TRUST FUND established in 1945 by bequest of J. Eugene Osgood.
- THE WILLIAM OVERTON SCHOLARSHIP established in 1924 by the Alumni of Central Falls High School in memory of William Overton, 1887.
- THE LYMAN PARTRIDGE SCHOLARSHIP FUND established by Dr. Herbert G. Partridge, 1892, in memory of his father, the Reverend Lyman Partridge, 1863.
- THE J. MILTON PAYNE FUND established in 1926 by bequest of J. Milton Payne, 1882.
- THE GEORGE K. AND H. A. PEVEAR SCHOLARSHIP established by G. K. Pevear and H. A. Pevear.
- THE WILLIAM T. PECK SCHOLARSHIP FUND established in 1925 by friends of William Thane Peck, 1870; A.M., 1873; Sc.D. hon., 1894; Trustee, 1906-39.
- THE S. DRYDEN PHELPS SCHOLARSHIP FUND established in 1896 by bequest of the Reverend S. Dryden Phelps, 1844; Trustee, 1879-95.
- THE FREDERICK WINTHROP PHILLIPS MEMORIAL established in 1926 by bequest of Charles Frederick Phillips in memory of Frederick W. Phillips, 1882.
- THE PRESIDENT'S SCHOLARSHIP established in 1859 by Barnas Sears, 1825; President 1855-67.
- THE QUINCY MANSION SCHOLARSHIP FUND established in 1923 by the former students and faculty of the Quincy Mansion School in memory of Mrs. Ruth S. Willard and Horace Mann Willard, 1864; Sc.D. hon. 1893,
- THE ABBOTT B. RICE FUND established in 1924 by Abbott B. Rice, 1884.
- THE RICHARDS SCHOLARSHIP established in 1893 by the Reverend William Coolidge Richards, 1837.
- THE RICHMOND SCHOLARSHIP established in 1950 by bequest of Dr. George N. Richmond, 1892.

STUDENT AID

THE ROGERS HIGH SCHOOL SCHOLARSHIP established by bequest of William Sanford Rogers, nephew of William Rogers, 1769, the first student of Rhode Island College. Formerly called the Newport Rogers High School Scholarship.

THE ROWLEY MEMORIAL SCHOLARSHIP (ROWLEY, MASSACHUSETTS) established in 1949 by Malcolm Smith, 1925, in memory of his parents, Willard Prescott Smith and Annie McClellant Smith.

THE SCHOLARSHIP REPAYMENT FUND established by gifts from former recipients of scholarships at the University.

THE JACOB SHARTENBERG SCHOLARSHIP established in 1930 by bequest of Jacob Shartenberg.

THE GEORGE J. SHERMAN SCHOLARSHIP FUND established in 1860 by George J. Sherman.

THE CARLETON F. SIMS SCHOLARSHIP FUND established in 1932 by bequest of Mrs. Laura B. Sims in memory of her son, Carleton F. Sims, 1913.

THE CHARLES P. SISSON 1911 SCHOLARSHIP FUND established in 1952 by Mrs. Charles P. Sisson in memory of her husband, Charles P. Sisson, 1911; Trustee, 1925-47.

THE SLATER SCHOLARSHIP established in 1860 by Horatio N. Slater, 1854.

THE GEORGE CARROLL SMITH SCHOLARSHIP FUND established in 1943 by bequest of Alice McKeen Purinton Smith in memory of her husband, George C. Smith, 1876; A.M., 1890.

THE JAMES Y. SMITH SCHOLARSHIP established in 1863 by Governor J. Y. Smith.

THE KENDALL KERFOOT SMITH SCHOLARSHIP established in 1930 by Elemius W. Smith, Emma Louise Smith, Priscilla M. L. Smith, Harold Crocker Smith, Reginald H. Smith, and Cecil H. Smith in memory of Kendall Kerfoot Smith; Professor, 1915-29.

THE STANLEY B. SOVATKIN SCHOLARSHIP established in 1942 by Edward J. Sovatkin in memory of his son, Stanley B. Sovatkin, 1938.

THE OSCAR S. STRAUS FUND established in 1927 by bequest of Oscar S. Straus; Litt.D. hon., 1896.

THE RUTH ETTA TEMKIN SCHOLARSHIP FUND established in 1948 by Samuel Temkin, 1919, Trustee, 1950-, in memory of his wife, Ruth Etta Temkin, Pembroke, 1929.

THE JOSEPH THAYER SCHOLARSHIP FUND established in 1898 by Edward C. Thayer in memory of his father, Joseph Thayer, 1815.

THE CHARLES THURBER SCHOLARSHIP established in 1863 by Charles Thurber, 1827; Trustee, 1853-86.

THE THURSTON SCHOLARSHIP established by the Honorable Benjamin F. Thurston, 1849; LL.D. hon., 1888; Trustee, 1888-90.

THE JAMES HUMPHREY THURSTON SCHOLARSHIP established in 1922 by bequest of James H. Thurston, 1896.

THE WILMARTH HEATH THURSTON SCHOLARSHIP FUND established in 1922 by bequest of James H. Thurston, 1896, in memory of Wilmarth H. Thurston, 1877.

THE UNIVERSITY SCHOLARSHIPS established at various times from University funds.

THE UNIVERSITY SCHOOL SCHOLARSHIP established in 1939 by the University School, the chartered successor of the English and Classical School and the University

STUDENT AID

Grammar School, which supervised the college preparatory work of several generations of young men in and about the City of Providence.

THE ISABELLA M. WARDWELL FUND established in 1941 by bequest of Isabella M. Wardwell.

THE JAMES WARING FUND established in 1923 by bequest of James Waring.

THE GEORGE EDDY WARREN SCHOLARSHIP FUND established in 1938 by Mrs. Frances Knowles Warren in memory of her husband, George E. Warren, 1889.

THE ANN E. WATERS SCHOLARSHIPS established in 1865 by Mrs. Ann E. Waters.

THE WALTER G. WEBSTER SCHOLARSHIP FUND established in 1898 by the Reverend Walter G. Webster, 1878.

THE EPHRAIM WHEATON SCHOLARSHIP established in 1862 by James Wheaton in memory of his grandfather, Ephraim Wheaton.

THE JAMES WHEATON SCHOLARSHIP established by bequest of James Wheaton.

THE WHEELER SCHOLARSHIP FUND established in 1895 by bequest of Rebecca B. Wheeler.

THE ARNOLD WHIPPLE SCHOLARSHIP established in 1861 by Mrs. Phebe Whipple.

THE WHITE SCHOLARSHIP FUND established in 1893 by bequest of Mrs. Abby S. A. White in honor of her husband William W. White, 1857.

THE LUTHER WHITE SCHOLARSHIP FUND established in 1914 by Mabel Adaline White in memory of her father, Judge Luther White, 1864.

THE CHARLETTE B. WILBOUR FELLOWSHIP IN ORATORY established in 1947 by bequest of Miss Theodora Wilbour in memory of her mother, Charlette B. Wilbour.

THE FRED HOMER WILLIAMS SCHOLARSHIP FUND established in 1911 by Fred H. Williams, 1877; Trustee, 1922-28.

THE FRED HOMER WILLIAMS (BROOKLINE, MASSACHUSETTS) HIGH SCHOOL SCHOLARSHIP FUND established in 1927 by Fred H. Williams, 1877; Trustee, 1922-28.

THE FRED HOMER WILLIAMS (MILLIS, MASSACHUSETTS) HIGH SCHOOL SCHOLARSHIP established in 1930 by Fred H. Williams, 1877; Trustee, 1922-28.

THE VIRGIL HOMER WILLIAMS SCHOLARSHIP established in 1928 by Fred H. Williams, 1877; Trustee, 1922-28; in memory of his father, Virgil H. Williams.

THE FRANK EDWARD WINSOR SCHOLARSHIP FUND established in 1940 by Mrs. Winsor in memory of her husband, Frank E. Winsor, 1891; C.E., 1892; A.M., 1896; Sc.D. hon., 1929; Trustee, 1934-39.

THE ALVA WOODS SCHOLARSHIPS established in 1859 by Alva Woods; A.M. hon., 1826; D.D. hon., 1828; Professor, 1824-28; Trustee, 1843-59; Fellow, 1859-87.

The following scholarships are available for the current year by gift:

THE BROWN DAILY HERALD SCHOLARSHIP from the Brown Daily Herald.

THE CHARLES FRANCIS BRUSH PHYSICS SCHOLARSHIP from the Brush Development Company.

THE EDUCATIONAL TRUST SCHOLARSHIP from an anonymous trust.

THE HENRY J. HART SCHOLARSHIP by Henry J. Hart, 1902.

THE INTERFRATERNITY GOVERNING BOARD SCHOLARSHIP by the undergraduate Interfraternity Governing Board.

THE EDWIN B. MAYER MEMORIAL SCHOLARSHIP from the law firm of Altheimer, Kabaker, Lipson, and Naiburg in memory of Edwin B. Mayer, 1909.

THE MIDWEST SCHOLARSHIPS by an anonymous middle western alumnus.

STUDENT AID

THE PRESSER FOUNDATION SCHOLARSHIP from the Presser Foundation.

THE HENRY FRANCIS BARROWS SCHOLARSHIPS by Fanny Barrows Reed in memory of her father, Henry Francis Barrows.

THE UNIVERSAL MATCH FOUNDATION SCHOLARSHIP from the Universal Match Foundation, Inc.

THE PHILIP S. YOUNG MEMORIAL from Mr. and Mrs. Alan J. Young in memory of their son, Philip S. Young, 1952.

BROWN CLUB PRIZE SCHOLARSHIPS

Each year ten or more scholarships are made available by Brown Clubs to members of the entering class who reside or attend school in the territory of the Brown Club concerned. The scholarships usually cover full tuition and are awarded to students who combine in the highest degree scholastic ability, desirable qualities of character and personality, capacity for leadership, and promise of future usefulness.

The clubs which have made awards in recent years include:

THE BROWN CLUB OF BOSTON

THE BROWN CLUB OF CHICAGO

THE CONNECTICUT VALLEY BROWN CLUB

THE BROWN CLUB OF EASTERN MICHIGAN

THE HARTFORD BROWN CLUB

THE LACKAWANNA (N.J.) BROWN CLUB

THE LONG ISLAND BROWN CLUB

THE NEW BEDFORD BROWN CLUB

THE BROWN CLUB OF NEW YORK

THE NORTH SHORE BROWN CLUB

THE BROWN CLUB OF WESTERN PENNSYLVANIA

THE BROWN CLUB OF RHODE ISLAND

THE BROWN CLUB OF TEXAS (The James Q. Dealey Scholarship)

THE BROWN CLUB OF WASHINGTON, D. C.

Loans

To supplement possible income from employment and financial aid students are also permitted to borrow from the various University loan funds; freshmen and entering transfer students, however, are not expected to use these funds for the first semester in residence. For those whose needs are small and unexpected there are several emergency funds with no interest charge. Other funds have been established to help students finance a considerable part of their college education. Those who use these long-term loans are not required to repay principal when in residence, and there is an annual interest charge of only 2%. After the student leaves col-

STUDENT AID

lege, he may repay the principal over a convenient period, not exceeding five years, at an annual interest charge of 4%; the repayment schedule is determined by individual circumstances. Arrangements for loans should be made during the summer whenever possible.

STUDENT LOAN FUNDS

THE ALUMNI LOAN FUND established by the Alumni Association in 1900.

THE GEORGE HALE BACON MEMORIAL FUND established by George A. Bacon, 1867, in honor of his father, George H. Bacon.

THE HERBERT FRANKLIN DAVISON LOAN FUND FOR STUDENTS IN CHEMISTRY established in 1927 in honor of Herbert Franklin Davison, 1905; Professor, 1918-26.

THE ALEXANDER GRAHAM STUDENT LOAN FUND established in 1948 by the XYZ Club in memory of Alexander Graham, 1906.

THE STEPHEN W. GRIFFIN FUND established in 1941 by bequest of Ella F. Griffin in memory of Stephen W. Griffin.

THE WILLIAM GROESBECK GODDARD MEMORIAL FUND established in 1907 by Robert Hale Ives Goddard, 1858; Fellow, 1893-1916; in honor of William G. Goddard.

THE WALTER S. HACKNEY FUND established in 1918 by bequest of Walter S. Hackney.

THE HANNAH J. HARPER MEMORIAL FUND established in 1952 by bequest of Seth H. Chace, 1893.

THE JAMES STANTON KENYON MEMORIAL FUND established in 1912 by Elizabeth Burrows Kenyon Wilkinson and Mary Stanton Kenyon in memory of their father, James S. Kenyon.

THE NEW ENGLAND SOCIETY STUDENT LOANING FUND established in 1949 by the New England Society in the City of New York.

THE AARON LUCIUS ORDWAY MEMORIAL FUND established in 1906 by Samuel Hanson Ordway, 1880; LL.D. hon., 1917; Trustee, 1913-17; Fellow, 1917-34; in memory of his father, Aaron L. Ordway.

THE STUART FUND established in 1950 by Mr. and Mrs. Milton M. Stuart.

THE THOMAS J. WATSON STUDENT LOAN FUND established in 1937 by Thomas J. Watson.

Student Employment

Brown has always been proud of the many students who have earned a part of their college expenses through student employment. To help such students find jobs the Office of Student Aid makes every effort to refer properly qualified men to potential employers. Through term-time employment students usually earn from \$100 to \$400 a year by working from five to seventeen hours a week. No student should jeopardize his health or academic standing with employment involving long or irregular hours. It is, of course, desirable for entering students not to seek employment during the first year, but many freshmen have maintained satisfactory academic averages while working part time. Freshmen who do plan to work should file a

preliminary application with the Office of Student Aid during the summer; in the fall after a student's schedule has been arranged, an interview is desirable to determine the type of employment best suited to the individual's previous experience, academic program, and financial need.

Whenever possible the University employs students for suitable work in its various departments and agencies, and in the city there are many opportunities for ambitious and deserving students. In addition, many undergraduates are successfully placed in a variety of summer jobs.

Placement

The University maintains a Senior Placement Office, the facilities of which are available to members of the senior class to assist them in obtaining positions following graduation. Information regarding employment opportunities in industry is presented, and interviews with representatives of interested concerns are arranged, either in the Senior Placement Office or at the source. Underclassmen are free to consult with the Placement Director regarding matters of vocational choice and guidance.

Courses of Instruction



FOR PURPOSES of academic credit the semester course is defined as one fourth of a student's normal program of academic work for one semester. A half-course is a course requiring only half the time of a normal semester course. A double-course is the equivalent of two semester courses.

A dash between course numbers (for example, English 41-42) indicates a year course in which the grade at the end of the first semester is normally a temporary one. The final grade submitted at the end of the course covers the work of the entire year and is recorded as the final grade for both semesters. A comma between course numbers (for example, History D1, D2) indicates a two-semester course, the first semester of which is normally prerequisite to the second semester. Two independent grades are submitted, one at the end of each semester.

Courses numbered 1 to 99 are open only to undergraduates. Courses numbered 100 to 199 are open to undergraduates and graduate students, with *B* as the graduate pass-mark. Courses numbered 200 to 299 are open to graduate students and, by special arrangement, to undergraduates.

Courses offered during the academic year 1953-54 are listed on page 196 with an explanation of Recitation and Examination Groups.

American Civilization

Members of related departments compose the Staff.

The field of American Civilization is designed to offer students at Brown University the opportunity to study intensively the history and culture of the United States. With the collections of Americana in the John Carter Brown Library and in the John Hay Library, Brown has extraordinary facilities for this type of study.

Undergraduates who elect this field of concentration will take the following courses: History 51, 52, *American History since 1763*, or History 161, 162, *The History of American Economic Life*; History 151, *The Establishment of the American Colonies 1607-1751*; English 41-42, *American Literature*; American Civilization 191, *Problems in American Civilization*; and two of the following: Economics 131, *Labor Problems*; Philosophy 125, *History of Philosophy in America*; Political Science 124, *American Political*

APPLIED MATHEMATICS

Theory; History 173, *The Social and Intellectual History of the United States, 1789-1860*; History 186, *History of Science in America*. Recommended electives: English 172, English 187, History 152, Political Science 115, 116. Honors students will take, in addition to the required courses, one additional course to be chosen from those listed above, and also American Civilization 192, which will consist of the preparation of an honors thesis. Honors students will take American Civilization 191 in the first semester of their senior year; regular students will take this course in the second semester of their senior year.

The undergraduate program is under the direction of an interdepartmental committee composed of Edmund Sears Morgan, Professor of History, Guy Howard Dodge, Professor of Political Science, Vincent Anthony Tomas, Associate Professor of Philosophy, and Donald Harnish Fleming, Associate Professor of History, Chairman.

For information on graduate study in this field see the catalog of the Graduate School.

191. *Problems in American Civilization*

The purpose of this course is to explore a few continuing problems in American Civilization from the colonial period to the present. Students will read primarily in original sources and meet in groups of four or five under the direction of an instructor. Messrs. FLEMING and MORGAN, and others.

192. *Honors Thesis*

Preparation of a thesis on a topic in American Civilization, under the direction of an instructor. Messrs. FLEMING and MORGAN, and others.

201, 202. *Seminar*

Seminar on a selected topic in American Civilization. Required of all graduate students in the field of American Civilization. Messrs. FLEMING and MORGAN.

Applied Mathematics

Beginning with the summer of 1941, Brown University has continuously supported instruction and research in applied mathematics to meet the needs of schools and research laboratories for engineers, physicists, and mathematicians whose training extends beyond the accepted boundaries of their respective fields. During the period from June 1941 to March 1946 these activities were organized in the form of a Program of Advanced Instruction and Research in Mechanics. In May 1946 the Graduate Division of Applied Mathematics was established as an interdepartmental project of the Departments of Mathematics and Physics and the Division of Engineering.

APPLIED MATHEMATICS

Instruction in the various fields of applied mathematics is on the graduate level. Students are admitted who have excellent undergraduate records in two of the following subjects: engineering, physics, and mathematics. For the advanced students, training in research is stressed.

Throughout the war years the Program of Advanced Instruction and Research in Mechanics was supported by the Engineering, Science, and Management War Training Program of the United States Office of Education and by the Carnegie Corporation of New York.

OFFICERS OF INSTRUCTION AND RESEARCH

ERASTUS HENRY LEE, PH.D., *Professor of Applied Mathematics; Chairman*
DANIEL CHARLES DRUCKER, PH.D., *Professor of Engineering; Chairman of the Division of Engineering*

WILLIAM PRAGER, ENG.D., *Professor of Applied Mechanics; Chairman of the Physical Sciences Council*

RONALD S. RIVLIN, SC.D., *Professor of Applied Mathematics*

ROHN TRUELL, PH.D., *Professor of Applied Mathematics; Director of Research*

GEORGE WALTER MORGAN, PH.D., *Associate Professor of Applied Mathematics*

CONSTANTINE MYLONAS, PH.D., *Associate Professor of Engineering*

WILLIAM HICKS PELL, PH.D., *Associate Professor of Engineering*

PAUL SOUTHWORTH SYMONDS, PH.D., *Associate Professor of Engineering*

PETER CHIARULLI, PH.D., *Assistant Professor of Applied Mathematics*

SHELDON LEONARD LEVY, PH.D., *Assistant Professor of Applied Mathematics*

HARRY J. WEISS, PH.D., *Assistant Professor of Applied Mathematics*

¹DAVID R. BLAND, M.A., *Visiting Professor of Applied Mathematics*

²PAUL GERMAIN, PH.D., *Visiting Professor of Applied Mathematics*

²HARRY GEOFFREY HOPKINS, M.Sc., *Visiting Professor of Applied Mathematics*

²LEIF N. PERSEN, PH.D., *Visiting Professor of Applied Mathematics*

BRUCE BRAGDON CHICK, B.Sc., *Research Associate*

DAVID HUNDEN EVANS, PH.D., *Research Associate*

JOHN D. FOULKES, PH.D., *Research Associate*

ANDREW VINCENT GRANATO, M.Sc., *Research Associate*

TUNG CHI LIN, PH.D., *Research Associate*

CHANG KENG LIU, PH.D., *Research Associate*

KURT LUCKE, SC.D., *Research Associate*

LEONARD CHARLES MAXIMON, PH.D., *Research Associate*

GORDON F. NEWELL, PH.D., *Research Associate*

EMIN TURAN ONAT, PH.D., *Research Associate*

¹ Appointed for Semester I, 1953-54.

² Appointed for academic year, 1953-54.

APPLIED MATHEMATICS

ROBERT HUNTER OWENS, PH.D., *Research Associate*
EDWARD WILLIAM ROSS, JR., M.Sc., *Research Associate*
JOHN LYELL SANDERS, M.Sc., *Research Associate*
WITOLD SYLWESTROWICZ, *Mechanical Engineer, Research Associate*
ALEXANDER JEN WANG, PH.D., *Research Associate*
WILLIAM H. WARNER, PH.D., *Research Associate*
CHUNG FU YING, PH.D., *Research Associate*
GEORGE P. ANDERSON, B.S., *Research Assistant*
DAVID ALAN BECKWITH, M.Sc., *Research Assistant*
BARBARA ANN COTTER, M.Sc., *Research Assistant*
DAVID P. FLEMMING, B.A., *Research Assistant*
DONALD SNOWDEN GREEN, B.A., *Research Assistant*
ROY MELVIN GUNDERSEN, M.Sc., *Research Assistant*
WILLIAM E. LANGLOIS, B.S., *Research Assistant*
CARL-FREDRIK LETH, *Civil Engineer, Research Assistant*
BARBARA ANN McANDREW, A.B., *Research Assistant*
THEODORE JOSEPH MENTEL, B.APPL.Sc., *Research Assistant*
JOHN ALLAN MORRISON, B.Sc., *Research Assistant*
DEREK NAYLOR, B.Sc., *Research Assistant*
JAMES ALAN SEILER, B.Sc., *Research Assistant*
GERALD FRANCIS SMITH, A.B., *Research Assistant*
SANFORD FREDERICK SMITH, A.B., *Research Assistant*
CHARLES CHRISTOPHER TAYLOR, M.Sc., *Research Assistant*
CAVIT TOPAKOGLU, PH.D., *Research Assistant*
RALPH BROOKS TURNER, M.Sc., *Research Assistant*
GEORGE VERONIS, A.B., *Research Assistant*
PETER C. WATERMAN, B.S., *Research Assistant*
WILLIAM B. WOODWARD, B.S., *Research Assistant*

COURSES¹

- 203, 204. *Differential and Integral Equations of Mathematical Physics.* Mr. CHIARULLI.
209. *Practical Analysis.* Mr. BLAND.
211, 212. *Mathematical Methods.* Mr. WEISS.
213, 214. *Advanced Mathematical Methods.* Mr. HOPKINS.
223, 224. *Theory of Vibrations.* Mr. LEE.
232. *Theory of Structures.* Mr. SYMONDS.
233, 234. *Elasticity.* Mr. PELL.

¹ For course descriptions see the Catalog of the Graduate School.

ART

235. *Advanced Elasticity*. Mr. RIVLIN.
237, 238. *Plasticity*. Messrs. PRAGER and RIVLIN.
241, 242. *Fluid Dynamics*. Mr. PELL.
243, 244. *Dynamics of Viscous Fluids*. Messrs. MORGAN and PERSEN.
245, 246. *Dynamics of Compressible Fluids*. Mr. GERMAIN.
251, 252. *Electromagnetic Theory*. Mr. LEVY.
262. *Mathematical Optics*. Mr. TRUELL.
281, 282. *Seminar in Applied Mathematics*. THE STAFF.
291, 292. *Research in Applied Mathematics*. THE STAFF.

Art

Professor DOWNING (Chairman); Assistant Professors REED, LOERKE, FELDMAN; Instructor, Mr. BRINKERHOFF; Assistant, Mr. ROSIKIEWICZ.

DISTRIBUTION REQUIREMENT. The distribution requirement in Art and Music under Humanities may be satisfied by taking Art DI or IC 1-2.

CONCENTRATION. Students concentrating in art will take Art DI or IC 1-2, 7, 8, 21-22 or 31-32; and will elect four other semester courses. Concentrators will normally emphasize either the history of art or the theory and practice of art. Attention is called to the interdepartmental concentration in Ancient and Medieval Culture. See page 59.

RHODE ISLAND SCHOOL OF DESIGN. Through a coöperative arrangement between the School and the University the following courses are given at the School: Art 31-32, 33, 34, 133, 134. The written permission of the chairman of the department is required for registration in these courses.

HONORS. Each candidate for Honors in art will in his senior year take Art 195, 196, reading in the course on a selected topic and summarizing his results in a senior thesis.

DI. *Introduction to the Visual Arts*

A theoretical and historical introduction to architecture, sculpture, and painting; discussion of selected works of art from prehistoric times to the present, to demonstrate how the language of the visual arts expresses

human history in the making. May be taken as one of the distribution courses in the Humanities. THE STAFF.

IC 1-2. *The World of Art Today*

Special problems in art: modern Impressionist painting and "Art for Art's Sake." Art with broader aims: Greek sculpture of the Parthenon, Athens; Medieval sculpture of the Cathedral, Chartres; Renaissance sculpture of Michelangelo. Art in contemporary life: artistic, technical, and social problems of twentieth century architecture. Through class discussion, students will consider the nature and growth of a selected group of current ideas about art. May be taken as one of the distribution courses in the Humanities. Mr. LOERKE.

4. *Medieval Art*

The visual arts, c. 300-c. 1400, as they describe the interplay between three component elements in European civilization: the classical heritage, Christianity, and the contribution of the Northern peoples. Prerequisite: Art D1 or IC 1-2; or History D1, D2 and Philosophy D1, D2. Mr. LOERKE.

6. *Renaissance Art*

The meaning of the Renaissance in the architecture, sculpture, and painting of Western Europe, c. 1400-c. 1600. The revision of the classical and the medieval heritages in the arts of the emergent modern world. Prerequisite: Art D1 or IC 1-2; or History D1, D2 and Philosophy D1, D2. THE STAFF.

7. *Baroque and Early Modern Art*

The architecture, sculpture, and painting of Western Europe and the United States, c. 1600-c. 1850. Baroque arts and ideologies in the 17th and 18th centuries; the Enlightenment and Romanticism in the arts of the 18th and early 19th centuries. Prerequisite: Art D1 or IC 1-2; or History D1, D2 and Philosophy D1, D2. Mr. DOWNING.

8. *Modern Art*

The visual arts of Western Europe and the United States, c. 1850-the present. Evolving conceptions of truth, and of the place of the artist in society: Realism, Impressionism, Expressionism, and Abstract Art in painting and sculpture; in architecture, Eclecticism, and the advent of a new architecture. Prerequisite: Art D1 or IC 1-2; or History D1, D2 and Philosophy D1, D2. Mr. DOWNING.

21-22. *Introductory Drawing and Painting*

Elementary studio work in the use of the language of the visual arts. Mr. FELDMAN.

ART

108. *Topics in Modern Art*

Topic for 1953-54: Studies in 20th century art. Prerequisite: Art DI or IC 1-2, 7, 8, and written permission of the instructor. Mr. DOWNING.

109. *American Art of the 17th and 18th Centuries*

Prerequisite: Art DI or IC 1-2 and written permission of the instructor.

117. Same as Classics 117. See page 100. Art 117 may not be counted toward concentration in art unless Art 4 and 6 are also counted.

118. Same as Classics 118. See page 100. Art 118 may not be counted toward concentration in art unless Art 4 and 6 are also counted.

121. *Problems in the Practice of Art*

Prerequisite: Art DI, IC 1-2, 7, 8, 21-22, and written permission of the instructor. Art 121 may be repeated with the consent of the Department. Mr. FELDMAN.

191. *Topics in Art History*

Reading, reports, and discussion on selected topics. Prerequisite: written permission of the Department. THE STAFF.

195-196. *Honors Reading*

The content of this course will be determined by the needs of individual students, each working under a designated member of the faculty. The STAFF.

COURSES AT THE RHODE ISLAND SCHOOL OF DESIGN

31, 32. *Foundation Design*

Lectures and laboratory work in design as practiced in modern industry and the fine arts. Not open to freshmen. Prerequisite: Art DI or IC 1-2, and written permission of the Department.

33. *Advanced Design*

Prerequisite: Art DI or IC 1-2, 31-32, and written permission of the Department.

34. *Advanced Design*

Prerequisite: Art DI or IC 1-2, 31-32, 33, and written permission of the Department.

133. *Advanced Design*

Prerequisite: Art DI or IC 1-2, 31-32, 33, 34, and written permission of the Department.

134. *Advanced Design*

Prerequisite: Art D1 or IC 1-2, 31-32, 33, 34, 133, and written permission of the Department.

Note: The work in Art 33, 34, 133, 134 will be determined by the needs of individual students, and will be arranged in consultation with the Chairmen of Divisions of the Rhode Island School of Design. This work may be directed toward one of several fields, including Architecture, Painting, Advertising and Industrial Arts, Costume Illustration, Ceramics, and Textile Design.

Astronomy

Professor SMILEY (Chairman).

DISTRIBUTION REQUIREMENT. The distribution requirement in Physical Sciences under Sciences may be met by taking Astronomy D1 and Physics D1. Astronomy 1 or 2 may be taken as an independent course to satisfy a distribution requirement in the Sciences provided Astronomy D1 has not previously been taken.

CONCENTRATION. In addition to the elementary course (Astronomy D1 or 1, 2), Astronomy 17, 107, 108, 173-174, and three semester courses of the four following: Mathematics 22, 105, Physics 35, 36.

D1. Descriptive Astronomy

An examination of the principal objects of the solar system and of the stellar universe, the fundamental theories concerning them, with something of the means and methods which led to the known facts and accepted theories. Prerequisite: Physics D1. Mr. SMILEY.

1. The Solar System

A study of the members of the solar system, their properties and motions, and of the historical development of modern concepts and theories concerning them. Lectures, supplemented by visits to Ladd Observatory. The normal election sequence is Astronomy 1, 2; but students in good scholastic standing may elect the courses in the other order. Mr. SMILEY.

2. The Stellar System

A study of the stars, nebulae, the galactic system and external galaxies, with special emphasis on the instruments and methods used by the astronomer. Lectures, supplemented by visits to Ladd Observatory. The normal

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election sequence is Astronomy 1, 2; but students in good scholastic standing may elect the courses in the other order. Mr. SMILEY.

17. *Elementary Astrophysics*

The application of physical theories and optical instruments to the determination of physical properties of celestial bodies. Prerequisite: Astronomy D1 or 1, 2. Mr. SMILEY.

107, 108. *Practical Astronomy*

Theory of astronomical instruments, with practice in their use; determination of time, geographical position, and similar problems. Elective by written consent of the instructor. Mr. SMILEY.

173-174. *Selected Topics in Theoretical Astronomy*

An introduction to the fundamental problems of dynamical astronomy with special reference to the problem of n bodies, Hamiltonian systems, perturbation theory, and some problems of modern quantum-mechanics. Elective by written consent of the instructor. Mr. SMILEY.

Biblical Literature and History of Religions

Associate Professor ROBBINS (Chairman); Assistant Professors SMITH, RECKARD; Instructor, Mr. FRERICHs.

DISTRIBUTION REQUIREMENT. The distribution requirement in Religion under Humanities may be satisfied by taking Biblical Literature D1, or IC 1-2.

CONCENTRATION. In addition to the introductory courses (Biblical Literature D1 or IC 1-2), the requirement for concentration in Biblical Literature is eight semester courses or equivalent.

PREPARATION FOR SPECIAL FIELDS. Students planning to study theology should elect the Biblical language courses, beginning with Biblical Literature 171 or 151.

BIBLICAL LITERATURE

DI. *History of Religions*

In this course a sampling will be made of decisive moments in the history of Judaism and Christianity. Some attention will be given to primitive and Oriental materials for comparative purposes. The cultural importance of religion in the development of the western tradition will be stressed and the influence of religion in political and social life and on art will be indicated. Satisfies distribution requirement in Religion under Humanities. Mr. ROBBINS and STAFF.

IC 1-2. *Religious Ideas in the Bible*

This course is designed to acquaint students at first-hand with the principal religious ideas in the Bible. Reading most of the Old and New Testaments and some inter-Testamental literature, they will see the lively relation of thought and experience in ancient Israel, Judaism, and Christianity. The inter-play of novelty and tradition in the transformation of religious ideas will be observed in process. Discussion of religious and ethical concepts basic to Jewish and Christian culture will elicit the students' understanding of how the ideas arose, what they meant at the time, and what their present importance may be. Mr. SMITH.

1. *Old Testament Literature and History*

History and religion of the Jews from the conquest of Canaan to the birth of Jesus. Mr. FRERICHs.

2. *New Testament Literature and History*

The life of Jesus and the beginnings of Christianity. Mr. FRERICHs.

3. *History of Religions: Primitive Religions*

Offered in alternate years. Mr. ROBBINS.

4. *History of Religions: Religions of the West*

Greek and Roman religions. Offered in alternate years. Mr. ROBBINS.

5. *Religious Classics*

The reading of several masterpieces of western religious literature, ancient, medieval, and modern. These works will be studied as immediate sources of religious insight, perennially pertinent to an understanding of the mature religious life. Mr. ROBBINS.

7. *History of Christianity*

Outline of church history with special reference to Christianity's cultural influence. Mr. RECKARD.

BIBLICAL LITERATURE

103. *Topics in The Bible and its Background: Old Testament*

Prerequisite: Biblical Literature 1 or its equivalent. Will be given as occasion demands. Messrs. SMITH and FRERICHs.

107. *Topics in the Bible and its Background: New Testament*

Prerequisite: Biblical Literature 2 or its equivalent. Will be given as occasion demands. Messrs. SMITH and FRERICHs.

113. *History of Religions in the Twentieth Century*

The contemporary phase of the great religions and religious movements in the East and West.

151, 152. *Elementary Hebrew*. Mr. SMITH.

153, 154. *Advanced Hebrew*. Mr. SMITH.

171. *Hellenistic Greek*

Selections from the Septuagint and New Testament. Special attention is paid to the peculiarities of translational Greek and Koine. Elective by written consent of the instructor. Prerequisite: an elementary knowledge of Greek. Mr. ROBBINS.

198. *Topics in the History of Religions*

Elective for properly qualified students with written permission of the chairman. The STAFF.

209, 210. *Research*

Special topics to meet the needs of advanced students in the history of religions. The STAFF.

217, 218. *Oriental Languages: Arabic*

219, 220. *Oriental Languages: Syriac*. Mr. SMITH.

221. *Seminar*

Bibliography

Professors STILLWELL, JONAH (Chairman); Assistant Professors BROWN, GOODING; Instructor, Mr. MOORE.

201. General Introduction to Bibliographical Studies

The chief purpose is to familiarize the student with the most important sources of bibliographical information in the various fields of study. Library practice and library resources will be studied from the point of view of the user of libraries. Elective by written consent of the instructor. Not offered in 1953-54. Messrs. JONAH and BROWN.

Biology

Professors WILSON (Chairman), STUART, CHASE, MONTAGNA; Associate Professors FENTON, COPELAND, EDDS (Executive Officer), SHERMAN, WEISZ; Assistant Professors BEAMS, RICHARDSON, HATCH, LEDUC; Instructors, Messrs. GOSS, KENWORTHY, and PETERS; Lecturers, Messrs. KOSTERLITZ, LOWNES and RICHARDS; Research Associate, Mr. BRADNER; Teaching Associates, Messrs. HEMS and QUEVEDO; Research Assistants, Messrs. BELL and MCCARTHY and Mrs. HERB, and Miss MOWRY; Misses CATANIO, DAY, HALD, HERMAN, LAFAUCI, MERRILL, PROTULIS, RADEMACHER, SWANSON, TORRES, and VAN HEMERT; and Mesdames BLISS, BARBER, and STUART; Assistants, Messrs. ALMEIDA, BERNSTEIN, FORMISANO, MARSH, MOHN, REUTER, RILEY, STRAILE, and WILLIAMS, and Misses GARTMANN, HOLT, SMALL, and WARREN.

DISTRIBUTION REQUIREMENT. The distribution requirement in the Biological Sciences under the Sciences may be satisfied by taking Biology D1 and Psychology D1, Biology IC 1-2, or Psychology IC 1-2. Biology D1 may be taken as an independent course to satisfy a distribution requirement in the Sciences. Biology 4 may also be taken as a continuation distribution course in the Sciences.

CONCENTRATION. In addition to the elementary courses, Biology D1 and 4, or IC 1-2, the concentration program in biology will include the following courses: Biology 5, 6, 7, 8, 10, and 15, and two other semester courses from the 100 group.

BIOLOGY

Either Biology D1 and 4 or Biology IC 1-2 are satisfactory prerequisites for advanced courses in biology. Either sequence also satisfies the admission requirement of medical and dental schools for a one-year course in general biology. However, participation in the IC program makes necessary a particularly careful arrangement of the entire program so that all required courses can be included.

NURSING. To help in meeting the need for graduate nurses with an academic background, Brown University has joined with the Rhode Island Hospital School of Nursing to offer qualified young women at Pembroke College a five-year program (first six semesters to be completed at Pembroke College and the last two years and four months to be completed at the School of Nursing). This program is planned to provide a liberal education and preparation for positions in professional nursing. See page 63.

HONORS. All senior candidates for Honors in biology must elect Biology 195.

D1. *Principles of Biology*

The more important generalizations of biology and the phenomena upon which they are based with particular emphasis upon: the universal phenomena characteristic of all living things; the fundamentals of plant and animal structure, nutrition, reproduction and the integration of the organism as a whole. Lectures, conferences, and laboratory. Six hours of attendance. Mr. WEISZ and STAFF.

IC 1-2. *Basic Ideas in Modern Biology*

An investigation, evaluation, and criticism of Darwin's *Origin of Species* by means of discussion, laboratory and field experience. This book is of fundamental significance in the development of modern biology and many of its ideas are subject to critical appraisal on the basis of scientific evidence. Some of these ideas will be related to ideas in other fields of human thought and will be evaluated accordingly. Messrs. CHASE and PETERS.

4. *General Zoölogy*

An extension of Biology D1 with emphasis placed upon the animal world. A more exhaustive treatment of animal structure and function from a comparative point of view. Lectures and laboratory. Six hours of attendance. Prerequisite: Biology D1. Mr. KENWORTHY.

5. *Comparative Anatomy of Vertebrates*

The structure and significance of the organs of vertebrates with particular reference to function. Six hours of attendance. Prerequisite: Biology D1 and 4 or IC 1-2. Mr. MONTAGNA.

6. *Genetics*

Study and discussion of variation, the laws of inheritance as found in animals and plants, and of their application in human relations including the observational, experimental, cytological, statistical, and developmental approaches. Six hours of attendance. Prerequisite: Biology 5 or written consent of the instructor. Mr. PETERS.

7. *Embryology*

The origin of the individual and the developmental process from the egg to the formation of the body and the establishment of the principal organ systems. A comparative study of the morphology and physiology of the reproductive process. Six hours of attendance. Prerequisite: Biology 5. Mr. EDDS.

8. *Histology*

A survey of the microscopic anatomy of the tissues and organs of vertebrates. Six hours of attendance. Prerequisite: Biology 5. Mr. Goss.

10. *Introductory Physiology*

Vital activities of living cells and tissues and the associated physico-chemical phenomena; the physiological significance of factors such as water and other electrolytes, hydrogen and other ions, surface forces, colloidal state, osmotic pressure, membrane permeability, and electrical forces. Six hours of attendance. Prerequisite: Chemistry D1; Biology IC 1-2, or Biology D1, and Biology 4 or Botany 4. Mr. SHERMAN.

15. *Bacteriology*

A general discussion of bacteria in all their relations, with special attention to laboratory methods of studying bacteria, including the isolation and determination of unknown species. Six hours of attendance. Prerequisite: Biology 5 and 10; for students concentrating in Botany, Biology 5 and Botany 105, 106. Mr. HATCH.

20. *Community Aspects of Professional Nursing*

An introduction to the field of nursing, stressing the philosophy of nursing-for-health; historical aspects and general trends; changing health problems

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of the nation; the present day National Health Program. Open only to and required of candidates for the degree of Bachelor of Science (in Nursing). Miss RICHARDSON.

103-104. *Cytology*

The structure of the cell and of protoplasm considered in relation to general functions; cytogenetics, and the cytology of nuclear phenomena. Prerequisite: Biology 7, 8. Mr. WILSON and Miss LEDUC.

107-108. *Experimental Morphogenesis*

Experimental embryology and regeneration. Six hours of attendance. Prerequisite: Biology 7, 8. Mr. EDDS.

121. *General Physiology A*

Excitation, contraction, reflexes, tropisms, circulation, physiology of the heart, respiration, internal secretion. Prerequisite: Biology 5, 10. Mr. SHERMAN.

122. *General Physiology B*

Metabolism of carbohydrates, fats and proteins; enzymes; gastrointestinal tract; nutrition; internal secretion. Prerequisite: Biology 5, 10. Mr. FENTON.

152. *Advanced Bacteriology*

A comparative study of the more common genera of bacteria with reference to physiological and serological methods of classification. The principles of serology are discussed. Prerequisite: Biology 15. Mr. HATCH.

195. *Honors Thesis*

At least one semester required of senior candidates for Honors in biology.

203. *Research in Zoology*

Research arranged to meet the needs of individual students.

205. *Physiological Genetics*

The nature of the gene and its action in the developmental and physiological processes of the organism. Prerequisite: Biology 6 or equivalent. Mr. CHASE.

206. *Histochemistry*

The application of chemical tests to tissues to identify, in situ, cellular products, lipids, carbohydrates, nucleoproteins, enzymes, pigment, and other chemical substances. Prerequisite: Biology 103-104 or equivalent. Mr. MONTAGNA.

207, 208. *Seminar in Genetics*

Half-course. Elective for approved graduate students. Mr. CHASE.

209, 210. *Seminar in Cytology*

Half-course. Elective for approved graduate students. Mr. WILSON.

211, 212. *Seminar in Experimental Embryology*

Half-course. Elective for approved graduate students. Mr. EDDS.

223, 224. *Biochemistry*. Mr. FENTON.

225, 226. *Biophysics*

231. *Research in Physiology*. Messrs. FENTON and SHERMAN.

233, 234. *Seminar in Physiology*

Half-course. Elective for approved graduate students. Messrs. FENTON and SHERMAN.

251, 252. *Immunology*. Mr. STUART.

253. *Research in Bacteriology and Immunology*. Messrs. STUART and HATCH.

261, 262. *Seminar in Bacteriology and Immunology*

Elective for approved graduate students. Messrs. STUART and HATCH.

Biology Colloquium

A weekly meeting of the Staff and graduate students for discussion of research problems and fields of current biological interest.

Botany

Professors SNELL (Chairman), CHURCH; Assistant Professor DYER; Assistants, Miss DICK and Mr. CAROSELLI; Curator of Materials, Miss VILKOMERSON.

PREREQUISITE: Botany 4 is prerequisite to all other courses in botany except Botany 9.

DISTRIBUTION REQUIREMENT. Botany 4 may be taken to satisfy a distribution requirement in the Sciences.

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CONCENTRATION. In addition to the elementary course, Botany 4, the requirements for concentration in botany are eight semester courses from the following: Botany 105, 106, 111, 113-114, 197, and a choice of two from the following (upon consultation with the department): Botany 121, 123, Biology 6, 15, 103-104, 122, 152, Geology 114, 118. In preparation for Botany 111, Physics D1 and Chemistry D2 should be taken as early as possible and Chemistry 5 and 28 are recommended.

RELATED SUBJECTS. Botany 121 and 123 are recommended for students interested in forestry, agriculture, or scientific botany. Botany 121 is suited for students specializing in bacteriology. Botany 105, 106, and 113-114 are useful to students specializing in genetics, cytology, or general biology.

4. *General Botany*

A comprehensive study of the structure of plants, their physiology and general ecology, and a survey of the principal groups of the plant kingdom, including their relations to human welfare and civilization. Designed to follow Biology D1 but may be taken independently. May be counted for distribution as an independent or a continuation course in the Sciences. Six hours of attendance. Mr. SNELL.

9. *Dendrology*

The nature of trees from every biological point of view, structure and functions, the products of trees, diseases and insect pests, importance to the human race as individuals and forests, including certain elements of forestry and conservation; the laboratory and field trips will consist of the identification of trees in summer and winter condition, and possibly identification of some woods. Six hours of attendance. No knowledge of botany is required. Mr. SNELL.

105. *Cryptogamic Botany*

Morphology, taxonomy and ecology of the Algæ, Liverworts, Mosses, Ferns, and fern allies. Field trips are an important part of the laboratory work. Six hours of attendance. Offered in alternate years. Mr. CHURCH.

106. *Morphology and Taxonomy of the Seed Plants*

Part of the laboratory work will consist of field trips in which ecological as well as taxonomic studies will be made of the conifers, woody angiosperms, and spring-flowering herbaceous species. Six hours of attendance. Offered in alternate years. Mr. CHURCH.

111. *Plant Physiology*

The physiological processes peculiar to plants and the physiological basis of plant ecology. Eight hours of attendance. Prerequisite: Botany 4 or its equivalent; 105, 106; Physics D1, Chemistry D2; and Chemistry 5 and 28 if possible. Mr. DYER.

113-114. *Advanced Taxonomy of the Seed Plants*

The taxonomy, phytogeography, ecology, and cytogenetics of the more important genera and species. Laboratory and field studies will stress identification. Eight hours of attendance. Offered in alternate years. Either semester may be elected independently by consent of the instructor. Mr. CHURCH.

121. *Mycology*

The fungi, including the slime molds and slime bacteria, but not the bacteria proper. Lectures on the morphology and taxonomy of the fungi; laboratory work in morphology and identification; field trips to study the fungi in their natural habitats. Six hours of attendance. Prerequisite: Botany 4, 105, 106, or their equivalents. Mr. SNELL.

123. *Forest Pathology*

The diseases of trees, both as individuals and as forests: forest tree rusts; diseases of shade trees; heart rots; wood decay and wood preservation; control methods. Mr. SNELL.

197. *Senior Conference*

Required of students concentrating in botany. Mr. SNELL.

221, 222. *Advanced Mycology and Pathology*

To be given for the benefit of graduate students as the occasion demands; open to undergraduates only upon written permission of the instructor. Eight hours of attendance. Each semester may be elected independently by consent of the instructor. Mr. SNELL.

231, 232. *Seminar in Botany*

No course credit. Required of all students concentrating in Botany. The STAFF.

291-292. *Reading and Research.* The STAFF.

Chemistry

Professors ARNOLD, RUSSELL, COLE (Chairman), HORNIG (Director of Metcalf Research Laboratory); Associate Professors CLAPP, NACE; Assistant Professors RICKLIN, CARPENTER, TRUMBULL, GREENE, EDWARDS, ROSS; Instructors, Messrs. PALMER and FREEDMAN; Research Associates, Messrs. ANDERSON, GILCHRIST, MCKEAN, ORDWAY, and SCHATZ; Assistants, Messrs. AGAHIGIAN, BALL, CRATTY, FERRISO, FRIEDRICH, HARRIS, HAVRILIAK, HEIART, KING, LOVELL, PAPPAS, ROWLAND, and SCHULTZ; Research Assistants, Messrs. HENDRICKS, MERCIER, VON DOHLEN and WRAY.

DISTRIBUTION REQUIREMENT. By taking Physics D1 and Chemistry D2 or by taking Chemistry D1 followed by Geology D1, a student may satisfy the distribution requirement in Physical Sciences under Sciences. Chemistry D1 may be taken as an independent course to satisfy a distribution requirement in the Sciences.

CONCENTRATION. The requirements for concentration in chemistry are Chemistry 28, 41, 42, 63-64, and three advanced elective courses in chemistry; or Chemistry 12, 13-14, 16, 133, and three advanced elective courses in chemistry. It is assumed that students concentrating in chemistry will have elected the physics-chemistry distribution sequence in their freshman year. Students intending to elect physical chemistry should anticipate the prerequisite of differential and integral calculus.

Requirements for the degree of *Bachelor of Science in Chemistry* are given in the section "Requirements for Degrees," page 61.

HONORS. Candidates for Honors should enroll at the close of the sophomore year. The program will normally include Chemistry 97-98 or Chemistry 86 in the senior year.

D1. *Structure and Chemical Behavior of Matter*

Application of the classical and modern atomic theories to the study of chemical properties and changes. Interpretation of natural phenomena in terms of the behavior of atoms and molecules. Lectures with experimental demonstrations, and four hours of laboratory attendance. Distribution course in Physical Science under the Sciences. This course is a prerequisite for Geology D1. Students intending to take a continuing course in Chemistry should not register for Chemistry D1, but for the Physics D1-Chemistry D2 distribution sequence. Mr. EDWARDS.

D2. Structure and Chemical Behavior of Matter

Similar to Chemistry D1, with changes in subject matter depending upon the content of the preceding course in Physics D1. Lectures and four hours of laboratory attendance. Distribution course in Physical Science under the Sciences. Prerequisite: Physics D1. Mr. CARPENTER.

5. General Chemistry and Qualitative Analysis

Descriptive study of the metals and certain other elements and their compounds. Consideration of several fundamental principles of chemical behavior, especially that of chemical equilibrium. Lectures with experimental demonstrations, and four hours of laboratory attendance comprising the analytical separation and detection of the principal cations and anions by semi-micro methods. Prerequisite: Chemistry D2 or the equivalent. Mr. EDWARDS.

9. General Chemistry

Continuation of Chemistry 8. Required of candidates for the degree of Bachelor of Science in Engineering. Not given after 1953-54. See Chemistry 17, 18. Prerequisite: Chemistry 8. Mr. TRUMBULL.

11, 12. Fundamentals of Chemistry, I and II

Reactions of the compounds of carbon, hydrogen, oxygen, and a limited number of other elements; a brief survey of atomic structure and types of chemical bonds formed. The constitution and properties of the different classes of organic compounds are considered in detail; the topics included are not limited to organic chemistry, other concepts being introduced as are pertinent. Laboratory work includes basic techniques common to all branches of chemistry, preparation of representative organic compounds, and the experimental determination of their properties. Introductory course for all candidates for the degree of Bachelor of Science in Chemistry. Four hours of lecture and recitation, and six hours of laboratory attendance. Prerequisite: entrance credit in chemistry, Chemistry D1 or D2, or equivalent. Mr. CLAPP.

13-14. Fundamentals of Chemistry, III and IV

An introduction to the physical and quantitative principles of chemistry, the relation of these principles to the development of modern chemical theory and to the solution of chemical problems. The physical properties of representative chemical systems will be determined in the laboratory. Second year course for all candidates for the degree of Bachelor of Science in Chemistry. Lectures plus seven hours of laboratory attendance. Prerequisite: Chemistry 12, Physics 12, and Mathematics 10. Mr. COLE.

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16. *Fundamentals of Chemistry, V*

A study of the chemical elements, their compounds, and the reactions in which these substances take part, exemplifying the fundamental principles of chemical behavior. The laboratory work will include quantitative studies of typical equilibria of essentially inorganic systems. Second year course for all candidates for the degree of Bachelor of Science in Chemistry. Lecture plus five hours of laboratory attendance. Prerequisite: Chemistry 13; co-requisite: Chemistry 14. Mr. GREENE.

17, 18. *General Chemistry*

An introduction to modern chemical theory. A study of the properties of substances in terms of atomic and molecular structures, and the periodic system. Four hours of lecture and recitation, and four hours of laboratory attendance. Required of candidates for the degree of Bachelor of Science in Engineering. Mr. PALMER.

28. *Elementary Quantitative Analysis*

The theory and practice of typical gravimetric and volumetric analytical procedures. Lectures, recitations, problems, and laboratory analyses of salt mixtures, minerals, alloys, and industrial products. Two hours of lecture plus six hours of laboratory attendance. Prerequisite: Chemistry 5. Mr. RUSSELL.

41. *Organic Chemistry*

An elementary survey of organic chemistry from the point of view of the constitution and properties of the different classes of organic compounds; preparation of representative compounds; experimental determination of their properties. Lectures plus five hours of laboratory attendance. Prerequisite: Chemistry 28 which may be taken concurrently. This course fulfills the organic chemistry requirement of most medical schools. Mr. TRUMBULL.

42. *Organic Chemistry*

A more advanced treatment of the contents of Chemistry 41, with additional material. Lectures plus five hours of laboratory attendance. Prerequisite: a grade of C or better in Chemistry 41. Mr. TRUMBULL.

63-64. *Physical Chemistry*

Lectures plus five hours of laboratory attendance. Prerequisite: Physics 12, Differential and Integral Calculus, Chemistry 28 and 41. Mr. COLE.

80. *Chemical Literature*

Classification of chemical literature, use of the library, reports on special

topics. Required of all candidates for the degree of Bachelor of Science in Chemistry and of all students concentrating in chemistry. No course credit. Mr. NACE and STAFF.

86. *Advanced Laboratory Techniques in Chemistry*

Laboratory work designed to give the student training in advanced types of laboratory technique. Ten hours of attendance. Elective for qualified students by consent of an instructor. The STAFF.

97-98. *Experimental Problems*

Special projects in the various fields of chemistry supervised individually by members of the Staff. Reading and literature work required. Weekly meetings with the Staff devoted to reports from literature and progress on problems. Prerequisite: permission of the Staff. The STAFF.

106. *Advanced Inorganic Chemistry*

Correlation of the facts of inorganic chemistry by means of the periodic law and thermodynamic data, with emphasis on the use of half reaction potentials. Rate of reactions, atomic structure, and recent theories of valence. Prerequisite: Chemistry 63-64. Mr. EDWARDS.

113-114. *Unit Operations*

Lectures and five hours of laboratory on unit operations. Applications of unit operations to unit processes are also discussed. Prerequisite: permission of the instructor. Mr. RICKLIN.

133. *Quantitative Analysis*

A study of the fundamental operations in the analysis of inorganic and organic substances, comprising consideration of the theory and practice of gravimetric, volumetric, and colorimetric methods on macro, semi-micro, or micro scale. To illustrate the foregoing, typical materials such as ores, ferrous and non-ferrous alloys, and organic compounds will be analyzed. Two hours of lecture and eight hours of laboratory attendance. Third year course for all candidates for the degree of Bachelor of Science in Chemistry. Elective for others. Prerequisite: Chemistry 14 and 16, or Chemistry 28, 41, and 63-64. Mr. RUSSELL.

134. *Instrumental Methods in Quantitative Analysis*

A study of the more important instrumental methods in quantitative analysis, comprising consideration of the theory and practice of electrical, optical, and other physico-chemical methods, and based largely on the analytical implications of phenomena studied in physical chemistry. Numerous analyses will be carried out in order to familiarize the student with the instru-

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ments, and to develop technique and confidence. Two hours of lecture plus eight hours of laboratory attendance. Third year course for all candidates for the degree of Bachelor of Science in Chemistry. Elective for others. Prerequisite: Chemistry 133, or Chemistry 28, 41, and 63-64. Mr. RUSSELL.

145. *Identification of Organic Compounds*

Methods of organic qualitative analysis. Nine hours of laboratory attendance. Prerequisite: grade of C or better in Chemistry 12 or 42. Mr. NACE.

146. *Advanced Organic Chemistry*

A study of the synthesis and reactions of organic compounds from the viewpoint of modern theories. Prerequisite: grade of C or better in Chemistry 145 or permission of the instructor. Mr. NACE.

151. *Elements of Chemical Thermodynamics*

A treatment of thermodynamics as applied to chemical problems, with emphasis on sound formulation from first principles. Prerequisite: grade of C or better in Chemistry 14 or Chemistry 63-64. Mr. ROSS.

162. *Advanced Physical Chemistry*

Modern theoretical developments, including the elements of quantum mechanics, kinetics and photochemistry, and their application to problems in physical chemistry. Prerequisite: Chemistry 63-64 or permission of the instructor. Mr. GREENE.

201. *Thermodynamics*. Mr. CARPENTER.

212. *Theory of Dielectrics and Electrolytes*. Mr. COLE.

221. *Applications of X-Ray Diffraction to Chemistry*. Mr. CARPENTER.

241. *Advanced Organic Chemistry*. Mr. NACE.

243. *Advanced Organic Chemistry*. Mr. CLAPP.

244. *Advanced Organic Chemistry*. Mr. TRUMBULL.

264. *Molecular Structure*. Mr. HORNIG.

277, 278. *Modern Theories of Chemistry*. Mr. HORNIG.

281, 282. *Departmental Seminars*

287, 288. *Departmental Colloquia*

291, 292. *Special Topics in Chemistry*

297, 298. *Research*

Classics

Professors CLOUGH, ROBINSON, COUCH (Chairman), LYNCH; Associate Professor WORKMAN; Instructor, Mr. LUCK.

GENERAL NOTE. The Department offers courses in the principal fields of Greek and Latin language and literature, including elementary courses in both languages, and also courses in ancient classical culture for which no knowledge of the languages is required.

PREREQUISITES. Students presenting two years of Latin for admission may elect Latin 5, 6; those presenting three or four years may elect Latin 11, 12 or Latin 105, 106. Students presenting one year of Greek may elect Greek 5, 6; those presenting two or three years may elect Greek 105, 106 or 125, 126.

The arrangement of courses in Greek and Latin is consecutive and normally implies that a course with a lower number is prerequisite to one with a higher number, but this rule may be waived by written permission of the chairman of the department.

DISTRIBUTION REQUIREMENT. The distribution requirement in History under Social Studies may be met by taking Classics D1, D2. Classics IC 1, 2 or D5, D6 may be taken to meet distribution requirements in the Humanities. A student may take both Classics D1, D2 and Classics IC 1, 2.

LANGUAGE REQUIREMENT. The foreign language requirement may be satisfied by passing an achievement test in Greek or Latin. Students who wish to prepare for the test in a classical language in college should elect Greek 5 or Latin 5 or a more advanced course.

CONCENTRATION. The requirement for concentration is eight semester courses, including at least two semester courses of ancient language study taken in college. Programs of concentration may be arranged with emphasis on the Greek or Latin language or on the general field of classical antiquity.

The Department of Classics also participates in the interdepartmental concentration program in Ancient and Medieval Culture.

HONORS. Students may become candidates for Honors in any of the fields of emphasis acceptable for concentration. During the junior year each Honors student will follow a tutorial program under the guidance of a member of the department; during the senior year an Honors thesis will be written.

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Attention is called to the possibility of arranging other interdepartmental Honors programs in addition to that listed above.

RELATED COURSES. Attention is called to Art D1 and IC 1-2; Biblical Literature 4; Philosophy 101.

PROSE COMPOSITION. This subject may be pursued in Classics 199 by students for whom the department approves such arrangement.

GREEK

1-2. *The Essentials of the Greek Language; Selections from Greek Prose Authors*

Intensive study of Attic Greek. Analysis of forms and syntax. Readings from Theophrastus, Aesop, Xenophon, and others. No prerequisite. Mr. LYNCH.

5. *Socratic Dialogues of Plato*

A study of Plato's biographical dialogues, directed toward a rapid reading facility in Greek prose and eligibility for the Greek proficiency test. Prerequisite: Greek 1-2 or one year of Greek for admission. Mr. LYNCH.

6. *Homer and the Lyric Poets*

The first, third, sixth, and twenty-fourth books of the *Iliad*. A study of the form, literary style, and structure of the earliest European epic. Also selections from the principal lyric poets of the Archaic Age. The transition from a patriarchal to an individualistic society. Prerequisite: Greek 5 or its equivalent. Mr. LYNCH.

105. *Euripides and Aristophanes*

Greek tragedy and comedy, their origin and development. Four plays will be read in whole or in part, the *Alcestis*, *Medea*, and *Hecuba* of Euripides, and the *Clouds* of Aristophanes. Mr. LYNCH.

106. *Herodotus and Thucydides*

A study of two contrasting philosophies of history, the inclusive and the critical, respectively. The episodic and informal style of Herodotus stands in contrast to the meticulous purpose of Thucydides. Some of the principal events of Greek history will be studied in their original recorded form. Mr. LUCK.

108. *Demosthenes*

110. *Advanced Homer*

111. *Selections from Greek Authors*

125. *Aeschylus and Sophocles*

Advanced study of Greek tragedy, with reference to the environment of its growth and maturity in Athens.

126. *Plato and Aristotle*

Selected reading from the *Republic* of Plato and the *Nicomachean Ethics* and the *Politics* of Aristotle; a study of the thought and the exposition of the humanistic philosophers.

191. See *Classics 191* on page 109.

199. See *Classics 199* on page 109.

201. *Seminar in Greek: Studies in Homeric Literature*

Elective for graduate students of Classics. Qualified students from other departments who wish to pursue this topic in English may also be admitted. Mr. COUCH.

202. *Seminar in Greek: Studies in the Greek Drama*

Elective under the same conditions as Greek 201. Mr. COUCH.

LATIN

5. *Rapid Review of Latin Grammar; Selections from Prose Authors*

This course is designed especially for students who have entrance credit for only two years of Latin or whose study of Latin may have been interrupted. A rapid review of the essentials of Latin grammar from the beginning, with early and continued reading of extracts from Latin authors. At the end of this course students will be eligible to try the Latin Proficiency Test. Mr. LUCK.

6. *Vergil and Other Roman Poets*

A study of the mature works of Vergil, with extracts from the *Eclogues*, *Georgics*, and *Aeneid*; selections from various other Roman poets. Discussion of content, purpose, poetic form, and metre. The relation of Latin poetry to its environment. Mr. LUCK.

11. *Roman Letter Writers; Cicero and Pliny*

A study through the letters of Cicero and Pliny of the social, political, and personal interests of two men who in different ages came closely in touch with the principle characters of their day. Mr. CLOUGH.

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12. *Horace and Catullus*

Horace represents the humanistic philosopher, moralizing on the vagaries of life, counseling moderation in conduct, genial but not profound, amused by the pageant of contemporary society. Catullus illustrates intense individualism and the excess of emotion in poetry. Mr. WORKMAN.

105. *Plautus and Terence*

A study of the form, plot structure, and language of Roman comedy as evidence alike of the Roman sense of humor, the conscious borrowing from Greek models, and the manners and morals of a vigorous and boisterous society. Three plays of Plautus and one of Terence will normally be read. Mr. CLOUGH.

106. *Livy and Tacitus*

The scope, purpose, style, methods, and sources of two historians. The criteria of history. LIVY, Book I, and TACITUS, *Germania* and *Agricola*, will be read. Mr. LYNCH.

111. *Selections from Latin Authors*

114. *History of the Latin Language*

191. See *Classics 191* on page 109.

199. See *Classics 199* on page 109.

201. *Seminar in Latin: Latin Linguistics: History of the Latin Language*

The position of Latin in the Indo-European family of languages. Characteristics of speech and speech-change as revealed by the Latin language. The history of Latin sounds and forms. The history of the Latin alphabet. Mr. LYNCH.

202. *Seminar in Latin: Apuleius and the Classical Novel*

A study of the origin and development of the novel as a literary form. Mr. WORKMAN.

CLASSICS¹

D1. *Great Periods in the Ancient History of the Near East and of Greece*

The significance of the Ancient Near East. A study of the political and cultural achievement of the Greek city-state. With Classics D2 this course fulfills the distribution requirement in History under the Social Studies. May also be taken as an independent elective. No prerequisite. Mr. ROBINSON.

¹ The courses under this heading, which include Ancient History, Classical Art and Archaeology, and Greek and Roman Literature in English, require no knowledge of Greek or Latin. See Greek 201 and 202.

D2. *Great Periods in the Ancient History of the Hellenistic Age and of Rome*

The transition from Greek to Roman dominance of the ancient world. A study of the political and cultural achievement of the Roman Republic and Empire. With Classics D1 this course fulfills the distribution requirement in History under the Social Studies. May also be taken as an independent elective. No prerequisite. Mr. ROBINSON.

IC 1, 2 *Humanism and Human Conduct: Aristotle, Ethics*

A study of ethical values in the areas of moral, educational, and political philosophy. The emergence and persistence of Greek ideas and ideals in the conduct of modern life. Aristotle's *Ethics* will be used as a point of departure for the study of these principles as they appear in the literature of ancient and modern times.

D5. *Masterpieces of Roman Literature*

A study of several prominent Latin classics in translation with consideration of their form, philosophical content, and authorship: Plautus, Lucretius, Horace, Cicero, Tacitus and Apuleius. With Classics D6 this course fulfills the requirement in Literature under the Humanities. May also be taken as an independent elective. No prerequisite. Mr. LUCK.

D6. *The Influence of the Classics on English Literature*

The classical spirit as manifested in English letters, with special emphasis on artistic form and philosophical content. The more influential Greek and Roman authors will be considered and their impact upon subsequent English writers studied. With Classics D5 this course fulfills the requirement in Literature under the Humanities. May also be taken as an independent elective. No prerequisites. Mr. WORKMAN.

61. *Greek Literature, Exclusive of the Drama, in English*

A study of the origin and growth of the major forms of European literature against a background of the epic. Individualism, perspective, moral debate, argument, and self-consciousness will be examined as they are successively revealed in literature. No prerequisite; may be taken as an independent elective. Messrs. LUCK and COUCH.

62. *The Greek Drama in English*

A study of the origin and development of the earliest European drama, with special attention to the literary criticism of Aristotle. The theories of imitation and purification as applied to various types of tragic literature. A

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critical study of the place of Aeschylus, Sophocles, and Euripides. The appearance and growth of comedy. The place of Aristophanes and Menander. No prerequisite; may be taken as an independent elective. Messrs. LUCK and COUCH.

117. *Greek Art and Archaeology: Prehistoric and Archaic*

The adventure in culture in prehistoric Crete and Mycenae. The Dorian Invasion and the rise of Hellenism. The exuberant Archaic Age of historical Greece, with special emphasis on architecture, sculpture, vases, and coins. The exhibition and study rooms of the Museum of the Rhode Island School of Design are used in connection with both Classics 117 and 118. No prerequisite.

118. *Greek Art and Archaeology: Classical and Hellenistic*

The architectural, plastic, and pictorial art of the fifth and fourth centuries before Christ and of the Hellenistic Age. The excavations at Olympia and Delphi; the current work in the Athenian Agora. The monuments on the Athenian Acropolis. No prerequisite.

121. *Greek History to 146 B.C.*

The political, social, and economic history of ancient Greece until the Roman conquest. Special emphasis is laid on certain great problems, such as the significance of Greek tyranny, the winning of democracy at Athens, Plato's view of the state, the idea of the Inhabited World during the Hellenistic Age. No prerequisite. Mr. ROBINSON.

122. *Roman History to 337 A.D.*

The political, social, and economic history of Rome from earliest times to the death of Constantine. Special emphasis is laid on certain great problems, such as the struggle for democracy at Rome, the winning of a world and its effect on character, the fall of the Roman Empire. No prerequisite. Mr. ROBINSON.

131. *Greek Non-Dramatic Literature in English*

132. *Roman Literature in English*

134. *Greek Dramatic Literature in English*

141, 142. *History of the Ancient Orient*

A brief survey of the political history and culture of Egypt, Mesopotamia, and the surrounding countries. For fuller description see *History of Mathematics* 141, 142.

143, 144. *History of the Ancient Orient: Egypt*

A cultural approach. The sequence of political and military events will be broadly outlined to provide the necessary background. Especial emphasis will be laid on the artistic, literary, scientific, social, and economic manifestations which make up the cultural pattern of Pharaonic Egypt. Mr. CAMINOS.

191. *Senior Conference*

199. *Conference for Honors Students and those planning to become teachers*

The content of the conference will vary with individual needs. May be repeated for credit.

202. *Seminar: Problems in the History of Alexander the Great*

Designed as an introduction to the methods of critical research. Mr. ROBINSON.

Economics

Professors KILLOUGH (Chairman), BOSLAND, TAFT, STOLTZ; Associate Professor SMITH; Assistant Professors BORTS, MINSKY; Instructors, Messrs. STEIN, GREEN, and FARMANFARMAIAN; Assistants, Miss CRONIN, Mrs. SLEPIAN, and Mr. PHILLIPS.

GENERAL PREREQUISITE. Economics D1 or IC 1-2 is prerequisite to all advanced courses in economics, except by written consent of the respective instructors.

DISTRIBUTION REQUIREMENT. The distribution requirement in Economics under Social Studies may be met by taking Economics D1 or IC 1-2.

CONCENTRATION. A grade of C or better in Economics D1 or IC 1-2 is required of students who concentrate in economics.

In addition to the elementary course (Economics D1 or IC 1-2), the requirement for concentration in economics is: Economics 71, 101-102, 111, 154, 161, plus *two* of the following: Economics 104, 107, 118, 131, 145.

The Department recommends that each program also contain two semester courses or equivalent in a related field.

HONORS. Candidates for Honors in economics must include Economics 101-102 in their programs for the junior year, Economics 104 in their junior or senior year, and in their senior year Economics 199 throughout the year; the latter course culminates in a senior thesis.

ECONOMICS

D1. *Elements of Economics*

An introduction to economic principles which gives consideration to the structure of economic life and the analysis of value, production and distribution of income. Economic institutions and problems will be surveyed on an elementary level. Elective for sophomores, juniors, and seniors. The STAFF.

IC 1-2. *Political Economy*

The identification and criticism of the fundamental ideas in economics arising out of Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*. Smith's ideas will be criticized not only from the point of view of their internal consistency and their relevance to the problems of his times, but also with respect to recent economic developments. Messrs. STOLTZ and SMITH.

71. *Accounting*

An introductory course dealing with the principles of debit and credit, the recording of data, the preparation of income statements and balance sheets, and the analysis of financial statements. Mr. SMITH.

91. *The Economics of Area Studies: The New England Economy*

Location theory, interregional payments problems, and regional economic geography will be analyzed using the New England economy as a case study. The directions in which solutions of regional economic problems should be sought will be examined. Prerequisite: Economics D1 or IC 1-2. Not open for concentration credit in Economics. Mr. SMITH.

101-102. *Advanced General Economics*

An advanced course in economic theory dealing with value, distribution, national income, imperfect competition, and economic dynamics. Messrs. BORTS, MINSKY, and STOLTZ, and members of the STAFF.

104. *History of Economic Thought*

A systematic study of the writings of those who have contributed to the development of economic thought. Mr. SMITH.

107. *Theories and Programs of Economic Reform*

A study of economic reform from the beginning of the nineteenth century to the present time, including an examination of the radical indictments of the existing economic order and a survey of proposed substitutes. Critical analysis of current experiments in economic control. Mr. TAFT.

111. *Money and Banking*

The currency system of the United States. Commercial banking. The Federal Reserve Banks. Principles of monetary theory. Mr. MINSKY.

118. *Public Finance*

The principles of government finance; public revenues and expenditures; public enterprises; taxation; the growth and significance of public debt; fiscal policy. Mr. BOSLAND.

131. *Labor Problems*

Nature and development of the labor problem. Unemployment, its problems and solutions; the allocation of labor; wage determination; structure and functions of labor and employer organizations; collective bargaining procedures; development of the laws governing labor relations. Mr. TAFT.

145. *Corporations and Government Control*

A study of the modern business corporation, its economic and financial aspects, and the problems and methods of government regulation of corporation activities. Not open to students who have taken Economics 122, Public Control of Industry, or Economics 141, Corporation Finance. Mr. BOSLAND.

154. *International Economics*

Industrial foundations of international trade; foreign trading principles and practices; international prices; nature and effects of international trade restrictions. Mr. KILLOUGH.

161. *Statistical Method*

The collection, reduction, and analysis of statistical data; the theory of errors and statistical induction; small sample theory; the measurement of association. Mr. STOLTZ.

199. *Research in Special Problems*

Special work supervised by the instructors in the field in which the research is done (consent of the Department necessary). Required of candidates for Honors in economics; elective for graduate students. The STAFF.

FOR GRADUATE STUDENTS

201. *An Introduction to Mathematical Economics*

A study of the principal mathematical techniques in economic analysis with some emphasis on the limitations and conditions for the use of mathematical methods. Mr. BORTS.

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205, 206. *Problems in Economic Theory*

Advanced economic analysis. Messrs. MINSKY and BORTS.

214. *Advanced Monetary Theory*

Problems in monetary theory and international finance. Mr. MINSKY.

219. *Problems in Public Finance*

The growth of public expenditures, efficiency in government, distribution of the tax burden and its economic effects, federal-state-local fiscal relationships, proposals for tax reform, the public debt, fiscal policy and economic stability. Mr. BOSLAND.

232. *Problems in Labor Organization and Collective Bargaining*

An examination of a number of systems of collective bargaining, both here and abroad, and an analysis of some policies and problems of American and European labor. Mr. TAFT.

247. *Problems in Corporations and Public Control*

Social and legal problems of the modern corporation, particularly those arising from financial operations; government regulation of corporation activities. Mr. BOSLAND.

257. *International Trade*

Advanced theory. Mr. KILLOUGH.

258. *International Value and Exchange*

Advanced theory.

261, 262. *Theory of Statistics*

The theory of samples; regression analysis; the analysis of variance; frequency functions. Attention will be given to the statistical-quantitative problems of economics. Mr. STOLTZ.

266. *Business Cycle Theory*

The origin, nature, and phases of the business cycle and its social and economic consequence. Attention will be given to conditions of recent years and their relation to the present tendency toward conscious control of economic action. Mr. STOLTZ.

272. *Problems in Income, Value, and Cost*

Consideration of the economic and accounting concepts of income, value, and cost will be the core of the study undertaken. The course will also explore some of the economic implications of the generally accepted accounting principles and conventions. Mr. SMITH.

298, 299. *Reading and Research.* THE STAFF.

Seminar

No course credit. Required of graduate students in economics. Meets fortnightly. Offered every semester. THE STAFF.

Education

Professors CASE (Chairman), MACPHAIL, EKSTROM; Instructor, Miss DUNN; Lecturer, Miss CAMPBELL.

PREPARATION FOR TEACHING. Preparation for school teaching requires: (1) a background of broad general education, (2) specialization in one or more subjects in which the teaching is to be done, and (3) study in the field of education. Complete preparation in the latter two is not feasible in the undergraduate years and the prospective teacher should therefore plan for graduate study in the subjects he is to teach and in professional courses. The undergraduate preparation in the field of education should be:

- (1) Education 101, 102 in the junior year
- (2) Education 103, 104 in the senior year
- (3) Education 111, 112 in the senior year for those interested in elementary education.

CONCENTRATION. Concentration in the field of education is not possible.

STATE CERTIFICATES. In Rhode Island certificates are required of all teachers in schools supported in whole or in part by public money; to secure certificates college graduates must have credit for the subjects covered by Education 101, 102, 103, 104 and a number of other courses, including prac-

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tice teaching. Due credit toward certificates is given for separate courses. Those who seek to meet the requirements for other states should consult the Department.

101. *Principles of Education*

The meaning and scope of education; its function as a social institution; a comprehensive view of present problems of education and an evaluation of the solutions offered. Elective for juniors and seniors. Mr. MACPHAIL.

102. *History of Education*

A study of the historical backgrounds of modern education, elementary, secondary, and higher; the relation of education to other historical developments; emphasis on the modern period and the evolution of present-day American educational institutions. Elective for juniors and seniors. Mr. CASE.

103. *Educational Psychology*

The principles of psychology applied to the problems of teaching and learning; man's native endowment; laws of learning; individual differences; mental tests. Elective for seniors. Normally preceded by Education 101, 102. Mr. EKSTROM.

104. *Methods of Teaching*

A course in the principles of method in the secondary schools. Organized observation of teaching; evaluation and use of textbooks; lesson planning; methods appropriate to the major subjects; class management. Elective for seniors. Normally preceded by Education 103. Mr. EKSTROM.

105. *Foundations of Junior High School Education*

A study of the conditions resulting in the development of the junior high school unit; changing social and economic factors affecting the education of adolescents; an evaluation of present policies in the light of the basic purposes of public education.

106. *The Junior High School: Administration and Methods*

Problems incident to the organization of the junior high school program; administrative and supervisory procedures; individualization of instruction; the place and function of guidance; curricula and courses of study; appropriate methods; textbooks.

111, 112. *Elementary Education*

A general course in the field of elementary education intended primarily to meet the needs of undergraduate seniors at Pembroke and Brown who are interested in preparing for elementary school service. Open also to graduate students. This course will deal with the basic principles in the operation of the elementary school and will include: techniques and practices; study of the development of children in learning situations; demonstrations with children; use of illustrative materials. Miss CAMPBELL.

201. *Public School Administration*

The organization and operation of a school system. Relation of the local unit to the state system; the school board; school finance; state aid; business administration; the curriculum; the teaching staff; supervision; teacher participation in administration; pupil attendance and classification; special departments. Elective for graduate students. Mr. CASE.

202. *Principles of Secondary Education*

The place and function of secondary education in the United States: comparative secondary education; curriculum construction and revision; extra-class activities; educational and vocational guidance; pupil personnel; problems of articulation: the senior high school and the lower schools; the senior high school and college. Elective for graduate students. Mr. CASE.

203. *Fundamentals of Measurement*

Basic principles of measurement and their application; historical and theoretical background; characteristics of a good testing device; various test forms, their construction and evaluation; analysis and interpretation of results; tabular, graphic, and statistical methods. Elective for graduate students. Normally followed by Education 204. Mr. MACPHAIL.

204. *Educational Testing*

A study of the various kinds of tests and scales, their uses and limitations; achievement tests in school subjects; general intelligence and special ability tests; analysis and interpretation of results; procedures in educational investigation; tabular, graphic, and statistical methods. Elective for graduate students who have credit for Education 203. Mr. MACPHAIL.

207, 208. *Special Methods and Practice Teaching*

A course in teaching methods in schools, given with the assistance of supervising teachers in neighboring schools to whom individual students are assigned for guidance and practice teaching. The work of the course

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is coordinated with the practice teaching in the schools. Observations, reports, and conferences. Required of graduate students who have been approved for practice teaching. Mr. EKSTROM.

211. *Principles and Practices of Guidance and Student Personnel Work*

A broad survey of guidance and personnel work in school, college, and community: the philosophy and scope of guidance, fundamental concepts underlying personnel procedures, use and interpretation of tests, methods and techniques of educational and vocational guidance at various school levels. Elective for graduate students. Miss DUNN.

212. *Counseling and Guidance Techniques*

Interviewing and counseling methods, use of tests and records in understanding the individual student, the function of teacher, administrator and specialist in the guidance services, special phases of guidance (community, evaluation, placement, etc.), organizing the guidance program. Elective for graduate students. Prerequisite: Education 211. Miss DUNN.

215, 216. *Problems in Education, Thesis Course*

No course credit. Required of candidates for the degree of Master of Arts. The STAFF.

217, 218. *Experimental Education*

For students prepared for the investigation of major problems in measurement in education; critical evaluation of current contributions in this field.

221, 222. *Lecture Series for Teachers*

Ten weekly lectures each semester in subject matter of current interest to teachers. Each lecture is followed by a discussion period. Each lecture is given by a specialist in the subject-matter field of the series. The lecturers are from the Brown University faculty and from other leading institutions. Credit for a half-course per semester will be granted to qualified students upon special arrangements with the Registrar of the Graduate School. No student will be allowed to present credit for more than two of these half-courses toward the master's degree at Brown University. The first series was held during Semester II, 1949-50. Topics for 1952-53: I, Rhode Island Backgrounds; II, Psychology Today. Topics for 1953-54: I, Psychology Today or Natural Resources of Rhode Island; II, to be announced.

Egyptology

Professor PARKER (Chairman); Visiting Professor EDWARDS; Assistant Professor CAMINOS; Research Associate, Mr. GOEDICKE; Technical Assistant, Mrs. PECK.

120. *An Introduction to the Material Culture of Ancient Egypt*

A statement of the principles of archaeology as they apply to Egypt and a survey of the material remains of its civilization from the earliest period to the Christian era. Mrs. PECK.

131, 132. *Middle Egyptian*

An introduction to Egyptian hieroglyphic writing, based on Gardiner, *Egyptian Grammar*, and de Buck, *Egyptian Readingbook*. Elective by written permission of the instructor. Mr. PARKER.

143, 144. *History of the Ancient Orient: Egypt* (Classics 143, 144)

A cultural approach. The sequence of political and military events will be broadly outlined to provide the necessary background. Especial emphasis will be laid on the artistic, literary, scientific, social, and economic manifestations which make up the cultural pattern of Pharaonic Egypt. Mr. CAMINOS.

201. *Reading of Middle Egyptian Texts*

Selections from the stories of *Sinuhe*, *The Eloquent Peasant*, *The Shipwrecked Sailor*, etc. Introduction to hieratic. Mr. PARKER.

221. *Introduction to Coptic*. Mr. PARKER.

241. *Introduction to Late Egyptian*

Reading of texts in both hieratic and transcription. Mr. CAMINOS.

261. *Introduction to Demotic*. Mr. PARKER.

281. *Introduction to Old Egyptian*

Reading of texts in both hieroglyphic and hieratic. Mr. PARKER.

291, 292. *Reading and Research*

Topics for 1953-54: The content and hieratic script of some oracular texts of the XXIst-XXIInd dynasties; the evolution and design of the Egyptian pyramid. Mr. EDWARDS.

Engineering

Professors BLISS, BOHL, DRUCKER (Chairman), KISTLER, MARCHANT, PRAGER, SCHILHANSL, TOMPKINS; Associate Professors BENFORD, GORDON, KESTIN, MAEDER, MYLONAS, PELL, RUINA, SYMONDS; Assistant Professors ANGULO, LERNER; Lecturer, Mr. EDWARDS; Research Associates, Messrs. ANDERSON, DEGEN, and STEPHENSON; Instructors, Messrs. ALVERSON, BICK, CHANG, HAYTHORNTHWAITHE, HIGGINS, SMALL, and TANGER; Research Assistants, Messrs. CARROLL, MABEY, and WOOD.

GENERAL REQUIREMENTS. Students are required to take engineering courses numbered from 7 to 118 inclusive, or the equivalent, with the following exceptions: (1) Civil engineering majors are not required to take Engineering 26 and 31; (2) Aeronautical, electrical, and mechanical engineering majors are not required to take Engineering 23 and 31.

CONCENTRATION. Candidates for the Bachelor of Arts degree intending to concentrate in engineering should have Mathematics 9-10 and 29 in addition to the minimum engineering course requirements: Engineering 7, 9-10, 38, 39, 52, 58, 71, and one of the following: 40, 59, or 72.

HONORS. Candidates for Honors in engineering are chosen at the end of the junior year. Each will have the opportunity to work under the direction of the member of the staff he chooses on a project of experimental or analytical nature or a combination of both. An Honors report or thesis summarizing the results is required.

7. *Mechanics*

Fundamentals of statics and dynamics with application to problems of engineering interest. Topics include forces in space, center of mass, moment of inertia, general motion of particles and rigid bodies; principles of virtual displacement, work and energy, impulse and momentum, vibrations, balancing, and gyroscopic motion. Considerable use is made of vector algebra and geometry. Lectures, recitations, and laboratory work. Prerequisite: Engineering 9-10; Mathematics 9-10. Mr. BENFORD.

9-10. *Numerical and Graphical Methods (including Engineering Drawing, Descriptive Geometry, and Elementary Statics)*

Numerical and graphical methods of importance to the engineer: engineering drawing and the elements of descriptive geometry, graphs, functional scales, nomograms, slide rules, methods of graphical and numerical solution of simple algebraic and transcendental equations will be considered. Ap-

preciable time will be devoted to vector algebra and geometry and their application to statics. Lectures, recitations, and drafting room work. Mr. PELL.

23. *Surveying*

Theory and practice of plane surveying; use of the tape, compass, level, and transit. Lectures, field work, and drafting. Must be completed by the end of the third year. Mr. LERNER.

26. *Mechanical Technology*

Shop practice by individual arrangement. The machine shop work must be completed by the end of the third year. Mr. DEGEN.

31. *Surveying, Second Course*

A continuation of Engineering 23. Use of the tape, level, transit, stadia, and plane table; triangulation, topography, and railroad curves. Lectures, field work, and drafting. Mr. LERNER.

38. *Electricity and Magnetism*

A study of the fundamental concepts of electrostatics and magnetostatics and their applications to field and circuit problems involving linear and non-linear elements. Differential and integral calculus, differential equations, and vector notation are used freely. Lectures, laboratory work, and computation period. Prerequisite: Mathematics 29; Engineering 7. Mr. RUINA.

39. *Electric Circuits*

Extension of the basic concepts to include time-varying fields; transients and the use of operational techniques; alternating current circuit analysis. Lectures, laboratory work, and computation period. Prerequisite: Engineering 38. Mr. GORDON.

40. *Electrical Machinery*

A study of the fundamental principles of direct and alternating current machinery. The construction, operation, and application of direct current motors, generators and specialized types, and of alternating current motors, generators, transformers, and allied apparatus. Lectures, recitations, and work in the electrical machinery laboratory. Prerequisite: Engineering 39 or equivalent. Mr. TOMPKINS.

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52. *Fluid Mechanics*

The principles of conservation of energy, mass, and momentum are applied to an incompressible fluid. The fundamental equations of hydrostatics and hydrodynamics are derived and used to calculate and explain some of the flow phenomena encountered in engineering. The laws of dynamic similarity are stressed. Lectures, computation period, and laboratory work. Prerequisite: Mathematics 29; Engineering 7. Mr. MAEDER.

58. *Mechanics of Materials*

The elements of mechanics of materials with emphasis on the fundamental concepts of stress and strain and the rational development and application of shaft, beam, and column formulas. A discussion of bending about non-principal axes, shear center for profile sections, elastic stability, and theories of strength is included. Lectures, computation period, laboratory work. Prerequisite: Engineering 7. Mr. SYMONDS.

59. *Mechanics of Materials and Introduction to Structures*

The theorem of virtual displacement, Castigliano's Theorem and its various modifications, and the reciprocal theorem are derived and applied to trusses, rigid frames, rings, and arches. Much emphasis is placed on influence lines. Three moment equation, slope deflection, and moment distribution procedures are established. Riveted and welded joints, curved beams, reinforced concrete beams, and space structures are also studied. Lectures and computation period. Prerequisite: Engineering 58. Mr. DRUCKER.

71-72. *Thermodynamics*

Major emphasis is placed upon the First and Second Laws of Thermodynamics and their application to systems undergoing reversible or irreversible processes. The concepts of thermal equilibrium and temperature scale are established and applied to the study of the properties of substances. Combustion phenomena and the fundamentals of heat transfer are included. The basic laws and concepts are applied to the study of the most important prime movers and thermal machines. The one-dimensional theory of flow of a compressible fluid is also studied. Lectures, computation period, and laboratory. Prerequisite: Engineering 52 or equivalent and a course in Chemistry. Mr. KESTIN.

118. *Engineering Economy*

The importance of economic factors in engineering projects and the methods of analysis to be followed in making an economy study. The basic elements of cost and their relative importance. Economic equivalence and its importance in comparisons between available alternatives. Accepted methods

of financing a proposed project. The basic principles of the law of contracts. Required of candidates for the degree of Bachelor of Science in Engineering. Elective, by written consent of the instructor, for junior and senior candidates for the Bachelor of Arts degree. Not open to graduate students for credit. Mr. BLISS.

193, 194. *Special Topics in Engineering*

A course in Microwaves will be offered in Semester II of the academic year 1953-54. Mr. ANGULO.

CIVIL ENGINEERING

119. *Structural Analysis*

Concepts and theorems basic in analysis of plane and space structures with applications particularly to structural types important in civil and aeronautical engineering, including general work-energy theorems, slope-deflection equations, and numerical methods for continuous beams and frames; bending and torsion of thin-walled open and closed sections with one or more cells; stability problems, including beam-columns and frames; introduction to plates and shells, and elements of plastic or limit analysis. Prerequisite: Engineering 59 or equivalent. Mr. SYMONDS.

130. *Design of Civil Engineering Structures*

Loadings of different types, riveted and welded connections; design of steel members, frames, and arches; design and selection of concrete mixes; reinforced concrete beams, columns, frames, and arches. Prerequisite: Engineering 119 or equivalent. Mr. LERNER.

131. *Highway Engineering*

Economics, construction, and design of roads and pavements; methods of testing road materials; systems of administration and maintenance; inspection trips to examine the various types of city and state highways and bridges under construction, and also to manufacturing plants for materials. Prerequisite: Engineering 59 or equivalent. Mr. BOHL.

133-134. *Hydraulic and Sanitary Engineering*

Water supply and sewerage from a sanitary and an engineering standpoint. First semester: the chemical, biological, and meteorologic aspects. Second semester: engineering construction and design. Inspection trips and laboratory. Prerequisite: Engineering 52 and 59. Mr. BENFORD.

135-136. *Structural Design*

Riveted and welded connections; design of tension and compression members; plate-girder design for moving loads; design of truss highway bridge;

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preliminary design for tall building; review of methods for designing concrete beams; design of floor systems; column footings; design of haunched beam or arch. Prerequisite: Engineering 59 or equivalent. Mr. LERNER.

138. *Building Construction*

Application of the theory of structures to buildings of different types; study and discussion of building practices, augmented by experiments on building materials and by inspection trips. Prerequisite: Engineering 119 or equivalent. Mr. BOHL.

ELECTRICAL ENGINEERING

157. *Electrical Network Theory*

Two-terminal network theory, steady state and transient analysis with an introduction to transform methods. Four-terminal network theory, design of equalizers and filters. Lectures and laboratory. Prerequisite: Engineering 40 or equivalent. Mr. RUINA.

158. *Electrical Transmission*

Theory of the general transmission line, transmission line constants, telephone and power lines, radio frequency lines, wave guides. Lectures and laboratory. Prerequisite: Engineering 157 or equivalent. Mr. RUINA.

161. *Fundamentals of Electronics*

Fundamentals of electron ballistics, electron emission, and gaseous conduction. A study of electron tubes, vacuum and gaseous and allied apparatus; the circuits for the application of these devices as amplifiers, oscillators, modulators and demodulators at low, intermediate, and high frequencies; the general application to engineering work. Lectures and work in the electronics laboratory. Prerequisite: Engineering 40 or equivalent. Mr. GORDON.

162. *Power Electronics*

Further study of the arc discharge, electrical conduction in gases, arc cathodes, grid control, and gas tubes in general. Fundamentals and applications of low and high power rectifiers, control circuits, inverters, barrier layer rectifiers, electronic sources of light, photoelectric devices. General applications of electronics to industry. Lectures and work in the electronics laboratory. Prerequisite: Engineering 161 or equivalent. Mr. TOMPKINS.

164. *Communication Electronics*

Fundamentals of the application of electronics to the transmission of intelligence. A study of video amplifiers, modulation, demodulation, pulse tech-

niques, general communication and television systems. Lectures and work in the electronics laboratory. Prerequisite: Engineering 161 or equivalent. Mr. GORDON.

167. *Alternating Current Machinery I*

Fundamental theory applied to the analysis of operation and determination of the characteristics of alternating current generators, operating singly and in parallel, synchronous motors, and allied apparatus. Study of the internal reactions, calculation, applications, operation, and control apparatus applicable to these machines; methods of testing. Lectures and work in the electrical machinery laboratory. Prerequisite: Engineering 40 or equivalent. Mr. TOMPKINS.

168. *Alternating Current Machinery II*

A continuing study of the fundamental theory applied to the analysis of operation, determination of characteristics, methods of testing, and application of transformers, polyphase and single-phase induction motors, and allied apparatus. Lectures and work in the electrical machinery laboratory. Prerequisite: Engineering 167 or equivalent. Mr. TOMPKINS.

MECHANICAL ENGINEERING

171-172. *Turbomachines*

Applications of fluid mechanics and thermodynamics to turbomachinery operated by liquids, steam, or gas. Description of the different types and their elements. Analysis of flow and the aerodynamical design of the blades. Performance characteristics and efficiency. Special structural design problems and stress analysis of the most significant parts of stationary turbomachines and of jet engines. Prerequisite: Engineering 59 and 71-72 or equivalent. Mr. STEPHENSON.

173. *Steam Power Plants—Components*

A study of the component parts of steam power plants including fuels, fuel-burning equipment, furnaces, boilers, turbines, condensers, and heaters. Prerequisite: Engineering 71-72. Mr. KISTLER.

174. *Steam Power Plants—Design and Performance*

A study of the relation of components and operating conditions to the economic design of a power plant, including the selection of station cycles, station heat balances, and rate making. Prerequisite: Engineering 173. Mr. KISTLER.

ENGINEERING

175-176. *Mechanism and Design of Machine Elements*

A study of the fundamental problems arising in the design of machines, including kinematics, lubrication, force and stress analysis, rigidity, strength, and vibration. Linkages, cams, gears, bearings, frames, joints, and connections will be analyzed. Lectures and drafting-room work. Prerequisite: Engineering 7 and 59. Mr. BLISS.

178. *Internal Combustion Engines*

The principles of thermodynamics and mechanics applied to the design of internal combustion engines. Lectures, laboratory, and drafting-room work. Prerequisite: Engineering 71-72. Mr. KISTLER.

AERONAUTICAL ENGINEERING

119. *Structural Analysis*

Concepts and theorems basic in analysis of plane and space structures with applications particularly to structural types important in civil and aeronautical engineering, including general work-energy theorems, slope-deflection equations, and numerical methods for continuous beams and frames; bending and torsion of thin-walled open and closed sections with one or more cells; stability problems, including beam-columns and frames; introduction to plates and shells, and elements of plastic or limit analysis. Prerequisite: Engineering 59 or equivalent. Mr. SYMONDS.

187. *Aerodynamics I*

The basic concepts of aerodynamics are studied, including: kinematics of the fluid element; deformation forces, continuity, Navier-Stokes equation, energy equation, laws of dynamic similarity, singularities in the flow field, two dimensional potential flow; complex potential, conformal transformation, Joukowski airfoil, lifting line theory for the finite wing; the wing of minimum induced drag, inviscid steady linearized compressible subsonic flow. Parallel to this fundamental treatment of aerodynamics, a design project extending well into Engineering 190, *Aerodynamics II*, is carried out by the student. Prerequisite: Engineering 71-72. Mr. MAEDER.

190. *Aerodynamics II*

Theory of thin airfoils in steady and unsteady flow is studied, as is blade element, momentum and vortex theory for propellers. Major emphasis is on airplane stability and control, including equations of motion of the rigid airplane, the meaning of stability and methods for its investigation, static and dynamic longitudinal stability and control, directional stability and control. Prerequisite: Engineering 187. Mr. PRAGER.

192. *Aircraft Structural Design*

General design procedure. Weight estimation. Choice of the engine. Loading specification. Distribution of loads. Analysis of different types of wing structures. Design of compression members. Design of webs. Bending and torsion of wings. Analysis of semimonocoque structures. Cutouts. Stability and deflections of structures. Design of frames and ribs. Static tests. Lectures, laboratory, aircraft design project. Prerequisite: Engineering 119.

PRIMARYLY FOR GRADUATE STUDENTS

207, 208. *Mathematical Methods for Engineers*

Mathematical treatment of representative engineering problems. The mathematical discipline is stressed but its relationship with physical reality is shown. The main topics are: Complex function theory (including conformal mapping and contour integration), ordinary and partial differential equations (including initial and boundary value problems), Bessel and Legendre functions, Sturm-Liouville theory. Fourier and Laplace transforms, vector analysis. Mr. ANGULO.

211. *Linear Circuit Analysis I*

Formulation of integro-differential equations of electrical systems. Transient and steady state analysis. Fourier and Laplace transform methods, including requisite complex function theory. Applications to circuit theory and servomechanisms. Mr. RUINA.

212. *Linear Circuit Analysis II*

Two and four terminal network theory. Network synthesis. Physical realizability. Feedback systems, stability criteria. Mr. RUINA.

213. *Electronic Circuits*

Analysis and design of system elements; multivibrators, Miller integrators, counters, switches, pulse circuits, delay lines and wave shaping circuits, video and pulse amplifiers, and other system components. Mr. GORDON.

214. *Electronic Engineering*

General aspects of communication. Amplitude, frequency, and pulse modulation. Applications to telemetering, radar and communications systems. Mr. GORDON.

231, 232. *Advanced Theory of Structures*

A study of the general analytical and numerical methods for the analysis of structures. The structures and components considered will include beams,

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trusses, rigid frames, flat plates, thin shells, and suspension systems. Major emphasis will be on usual elastic behavior under static loading, but appreciable time will be devoted to buckling, vibration, and plastic action. Mr. DRUCKER.

251. *Advanced Engineering Mechanics*

Kinematics and dynamics of systems of particles, including Lagrange's equations, energy principles, and applications to problems of variable mass and gyroscopic effects. Introduction to theory of vibrations. Free and forced vibrations of coupled masses with application to engine balancing and vibration absorption. Vibrations of bars, beams, plates, and frame structures, including approximation techniques. Shock and impact problems. Mr. SYMONDS.

252. *Advanced Strength of Materials*

Solution of technical problems of stress analysis and deformation under load. Introduction to theory of elasticity including general theorems of work and energy. Applications to torsion and bending of beams (including thin-walled sections, curved beams, beams on elastic foundation), and to rotating disks and thick tubes under internal pressure. Theories of failure and introduction to analysis of plastic deformations and to limit analysis and design. Mr. SYMONDS.

253. *Advanced Machine Design*

The principles of the fundamental courses applied to advanced problems in design. Mr. BLISS.

273. *Advanced Technical Aerodynamics*

Selected topics relating to the fields of incompressible and compressible aerodynamics, including design problems in modern aircraft power plants. Prerequisite: Engineering 187. Mr. MAEDER.

274. *Gas Dynamics*

The fundamentals of dynamics of compressible fluids are shown. Some approximate methods are discussed for obtaining the compressible flow around airfoils and similar obstacles. Appropriate attention is given to similarity laws and experimental research methods. Prerequisite: Engineering 187. Mr. MAEDER.

291. *Special Topics in Engineering: Advanced Theory, Design, and Vibration Problems in Turbomachinery I*

Two-dimensional theory of straight and of radial flow cascades; cascade ex-

periments; some three-dimensional aspects of the theory of turbomachinery; effects of the Reynolds and Mach number on performance characteristics. Mr. SCHILHANSL.

292. *Special Topics in Engineering: Advanced Theory, Design, and Vibration Problems in Turbomachinery II*

Stress analysis of the component parts of turbomachines, as for instance, blades, discs, drums, scroll cases; thermal stresses; vibrations of shafts and blades. Mr. SCHILHANSL.

297, 298. *Reading and Research*

Work with individual students in connection with special reading or problems of research. The STAFF.

It is expected that courses in the following subjects will be offered in two or three year cycles: Soil Mechanics, Electromagnetic Theory and Application; and Power System Networks. Attention is directed to courses in Mathematics and Physics and to Elasticity, Plasticity, Vibrations, and Fluid Mechanics offered in Applied Mathematics.

English

Professors DAMON, STEWART, S. BROWN, BRADNER, ANDERSON (Chairman), B. W. BROWN, NOYES, KAPSTEIN, KENNY; Associate Professors BLANCHARD, WEBSTER; Assistant Professors VAN DE WATER, JONES, BLOOM, SABOL, VAN NOSTRAND, BESSINGER, PHILBRICK, BLISTEIN; Instructors, Messrs. COMERY, WATTS, GOSSE, COOLIDGE, PERLUCK, STEINMETZ, BRADY, AUGHTRY, DOENGES, MEIXNER, BARNHILL, HUGHES, and KRAUSE, Miss SOIREF, and Mesdames MEADER and BELL; Assistants, Messrs. SHAWCROSS, R. M. BROWN, SCHROEDER, DEMINOFF, and POWEL, and Misses CLEMENTS and MAHON.

PREREQUISITES. Demonstrated proficiency in English composition is prerequisite to concentration in English and to all courses in composition except English 1, 2.

English D27, D28, or IC 1-2, or IC 3-4 are prerequisites to concentration in English and American Literature.

English 3 and 21 are prerequisites to concentration in English Expression. This program is limited to candidates for Honors in English Expression. No student may be enrolled in this concentration without the written permis-

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sion of Professor Benjamin W. Brown. No student may begin a concentration in English Expression after the opening of the Junior Year.

DISTRIBUTION REQUIREMENT. The distribution requirement in Literature under Humanities may be met by taking English D27, D28, or IC 1-2, or IC 3-4.

CONCENTRATION.

- I. English and American Literature: A) a period course (English 47-48, 51-52, 53, 54); B) 41-42; C) 73-74; and D) two semester courses from the following: 15: 105-106; 133-134; 141-142; 171; 172; 181; 182; 186; 187; or a second period course.
- II. English Expression: students will arrange their concentration programs in consultation with Professor Benjamin W. Brown.

HONORS IN ENGLISH AND AMERICAN LITERATURE. Candidates should consult the Department Advisor of Honors Students before the end of the sophomore year at the latest.

Each candidate for Honors will be expected to familiarize himself with certain portions of the field of English literature and language and of one related field. It is recommended that ordinarily the student present six subjects, of which one should be in a related field (foreign literatures, history, or philosophy) and should have a suitable relation to his English studies. The remaining five subjects, including in each case Shakespeare, must be chosen from the following:

- | | |
|---|-----------------------------|
| 1. Old English Language and Literature | 7. The Drama since 1660 |
| 2. Middle English Language and Literature,
including Chaucer | 8. The Eighteenth Century |
| 3. The Fifteenth and Sixteenth Centuries | 9. The English Novel |
| 4. The Drama to 1642 | 10. The Age of Romanticism |
| 5. The Seventeenth Century | 11. The Victorian Age |
| 6. Shakespeare | 12. American Literature |
| | 13. Contemporary Literature |

PREPARATION FOR GRADUATE WORK. Students intending to take graduate work in English are advised to elect as undergraduates one of the following courses in order that they may be prepared for advanced courses which presuppose an historical knowledge of the English language: English 105-106; 125-126; 201, 202; 203, 204; 205, 206. A knowledge of French, German, and Latin is required for the degree of Ph.D.; of French or German for the degree of A.M.

1. *English Composition*

Training in the fundamentals of prose composition. Required of all degree candidates in the freshman year, unless excused on the basis of the English

proficiency test or the IC program. If the grade of *E* is assigned, the course must be repeated. Mr. S. BROWN and others.

2. *English Composition*

Training in the fundamentals of prose composition, in continuation of the work in English I. Required of all degree candidates, who after completion of English I are not excused from further work in composition on the basis of the English proficiency test. For such students English 1, 2 is considered a year-course; the final grade in English 1 becomes a tentative grade only, and the final grade in English 2 is the permanent grade for the entire course. Mr. S. BROWN and others.

IC 1-2. *Man's Faith and Fate*

The core of this course is the idea of man's faith and fate as presented in the following major poems of the 19th and 20th centuries: *Lines Composed a Few Miles above Tintern Abbey* (1798) by William Wordsworth; *Manfred* (1817) by Lord Byron; *Prometheus Unbound* (1819) by Percy Bysshe Shelley; *In Memoriam* (1850) by Lord Tennyson; *The Rubaiyat of Omar Khayyam* (1859), as translated by Edward Fitzgerald; *Rabbi Ben Ezra* (1864) by Robert Browning; *The Rock* (1934) by T. S. Eliot. The course will consider the poets' answers to these questions: What is the nature of Man? What is the nature of Nature? What is the nature of the Power that moves in Man and Nature? What is or may be Man's conduct or fate in relation to this Power? The study of the poems will consider them as works of art as well as vehicles of ideas. Messrs. KAPSTEIN, PHILBRICK, BLISTEIN, and BRADNER.

IC 3-4. *The Problem of American Individualism*

An inquiry into the concept of the free individual in a free society, based upon the critical reading of five major novels: Hawthorne's *Blithedale Romance* (1852), Melville's *Moby Dick* (1851), James's *The American* (1877), Dreiser's *The Financier* (1912), and Faulkner's *Light in August* (1932). The course will include a study of the intellectual background of this theme as reflected in certain historical and philosophical writings. The work of the course will consist of (1) informal class discussions and (2) frequent critical papers and individual conferences. Messrs. STEWART, VAN NOSTRAND, and WATTS.

3. *English Composition, Second Course*

An intermediate course for students who have met the English proficiency requirement. Work chiefly in the essay. Mr. BLANCHARD and others.

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4. *English Composition, Second Course (continued)*

With the consent of the instructor any of the four divisions of English 4 may be repeated for credit, or a student who has completed one division of English 4 may elect one of the others. No student, however, can take more than two divisions of English 4.

4d. Play Writing. Prerequisite: a grade of *B* or better in English 3, or written consent of the instructor. Mr. B. W. BROWN.

4e. Advanced Exposition. Prerequisite: English 3, or written consent of the instructor. Mr. BLISTEIN and others.

4s. The Short Story. Prerequisite: a grade of *B* or better in English 3, or written consent of the instructor. Mr. WEBSTER and others.

4v. Verse Writing. Prerequisite: English 3, or written consent of the instructor. Mr. DAMON.

5-6. *English Composition, Advanced Course*

A course for practiced writers, which demands originality and substantial interest. English 6 is devoted to one long piece of fiction. Elective by written consent of the instructor for a limited number of juniors and seniors. With the consent of the instructor the course may be repeated. Mr. S. BROWN.

7. *Principles of Argumentation*

A course in the principles of analysis, evidence, and the technique of brief-drawing, designed to train students in the fundamentals of an orderly and convincing presentation of their views. Messrs GOSSE and COMERY.

10. *Debate and Discussion*

A course in the oral presentation of argumentative material; practice in analysis and brief-drawing, with training in clear, concise, and forceful discussion. Mr. GOSSE.

15. *Introduction to Poetry*

Reading, interpretation, and analysis of poetry. Mr. BRADNER and others.

16. *English Prose Writing*

The development of English prose as revealed in important prose writers from Bacon to Arnold.

19, 20. *Fundamentals of Speech*

Required of freshmen at Pembroke College. No course credit. Miss VAN DE WATER and Mrs. MEADER and Messrs. GOSSE, SCHROEDER, and STEINMETZ.

21. *Public Speaking*

Fundamentals of public speaking: voice, phonetics, and diction. Mr. B. W. BROWN and others.

23-24. *Play Production*

The elements of dramatic analysis and interpretation, acting, diction, and stagecraft. Elective for a limited number of students by written consent of the instructor. With further consent in special cases, the course may be repeated. Eight hours of attendance. Miss VAN DE WATER and Mr. JONES.

D27, D28. *Introduction to English Literature*

A course combining the historical and the analytical approach to a study of the principal English authors. English D27 is prerequisite to D28. Mr. ANDERSON and others.

41-42. *American Literature*

A survey of American literature, with emphasis upon the principal writers of the nineteenth century. Elective for sophomores, juniors, and seniors. Mr. VAN NOSTRAND and others.

47-48. *English Neoclassicism*

English literature from Milton and Dryden through the Age of Johnson. Elective for sophomores, juniors, and seniors. Mr. KENNY.

51-52. *The English Age of Romanticism*

Liberalism and individualism in English poetry and prose, exclusive of the novel. The influence of the French Revolution and the reaction from classicism. Elective for sophomores, juniors, and seniors.

53. *The Victorian Period, 1832-1859*

The social ideas and literary modes of Early Victorian and Mid-Victorian England. Elective for sophomores, juniors, and seniors. Mr. S. BROWN.

54. *The Victorian Period, 1859-1914*

The social ideas and literary modes of Late Victorian England, down to the first World War. Elective for sophomores, juniors, and seniors. Mr. S. BROWN.

73-74. *Shakespeare: Complete Works*

A general course, with reading of all of Shakespeare's works. Elective for sophomores, juniors, and seniors. Mr. B. W. BROWN.

105-106. *Chaucer*

Reading of Chaucer's works; discussion of the chief types of medieval liter-

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ature. Elective for juniors, seniors, and graduate students. Mr. ANDERSON.

125-126. *Shakespeare: Selected Plays*

Careful study of a few plays, with special attention to exact interpretation. In 1953-54 the plays to be studied are *Romeo and Juliet*; *Henry IV, Part 1*; *Twelfth Night*; *Julius Caesar*; *Othello*; and *The Winter's Tale*. Elective for juniors, seniors, and graduate students, and for sophomores by written consent of the instructor. The course may be repeated. Mr. SABOL.

133-134. *The English Novel*

Reading and discussion of the more important writers of fiction from 1700 to 1900. Elective for juniors, seniors, and graduate students. Mr. NOYES.

141-142. *American Prose Fiction*

The important writers of fiction before 1900. Elective for juniors, seniors and graduate students.

171. *Twentieth Century Poetry, English and American*

Tendencies in the form and thought of English and American poetry since 1912. Elective for juniors, seniors, and graduate students. Mr. S. BROWN.

172. *The Twentieth Century Novel, English and American*

A critical study of the novel since 1900; reading of selected English and American novelists of the present generation. Elective for juniors, seniors, and graduate students. Messrs. KAPSTEIN and BLOOM.

181. *English Drama to 1580*

Development of the drama from medieval beginnings to the Renaissance. Mr. BRADNER.

182. *English Drama, 1580-1642.*

The great Elizabethan dramatists and their successors to the closing of the theaters. Mr. BRADNER.

186. *English and American Drama of the Eighteenth and Nineteenth Centuries*

Reading and discussion of plays by the chief dramatists from the breakdown of classicism to Pinero, Thomas, and Shaw; the failure of the poetic tradition; the naturalistic movement. Elective for juniors, seniors, and graduate students. Mr. B. W. BROWN.

187. *Twentieth Century American and European Drama*

Reading and discussion of plays by the chief dramatists after 1914; current tendencies in the theater. Elective for juniors, seniors, and graduate students. Mr. B. W. BROWN.

201, 202. *History of the English Language*

The development of English pronunciation, grammar, syntax, and vocabulary. Elective for graduate students and for juniors and seniors by written consent of the instructor. Mr. ANDERSON.

203, 204. *Old English Language and Literature*

Essentials of Anglo-Saxon grammar; poetry and prose selections; *Beowulf*. Elective for graduate students, and for juniors and seniors by written consent of the instructor. Mr. BESSINGER.

205, 206. *Middle English Language and Literature*

A study of Middle English language and literature to 1500, exclusive of the works of Chaucer and of medieval drama.

221, 222. *Sixteenth Century Literature, exclusive of the Drama*

A survey of the main types of sixteenth century literature in England, with emphasis on their Continental sources; all of Spenser's principal works will be included.

223. *The Continental Renaissance Epic*

Prerequisite: a command of two of the following languages: Latin, Italian, French. Elective for graduate students and for seniors by written consent of the instructor.

247, 248. *Studies in English Literature of the Eighteenth Century*

Elective for graduate students and for seniors by written consent of the instructor.

249, 250. *Studies in English Literature of the Nineteenth Century*

Topic for 1953-54: Literary criticism by writers of the Victorian Age. Elective for graduate students and for seniors by written consent of the instructor. Mr. PHILBRICK.

273, 274. *Studies in the Elizabethan Drama*

Elective for graduate students and for seniors by written consent of the instructor.

279, 280. *Studies in American Literature*

Topic for 1953-54: American poetry of the nineteenth century with special reference to the bearing of the critical theories of the poets upon their poetic practice. Elective for graduate students. Mr. STEWART.

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281. *Introduction to the Bibliography of English Literature*

The history of English studies; sources of English bibliography; the history of printed books; problems in bibliographical research. Required, without credit, of graduate students in their first year. The STAFF.

289, 290. *Problems in English and American Literary Research*

Work with individual students in the following fields: Old and Middle English, including Chaucer, Messrs ANDERSON and BESSINGER; The Renaissance, including Shakespeare and the history of the drama, Mr. BRADNER; The Seventeenth Century, Mr. WEBSTER; Neo-Classicism, Messrs. BRADNER and BLOOM; Nineteenth and Twentieth Centuries, Messrs. ANDERSON, S. BROWN, B. W. BROWN, and KAPSTEIN; American Literature, Mr. STEWART. Elective for approved graduate students.

291. *Seminar: Literary Criticism to 1700*

Elective for graduate students, and for seniors by written consent of the instructor. Mr. BLOOM.

292. *Seminar: Swift*

Elective for graduate students, and for seniors by written consent of the instructor. Mr. WEBSTER.

293. *Seminar: Shelley*

Elective for graduate students, and for seniors by written consent of the instructor. Mr. KAPSTEIN.

294. *Seminar: Blake*

Elective for graduate students, and for seniors by written consent of the instructor. Mr. DAMON.

CONFERENCE GROUPS

The following conference groups are provided primarily to meet the requirement of special Honors courses for candidates for Honors in English. They are also open, however, to candidates for Honors in Literature, and so far as numbers permit, they may be elected by candidates for Honors in other departments of literature and by graduate students.

H1, 2. *Shakespeare*. Mr. NOYES.

H3, 4. *The Seventeenth Century*. Mr. WEBSTER.

H5, 6. *The Eighteenth Century*. Mr. KENNY.

H7, 8. *Age of Romanticism*. Mr. KAPSTEIN.

H9, 10. *The Victorian Period*. Mr. PHILBRICK.

H11, 12. *American Literature of the Nineteenth Century*. Mr. STEWART.

Geology

Professor QUINN (Chairman); Instructors, Messrs. SCHAFER and OLIVER; Lecturer, Mrs. ROSS; Assistants, Messrs. BOONE and ERWIN.

GENERAL PREREQUISITE. Geology 1 or D1 is prerequisite to all other courses in the Department except Geology 41 and 42 and those courses for which other provision is made in the course statement.

DISTRIBUTION REQUIREMENT. The distribution requirement in Physical Sciences under Sciences may be met by taking Chemistry D1 and Geology D1. Geology 1, 2, 41, 117, or 118 may be taken as an independent or a continuation course to satisfy a distribution requirement in the Sciences.

CONCENTRATION. In addition to the elementary course (Geology 1 or D1), the requirements for concentration in geology are: Geology 2, 41, 42, 106, 113, 117, 118, 197. Those who plan to become professional geologists are urged to elect Geology 109 in addition. The Department should be consulted by those planning a concentration program.

The Department recommends that at least four semester courses be elected in related sciences such as chemistry, mathematics, physics, and biology; the Department should be consulted with respect to which related courses are suitable for each student.

HONORS. Honors work in geology may include special reading or laboratory work in regular courses and, ordinarily, a senior thesis on some special laboratory or field problem. Two courses in geology in addition to the usual concentration program are required of Honors students.

GRADUATE WORK. Graduate study is necessary as a preparation for professional work in geology. For such advanced study a reading knowledge of French and German is necessary.

D1. Elementary Physical and Historical Geology

An introductory course concerned with the classification and origin of the materials of the earth's crust, the origin and interpretation of its land forms, and the use of geologic features for determining events and sequences of events in geologic history. A brief view of geologic history will be included. A distribution course integrated with Chemistry D1. Prerequisite: Chem-

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istry D1 or equivalent. May not be taken in addition to Geology 1. Mr. SCHAFER.

1. *Physical Geology*

An introductory course in the interpretation of geological evidence; the materials of the earth; its land forms and structure; the agencies active in their production. May be taken as an independent course to satisfy a distribution requirement in the Sciences. May not be taken in addition to Geology D1. Mr. SCHAFER.

2. *Historical Geology*

The geological history of the earth from its origin to recent times, with emphasis on North America, its dynamic, geographic, and climatic changes; animals and plants of the past; the evolution of life. Prerequisite: Geology 1 or D1. Mr. OLIVER.

41. *Mineralogy*

Introductory study of minerals. Crystallography, physical properties, and chemical tests as methods of identification of minerals. The uses and geologic occurrence of minerals. Prerequisite: Chemistry D1 or equivalent. Six hours of attendance. Mr. QUINN.

42. *Petrography*

Study of the optical properties of minerals and the use of the polarizing microscope. Microscopic study of the main types of rocks and discussion of the classification and the origin of rocks. Prerequisite: Geology 41. Six hours of attendance. Mr. QUINN.

106. *Structural Geology*

Original forms of igneous and sedimentary rocks and the structures produced by earth movements and metamorphism; the mechanics of rock deformation; the interpretation of topographic and geologic maps. Laboratory work in the three-dimensional visualization of folds and faults; practice in determining structures in the field. Prerequisite: Geology 1 and 2, or D1. Mr. OLIVER.

109. *Field Geology*

Supervised geological mapping of the rocks and drift of a small area near Providence, guided and amplified by one discussion period each week on methods. Final work in the course consists of a carefully drawn geological map and a written report of the area. Mr. QUINN.

113. *Paleontology*

A study of the morphology, evolution, classification, and paleoecology of the major groups of fossil invertebrates. Stratigraphic application will be emphasized. Prerequisite: Geology 2, or four semester courses of biology or botany. Mr. OLIVER.

116. *Stratigraphic Paleontology*

Description and interpretation of the rock succession in certain important and typical areas, particularly in North America. Paleogeography, paleoecology, and stratigraphic paleontology will be emphasized. Prerequisite: Geology 113. Mr. OLIVER.

117. *Geomorphology*

A study of land forms and an analysis of their origin. The details of erosion and deposition by streams, as related to rock structures and earth movements. The interpretation of different types of mountains, valleys, terraces, and plains in terms of climatic and other changes. The study of land forms on topographic maps. Prerequisite: Geology 1 and 2, or D1. Mr. SCHAFER.

118. *Glacial Geology*

A study of existing and ancient glaciers—their regime, erosional effects, and deposits. The chronology of the Pleistocene Ice Age. Glacial and postglacial climatic and other changes. The study of glacial features on maps and in the field. Prerequisite: Geology 1 or D1. Mr. SCHAFER.

123. *Sedimentation*

A survey of the methods of accumulation of sediments and of their alteration and consolidation; laboratory work with sedimentation tank. Prerequisite: Geology 1 or D1. Mr. OLIVER.

125. *Economic Geology of the Non-metals*

A study of the nature, occurrence, distribution, and exploitation of deposits of petroleum and natural gas, coal, building materials, salt, and other non-metallic mineral resources. Prerequisite: Geology 1 and 2, or D1. Mr. OLIVER.

141. *Economic Geology of the Metals*

A study of the origin, classification, and distribution of ore deposits. Readings, discussions, and laboratory work. Prerequisite: Geology 1 and 41, or D1 and 41. Mr. QUINN.

197. *Fundamental Theories of the Geologic Sciences*

A discussion of the changing concepts in the different fields of geology.

HISTORY

Assigned readings, discussions, and reports. For seniors and graduate students. May be repeated for credit. The STAFF.

211. *Research in Geology*

Elective for graduate students, and for undergraduates by written consent of the Department. May be repeated for credit. The STAFF.

212. *Research in Geology*

Elective for graduate students, and for undergraduates by written consent of the Department. May be repeated for credit. The STAFF.

243. *Petrology of the Igneous Rocks*

A study of the mineralogical and chemical nature of igneous rocks, the principles of their classification, and the problems of magmatic differentiation. Readings, discussions, and petrographic study of thin sections. Prerequisite: Geology 42 and permission of the instructor. Mr. QUINN.

244. *Petrology of the Metamorphic Rocks*

Types of metamorphism, mineral zones and mineral facies, metamorphic differentiation and metasomatism, structures and fabric of metamorphic rocks. Prerequisite: Geology 42 and permission of the instructor. Mr. QUINN.

History

Professors HEDGES, GEORGE, WROTH,¹ BIGELOW, ARMSTRONG, KIRBY, KEENEY, MORGAN (Chairman), CHURCH; Visiting Professor KNAPTON; Associate Professor FLEMING; Instructor, Mr. DOUGLAS; Assistants, Messrs. MURPHY, SELBY, and TATE and Miss JACOBS.

GENERAL PREREQUISITE. History D1, D2, or IC 1, 2 is elective without prerequisite. Any other course in the Department is elective for students who have taken History D1, D2, or IC 1, 2, or Classics D1, D2, or by written consent of the instructor.

DISTRIBUTION REQUIREMENT. The Social Studies distribution requirement in history may be satisfied by taking History D1, D2, or IC 1, 2.

CONCENTRATION. The requirements for concentration in history are History D1, D2, or IC 1, 2 as a prerequisite; 51, 52; 101, 102 or 107, 108; and four advanced semester courses, only two of which may be in the field of American history. The program is to be arranged in consultation with the

¹ Mr. Wroth is Librarian of the John Carter Brown Library of Americana, which is available for the use of advanced students in the field of American History.

Department supervisor. Seniors are required to take a comprehensive examination on courses included in their concentration programs.

The History Department participates in the interdepartmental concentration programs in American Civilization, Ancient and Medieval Culture, and International Relations.

HONORS. History Honors offers qualified students an opportunity to do individual work in fields of particular interest under the supervision of members of the department and to familiarize themselves with historical materials and the methods employed by the historian.

In addition to the courses required for concentration, each student will take the Honors reading course (History 191, 192) both in the fifth and sixth and in the seventh and eighth semesters. Preparation of an Honors thesis will be included in this work. Programs are to be arranged, and a special field of interest determined, in consultation with the Department supervisor.

Honors will be awarded upon the basis of the course record, the Honors thesis, and the Honors examinations.

HONORS EXAMINATIONS. Comprehensive Examinations shall be taken by all candidates for Honors. The first will cover the general field of European history since the Fall of Rome and American history since 1783; the second, the special field of European or American history chosen by the student when he formulates his Honors program.

RELATED COURSES. Attention is called to courses related to the study of history in art, economics, English and foreign literatures, philosophy, and sociology, and to the following specific courses: Classics 117, 118, 121, 122, 141, 142; Political Science 105, 106, 109, 110, 115, 116, 117, 118, 122. Attention is invited to the program of study in American Civilization on page 55.

D1, D2. European History since the Fall of Rome

A general survey of European development since the fifth century. Satisfies the Social Studies distribution requirement in History. Messrs. GEORGE, KIRBY, DOUGLAS, SELBY, and TATE.

IC 1, 2. The Growth of the Modern State

The central theme of the course will be the growth of the modern state from the Middle Ages to the present. The concept of the state will be analyzed within the historical context provided by the social structure, economic currents, and institutional developments in selected periods since

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the thirteenth century. The liberal idea of the state will be examined by reading works of Burke, Paine, and Mill, while the intellectual bases of the communist, facist, and welfare states will be studied in appropriate authors and recent historical experience. Messrs. CHURCH and DOUGLAS.

51, 52. *American History since 1763*

A general survey of American society, politics, and institutions, and of the relations of the United States with other countries. Mr. HEDGES.

101, 102. *Europe in the Middle Ages*

A survey of the political, constitutional, intellectual, and social-economic history of Europe from the late Roman Empire to the Renaissance. Mr. KEENEY.

103, 104. *History of European Economic Life*

The evolution of economic life and institutions from the feudal age, dominated by agriculture, to the contemporary age, dominated by commerce and industry. Mr. KIRBY.

107, 108. *The Renaissance and the Reformation*

The emergence of the modern era in Europe, from the thirteenth to the seventeenth century. Messrs. DOUGLAS and KNAPTON.

109. *English Constitutional History in the Middle Ages*

A detailed examination of the medieval development of the English Constitution. Emphasis will be placed on the development of a strong monarchy, on the one hand, and on the growth of local institutions of self-government and of representation in a central parliament, on the other hand. Mr. KEENEY.

111, 112. *European History in the Seventeenth and Eighteenth Centuries*

The social, political, and intellectual development of Europe during the Age of Absolutism and the Enlightenment. Mr. CHURCH.

113, 114. *Europe in the Nineteenth Century, 1789-1905*

The Old Regime in decline; French Revolution and Napoleon; liberalism and the economic revolutions; new social movements and nationalism; Revolutions of 1848; democracy and progress, or failure to progress, toward social and political stability; imperialism; science, religion, and anti-intellectualism; the Concert of Europe and the system of alliances. Mr. ARMSTRONG.

119, 120. *Europe in the Twentieth Century*

Nineteenth century origins; the last decade of peace; First World War and

Peace Settlement; Democratic, Communist, and Fascist states between the wars; decline of the Peace Settlement and rise of the Axis; Second World War; post-war questions. Mr. ARMSTRONG.

141, 142. *English History since 1485*

The political and cultural development of England and Greater Britain in the modern period. Mr. KIRBY.

151. *The Establishment of the American Colonies, 1607-1751*

The origin and development of American civilization up to the middle of the eighteenth century. Mr. MORGAN.

152. *The American Revolution and the Forming of the United States, 1751-1788*

The origins of the American Revolution and of the federal union. Mr. MORGAN.

161, 162. *The History of American Economic Life*

An historical treatment of such topics as manufacturing, agriculture, foreign and internal commerce, labor, immigration, and city growth and life; the effect of these factors upon the ideals, problems, and society of the United States, past and present. Mr. HEDGES.

173. *The Social and Intellectual History of the United States, 1789-1860*

An examination of American social development with emphasis on the relationship between ideas and society. Special attention will be given to ideas about nature, ideas about social equality, and ideas about community. Mr. MORGAN.

174. *The Social and Intellectual History of the United States since 1860*

183, 184. *History of Science*

The Pre-Socratics to Newton; Newton to the present. Proficiency in the natural sciences is not required. Mr. FLEMING.

186. *History of Science in America*

Its achievements, its relation to European science, its conditioning by American society at large, and its own impact on society. Proficiency in the natural sciences is not required. Mr. FLEMING.

191, 192. *Honors Reading*

The precise nature of this course will be determined with reference to the individual programs of candidates for Honors in history. It is designed to

HISTORY OF MATHEMATICS

supplement a student's experience in a course, or to open new fields, or to promote acquaintance with various forms of historical material. The STAFF.

201. *Seminar in Modern European History*

Problems in European History since 1789. Mr. ARMSTRONG.

209. *Seminar in Medieval History*

Problems in Medieval History. Mr. KEENEY.

211. *Seminar in Early Modern European History*

Problems in the Reigns of Louis XIII and Louis XIV. Mr. CHURCH.

241, 242. *Seminar in English History*

Topics in the history of nineteenth century England. Mr. KIRBY.

251. *Seminar in American Colonial History*

Topics in American history in the eighteenth century. Mr. MORGAN.

261, 262. *Seminar in American History since 1783*

289. *Historiography and Historical Criticism*

Introduction to the history of historical writing; aids to research; and experience in textual criticism. Mr. FLEMING.

291, 292. *Reading and Research*

Work with individual students in connection with special reading, problems of research, or preparation of theses. The STAFF.

History of Mathematics

Professors NEUGEBAUER (Chairman), SACHS; Visiting Professor KENNEDY.

141, 142. *History of the Ancient Orient* (Classics 141, 142)

A brief survey of the political history of Egypt, Mesopotamia, and the surrounding countries, followed by a study of their culture. Emphasis is placed on the analysis of the literature, art, religion, science, legal institutions, and economic phenomena of the Ancient Orient. May count for concentration in Ancient and Medieval Culture.

151, 152. *History of Mathematics*

Special topics in the development of mathematics. Prerequisite: a knowledge of calculus and analytic geometry. Mr. NEUGEBAUER.

211, 212. *History of Ancient Astronomy*

Discussion of the development of Greek and Near Eastern mathematical astronomy. Mr. NEUGEBAUER.

213, 214. *Seminar in the History of the Exact Sciences*

Discussion and reading of special topics in the history of ancient and medieval mathematics and astronomy. Mr. NEUGEBAUER.

291. *Seminar on Islamic Astronomy*

Discussion of astronomical tables and their relation to Greek and Hindu astronomy. Mr. KENNEDY.

Linguistics

Professor TWADDELL and members of related departments compose the Staff.

GENERAL LINGUISTICS

151. *Phonetics*

Sketch of acoustics and physiology of speech. Transcription. American English sounds. Phonetic and phonemic structure. Illustrative material from other languages. Elective for juniors and seniors. Mr. TWADDELL.

156. *Introduction to Linguistic Science*

The elements, the structure, and the history of language: sounds, inflections, word-formation, vocabulary, sentence structure. The origin of dialects and the development of standard languages. Elective for juniors and seniors. Mr. TWADDELL.

161. *Principles of Historical Linguistics: Introduction to Indo-European Philology*

The objects and methods of historical and comparative linguistics; linguistic change; linguistic relationships; reconstruction; the Indo-European group of languages. Mr. TWADDELL.

213. *Linguistic Geography*

The methodology of linguistic geography and its application to the investigation of American English. The phonetic recording of speech; preparation of the questionnaire; field technique; the interpretation of the geographical distribution of dialectal features in the light of population history and cultural history. Preparation of a study in American English.

251. *Seminar in Linguistics.* Mr. TWADDELL.

LINGUISTICS

CLASSICAL LANGUAGES¹

201. *Seminar in Latin*

EGYPTOLOGY¹

131, 132. *Middle Egyptian*

201. *Reading of Middle Egyptian Texts*

221. *Introduction to Coptic*

281. *Introduction to Old Egyptian*

291, 292. *Reading and Research*

ENGLISH LANGUAGE¹

105-106. *Chaucer*

125-126. *Shakespeare: Selected Plays*

201. *History of the English Language*

202. *Modern English*

203, 204. *Old English Language and Literature*

205, 206. *Middle English Language and Literature*

GERMANIC LANGUAGES¹

153. *Middle High German*

154. *History of the German Language*

201. *Gothic*

202. *Old High German*

211, 212. *Problems in Historical and Comparative Grammar of the Germanic Languages*

291, 292. *Reading and Research*

ROMANCE LANGUAGES¹

French 221. *French Stylistics*

Spanish 231. *History of the Spanish Language*

General Romance 237. *Introduction to Romance Linguistics*

¹ For full description of the courses see departmental statements in this catalog. For the time at which these courses are given, see the section *Courses of Instruction Offered*.

French 238. *History of the French Language*

French 239. *Old French Literature*

General Romance 240. *Problems in Romance Linguistics*

French 291, 292. *Reading and Research*

Spanish 291, 292. *Reading and Research*

Mathematics

Professors BENNETT, ADAMS (Chairman), HEINS, GILMAN, FEDERER; Associate Professor MASSEY; Assistant Professors JONSSON, VAN DER KULK, STEWART, GALE, LISTER; Research Associates, Messrs. MACNEILLE, and WEHAUSEN; Assistants, Messrs. BIELLI, FRINK, GARR, KAMOWITZ, LIGHT-HALL, MALM, PALERMO, and SLEPIAN, Miss KIEFER, and Mesdames O'DELL and STOCKTON.

DISTRIBUTION REQUIREMENT. The distribution requirement in Mathematics for candidates for the degree of Bachelor of Arts is met by passing Mathematics DI or IC 1-2, or by passing the distribution examination in mathematics.

CONCENTRATION. Freshman candidates for the degree of Bachelor of Arts, who plan to continue work in mathematics or the natural sciences, are advised to register for Mathematics DI and 2, or IC 1-2, in their freshman year, and for Mathematics 21-22 in their sophomore year. Each candidate for the degree of Bachelor of Arts, who concentrates in mathematics, pursues one of the following concentration programs, terminating in the senior year in a comprehensive examination uniform for all students enrolled in the program concerned. Additional related courses may be taken in mathematics or other fields, either as free electives or as part of an Honors Program subject to general University regulations stated elsewhere.

1. *Concentration in Mathematics:* Mathematics 2 or IC 2, 21-22, 105, and one of the following concentration sequences, A: 101-102, 121-122; B: 101-102, 104, 161; C: 108, 121-122, 151.

2. *Joint Concentration in Mathematics and Physics:* Mathematics 2, or IC 1-2, and Physics 3 as prerequisites: Mathematics 21-22, 105, and (in the senior year), 108, Physics 4, 101 and two additional courses in the senior year chosen from 106, 107, 109, 121.

3. *Joint Concentration in Mathematics and Economics:* Mathematics 2 or IC 1-2, and Economics DI or IC 1-2 as prerequisites: Mathematics 21-22,

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105, and 151, Economics 101-102, and 192, and either Mathematics 161 or Economics 161.

HONORS. Candidates for Honors in mathematics are enrolled in an Honors Program at the end of the sophomore year. The Honors Program consists of a concentration program and at least two but not more than six additional semester courses in the field of concentration. In the senior year Mathematics 197 is taken as part of the Program. This course consists of independent reading and preparation of an Honors Thesis.

At the end of the senior year the candidate takes his comprehensive examination as part of his Senior Honors Examination; the latter includes also a brief oral examination of unrestricted scope.

GRADUATE CREDITS AND COURSES. Mathematics 197, normally taken by senior Honors students, is open to approved graduate students. Mathematics 201 to 292 are designed primarily for graduate students.

D1. Fundamentals of Mathematics

An introduction to the logical structure which underlies mathematical procedures. Prerequisite: Elementary Algebra 1 and 2 and Plane Geometry. May be taken to satisfy a distribution requirement in Mathematics under Sciences. Messrs. ADAMS and JONSSON, and others.

IC 1-2. A Modern Introduction to Analytic Geometry and Calculus

Real numbers, sets, relations, and functions; subsets of the plane; limits and continuity; differentiation; maxima and minima; superpositions and inverses. Mr. FEDERER and others.

2. Analytic Geometry and Calculus

Inequalities, functions, limits, differentiation of algebraic functions, maxima and minima, graphing. May be taken as a distribution continuation course under Sciences. Prerequisite: Mathematics D1. An exceptional student may, by permission of the Department, take Mathematics D1 and 2 concurrently in Semester II. Mr. MASSEY and others.

5N. Trigonometry, Analytic Geometry and Introductory Calculus

Required of Naval Reserve Officer's Training Corps students who have not presented trigonometry on entrance, and whose programs do not include Mathematics 2 and 21. Not open to others. Mr. PALERMO.

9-10. Analytic Geometry and Calculus

Fundamental principles of analytic geometry and calculus. Exponential and

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trigonometric functions and their inverse functions. Applications. Growth and vibration problems. Multiple integrals. Required in the freshman year of candidates for the degree of Bachelor of Science (except those taking the Nursing course). Not open to others. Mr. HEINS and others.

21-22 *Analytic Geometry and Calculus*

Trigonometric, exponential, and logarithmic functions. Integration, geometrical applications, polar coördinates, Taylor's Theorem. Prerequisite: Mathematics 2 or IC 1-2. Messrs. MASSEY and LISTER.

29. *Calculus*

Linear differential equations with constant coefficients, series, partial differentiation, line integrals. Prerequisite: Mathematics 9-10. Required in the sophomore year of candidates for the degree of Bachelor of Science (except those taking the Nursing course). Not open to others. Messrs. MASSEY and VAN DER KULK.

101-102. *Fundamental Problems of Algebra*

Induction, polynomials, groups, rings, fields, linear transformations. Required of students following concentration sequences A or B in mathematics. Prerequisite: Mathematics 2, IC 1-2, or 9-10. Mathematics 21-22 or 29, if not previously taken, must be taken concurrently. Mr. JONSSON.

104. *Fundamental Problems of Geometry*

Topics in projective, Euclidean and non-Euclidean geometry. Required of students following concentration sequence B in mathematics. Mr. BENNETT.

105. *Differential Equations*

A sequel to Mathematics 21-22. Required of all students concentrating in mathematics or in mathematics and physics jointly; elective for others. Prerequisite: Mathematics 21-22. Mr. ADAMS.

106. *Vector Analysis*

Elementary operations with vectors, tensors, differential operations, and quaternions. Recommended for all students concentrating in mathematics. Prerequisite: Mathematics 21-22 or 29. Mr. BENNETT.

108. *Introduction to Partial Differential Equations*

Fourier expansions, Laplace equations. Equations for heat and wave motion. Required in the senior year of students following concentration sequence C in mathematics, or concentrating in mathematics and physics jointly; elective for others. Prerequisite: Mathematics 29 or 105. Mr. STEWART.

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121-122. *Advanced Calculus*

Convergence, continuity, Fourier series, functions of several variables, multiple integrals, line integrals. Required of students following concentration sequence A or C in mathematics. Prerequisite: Mathematics 21-22 or 29. Mathematics 105 is normally taken previously or concurrently. Mr. MACNEILLE.

151. *Linear Equations and Matrices*

Simultaneous linear equations, matrices, and quadratic forms. Required of students following concentration sequence C or concentrating jointly in mathematics and economics. Mr. STEWART.

161. *Mathematical Statistics*

Theory of elementary statistical measures, theory of frequency curve formulas, random sampling. Required of students following concentration B sequence in mathematics; elective for others. Prerequisite: Mathematics 21-22 or 29. Mr. VAN DER KULK.

171. *Mathematical Theory of Investment*

An advanced course in compound interest, annuities, extinction of debts, bonds, depreciation, and life insurance. Prerequisite: Mathematics 2, IC 1-2, or 9-10. Mr. BENNETT.

197. *Senior Honors Conference*

Collateral reading, individual conferences, and Honors thesis. Required of senior Honors students. Messrs. BENNETT, HEINS and FEDERER.

201, 202. *Differential Geometry*

Introduction to the differential geometry of Euclidean and Riemannian spaces, from the point of view of Cartan. Offered in alternate years. Mr. MASSEY.

205, 206. *Algebraic Geometry*

Offered in alternate years.

221, 222. *Real Function Theory*

Fundamentals of the theory of functions of a real variable. Elective for approved graduate students. Mr. FEDERER.

225, 226. *Complex Function Theory*

Elective for approved graduate students. Mr. VAN DER KULK.

227, 228. *Advanced Topics in Mathematics*

Devoted to special topics which usually are not treated in a general course

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in the theory of functions. Topic for 1953-54: Riemann surfaces. Mr. HEINS.

231. *Theory of Nonlinear Differential Equations*

Elective for approved graduate students.

232. *Theory of Differential Equations, Advanced Topics*

237, 238. *Differential and Integral Equations of Mathematical Physics*. Mr. CHIARULLI.

241, 242. *Introduction to Topology*

Offered in alternate years.

251, 252. *Modern Algebra*

Set theory, groups, fields, linear dependence, linear transformation, and Galois theory. Elective for approved graduate students. Mr. LISTER.

281, 282. *Seminar*

The work in this course is with individual students in connection with special reading. Half-course.

291, 292. *Reading and Research*

Special reading, problems of research, and, in some cases, preparation of theses. Either semester may be elected independently by approved graduate students. The STAFF.

Military Science

NAVY—Captain LAING, U.S.N., Lieut. Colonel RAUCHLE, U.S.M.C., Major JESCHKE, U.S.M.C., Lieut. Comdr. PORTER, U.S.N., Lieut. CAYCE, U.S.N., Lieut. ELDRIDGE, U.S.N., Lieut. ALLEN, U.S.N., and Lieut. (j.g.) CUNNINGHAM, U.S.N.

AIR FORCE—Colonel HARPER, U.S.A.F., Lieut. Colonel DOLAN, U.S.A.F.R., Major DUQUETTE, U.S.A.F.R., Major SANDS, U.S.A.F.R., Major THARP, U.S.A.F., and Lieut. SANTONE, U.S.A.F.R.

NAVAL SCIENCE

GENERAL NOTE. Mission—The mission of the Naval Reserve Officer's Training Corps is to provide by a permanent system of training and instruction in essential Naval subjects at civil educational institutions a source from which qualified officers may be obtained for the Navy and the Marine Corps and their reserve components.

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ORGANIZATION. As an agency of the Navy Department and as a department of Brown University, established in September 1940, the Department of Naval Science provides instruction in all basic Naval subjects necessary to a graduate to perform successfully the duties of an officer in the U. S. Navy or Marine Corps. Graduates who complete the Naval Science curriculum normally receive Line (general service) commissions. Individuals less frequently qualify for and receive commissions in the Civil Engineer's Corps or the Supply Corps of the Navy. Graduates who are ordered to active duty after commissioning are eligible to apply for training in aviation, submarine or other specialties attained through the Navy's school system.

REQUIREMENTS. The physical requirements for acceptance into the Department are the same as those for entrance into the U. S. Naval Academy. Students majoring in art, music, pre-dentistry, pre-medicine, or pre-theology may not be enrolled.

Officer Candidates in the NROTC are of two types:

(a) *Regular NROTC Students* are appointed Midshipmen in the USNR. Such students assume obligations to make three required summer cruises (including one aviation summer cruise). Students agree to remain unmarried until commissioned and to serve at least fifteen months, or, at the discretion of the Secretary of the Navy, three years, on active duty after commissioning as Ensigns USN or Second Lieutenants Marine Corps, and to remain in the Naval Reserve until the eighth anniversary of their commission. They may apply for retention as career Officers in the Regular Navy or Marine Corps. They will have their tuition, fees, and text books paid for by the Government, will be uniformed at government expense, and will receive retainer pay at the rate of \$600 a year.

(b) *Contract NROTC Students* have the status of civilians who enter into a mutual contract with the Navy and who pay their way through the University. For administrative purposes they are referred to as Reserve Midshipmen. They are uniformed at government expense similar to the Regular Students and during their junior and senior years are paid a commuted ration (current ninety cents a day) during the two year period. To provide for deferment from the provisions of the Selective Service Act of 1948 the Contract student must agree prior to enrolment to accept a commission after graduation, if tendered, and to serve on active duty for two years, if called. He must be and remain unmarried until graduation. He is obligated to take the Naval Science curriculum prescribed for the Regular Students, make one summer cruise of approximately three weeks, and accept a commission, if offered, in the Naval Reserve or the Marine Corps Reserve.

With the approval of academic authorities, any student may be permitted to pursue Naval Science Courses for college credits, provided ac-

ceptance of such students will not adversely affect the instruction given NROTC students and providing permission in writing is given by the Department of Naval Science. They are not eligible to take NROTC practice cruises nor to be paid any compensation or benefits.

Under the present arrangement all members of the Naval ROTC Unit will take one Naval Science course each semester.

CONCENTRATION. Students may not concentrate in Naval Science.

NS101. *A History of Sea Power*

This course is designed to stimulate an interest in, and appreciation for the contribution of sea power to world history, particularly pointing up the history of the U. S. Navy, and the United States' place in the world. Not open to juniors and seniors.

NS102. *Naval Orientation*

Naval Orientation, basic principles of naval administration and seamanship. This course is designed to introduce the student to naval nomenclature, custom, and practice. Not open to juniors and seniors.

NS201. *Naval Weapons*

Fundamental principles of naval weapons and fire control. This course is designed to develop in the prospective naval officer the ability to assist in the supervision of the departmental functions of naval ordnance.

NS202. *Naval Weapons*

Prerequisite: Naval Science 201. Continuation of Naval Science 201. Concerned with the general nature and basic principles of employment and control of naval surface and anti-aircraft weapons, ordnance organization of a combatant ship, the control of torpedo fire, and the utilization of naval gunfire in support of amphibious operations.

NS301. *Navigation*

This course is designed to familiarize the student with instruments and equipment used in navigation, and to develop a firm understanding of dead reckoning, using terrestrial objects; an introduction to the use of applied electronics in offshore navigation, the maneuvering board, and nautical rules of the road. Includes a brief introduction to aerology.

NS302. *Navigation*

Designed to thoroughly acquaint the student with the theory of celestial navigation. A study of the components of the celestial astronomical triangle,

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preparatory to obtaining a fixed position on the surface of the earth by observation of celestial bodies. The student is taught to complete a typical navigator's day's work at sea. Prerequisite: Naval Science 301.

NS301M. *Evolution of the Art of War*

This course is designed to survey the historical development of weapons, tactics, and material and to illustrate the classic principles of war by a study of selected battles and campaigns. For Marine Corps candidates.

NS302M. *Basic Strategy and Tactics*

This course is designed to survey modern strategical and tactical principles, using contemporary historical events as illustrative material. Prerequisite: 301M.

NS401. *Naval Machinery*

This course introduces the student to a broad general conception of the fundamentals of a typical naval engineering installation, and shows the relation of the elements of such an installation one to another. It further introduces the student to a basic knowledge of theory, construction and operation of the diesel engine.

NS402. *Naval Administration and Leadership*

Naval Justice; human relations preparatory for commissioned officer service. The course is designed to acquaint the student with the procedures used by, and the responsibilities of, an officer in the administration of naval justice, and by discussion to aid him in understanding the psychology of leadership.

NS401M. *Amphibious Warfare*

This course begins with a brief history of amphibious warfare and its development, and analyzes the modern amphibious operation. It further examines the application of principles derived from this study, in selected examples from modern history. Prerequisite: 302M.

NS402M. *Amphibious Warfare Part II, Leadership and the Uniform Code of Military Justice*

This course is a continuation of the analysis of modern amphibious operations and is designed to acquaint the student with the procedures for, and responsibilities of an officer in the administration of naval justice. Prerequisite: 401M.

AIR SCIENCE AND TACTICS

The Air Force Reserve Officers' Training Corps at Brown University was established in July 1951 under authority of Congress to provide a source

from which qualified officers may be obtained for the Regular Air Force and the Air Force Reserve.

MISSION. The Mission of the Air Force Reserve Officers' Training Corps is to train selected students for positions of leadership in time of national emergency. It offers instruction in essential air science subjects and elementary military training to all physically qualified male students, and advanced training to a limited number of selected students, to produce junior officers who have the qualities and attributes essential to their progressive and continued development as officers in the United States Air Force.

ORGANIZATION AND STAFF. The United States Air Force details six officers and six enlisted airmen as the instructional staff at Brown University. The senior officer is designated as Professor of Air Science and Tactics. All other officers are designated Assistant Professors of Air Science and Tactics.

FACILITIES. The United States Air Force provides all specialized equipment for aids in instruction; these aids are placed in the custody of Brown University authorities for issue to the cadets as required. All Air Science textbooks and aids are loaned to the cadets on hand receipt.

INSTRUCTION. As an agency of the United States Air Force and as a department of Brown University, the Department of Air Science and Tactics provides a peacetime course of instruction of four years in Air Science for which academic credit is given. The first two years consist of a basic course, the last two years of an advanced course. The advanced course is offered to selected students who are physically qualified and who have indicated a desire to attend flight training after graduation. In addition a limited number may be selected from students majoring in Engineering and Physical Sciences. Subjects covered in the basic course and advanced course appear under course description. Completion of the basic course allows the student four semester courses toward graduation. Completion of the advanced course allows four semester courses toward graduation. The Professor of Air Science and Tactics may, in an exceptional case and with the concurrence of the head of the institution, discharge a member of the basic course of the Air Force ROTC from such corps with no course credit for any courses taken in the Department of Air Science and Tactics. A student discharged from the corps for the convenience of the government will not, however, lose credit for Air Force ROTC subjects.

The advanced students are required to attend one summer camp for six weeks between the Junior and Senior year of college for which they are paid \$75 a month, and are furnished subsistence, housing, medical care and necessary uniforms. Transportation in kind is provided for travel to and from summer camp.

OTHER BENEFITS. Advanced students are paid a commuted value of the military ration for 590 days (now approximately \$.90 a day). The United

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States Air Force also furnishes without charge a complete uniform to each cadet.

All qualified Air Force ROTC graduates are commissioned as Second Lieutenants in the Air Force Reserve. Upon receiving their commission they will attend the Air Force pilot training program. The pilot trainee will receive the pay and allowances of their respective rank during this course of instruction.

A student who receives a commission in the United States Air Force Reserve may be assigned to an Air Force Reserve Unit or an Air National Guard Unit nearest his home where he may continue to receive training and promotions.

Under the present arrangements all members of the Air Force ROTC Unit will take one Air Science course each semester.

CONCENTRATION. Students may not concentrate in Air Science.

BASIC COURSES (FRESHMAN)

AIR ROTC 11. *Introduction to Aviation and Military Global Geography*

This course is designed to give the AF ROTC student a general knowledge of History and Development of Aviation and to provide the student with a general knowledge of Military Geography and geopolitics which will serve as a background for subsequent Air Force subjects. This course presents features of History, Geography, Resources, Transportation, Government, Economy, Political trends, etc., that are important in our military defense planning. Drill and basic military training.

AIR ROTC 12. *National Defense and the Air Force*

This course is designed to familiarize the student with the instruments of National Defense and to develop a better understanding of the role of the Air Force in National Defense. This course also covers international tensions and Security Structures, factors that contribute to the status of a nation as a world power, factors that develop tensions between world powers, and international security structures that have been established to deal with the problems of security and the role of the United States in world leadership. Drill and basic military training.

BASIC COURSES (SOPHOMORE)

AIR ROTC 21. *Elements of Aerial Warfare*

The objective of this course is to acquaint the student with all the elements of warfare to include aerial warfare, atomic, rocket-propelled, chemical, biological, and psychological. The study of the delivery of aircraft dealing with factors governing design and type according to the type mission they

are to perform. This also includes the study of military targets, target reconnaissance, air bases, defense of air base of operation and other problems associated with any type air operation. Leadership, drill and exercise of command.

AIR ROTC 22. *Elements of Aerial Warfare*

This course further considers the topics in AIR ROTC 21, introducing the student to the basic organizational structure of the Air Force. The structure of the USAF combat and support organizations. The development of air power, the strategic concepts of air operations and the tactical employment of air power. The responsibility of each officer and airman in accomplishing the mission of the Air Force. Leadership, drill and exercise of command.

ADVANCED COURSES (JUNIOR)

AIR ROTC 31. *Elements of Aerial Warfare*

Same description as AIR ROTC 22 for 1953-54 only in order to phase in the new AF ROTC course of study. In 1954-55, the course title and description will be as follows:

Applied Air Science, Aircraft Engineering and Navigation

The objective of this course is to introduce the student to the basic principles of aerodynamics, propulsion, aircraft engines, and aerial navigation. Leadership laboratory.

AIR ROTC 32. *Air Force Administration, Military Law, and Problem Solving*

The primary function of this course is to provide the AF ROTC student with a general knowledge of Air Force administrative procedures and practices. Also to acquaint the student with the new Uniform Code of Military Justice. Problem solving—a study of the laws of learning, the nature of thinking and problem solving, a series of steps to be considered in problem solving, and conference technique in the solution of problems. Leadership laboratory.

AIR FORCE SUMMER CAMP

All advanced students who have successfully completed their Junior year of Air Force ROTC are required to attend one Air Force ROTC Summer Camp for a six week period. No credit. (see par. 5—page 153).

ADVANCED COURSES (SENIOR)

AIR ROTC 41. *Principles of Military Management and the Psychology of Leadership*

The objective of this course is to acquaint the student with the basic

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principles of management and their application to a military organization. Human relations with respect to leadership. To provide the student with a basic knowledge of the psychology of leadership and to develop those qualities of leadership that are essential to Air Force officers.

AIR ROTC 42. *Military World Political Geography*

To provide the AF ROTC student with a general knowledge of political geography; to include its significance to the USAF, power patterns and geopolitical concepts. The framework of international policies, the anatomy of political power, geographical basis of power to include case studies in factors of powerhood of nations. Duties of the new Air Force officer are studied and the attributes and qualities essential to leadership in the United States Air Force are further developed.

Modern Languages

Professors HARCOURT BROWN, FICHTER, TWADDELL, KELLENBERGER (Chairman), LÓPEZ-MORILLAS, SALVAN; Associate Professors HOLSKE, GORDON, JAMES, E. J. BROWN, BERGETHON; Assistant Professors SCHNERR, WEIMAR, WIGGIN, ECHEVERRIA, TRUEBLOOD, DEWART; Lecturer, Mrs. KOSSOFF; Instructors, Messrs. CASSIRER, KOSSOFF, LEPPMANN, MINSHALL, and RIDGELY; Assistants, Messrs. AMOR, BARENBAUM, BENTLEY, HARRIS, JOHNSON, LLOYD, QUAKER, SCUNGIO, and SUDBOROUGH, and Mesdames McCLOSKEY and YOKELSON.

PLACEMENT TESTS. All students who wish to take college courses in a modern language in which they presented entrance credit must take a placement test in that language. On the basis of these tests, which are given in Freshman Week, students are assigned to the language courses for which they are best qualified.

LANGUAGE REQUIREMENT. In Modern Languages, students may meet the language requirement in either of two ways: (1) by passing an achievement test, which is given three times a year; or (2) by obtaining a grade of C or better in French 4, German 4, Italian 4, Russian 4, Spanish 4, or in a higher level course in any of these languages. See page 56 for a complete description of the language requirement for the A.B. degree.

GENERAL PREREQUISITES. In French, German, and Spanish, advanced literature courses are elective for students who have taken the appropriate DII-DI2 or IC 1-2 course, provided that the latter was taken in the foreign language. This prerequisite may also be met by passing the distribution test. A qualified student who lacks exact course prerequisites may be admitted to any advanced course with written permission of the instructor.

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DISTRIBUTION REQUIREMENT. The distribution requirement in Literature under Humanities may be met by taking French D11–D12, French IC 1–2, German D11, D12, Italian D107, D108, Spanish D11, D12, or Spanish IC 1–2. This requirement may also be satisfied by test (see page 58).

CONCENTRATION. Students may concentrate in French, German, Italian, Spanish, or in any two of the modern languages. The minimum requirement for concentration is eight semester courses (or their equivalent) above the D11–D12 level. Students planning to concentrate in modern languages should consult the authorized representative of the Division for each language.

Candidates in *French* will be expected to have a sound knowledge of French literature since 1600.

Candidates in *German* will arrange a program which will acquaint them with the main writers and movements in German literature, particularly after 1750.

Candidates in *Italian* will arrange a program to acquaint them with (a) the period from Dante to the end of the sixteenth century and (b) the nineteenth century.

Candidates in *Spanish* will place special emphasis on (a) the Golden Age and (b) modern and contemporary literature of Spain or Spanish-American literature.

HONORS. Candidates for Honors in the Modern Languages should consult the Honors representative for each language in order to arrange a program which will (a) acquaint them with the main writers and movements in the language of their choice and (b) permit them to do intensive work in a field of special interest to them. This will normally involve readings and reports in connection with selected courses during the last half of their college course and, where advisable, supervised additional readings in fields of special interest or value to them. In the seventh and eighth semesters they will prepare a thesis for which they will receive course credit.

RELATED COURSES. Students concentrating in modern languages should consider the election of one or more courses in the principal periods of other literatures, in linguistics, and in related fields such as philosophy, art, and history.

FRENCH

IC 1–2. *Ideas and Literary Problems in Voltaire's Contes Philosophiques* *Candide*, *Micromégas*, *Zadig*, and other works will be read and discussed as illustrations of Voltaire's reactions to human problems and situations. His rational humanism, his ideas on education, the role of science in imaginative literature, and the philosophical tale as a literary form will be treated.

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Sources and subsequent developments, from Pascal to Bernard Shaw, will be studied as well as reactions against his method and ideas. The French sections, where the basic texts will be read in French, are open to students who have met the language requirement in French. Students who have not met this requirement may enroll in the English section, where the material will be read in translation. The English section does not qualify a student for admission to advanced French literature courses. Mr. H. BROWN.

1-2. *Basic French*

A course for beginners: fundamentals of grammar and basic vocabulary. Lectures two hours weekly; intensive oral drill and supervised reading practice in small sections four hours weekly in the first semester and three hours weekly in the second semester. Elective for students who have not presented French for admission. No credit is given for the first semester alone, but with written permission a qualified student may elect the latter half of the sequence. Mr. CASSIRER and STAFF.

1R-2R. *Beginning French*

Brief survey of the elements of the language, practice in reading. Three hours per week. Open to approved juniors and seniors who have met the language requirement in another foreign language. No credit is given for French 1R alone, but with written permission of the instructor a qualified student may elect French 2R. The STAFF.

2. *Elementary French B*

Reading and drill in grammar. Four hours per week. Prerequisite: placement.¹ The STAFF.

3. *Intermediate French A*

Intensive and extensive reading in modern prose authors. Grammar review for reading purposes. Four hours per week. Prerequisite: French 2 or placement.¹ The STAFF.

4. *Intermediate French B*

Readings in modern prose authors. Grammar review for reading purposes; training in sentence analysis. Three hours per week. Prerequisite: French 3. The STAFF.

9. *Writing and Speaking French A*

Practice in writing and speaking French. Four hours per week: two hours of discussion and analysis plus two hours of oral practice. Open to students who have met the language requirement in French. Mr. SALVAN.

¹ See statement on Placement Tests, p. 156.

D11-D12. *French Literature: Introductory Course*

Intensive reading of a limited number of important works from such authors as Corneille, Molière, Racine, Voltaire, Rousseau, Hugo, Balzac, and Flaubert. May be taken to satisfy the distribution requirement for a two-semester course in Literature under Humanities. Open to students who have met the language requirement in French. The STAFF.

51. *Writing and Speaking French B*

Emphasis given to the idiomatic use of the language. Four hours per week: two hours of discussion and analysis plus two hours of oral practice. Prerequisite: French 9 or D11-D12 or IC 1-2, French section. The approval of the instructor is required. Mr. SALVAN.

109. *Romanticism and Realism*

The development of literature from Chateaubriand to Flaubert: drama, novel, poetry. Prerequisite: French D11-D12 or IC 1-2. Mr. ECHEVERRIA.

110. *Modern French Literature*

An introduction to the ideas and movements of the last ninety years. Prerequisite: French D11-D12 or IC 1-2. Mr. CASSIRER.

131. *The Classical Theater in France*

The development of tragedy and comedy in the seventeenth century. Prerequisite: French D11-D12 or IC 1-2. Mr. WIGGIN.

134. *The Novel in France in the Nineteenth Century*

Representative fiction of the nineteenth century. Prerequisite: French D11-D12 or IC 1-2. Mr. DEWART.

141. *French Literature of the Seventeenth Century*

A study of representative works of the major writers from Montaigne to Boileau and La Bruyère. Prerequisite: French D11-D12 or IC 1-2. Primarily for juniors and seniors. Mr. RIDGELY.

142. *French Literature of the Eighteenth Century*

Study of the Enlightenment; the novel and drama. Prerequisite: French D11-D12 or IC 1-2. Primarily for juniors and seniors. Mr. KELLENBERGER.

170. *Advanced Written and Oral French*

Designed to develop skill and accuracy in literary composition and oral expression. Prerequisite: French 51 with grade of A or B, or the written consent of the instructor. Elective for juniors and seniors. Mr. SALVAN.

174. *Littérature du vingtième siècle*

Proust, Gide, Mauriac, Romans, and others. Conducted in French. Pre-

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requisite: two semesters of French beyond French DI1-DI2 or IC 1-2. Elective for juniors and seniors. Mr. SALVAN.

191. *Studies in French Poetry*

Topic for 1953-54: French poetry, 1820-1914. Prerequisite: two semesters of French beyond French DI1-DI2 or IC 1-2, or written permission of the instructor. Students may receive credit for this course in two successive years. Primarily for seniors. Mr. GORDON.

194. *The Literature of Ideas in France*

Topic for 1953-54: Relations between French and American thought and culture. Prerequisite: two semesters of French beyond French DI1-DI2 or IC 1-2. Students may receive credit for this course in two successive years. Primarily for seniors. Mr. ECHEVERRIA.

198. *Senior Conference*

Special work or preparation of honors thesis under the direction of a member of the Staff.

201. *Studies in French Prose*

Topic for 1953-54: Rabelais. Mr. H. BROWN.

211. *Seventeenth Century French Literature*

Topic for 1953-54: Pierre Corneille and French tragedy. Mr. KELLENBERGER.

214. *French Literature from 1800 to the Present*

Topic for 1953-54: La littérature engagée. Mr. SALVAN.

221. *French Stylistics*

An analytical study of stylistic effects and procedures in modern French prose with special attention to word order. Comparison with English usage. Offered in alternate years. Mr. KELLENBERGER.

238. *History of the French Language*

The development of the French language from the *Oaths of Strasbourg* to the modern period. Lectures, readings, and discussion. Offered in alternate years. Mr. SCHNERR.

239. *Old French Literature*

The history of Old French Literature from the *Chanson de Roland* to Villon. Offered in alternate years. Mr. GORDON.

252. *Research in Eighteenth Century French Literature*

261. *Problems in French Literary History*

MODERN LANGUAGES—GERMAN

262. *Problems in French Literary History*

291, 292. *Reading and Research*

Work with individual students in connection with special reading, problems of research, or preparation of theses. The STAFF.

GENERAL ROMANCE

202. *Problems in Comparative Literature*

The study of special topics involving literary relationships and movements in the Romance literatures. Not offered every year.

237. *Introduction to Romance Linguistics*

Elements of the historical and comparative grammar of the Romance languages, with special attention to the Latin period. Lectures, readings, and discussion. Offered in alternate years. Mr. SCHNERR.

240. *Problems in Romance Linguistics*

Studies in the history of the Romance languages. Offered in alternate years. Mr. SCHNERR.

GERMAN

1-2. *Basic German*

A course for beginners: fundamentals of grammar and basic vocabulary. Lectures two hours weekly; intensive oral drill and supervised reading practice in small sections four hours weekly in the first semester and three hours weekly in the second semester. Elective for students who have not presented German for admission. No credit is given for the first semester alone, but with written permission a qualified student may elect the latter half of the sequence. Mr. TWADDELL and STAFF.

1R-2R. *Beginning German*

Brief survey of the elements of the language, practice in reading. Texts from the sciences, social studies, literature, philosophy. Three hours per week. Open to approved juniors and seniors who have met the language requirement in another foreign language. No credit will be given for German 1R alone, but with written permission of the instructor a qualified student may elect German 2R. The STAFF.

2. *Elementary German B*

Reading of easy German prose. Written exercises and oral practice. Four hours per week. Prerequisite: placement.¹ The STAFF.

¹ See statement on Placement Tests, p. 156.

MODERN LANGUAGES—GERMAN

3. *Intermediate German A*

Reading of modern German prose. Intensive vocabulary expansion and training in reading technique. Four hours per week. Prerequisite: German 2 or placement.¹ No credit if student has credit for German 3S. The STAFF.

3S. *Intermediate Scientific German*²

Reading of scientific texts; grammar for reading. Five hours per week during the first half of the semester, three hours per week after mid-semester. In the second half of the semester classes are divided into two groups: (1) Chemistry-Physics, (2) Biology-Medicine-Psychology, and each reads material in its field. During this period, the two groups meet together one hour per week and meet separately for two hours each per week. Prerequisite: German 2 or placement¹ by test. No credit if student has credit for German 3. The STAFF.

4. *Intermediate German B*

Readings in modern authors with practice in translation techniques. Three hours per week. Prerequisite: German 3, or German 3S with a grade of C or better. The STAFF.

9. *Composition and Conversation*

Practice in writing and speaking German. Four hours per week: two hours of discussion and analysis, plus two hours of oral practice. Open to students who have met the language requirement in German. Mr. LEPPMANN.

DI1, DI2. *German Literature: Introductory Course*

Reading of representative works since the late 18th century. Discussion of important aspects of German literary history. May be taken to satisfy the distribution requirement for a two-semester course in Literature under Humanities. Open to students who have met the language requirement in German. The STAFF.

29. *German Literature in English Translation A*

German literature from the beginnings to Goethe in its relations to other literatures and to its general cultural background. Readings include selections in English translation from medieval literature and from the works of Lessing, Goethe, and Schiller. Mr. BERGETHON.

30. *German Literature in English Translation B*

German literature from Romanticism to the modern period (ca. 1800-1950), in its relation to other literatures and to its general cultural background. Readings include selected works in English translation of the

¹ See statement on Placement Tests, p. 156.

² This course is not designed to prepare students to meet the language requirement for the A.B. degree.

MODERN LANGUAGES—GERMAN

Romanticists, of Heine, Hebbel, Schopenhauer, Wagner, Nietzsche, Hauptmann, Rilke, Kafka, Werfel, Thomas Mann, and others. Mr. WEIMAR.

110. *Advanced Composition and Conversation*

Designed to develop facility in oral and written German. Discussion of significant aspects of contemporary Germany. Four hours per week. Prerequisite: German 9 or D11, D12. Offered in alternate years. Mr. LEPPMANN.

121. *German Literature before Goethe*

The development of German literature from the early Middle Ages to the second half of the eighteenth century. Extensive reading of works by the principal writers, with an intensive study of Lessing. Lectures in German and English. Offered in alternate years. Prerequisite: German D11, D12. Mr. BERGETHON.

124. *Studies in German Literature*

Topic for 1953-54: The lyric of the nineteenth and twentieth centuries. Prerequisite: German D11, D12 or, with written approval of the instructor, this course may be taken after German 9 or concurrently with German D11 or D12. Students may receive credit for this course in successive years. Mr. WEIMAR.

131. *Goethe and Schiller*

A study of works representing the Storm and Stress movement, the classical period of Goethe and Schiller (to 1805), and the preparation of Romanticism. Prerequisite: German D11, D12 or written permission of the instructor. Offered in alternate years. Mr. BERGETHON.

132. *Goethe and Romanticism*

Goethe's *Faust*, Kleist and Romanticism, Schlegel, Novalis, Tieck, and Hoffmann. Prerequisite: German D11, D12 or written permission of the instructor. Offered in alternate years. Mr. LEPPMANN.

143. *Realism*

German Literature from the decline of Romanticism to the end of the nineteenth century. A study of trends and representative works of Grillparzer, Heine, Hebbel, Keller, Meyer, and others. Prerequisite: German D11, D12. Offered in alternate years. Mr. HOLSKE.

144. *Modern German Literature*

A study of trends and writers after Nietzsche: Impressionism, Expressionism, and subsequent developments; George, Rilke, Kafka, Thomas Mann, Werfel, and others. Prerequisite: German D11, D12. Offered in alternate years. Mr. WEIMAR.

MODERN LANGUAGES—GERMAN

153. *Middle High German*

The elements of the language. Reading of the *Nibelungenlied* and selected *Minnelieder*. Prerequisite: two semesters beyond German DI1, DI2. Not offered every year. Mr. TWADDELL.

154. *History of the German Language*

The development of German pronunciation, the inflections, word-formation, syntax. Special emphasis on the modern period. Prerequisite: German 153. Not offered every year. Mr. TWADDELL.

198. *Main Trends in German Literature*

Major developments and writers from pre-Christian period to the present. Primarily for seniors, open occasionally to graduate students. If an Honors Thesis is written in addition to the course work, double credit will be given. The STAFF.

201. *Gothic*

An introduction to the historical and comparative grammar of the Germanic languages with Gothic as a basis. Reading of selections from Wulfila's translation of the Gospels. Not offered every year. Mr. MINSHALL.

202. *Old High German*

Phonology, morphology, etymology, syntax. Reading of Franconian, Bavarian, and Alemannic texts. Not offered every year. Mr. TWADDELL.

211. *Problems in the Historical and Comparative Grammar of the Germanic Languages*

212. *Problems in the Historical and Comparative Grammar of the Germanic Languages*

225. *Problems in German Literature*

Topic for 1953-54: Types and genres of literature, 1500-1750. Mr. HOLSKE.

226. *Problems in German Literature*

231. *Seminar in German Literature*

232. *Seminar in German Literature*

Topic for 1953-54: Hauptmann and Stehr. Mr. WEIMAR.

291, 292. *Reading and Research*

Work with individual students in connection with special reading, problems of research, or preparation of theses. The STAFF.

MODERN LANGUAGES—ITALIAN

ITALIAN

1-2. *Elementary Italian A and B*

Grammar, oral practice, reading, written exercises. Four hours per week. Elective for students who have not presented Italian for admission. No credit is given for Italian 1 alone, but with written permission of the instructor a qualified student¹ may elect Italian 2. Mr. SCHNERR.

3. *Intermediate Italian A*

Reading of modern prose. Grammar review, oral practice. Four hours per week. Prerequisite: Italian 2 or placement.¹ Mr. GORDON.

4. *Intermediate Italian B*

Readings in modern authors. Grammar review and composition. Three hours per week. Prerequisite: Italian 3. The STAFF.

51. *Writing and Speaking Italian*

Open to students who have met the language requirement in Italian, or with written permission of the instructor. Four hours per week: two hours of discussion and analysis plus two hours of oral practice. Offered in alternate years. The STAFF.

D107, D108. *General Survey of Italian Literature*

A general view of Italian literature to 1870, with emphasis on the more important writers and literary movements. May be taken to satisfy the distribution requirement for a two-semester course in Literature under Humanities. Offered in alternate years. Mr. GORDON.

133, 134. *Studies in Modern Italian Literature*

The most significant writers and literary movements of Italy from the Counter-Reformation to the present. Offered in alternate years. Mr. GORDON.

155, 156. *Humanism and Renaissance*

An interpretative reading of the most representative authors of the Trecento, Quattrocento, and Cinquecento and a study of their influence on European literature. Offered in alternate years. Mr. GORDON.

161, 162. *Dante's Divina Commedia*

The *Divina Commedia* treated as a representative monument of medieval culture. A knowledge of Italian is not required. Majors in Italian will read the *Divina Commedia* in the original. Prerequisite: permission of the instructor. Offered in alternate years. Mr. GORDON.

¹ See statement on Placement Tests, p. 156.

MODERN LANGUAGES—RUSSIAN

198. *Senior Conference*

Each student concentrating in Italian will work under the direction of a member of the Staff. If an Honors Thesis is written in addition to the course work, double credit will be given.

215, 216. *Research in Italian Literature*

RUSSIAN

1-2. *Elementary Russian A and B*

A course for beginners: fundamentals of grammar and basic vocabulary. Lectures three hours weekly; intensive oral drill and supervised reading practice three hours weekly in small sections. Elective for students who have not presented Russian for admission. No credit is given for Russian 1 alone, but with written permission of the instructor a qualified student¹ may elect Russian 2. Mr. E. J. BROWN and STAFF.

3. *Intermediate Russian A*

Intensive reading of Russian prose, including selections from the works of Pushkin, Chekhov, Tolstoy, and others. Grammar review and oral practice. Four hours per week. Prerequisite: Russian 2 or placement.¹ Mr. E. J. BROWN.

4. *Intermediate Russian B*

A course intended primarily to develop reading fluency in a variety of fields. Selections include readings in literature, literary criticism, history, and other subjects. One hour per week is given to composition and conversation. Four hours per week. Prerequisite: Russian 3 or placement.¹ Mr. E. J. BROWN.

29. *Russian Literature in English Translation A*

Russian literature from the earliest times through Tolstoy, with particular attention to the nineteenth century. Selected works of Pushkin, Lermontov, Gogol, Turgenev, Dostoyevsky, Tolstoy, and others will be read. Elective for juniors and seniors. No knowledge of Russian is required; however, students who have met the language requirement in Russian will read designated portions of the assigned work in Russian. Mr. E. J. BROWN.

30. *Russian Literature in English Translation B*

Russian literature from Tolstoy to the present, with emphasis on the twentieth century. Selected works of Chekhov, Gorky, Bunin, Andreyev, Blok, Zamyatin, Fadeyev, Katayev, Sholokhov, and others will be read.

¹ See statement on Placement Tests, p. 156.

MODERN LANGUAGES—SPANISH

Elective for juniors and seniors. No knowledge of Russian is required; however, students who have met the language requirement in Russian will read designated portions of the assigned work in Russian. Prerequisite: Russian 2g or written permission of the instructor. Mr. E. J. BROWN.

SPANISH

IC 1-2. *The Interplay of the Real and the Ideal in Cervantes' Don Quixote*

Ideas in *Don Quixote*, the first and one of the greatest of modern novels, will be discussed as they function dynamically through character and situation. The course will explore some of the countless perspectives which this masterpiece offers on human motives, values, and purposes, on the individual's relations with society, his place in the outer world of nature, and his participation in the inner one of the spirit and of art. The Spanish section where a substantial part of the material will be read in Spanish, is open to students who have met the language requirement in Spanish. Students who have not met this requirement may enroll in an English section, where the material will be read in translation. The English section does not qualify a student for admission to advanced Spanish literature courses. Mr. TRUEBLOOD.

1-2. *Basic Spanish*

A course for beginners: fundamentals of grammar and basic vocabulary. Lectures two hours weekly; intensive oral drill and supervised reading practice in small sections four hours weekly in the first semester and three hours weekly in the second semester. Elective for students who have not presented Spanish for admission. No credit is given for the first semester alone, but with written permission a qualified student may elect the latter half of the sequence. Mr. KOSSOFF and STAFF.

2. *Elementary Spanish B*

Grammar, oral practice, written exercises. Reading of simple texts. Four hours per week. Prerequisite: placement.¹ The STAFF.

3. *Intermediate Spanish A*

Reading of modern prose: intensive drill in translation, extensive practice in reading for comprehension. Oral practice. Four hours per week. Prerequisite: Spanish 2 or placement.¹ The STAFF.

4. *Intermediate Spanish B*

Readings in modern authors: reading for comprehension and practice in translation techniques. Three hours per week. Prerequisite: Spanish 3. The STAFF.

¹ See statement on Placement Tests, p. 156.

MODERN LANGUAGES—SPANISH

9. *Spanish Composition and Conversation*

Practice in writing and speaking Spanish. Four hours per week: two hours of discussion and analysis, plus two hours of oral practice. Open to students who have met the language requirement in Spanish. Mr. AMOR.

D11, D12. *Spanish Literature: Introductory Course*

Intensive and extensive reading and discussion of representative works by outstanding authors of the Golden Age and of the modern period. May be taken to satisfy the distribution requirement for a two-semester sequence in Literature under Humanities. Open to students who have met the language requirement in Spanish. The STAFF.

51. *Advanced Composition and Conversation*

Intensive practice in writing and speaking Spanish. Oral and written reports. Four hours per week: two hours of discussion and analysis plus two hours of oral practice. Prerequisite: Spanish 9 or D11, D12, or IC 1-2, Spanish section. The STAFF.

107. *Survey of Spanish Literature to 1700*

A study of the main literary *genres* and the more important writers from the beginnings to the end of the seventeenth century. Prerequisite: Spanish D11, D12, or IC 1-2, or written permission of the instructor. Mr. FICHTER.

108. *Survey of Spanish Literature after 1700*

A study of the main literary *genres* and the more important writers from the eighteenth century to the present. Prerequisite: Spanish D11, D12, or IC 1-2, or written permission of the instructor. Mr. FICHTER.

115. *Spanish-American Literature of the Colonial Period*

The main literary trends and the more important writers. Reading of representative texts, discussion, and reports. Not offered every year.

116. *Modern and Contemporary Spanish-American Literature*

The main literary trends and *genres* and the more important writers. Reading of representative texts, discussion, and reports. Prerequisite: Spanish D11, D12, or IC 1-2. Offered in alternate years. Mr. LÓPEZ-MORILLAS.

120. *Novel of the Nineteenth Century*

The development of the novel from Fernán Caballero to Pardo Bazán with special emphasis on Galdós. Prerequisite: Spanish D11, D12, or IC 1-2. Offered in alternate years. Mr. LÓPEZ-MORILLAS.

121. *Contemporary Spanish Literature*

A study of the *Generación del 98*, with special emphasis on its contributions

MODERN LANGUAGES—SPANISH

in the novel and essay. Prerequisite: Spanish 108 or written consent of the instructor. Mr. LÓPEZ-MORILLAS.

141. *Cervantes*

An introduction to the study of Cervantes, with special attention to *Don Quixote*. Prerequisite: Spanish 107. Offered in alternate years. Mr. TRUEBLOOD.

142. *The Drama of the Golden Age*

A study of some of the masterpieces of the classic theater from Lope de Vega to Calderón. Prerequisite: Spanish 107. Offered in alternate years. Mr. FICHTER.

151. *Studies in Spanish Literature after 1700*

Topic for 1953-54: The Spanish novel after 1936. Prerequisite: Spanish 108; occasionally, Spanish D11, D12 or Spanish IC 1-2 with written permission of the instructor. Students may receive credit for this course in different years. Offered in alternate years. Mr. LÓPEZ-MORILLAS.

152. *Studies in Spanish Literature before 1700*

Prerequisite: Spanish 107; occasionally, Spanish D11, D12, or Spanish IC 1-2 with written permission of the instructor. Students may receive credit for this course in different years. Offered in alternate years. Mr. FICHTER.

170. *Advanced Written and Oral Spanish*

Designed to develop skill and accuracy in literary composition and oral expression. Prerequisite: Spanish 51 with a grade of A or B or written approval of the instructor. Offered in alternate years. Mr. LÓPEZ-MORILLAS.

198. *Senior Conference*

Special work or preparation of Honors Thesis under the direction of a member of the Staff.

213. *Cervantes A*

A study of Cervantes' works exclusive of *Don Quixote*. Offered in alternate years. Mr. FICHTER.

214. *Cervantes B*

A study of *Don Quixote*. Offered in alternate years. Mr. FICHTER.

219. *The Spanish Drama to 1635*

The development of the *comedia*, with special emphasis on Lope de Vega. Offered in alternate years. Mr. FICHTER.

MUSIC

220. *The Spanish Drama from 1635 to 1681*

The later development of the *comedia*, with special emphasis on Calderón. Offered in alternate years. Mr. FICHTER.

221. *Problems in Spanish and Spanish-American Literature*

Topic for 1953-54: Naturalism in Spain with special emphasis on Clarín. Mr. LÓPEZ-MORILLAS.

223. *Seminar*

Special topics and problems in Spanish and Spanish-American literary history. Topic for 1953-54: Satirical and didactic poetry of the Golden Age. Mr. FICHTER.

231. *History of the Spanish Language*

Outline of historical phonology and morphology. Offered in alternate years. Mr. SCHNERR.

291, 292. *Reading and Research*

Work with individual students in connection with special reading, problems of research, or preparation of theses. The STAFF.

Music

Professor COOLIDGE (Chairman); Associate Professor DINNEEN; Assistant Professors MADEIRA, FISCHER, VAN KOPPENHAGEN, THOMSON; Instructor, Mr. LAURENT.

DISTRIBUTION REQUIREMENT. The distribution requirement in Art and Music under Humanities may be satisfied by taking Music D1.

CONCENTRATION. In addition to the elementary course (Music D1), the requirement for concentration in music is: eight semester courses or equivalent, including Music 3, 15-16, and 198. The Department recommends that ordinarily the program contain eight semester courses or equivalent in addition to Music 198. Membership in one of the recognized choral groups or the orchestra is required.

HONORS. A student may enroll for Honors in Music at the end of his sophomore year. A topic for a four-semester project of study is selected in consultation with the Honors Advisor of the department. The student works independently, reporting regularly to the advisor. A critical written report of the entire project is required in the senior year. Suitable topics include:

The String Quartet
 Music in France from 1800 to the present
 Chamber Music including the Piano
 Sacred Choral Music
 Keyboard Music of the Twentieth Century
 Music of the Renaissance

D1. *Introduction to Music*

A variety of masterpieces, including symphonies, an opera, and works for piano, presented with a view to intelligent listening. Emphasis on a keener grasp of rhythms, harmonies, forms, and other elements. Recordings and reading assigned for outside study. May be taken to satisfy the Art-Music distribution course requirement under Humanities. Not generally recommended for freshmen in the first semester. Messrs. FISCHER and VAN KOPPENHAGEN, and STAFF.

2. *Survey of Music for Keyboard Instruments*

Study of the nature of the harpsichord, clavichord, piano, and organ and of the music written for them from the Elizabethan period to the present. Illustrations at the harpsichord, piano, and organ; recordings and reading assigned for outside study.

3. *Survey of Orchestral and Operatic Music*

Symphonies, orchestral suites, and operas from various periods including the contemporary. Lectures; recordings and reading assigned for outside study. Prerequisite: Music D1 or the written consent of the instructor.

4. *Nineteenth Century Composers*

Significant works by Beethoven, Schumann, Mendelssohn, Berlioz, Liszt, Wagner, Brahms, Tchaikovski, and others. Orchestral, choral, operatic, and chamber compositions. Lectures; recordings and reading assigned for outside study. Prerequisite: Music D1 or the written consent of the instructor. Mr. COOLIDGE.

15-16. *Elementary Theory*

Fundamentals of musicianship including formation and connection of chords; harmonization of melodies and basses; harmonic and form analysis; ear training and keyboard harmony. Elective by written consent of the instructor. Laboratory section to be arranged. Mr. THOMSON.

MUSIC

17. *Advanced Theory*¹

Secondary sevenths, ninths, chromatic harmony; harmonic and form analysis. Elective by written consent of the instructor. Prerequisite: Music 15-16. Mr. THOMSON.

18. *Counterpoint*¹

Introduction to contrapuntal thinking, both strict and free. Writing of two-part and three-part counterpoint and analysis of contrapuntal textures. Elective by written consent of the instructor. Prerequisite: Music 15-16. Mr. THOMSON.

23. *Beethoven and Brahms*

A study of symphonies, concerti, choral, solo, and chamber works, with emphasis on analysis. Lectures; recordings and reading assigned for outside study. Elective by written consent of the instructor. Prerequisite: Music D1.

51-52. *Instruction in Vocal or Instrumental Music; or Instrumental Ensemble Music*²

For students who wish to continue their study of voice or instrument or to study by means of performance the literature of chamber music. (See statement on page (174) regarding opportunities for instruction on a non-credit basis). To receive permission to enroll in this course, the student confers with the chairman of the Department concerning an informal audition for members of the Department, choice of teacher, and other details. One hour of instruction weekly. Public auditions are scheduled regularly and, in some instances, a student may prepare for a Senior Recital. Half-course each semester. Elective by written consent of the chairman of the Department. Only four semesters of this work may be credited toward concentration. Mr. VAN KOPPENHAGEN and STAFF.

53-54. *Instruction in Vocal or Instrumental Music; or Instrumental Ensemble Music* (second year)

Half-course each semester. Elective by written consent of the chairman of the Department. Only four semesters in the sequence 51-58 may be credited toward concentration. Mr. VAN KOPPENHAGEN and STAFF.

55-56. *Instruction in Vocal or Instrumental Music; or Instrumental Ensemble Music* (third year)

¹ Either Music 17 or 18 (or both) may be elected by students who have satisfied the requirements for Music 15-16.

² Permanent credit only when Music 15-16 is completed or proficiency in Theory is established by passing an examination given by the Department.

Half-course each semester. Elective by written consent of the chairman of the Department. Only four semesters in the sequence 51-58 may be credited toward concentration. Mr. VAN KOPPENHAGEN and STAFF.

57-58. *Instruction in Vocal or Instrumental Music; or Instrumental Ensemble Music* (fourth year)

Half-course each semester. Elective by written consent of the chairman of the Department. Only four semesters in the sequence 51-58 may be credited toward concentration. Mr. VAN KOPPENHAGEN and STAFF.

71. *Choral Music*

An historic survey of choral literature including a consideration of program building and elementary conducting. Bibliography of choral literature. Prerequisite: Music D1 and membership for one year in the Brown University Chorus, the Chapel Choir, or the Glee Club. Elective by written consent of the instructor. Mr. DINNEEN.

105. *Twentieth Century Composers*

Developments in contemporary music illustrated through a study of important orchestral works, operas, ballets, and other forms as used by Debussy, Sibelius, Strauss, Schoenberg, Stravinsky, Bartok, Milhaud, Walton, Hindemith, Prokofieff, Harris, Copland, and others. Lectures; recordings and reading assigned for outside study. Each student will investigate the work of a composer not included in the lectures and report in a term paper. Prerequisite: Music D1 or the written consent of the instructor.

119. *Elements of Orchestration*

Introduction to standard instrumentation and the basic principles of orchestration. Elective by written consent of the instructor. Prerequisite: Music 17. Mr. THOMSON.

120. *Advanced Counterpoint and Fugue*

Continuation and expansion of material in Music 18. Imitation, canon; fugal exposition in three and four parts; analysis of fugues in *The Well-Tempered Clavier* by Bach. Elective by written consent of the instructor. Prerequisite: Music 18. Mr. THOMSON.

121. *The Life and Works of Bach*

Consideration of the life of Bach in relation to family, predecessors and contemporaries, and influences which operated on the composer. Consideration of the keyboard, chamber, orchestral, and choral works as well as combined forms. Lectures, field trips, and individual research projects. Elective by written consent of the instructor. Mr. DINNEEN.

OCEANOGRAPHY

198. *Senior Conference*

Correlation and amplification of material in other literature and theory courses; study of music of types not previously included; general historical summary. Required for concentration. Half-course each semester if work extends through two semesters. Messrs. DINNEEN, COOLIDGE, and LAURENT.

251. *American Music; the Colonial Era and through the Civil War.*

Psalmody, Secular Songs, Folk and Dance Music, Plays with Music, Operas. The Concert Life and Music Publishing. Research in the collections of the libraries. Messrs. DINNEEN and COOLIDGE.

252. *American Music; 1865 to the Present*

Songs and Piano Compositions, Operas, Oratorios, Orchestral Works, Music in Education, the American "Schools" of Composition. Research in the collections of the libraries. Messrs. COOLIDGE and DINNEEN.

291, 292. *Reading and Research*

Special topics in European or American music. Messrs. DINNEEN and THOMSON.

Music Special

Individual topics in advanced theory, composition, or history. Elective for qualified students by permission of the department chairman. Half-course each semester if work extends through two semesters.

Additional Opportunities for Study of Voice or Instrument

Any student, regardless of technical proficiency, who wishes to receive instruction in piano, organ, violin, viola, cello, voice, or other standard instruments will be assisted in doing so by members of the Department.

Oceanography

Visiting Professor MONTGOMERY; Research Assistant, Mr. FOFONOFF.

103-104. *Introductory Oceanography and Meteorology*

This year course replaces the independent courses 101 (Oceanography) and 112 (Meteorology) previously offered. Integration of these closely related subjects is expected to give the student a better grasp of both. This course on the earth's two fluid envelopes is intended for all interested students, including those who will pursue oceanography further. Topics: geography; compositions of sea water and air; insolation and temperature distribution;

hydrostatics; motion on the rotating earth, winds and currents, weather maps; interaction between atmosphere and ocean; tides and waves. Prerequisite: Mathematics 10 or 2 and Physics 12 or 2 or 4. May not be taken before fifth semester. Mr. MONTGOMERY.

105. *Regional Oceanography*

Description and relationship of the distributions of currents, temperature, salinity, oxygen, and other oceanic features as well as waves and climate in each of several oceanic regions. Study and discussion based on original sources. Prerequisite: Oceanography 103-104 and permission of the instructor. Mr. MONTGOMERY.

Philosophy

Professors DUCASSE, CHISHOLM (Chairman); Associate Professors TOMAS, TAYLOR; Assistant Professor LADD; Instructor Mr. LENZ; Assistants, Messrs. AMMERMAN, ANDERSON, COFFIN, and SANTONI.

DISTRIBUTION REQUIREMENT. The distribution requirement in Philosophy under Humanities is met by taking Philosophy D1, D2 or IC 1-2. Alternatively, this requirement may be met by passing a distribution examination in Philosophy. This will be given, on application, in September of each year, and will be based on a reading list available at the Office of the Recorder.

CONCENTRATION. The requirement for concentration in philosophy is: eight semester courses or equivalent, which must include Philosophy 58, 101, 102, 122. Philosophy D1, D2 or IC 1-2 does not count toward concentration.

HONORS. The following courses are required: Philosophy 55, 58, 101, 102, 122, 191, and three other courses in philosophy, including either Philosophy 151 or 153.

During the senior year candidates will write a Senior Thesis on a subject to be selected with the approval of the department. This work will be done in connection with Philosophy 191 for one or more semesters. Senior candidates will also participate in the work of the department colloquium.

At the end of their senior year candidates will take a Senior Honors examination consisting of three parts as follows:

- Part I. History of Philosophy (from ancient Greeks to present): 3 hours.
- Part II. Systematic Philosophy (elements of logic, of ethics, and of either aesthetics or the philosophy of religion): 3 hours.

PHILOSOPHY

Part III. Two philosophical classics selected by the student from a list available at the office of the Department: 3 hours.

D1. *Philosophy and the Types of Human Experience*

A study of ethics, aesthetics, and political philosophy. Critical examination of the basic assumptions of each, and of the functions of each in the life of man. Elective for freshmen and sophomores. Satisfies the first half of the Philosophy distribution requirement under Humanities. To be followed by D2. Messrs. LADD, LENZ, and TOMAS.

D2. *Philosophy and the Types of Human Experience*

Critical examination of the basic philosophical assumptions of science, religion, and metaphysics, and of the functions of each in the life of man. The nature of reality as conceived by a number of the great philosophers. Elective for freshmen and sophomores. Satisfies the second half of the Philosophy distribution requirement under Humanities. Prerequisite: Philosophy D1. Messrs. CHISHOLM, LADD, and TOMAS.

IC 1-2. *The Philosophy of Justice and Knowledge*

A study and critical evaluation of the basic philosophical ideas expressed in Plato's *Republic* and in John Locke's *Essay Concerning Human Understanding*. The philosophical problem of the nature of human knowledge and of ultimate reality and the relevance of this problem to morals, education, politics, and religion. Collateral reading in related philosophical literature. Mr. TAYLOR.

CONTACT COURSES

These courses deal with branches of philosophy which have specially close relations with certain other subjects, such as art and religion.

55. *Logic and Scientific Method*

The conditions of clear statement and valid argument; definition and classification; syllogism and other types of formal reasoning; detection of fallacies. The methods of natural sciences: observation and experiment; explanation and theory; probable inference. Elective for sophomores, juniors, and seniors. Mr. CHISHOLM.

58. *Ethics*

The nature of good and evil, right and wrong, duty, social obligation. A survey of possible views. Their bearings on problems of the individual and of the state and other social institutions. Mr. LADD.

61. *Philosophical Analysis of Current and Classical Literature*

Exercise of the analytical and evaluative apparatus acquired through other study of philosophy. Reading and philosophical criticism of essays, articles, novels, dramas, poems, or other works of current or classical literature containing ideas significant for ethics, social policy, religion, art, science, education, or other major human interests. Prerequisite: Two semesters of philosophy and written permission of the instructor. Mr. TOMAS.

151. *Philosophy of Religion*

A critical and constructive study of the nature of religion, of its various forms and manifestations, and of its functions in human life. Consideration of special topics. Elective for sophomores, juniors, and seniors. Mr. DUCASSE.

153. *Philosophy of Art*

The nature of art and beauty, their relations, and their functions in society, aesthetic contemplation, the aesthetic feelings, and the aesthetic object. Standards of criticism. Elective for sophomores, juniors, and seniors. Mr. TOMAS.

159. *Philosophy of History*

The nature of historical knowledge and its relation to the social sciences; some theories of the world historical process; the use and abuse of history, especially as a mode of understanding reality, art, religion, and human experience in general. Elective for sophomores, juniors, and seniors. Mr. LADD.

HISTORICAL AND SYSTEMATIC COURSES

101. *Ancient and Mediaeval Philosophy*

A survey of the development of occidental philosophy from early Greek times to the Renaissance. Elective for juniors and seniors. Mr. LENZ.

102. *Modern Philosophy*

A survey of the development of occidental philosophy from the time of the Renaissance to Schopenhauer. Prerequisite: Philosophy 101. Elective for juniors and seniors. Mr. LENZ.

122. *Recent and Contemporary Philosophy*

A survey of the development of occidental philosophy from Schopenhauer to the present time. Prerequisite: Philosophy 101, 102 or their equivalent. Elective for juniors and seniors. Mr. CHISHOLM.

125. *History of Philosophy in America*

A survey of the development of philosophy in America from the colonial period to 1900. Elective for juniors and seniors. Mr. TOMAS.

PHILOSOPHY

191. *Topical Investigations*

Tutorial course designed primarily for Honors students. Independent study under individual guidance. Problems or topics for study are assigned to each student, who will report in writing and orally. Elective by written consent of the Department for seniors who have credit for not less than two years of philosophy. The STAFF.

GRADUATE COURSES

Advanced graduate instruction in the Department of Philosophy is carried on mainly by independent investigation of special topics under individual supervision. Any of the courses listed below may be elected more than once.

201. *Research in Philosophy*

Under individual guidance by special arrangement with members of the Department. The STAFF.

203. *Advanced Study of Special Topics*

Topic for 1953-54: The logic of inductive sciences. Mr. LENZ.

205. *Metaphysics*

Topic for 1953-54: The philosophy of perception. Mr. CHISHOLM.

206. *Metaphysics*

Topic for 1953-54: The Philosophy of Hume and Schopenhauer. Mr. DUCASSE.

207. *Seminar in Philosophy*

Topic for 1953-54: The ethics, political philosophy, and aesthetics of Kant. Mr. LADD.

208. *Seminar in Philosophy*

Topic for 1953-54: The philosophy of C. S. Peirce. Mr. TOMAS.

209. *Theories of Knowledge*

A survey and critical discussion of the chief contemporary theories of knowledge. Mr. CHISHOLM.

221. *Department Colloquium*

Discussion by the Staff and advanced students of research problems and current technical literature in philosophy and allied fields. Presentation and criticism of original papers. Required without credit of all graduate students in philosophy and of all senior candidates for Honors in philosophy. Ordinarily meets twice a month. The STAFF.

Physics

Professors LINDSAY (Chairman), FARNSWORTH, MILLER, WILLIAMS; Associate Professors BEYER, MORSE (Executive Officer); Assistant Professors PECK, HELLER, MINTZER, NYBORG, KORNHAUSER, WESTERVELT, HAILSEY, TAMARKIN; Research Associates, Messrs. ALBERTSON, BAKANOWSKI, EUBANK, KOLB, MACKINNON, and SCHLIER; Research Assistants, Messrs. ALLEN, CORELLI, CRANE, CRONE, CURRAN, DILL, EDEN, GEORGE, HALING, KEARSLEY, LACASCE, LEE, MEECHAM, MELHHORN, NETTLETON, O'DELL, STAVSETH, and WIGHT; Assistants, Messrs. R. P. BARNES, BRACKENRIDGE, BRICKL, BURGER, EBY, ELDER, GOULD, GREEN, HENKEL, KLINE, LANE, McLEROY, PROUD, and WASHINGTON; Technical Assistant, Mr. LUBRANO.

DISTRIBUTION REQUIREMENT. The distribution requirement in Physical Sciences under Sciences may be met by taking Physics D1 and Chemistry D2 or Astronomy D1. Physics D1 may be taken as an independent course to satisfy a distribution requirement in the Sciences.

CONCENTRATION. In addition to the elementary course (Physics D1), the requirements for concentration in physics are Physics 3, 4, 37, 101, 111, plus two semester courses in the senior year (to be chosen from 102, 107, 115, 121, 122) and Mathematics 10 or 22.

The *Joint Concentration in Mathematics and Physics* is described on page 60. Requirements for the degree of *Bachelor of Science in Physics* are given in the Section "*Requirements for Degrees.*"

Students intending to concentrate in physics should consult the chairman of the Department for advice in arranging their programs.

HONORS. Candidates for Honors in physics will be expected to pursue a more rigorous and extensive program than those merely concentrating in the subject. In addition to a comprehensive examination, a special Honors thesis, based on a research project, will be required. During the senior year attendance at most of the weekly departmental colloquia is expected, and a paper is to be presented at the Physics Club. The chairman of the Department should be consulted for further details about the program.

PREPARATION FOR SPECIAL FIELDS. Students planning to study medicine may satisfy the requirement in physics for most medical schools by taking Physics D1, 2.

PHYSICS

D1. *Elementary Physics*

Distribution course in physics designed to acquaint the student with the fundamental method of physical science by means of lectures with experimental demonstrations, conferences for discussion of problems and tests, and laboratory work. There will be considerable emphasis on the contemporary aspects of physics. Mr. PECK.

2. *General Physics*

More rigorous treatment of the topics introduced in Physics D1 with greater attention to the quantitative aspects of mechanics, heat, electricity, and optics. Lectures, conferences, and laboratory work. This course is primarily designed as a second semester of physics for pre-medical, navy, and air force students who need a year of elementary physics. Elective for undergraduates who have credit for Physics D1 either by taking the course or by establishing proficiency through examination. May be taken as a continuation course fulfilling a distribution requirement in Physics under Sciences. Mr. HAISLEY and STAFF.

3, 4. *Fundamental Physics*

Basic course in physics for those intending to do further work in the physical sciences. Lectures, conferences, and laboratory. The calculus is used as developed in Mathematics 9-10. Six hours of attendance. Required in the freshman year of all candidates for the degree of Bachelor of Science in Physics and Chemistry. Elective for sophomores, juniors, and seniors who are candidates for the degree of Bachelor of Arts and who have had Physics D1, or have established proficiency therein by examination, and Mathematics 2 or equivalent and are pursuing Mathematics 21-22 concurrently. Mr. MORSE and STAFF.

37. *Electricity and Optics*

Intermediate course required in the first semester of the sophomore year of candidates for the degree of Bachelor of Science in Physics. Emphasis is laid on electrical oscillations, radiation, and electronics, as well as spectroscopy and ray and ion optics. Calculus is used freely. Laboratory work is provided. Elective for sophomores, juniors, and seniors who are candidates for the degree of Bachelor of Arts and who have had Physics 3, 4. Mr. MACKINNON.

61. *Modern Physics for Engineers A*

This course stresses the more recent physical theories important for present and future engineering applications. The following topics are covered: fundamentals of wave motion, electromagnetic radiation, geometrical and

physical optics, optical instruments. The calculus and differential equations are used freely. Laboratory work is provided. Six hours of attendance. Required in the junior year of all candidates for the degree of Bachelor of Science in Engineering. Elective for other students by written consent of the department. Mr. TAMARKIN.

62. *Modern Physics for Engineers B*

This course supplements Physics 61 and covers kinetic theory of gases and elementary statistical reasoning in physics, atomic theory and atomic structure, nuclear physics. The calculus and differential equations are used freely. Laboratory work is provided. Six hours of attendance. Required in the junior year of all candidates for the degree of Bachelor of Science in Engineering. Elective for other students by written consent of the department. Mr. MINTZER.

101. *Classical Physics of Particles*

Basic concepts of physical mechanics, one-dimensional and two-dimensional motion of a single particle, assemblies of particles, kinetic theory and its relation to thermodynamics, probability distributions and entropy, distributions of charged particles. Laboratory work is provided. Six hours of attendance. Required in the second semester of the sophomore year of candidates for the degree of Bachelor of Science in Physics. Elective for sophomores, juniors, and seniors who are candidates for the degree of Bachelor of Arts and who have had Physics 3, 4 or have had Physics 3 and are taking Physics 4 concurrently. Mr. TAMARKIN.

102. *Electric Circuits*

Methods of circuit analysis, electron tubes, and other electronic devices. Laboratory work is provided. Six hours of attendance. Prerequisite: Physics 37 and Mathematics 9-10 or 21-22 or approved equivalent. Mr. HELLER.

106. *Physical Mechanics*

Advanced topics in the physics of particles, rigid bodies, and continuous media. Reading course. Prerequisite: Physics 101 or approved equivalent and Mathematics 9-10 or approved equivalent. Mr. LINDSAY.

107. *Theory of Electricity and Magnetism*

Systematic treatment from both classical and modern standpoints. Prerequisite: Physics 102 or approved equivalent and Mathematics 26 or 29 and 108 or approved equivalent. Mr. MILLER.

PHYSICS

109. *Heat and Kinetic Theory*

The thermal properties of matter, including thermodynamics, heat conduction, and kinetic theory. Three hours of attendance. Prerequisite: Physics 101 or approved equivalent and Mathematics 29 or approved equivalent. Mr. HELLER.

111. *Atomic Physics*

Elementary charged particles, radioactivity, atomic models, the Bohr theory of atomic structure, elementary wave mechanics, quantum theory of solids, nuclear physics. Laboratory work is provided. Six hours of attendance. Prerequisite: Physics 101 or approved equivalent and Mathematics 29 or approved equivalent. Mr. WESTERVELT.

115. *Applied Optics*

Photography, geometrical optics, telescopic and microscopic systems. Laboratory work is provided. Six hours of attendance. Offered in alternate years. Prerequisite: Physics D1, 2 or 3, 4 and Mathematics D1, 2 or 9-10 or approved equivalent.

121. *Radiation Physics A*

The wave equation in physics and its solutions, application to problems in electromagnetic theory, microwaves, physical optics, acoustics, thermal conduction and elastic waves in solids. Laboratory work is provided. Six hours of attendance. Prerequisite: Physics 101, 102 or approved equivalent and Mathematics 29 or approved equivalent. Physics 111 is a co-requisite. Mr. NYBORG.

122. *Radiation Physics B*

Radiometry, production of radiation by incandescent sources, by gaseous conduction of electricity, and by atomic sources, X-rays, antenna radiation, wave and particle theories of radiation. Laboratory work is provided. Six hours of attendance. Prerequisite: Physics 121 or approved equivalent and Mathematics 29 or approved equivalent. Mr. NYBORG.

128. *Acoustics*

Sound waves in air and other media. Laboratory work is provided. Six hours of attendance. Prerequisite: Physics 121 or 35, 36 or approved equivalent and Mathematics 29 or approved equivalent. Mr. KORNHAUSER.

198. *Senior Conference*

Required for candidates for the degree of Bachelor of Science in Physics. Elective for other undergraduates. The STAFF.

199. *Special Topics in Experimental and Theoretical Physics*

Special projects directed by staff members. Elective by special permission of the department. During 1953-54 this will be an introduction to nuclear physics, including a descriptive survey of nuclear phenomena; nuclear radiations, their origin, properties, and effects; artificial transmutation of elements; nuclear binding; energy levels; cosmic rays; nuclear biophysics. Three hours of attendance. Mr. PECK.

201, 202. *Advanced Experimental Physics*

A systematic development of advanced experimental procedure, designed for the first-year graduate student. The purpose is to acquaint the student with equipment and procedures used in experimental research in various fields of physics. The course thus serves as a foundation for subsequent experimental research in any field. The project method of treatment is used. Six or more hours of attendance. Elective by written consent of the department. Mr. FARNSWORTH.

203, 204. *Introduction to Theoretical Physics*

A systematic development of the fundamental concepts and methods of theoretical physics. Five hours of attendance. Prerequisite: Physics 101, 102 or satisfactory equivalent and Mathematics 108, 121 or satisfactory equivalent. Mr. LINDSAY.

208. *Physical Properties of Solids*

Selected topics in electrical and thermal properties including both volume and surface characteristics such as specific heats, elasticity, conduction, magnetism, and thermionic and photoelectric effects. Three hours of attendance. Prerequisite: Physics 101, 102 or its equivalent and Mathematics 108, 121. Alternates with Physics 210.

210. *X-rays*

Methods of X-ray analysis, scattering of X-rays and electrons by crystals with applications to atomic structure determinations, spectroscopy of X-rays. Three hours of attendance. Prerequisite: Physics 101, 102 or its equivalent and Mathematics 108, 121. Alternates with Physics 208. Mr. FARNSWORTH.

211, 212. *Quantum Mechanics and Atomic Structure*

Theory of quantum mechanics with applications to atomic structure and allied physical problems. Three hours of attendance. Alternates with Physics 213, 214. Prerequisite: Physics 203, 204 and Mathematics 108, 121. Mr. LINDSAY.

POLITICAL SCIENCE

213, 214. *Physical Statistics*

Statistical distributions, kinetic theory, and statistical mechanics with applications to thermodynamics; quantum statistics with application to radiation, atomic structure, and the properties of gases and solids. Three hours of attendance. Alternates with Physics 211, 212. Prerequisite: Physics 203, 204 and Mathematics 108. Mr. WILLIAMS.

215, 216. *Special Topics in Theoretical Physics*

Advanced reading and research. Topic for 1953-54: 215, Advanced Nuclear Theory; 216, Advanced Acoustics. Elective by written consent of the department. The STAFF.

223, 224. *Seminar Course*

Weekly lectures and discussions on contemporary problems. The STAFF.

Political Science

Professors MITCHELL, DODGE (Chairman); Associate Professor PERKINS; Assistant Professor RACKOW; Instructors, Messrs. McCONNELL and BLUHM; Assistants, Messrs. SHAO and WALKER.

GENERAL PREREQUISITE. Political Science D1 or IC 1, 2 is prerequisite to all other courses in political science, except where other provision is made in the course statement, or by written consent of the instructor.

DISTRIBUTION REQUIREMENT. The distribution requirement in Government under Social Studies may be met by taking Political Science D1 or IC 1, 2.

CONCENTRATION. Except by permission of the Department, granted upon formal application, a student must obtain a grade of C or better in the introductory course (Political Science D1 or IC 1, 2) in order to concentrate in political science.

In addition to the introductory course, to be completed by the end of the fourth semester, the requirements for concentration in political science may be met by either of the following patterns: I, Political Science 103, 104, 105, 106, 109, 110, 117, and 118; II, Political Science 103, 104, 107, 111, 115, 116, 122, and 124.

HONORS. For admission to Honors in political science a student must have obtained a grade of B or better in the introductory course.

The Honors program will comprise, in addition to the introductory course, at least ten semester courses in political science, including Political

Science 191, 192 to be taken in the seventh and eighth semesters. The last-named courses cover the preparation of a thesis on a selected topic within the special field of interest.

D1. Principles of Political Science

A study of the basic concepts of political science as illustrated in political institutions and practices. May be taken to satisfy a distribution requirement in Government under Social Studies. Prerequisite to all other courses in political science. Mr. RACKOW and STAFF.

IC 1, 2. The Political Ideal of Freedom

An introduction to the study of the interrelations of political ideas and institutions in ten selected historical periods through an analysis of three classics of Government: Lord Acton, *Essays on Freedom and Power*; Alexis de Tocqueville, *Democracy in America*; Alexis de Tocqueville, *The Old Regime and the Revolution*. Concentration of attention upon three great themes: power, equality, and liberty. Collateral reading in western political thinkings. Messrs. DODGE and BLUHM.

103. American National Government

The basic principles of the American governmental system, with special emphasis on the national government. Mr. MITCHELL.

104. American State and Local Government

The development, organization, and functioning of American state and local governments, and their relations to each other. Political Science 103, 104 is a normal sequence. Mr. MITCHELL.

105. Parliamentary Democracy

A study of the British and French governmental systems, their historical foundations, and their contemporary problems. Attention will also be given to parliamentary government in the British Dominions and in Sweden. Mr. McCONNELL.

106. Modern Dictatorship

A study of the historical and ideological foundations, the organization, and the techniques of the Soviet system. Attention will also be given to the totalitarian regimes in Nazi Germany and Fascist Italy. Mr. McCONNELL.

107. Political Parties and Pressure Groups

The functions, history, organization, and activities of political parties and the nature and activities of pressure groups in modern states, with special reference to the United States. Mr. RACKOW.

POLITICAL SCIENCE

109. *History of Political Theory*

Ancient and medieval political thought; early modern political theory from the Renaissance and Reformation to the seventeenth century. Mr. DODGE.

110. *History of Political Theory*

An historical survey of political thought from the beginning of the seventeenth century to the contemporary period. Mr. DODGE.

111. *Principles of Public Administration*

The role of administration in modern government with particular reference to problems of organization, personnel management, budgeting and accounting, purchasing and planning. Mr. RACKOW.

115. *American Constitutional Development*

The outlines of the constitutional system as determined by the Constitution, developed by formal amendment, statutory elaboration, executive action, judicial interpretation, and custom or usage. Emphasis is on the Constitution as public law. Mr. MITCHELL.

116. *American Constitutional Development*

The English and colonial origins of the American Constitution and the course of its growth since 1787 as portrayed in constitutional history. Mr. MITCHELL.

117. *International Politics*

Political and legal principles underlying the modern state system. Material and ideological factors which influence state policies. Analysis of the power, position, interests and policies of key states. Consideration of selected conflict situations. Mr. PERKINS.

118. *International Organization*

The development of international organization. The structure and functioning of the United Nations and other intergovernmental organizations. Mr. PERKINS.

120. *Problems of International Policy in Special Areas*

Analysis of the problems arising from the impact of *Western* ideas, institutions, and industrialism upon under-developed areas and their significance for the foreign policy of the United States and the international position of the areas concerned. Representatives of the American Universities Field Staff will participate in the course. Elective for seniors in the International Relations concentration, for other undergraduates who have taken or are

POLITICAL SCIENCE

taking Economics 101, 154, and Political Science 117, 118, and for graduate students with equivalent qualifications. Mr. PERKINS.

122. *Foreign Relations of the United States*

The means by which United States foreign relations are conducted. Analysis of United States policies in terms of historical development and conditioning factors. Some problems facing the United States in its foreign relations today. Mr. PERKINS.

124. *American Political Theory*

Study of the development of American political thought: the colonial period; the Revolution; Jeffersonian Democracy; Jacksonian Democracy; the slavery controversy; the nature of the Union; the newer currents between 1865 and the present. Mr. DODGE.

191. *Individual Study Project*

Directed reading and preparation of a thesis on an approved subject. Required of all seniors who are candidates for Honors in political science in the last two semesters of their course. The STAFF.

192. *Individual Study Project*

Continuation of 191.

PRIMARILY FOR GRADUATE STUDENTS

201. *Problems of Contemporary International Relations*

203. *Problems in Modern Political Thought*

Topic for I, 1953-54: Aspects of nineteenth century European political thought. Mr. DODGE.

205. *American Politics and Administration*

Topic for I, 1953-54: The American Presidency. Mr. RACKOW.

206. *Problems of American Constitutional Government*

Topic for II, 1953-54: Problems arising under the fiscal powers of the national government. Mr. MITCHELL.

208. *Problems of Contemporary European Governments*

209, 210. *Reading and Research*

Work with individual students in connection with special reading, research problems, or preparation of theses. The STAFF.

Psychology

Professors HUNTER (Chairman), SCHLOSBERG, RIGGS, PFAFFMANN; Assistant Professors McCLELLAND, STANLEY, KLING; Instructors, Messrs. BOSQUET and RUBIN and Miss PIERREL; Research Assistants, Messrs. CORNSWEET and MOZELL and Mrs. CORNSWEET; Assistants, Mrs. DAHLIN and Messrs. CARPENTER, GUTHRIE, HAGSTROM, HULSE, LEWIS, MACDONNELL, and MILLER.

PREREQUISITE. The following courses are prerequisite to all other courses in the Department: Psychology D1 and Biology D1, or Psychology IC 1, 2.

DISTRIBUTION REQUIREMENT. The distribution requirement in Biological Sciences under Sciences may be met by taking Biology D1 and Psychology D1, or Psychology IC 1, 2, or Biology IC 1-2. Students who wish a continuing psychology course in order to fulfill distribution requirements should take Psychology 6 or 81.

CONCENTRATION. In addition to the elementary courses (Psychology D1, Biology D1, or Psychology IC 1, 2), the requirements for concentration in psychology are: 81, 101, 104, 105, 106, 107, 198, and one optional course. Students who plan to concentrate in psychology following either the pattern of D-courses or that of the IC-courses are advised to elect also at least one semester course each in biology, mathematics, and physics.

HONORS. The Honors program in psychology offers exceptional students an opportunity to perform semi-independent research on topics of their own choosing. This research starts as independent reading during the junior year and culminates in a Senior Honors Thesis. Any member of the Staff may direct this research, but the student must present semi-annual reports and his thesis directly to the departmental supervisor of Honors work. Honors candidates are also expected to attend the weekly meetings of the Colloquium during the senior year.

Course Requirements. Candidates will take the basic concentration courses (Psychology 81, 101, 104, 105, 106, 107, and 198), a thesis course (203), and at least two additional courses which may be in psychology or in related fields. Students who contemplate graduate work should consult the section below on "Graduate Studies."

Examinations. At the end of the senior year, candidates will be excused from course examinations in psychology and will take the following Honors examinations: (1) General principles of psychology, 3 hours, written; (2) Special fields of psychology, 3 hours, written; and (3) Thesis problem in its special and general aspects, 1 hour, oral.

GRADUATE STUDIES. Students contemplating eventual graduate work in psychology should, as undergraduates, secure a reading knowledge of two of the following languages: German, French, and Russian. They should also have credit for at least a two-semester course each in biology, mathematics, and physics, plus one course in chemistry. Certain aspects of psychology are also related to sociology.

DI. *Elementary Psychology*

An outline of the major facts and principles of human behavior. Lectures, demonstrations, and laboratory. This course may be taken to fulfill one of the distribution course requirements in the Biological Sciences. Prerequisite: Biology DI or IC 1-2. The STAFF.

IC 1, 2. *Psychology as the Science of Behavior*

A critical study of the concepts underlying the definition of Psychology as the Science of Behavior. The writings of Pavlov on conditioned reflexes and of Freud on psychoanalysis will be used as original sources. These will be supplemented by writings and experimental studies of the other workers up to the present day. Class and discussion meetings, laboratory experiments, and demonstrations. Messrs. SCHLOSBERG and PFAFFMANN.

6. *Applied Psychology*

The study of psychological principles and techniques of measurement as they are used in solving problems in industry, business, military affairs, vocational selection, and individual adjustment. This course will usually not be included as a part of concentration. Mr. KLING.

81. *Child Psychology*

A study of the developing patterns of behavior in the child from the pre-natal period to adolescence. Particular emphasis will be placed on the physical and mental growth of the child and the modifications of behavior in the course of development and learning. Mr. RUBIN.

101. *Statistical Methods in Psychology*

A study of quantitative methods in psychology as applied to the theory of test scores and to the statistical analysis of group and trait differences. Mr. RIGGS.

PSYCHOLOGY

104. *Psychological Testing*

An introduction to the study of psychological tests, methods, and results in the measurement of intelligence, achievement, personality, and other psychological factors. Prerequisite: Psychology 101. Mr. RUBIN.

105. *Experimental Psychology: Behavior Processes*

An experimental study of the psychological and physiological bases of behavior: reflexes, reaction time, learning, memory, association, emotion, and esthetics. Mr. KLING.

106. *Experimental Psychology: Receptive Processes*

An experimental study of vision, audition, touch, taste, smell, and perception. Mr. RIGGS.

107. *Normal and Abnormal Personality*

A study of normal and abnormal behavior of persons. Following an introduction to fundamentals of learning, particular emphasis will be placed on the behavioral consequences of frustration, conflict, and anxiety. Elective for juniors and seniors. Mr. STANLEY.

111. *Advanced Psychological Testing*

The application of psychological test methods in the measurement of various aspects of behavior and intelligence in normal and abnormal children and adults. Class meetings and field work. Prerequisite: Psychology 104 and written consent of the instructor. Mr. BOSQUET.

112. *Social Psychology*

Cultural and social processes are described from the standpoint of the individual. Data from cultural anthropology, psychological experiments, and clinics will be assembled to show social influences on motivation, emotional expression, perception, and thinking. Language and its acquisition, propaganda, attitude measurement, the methods of polling public opinion, and problems of morale will be examined. Elective for juniors and seniors. Mr. KLING.

134. *Advanced Abnormal Psychology*

A study of the mechanisms and determinants of abnormal behavior, with special emphasis on methods of investigation. This course will utilize the case method in the local hospitals. Prerequisite: Psychology 107 and written consent of the instructor. Mr. STANLEY.

198. *Advanced General Psychology*

This course is designed to help the student in integrating his knowledge of psychology. Conducted in general by the seminar method. Required of seniors concentrating in psychology. Other students admitted only by written consent of the instructor. The STAFF.

199. *Special Problems*

Individual undergraduate research studies. Required of all honors candidates in the senior year. The STAFF.

203. *Research in Experimental Psychology*

Elective by written consent of the instructor. The STAFF.

206. *Seminar in Systematic Psychology*

A detailed consideration of theoretical and historical problems. Offered in alternate years. Mr. HUNTER.

207. *Advanced Quantitative Methods in Psychology*

A study of the mathematical techniques required in advanced psychological and physiological research. Offered in alternate years. Mr. RIGGS.

208. *Advanced Statistical Methods in Psychology*

A study of small sample techniques and of factor analysis. Offered in alternate years. Mr. RIGGS.

209. *Sensory Psychophysiology*

A study of the afferent-neural processes in hearing, touch, smell, and taste. Particular attention is paid to the similarities and differences among these senses and to the general principles of sensory function. Offered in alternate years. Mr. PFAFFMANN.

210. *Vision*

A study of the literature concerned with the problems of photo-reception and the nervous processes involved in vision. Particular attention is paid to the more exact theoretical aspects of the problems. Offered in alternate years. Mr. RIGGS.

212. *Perception*

The study of the problems in visual, auditory, and tactual perception. Particular attention will be devoted to those problems that involve several sense fields. Offered in alternate years. Mr. SCHLOSBERG.

213. *Seminar in Experimental Psychology*

Offered in alternate years. Mr. PFAFFMANN.

214. *Conditional Reflexes*

Offered in alternate years. Mr. SCHLOSBERG.

219. *Animal Behavior*

An introduction to the viewpoint of behaviorism on the basis of a study of tropisms, instincts, receptive processes, learning, and the more complex behavior of infra-human animals. Offered in alternate years. Mr. HUNTER.

SOCIOLOGY

228. *Personality*

The seminar will consider the operational meaning and possible experimental analysis of concepts and principles widely used in accounting for normal and abnormal behavior. Offered in alternate years. Mr. STANLEY.

229. *Neural Foundations of Behavior*

The anatomical and functional study of the brain, spinal cord, and peripheral nervous system. Laboratory includes dissection, use of histological materials and demonstrations. Offered in alternate years. Mr. PFAFFMANN.

231, 232. *The Learning Process*

A critical and experimental study of the chief problems of learning and memory. Offered in alternate years. Mr. HUNTER.

Instrumentation for Psychological Research

Demonstrations and practical work covering the basic mechanical, electrical, optical, and photographic techniques used in psychological research. Students will be excused from those portions in which they are already proficient. No credit. Offered in alternate years. Mr. PFAFFMANN and STAFF.

Psychological Colloquium

Weekly meetings for the discussion of research problems presented by visiting scholars and members of the department. No credit.

Sociology

Professor WHITNEY (Chairman); Associate Professor MAYER; Assistant Professors GRIGG, PFAUTZ; Assistants, Mr. GEIB, and Miss HALLIHAN.

GENERAL PREREQUISITE. Sociology D1 is prerequisite to all other courses in sociology except by written consent of the instructor involved, and except that students in Semesters VI, VII, and VIII may elect without prerequisite the following courses: 106, 111, 125, 127, and 139.

DISTRIBUTION REQUIREMENT. The distribution requirement in Sociology under Social Studies may be met by taking Sociology D1.

CONCENTRATION. Except by permission of the Department, granted upon formal application, a student must obtain a grade of C or better in the introductory course (Sociology D1) in order to concentrate in sociology.

In addition to the introductory course (Sociology D1) to be completed by the end of the fourth semester, the requirements for concentration in sociology are eight semester courses including 105 and 111 (both ordinarily in Semester V) and 182 and 198 (both ordinarily in Semester VIII). A comprehensive examination must be passed in the senior year.

HONORS. For admission to candidacy for Honors in sociology a student must have obtained a grade of *B* or better in the introductory course; and must have a general average in the University of at least 3.0. All programs must be approved by the Honors advisor for the Department.

The Honors program will comprise, in addition to the introductory course, at least ten semester courses in sociology including, in addition to the concentration requirements, Sociology 196 and 191, to be taken during the seventh and eighth semesters. Course 191 includes the preparation of a thesis on a selected topic within the student's special field of interest. An Honors examination, written and oral, must be passed in the eighth semester.

D1. *Social Groups and Social Change*

An analysis of human groups and social relations and an examination of the processes and consequences of social change. May be taken to satisfy the distribution requirement in sociology under the Social Studies. Lecture and discussion meetings. Mr. GRIGG (I) and Mr. PFAUTZ (II).

105. *The Community*

Human ecology and interpersonal relations in a community setting. Country, city, and region as social structures and human environments. Mr. WHITNEY.

106. *The Family*

The structure and functioning of the family in various cultures, its relation to other social institutions, and its part in social change. The family as a primary group; an analysis of status and roles of the family members, personal development in the family, conflict and cooperation in family relationships. No prerequisite for students in Semesters VI, VII, and VIII. Mr. MAYER.

111. *Methods of Social Research*

A beginning survey of the principal research methods employed in the social sciences, especially in sociology. Evaluation of existing research; exercises and projects. No prerequisites for students in Semesters VI, VII, and VIII. Mr. GRIGG.

SOCIOLOGY

120. *Culture and Personality*

The general significance of culture and interaction for an understanding of personality; the relation between variation in social structure and variation in personality type. Mr. PFAUTZ.

125. *Population and Migration*

An analysis of the causes and consequences of major population trends throughout the world; of changes in birth and death rates; and of the mobility and migration of peoples. Attention is given to population in relation to economic systems, international relations, and war. No prerequisites for students in Semesters VI, VII, and VIII. Mr. WHITNEY.

127. *Races and Minority Groups*

A study of the concept *race* and the sociology of minority relations. Negro-white relations in the United States relative to the phenomena of discrimination and prejudice. No prerequisites for students in Semesters VI, VII, and VIII. Mr. PFAUTZ.

137. *Social Organization*

A detailed consideration of the nature of social structure, types of social relationships, and the problem of social order. Mr. PFAUTZ.

138. *Social and Personal Disorganization*

An examination of the concepts of social and personal disorganization; a study of some of the major forms of social disorganization and their relation to personal disorganization. Mr. GRIGG.

139. *Social Classes*

The division of society into castes, estates, and classes, and its consequences in terms of the distribution of power. Patterns of stratification in various parts of the world. Analysis of significant empirical studies of the American stratification system. The relation of ethnic groups to the class structure. No prerequisites for students in Semesters VI, VII, and VIII. Mr. MAYER.

148. *Collective Behavior*

An analysis of crowds, public opinion, propaganda, and communication agencies and their function in modern society. Mr. PFAUTZ.

180. *A Sociological Analysis of American Life*

An analysis of various aspects of contemporary American life on the basis of sociological principles and concepts. Open only by permission of the instructor. Mr. WHITNEY.

182. *Sociological Theory*

A systematic study of writings of importance in the development of sociological thought; emphasis is placed upon contributions to conceptual frames of analysis and to their place in research. Mr. MAYER.

191. *Individual Research Project*

Intensive supervised reading, ordinarily culminating in a research project. A specific program will be arranged in terms of the student's individual needs and interests. Required of all students who are candidates for Honors in sociology; open to others only by written consent of the chairman of the department. The STAFF.

196. *Process and Analysis in Social Research*

A seminar examination of scientific method and the research process; analysis and use of the more important techniques employed in social science research, with emphasis upon sociological materials; critical examination of research monographs. A research topic will be formulated and investigated by each student. Open to graduate students; and to senior students who have completed Sociology 111 or its equivalent and who obtain the written permission of the instructor. Mr. GRIGG.

198. *Senior Conference: Principles of Sociology*

An intensive consideration of the principles and major concepts of sociology. Required of all concentrators in their senior year. Not open to others except by written permission of the chairman of the department. The STAFF.

PRIMARYLY FOR GRADUATE STUDENTS

201. *Seminar on Social Organization*

202. *Seminar on Population and Ecology*

Topic for 1953-54: *Community Settlement and Expansion*. Mr. WHITNEY.

205. *Seminar on the Sociological Aspects of Contemporary Institutions*

Topic for 1953-54: *Sociology of Economic Organization*. Mr. MAYER.

291. *Reading and Research*

Work with individual students in connection with special reading, research, or preparation of theses. The course program will be suited to the requirements of the student. Intensive study of theory, data, and research methods (stressing one of these) may ordinarily be undertaken in any field in which courses are offered by the Department and in a number of others, for example, Folk Sociology, The Sociology of Knowledge, and Communication. The STAFF.

Courses of Instruction Offered
in 1953-1954

RECITATION AND EXAMINATION GROUPS

The figure in parenthesis at the right of the letter giving the recitation group of the course indicates the number of its examination group. A student may take only one course in a given examination group. "Arr." means "Hours to be arranged."

LIST OF RECITATION GROUPS

Group A:	8 A.M.—Mon., Wed., Fri.	Group H:	11 A.M.—Tue., Thur., Sat.
Group B:	8 A.M.—Tue., Thur., Sat.	Group I:	1:10 P.M.—Mon., Wed., Fri.
Group C:	9 A.M.—Mon., Wed., Fri.	Group J:	2:10 P.M.—Mon., Wed., Fri.
Group D:	9 A.M.—Tue., Thur., Sat.	Group K:	3:10 P.M.—Mon., Wed., Fri.
Group E:	10 A.M.—Mon., Wed., Fri.	Group L:	4:10 P.M.—Mon., Wed., Fri.
Group F:	10 A.M.—Tue., Thur., Sat.	Group M:	5:10 P.M.—Mon., Wed., Fri.
Group G:	11 A.M.—Mon., Wed., Fri.		

For schedule of recitation groups arranged according to hours see inside of back cover.

Department and Course Number	Semester I	Semester II
AMERICAN CIVILIZATION		
191	Arr.	Arr.
192	—	Arr.
201, 202	Arr.	Arr.
APPLIED MATHEMATICS		
203, 204	J	J
210	—	G
223, 224	E	E
231	G	—
233, 234	C	C
235	—	F
237, 238	C	C
241, 242	D	D
243, 244	D	D
245, 246	K	K
251, 252	I	I
261, 262	H	H
ART		
D1	F or H (15)	C or E (16); F or H (15)

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
ART (cont'd)		
IC 1-2	E or G (16)	E or G (16)
4	D (6)	—
6	—	D (6)
7	C (5)	—
8	—	G (9)
21-22	Mon. 2:10-5:10 and Wed. 1:10-3:10 or Tues. 2:10- 5:10 and Wed. 3:10-5:10	Mon. 2:10-5:10 and Wed. 1:10-3:10 or Tues. 2:10- 5:10 and Wed. 3:10-5:10
108	Tues. 4:30-6 and Wed. 7:30- 9 p.m.	—
121	—	Thur. and Fri. 1:10-5:10
191	Arr.	Arr.
195	Arr.	—
196	—	Arr.

At Rhode Island School of Design

31, 32	Mon. through Thur. 1:30-4 . .	Mon. through Thur. 1:30-4
33	Arr.	—
34	—	Arr.
133	Arr.	—
134	—	Arr.

ASTRONOMY

D1	—	E (7)
1	C (5)	—
2	—	C (5)
108	Arr.	—
173-174	Arr.	Arr.

BIBLICAL LITERATURE

D1	E (7)	E (7)
IC 1-2	C, E, or G (12)	C, E, or G (12)
1	G (9)	—
2	—	G (9)
4	I (11)	—
5	—	Mon. 2:10-4:10
7	—	C (5)
103	Arr.	—
107	—	Arr.
151, 152	Arr.	Arr.
153, 154	Arr.	Arr.
171	—	Arr. (17)
198	Arr. (12)	Arr. (12)
209, 210	Arr. (17)	Arr. (17)
217	Arr. (17)	Arr. (17)

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
BIOLOGY		
DI	A or B (14) Lab. Mon., Tue., Wed., Thur., or Fri. 2:10-5:10	A or B (14) Lab. Mon., Tue., or Wed. 2:10-5:10
IC 1-2	Mon., Tues., or Wed. 1:10- 5:10 (14)	Mon., Tues., or Wed. 1:10- 5:10 (14)
4	—	G (9) Lab. Thur. or Fri. 2:10-5:10
5	B (4) Lab. Mon., Tue., or Wed. 2:10-5:10	—
6	—	B (4) Lab. Wed. or Thur. 2:10-5:10
7	D (6) Lab. Tue. or Thur. 2:10-5:10	—
8	—	D (6) Lab. Mon., Tue., or Thur. 2:10-5:10
10	—	A (3) Lab. Wed., Thur., or Fri. 2:10-5:10
15	G (9) Lab. Mon., Tue., or Wed. 2:10-5:10	—
20 (Pembroke).	—	Arr. (16)
103-104	E (7)	E (7)
108	—	D (6)
121	H (10) Lab. Tue. or Thur. 2:10-5:10	—
122	—	H (10) Lab. Mon. or Tue. 2:10-5:10
152	—	G (9) Lab. Mon. or Tue. 2:10-5:10
195	Arr.	Arr.
205	Arr.	—
206	—	Arr.
223, 224	Arr.	Arr.
251, 252	Arr.	Arr.

BOTANY

4	—	C (5) Lab. Wed. 2:10-5:10
9	H (10) Lab. Fri. 2:10-5:10	—
111	—	Arr. (17)
113-114	Arr. (17)	Arr. (17)
123	Arr. (18)	—
197	Arr.	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
BOTANY (<i>cont'd</i>)		
221, 222	Arr.	Arr.
231, 232	Arr.	Arr.
291, 292	Arr.	Arr.
CHEMISTRY		
D1	C (5) Lab. Mon. 1:10-5:10	—
D2	—	C (5) Lab. Mon. 1:10-5:10
5	D (6) Lab. Tue. or Thur. 1:10-5:10	—
9	H (10) Rec. Tue., or Thur., at 8. Lab. Wed. or Fri. 1:10-5:10	—
11, 12.	E (7) Rec. Tue. at 1:10 Lab. Tue. and Thur. 2:10-5:10	E (7) Rec. Tue. at 1:10 Lab. Tue. and Thur. 2:10-5:10
13-14	D (6) Lab. Mon. 2:10-5:10 and Wed. 1:10-5:10	D (6) Lab. Mon. 2:10-5:10 and Wed. 1:10-5:10
16	—	E (7) Lab. Thur. 1:10-6:10
17, 18	F (8) Rec. 1 hr. arr. Lab. Tue. or Thur. 1:10-5:10	F (8) Rec. 1 hr. arr. Lab. Tue. or Thur. 1:10-5:10
28	—	F (8) or H (10) ex. Sat. Lab. Mon. and Wed. 2:10-5:10
41	E (7) Lab. Fri. 1:10-6:10	—
42	—	E (7) Lab. Fri. 1:10-6:10
63-64	D (6) Lab. Wed. 1:10-6:10	D (6) Lab. Wed. 1:10-6:10
80	—	Fri. at 10
86	Arr.	Arr.
97-98	Arr.	Arr.
106	—	C (5)
113-114	G (9) Lab. Tue. 1:10-6:10	G (9) Lab. Tue. 1:10-6:10
133	E (7) ex. Fri. Lab. Tue. and Thur. 1:10-5:10	—
134	—	E (7) ex. Fri. Lab. Tue. and Thur. 1:10-5:10
145	F (8) Lab. Mon. and Wed. 1:10-6:10	—
146	—	F (8)
151	H (10)	—

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and Course Number	Semester I	Semester II
CHEMISTRY (<i>cont'd</i>)		
162	—	H (10)
201	Arr.	—
212	—	Arr.
241	Arr.	—
244	—	Arr.
263	Arr.	—
277, 278	Arr.	Arr.
281, 282	Tue. 7:30 p.m.	Tue. 7:30 p.m.
287, 288	Arr.	Arr.
297, 298	Arr.	Arr.
CLASSICS		
D1	C (5)	—
D2	—	C (5)
IC 1, 2	E, G, or Tue. and Thur. at 10 and Fri. at 1:10 (15)	E, G, or Tue. and Thur. at 10 and Fri. at 1:10 (15)
D5	C (5)	—
D6	—	C (5)
61	E (7)	—
62	—	E (7)
121	G (9)	—
122	—	G (9)
143, 144	Arr.	Arr.
191	Arr.	Arr.
199	Arr.	Arr.
GREEK		
1-2	D (6)	D (6)
5	Arr. (17)	—
6	—	Arr. (17)
105	Arr. (18)	—
106	—	Arr. (18)
191	Arr.	Arr.
199	Arr.	Arr.
LATIN		
5	I (17)	—
6	—	I (17)
11	G (9)	—
12	—	G (9)
105	E (7)	—
106	—	E (7)
191	Arr.	Arr.
199	Arr.	Arr.
201	Arr.	—
202	—	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
ECONOMICS		
D1	C, D, E, F, G, or H (15)	C, D, E, F, G, or H (15)
IC 1-2	Tue. and Thur. 8:30-9:50, or 10:00-11:20, or Mon. and Wed. 11:00-12:20 (15)	Tue. and Thur. 8:30-9:50 or 10:00-11:20, or Mon. and Wed. 11:00-12:20 (15)
71	D (6) Lab. Arr.	D (6) Lab. Arr.
91	F (8)	—
101, 102	C, E, G, or I (14)	C, E, or G (14)
104	—	F (8)
107	D (6)	—
111	G (9)	G (9)
118	—	H (10)
131	F (8)	F (8)
145	C (5)	C (5)
154	E (7)	E (7)
161	C (5)	C (5)
199	Arr.	Arr.
202	—	Arr.
205, 206	Arr.	Arr.
214	—	Arr.
219	Arr.	—
232	—	Arr.
247	Arr.	—
257	Arr.	—
258	—	Arr.
261, 262	Arr.	Arr.
272	—	Arr.
EDUCATION		
101 (Brown)	—	E (7)
101 (Pembroke)	G (9)	—
102 (Brown)	E (7)	—
102 (Pembroke)	—	G (9)
103 (Brown)	G (9)	—
103 (Pembroke)	C (5)	—
104 (Brown)	—	G (9)
104 (Pembroke)	—	C (5)
111, 112	Arr.	Arr.
201	Wed. 4:10-6:10	—
202	—	Wed. 4:10-6:10
203	Thur. 4:10-6:10	—
204	—	Thur. 4:10-6:10
207, 208	Arr.	Arr.
211	Mon. 4:10-6:10	—
212	—	Mon. 4:10-6:10
215, 216	Arr.	Arr.
221, 222	Arr.	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
EGYPTOLOGY		
131, 132	Arr.	Arr.
143, 144	Arr.	Arr.
221	Arr.	—
291	Arr.	—
ENGINEERING		
7	A (3) Comp. Mon. 2:10-4:10 3 hr. lab. Arr.	—
9-10	D (6) and Wed. at 8 Drafting period Mon. or Wed. 1:10-3:10	D (6) and Wed. at 8 Drafting period Mon. or Wed. 1:10-3:10
38	—	E (7) Comp. Mon., Tues., Wed., or Thur. 2:10-4:10 Lab. Mon., Tues., Wed., or Thur. 2:10-5:10
39	C (17) Comp. Arr. 3 hr. lab. Arr.	—
40	—	C (5) 3 hr. lab. Arr.
52	—	Mon., Tue., Fri., and Sat. at 8 (17) Comp. Mon., Tues., Wed., or Thur. 2:10-4:10 Lab. Mon., Tues., Wed., or Thur. 2:10-5:10
58	—	F (8) and Wed. at 8 Comp. Fri. 2:10-4:10 Lab. Mon., Tues., Wed., or Thur. 2:10-5:10
59	A (3) Comp. Tue. 2:10-4:10	—
71-72	D (6) 3 hr. Comp. Arr. 3 hr. lab. Arr.	D (6) 3 hr. Comp. Arr. 3 hr. lab. Arr.
118	—	H (10) and Fri. at 1:10
193	Arr.	—
194	—	Arr.
Civil Engineering		
119	A (3)	—
130	—	B (4) Lab. Arr.
131	Arr.	—
133-134	Arr. Lab. Mon. 2:10-5:10	Arr. Lab. Mon. 2:10-5:10
138	—	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
ENGINEERING (cont'd)		
Electrical Engineering		
157	C (5) Lab. Arr.	—
158	—	C (5) Lab. Arr.
161	G (9) Lab. Arr.	—
162	—	G (9) Lab. Arr.
164	—	D (6) Lab. Arr.
167	F (8) Lab. Arr.	—
168	—	F (8) Lab. Arr.
Mechanical Engineering		
171-172	F (8) Comp. Wed. 2:10-5:10	F (8) Comp. Wed. 2:10-5:10
173	E (7) Comp. arr.	—
174	—	E (7) Comp. Arr.
175-176	C (5) Draft and Comp. Thur. 2:10- 5:10	C (5) Draft and Comp. Thur. 2:10- 5:10
178	—	G (9) Lab. Arr.
Aeronautical Engineering		
119	A (3)	—
187	Arr. Lab. Arr.	—
190	—	D (6) Lab. Arr.
192	—	Arr.
Primarily for Graduate Students		
207, 208	Arr.	Arr.
211	Arr.	—
212	—	Arr.
213	Arr.	—
214	—	Arr.
231, 232	Arr.	Arr.
251	Arr.	—
252	—	Arr.
273	Arr.	—
274	—	Arr.
291, 292	Arr.	Arr.
297, 298	Arr.	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
ENGLISH		
1 (Brown)	A, B, C, D, E, F, G, H, I, or J — (18)	—
1 (Pembroke)	C, D, F, or H (18)	—
1 (Brown & Pembroke)	—	I (18)
2 (Brown)	—	E, F, G, H, or I (18)
2 (Pembroke)	—	E, F, H, or I (18)
2 (Brown & Pembroke)	I (18)	—
IC 1-2	C, E, or G (2)	C, E, or G (2)
IC 3-4	C, E, or G (2)	C, E, or G (2)
3 (Brown)	I	I
3 (Pembroke)	I	I
4 (4d)	E	E
(4e)	I	I
(4s)	I	I
(4v)	Arr.	Arr.
5-6	Wed. 3:10-5:10	Wed. 3:10-5:10
7	F (8) or H (10)	—
10	—	F (8) or H (10)
15	E, F, or G (18)	E, F, or G (18)
19 (Pembroke)	Arr.	—
20 (Pembroke)	—	Arr.
21 (Brown)	E, F, G, or H plus one hour arr. (18)	E, F, G, or H plus one hour arr. (18)
21 (Pembroke)	G plus one hour arr. (18)	G plus one hour arr. (18)
23-24	Mon. through Thur. 2:10-4:10	Mon. through Thur. 2:10-4:10
D27	C, D, E, F, G, or H (2)	C, D, E, F, G, or H (2)
D28	C, D, E, F, G, or H (2)	C, D, E, F, G, or H (2)
41-42	F or H (13)	F or H (13)
47-48	D (6)	D (6)
53	D (6)	—
54	—	D (6)
73-74	C (5)	C (5)
105-106	F (8)	F (8)
125-126	E (7)	E (7)
133-134	F (8)	F (8)
171	G (9)	—
172	G (9)	G (9)
181	G (9)	—
182	—	G (9)
186	I (11)	—
187	—	I (11)
201, 202	Tue. 2:10-4:10; Fri. at 2:10	Tue. 2:10-4:10; Fri. at 2:10
203, 204	Mon. 2:10-4:10; Thur. at 4:10	Mon. 2:10-4:10; Thur. at 4:10
205, 206	Wed. 2:10-4:10; Fri. at 3:10	Wed. 2:10-4:10; Fri. at 3:10
223	Tue. 2:10-4:10	—
249, 250	Thur. 2:10-4:10	Thur. 2:10-4:10

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
ENGLISH (cont'd)		
279, 280	Wed. 4:10-6:10	Wed. 4:10-6:10
281	Thur. at 5:10	—
289, 290	Arr.	Arr.
291	Mon. 4:10-6:10	—
292	—	Mon. 4:10-6:10
293	Fri. 4:10-6:10	—
294	—	Fri. 4:10-6:10
H1, 2	Mon. at 4:10 and Tue. 2:10- 4:10	Mon. at 4:10 and Tue. 2:10- 4:10
H3, 4	Mon. 2:10-4:10 and Thur. at 4:10	Mon. 2:10-4:10 and Thur. at 4:10
H5, 6	Tue. at 4:10 and Wed. 2:10- 4:10	Tue. at 4:10 and Wed. 2:10- 4:10
H7, 8	Mon. 2:10-4:10 and Thur. at 4:10	Mon. 2:10-4:10 and Thur. at 4:10
H9, 10	Tue. at 3:10 and Thur. 2:10- 4:10	Tue. at 3:10 and Thur. 2:10- 4:10
H11, 12.	Mon. 3:10-5:10 and Fri. at 3:10	Mon. 3:10-5:10 and Fri. at 3:10

GEOLOGY

D1	—	C (5) Lab. Mon. or Tue. 2:10-5:10
I	E (7) Lab. Wed. or Thur. 2:10-5:10	—
1	—	E (7) Lab. Thur. 2:10-5:10
41	H (10) Lab. Arr.	—
42	—	H (10) ex. Sat. Lab. Arr.
106	G (9) Lab. Arr.	—
109	Arr. (14)	—
113	D (6). Lab. Arr.	—
116	—	Arr.
117	F (8) Lab. Tue. 2:10-5:10	—
118	—	F (8) Lab. Wed. 2:10-5:10
125	Arr.	—
141	—	Arr.
197	—	Arr.
211	Arr.	—
212	—	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and Course Number	Semester I	Semester II
HISTORY		
D1, D2	G (9)	G (9)
IC 1, 2	C, D, or G (12)	C, D, or G (12)
51, 52	G (9)	G (9)
103, 104	H (10)	H (10)
107, 108	D (6)	D (6)
109	E (7)	—
113, 114	G (9)	G (9)
119, 120	C (5)	C (5)
151	F (8)	—
152	—	F (8)
161, 162	D (6)	D (6)
173	—	D (6)
183, 184	F (8)	F (8)
186	—	H (10)
191, 192	Arr.	Arr.
209	—	Arr.
211	Arr.	—
241, 242	Arr.	Arr.
251	—	Arr.
289	Arr.	—
291, 292	Arr.	Arr.
HISTORY OF MATHEMATICS		
211	Arr.	—
213	Arr.	—
LINGUISTICS		
151	D (6)	—
156	—	D (6)
161	Arr.	—
251	—	Arr.
MATHEMATICS		
D1	C (5), D (6), or H (10)	C (5), D (6), or H (10)
IC 1-2	E or G (16)	E or G (16)
2	C or D (16)	C, D, or H (16)
5N	C (5)	—
9-10	E or G (17)	E or G (17)
	Lab. Tue. and Thur. at 8, at 1:10, at 2:10, or at 3:10. Also Sat. at 8	Lab. Tue. and Thur. at 8, at 1:10, at 2:10, or at 3:10. Also Sat. at 8
21-22	H (10)	H (10)
29	E or G (17)	—
	Lab. Tue. and Thur. at 8, at 10, or at 1:10; also Sat. at 8	

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and
Course Number

Semester I

Semester II

MATHEMATICS (cont'd)

101-102	E (7)	E (7)
104	—	F (8)
105	C (5)	—
106	—	H (10)
108	—	C (5)
121-122	G (9)	G (9)
151	F (8)	—
161	—	J (12)
171	D (6)	—
197	Arr.	Arr.
201, 202	C (5)	C (5)
221, 222	J (12)	J (12)
225, 226	F (8)	F (8)
227, 228	F (8)	F (8)
237, 238	J (12)	J (12)
251, 252	K (13)	K (13)
291, 292	Arr. (18)	Arr. (18)

MILITARY SCIENCE

NAVAL SCIENCE

(Laboratory in all courses, Wed., Thur., or Fri. 1:10-3:10)

101	C, D, E, F, or G (11)	—
102	—	C, D, E, F, or G (11)
201	A, C, D, F, or G (12)	—
202	—	A, C, D, F, or G (12)
301	A, C, D, or E (1)	—
301M	Arr.	—
302	—	A, C, D, or E (1)
302M	—	Arr.
401	C, D, or F (11)	—
401M	Arr.	—
402	—	C, D, or F (11)
402M	—	Arr.

AIR SCIENCE

(Laboratory in all courses, Tue. 1:10-3:10, or Wed. 3:10-5:10)

11	A, C, I, or J (4)	—
12	—	A, C, I, or J (4)
21	B, D, E, or G (11)	—
22	—	B, D, E, or G (11)
31	A, C, F, or H (4)	—
32	—	A, C, F, or H (4)
41	Arr.	—
42	—	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
MODERN LANGUAGES		
FRENCH		
IC 1-2	C or D (1)—French Sections E (1)—English Section	C or D (1)—French Sections E (1)—English Section
1-2	D (6) plus A, I, or J	D (6) plus A, I, or J
1R-2R	H (10)	H (10)
2	B, C, F, H, or I (1) and a 4th hour	J (1) and a 4th hour
3	C, D, E, F, G, or I (17) and a 4th hour	A, C, D, F, or I (17) and a 4th hour
4	H (17)	E, F, or H (17)
9	C (5) and a 4th hour arranged	H (10) and a 4th hour arranged
D11	—	E (16)
D11-D12	D or E (1)	D or E (1)
D12	E (16)	—
51	D (6) and a 4th hour arranged	D (6) and a 4th hour arranged
109	F (8)	—
110	—	G (9)
131	—	Arr.
134	G (9)	—
141	C (5)	—
142	—	C (5)
170	—	Arr.
174	Arr.	—
191	Arr.	—
194	—	Arr.
211	Arr.	—
214	—	Arr.
252	—	Arr.
262	—	Arr.
291, 292	Arr.	Arr.
GERMAN		
1-2	H (10) plus A, I, or J.	H (10) plus A, I, or J
1R-2R	C or D (16)	D (16)
2	I (1) and a 4th hour	—
3	G or H (17) and a 4th hour . .	F (17) and a 4th hour
3S	A (3) plus 2 hrs. arr.	—
4	E (17)	E (17)
9	Arr.	—
D11	—	E (7)
D12	E (7)	—
29	—	F (8)
30	F (8)	—
110	—	Arr.
124	—	Arr.
131	Arr.	—

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and
Course Number

Semester I

Semester II

GERMAN (cont'd)

132	—	Arr.
153	Arr.	—
198	—	Arr.
201	—	Arr.
202	—	Arr.
225	Arr.	—
232	—	Arr.
291, 292	Arr.	Arr.

ITALIAN

1-2	D (6) and a 4th hour	D (6) and a 4th hour
3	G (17) and a 4th hour	—
4	—	G (17)
107, 108	Arr.	Arr.
161, 162	Arr.	Arr.
198	—	Arr.
215, 216	Arr.	Arr.

RUSSIAN

1-2	H (10) plus 3 hrs. arr.	H (10) plus 3 hrs. arr.
3	Arr.	—
4	—	Arr.
29	D (6)	—
30	—	D (6)

SPANISH

IC 1-2	E (12)—Spanish Section D (12)—English Section	E (12)—Spanish Section D (12)—English Section
1-2	F (8) plus A, I, or J	F (8) plus A, I, or J
2	C, E, H, or I (1) and a 4th hour	A (1) and a 4th hour
3	D, G, or H (17) and a 4th hour	D, F, or G (17) and a 4th hour
4	A (17)	C or H (17)
9	F (8) and a 4th hour	—
D11	—	E (7)
D12	E (7)	—
51	—	F (8)
107, 108	E (7)	E (7)
116	Arr.	—
121	Arr.	—
142	—	G (9)
151	—	Arr.
213	Arr.	—
214	—	Arr.
221	—	Arr.
223	Arr.	—
291, 292	Arr.	Arr.

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and Course Number	Semester I	Semester II
MUSIC		
D1	C (5)	C (5)
4	H (10)	—
15-16	E (7)	E (7)
17	G (9)	—
18	—	G (9)
51 through 58	Arr.	Arr.
71	Arr.	—
119	Mon. and Thur. at 1:10	—
120	—	Mon. and Thur. at 1:10
121	—	Arr.
198	Arr.	Arr.
251	Arr.	—
252	—	Arr.
291, 292	Arr.	Arr.
OCEANOGRAPHY		
103-104	B (4) and a 4th hour	B (4) and a 4th hour
105	Arr.	Arr.
201	Arr.	—
202	—	Arr.
PHILOSOPHY		
D1	C, D, or F (13)	—
D2	—	C, D, or F (13)
IC 1-2	Mon., Wed., or Thur. 2:10-5:10	Mon., Wed., or Thurs., 2:10-5:10
55	D (6)	—
58	—	D (6)
101	H (10)	—
102	—	H(10)
122	—	F (8)
125	I (11)	—
151	J (12)	—
153	—	G (9)
159	F (8)	—
191	Arr.	Arr.
201	Arr.	Arr.
203	—	Arr.
205	Arr.	—
206	—	Arr.
207	Arr.	—
208	—	Arr.
PHYSICS		
D1	C, G, or I (15) Lab. and Conf. Arr.	—

COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
PHYSICS (cont'd)		
2	—	C or G (15) Lab. Tue. or Wed. 2:10-5:10
3, 4	D (6) Lab. arr.	D (6) Lab. arr.
37	F (8) Lab. arr.	—
61	G (9)	—
	Lab. Arr.	
62	—	G (9) Lab. Arr.
101	—	F (8) Lab. arr.
102	D (6) Lab. arr.	—
106	—	Arr.
107	Arr.	—
109	—	Arr.
111	E (7)	—
	Lab. Arr.	
121	C (5)	—
	Lab. Arr.	
122	—	C (5) Lab. Arr.
128	—	Arr.
198	Arr.	Arr.
199	Arr.	—
201, 202	Arr.	Arr.
203, 204	D (6) and Wed. and Fri. at 12	D (6) and Wed. and Fri. at 12
210	—	Arr.
213, 214	Arr.	Arr.
215, 216	Arr.	Arr.
223, 224	Wed. at 4:10	Wed. at 4:10

POLITICAL SCIENCE

DI	H (10)	H (10)
IC 1, 2	D, E, or H (1)	D, E, or H (1)
103	F (8)	—
104	—	F (8)
105	E (7)	—
106	—	E (7)
107	G (9)	—
109	G (9)	—
110	—	G (9)
111	—	G (9)
115	E (7)	—
116	—	E (7)
117	D (6)	—
118	—	D (6)
122	F (8)	—
124	—	C (5)
191	Arr.	—

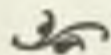
COURSES OF INSTRUCTION OFFERED IN 1953-1954

<i>Department and Course Number</i>	<i>Semester I</i>	<i>Semester II</i>
POLITICAL SCIENCE (cont'd)		
192	—	Arr.
201	—	Arr.
203	Arr.	—
205	Arr.	—
206	—	Arr.
209, 210	Arr.	Arr.
PSYCHOLOGY		
D1	D or F (14) Lab. Mon., Tue., Thur., or Fri. 1:10-3:10; Mon. or Thur. 3:30-5:30.	D, F, or H (14) Lab. Mon., Tue., Wed., Thur., or Fri. 1:10-3:10 or 3:30- 5:30
IC 1, 2	D, F, or H (14) Lab. Mon. 1:10-3:10 or 3:30- 5:30	D, F, or H (14) Lab. Mon. 1:10-3:10 or 3:30- 5:30
6	—	C (5)
81	D (6)	—
101	E (7) Lab. Tue. or Wed. 2:10-4:10	—
104	—	A (3)
105	G (9) Lab. Mon. or Thur. 2:10-5:10	—
106	—	G (9) Lab. Mon. or Thur. 2:10-5:10
107	C (5)	—
111	Tue. 2:10-4:10	—
112	—	D (6)
134	—	Mon. 2:10-4:10 and Thur. 2:10-5:10
198	—	Arr.
203	Arr.	Arr.
206	—	Tue. 2:10-4:10
207	Arr.	—
210	—	Arr.
214	—	Arr.
219	Tue. 2:10-4:10	—
SOCIOLOGY		
D1	C (5)	C (5)
105	C (5)	—
106	—	D (6)
111	E (7)	—
120	—	A (3)
125	G (9)	—
127	D (6)	—
137	H (10)	—
138	—	G (9)

COURSES OF INSTRUCTION OFFERED IN 1953-1954

Department and Course Number	Semester I	Semester II
SOCIOLOGY (<i>cont'd</i>)		
139	J (12)	—
180	—	Tue. and Thur. 2:10-3:40
182	—	H (10)
191, 192	Arr.	Arr.
196	—	Mon. 2:10-4:40
198	—	Arr.
202	Wed. 2:10-4:40	—
205	Arr.	—
291, 292	Arr.	Arr.

Student Life and Organizations



Chapel

A chapel service is held in Sayles Hall on Wednesday, Thursday, and Friday at noon. These services, directed by the Chaplain of the University, recognize the unique values of corporate worship in a university community and are intended to enrich the moral and religious life of the University.

The Chapel Choir sings daily under the leadership of the Director of Chapel Music. Each student is required to attend once a week.

Christian Association

The Brown Christian Association, founded in 1802, is a voluntary religious society. It helps to conduct the annual Freshman Week Program and forms a Freshman Council of those interested in the Christian Association. This Council sponsors joint meetings with the Pembroke Freshman Council at the Brown Reservation, works with underprivileged children, conducts a used clothing drive for Overseas Relief, and develops a series of discussions on religious questions under faculty leadership.

The program of the Association is motivated and directed by a cabinet of undergraduates. It seeks to meet some of the social and religious needs of the campus through four commissions. These deal with Christian Faith and Heritage, Campus Life, International and Community Problems. Coordinated with these Commissions is the Religious Emphasis Week—known as the Annual Brown Religious Embassy. The community program of the Christian Association includes a Work Camp project in blighted areas, counseling at the Rhode Island Training School for Boys, tutoring and current events for prisoners at the Men's Reformatory, and work in various Boys Clubs. In addition, it develops a program for foreign students and supports two DP Students at Brown. This program is made possible by undergraduate contributions raised annually through the Brown Charities Fund Drive.

Membership is open to those who accept the purpose of the Association and wish to participate actively in its program. It welcomes men of all faiths and those without church affiliation who wish to participate in any phase of its program.

STUDENT LIFE AND ORGANIZATIONS

Dining Rooms

Brown University operates the Dining Rooms for the accommodation of students and other members of the University Community. They include on the main campus the Sharpe Refectory, the Coffee Lounge in Faunce House; also the Gate and Andrews Hall Dining Room on the campus of Pembroke College.

All students living in University Dormitories have their meals in the Sharpe Refectory on a room and board arrangement. Students who do not live on campus have their lunches with the resident students on a special board plan, unless they have special permission from the Dean for other arrangements.

Dormitories

All students are required to live and to board in University student residences unless they live at home or have special permission from the Dean in connection with self-support.

The University housing accommodations are under the direction of the Office of Student Residences. Most of the accommodations are of the double room type but there are a few single rooms and a few three-man suites.

The University supplies a standard set of furniture for each room. In addition, the University supplies and launders all bed linens. Blankets, desk lamp and curtains must be supplied by the student. Each student is responsible for damages to his room and furnishings beyond ordinary wear. Sub-rental of rooms is not permitted.

The University is not responsible for loss of students' personal property. Adequate insurance coverage is advised for each individual.

Freshmen desiring information concerning assignment of rooms and occupancy should contact the Admissions Office.

Faunce House

Faunce House is the headquarters for the social and recreational activities of undergraduate men and for student organizations. The building was erected and equipped by the generous gifts of Mr. John D. Rockefeller, Jr., of the class of 1897 and, at his request, it was named in memory of the late Dr. William Herbert Perry Faunce, President of Brown University. In Faunce House are numerous offices and service facilities; the offices of the Brown Christian Association, the offices and working quarters of student organizations, fountain service in the Coffee Lounge, the Theater, Central Post Office, the Art Gallery, and the study of the Chaplain of the University. The immediate administration of Faunce House is delegated to the Director of Faunce House.

STUDENT LIFE AND ORGANIZATIONS

The Faunce House Theater offers ample facilities for the dramatic productions of Sock and Buskin and other undergraduate dramatic organizations, and for the showing of motion pictures. It is also used for concerts and lectures.

Faunce House is designed to provide undergraduate men with facilities for the social and recreational activities essential to a well-rounded college life. Assisting in this objective is the Faunce House Advisory Board which includes representatives from the corporation, faculty, alumni, and undergraduates.

Faunce House maintains reading rooms and lounging rooms; it operates a bookstore, a billiard room, a barber shop, facilities for table tennis, dark rooms, and other service units; it provides space for formal or informal meetings of student groups; and it encourages and facilitates social contacts through receptions for the students and the faculty, concerts, dances, tournaments, movies, and other social events.

All communications regarding Faunce House should be addressed to the Office of the Director.

Picture Lending Library

The Picture Lending Library was founded in 1933 and endowed in 1937 as the William Carey Poland Memorial Collection. From the funds available more than eight hundred pictures, representative of all periods, techniques, and "schools," have been acquired and may be borrowed by the students for their rooms at a nominal cost. This Picture Lending Library is under the auspices of Faunce House. At the beginning of each semester the pictures in the collection are placed on display in the Faunce House Art Gallery.

Student Recreation

All Freshmen are required to attend classes in Student Recreation twice a week during the freshman year unless excused by the University Health Department. Veterans may be excused from this requirement if they have completed basic training. All students must report for the Swimming Test. The Student Recreation requirements are as follows:

- 1) To be able to swim 100 yards.
- 2) To take a series of physical tests.
- 3) To take a body mechanics or posture test.

All students in Student Recreation engage in a Sports and Recreational Program. This program includes team and individual sports and games,

STUDENT LIFE AND ORGANIZATIONS

many with carry-over possibilities, under close supervision and instruction.

Members of intercollegiate athletic squads may, during the sport season, substitute attendance at practices, but, at the end of the season, or if they leave a squad during the season, they must report again for classes.

The Swimming Test is given during the registration period and regular periods for Student Recreation classes are assigned at that time. Special corrective classes are provided under the direction of the University Health Department for students with remediable physical defects.

Intramural Athletics

Intramural athletics are voluntary and include fraternity and club-dormitory leagues in badminton, basketball, foul shooting, handball, horse-shoes, paddle tennis, sailing, softball, squash, swimming, tennis, touch-football, track, volley ball, and wrestling. College championships are held in each of the above sports. Interclass competition between freshman and sophomore classes is conducted for the Brown Jug trophy.

Intercollegiate Athletics

Intercollegiate athletics are under the management of the Director of Athletics and the Brown University Athletic Advisory Council. The Faculty Committee on Student Organizations determines the eligibility of the members of the various teams. Varsity and freshman teams are maintained in the following sports: baseball, basketball, cross country, track, football, hockey, soccer, swimming, tennis, and wrestling. A varsity team is maintained in golf.

Undergraduate Organizations

Fraternities, dormitories, class organizations, and extra-curricular student activities are under the general supervision of the Office of the Dean of Students.

The Faculty Committee on Student Organizations determines, for the University, minimum eligibility requirements for membership in the more than one hundred student organizations and fraternities. This Committee, jointly with the Cammarian Club, also determines the status of both existing and proposed student organizations.

For further information on student activities and fraternities see the Brown University bulletins: "General Information Regarding Admission to the College" and "Student Life at Brown."

STUDENT LIFE AND ORGANIZATIONS

University Health Service

CHARLES J. HUTCHINSON, M.D., *Director*

STAFF OF ANDREWS HOUSE

G. EDWARD CRANE, M.D., *Athletic Surgeon*

JOHN S. DZIOB, M.D., *Surgeon*

CHARLES J. HUTCHINSON, M.D., *Physician*

HENRY H. BABCOCK, M.D., *Psychiatrist*

THOMAS PERRY, JR., M.D., *Surgeon*

FRANCES F. S. KORAN, R.N., *Superintendent of Andrews House*

Medical Examinations

The Medical Staff of Andrews House, assisted by a group of medical specialists, gives complete medical tests to every new student during Freshmen week and appropriate follow-up examinations thereafter.

Every new student is required to present satisfactory evidence of successful vaccination against smallpox.

Medical Care in Andrews House

A student who is a house patient in Andrews House will receive medical care, nursing care, and board without charge for a period not exceeding fourteen days during the academic year. A student who is an outpatient at Andrews House will receive medical care without charge. The Athletic Surgeon cares for students participating in intercollegiate athletics and sports.

General Hospital Care

When it is necessary to transfer a student to the Rhode Island Hospital or to the Charles V. Chapin Hospital for special care, a member of the Andrews House Staff may so recommend, and the Superintendent of Andrews House will make the arrangements.

Charges

No fees will be charged by members of the Medical Staff for professional services to students, unless the medical care is given in a hospital or a private home or unless it is given between the hours of 6 p.m. and 8 a.m.

If a student is a house patient in Andrews House for more than fourteen days during any one academic year, he will be charged by the University at the rate of \$5 for each extra day.

If a member of the Medical Staff is called to Andrews House or to a

STUDENT LIFE AND ORGANIZATIONS

dormitory or fraternity house for the medical care of a student between the hours of 6 p.m. and 8 a.m., the University may make a charge of \$1c for such services.

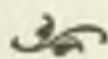
If a specialist, other than one on the Medical Staff at Andrews House, is needed, the arrangement between the specialist and the student is private, and the financial responsibility is the student's.

Every bill submitted to a student by a member of the Medical Staff is to be sent through Andrews House.

Students Participating in Intercollegiate Athletics

Special provisions have been made by the University for the medical examination and care, by the Athletic Surgeon, of students participating in intercollegiate athletics.

Graduate School



DETAILED INFORMATION concerning the Graduate School (admission, requirements for degrees, fellowships, etc.) will be found in the Catalog of the Graduate School, which may be obtained by writing to the Registrar of the Graduate School.

It is the aim of the Graduate School to serve the needs of men and women of college training who desire a broader and deeper acquaintance with the ideals and methods of modern scholarship and research. It seeks to give its students a discipline that will equip them not only to pass on to others the accumulated treasures of the world's knowledge, but also to increase that store. It offers programs of study leading to the degrees of Master of Arts or Master of Science in nearly all departments. It also offers opportunities for study leading to the doctorate in approximately half of the departments. Instruction is offered and the master's degree and the doctorate are awarded in American Civilization and in Applied Mathematics. Work in Egyptology is being developed.

The Graduate School is administered by the Faculty of the University which delegates certain of its powers to the Graduate Council. The Council consists of the President, the Provost, and the Dean of the Graduate School, *ex-officiis*, and six members elected annually.

Graduate work was formally established in 1887, although before that time requests for graduate instruction had been received and met in part. During the following years graduate work increased in quality and importance and in 1927 the Corporation established the Graduate School to take care of the need for a more formal organization. In 1929 a limitation was set to the number of students to be admitted.

Starting in September, 1953, graduate courses in Engineering will be offered in the late afternoon and evening. Individual courses may be selected or a program leading to the degree of Master of Science may be worked out with the Division of Engineering and the Graduate School.

Admission and Fees

Because the number of students that Brown University is prepared to admit to its Graduate School is set at a definite figure, both according to departments and in the total, only a portion of those applicants meeting the formal requirements, as stated below, can be admitted. In this selection

GRADUATE SCHOOL

the ability to do graduate work of a high quality will be the main criterion. As a general rule, a person is accepted as a candidate for a degree only if he stood in the upper third of his class as an undergraduate; exceptions are made only under special circumstances.

Subject to the above limitation of numbers and selection, the following classes of students can be admitted to the Graduate School:

(1) Students who have received the bachelor's degree from Brown University, or from a college of liberal arts and sciences or a college of engineering whose requirements for the degree are substantially equivalent.

(2) Students who have received the bachelor's degree from a college whose requirements for the degree have been evaluated by the Graduate Council as less than one year short of the requirements at Brown University. Such a student must make up the deficiency in his undergraduate training before he can be accepted as a candidate for an advanced degree.

A student seeking admission should make application at as early a date as possible. He should obtain from the Registrar of the Graduate School an application blank to be filled out and returned together with an official transcript of his undergraduate record, transcripts of record of any graduate work done, and two letters of recommendation from professors in the field in which graduate work is contemplated. Some departments also require that applicants present the results of the Graduate Record Examination.

The tuition fee in the Graduate School is \$260 for a full semester of work. For part-time work the charge is in proportion.

Requirements for Degrees

Candidates for the masters' degrees are accepted in almost all departments of the University, but admission to the Graduate School does not imply acceptance as a candidate. The ordinary requirement for a master's degree (A.M., Sc.M.) for a graduate of an approved college, who is well prepared in his special subject, consists of two full semesters of study, devoted to advanced work, including the preparation of a thesis or report. The program of study, whether it lies in one department or in a group of departments, must represent some definite aim. Ordinarily at least one-half of the student's work must be done in one department. A reading knowledge of French or German is required.

Candidates for the doctor's degree are accepted only in such departments as are adequately equipped for such work. The requirements for the degree of Doctor of Philosophy are qualitative rather than quantitative, and no definite statement of the time necessary for obtaining the degree can be made, but in no case will the degree be granted for less than six full semes-

GRADUATE SCHOOL

ters of graduate work (including the thesis). The student must devote at least one year exclusively to work in residence at Brown University. Final acceptance for the degree takes place only after the successful completion of the language examinations and the preliminary examination, which is designed to test the student's mastery of his field of study and is ordinarily held not earlier than toward the close of the second year of work. The candidate must present a thesis on a topic related to his major subject, which shall embody the results of original research and give evidence of high scholarship. He must also pass a final examination conducted by the Dean of the Graduate School or his representative, the officers of professorial rank in the departments concerned, and such other members of the Faculty as may be appointed.

Fellowships, Scholarships, and Assistantships

Fellowships are designed for those who have already demonstrated capacity of a high order for graduate study and the larger ones are assigned to persons who have had at least the equivalent of one full year of graduate work. Preference is given to those who plan to proceed to the doctorate. Scholarships are available for first-year students whose undergraduate records in their chosen fields are exceptionally good. Fellowships and scholarships are in general open to men and women alike. Two fellowships are designated especially for award to members of the graduating class at Brown University. Several post-doctoral fellowships are open to persons with Brown University degrees. Supplements to Veterans' grants are in some cases available.

About \$60,000 is available annually for fellowships and scholarships. Fellowships range in value from \$600 up. Scholarships cover the tuition fee and sometimes there is a small additional stipend.

There is \$1500 available annually for scholarships for students from the University of Texas, Baylor University, William Jewell College and Hardin-Simmons University.

In most departments appointments as assistants, teaching associates, or half-time instructors, which enable the holders to study part time, are available. Appointees teach half time, assist in laboratories, read papers, or help in the departmental libraries; the remuneration depends upon the amount of assistance rendered.

Official forms for applications may be obtained from the Registrar of the Graduate School; no application will be considered unless made on this form.

Pembroke College in Brown University



PEMBROKE COLLEGE is the undergraduate college for women in Brown University and offers the same courses of study under the same faculty and the same degrees which the University offers to undergraduate men. A Junior year of study in American Civilization is open to a limited number of well qualified women undergraduates who have completed their sophomore year in accredited colleges or universities located outside the New England area.

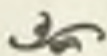
As a coordinate college within Brown University, Pembroke College is under the control of the Corporation and general Administration of the University, but the immediate direction and supervision are vested in the Dean of Pembroke College. The college has a campus of its own and the distinct extracurricular and social life of a separate college.

The Faculty of Brown University is responsible for instruction in Pembroke College, as in The College, the undergraduate college for men, and in the Graduate School which offers courses to men and women.

Pembroke College was organized as The Women's College in Brown University in 1891 and the first women received their degrees in 1894. Pembroke Hall, which now contains offices of administration, classrooms, and the Pembroke College Library, was built in 1897. In 1928 the name of the college was changed to "Pembroke College in Brown University." The campus is an eighth of a mile from the University campus and the buildings at present include, in addition to Pembroke Hall, Alumnae Hall, Sayles Gymnasium, ten residence halls, a center for non-resident students, a health center, and a field house.

Catalogs of Pembroke College may be obtained from the Dean of Admission of Pembroke College in Brown University. Requests for information not contained in this catalog, or in the bulletins, should be addressed to the Dean of Pembroke College in Brown University.

The University Libraries



ADMINISTRATION

DAVID ALONZO JONAH, Sc.M., *Librarian*

CHRISTINE DROWNE HATHAWAY, *Administrative Assistant*

REFERENCE AND CIRCULATION

HARRY GLENN BROWN, A.M., M.A. in L.S., *Supervisor of Readers' Service*

JOHN GEORGE BUEHLER, A.B., M.S., *Reference Assistant*

HELEN THOMPSON, A.B., *Head of Circulation Department*

WINFIELD SCOTT KENNEDY, B.S., A.M., *In Charge, Humanities Reading Room*

DOROTHY DAY, A.B., B.L.S., *In Charge, Social Studies Reading Room*

PREPARATIONS DIVISION

KAY KIRLIN MOORE, A.B., B.S., *Head Cataloger*

HAROLD EDWIN CLARK, A.M., B.S., *Head of Order Department*

SPECIAL COLLECTIONS

MARION ELIZABETH BROWN, B.A., B.L.S., *In Charge*

SAMUEL FOSTER DAMON, A.M., *Curator of the Harris Collection*

WILLIAM EASTON LOUTTIT, JR., Ph.B., *Archivist*

BIOLOGICAL AND PHYSICAL SCIENCES LIBRARIES

MARGARET ELIZABETH DREWETT, A.M., *In Charge of Physical Sciences Library*

JOSEPHINE RUSSO CARSON, A.B., *In Charge of Biological Sciences Library*

PEMBROKE COLLEGE LIBRARY

CAROLYN ADAMS WALLER, A.B., M.S. *In Charge*

University Library

The University Library, containing 793,000 bound volumes and adding fifteen to twenty thousand volumes each year, includes the John Hay Library, two divisional libraries, and Pembroke College Library.

The Main Library building, erected in 1910 as a memorial to John Hay, of the class of 1858, and enlarged in 1939, houses the general collection of books, general reading rooms, divisional reading rooms and seminaries in

THE UNIVERSITY LIBRARIES

the Humanities and in History and Social Studies, and many special collections: Chambers Dante Collection, George Earl Church Collection on South America, Foster Horace Collection, Harris Collection of American Poetry and Plays, Lamont Library of English Literature, McLellan Lincoln Collection, Knight and Peltz Postage Stamp Collections, Bullard and Hoffman Napoleon Collections, Rider Collection of Rhode Island History, Edward North Robinson Collection on college athletics, Ward Library of Sociology and Paleobotany, Wheaton Collection of International Law, and others.

All these collections contain rare and unique materials in their specialties. The Harris Collection of American Poetry and Plays, the Knight Stamp Collection, and the McLellan Lincoln Collection are among the leading collections in the world in their respective subjects.

Divisional Libraries located in other buildings on the campus are as follows: Biological Sciences (biology, botany, psychology) in the Arnold Laboratory; Physical Sciences (astronomy, chemistry, geology, mathematics, physics, and the Corthell Library of Engineering) in the Metcalf Research Laboratory; and Pembroke College Library.

John Carter Brown Library

LAWRENCE COUNSELMAN WROTH, A.B., LITT.D., L.H.D., *Librarian*

The John Carter Brown Library is a growing collection of about thirty thousand volumes relating to the history of North, South, and Central America. It was begun about 1846 by John Carter Brown of Providence and continued by his son, John Nicholas Brown, at whose death in 1900 it passed, with building and an endowment, into the possession of the University. Composed of source material printed before 1801, the collection bears in Europe and in America a deserved renown for completeness as well as for its possession of some of the most coveted individual treasures of Americana. A history of the Library with a guide to its collections has been published. Students of the University, under direction, and other accredited investigators have the privilege of using the collection. Exhibitions are announced in the University's *Weekly Bulletin*. The Associates of the John Carter Brown Library was organized in 1944 to aid in enlarging the collection.

The Annmary Brown Memorial

MARGARET BINGHAM STILLWELL, A.B. A.M., D.LITT., *Librarian*

The Annmary Brown Memorial on Brown Street, near the southwest corner of the new Quadrangle, contains a world-famous collection of 15th-century books, known as incunabula, valuable in the studies of Renaissance

THE UNIVERSITY LIBRARIES

and Mediaeval culture and of the earliest known printing presses. Collected and housed by General Rush Christopher Hawkins, Commander of the Hawkins Zouaves in the Civil War, the books were assembled for the purpose of illustrating the spread of printing from its birthplace in Mainz about the middle of the 15th century. Items in the collection, many of them exceedingly rare if not unique, date between 1460 and 1500. The Memorial, dedicated to General Hawkins' wife, Annmary Brown, after whose grandfather this University is named, also contains two art galleries, one of old masters and one of later artists. It was acquired by Brown in early 1948 by court order, when it was deeded to the University by the Memorial's Board of Trustees. Fifteenth and sixteenth century books from the University's general collection are now being transferred here, in order that the building may serve as a center for Renaissance studies. Since 1924, the Memorial has served as national headquarters for the records of incunabula owned in the United States, Mexico, and Canada.

Providence Libraries

The seven collections of books named below comprise, with the University Libraries, nearly two million volumes in the city at the service of the students.

The Providence Public Library, at Empire and Washington Streets, offers to all students at Brown University the free use of more than 525,000 volumes. The following departments and collections are available: *Art and Music Department* with book collections on Architecture and Jewelry, sheet music and recordings, and over 150,000 pictures; *Business-Industry-Science Department* with a complete file since 1876 of Specifications and Drawings of the U. S. Patent Office, Alien Custodian Patents, standard business and financial services, and important collections on Textiles and Printing; *Reference Department* with Providence newspapers on microfilm back to 1820, city and telephone directories for several hundred American cities and towns, U. S. Documents depository collection, The Rhode Island Index—a subject index to persons, places, and events in Rhode Island found in books, pamphlets, periodicals, and the files of the *Journal and Bulletin*; microfilm and photostat services; *The Williams Memorial on Irish Culture* containing, in addition to books and periodicals, a reproduction of the "Book of Kells," a Celtic hand-illuminated manuscript of about the 7th Century A.D.; *The Fox Collection* of over 400 pamphlets covering Irish history, religion, and education from 1740–1890, and a large collection of Irish street ballads; *The Fiske Harris Collection on the Civil War and Slavery* containing more than 10,000 items on regimental histories, early works on slavery, Confederate and Union Ballads, general histories, Lincoln, naval and military tactics, Civil War belles-lettres, and editions of "Uncle

THE UNIVERSITY LIBRARIES

Tom's Cabin" in many languages. Also available are representative Rhode Island imprints before 1800, current subscriptions to over 800 periodicals with back files of major trade and general periodicals.

The Tockwotton Branch at 121 Hope Street and the Rochambeau Branch at 708 Hope Street are near the University Campus and are available to students. Applications for borrowers' cards may be obtained at the Reference Desk at the University Library.

The Library of the Providence Athenaeum is a collection of general literature numbering over one hundred and thirty-six thousand volumes. Professors or teachers may become annual subscribers on the payment of six dollars in advance, and any student of Brown University may become a subscriber for three months on the payment of two dollars and a half; but the rights of such subscribers are personal only and do not extend to their families.

The Library of the Rhode Island Historical Society, 52 Power Street, comprises one hundred thousand bound volumes, fifty thousand pamphlets, about one million manuscripts on all aspects of Rhode Island history, and a practically complete file of Rhode Island newspapers, beginning with 1758. By the courtesy of the Society this collection is accessible, free of charge, to members of the University.

The Library of the Rhode Island Medical Society contains thirty thousand volumes on medical science, and receives current medical periodicals. It is open to any person for consultation; circulation is restricted to members only.

The State Law Library is a collection of seventy-five thousand volumes devoted wholly to law. It is open to any person for consultation.

The State Library, in addition to United States, state, and legislative documents, has volumes in the field of constitutional and statutory law, political and social science, economics, general history and biography, and Rhode Island history, including the Preston collection of Rhode Island material. It is the exchange authority for state documents with other nations, states, and some municipalities. Its Legislative Reference Bureau does law drafting and special legislative reference for the General Assembly. It has a division for the collecting and filing of records of our several World Wars. The State Librarian is, *ex officio*, State Record Commissioner.

The Library of the Rhode Island School of Design contains about 22,000 volumes and an extensive list of periodicals dealing with the practice and history of painting, sculpture, architecture, city planning and landscape design, and design in industrial production. Mounted photographs of works of art are available for study, and a clipping collection is maintained for the use of students of design and illustration. The library is open to all students for reference. Full privileges are accorded to those who are registered for courses at the School.

Buildings and Grounds



BROWN UNIVERSITY is located in the City of Providence at the head of Narragansett Bay. The campus of the University is on College Hill, in a residential area overlooking the center of the city.

The main campus of the University occupies an area of approximately forty acres. In close proximity are athletic fields and recreational facilities covering more than thirty-five acres and, within ten miles of the campus, there is an outing reservation with more than one hundred acres of clearing, woodland, and water.

University Hall, constructed in 1770 and originally known as The College Edifice, is an excellent example of early colonial architecture, a monument to the founders and to the cultural interests of the colony. Near it on the Front Campus are Hope College erected in 1822, another example of early college architecture, and Manning Hall erected in 1834, an early American revival of the classical form. Surrounding these historic buildings, on or near the main campus, are more than one hundred buildings now devoted to university purposes.

The offices of administration of the University are located in University Hall.

The John Hay Library, erected in 1910 and named for a distinguished son of Brown, houses the general library collections of the University. The John Carter Brown Library of Americana is separately housed in its own building on the College Green. The Annmary Brown Memorial Library is on nearby Brown Street. Divisional libraries occupy space in other buildings.

Over fifty buildings are devoted to classroom, laboratory, research, library, office, and conference use by the departments of instruction, including Manning Hall, Rhode Island Hall, Sayles Hall, Wilson Hall, Rogers Hall, Van Wickle Hall, Marston Hall, Arnold Biological Laboratory, Metcalf Chemical Laboratory, Metcalf Research Laboratory, the Engineering Building, the Engineering Laboratories, the Psychological Laboratories, the Ladd Astronomical Observatory, Appleton House, the Art Studio, the Music Building, The Cabinet, Robinson Hall, Lyman Hall, Engineering Research Laboratory, The Nuclear Physics Laboratories, Barus Hall, Whitehall, Richardson Hall, Angell Hall, Photographic Laboratory, Prospect House, Waterman House, and Wilbour Hall.

The Herbarium in Rogers Hall contains over 100,000 specimens from all parts of the world, but mainly from New England. The Geological Museum is housed in Rhode Island Hall. Greenhouses near Arnold Laboratory are

BUILDINGS AND GROUNDS

used for experimentation, laboratory, and classroom work by the Botany Department.

The University maintains residence halls for men including: Hope College and Slater Hall on the Front Campus; Littlefield Hall and Maxcy Hall on the College Green; Hegeman Hall and Caswell Hall on Lincoln Field (Lower Campus); Horace Mann House and Edwards House on George Street; The Graduate Center and Ames House for faculty and graduate students. Sharpe Refectory is the dining hall for all students of The College.

The Brown Quadrangle, bounded by Brown, Charles Field, Thayer and George Streets comprises Sharpe Refectory, nine dormitories, and seventeen fraternities with accommodations for 877 men. The main entrance to the Quadrangle is through the Cincinnati Gate at Wayland House on Brown Street. The dormitories are: Buxton House, Chapin House, Diman House, Goddard House, Harkness House, Marcy House, Olney House, Sears House, and Wayland House.

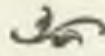
Faunce House, named in memory of William Herbert Perry Faunce, the ninth president of the University, is the social and recreational center of the campus. In this building are located a coffee lounge, theater, art gallery, offices of student organizations, the University Store, Post Office, lounges and other recreational facilities; it is open to all undergraduates.

The Colgate Hoyt Swimming Pool is located on Lincoln Field and Marvel Gymnasium, erected in 1928, is located on Aldrich Field near the Brown Stadium. The Intramural Playing Field and the Thayer Street Tennis Courts are located within five minutes' walk of the campus. The Nicholson Memorial Tennis Courts on Manning Street are adjacent to the campus. Brown Field with its football stadium and Aldrich Field with its baseball diamond, soccer, and other playing fields are located on Elmgrove Avenue approximately a mile and a half from the campus.

The Brown University Outing Reservation is located on Upper Sprague Reservoir in the town of Smithfield and is equipped with two lodges and a cabin.

The Brown University Boat House, located a mile from the campus on the Seekonk River near the Red Bridge, provides headquarters for the Brown University Yacht Club and facilities for intramural and intercollegiate boat races on Narragansett Bay.

Other University Activities



Arrangements with Other Institutions

RHODE ISLAND SCHOOL OF DESIGN

AS A RESULT of a coöperative arrangement approved students of Brown University may elect certain courses in art at the Rhode Island School of Design in addition to the courses offered by the Department of Art of the University. This arrangement makes studio courses at an art school of high standing available to Brown students.

In order to elect courses given at the Rhode Island School of Design for credit at Brown University, a student must first have the written permission of the chairman of the Department of Art and must then register in the courses both at Brown University and at the Rhode Island School of Design.

AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

Free tuition in the School is available for all adequately prepared graduates of Brown University. Arrangements may also be made for undergraduates to attend the Summer Session at the end of their junior year. Further information may be obtained from the chairman of the Department of Classics.

AMERICAN ACADEMY IN ROME

Free tuition in the School of Classical Studies in the Academy is available for all adequately prepared graduates of Brown University. Arrangements may also be made for undergraduates to attend the Summer Session at the end of their junior year. Further information may be obtained from the chairman of the Department of Classics.

ART COLLECTIONS

In Sayles Hall at the University there is a collection of portraits of notable men associated with Brown University and with the State of Rhode Island. The Faunce House Gallery Lounge shows, during the college year, exhibitions representative of many phases of art.

The Annmary Brown Memorial contains a collection of paintings by early masters and a gallery of paintings representative of more modern schools. The Museum of Art of the Rhode Island School of Design owns rare collections of Oriental, European, and American works of art. The Pendle-

OTHER UNIVERSITY ACTIVITIES

ton Collection, with John Goddard furniture, is considered one of the finest in America.

Concert Series

The University String Quarter, whose members are Professors Coolidge, Fischer and van Koppenhagen and Mr. Charles Dickerson of the Rhode Island Philharmonic Orchestra, contributes regular programs to the Brown-Pembroke Concerts and appears also in Faunce House musicals. Not only string quartet literature but other chamber music is provided when assisting instrumentalists combine with the Quartet.

In addition to the opportunities offered by the Department of Music, students may attend at student rates the concert series of the Boston Symphony Orchestra, the Rhode Island Philharmonic Orchestra, the Community Concert Association, the Rhode Island School of Design, and other musical events.

Training of Teachers

ARRANGEMENTS WITH THE STATE OF RHODE ISLAND

The Department of Education of the State of Rhode Island under act of the Legislature coöperates with Brown University for the professional instruction of college graduates who desire to become teachers in schools, principals of high schools or elementary schools, or superintendents, and of those who already hold such positions. For this purpose the State appropriates annually ten thousand dollars for scholarships covering tuition for graduate courses in education pursued by candidates for the degree of Master of Arts. Scholarships are also granted for individual courses. The courses must be approved by the chairman of the Education Department of the University. Appointment to these scholarships is made by the State Department of Education. Candidates must fulfill the requirements for graduate students regularly determined by the University.

PROVISIONS FOR PRACTICE TEACHING

The School Committees of the City of Providence and other neighboring communities, by special agreement, appoint as student-teachers in public schools a limited number of graduate students who are pursuing courses in education at Brown University. By this arrangement the student may meet the State certificate requirement for practice teaching. The student-teachers are occupied in the schools each day for about half the usual school session. Each is placed under the guidance of a supervising teacher. An opportunity is thus afforded graduate students to gain at the same time a knowledge of the theory of education and experience in the art of teaching.

OTHER UNIVERSITY ACTIVITIES

Photographic Laboratory

The University operates a photographic laboratory fully equipped for the making of microfilms, positives, photoprints, copy negatives, enlargements, black and white and color slides, news and commercial photographs, 16 mm. motion pictures, photofinishing, dry mounting, portraits, application and passport pictures, ozalid and ozaprints, and photochemical stencils. Its services are available to students and to departments for the preparation of teaching materials and the microfilm reproduction of manuscripts, scholarly publications, and other materials. It is also used by scholars outside the University who desire reproductions of materials in the library collections. Among its major projects are the Mathematical Reviews microfilm service and the microfilm collection of books on South American History and Hispanic Culture.

Public Lectures

THE MARSHALL WOODS LECTURESHIP was established in 1871 by Marshall Woods of the class of 1845, but the income from the fund first became available in 1919. The income was to be employed "in supplying lectures on the Fine Arts as applied broadly to human life and lectures on the Arts and Sciences as applied to all human progress." The series for 1952-53 included the following lectures on *The American Prospect*:

Mr. MALCOLM COWLEY (Literary Critic): *Myths and Heroes in the New American Fiction*

Dr. EVERETT CASE (Colgate University): *The Job of Education*

Prof. I. I. RABI (Columbia University): *The American Prospect in Science*

Dr. HERBERT GEZORK (Andover Newton Theological School): *The American Prospect: Religion*

Dr. GRAYSON KIRK (Columbia University): *International Relations*

THE CHARLES K. COLVER LECTURESHIP was established in 1915 by Jesse L. Rosenberger and his wife in honor of her father, Charles Kendrick Colver, of the class of 1842. The lectures usually comprise a course of three. Many of them have subsequently been published by the University. In April, 1953 the Colver Series presented three lectures by Professor William A. Ringler on *Sir Philip Sydney*.

THE JOHN HOWARD APPLETON LECTURESHIP was established in 1923 by friends and former students of Professor Appleton, in appreciation of his service of over fifty years as teacher and professor of chemistry in Brown University, to provide special annual lectures on pure or applied chemistry, the lecturers to be selected by the Department of Chemistry. In 1952-53 no Appleton lecture was given.

OTHER UNIVERSITY ACTIVITIES

THE MOLLIE B. MANDEVILLE LECTURESHIP was established in 1924 by Frank N. Mandeville of the class of 1905, in memory of his wife. It is the present policy of the committee in charge to use the income of this fund, with contributions from the income of the Marshall Woods Fund, to bring to the University distinguished scholars for addresses on subjects, often technical, but of great interest to the instructors and students of the departments concerned. The lectures in the academic year 1952-53 included the following:

- Dr. ROGER RUSSELL (University of London): *British Psychology*
Dr. RICHARD L. SOLOMON (Social Relations Laboratory, Harvard University): *Traumatic Avoidance Learning*
Dr. FRANK A. BEACH (Yale University): *Factor Analysis of Behavior*
Dr. WOLFGANG KOHLER (Swarthmore College): *Gestalt Psychology Today*
Dr. DEAN FARNSWORTH (U. S. Submarine Base, New London, Connecticut): *Zonal Sensitivity of the Retina*
Dr. GEORG VON BEKESY (Psychoacoustics Laboratory, Harvard University): *Electro-anatomy of the Cochlea*
Dr. HEINZ WERNER (Clark University): *Some Problems of Perception*
Dr. C. E. OSGOOD (University of Illinois): *Language Behavior*
Dr. J. G. BEEBE-CENTER (Harvard University): *Identification of Taste Solutions Presented Singly*
Dr. DAVID ZEAMAN (University of Connecticut): *Measures of Conditioning*
Dr. FRANKLIN V. TAYLOR (Naval Research Laboratory): *Research on Man-machine Systems*
Dr. R. M. HAINER (Arthur D. Little Company): *Problems in Formulating an Information Theory of Odor*
Dr. GEORGE A. MILLER (Massachusetts Institute of Technology): *The Role of Reorganization in Human Learning*
Dr. YNGVE ZOTTERMAN (Kungl. Veterinärhögskolan, Stockholm, Sweden): *Function of the Thermal Receptors*
Dr. F. D. SHEFFIELD (Yale University): *The Relation Between Starvation and Random Activity*
Dr. DEAN FOSTER (United States Testing Company): *Psychometrics*
Dr. PETER NIEUWKOOP (University of Utrecht): *Activation and Organization of the Central Nervous System in Amphibia*
Dr. GEORGE Z. WILLIAMS (Medical College of Virginia): *The Distribution and Effects of Radiogold Colloid in the Rat with Particular Reference to Reticulo-endothelial System*
Dr. HANS GRUENEGBERG (University of London): *Quasi-continuous Variation in the Mouse*
Dr. LEONARD ORNSTEIN (Columbia University): *Microspectrophotometry in Cellular Studies*

OTHER UNIVERSITY ACTIVITIES

- Dr. ROBERT GAUNT (Ciba Pharmaceutical Products, Inc.): *Steroids as Substitutes for ACTH in the Maintenance of the Adrenal Cortex*
- Dr. BERWIND P. KAUFMANN (Carnegie Institution of Washington): *Cytochemical Studies Employing Crystalline Enzymes*
- Dr. F. P. ELLINGER (Naval Medical Research Institute): *Fundamental Biology of Ionizing Radiation*
- Dr. FRANKLIN HOLLANDER (Mount Sinai Hospital): *A Physico-chemical Analysis of Exocrine Secretion in the Digestive Tract*
- Dr. FRITZ HARTMANN (University of Göttingen, Germany): *Some Effects of Lipotropic Substances*
- Dr. EDWIN B. MATZKE (Columbia University): *An Analysis of the Factors Governing Three Dimensional Shapes of Cells in Tissues*
- Dr. ABRAHAM EDELMANN (Brookhaven National Laboratory): *Ionizing Radiations and Tumors of the Pituitary Gland*
- Dr. HENRY QUASTLER (University of Illinois): *Information Theory in Biology*
- Dr. JOHN L. SPENCER (University of Massachusetts): *Effects of Ultrasound on Growth of Plants*
- Dr. FREDERICK Y. WISELOGLE (Squibb Institute for Medical Research): *Chemotherapy of Experimental Tuberculosis*
- Dr. PETER BERNFELD (Tufts College Medical School): *Influence of Genetic Factors on Plasma Proteins in Men and in Mice; Electrophoretic Studies*
- Dr. M. H. F. FRIEDMAN (Jefferson Medical College of Philadelphia): *Graded Responses of the Gastrointestinal Tract to Normal and Abnormal Stimuli*
- Dr. MONTROSE J. MOSES (Brookhaven National Laboratory): *The Desoxypentose Nucleic Acid Content of Resting and Dividing Cells*
- Dr. W. S. BULLOUGH (University of London): *Carbohydrate Metabolism and Mitosis*
- Dr. ROBERT WHILE (Harvard Medical School): *Morphological Studies of the Effects of Adjuvants in Antibody Production*
- Dr. JULIO M. SOSA (Universidad de la Republica, Uruguay): *The Golgi Apparatus: Morphology, Chemistry, and Biological Significance*
- Dr. HENRY BUNTING (Yale University): *Histochemistry of Connective Tissues—Ground Substance and Fibers*
- Dr. WILLARD A. KREHL (Yale Nutritional Laboratory): *Pantothenic Acid and Adrenal Function*
- Dr. MEREDITH N. RUNNER (Roscoe B. Jackson Memorial Laboratory): *Transplantation of Mammalian Eggs*
- Dr. WILLIAM R. DURYEE (National Cancer Institute): *Nuclear Physiology in Normal and Malignant Cells*

OTHER UNIVERSITY ACTIVITIES

Prof. K. IWASAWA (Massachusetts Institute of Technology): *On Solvable Extensions of Algebraic Number Fields*

Prof. W. T. MARTIN (Massachusetts Institute of Technology): *Hartog's Theorem in Complex Spaces with Singularities*

Prof. RICHARD BRAUER (Harvard University): *Groups of Even Order*

Prof. NATHAN JACOBSON (Yale University): *Jordan Modules*

Prof. HANS LEWY (University of California): *Analytic Extension of Minimal Surfaces*

Dr. JACK SCHWARTZ (Yale University): *Elliptic Boundary Value Problems*

Dr. ALEX HELLER (Harvard University): *On Spaces with Operators*

Prof. ANDREW M. GLEASON (Harvard University): *Hilbert's Fifth Problem*

Dr. JOSEPH SAMPSON (Massachusetts Institute of Technology): *Elliptic Differential Equations on Riemannian Manifolds with Boundary*

Dr. G. WASHNITZER (Massachusetts Institute of Technology): *Analytic Homeomorphisms of Compact Complex Manifolds*

Prof. HANS SAMELSON (Institute for Advanced Study and the University of Michigan): *The Pontryagin Product in Spaces of Paths*

Dr. J. M. COOK (Harvard University): *Hilbert Space and Second Quantization*

Dr. HIDEHIKO YAMABE (Institute for Advanced Study): *On a Conjecture of Iwasawa and Gleason*

Prof. JEAN DIEUDONNÉ (University of Michigan): *On Convergence Properties of the Convolution of Measures*

Dr. E. R. FADELL (Harvard University): *Identifications in Singular Homology Theory*

Dr. F. W. GEHRING (Harvard University): *Functions with Bounded Alpha-Variation*

Prof. WARREN AMBROSE (Massachusetts Institute of Technology): *Holonomy and Curvature*

THE BROWN UNIVERSITY LECTURES, established by the Corporation in 1938, are designed primarily for the purpose of offering to members of the Faculty an opportunity to share their intellectual interests and the results of their scholarly work with the community in which the University resides. In 1952-53 the Carl Barus Series included the following four lectures under the general title *Europe Today: Germany*, Professor Sinclair W. Armstrong; *Spain*, Professor Juan López-Morillas; *France*, Professor Albert J. Salvan; *Great Britain*, President Henry M. Wriston.

A number of public and semi-public addresses are delivered at the University in the course of the year, for some of which lecture funds provide a part of the expense. A partial list would include the University convocations with addresses by well-known speakers; lectures under the auspices of the

OTHER UNIVERSITY ACTIVITIES

Rhode Island Philosophical Society, the English Club, the Amateurs of Ancient Greece, the Providence Archaeological Society, the Brown Christian Association, the History Club, the Friends of the Library, and the Skyscrapers.

Colloquia, with more informal addresses by members of the staff and others, are a regular part of the program of several departments, and to these also interested friends may be admitted.

THE EDGAR JOHN LOWNES MEMORY DAY FUND, established in 1924 by Mrs. Therese K. Lownes in memory of her husband, provides an income to be used annually for an organ recital by some distinguished artist. The artist during 1952-53 was E. Power Biggs, Fellow of the Royal Academy and regular recitalist on the CBS network.

University Extension

The University offers each semester, evening extension courses open to all who desire to register. There are no entrance requirements, except ability to do the work, and no required courses except in rare instances.

Single Courses comprise seven weekly sessions and provide fifteen periods of class instruction. *Double courses* comprise twelve weekly sessions and provide thirty periods of class instruction.

A course certificate is issued upon the satisfactory completion of each course, except in the case of certain special courses which are non-credit courses. On the satisfactory completion of fifteen double courses, or the equivalent, the Associate in University Extension diploma is granted as recognition by the University of the work that has been accomplished. Study in extension courses is not applicable to degrees.

Inquiries about extension courses and applications for registration should be sent to the Director of University Extension, 73 Brown Street. The application should give the full name of the applicant, his address, and the course or courses desired. On receipt of the fee, an attendance card is issued which must be shown at all sessions.

In the series of courses beginning in February, 1953, 35 courses were given with a total registration of 650; in the series beginning in September, 1953, 41 courses were given with a total registration of 974.

Prizes, Premiums, Honors



In 1824 under guidance of Nicholas Brown, Treasurer of the College, an Alumni Fund of one thousand dollars was established to provide medals for the winners in prize speaking competitions. These contests were suspended by President Wayland, who later established the President's Premiums, and secured further sums for prize awards. Partial remission of tuition for indigent students was arranged in 1847. In 1858, under President Sears, the University established scholarship funds, and in 1859 Miss Lydia Carpenter initiated the Aid Fund. The University Premiums (bequeathed by Nicholas Brown) and some other moneys previously devoted to prizes were then converted into scholarships for aid to needy students.

*Premiums for Excellence in Preparatory Studies*¹

Premiums for excellence in certain preparatory studies are awarded each autumn to members of the entering class on the basis of special examinations as described below. Examinations separately judged with separate awards but covering the same material are conducted simultaneously for men of The College and for women of Pembroke College.

The competitions in Greek, Latin, and Mathematics are each open to all Freshmen. However, those in the French and German languages, respectively, are open only to those freshmen whose knowledge of the language concerned has been gained through secondary school studies rather than from family or community contacts.

THE PRESIDENT'S PREMIUMS, derived from the income of a fund presented in 1843 by President Wayland, and later increased, are awarded each year to those members of the freshman class, who upon examination are found to excel in preparatory Greek and Latin. At the College and similarly at Pembroke College, a single premium is awarded in Greek; a first and a second are awarded in Latin. The examination in Greek is held at 2:10 p.m. on the second Thursday of the academic year and that in Latin at 2:10 p.m. on the third Thursday; namely the Thursday preceding and that following the first Wednesday in October.

In Greek the examination presupposes three years' study of the language in a secondary school or its equivalent. The student must show knowledge of the language by translating passages from Xenophon's *Anabasis* (I-IV), selections from Homer's *Iliad* or *Odyssey* (I-III), and also a sight passage of simple Attic prose; by answering specific questions on grammatical forms and syntax; and by translating into Greek an easy passage of English prose, based on the *Anabasis*. The candidate must also show familiarity with the content of the works read and general data concerning their authors. In 1952-53 a Premium in Greek was awarded to a man as follows:

¹ The University reserves the right to withhold any award.

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ROBERT DANIEL DUFFY

prepared at Classical High School, Providence, Rhode Island

In Latin the examination presupposes four years' study of the language in a secondary school or its equivalent. Ability to translate is tested by selections involving familiar vocabulary and construction. Knowledge of grammatical forms, syntax, and style is tested by translation into Latin of passages in connected discourse in English based on writings of Caesar and Cicero. In 1952-53 premiums for men, were awarded as follows:

The first premium to ROBERT DANIEL DUFFY

prepared at Classical High School, Providence, Rhode Island

The second premium to NOEL MACDONALD FIELD, JR.

prepared at The Hotchkiss School, Lakefield, Connecticut

Premiums, for women, were awarded as follows:

The first premium to WINIFRED RUTH SIBLEY

prepared at Melrose High School, Melrose, Massachusetts

The second premium to CAROLYN AMES HOLBROOK

prepared at Weymouth High School, Weymouth, Massachusetts

THE HARTSHORN PREMIUMS IN MATHEMATICS, derived from the income of a prize scholarship fund presented to the University in 1872 by Joseph Charles Hartshorn of the class of 1841, a clergyman, are awarded each year to the two members of the freshman class of the College who are found to excel in an examination on elementary algebra (through quadratic equations and the binomial theorem) and plane geometry. The examination is held at 2:10 p.m. on the fourth Thursday of the academic year. In 1952-53 premiums were awarded as follows:

The first premium to JOSEPH EMILIO PANARELLI

prepared at Hope High School, Providence, Rhode Island

The second premium to JAMES WOLFE JACKSON

prepared at Bloom Township High School, Chicago Heights, Illinois

THE HYPATIA PREMIUMS IN MATHEMATICS, derived from the income of a fund, named for Hypatia of Alexandria, and presented anonymously in 1951, parallel for women the Hartshorn Premiums and supersede Entrance Premiums previously paid from other funds. In 1952-53, premiums for women were awarded as follows:

The first premium to MARILYN IDA BEEMUS

prepared at Academy High School, Erie, Pennsylvania

The second premium to MARY JANE MIKURIYA

prepared at The George School, Bucks County, Pennsylvania

THE ALBERT BUSHNELL JOHNSON PREMIUMS IN FRENCH are derived from part of the income of the Albert Bushnell Johnson Fund bequeathed to the University in 1949 by Edward K. Aldrich, Jr. These supersede similar premiums paid at The College from 1890 to 1908 from the President's Premium Fund, and from 1909 to 1949 from the Ratcliffe Hicks Prize Fund, and at Pembroke College from other Uni-

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versity funds. These premiums are awarded each year to the two members of the freshman class of The College and similarly of Pembroke College, who are found to excel in preparatory French. The examination presupposes not less than two years' study of the language in a secondary school, or its equivalent. The examination is held at 2:10 p.m. on the fifth Thursday of the academic year. In 1952-53 premiums for men were awarded as follows:

The first premium to FRANK CHARLES PRINCE

prepared at Riverdale Country School, New York, New York

The second premium to MARIO JOSEPH SCULCO

prepared at Ward High School, Westerly, Rhode Island

Premiums for women were awarded as follows:

The first premium to MARTHA JANE LIBBY

prepared at Hope High School, Providence, Rhode Island

The second premium to NANCY GRACE DRUDING

prepared at Rye High School, Rye, New York

THE CAESAR MISCH PREMIUMS IN GERMAN established in 1913 by gift of Mrs. Marion L. Misch, are awarded to the two members of the freshman class at the College who are found to excel in preparatory German. The examination presupposes not less than two years' study of the language in a secondary school or its equivalent. The examination is held at 2:10 p.m. on the sixth Thursday of the academic year. In 1952-53 premiums were awarded as follows:

The first premium to ROBERT HENRY ISÉ

prepared at Classical High School, Providence, Rhode Island

The second premium to RICHARD ERIC ANDERSON

prepared at Cranston High School, Cranston, Rhode Island

THE ASA CLINTON CROWELL PREMIUMS IN GERMAN (succeeding Entrance Premiums in German inaugurated in 1922), derived from the income of a fund established in 1928 by alumnae of the University, are awarded to the two members of the freshman class of Pembroke College who are found to excel in preparatory German. These premiums parallel for women the Caesar Misch premiums. In 1952-53, a premium was awarded as follows:

The first premium to NANCY SCHIFF

prepared at Hope High School, Providence, Rhode Island

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Premiums for Excellence in Undergraduate Studies^{1,2}

THE DAVID HOWELL PREMIUM is awarded from income of a prize scholarship fund presented to the University in 1866 by Gamaliel Lyman Dwight in honor of his grandfather, David Howell, who taught at the College from 1766 to 1825, was honorary alumnus of the first Commencement, the first tutor, the first Professor (other than President Manning), and Acting President 1791-92. David Howell was also a member of the Continental Congress, was appointed on a mission by George Washington, and became Associate Justice of the Rhode Island Supreme Court, and U. S. District Judge. The premium is given at the close of the first semester of the senior year to the student who, "having a good record of deportment, has the highest rank in Mathematics and Natural Philosophy." The qualifying subjects are mathematics, physics, mechanics, and astronomy. In making the award the amount and distribution of the candidate's work in these subjects is considered. In 1952-53, the premium was awarded from income of the Susan Colver Rosenberger Fund to

RAYMOND GOLOSKIE

THE THOMAS CARPENTER PRIZES FOR ELOCUTION, derived from the income of a fund established in 1867 by Thomas Carpenter, are awarded each year to the three students of the College to whom are assigned the first, the second, and the third rank of excellence in elocution. The competition is open to all members of the sophomore class and to those members of the junior class who have not previously been contestants. The selections declaimed may be either prose or verse. All arrangements are in the hands of the professor of public speaking. In 1953-54 the contest will be held on April 19. In 1952-53 prizes were awarded as follows:

The first prize to ALAN WILLIAM BROWNSWORD

The second prize to GEOFFREY WILLARD RIKER

The third prize to PETER WALLACE MEYERS

THE THOMAS CARPENTER AND LYDIA CARPENTER PREMIUMS were established in 1869, by Lydia Carpenter, in behalf of her late brother. They are assigned at the end of the academic year to the two members of the senior class at the College who, "already on scholarships, shall, in the judgment of the Faculty, unite in the highest degree the three most important elements of success in life—ability, character, and attainment." In 1952-53 these premiums were awarded respectively to

GEORGE AUGUST BRAY, JR.

WALTER MILTON BUSCHMANN

THE ROBINSON POTTER DUNN PREMIUM. The income of a prize scholarship fund, presented to the University in 1872 by pupils and friends of Professor Robinson

¹ The University reserves the right to withdraw any prize competition or to withhold the award. Essays should be typewritten and should bear the name and date of the competition. Each should be signed with a pseudonym and be deposited with the Recorder before 4 p.m. on the designated date, accompanied by a sealed envelope containing the author's name. A copy of each prize-winning essay may be retained for deposit in the archives of the University Library or for delivery to the donor of the prize.

² These premiums are listed in historical sequence.

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Potter Dunn, is given, at the end of the junior year, to the student at the College "with the highest standing in rhetoric, English composition, and public speaking". In making the award, regard is given to the number of such courses taken as well as to the rank attained in them. In 1952-53 the premium was awarded to

ROGER CHARLES CARMEL

THE CLASS OF 1873 PRIZES are derived from the income of a fund presented in 1877 by the class of 1873. Two prizes are awarded each year to members of the senior class, men or women, who submit the best papers under conditions designated by the Department of Economics. In 1953-54 the papers must be submitted on or before April 22. In 1952-53 prizes were awarded as follows:

The first prize to HERBERT CARL ACHTMAYER, JR.

The second prize to FRANCES ELLEN LEETE

THE LAFAYETTE SABINE FOSTER PREMIUM IN GREEK is derived from the income of a fund bequeathed in 1880 by the Hon. Lafayette Sabine Foster, of the class of 1828. This income is to be paid annually "to that scholar of the institution who passes the best examination in the Greek language, the examination to be made in the first, third, sixth, and twenty-fourth books of Homer's *Iliad*, or in the *Oration on the Crown*, by Demosthenes." The examination is open to all undergraduate students, men and women. In 1953-54 the examination will be held on April 29. In 1952-53 the premium was awarded to

ROBERT DANIEL DUFFY

THE RATCLIFFE HICKS PRIZES FOR EXCELLENCE IN DEBATE, established in 1891 by the Hon. Ratcliffe Hicks, of the class of 1864, and by bequest in 1907, are awarded annually as follows:

I. Equal prizes to each of the two representatives of the University in the major intercollegiate debates who show the greatest ability in both the preliminary trials and the final debate. In awarding the prizes, regard is given to thought, style, and delivery. In 1952-53 the prizes were awarded respectively to

ROGER WENDELL BOWEN

VERNON LEE NORWOOD

II. A first and a second prize to the students of the College showing the greatest ability in a public debate between the representatives of the junior and sophomore classes. Each class is represented by three men, whom a committee appointed by the President of the University chooses from the preliminary contestants before the public debate. This committee also determines the subject and makes the necessary arrangements. The prizes are awarded irrespective of the decision upon the debate as a whole. In making the award, regard is given to thought, style, and delivery. In 1953-54 the public debate will be held on March 25. In 1952-53 prizes were awarded as follows:

The first prize to ROGER WENDELL BOWEN

The second prize to JOVITE LABONTE, JR.

PRIZES, PREMIUMS, HONORS

THE LUCIUS LYON PREMIUMS IN LATIN are derived from the income of a fund presented in 1893 by Mrs. Caroline L. Lyon, in memory of her husband, Lucius Lyon, of the class of 1844. Five-tenths of the income each year forms the first premium, three-tenths the second, and two-tenths the third. The premiums are awarded on the basis of a special examination held at the close of the senior year, open to men and women. In 1953-54 the examination will be held on April 22. The examination may relate to any or all of the following subjects: the Latin language, Latin literature, Roman history. In 1952-53 premiums were awarded as follows:

The first premium to JAMES FANCIS FRATES

The second premium to EUGENE CHANDLER PHILLIPS

THE WILLIAM GASTON PRIZE FOR EXCELLENCE IN ORATORY. From the income of a fund established in 1894 as a memorial to the Hon. William Gaston, LL.D., of the class of 1840, a medal and a cash prize are awarded annually to the member of the graduating class of the College who delivers the best original address, not to exceed fifteen hundred words. To compete for the prize, a student must deposit with the Recorder a typewritten copy of his address at a designated date before the public competition. From these addresses, not more than five are selected for delivery. In making the award in the final contest regard is given to thought, style, and delivery. In 1953-54 essays will be due on December 3 and the public competition will be held on January 6. In 1952-53 the prize was awarded to

JOHN SCHEMICK, JR.

THE GASPEE CHAPTER DAUGHTERS OF THE AMERICAN REVOLUTION PRIZE. This prize, established in 1895, is now paid from the income of a fund presented to Brown University in 1899. The prize is awarded annually to that student (in good standing) of Pembroke College who, registered in a class in American History, presents the best paper under conditions designated by the Department of History. The professor of American History and the Gaspee D.A.R. Prize Committee serve as the judges. In 1953-54 the essays are due on April 15. In 1952-53 no prize was awarded.

THE WILLIAM GASTON PRIZE SCHOLARSHIP is provided by the income of a fund established in 1899 by the widow and the children of the Hon. William Gaston, LL.D., of the class of 1840. The scholarship is awarded at the Honors Convocation to a member of the Senior class at the College solely upon merit. For 1952-53 this prize was divided, with equal awards to the following:

GEORGE AUGUST BRAY, JR.

WALTER MILTON BUSCHMANN

THE PHILO SHERMAN BENNETT PRIZE was established in 1904 by Philo Sherman Bennett for the "best essay discussing the principles of free government." A prize is awarded each year to that member of the senior class, man or woman, who submits the best paper under conditions designated by the Department of Politi-

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cal Science. In 1953-54 the papers must be submitted on or before April 22. In 1952-53 the prize was awarded from income of the Susan C. Rosenberger Fund to

ELIZABETH ANN TONKIN

THE BISHOP McVICKAR PRIZES were founded in 1909 by the Rt. Rev. William Neilson McVickar, Bishop of the Protestant Episcopal Diocese of Rhode Island, 1898-1910, and are now awarded from the income of a fund established in 1923 in his memory by his sister, Miss E. C. McVickar. The prizes are awarded for the best papers submitted under conditions designated by the Department of Biblical Literature. The competition is open to all undergraduates, men and women. In 1953-54, the papers are due on April 22. In 1952-53 prizes were awarded as follows:

The first prize to HOWARD ALLEN FARRANDS

The second prize to ROBERT JAMES McKENNA

THE RATCLIFFE HICKS PRIZE IN ENGLISH established in 1915, from income from the Ratcliffe Hicks Fund of 1907, is awarded at the end of the senior year to the student at the College who has "the highest standing in the courses in English literature and language." In 1952-53 the prize was awarded to

RAYMOND ARTHUR McKENNA

THE SUSAN COLVER ROSENBERGER PRIZES were established in 1919 by Jesse L. Rosenberger, as a memorial to his wife, who was the daughter of Charles K. Colver, of the class of 1842. The awards are to be made under conditions to be laid down by the University. It is a stipulation of the endowment that the prizes "shall not be assigned permanently to any one department of the University, nor continuously for any one thing, but shall be awarded for whatever, from year to year, or from time to time, it is believed will, at the time, do the greatest good, either in the interests of scholarship, or for the development of character," and that from time to time a medal shall be awarded to a graduate of Brown University or another person "for specially notable or beneficial achievement."

In 1952-53 prizes from the income of this fund were offered in each of the following competitions open to men and women:

I. In Psychology: Two prizes for the best papers submitted under conditions designated by the Psychology Department. The prizes were awarded as follows:

The first prize to SYLVIA HELENE MOSCOVITZ

The second prize to ALAN JOHN FLETCHER

II. In Engineering: Two prizes for the best work submitted under conditions designated by the Engineering Department. No prize was awarded.

For the year of 1952-53 part of the income from this fund was devoted to the payment of the following premiums normally paid from other funds as elsewhere designated, the David Howell Premium, the James Aldrich Pirce Prize, the President's Premiums, the Philo Sherman Bennett Prize, and the Ruth Electa Collins Premium in French.

In 1953-54 two prizes from the income of this fund are offered in each of the following competitions for which material is due by April 22:

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I. In Italian. Awarded for the best papers submitted under conditions designated by the Division of Modern Languages.

II. In Spanish. Awarded for the best papers submitted under conditions designated by the Division of Modern Languages.

THE ENGINEERING PRIZE, awarded since 1920 and now derived from the income of a prize scholarship fund presented to the University in 1930 by the Brown Engineering Association, is awarded to the member of the senior class who, a candidate for the degree of Bachelor of Science in Engineering, has maintained high standing in the fundamental engineering courses of the first three years, and gives marked promise of future usefulness in some branch of the profession of engineering. In 1952-53 the prize was awarded to

DANIEL PAUL DEFINO

THE JAMES ALDRICH PIRCE PRIZE is awarded from the income of a fund established in 1927 by Miss Florence Pirce in memory of her brother, a member of the class of 1892. The fund is designed "to promote among students an understanding of order and beauty in life." The prize is currently awarded to the undergraduate at The College who presents the best paper in the course in Greek Art and Archaeology (Classics 117, 118; Art 117, 118), or in Greek and Roman History (Classics 121, 122), these being offered in alternate years, and for women is paralleled by the Minnie Helen Hicks Prize in Classical Appreciation. Prior to 1953-54 the prize could be awarded to a woman from income from other prize funds. In 1952-53 a prize was awarded from the income from the Susan C. Rosenberger Fund, to

ANN JEWELL KINGSBURY

THE PRESTON GURNEY LITERARY PRIZES are derived from the income of a fund bequeathed in 1928 to Brown University by Preston Gurney, of the class of 1866. From the income of the endowment two prizes are to be awarded annually to members of the senior class, men or women, for the best essays on approved literary topics. Two-thirds of the income shall constitute the first prize, and one-third the second prize. The essays for 1953-54 are due on December 10. In 1952-53 prizes were awarded as follows:

The first prize to ROGER GARRETT SMITH

The second prize to JEANETTE MARION CLARK

THE CHEMISTRY PRIZE is awarded annually (since 1930) to the most outstanding student in the junior class concentrating in the Department of Chemistry, the recipient to be chosen by the department on the basis of past accomplishment and future promise. The prize consists of a year's membership in the American Chemical Society. In 1952-53 the prize was awarded to

ROBERT REINER JOHNSON

THE RUTH ELECTA COLLINS PREMIUM IN FRENCH is derived from the income of a fund established in 1936 by Mrs. Clarkson Abel Collins in memory of her daughter, Ruth Electa Collins. It is awarded annually to that member of the senior class, man or woman, "distinguished as an outstanding scholar in French."

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If the winner is a woman, the award is made from income from other prize funds. In 1952-53 the premium was awarded from the income from the Susan Colver Rosenberger Fund to

VIOLA GANANIAN

THE HENRY PARKER MANNING MATHEMATICAL PRIZES, instituted in 1936 by annual gift, as the "Calculus Prizes," are now paid out of not more than half of the annual income of a fund established anonymously in 1949, on the ninetieth birthday of Henry Parker Manning, Brown 1883, mathematician and scholar of ancient languages. The portion of the annual income not so expended is added annually to the principal. A first and a second prize are currently awarded on the basis of a special examination in the Calculus, open to juniors, men and women. The competition will be held in 1953-54 on March 25. In 1952-53 prizes were awarded as follows:

The first prize to JOSEPH NICHOLAS PALMIERI

The second prize to HAJIME SEKI

THE IRVING LYSANDER FOSTER PRIZE IN FRENCH is awarded from the income of a fund established in 1940 by Warren Woden Foster and Hattie Foster Moore in memory of their father, Irving Lysander Foster, of the class of 1893. The prize is awarded at the end of the academic year to the member of the freshman class, man or woman, who, not a person of French lineage nor educated in a French-speaking community, excels in the work in French. In 1952-53 the prize was awarded to

SOPHIE BRANDEL

THE ADOLPH CONRAD ELY PRIZE IN GERMAN is derived from a fund bequeathed in 1941 to Brown University by Adolph Conrad Ely, teacher, of the class of 1894. A prize is awarded annually on recommendation of the Department of German to the senior, man or woman, with highest standing in Germanic Languages and Literature. In 1952-53 the prize was awarded to

HELEN DOROTHY WARE

THE CLARKSON ABEL COLLINS, JR., PREMIUM IN AMERICAN MARINE HISTORY is derived from the income of a fund given to Brown University in 1941 by Letta I. Collins in memory of her son. An annual prize is offered for the best paper on any approved topic dealing with the American Merchant Marine or Navy prior to 1865. Currently, the competition is open to men under conditions specified by the Department of Naval Science. In 1953-54 essays are due on December 12. In 1952-53 no prize was awarded.

THE MINNIE HELEN HICKS PRIZE FUND was bequeathed in 1942 to Brown University by Minnie Helen Hicks. The income is used to provide for various prizes awarded to students of Pembroke College as announced elsewhere.

THE SAMUEL C. LAMPORT PRIZES IN INTERNATIONAL UNDERSTANDING, first offered in 1943, by annual gift of the Trustees of the Samuel C. and Miriam D. Lamport Foundation, are now awarded from the income of a fund donated to Brown Uni-

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versity in 1952 by these trustees. The prizes are offered to undergraduate students of Brown University, men and women, for papers on international understanding, with emphasis on cooperation and tolerance. Currently, two prizes of equal amount are awarded each year as follows: in 1952-53, and in alternate years thereafter, one prize in History and one in Political Science; in 1953-54, and in alternate years thereafter, one prize in Economics and one in Sociology. In 1952-53 no prize was awarded.

THE ISABEL HARRIS METCALF PRIZE was instituted in 1943. It is offered annually for the best paper submitted by any student of Pembroke College under conditions designated by the Department of Political Science. In 1953-54 the papers are due on April 15. In 1952-53 no prize was awarded.

THE MURIEL PORT STEVENS PRIZE IN MUSIC, inaugurated in 1944 by annual gift from Mrs. Eli Port in honor of her daughter, of the class of 1940, Pembroke College, is awarded annually on recommendation of the Department of Music, for high achievement in composition, performance, historical study, or a combination of these fields. The prize, open to all undergraduate students of the University, men and women, will not be given twice to the same student. It will ordinarily be awarded only to a student who has completed four semesters of work in the Department of Music. In 1952-53 the prize was awarded to

ROSAMUND WALDRON

THE HOPE CHATTERTON AWARD IN MUSIC, to memorialize Hope Chatterton, was, by annual gift, donated anonymously, the first award being made in the spring of 1946 for "the best student pianist in Pembroke College." The fund was endowed in 1952. In 1953-54 a prize will be given in the spring to a student of Pembroke College, enrolled in the Department of Music, who in public audition is deemed to excel in piano performance. In 1952-53 the prize was awarded to

MARGARET ANN DEVOE

THE MINNIE HELEN HICKS PRIZES FOR ELOCUTION, paid since 1949 from income of the Minnie Helen Hicks Prize Fund, parallel, for students of Pembroke College, the Thomas Carpenter Prizes for Elocution established in 1867 for men in The College. The contests separately judged are conducted concurrently, and under similar conditions. Two prizes are offered. In 1953-54 the contests will be held on April 19. In 1952-53, prizes were awarded as follows:

The first prize to MARGARET FRANKLIN TUIITE

The second prize to MARJORIE JANE LIGHTFOOT

THE ALBERT ARNOLD BENNETT, CLASS OF 1872, PRIZE FUND was established by an anonymous donor through several gifts made between 1941 and 1949. The fund is in memory of the Reverend Albert A. Bennett, D.D., pioneer missionary to Japan. A sum not to exceed half the annual income is available annually for prize purposes, but not continuously for any one object. Specifically approved as possible beneficiary is the principal of any scholastic prize fund of the University, which though long established at the time of the award is then deemed by the President of Brown University to be relatively inadequate. The portion of the annual income not expended for other prize purposes is added annually to the

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principal. In the year 1952-53, an addition was made from income of this fund to the principal of the Philo Sherman Bennett Prize Fund.

THE CHOPIN CLUB OF PROVIDENCE AWARD IN MUSIC, inaugurated in 1950, is given, on recommendation of the Department of Music on the basis of performance and evidence of serious purpose, to a freshman, man or woman, who is studying voice or instrument regularly. Half the award is given at the end of the first semester and, if satisfactory effort continues, the remainder is given to the same recipient at the end of the second semester. In 1952-53 the prize was awarded to

MARGARET ANN DEVOE

THE HELEN WHEELWRIGHT AWARD IN MUSIC, inaugurated as a prize in 1950 by the Monday Morning Musical Club of Providence as a memorial to Miss Helen Wheelwright, is awarded to an undergraduate, man or woman, who in the opinion of the Department of Music displays musical gifts of a high order. In 1952-53 no award was made.

THE MINNIE HELEN HICKS PRIZES IN ART are awarded, since 1951, from income of the Minnie Helen Hicks Fund for creative work in Art to students in Pembroke College concentrating in Art. A committee appointed by the Department of Art selects the winners on the basis of a limited group of works done by each candidate during her college career and submitted in competition at a public exhibit. The department may retain one work by each prize winner. The winner of the first prize in any year is not eligible to compete in a subsequent year. In 1953-54 the judging of entries and public exhibit will be held on April 28 and 29. In 1952-53 prizes were awarded as follows:

The first prize to CATHERINE JANE HALLET

The second prize to MARY LOUISE GRECCO

THE ALEXANDER MEIKLEJOHN PRIZE IN LOGIC is paid from income of a fund established anonymously in 1951. The prize is awarded to a member of the freshman, sophomore, or junior class, man or woman, who excels in Logic and related subjects. It consists of books selected by the winner after consultation with a member of the Department of Philosophy, at a cost not exceeding half the annual income from the fund, the rest being added to the principal. In 1952-53 the award was made to

EMANUEL GERARD

THE MURIEL FAIN SHER MEMORIAL PRIZE IN PSYCHOLOGY is derived from the income of a fund established in 1952 by the friends of Muriel Fain Sher. It is awarded annually to the most outstanding student in the senior class of Pembroke College concentrating in the Department of Psychology, the recipient to be chosen by the Department on the basis of past accomplishment and future promise. In 1952-53 the award was made to

LUCIE ISABEL MANN

THE CLASS OF 1952 PRIZE is derived from three-fourths of the income of a fund established in 1952 by the Class of 1952, at the College. It is awarded annually to an outstanding student of the College at the end of his junior year, on the

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basis of excellence in scholastic achievement and extra-curricular activity. The remainder of the income is added annually to the principal. In 1952-53 the award was made to

GEORGE S. MORFOGEN

THE PRESSER FOUNDATION AWARD IN MUSIC was instituted in 1952 by annual gift from the Presser Foundation in Philadelphia. The recipient is selected by the President and the Head of the Music Department, guided solely by considerations of merit. Not less than approximately one-third of the work of the recipient shall be in Music. In 1952-53 the award was made to

STAVROULA JAMES BALOMENOS

THE WOODS HOLE PRIZE IN BIOLOGY is awarded by an anonymous donor, by annual gift since 1952. The prize is an opportunity for a summer course with tuition paid, at the Marine Biological Laboratory, Woods Hole, Massachusetts. It is awarded to a member of the junior or senior class, man or woman, for the best paper or demonstration for presentation at the Biological Conference of Eastern New England Colleges in the spring. In 1952-53, the prize was awarded to

STANLEY BOULAS

THE TRISTAM BURGESS PREMIUM IN ENGLISH, instituted in 1953, is given at the end of the junior year to the student at Pembroke College "with the highest standing in rhetoric, English composition, and public speaking." It parallels the Robinson Potter Dunn Premium in English awarded in the College. In making the award, regard is given to the number of such courses taken as well as to the rank attained in them. The fund, donated anonymously, is in honor of Tristram Burgess, Brown 1796, first professor of English at Brown, "Professor of Oratory and Belles-Lettres," 1815-28, Trustee, 1813-53, Chief Justice, R. I. Supreme Court, 1815-16, LL.D., Brown, 1823. This premium supersedes a premium paid 1951-53 from income of the Minnie Helen Hicks Prize Fund. In 1952-53 no Minnie Helen Hicks premium was awarded.

THE MINNIE HELEN HICKS PRIZE IN ENGLISH, paid since 1953, from income of the Minnie Helen Hicks Prize Fund, is awarded at the end of the senior year to the student at Pembroke College, who has "the highest standing in the courses in English literature and language." It parallels the Ratcliffe Hicks Prize in English, awarded in the College.

THE MINNIE HELEN HICKS PRIZE IN CLASSICAL APPRECIATION, instituted in 1953 from income of the Minnie Helen Hicks Prize Fund, is currently awarded to the undergraduate at Pembroke College, who presents the best paper in the course in Greek Art and Archaeology (Classics 117, 118; Art 117, 118), or in Greek and Roman History (Classics 121, 122), these being offered in alternate years. It parallels the James Aldrich Pirce Prize offered at The College.

Honor Scholarships

"To encourage proficiency in studies and to provide recognition for successful application to college work," the Faculty, in 1909 at The College, and in 1922 at

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Pembroke College, established Honor Scholarships without financial stipend. These scholarships are awarded (1) since 1922, at the respective Honors Convocations in November, to resident undergraduates for scholastic achievement during the previous college year, and (2) since 1949, at Commencement, to graduating students for scholastic achievement during the senior year. An Honor Scholarship becomes effective upon the date of announcement.

THE JAMES MANNING AND FRANCIS WAYLAND SCHOLARSHIPS are awarded to students of the College whose college work throughout the academic year preceding, or just completed, has been of such excellence that they are deemed worthy of high academic distinction and of academic distinction respectively. For awards at Honors Convocation, at the instigation of Alexander Meiklejohn, from the Ratcliffe Hicks Fund of 1907, a prize book is presented to each James Manning Scholar and to each such Francis Wayland Scholar as has not received a prize book in a previous year.

THE ELISHA BENJAMIN ANDREWS SCHOLARSHIPS are awarded to students of Pembroke College, whose college work throughout the academic year preceding, or just completed, has been of such excellence that they are deemed worthy of high academic distinction. For awards at Honors Convocation, from the Lida Shaw King Prize Book Fund of 1929, a prize book is presented to each Elisha Benjamin Andrews Scholar.

During the academic year 1952-53, Honors Scholars were announced as follows:

JAMES MANNING SCHOLARS

Seniors, at Commencement

GEORGE AUGUST BRAY, JR.
JOHN JAMES KENNEDY

CHARLES WOLCOTT MERRIAM, III
THOMAS HENRY PATTEN, JR.

Senior, at Honors Convocation

GEORGE AUGUST BRAY, JR.

Juniors, at Honors Convocation

THOMAS JOSEPH FRANCIS MCCORMACK MATHEW DANIEL SCHARFF
JOSEPH NICHOLAS PALMIERI

FRANCIS WAYLAND SCHOLARS

Seniors, at Commencement

LYLE EUGENE BOURNE, JR.
WALTER MILTON BUSCHMANN
ROBERT CHARLES CARSON
ULISES GIBERGA-STUSSER
RAYMOND GOLOSKIE
STEPHEN WHITWORTH GRAY-LEWIS
HARRY RAYMOND HAUSER
HARRY KIAKIS
RAYMOND ARTHUR MCKENNA

RICHARD MENDELSON
HOWARD MERLE NORMAN
WILLIAM EDWARD OHNESORGE
RICHARD WYNDON PERKINS
RICHARD SAMUEL SEMEL
ROBERT KENT SHARPE
RICHARD KNOX WELLS
HUGH WILLOUGHBY
RALPH ZALUSKY

PRIZES, PREMIUMS, HONORS

Seniors, at Honors Convocation

WALTER MILTON BUSCHMANN
ROBERT CHARLES CARSON
FRANK MICHAEL DEFILLIPPES
JAMES FRANCIS FRATES
JAMES EDWARD GUINANE
JOHN JAMES KENNEDY

HARRY KIAKIS
RICHARD ARTHUR POLLACK
WALFRED SPENCER SAARI
RALPH ZALUSKY
ANTHONY JOHN ZANGARA

Juniors, at Honors Convocation

ANTHONY AUGUSTUS
GUIDO JAMES CERILLI
EDWARD JENCKS GAUTHIER

MARTIN JOEL KANTOR
JOHN BENNETT LIVINGSTONE
CALEB RANDALL WOODHOUSE

Sophomores, at Honors Convocation

EUGENE CHERNELL
JOSEPH ROLAND GAETA

DUNCAN ROBERT OLDING
RAYMOND LEONARD TAYLOR

ELISHA BENJAMIN ANDREWS SCHOLARS

Seniors, at Commencement

LAURA SHATTO BARLOW
VIOLA GANANIAN
SUSAN LOUISE GOLDIN
CATHERINE JANE HALLET
RUTH HESSENTHALER

MYRTLE KORENBAUM
FRANCES ELLEN LEETE
LUCIE ISABEL MANN
MILDRED ANN SEAQUIST
LOUISE FRANCES SHERLOCK

Seniors, at Honors Convocation

LAURA SHATTO BARLOW
ELEANOR ALICE EKBLADE
VIOLA GANANIAN

SUSAN LOUISE GOLDIN
SARAH BREWER MARSHALL
SUZANNE SILK

Juniors, at Honors Convocation

MARGRIT BENZION
ANNE MARILYN CAHALANE

ELIZABETH HAAS
BARBARA JOYCE NAHIGIAN

Sophomores, at Honors Convocation

JANE LUCILLE BALTZELL

HARRIET RUTH WATERMAN

PRIZES, PREMIUMS, HONORS

Honorary Societies

Phi Beta Kappa

OFFICERS, 1953-54

President: PROFESSOR WILLIAM THOMSON HASTINGS, Emeritus, A.M.

Vice-President: WILLIAM HENRY EDWARDS, A.B., LL.B.

Secretary: PROFESSOR ANDREW JOSEPH SABOL, Ph.D.

Treasurer: RONALD BANCROFT SMITH, A.B., LL.B.

Auditor: GEORGE LELAND MINER, A.B.

The Rhode Island Alpha of the Phi Beta Kappa Society was established at Brown University in 1830. The Women's Section was organized in 1900. The chapter annually elects to membership a certain number of the leading scholars of the senior and junior classes.

Candidates for the degree of Bachelor of Arts are eligible for election to Phi Beta Kappa. Not more than one-sixth of the candidates for this degree may be elected, and not more than one-third of the members from each class are elected in the junior year.

Two elections are ordinarily held each year, one at midyear and one in May. At midyear the juniors and about half of the seniors are elected, the choice being based primarily upon their scholastic standing as shown by the official college records. In May the remaining seniors are selected. They are elected "only after a scrutiny of their whole academic record in detail, including (a) such evidence as their success in candidacy for Honors," and (b) opinions of members of the Faculty regarding their general qualifications, particularly the extent to which they possess liberal culture.

MEN ELECTED IN 1952-53

Seniors

WILLIAM JULES BECKER
JAMES HENRY CAREY
ROBERT CHARLES CARSON
PAUL KINGSLEY CHAPMAN
LAWRENCE JON CLIPPER
RICHARD SAMUEL FELDMAN
THOMAS HERMAN GEISMAR
ULISES GIBERGA STUSSER
WILLIAM HOWARD GINDIN
CHARLES HENRY HIRSH
JOHN JAMES KENNEDY
HARRY KIAKIS
RAYMOND ARTHUR MCKENNA
BERNARD GEORGE MULLINS
THOMAS FRANCIS O'BRIEN, JR.
THOMAS HENRY PATTEN, JR.

RICHARD WYNDON PERKINS
RICHARD ARTHUR POLLACK
RICHARD SAMUEL SEMEL
ROBERT KENT SHARPE
RICHARD KNOX WELLS
ANTHONY JOHN ZANGARA

Juniors

ANTHONY AUGUSTUS
ROBERT MILLARD FURMAN
EMANUEL GERARD
CARROLL SHANON GOLDBERG
MARTIN JOEL KANTOR
MATTHEW DANIEL SCHARFF
BRUCE STEGER
CALEB RANDALL WOODHOUSE

PRIZES, PREMIUMS, HONORS

WOMEN ELECTED IN 1952-53

Seniors

PATRICIA ANNE BLACKLOCK
ELEANOR ALICE EKBLADE
SUSAN LOUISE GOLDIN
CATHERINE JANE HALLET
RUTH HESSENTHALER
LUCIE ISABEL MANN
ANAHID ANN NAJARIAN
AMELIA STERN REVKIN
HARRIETT BEVERLY SCHWARTZ
MILDRED ANNE SEAQUIST

SUZANNE SILK

MURIEL THERESE TETREAULT
HELEN DOROTHY WARE

Juniors

MARGRIT BENZION
ANNE MARILYN CAHALANE
ELGA LISALOTTE KRON
BARBARA JOYCE NAHIGIAN
JEAN LOUISE SCHUPBACH

Sigma Xi

OFFICERS, 1952-53

President: CARL WALLACE MILLER
Vice-President: LEALLYN BURR CLAPP
Secretary: ALBERT ARNOLD BENNETT
Treasurer: DANIEL CHARLES DRUCKER

The Brown Chapter of the Society of the Sigma Xi was established in May, 1900. The annual Initiation Exercises occur on the Thursday following the first Sunday in March.

The following persons are eligible to full membership:

(a) Any professor, instructor, or other member of the staff of Brown University who has shown noteworthy achievement as an original investigator in some branch of pure or applied science.

(b) Any graduate student in Brown University who, judged by his actual work of investigation, has exhibited an aptitude for scientific research.

(c) Any graduate of Brown University of not less than five years standing, who has shown noteworthy achievement as an original investigator in some branch of pure or applied science, is eligible to alumni membership.

(d) Any professor, instructor, or investigator, connected with a neighboring educational, scientific, or professional institution not having a chapter, who would otherwise be eligible for active membership, is eligible as a non-resident member.

(e) Any associate within five years after graduation on the condition prescribed in (b) of this section.

The following persons are eligible to election as associates:

(a) Any graduate student in Brown University who has shown marked excellence in one or more departments of pure or applied science.

(b) Any student in Brown University who has completed two and one-half years of undergraduate work and who has shown marked excellence in two or more departments of pure or applied science.

Nominations are made by the active members, two signatures being required for each nomination. A board of electors makes the elections, once each year, from the list of nominees. In March 1953, the following were initiated:

PRIZES, PREMIUMS, HONORS

MEMBERS

JULIAN ADEM
THOMAS STEPHEN ARGYRIS
ROBERT EMMETT BARRETT
ROBERT MYLES BENJAMIN
STANLEY JOHN BEZUSZKA
GRACE ELECTA BIRD
VIRGINIA MARGARET BOGERT
NAZZARENO PETER CEDRONE
MARGARET FRANCES CONROY
DORCAS DELABARRE CRARY
DANIEL ROONEY CURRAN
ROBIN LIVINGSTONE CURTIS
DONALD JOHN DENNEY
FREDERIK WILLEM DE WETTE
MELVIN WARD DILL
JOHN ANDREW DILLON, JR.
HAROLD PORTER EUBANK
ERWIN FISHMAN
JOHN WILLIAM FLAVIN
JACK FROMMER
EUGENE PAUL GOLDBERG
MORTON HAROLD GOLLIS
CHARLES EDWARD GRABIEL
PAUL ERNEST GRANT

FRANCIS XAVIER HASSION
HARRY GEOFFREY HOPKINS
ELLIOT ARMSTRONG KEARSLEY
WALTER JAMES KENWORTHY
CARL-FREDRIK AXEL LETH
GEORGE VICTOR ROBERT MATTOCK
ROBERT LLEWELLYN MILLER
GEORGE LAURENCE O'CONNOR
GIRARD LANTERMAN ORDWAY
ROBERT HUNTER OWENS
ROSEMARY PIERREL
MURRAY JOHN RICE, JR.
JOHN LYELL SANDERS
BILL BURTON SMITH
VINCENT JOHN STAKUTIS
RICHARD MARTIN STAVSETH
ELWYN LOWELL SWARTS
RICHARD WALTNER SWENSON
WITOLD SYLWESTROWICZ
ROBERT NORMAN TOMPSON
DAVID MERTON TOWLE
WERNER CLAUS VON DOHLEN
GEORGE WALLIS
ALEXANDER JEN WANG

ASSOCIATES

Graduates

FREDERIC SAMUEL BRUNSCHWIG
PETER JOHN CHINETTI, JR.
GLENDON ELMER COLLINS
TOM NORMAN CORNSWEET
WALTER DANNHAUSER
ARTHUR ZANVEL EISEN
BERTIE FRANKENHUIS
ALLEN SEYMOUR GOLDMAN
ROBERT KENNETH GOULD
ANDREW VINCENT GRANATO

PETER MACDONALD GUTHRIE
JOHN HARMON HENKEL
ELROY OSBORNE LACASCE, JR.
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WILLIAM GEORGE MAISCH
KASSEL KENNETH MILLER
RAYMOND CARL PETERSEN
DONALD HOWARD POWERS, JR.
CORNELIA HAMMOND PRATT
RICHARD AYER RHODES, II

GEORGE VERONIS

Seniors

(from the College and from Pembroke College)

DONALD ARTHUR BRAISTED
WALTER ELLIOTT COWAN, JR.
FRANK MICHAEL DEFILIPPES
DANIEL PAUL DEFINO

CHARLES AUGUST GOETZ
MELVIN GERALD HOLLAND
JOHN JAMES KENNEDY
LUCIE ISABEL MANN

PRIZES, PREMIUMS, HONORS

HELEN PAULINE MELARAGNO
CHARLES WOLCOTT MERRIAM, III
WILLIAM EDWARD OHNESORGE
WALFRED SPENCER SAARI
LOUIS JOHN SAYEGH

FREDERICK HENRY WATSON, JR.
RICHARD KNOX WELLS
NANCY SIDEROWF WOLFSON
RALPH ZALUSKY
ANTHONY JOHN ZANGARA

Juniors

THOMAS ELLIOTT GOLD

JOSEPH NICHOLAS PALMIERI

The Associated Alumni of Brown University



Honorary Chairman

Henry Dexter Sharpe '94
Henry Merritt Wriston

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Providence

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<i>President:</i> Elmer S. Horton '10	Barrington, R. I.
<i>Treasurer:</i> Richmond H. Sweet '25	Providence, R. I.
<i>Vice Presidents:</i>	
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<i>Rhode Island Region:</i> Francis J. O'Brien '16	Providence, R. I.
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<i>South Atlantic-Midland:</i> Alden R. Walls '31	Atlanta, Ga.
<i>North Central Region:</i> F. Abbott Brown '26	Chicago, Ill.
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Secretary, Martin L. Tarpy '37
Ex Officio: Elmer S. Horton '10
Ex Officio: William B. McCormick '23

Degrees Conferred



Degrees in Course Conferred by the University in 1953

The College

June 1, 1953

BACHELOR OF ARTS

A.B., Summa cum Laude

George August Bray, Jr.

Walter Milton Buschmann

A.B., Magna cum Laude

Samuel Joseph Bernstein

Harry Kiakis

Donald Arthur Braisted

Raymond Arthur McKenna

James Francis Frates

Howard Merle Norman

Ulises Giberga Stusser

Arthur Jacob Palestine

James Edward Guinane

Richard Arthur Pollack

Melvin Gerald Holland

Richard Samuel Semel

John James Kennedy

Ralph Zalusky

A.B., Cum Laude

William Jules Becker

Robert Anthony Lundin

James Henry Carey

Richard Mendelsohn

Robert Charles Carson

Thomas Francis O'Brien, Jr.

Lawrence Jon Clipper

Thomas Henry Patten

Richard Samuel Feldman

Richard Wyndon Perkins

Thomas Herman Geismar

Richard Knox Wells

William Howard Gindin

Hugh Willoughby

Charles Henry Hirsh

Anthony John Zangara

Kenneth Gardner Knowles

A.B.

Edward Arthur Adams

Charles Bert Amann, Jr.

John Soule Adams

Andrew Emanuel Andersen, Jr.

Loomis Hatheway Ahrens

John Allan Andersen

Norman Dick Allan, Jr.

John Edwin Angle

Stuart Borton Allen

Thomas Annese

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David Davies Carter
William Garry Casserly
Marvin Catler
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Winsor Lyon Chase
John Kroth Chittim
Deene Danforth Clark

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John Peter DePasquale
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Armand Joseph Desnoyers, Jr.
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Frank Paul DiBiase
Thomas Ross DiLuglio
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Richard Cobb Dunham
Randall Wallace Duphiney
Charles Edward Dyer, Jr.
James Dana Eastham
Robert David Eiseman
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Martin Leonard Erickson
Howard Allen Farrands
Arthur Wildey Fayen
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Joseph Alan Felt
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Cyril Baldwin Hartman, Jr.

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Alan LeGloahec
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Harold Sherman Lonergan
Robert Coulter Long
Thomas Patrick Lovett

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William Duncan MacMillan, II
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John Allan Magnuson
Myron Ira Mandel
Robert Smith Manley
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Hilary Thomas Masters
Maurice Matteodo
Eugene John McGovern
Edgar Mather McKallor, Jr.
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Montrose Barnard Megargee
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Bernard George Mullins
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Sarkis Nahabedian, Jr.
Eugene Alan Nahm, Jr.
Eugene Martin Nawrocki
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Harry Wallace Newhard
Robert Lawrence Noddin
John Henry Norberg, Jr.
Lawrence Douglass North
Vernon Lee Norwood, II
Arthur Francis O'Day
Charles Arthur Pappas

Albert Edwin Parker, Jr.
Eugene Chandler Phillips
Frederick Stanley Phillips
Russell Boyd Pierce
Walter Leonard Pierson, Jr.
John Joseph Pietro
Robert Wilson Pike
Egidio John Policastri
Jerome Simon Port
Daniel Porte
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Donald Seymour Presel
Robert Allen Price
Burton Harold Priest
Lloyd Provost, Jr.
Robert LaForest Radcliffe
Richard Howard Raymond
Theodore Redlich
André Nicholas Reggio
Frederick Louis Reynolds, Jr.
Kendall Read Richardson
Robert Bradford Rider
John Columbus Rill, Jr.
William Edward Roberts
David Frank Robinson
Carl Oliver Rodin
Hugh Donald Rogovin
Ivan Romero Revilla
Javier Romero Revilla
Melvin Gerald Rosen
Ralph Kahn Rosenbaum, Jr.
Francis Xavier Russo
Walter Elliott Ruthefrord, Jr.
Karl Stillman Ryder
William Francis Sammartino
Alan Robertson Sarle
Rodman Armistead Savoye
John Schemick, Jr.
Llewellyn Davenport Seaver
Paul Edward Seifert
John Edward Seth
Guy Anthony Settipane
Robert Kent Sharpe
Frederick Thomas Shepherd, Jr.
Robert Clarke Shumaker

DEGREES CONFERRED

Donald Morton Silver
Joseph Giosue Simeone
John Edwin Sinclair
John Anthony Sisto
Frank Robert Smith, III
George Fox Smith
Roger Garrett Smith
Reginald Holton Smithwick
William Elmer Spindel, III
Eric Henry Spitz
Stuart Irving Spratt
Edgar Farnum Staff
Carl Edward Stenberg
Henry Stern
Richard David Stewart
Ralph Gilbert Stoddard
Toffield Bernard John Strach
Dale William Strand
Maurice Timothy Sullivan
Stephen Gedalia Sultan
Gregory Leo Sutliff
Joseph Louis Tauro
Donald Francis Tavares
James Purmort Thompson
Edwin Lewis Thornton, Jr.
Maurice Senser Thornton, Jr.
David Richardson Traynor

Henry George Turnbull
Alfred Joseph Twarog
Everett Hughes Upton
John Francis Valinote, Jr.
Gilbert Harvey Van Note, Jr.
Steven van Westendorp
George Coney Vernet, Jr.
Everett Bozarth Vreeland, Jr.
James Munson Vreeland
Bernard Myer Walder
John Anthony Wallan
Richard Nevin Webb
Philip William Wehrman
Rayner Weir
Howard Mervyn Weiss
Edgar Howard Wenzel, Jr.
William Roy Westland, Jr.
Edward Andersen White
Richard Clarke White
William Palmer Whitehouse
Winthrop Vernon Wilbur, Jr.
Richard Leonard Wilkins
James Robert Winoker
Barry Alan Witchell
William Andrew Young
Norton Alan Zais
Donald Paul Zecher

BACHELOR OF SCIENCE IN ENGINEERING

Sc.B., *Cum Laude*

Warren Albert Barker
Daniel Paul Defino
Charles Wolcott Merriam, III

Frederick Henry Watson, Jr.
James Roberts Woodbury

Sc.B.

Philip Todd Andrews
Augustus Joseph Archer
Horace Henry Barker, Jr.
Mark Dinsmore Batchelder
Charles Henry Coleman
Ernest Eugene Courchene, Jr.
John Joseph Cupolo
John Russell Curley
Richard Alan Dawley
Charles Anthony DeAngelis
Walter Stitt DeWolf

Robert Eugene Froncillo
Peter Paul Gillis
Raymond John Green, Jr.
Jan Eugeniusz Grodzki
Philip John Holden
Sarkis Kachigian
Curtis Frank Kruger
Morris Joseph Levin
Harold Richard Lockwood
John Malcolm McIsaac, Jr.
Robert Edwin McNamara

DEGREES CONFERRED

John Albin Petty
Charles David Roberts
Donald James Timmins

William Anthony Vitiello
Kung-Yeh Wang
Richard Hsin-Yung Yen

BACHELOR OF SCIENCE IN CHEMISTRY

Sc.B., *Magna cum Laude*

Lincoln Ekstrom

William Edward Ohnesorge

Sc.B., *Cum Laude*

WILLIAM BETTENCOURT MONIZ

WALFRED SPENCER SAARI

LOUIS JOHN SAYEGH

Sc.B.

William Vahe Aznavourian
Earl Sylvester Dunlap, Jr.
Eugene Ryon Gray
Charles Emery Knox

Calvin Quentin Miller
Richard Ernest Miller
Stephen Joseph Murray
Frederick Christian Ulbrich, Jr.

BACHELOR OF SCIENCE IN PHYSICS

Sc.B., *Magna cum Laude*

Frank Michael Defilippes

Charles August Goetz

Raymond Goloskie

Sc.B.

Frederick Dodson Ryder

John Gordon Wood

Pembroke College

June 1, 1953

BACHELOR OF ARTS

A.B., *Summa cum Laude*

Laura Shatto Barlow

A.B., *Magna cum Laude*

Viola Gananian
Susan Louise Goldin
Lucie Isabel Mann
Eleanor Peck Merz

Amelia Stern Revkin
Suzanne Silk
Mary Yewell Small
Muriel Therese Tetreault

A.B., *Cum Laude*

Louise Anthony
Patricia Ann Blacklock
Barbara June Carucci
Patricia Orica Eastwood
Eleanor Alice Ekblade
Catherine Jane Hallet

Ruth Hessenthaler
Victoria Ives
Frances Ellen Leete
Helen Pauline Melaragno
Janice Milne
Anahid Ann Najarian

DEGREES CONFERRED

Alison Palmer
Marcia Chapman Randall
Harriett Beverly Schwartz
Mildred Ann Seaquist

Joan Spence
Helen Dorothy Ware
Nancy Siderowf Wolfson

A.B.

Louise Eleanor Anderson
Mary Ruth Atwood
Marilyn Adele Ayers
Stavroula James Balomenos
Brenda Louise Stewart Balze
Barbara Louise Batdorf
Lois Mae Black
Fanny Estelle Bojar
Barbara Lois Bolotow
Mary Helen Bromage
Betsy True Brown
Janice d'Haven Brown
Anne Newton Burkholder
Ruth Elizabeth Burt
Joanne Butler
Norma Love Byers
Margaret Caldwell
Valerie Aurelia Chase
Joanna Chiotinos
Joan Crawford Christensen
Dorothy Helen Churchill
Jeanette Marion Clark
Wealtha Alethea Clark
Nancy O'Neill Cole
Jean Mary Coraci
Carol Anne Corey
Janet Kemp Crandell
Sarah Elizabeth Cranford
Marguerite Mary Creegan
Yvonne Davies
Phyllis Eileen Dayton
Eleonora Antonetta Delfino
Priscilla Harriet Dillingham
Gloria Dorothy DiPetrillo
Mary Katherine Dolan
Rose Viola Dolce
Mary Ellyn Dufek
Beatrice Gilden Dworman
Sheba Fishbain
Barbara Anne Fitzsimmons

Joan Thomas Flaherty
May Cooper Forstall
Joan Stutzmann Fox
Jane Amelia Fraser
Nancy Wilson Fritz
Judith Gale
Dorothy Emelia Galli
Mary Darlene Gibbons
Elisabeth Anne Githens
Katharine Williams Glover
Jasmine Goorigian
Miriam Ruth Gordon
Suzanne Louise Griffiths
Charlotte Vaughn Guidinger
Ann Adele Harrington
Barbara Winans Harris
Janet Wilhelmina Heller
Joan Carol Herscovitz
Mary-Elizabeth Hogan
Joan Hall Hosp
Eleanor Jane Hovey
Elizabeth Abbott Howe
Elizabeth Anne Jackson
Margaret McLellan Johnson
Deborah Elizabeth Josselyn
Martha Louise Joyce
Patricia Ann Keane
Mary Jean Kelly
Barbara Joan Kemalian
Ann Jewell Kingsbury
Anne Elizabeth Kirk
Mary Lou Knight
Margaret-Ann Kohlhepp
Myrtle Korenbaum
Leah Belle Korn
Paula Eunice Laird
Marilyn Jean Leary
Betty Jane Leaver
Patricia Ann Lichty
Mary Elizabeth Loudenslager

DEGREES CONFERRED

Ruth Catherine Lytle
Elizabeth Ann McCraw
Ann Elizabeth McGeeney
Norma Mae Linda Mondelci
Marion Haviland Morriss
Joan Elizabeth Nelson
Lillis Palmer Nelson
Virginia Alva Nelson
Edith Yvette Oelbaum
Peggy Ann Ogden
Margaret Ann Osborne
Natalie Palme
Dorothy Parshley
Diane Hopkins Peckham
Jane Stoker Peirce
Jean Saxon Perry
Joan Sheldon Pesce
Ann Peterson
Dorothy Belle Porter
Joan Catherine Powers
Ann Bradstreet Priesing
Demetra Protulis
Barbara June Reese
Elaine Ann Regan
Colette Elizabeth Renaud
Paula Felicia Resky
Ann Correja Ritterbush
Deborah Roads
Gloria Faith Rosenhirsch
Virginia Theresa Russo
Emma Louise Saacke
Nancy Fae Schattenfield
Rita Schorr

Diane Laura Schwimmer
Martha Scott
Patricia Elizabeth Scott
Lucy Carter Searby
Louise Frances Sherlock
Marion Small Simons
Sophie Leona Skadorwa
Carla Rosalyn Skellet
Billie Stavros
Eleanor Elizabeth Stehle
Janice Edythe Swanson
Joan Carmody Theve
Ann Meredith Thomas
Jean Stokes Thornton
Leanora Torres
Jane Stuart Treynor
Mary Alison Treynor
Joan Loveland Turner
Jean Burnham Van Doren
Gloria Roberta Villany
Marcia Wallace
Lorraine Ward
Sabra Webb
Joanne Webster
Joan Wilma Weltzien
Edythe Louise Wiedeman
Sally Wilcox
Nance Sherwood Williams
Joyce Duncan Wilson
Edna Bayla Wolpert
Constance Helen Wrubel
Ann Conklin Wyllie
Virginia Snyder Zinn

BACHELOR OF SCIENCE IN ENGINEERING

Sc.B.

Joan Fenner Stapelton

BACHELOR OF SCIENCE

*Conferred in connection with the granting of a diploma by the Rhode Island
Hospital School of Nursing*

Sc.B.

Janice Lillian Drake

Libby Helen Jacobson

DEGREES CONFERRED

Honors Program Awards in June, 1953 The College

HIGHEST HONORS

Lincoln Ekstrom <i>Chemistry</i>	Thomas Henry Patten, Jr. <i>Sociology</i>
Raymond Arthur McKenna <i>English and American Literature</i>	Ralph Zalusky <i>Biology</i>
Thomas Francis O'Brien, Jr. <i>English and American Literature</i>	

HIGH HONORS

Ulises Giberga Stusser <i>Economics</i>	Richard Wyndon Perkins <i>Classics</i>
William Howard Gindin <i>Political Science</i>	Eugene Chandler Phillips <i>Latin</i>
James Edward Guinane <i>Mathematics</i>	Robert Bradford Rider <i>Economics</i>
Raymond Goloskie <i>Physics</i>	Louis John Sayegh <i>Chemistry</i>
Howard Merle Norman <i>Philosophy</i>	

HONORS

Lyle Eugene Bourne, Jr. <i>Psychology</i>	Bernard George Mullins <i>English and American Literature</i>
Elliott Morton Brown <i>Psychology</i>	William Edward Ohnesorge <i>Chemistry</i>
Frank Michael De Filippes <i>Physics</i>	Carl Oliver Rodin <i>Philosophy</i>
James Francis Frates <i>Greek and Latin</i>	Walfred Spencer Saari <i>Chemistry</i>
Robert Jacobsen <i>Economics</i>	James Robert Winoker <i>Economics</i>
John Allan Magnuson <i>English and American Literature</i>	John Gordon Wood <i>Physics</i>

Pembroke College

HIGHEST HONORS

Laura Shatto Barlow <i>English and American Literature</i>	Susan Louise Goldin <i>American Civilization</i>
Viola Gananian <i>French</i>	

DEGREES CONFERRED

HIGH HONORS

Ruth Hessenthaler
Mathematics
Victoria Ives
Art

Lucie Isabel Mann
Psychology
Mildred Ann Seaquist
English and American Literature

HONORS

Patricia Ann Blacklock
History
Norma Love Byers
English and American Literature
Patricia Orica Eastwood
History
Ann Elizabeth McGeeney
English and American Literature
Eleanor Peck Merz
English and American Literature
Lillis Palmer Nelson
English and American Literature

Peggy Ann Ogden
Psychology
Harriett Beverly Schwartz
English and American Literature
Suzanne Silk
Political Science
Mary Yewell Small
English and American Literature
Joan Spence
English and American Literature
Joan Carmody Theve
English and American Literature

The Graduate School

May 30, 1953

MASTER OF ARTS

Daphne Patience Allan, B.A.
Gerhard Baumgärtel
Hubert Morse Blalock, Jr., A.B.
William Edward Brady, A.B.
Carol Lucille Burnell, A.B.
Olga Maria Calabro, A.B.
Dabney Withers Caldwell, A.B.
Mildred Catherine Carey, A.B.
Joann Madeline Clements, A.B.
Robert Bruce Gates, A.B.
Melvin Joel Goldberg, A.B.
Everett Edwin Hadley, B.S. in Ed.
Elspeth Mitchell Hart, B.S., B.Ed.
Russell Babcock Holmes, A.B.
Daniel John Hughes, Jr., A.B.

David Laurent, A.B.
Alexander Nobert MacDonald, B.A.
Emery Blaine MacFarlane, A.B.
John Shelton Manley, A.B.
John Albert Meixner, A.B.
Christopher Raymond Mitchell, A.B.,
Ed.M.
Mary Crowley Mulvey, A.B.
Charles Anderson Pleasance, A.B.
Cornelia Hammond Pratt, A.B.
Alice Rigby, A.B.
Ernestine May Schultz, A.B.
Earl Frederick Shoop, A.B.
Virginia Fakoury Simmons, A.B.
Franklin Jordan Watson, A.B.

MASTER OF SCIENCE

Roy Allan Bloom, Sc.B.
Kennison Tilden Bosquet, A.B.
Albert Boutelle, A.B.
William Gordon Brady, Sc.B. in Aero.
Engin.

Frederic Samuel Brunschwig, Sc.B.
Bruce Bragdon Chick, Sc.B. in Engin.
Peter John Chinetti, Jr., A.B.
Glendon Elmer Collins, Sc.B.
Tom Norman Cornsweet, A.B.

DEGREES CONFERRED

Barbara Ann Cotter, A.B.	Richard Ellsworth Nettleton, A.B.
Arthur Zanvel Eisen, A.B.	Arthur Edwin Noyes, Sc.B. in Engin.
Samuel Adams Elder, Sc.B.	William Perin Raney, A.B.
Bertie Frankenhuis, A.B.	Allan Melvin Russell, Sc.B. in Physics
Allen Seymour Goldman, A.B.	Richard Albanus Smith, A.B.
Peter Macdonald Guthrie, Sc.B.	Camille Pasquale Stավolone, Sc.B. in Engin.
Robert Morphet Haythornthwaite, B.Sc.	Arthur Raymond Thomas, Jr., A.B.
James Francis Sher-York Lee, B.S. in E.E.	Ilhan Uygur, Sc.B. in E.E.
Warren Gavin Lewis, A.B.	Jerry Weisberg, A.B.
Robert Helmer MacArthur, A.B.	Carl John Wust, Sc.B.
Demetrios George Magiros, Sc.D.	Roland Hong-Ching Yui, B.S. in Physics
Maxwell Mark Mozell, A.B.	

DOCTOR OF PHILOSOPHY

Preston Sargent Abbott, A.B., A.M.

Thesis: "The effect of temperature on taste in the white rat."

Julián Adem, Ing. Civil.

Thesis: "On the axially-symmetric steady wave propagation in elastic circular rods."

Thomas Stephen Argyris, Sc.B.

Thesis: "A study of the relationship between the hair growth cycle of the skin and wound healing in mice."

Robert Emmett Barrett, B.S., M.S.

Thesis: "Ultrasonic absorption in electrolytic solutions."

Roberty Myles Benjamin, B.S., Sc.M.

Thesis: "Cerebral mechanisms in gustatory discrimination."

Richard James Best, A.B.

Thesis: "A study of cobalt, nickel, copper and some of their alloys as catalysts."

Stanley John Bezuska, A.B., A.M., M.S.

Thesis: "The scattering of underwater plane ultrasonic waves by liquid cylindrical obstacles."

Elmer Milton Blistein, A.B., A.M.

Thesis: "George Peele's *David and Belshaze*."

Alfred Morton Bork, Sc.B. in Physics, Sc.M.

Thesis: "On the role of definition in physics."

John Lawrence Brown, Jr., B.S.

Thesis: "On transient heat transfer through a laminar boundary layer."

Nazzareno Peter Cedrone, B.S., M.S.

Thesis: "Electronic pulse method for measuring the velocity of sound in liquids and solids."

Margaret Frances Conroy, A.B., A.M.

Thesis: "Part I: Plastic-rigid analysis of long beams under transverse impact loading.
Part II: Dynamic transverse loading of beams of a material exhibiting linear strain-hardening."

Walter Gerard Driscoll, B.S., M.S.

Thesis: "Propagation of acoustical disturbances into a moving, compressible, viscous, heat-conducting fluid."

Harold Porter Eubank, Sc.B., Sc.M.

Thesis: "An investigation of the characteristics of a continuously operated radio-frequency ion source."

David Hunden Evans, B.S. in Engin. Physics

Thesis: "Two problems concerning the measurement of ultrasonic attenuation."

DEGREES CONFERRED

Jerome Lewis Fox, Sc.B. in M.E., Sc.M. in M.E.

Thesis: "On the stability of some flows of an ideal fluid with free surfaces."

Robert Doran Glauz, B.S.E., Sc.M.

Thesis: "Part I: Transient wave analysis in linear time dependent material.
Part II: The viscoelastic vibrating reed."

Morton Harold Gollis, B.S. in Chem.

Thesis: "The rearrangement of aliphatic beta-amino alcohols with nitrous acid."

Paul Ernest Grant, Sc.B. in Engin. Physics, Sc.M.

Thesis: "Underwater ultrasonic scattering by a radial cylindrical temperature gradient."

Francis Xavier Hassion, A.B.

Thesis: "Low temperature dielectric properties of ethanol and iso propanol."

Rodolphe-Louis Hébert, A.B., Ed.B., A.M.

Thesis: "L'esthétique de Marmontel."

Irving Kanter, A.B.

Thesis: "The response of a strong oblique shock wave to an arbitrary disturbance in the downstream pressure field."

Carlin Thomas Kindilien, A.B., A.M.

Thesis: "A study of American verse, 1890-1899, based upon the volumes from that period contained in the Harris Collection of American Poetry and Plays in the Brown University Library."

Pauline Chisholm Mann, B.S.

Thesis: "The interaction of an acoustic wave and an elastic spherical shell."

John George Mavroides, B.S. in E.E., Sc.M.

Thesis: "The application of ultrasonics in the study of some fundamental properties of water."

Irene Anderson Miale, B.A. M.A.

Thesis: "A cytological and cytochemical study of permanently disconnected and peripherally overloaded spinal ganglion cells in the rat."

George Lawrence O'Connor, A.B.

Thesis: "A study of pyrolytic elimination reactions."

Charles Horace Philbrick, II, A.B., A.M.

Thesis: "Theories of rhythm in English and American prosody from 1800 to 1950."

Anne Reynolds Phillips, A.B., A.M.

Thesis: "Expressions of cultural nationalism in early American magazines, 1741-1789."

Rosemary Pierrel, A.B., A.M.

Thesis: "An experimental investigation of taste effects resulting from intermittent electrical stimulation of the tongue."

Robert Charles Plumb, A.B.

Thesis: "The infra-red spectrum and structure of ammonium iodide, ammonium fluoride, and boric acid and the x-ray crystal structure of ammonium fluoride."

Daniel Walter Raaf, A.B., M.S.

Thesis: "Treatment of security holders and financial standards employed by the Securities and Exchange Commission under Section 11(b) of the Public Utility Holding Company Act of 1935."

Murray John Rice, Jr., A.B.

Thesis: "Part I: Conductance and viscosity of concentrated aqueous solutions of cesium and potassium formates at 50°C.

Part II: Viscosity, conductance, and vapor pressure lowering of solutions of salts in bromine."

Robert Ellsworth Schlier, Sc.B. in Naval Science, Sc.M.

Thesis: "The adsorption of gases on the (100) faces of copper and nickel single crystals, using low-speed electron diffraction."

Etta Soiref, A.B., A.M.

Thesis: "The *Witch of Edmonton*: A critical edition."

DEGREES CONFERRED

Frederick Douglas Stockton, B.S. in C.E., Sc.M.

Thesis: "Experimental evidence of non-linearity in plastic stress-strain relations."

Robert Allen Stowe, A.B.

Thesis: "Hydrogenation of the oxides of carbon over some transition metal and alloy catalysts."

Richard Waltner Swenson, A.B., A.M.

Thesis: "The dielectric behavior of the condensed phases of hydrogen chloride."

Robert Norman Tompson, B.S., M.S.

Thesis: "Areas of k dimensional non-parametric surfaces in $k+1$ space."

Alexander Jen Wang, Sc.B. in A.E., Sc.M. in A.E.

Thesis: "Plastic flow in a deeply notched bar."

Charles Henry Watts, II, A.B. A.M.

Thesis: "Thomas Holley Chivers: His literary career and his poetry."

Horace Frederick White, A.B., Sc.M.

Thesis: "The vibrational spectrum and structure of ice at low temperature."

John Zickel, B.S. in M.E., M.S.

Thesis: "Pretwisted beams and columns."

Honorary Degrees Conferred by the University during the Academic Year 1952-53

COMMENCEMENT, JUNE 1, 1953

THEODORE OTTO WEDEL, *Doctor of Divinity*

HARRY SHULMAN, *Doctor of Laws*

CHARLES ANTHONY McDONALD, *Doctor of Science*

ADA HOLDING MILLER, *Master of Arts*

GEORGE FREDERICK FROST, *Doctor of Laws*

LUTHER HARRIS EVANS, *Doctor of Letters*

JAMES CHARLES WHITE, *Doctor of Laws*

PAUL HERMAN BUCK, *Doctor of Laws*

WILLIAM ARCHIBALD MACKINTOSH, *Doctor of Laws*

ROSENBERGER MEDAL

The Susan Colver Rosenberger Medal is generally regarded as the highest honor within the power of Brown University to confer. It is awarded by designation of the Faculty. The Medal was provided for in 1919 by Jesse L. Rosenberger as a memorial to his wife, with the suggestion that it be used to recognize "specially notable or beneficial achievement in scholarships, in authorships, in public life of any kind, or relating to the advancement of the public welfare . . ." The recipients and years of past awards are as follows:

WILLIAM WILLIAMS KEEN	1925	MARY EMMA WOOLLEY	1937
CHARLES EVANS HUGHES	1928	FRED FARBELL FIELD	1940
JOHN DAVISON ROCKEFELLER, JR.	1931	HENRY DEXTER SHARPE	1944
CHARLES VALUE CHAPIN	1935	ZACHARIAH CHAFEE, JR.	1947

In June, 1953 an award was made to

WARREN RANDOLPH BURGESS

List of Students



STATUS AS OF SEPTEMBER 1953

A.B. = Bachelor of Arts; Sc.B.(C) = Bachelor of Science in Chemistry; Sc.B.(E) = Bachelor of Science in Engineering; Sc.B.(P) = Bachelor of Science in Physics.

SENIORS: CLASS OF 1954

NAME	DEGREE	RESIDENCE
Abbott, Daniel Cary	A.B.	Newtonville, Mass.
Abdow, Ronald Joseph	A.B.	Worcester, Mass.
Abel, Kenneth Burton	A.B.	Providence
Achtmeyer, Herbert Carl, Jr.	A.B.	Stratford, Conn.
Alspach, Charles Richard	A.B.	Providence
Ames, Robert Otis	Sc.B.(E)	Port Washington, N. Y.
Amill, Richard Luis	A.B.	New York, N. Y.
Annino, Joseph Robert	A.B.	Babylon, N. Y.
Anzivino, Frank, Jr.	A.B.	Providence
Arruda, Robert Charles	A.B.	Bristol
Atwood, Henry Clayton, Jr.	A.B.	Wellfleet, Mass.
Augustus, Anthony	A.B.	Providence
Axelrod, Joel Nathan	A.B.	University Heights, Ohio
Bailey, Warren Percy	A.B.	Kingston, Mass.
Ballard, Edwin Craven, Jr.	Sc.B.(E)	Riverside
Barksdale, Clarence Caufield	A.B.	Clayton, Mo.
Bartlett, Norman Davison, Jr.	Sc.B.(E)	New Hyde Park, N. Y.
Bates, Davis Remele, Jr.	Sc.B.(E)	Braintree, Mass.
Bates, Robert Duane	A.B.	Putnam, Conn.
Baumgarten, Sidney	A.B.	Far Rockaway, N. Y.
Bay, Harry Ernest	Sc.B.(E)	Saylesville
Bayer, Arthur Ascher	A.B.	Bangor, Me.
Bazley, Norman William	A.B.	Hamden, Conn.
Beadle, Edward John	A.B.	Ardmore, Pa.
Beidler, Richard Francis	Sc.B.(E)	Denver, Colo.
Bell, David Winton	A.B.	Wayzata, Minn.
Benedum, Paul Gregory, Jr.	A.B.	Pittsburgh, Pa.
Benford, William Ramsden	A.B.	North Providence
Berberian, Sarkis	A.B.	Providence
Berdos, Constantine Louis	A.B.	Taunton, Mass.
Bernstein, Jerome David	A.B.	Chicago, Ill.
Bernstrom, Harry Bryant	A.B.	Barrington
Bessette, Armand Albert	A.B.	Pawtucket
Bidwell, Bayard Wayne	A.B.	Milan, Mich.
Bigelow, Gordon Shoemaker	A.B.	Beverly, Mass.
Blankfort, Charles Louis	A.B.	New York, N. Y.

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Bonz, Philip Edwin	Sc.B.(E)	Sharon, Mass.
Borod, Richard Melvin	A.B.	Providence
Boulas, Stanley	A.B.	Providence
Bourne, Kenneth Barnes, Jr.	A.B.	Rochester, N. Y.
Bowen, Roger Wendell	A.B.	Providence
Bradley, Earl Francis	A.B.	Bridgeport, Conn.
Bradley, James Anthony, Jr.	A.B.	Union, N. J.
Braisted, Richard Robbins	A.B.	Hamden, Conn.
Brandwein, Roger	A.B.	New York, N. Y.
Breckenridge, Leland Davis, Jr.	A.B.	Alexandria, Va.
Breslow, Donald Herbert	Sc.B.(E)	Providence
Brigden, William Merrick	A.B.	Fanwood, N. J.
Brisco, Ralph Edward	Sc.B.(C)	Pawtucket
Brodrick, Richard Gordon, Jr.	A.B.	Claremont, N. H.
Brown, Barry David	Sc.B.(E)	New York, N. Y.
Brown, James Deland	A.B.	New York, N. Y.
Brown, Paul Francis	Sc.B.(E)	Olmsted, Ohio
Brownsword, Alan William	A.B.	Cranston
Burdick, Charles William, Jr.	A.B.	Providence
Burrell, Frederick Hunter	A.B.	Bedford Hills, N. Y.
Burrow, Gerard Noel	A.B.	Providence
Busell, Lewis Harrison	A.B.	Salem, Mass.
Cameron, Donald Forrester, Jr.	A.B.	Highland Park, N. J.
Cammett, Haven Paul	A.B.	Washington, D. C.
Cardozo, Daniel J.	Sc.B.(E)	Fall River, Mass.
Carmel, Roger Charles	A.B.	Brooklyn, N. Y.
Carter, David Richter	A.B.	Clarks Summit, Pa.
Casey, Edward Timothy	A.B.	Holyoke, Mass.
Cerilli, Guido James	A.B.	Providence
Chadwick, Loring William	A.B.	Pawtucket
Chopoorian, Hagop Andrew	Sc.B.(C)	Providence
Christiansen, Robert Merton	Sc.B.(E)	Providence
Clarke, Kenneth Walter	Sc.B.(P)	Providence
Cocchiaraley, Alfred	A.B.	West Collingswood, N. J.
Cohen, Herbert Stuart	A.B.	Newton, Mass.
Cohen, Marshall Herbert	A.B.	Pawtucket
Colby, John Kingsbury, Jr.	A.B.	Andover, Mass.
Coleman, Ronald Hills	Sc.B.(E)	Marblehead, Mass.
Conley, Robert	A.B.	Providence
Conrad, Robert Lee	A.B.	Providence
Cook, Russell Albert	A.B.	Groton, Conn.
Cook, Walter Martin	A.B.	West Roxbury, Mass.
Cooney, John Joseph	A.B.	Providence
Copp, Robert Francis	A.B.	Lexington, Mass.
Corney, Alan M.	A.B.	Baltimore, Md.
Cottey, Donald Eugene	A.B.	Sandusky, Ohio
Coughlin, Joseph Edmund, Jr.	A.B.	Upper Montclair, N. J.
Cromwell, Roger James Kissel	A.B.	New York, N. Y.
Curtis, Willbur N., Jr.	A.B.	Somerset, Mass.
Cuzzone, John Francis, Jr.	A.B.	Barrington

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
David, John	A.B.	Central Falls
Davis, Ansel Samuel	A.B.	Brookline, Mass.
Davis, James Clark, Jr.	Sc.B.(E)	St. Albans, Vt.
Davis, John Dwelle	A.B.	Poughkeepsie, N. Y.
De Graaff, Nico	A.B.	New York, N. Y.
Denault, Raymond Ernest	A.B.	Pawtucket
De Paola, Peter Paul	A.B.	Fall River, Mass.
De Simone, Peter Gerald, Jr.	A.B.	Providence
Detoro, Frederic Edward	Sc.B.(C)	Johnston
Dickinson, Joseph Clark	A.B.	Leeds, Mass.
Di Curcio, Robert Anthony	A.B.	Cranston
Di Palma, Joseph Carmine,	Sc.B.(C)	Providence
Disaia, Robert Oresto	Sc.B.(E)	Providence
Disharoon, Leslie Benjamin	A.B.	Paoli, Pa.
Donaldson, Henry Thompson	A.B.	Washington, D. C.
Doyle, Edmund Aubrey	A.B.	Hopkinton, Mass.
Drummond, Charles Duncan, Jr.	A.B.	Pawtucket
Dudley, Dana Marshall	A.B.	Providence
Edson, Harry Francis, Jr.	A.B.	Greenfield, Mass.
Eliasson, Ronald Leonard	A.B.	Erie, Pa.
Enoch, Donald Gordon	Sc.B.(E)	White Plains, N. Y.
Fagan, Thomas Perry	A.B.	Los Angeles, Calif.
Farley, Richard Paul	A.B.	Peabody, Mass.
Farrell, John Joseph	A.B.	Providence
Fielding, Howard Knowles, Jr.	A.B.	Riverside
Flad, Frederick Richard	Sc.B.(P)	Providence
Fletcher, Alan John	A.B.	Gaspee
Fraser, Allister Francis	Sc.B.(E)	Brooklyn, N. Y.
Frigoletto, Frederic David	A.B.	Fitchburg, Mass.
Frontiero, Paul Alfred	Sc.B.(E)	Providence
Fuller, Vaughn Douglas	A.B.	South Portland, Me.
Furman, Robert Millard	A.B.	New York, N. Y.
Fusco, Serafino Joseph	Sc.B.(C)	Cranston
Gagliano, Santo Thomas	A.B.	Long Branch, N. J.
Gainsburg, Roy Ellis	A.B.	Brooklyn, N. Y.
Gallotta, Albert Armond, Jr.	A.B.	Providence
Gasparello, Michael Joseph	A.B.	North Revere, Mass.
Gately, Thomas Theodore	A.B.	Cranston
Gauthier, Edward Jencks	A.B.	Providence
Gediman, Lewis Mark	A.B.	Flushing, N. Y.
Genovese, Charles Sumner	A.B.	Pittsfield, Mass.
Gerard, Emanuel	A.B.	Brooklyn, N. Y.
Gergora, George Thomas	Sc.B.(E)	Providence
Gerstein, Alvin Ira	A.B.	New Bedford, Mass.
Giberti, Alfred Edward	A.B.	Whitman, Mass.
Gibson, Theodore Payne	A.B.	Tulsa, Okla.
Gill, Robert Carroll	A.B.	Orange, Conn.
Glass, Robert Isaac	A.B.	Brookline, Mass.
Goff, William Richard	A.B.	Rumford
Gold, Thomas Elliott	A.B.	Brooklyn, N. Y.

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Goldberg, Carroll Shanon	A.B.	New Orleans, La.
Good, Laurance Frederic	A.B.	Wheeling, W. Va.
Gorham, James Robert	A.B.	Pittsburgh, Pa.
Gorham, John	A.B.	Providence
Goyette, Paul Remi	A.B.	Worcester, Mass.
Grant, Duncan	Sc.B.(P)	Milford, Conn.
Greene, John David	A.B.	New York, N. Y.
Grieder, Jerome Bailey	A.B.	Bozeman, Mont.
Gross, Donald Lincoln	Sc.B.(E)	Wellfleet, Mass.
Gugli, William Vincent	A.B.	Providence
Guinness, George Victor, Jr.	Sc.B.(E)	Pawtucket
Haensel, Peter Curt	A.B.	Milwaukee, Wis.
Hagenau, Alvin Richard	A.B.	Cranston
Hall, William Earl	A.B.	Shaker Heights, Ohio
Halperin, Walter	A.B.	New Haven, Conn.
Handy, Robert Wesley	Sc.B.(C)	West Barrington
Harris, Michael David	A.B.	New York, N. Y.
Haverty, Girard Edmund	A.B.	West Hartford, Conn.
Hawley, Robert Henderson	Sc.B.(E)	Warwick
Hayes, Charles Elwyn, Jr.	A.B.	Chicago, Ill.
Heaton, Charles Peter	Sc.B.(E)	New London, Conn.
Hebert, Gerald Alexander	A.B.	Woonsocket
Heleen, Owen Wilbur	A.B.	New Bedford, Mass.
Hilpman, Paul Lorenz	A.B.	Springfield Gardens, N. Y.
Hollander, Sanford Lloyd	A.B.	Newton, N. J.
Holles, David Van Valkenburg	A.B.	Alexandria, Va.
Honan, Stephen Francis	A.B.	Providence
Hopkins, John Adams	A.B.	Barrington
Hopkins, Mark, Jr.	A.B.	Sherborn, Mass.
Hoppe, Louis William	A.B.	Kirkwood, Mo.
Horton, Nathaniel William	A.B.	Chicago, Ill.
Houldin, Russell James	Sc.B.(E)	Bronx, N. Y.
Hunt, Bruce Hamilton	A.B.	Bridgewater, Mass.
Hunter, John Barrington	A.B.	Chestnut Hill, Mass.
Iannuccillo, Emilio Domenico	A.B.	Bristol
Ise, Adrian Richard	A.B.	Providence
Izeman, Henry Frank	A.B.	Providence
Jaffe, Stanley Burton	A.B.	Newport
Johnson, Arnold Richard	Sc.B.(E)	Hamden, Conn.
Johnson, Robert Reiner	Sc.B.(C)	Chicago, Ill.
Johnstone, Robert Whyte, 4th	A.B.	Grafton, Mass.
Jones, William Constantine	A.B.	Washington, D. C.
Judkins, Charles Ira, Jr.	A.B.	Worcester, Mass.
Kantor, Martin Joel	A.B.	Brooklyn, N. Y.
Katz, Elton Paul	A.B.	Pawtucket
Kaufman, Richard Sigmund	Sc.B.(E)	Elizabeth, N. J.
Keller, Carl Hess, Jr.	Sc.B.(E)	Fairfield, Conn.
Kessariss, Kenneth James	A.B.	Beverly, Mass.
Kimball, Chase Patterson	A.B.	Brooklyn, N. Y.
King, Roger Francis	A.B.	Bryn Mawr, Pa.

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Kinghorn, John Hugh	A.B.	Saranac Lake, N. Y.
Kisiel, Chester Adam	A.B.	Pawtucket
Klein, Ernest Victor	A.B.	New York, N. Y.
Koskela, Robert Wiljo	Sc.B.(E)	North Dartmouth, Mass.
Kramer, Robert Ivan	A.B.	Providence
Krivit, Daniel Henry	A.B.	Jersey City, N. J.
Kurfess, James Edward	A.B.	North Merrick, N. Y.
Kwok, Danny Wynn Ye	A.B.	Providence
Lacey, Neil Francis	Sc.B.(E)	Waltham, Mass.
Lake, Charles David	A.B.	Melrose, Mass.
Langs, Harold Martin	A.B.	Brooklyn, N. Y.
La Pollo, Domenick Charles	A.B.	Providence
Larson, John Francis	A.B.	Allston, Mass.
Laventis, George Peter	A.B.	Beverly, Mass.
Leahy, John William	Sc.B.(E)	Littleton, Mass.
Lederman, Arnold	A.B.	New York, N. Y.
Leff, Alan Henry	A.B.	New York, N. Y.
Lemar, Edward MacMillan	A.B.	Gardiner, Me.
Lipetz, Jacques	A.B.	Forest Hills, N. Y.
Lipkin, Alton Gordon	A.B.	Boston, Mass.
Livingstone, John Bennett	A.B.	Providence
Lombardi, Alfred Ralph	A.B.	Providence
Lord, Frank James	A.B.	Saxonville, Mass.
Lougee, John Robert	Sc.B.(E)	West Hartford, Conn.
Love, Vincent MacBride	A.B.	Wellesley Hill, Mass.
Lunn, Robert Charles	A.B.	Floral Park, N. Y.
Lupoff, Jerrold Irwin	A.B.	Jamaica, N. Y.
Lutes, Chris Adrian	A.B.	Woonsocket
Lyons, James Francis	Sc.B.(E)	West Barrington
Macallum, James, Jr.	Sc.B.(E)	Providence
MacCallum, Douglas Clark	A.B.	White Plains, N. Y.
Maddox, John Earl	A.B.	Rumford
Major, Hugh Nathaniel	A.B.	Providence
Malkary, Joseph Warren	A.B.	Great Neck, N. Y.
Marcaccio, Edward John	A.B.	Providence
Marchand, Roger Emile	A.B.	Webster, Mass.
Marcotte, Alphonse Ulysses	Sc.B.(E)	Manville
Markarian, Shant	A.B.	Providence
Matus, Stephen	A.B.	New York, N. Y.
McCormack, Thomas Joseph Francis	A.B.	Stamford, Conn.
McGown, George Quinton, 3rd	A.B.	Fort Worth, Tex.
McKee, John Damond, Jr.	A.B.	Needham, Mass.
McKeehan, William Clayton, 3rd	A.B.	Riverside, Conn.
McKendall, David Frank	A.B.	Cranston
McSherry, James Michael	A.B.	Milton, Mass.
Meeks, Roy Dudley	A.B.	British Columbia, Canada
Meschino, Joseph Albert	Sc.B.(E)	Cranston
Metzger, Theodore Joseph	A.B.	New York, N. Y.
Meyer, Frank Hoagland	A.B.	Bridgeport, Conn.
Miller, Stanford	A.B.	Brooklyn, N. Y.

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Milligan, Keith Gardner	A.B.	Rumford
Milne, Peter Acly	A.B.	Cheshire, Conn.
Moffat, Kenneth Maxwell	A.B.	Norwood
Mohrfeld, Peter Hamilton	Sc.B.(E)	Armonk, N. Y.
Molineux, Edwin Ross	A.B.	Moorestown, N. J.
Monahon, Bradford Wheeler	A.B.	Providence
Monteiro, George	A.B.	Valley Falls
Mooradkian, Richard	A.B.	North Andover, Mass.
Moran, Charles Manus, Jr.	A.B.	Tiverton
Morfogen, George S.	A.B.	New York, N. Y.
Morrison, Edward Stewart, Jr.	A.B.	Spring Lake, N. J.
Morrison, Glenn Curtis	Sc.B.(C)	Milford, Conn.
Morton, Ralph Wyndon, Jr.	A.B.	Arlington, Mass.
Murgo, Louis William	A.B.	Bristol
Nagle, James Winford, 3rd	A.B.	Barrington
Najarian, Jasper John	A.B.	Pawtucket
Nalbandian, John	A.B.	Cranston
Nash, Philip Langlands	A.B.	South Weymouth, Mass.
Naylor, Robert Everton	A.B.	Scarsdale, N. Y.
Nesci, Patsy Frank	A.B.	Meriden, Conn.
Nevens, Stuart Tobias	A.B.	Brookline, Mass.
Nickerson, Richard Cortland	Sc.B.(P)	Central Falls
Noel, Philip William	A.B.	Warwick
O'Brien, William Andrew	A.B.	West Hartford, Conn.
O'Hearn, Richard Joseph	A.B.	Brookline, Mass.
Olstad, Walter Ballard	Sc.B.(E)	Port Washington, N. Y.
Orth, David Nelson	Sc.B.(C)	Grand Rapids, Mich.
Orton, John Edward	A.B.	Cranston
Ouloosian, Robert	A.B.	Providence
Palmieri, Joseph Nicholas	Sc.B.(P)	Providence
Parker, David Ela	A.B.	Old Saybrook, Conn.
Patota, Reginald Peter	A.B.	Fall River, Mass.
Peace, William Franklin	A.B.	Plainville, Conn.
Pearce, Barry Frederick	Sc.B.(E)	Pawtucket
Pendleton, John Frederick	Sc.B.(C)	Harrisville
Perrine, Jacob David	Sc.B.(E)	Monmouth Junction, N. J.
Perrotta, Ralph John	A.B.	Providence
Petropoulos, Constantin Chris	Sc.B.(C)	South Norwalk, Conn.
Petteruti, Alfred Joseph	Sc.B.(E)	Providence
Pettine, William Williston	A.B.	Bristol
Pettit, Richard George	A.B.	Hamden, Conn.
Philbin, John Philip, Jr.	A.B.	Clinton, Mass.
Placco, Oscar Angelo	Sc.B.(E)	Cranston
Polleys, William Vaughn, 3rd	Sc.B.(E)	Edgewood
Pollock, Samuel Joseph	A.B.	Fall River, Mass.
Potter, William James, Jr.	A.B.	Rumford
Powers, Francis Morgan	A.B.	Swansea, Mass.
Quimby, William Erwin, Jr.	A.B.	Pittsburgh, Pa.
Raiff, Jack Kaufman	A.B.	New York, N. Y.
Randall, George Morton	A.B.	Binghamton, N. Y.

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Read, Wallace Wheaton	Sc.B.(E)	Seekonk, Mass.
Reeves, Abbott Jay	A.B.	Providence
Regan, Edward Francis, Jr.	Sc.B.(E)	Newport
Regensteiner, Fritz David	A.B.	Cranston
Reid, William Irving, Jr.	Sc.B.(E)	Pawtucket
Richman, Sidney Morris	A.B.	Providence
Riker, Geoffrey Willard	A.B.	Providence
Ritchie, Ernest Edward	A.B.	East Aurora, N. Y.
Robbins, Donald Frederick, Jr.	A.B.	Rockland, Mass.
Robertson, Robert Fisher	A.B.	Valley Falls
Robinson, Harold Hugh, Jr.	A.B.	Cranston
Robinson, Melvin Leonard	A.B.	Woodmere, L. I., N. Y.
Romano, Donald Alexander	A.B.	Providence
Roome, Elwood Gregory	Sc.B.(E)	Freehold, N. J.
Rosenberg, Paul Lawrence	A.B.	Wilkes Barre, Pa.
Rosenfeld, Robert Thomas	A.B.	Cleveland, Ohio
Rossiter, John Charles	A.B.	Old Deerfield, Mass.
Roth, Robert Francis	A.B.	Arlington, Mass.
Roth, Wesley Allan	Sc.B.(E)	Buffalo, N. Y.
Rothemich, Alexander Frank	A.B.	Providence
Rothenberger, John Drury, Jr.	A.B.	Providence
Rowe, Evan Wilbur, Jr.	A.B.	York, Pa.
Rowland, Edward Searles	A.B.	Methuen, Mass.
Royal, John Elwyn	A.B.	Pawtucket
Rubin, Leonard Earl	A.B.	Lynn, Mass.
Salvatore, Joseph	Sc.B.(E)	Providence
Scharff, Matthew Daniel	A.B.	Brooklyn, N. Y.
Schutt, Roderick	A.B.	Ridgewood, N. J.
Seibert, Dean John	A.B.	Berlin, Conn.
Seiden, Manfred	A.B.	Providence
Seki, Hajime	Sc.B.(P)	Ashiya, Hyogo Prefect, Japan
Seligson, Robert Allen	A.B.	Beverly Hills, Calif.
Semonche, John Erwin	A.B.	East Paterson, N. J.
Setian, Leo	A.B.	Cranston
Shaffer, Russell Kuhlman	A.B.	Great Neck, N. Y.
Shortall John Francis	A.B.	Providence
Shulins, Sidney, Joel	A.B.	Claremont, N. H.
Sifakis, John Anthony	A.B.	Ayer, Mass.
Silvestri, Michael Anthony	Sc.B.(C)	Providence
Silvia, Everett Ronald	Sc.B.(E)	Taunton, Mass.
Simon, Thomas Henry	A.B.	Cincinnati, Ohio
Simon, William Peter	A.B.	Fall River, Mass.
Sklar, John	A.B.	Cedarhurst, L. I., N. Y.
Sloan, David	A.B.	Princeton, RFD 2, N. J.
Sloane, Robert Malcom	A.B.	Brookline, Mass.
Smith, John Cameron	A.B.	Providence
Snow, Thomas Paul	Sc.B.(C)	Nutley, N. J.
Soltysiak, Wallace Joseph	A.B.	Providence
Spencer, Ernest Clifford	Sc.B.(E)	Taunton, Mass.
Sprinthall, Norman Arthur	A.B.	Pawtucket

LIST OF STUDENTS: SENIORS

NAME	DEGREE	RESIDENCE
Stark, Ronald Adams	A.B.	Barrington
Steger, Bruce	A.B.	Woodmere, N. Y.
Stepanian, Ara Kirkor	A.B.	Pawtucket
Stern, Walter G.	A.B.	Clayton, Mo.
Stetson, Thomas Reid	A.B.	Belmont, Mass.
Stoltmann, Hillard Anthony	A.B.	Meriden, Conn.
St. Pierre, Thomas Louis	Sc.B.(C)	Upper Malboro, Md.
Straton, Carter Aven	A.B.	Malden, Mass.
Streil, John Nicholas, Jr.	A.B.	East Providence
Striar, Myles David	A.B.	Bangor, Me.
Strickhouser, Sherman Alan	A.B.	East Greenwich
Strong, John Temple, Jr.	Sc.B.(E)	Setauket, N. Y.
Stuart, James Milton	A.B.	Cos Cob, Conn.
Sullivan, Gregory James	A.B.	Plainfield, N. J.
Sutton, Julius Gerald	A.B.	Providence
Sweet, Howard Clinton, Jr.	A.B.	Westerly
Tanner, Everett Franklin, Jr.	A.B.	Cranston
Taylor, Hugh Alfred	Sc.B.(C)	Irvington, N. J.
Taylor, Irving Kurtz	A.B.	Bass River, Mass.
Taylor, Paul Beekman	A.B.	Westport, Conn.
Tecklin, David Leonard	A.B.	White Plains, N. Y.
Thomas, Joseph Henry, Jr.	A.B.	Dundalk, Md.
Thomas, Levi Herbert	A.B.	West Orange, N. J.
Tobey, Raymond Eugene	A.B.	Weymouth, Mass.
Torgan, Philip Alan	A.B.	Providence
Towle, Frederick Gerrish	A.B.	Providence
Tritschler, Thomas Candor	A.B.	Evanston, Ill.
Tucker, Paul David	A.B.	Winchester, Mass.
Tucker, Robert Balme	Sc.B.(E)	Lonsdale
Turner, Douglas Laird	A.B.	Buffalo, N. Y.
Tyler, Charles Sargent	A.B.	East Greenwich
Tyndall, Hovey Marshall	A.B.	Brookline, Mass.
Vaughan, Howard Alden	A.B.	Saylesville
Vietze, Arthur William, Jr.	A.B.	Norwood, Mass.
Volterra, Vieri Guy	A.B.	Attleboro, Mass.
Wallace, John Alexander	A.B.	Lakewood
Wals, Robert	A.B.	New York, N. Y.
Watters, Robert Maxwell	A.B.	Denver, Colo.
Webster, Gordon Woodhall	A.B.	Drexel Hill, Pa.
Weil, Floyd Seligman	A.B.	New York, N. Y.
Weinstein, Richard Samuel	A.B.	New York, N. Y.
Wells, Edgar Fisher	A.B.	New York, N. Y.
Westfield, Howard Wentworth, Jr.	A.B.	Rehoboth, Mass.
Wezniak, Frank John	Sc.B.(P)	Belchertown, Mass.
Whalen, David Mayo	Sc.B.(C)	Medford, Mass.
White, Russell, 3rd.	Sc.B.(E)	Providence
Whitlock, Eugene Edward, Jr.	A.B.	Bronx, N. Y.
Whitney, Frank Coole	Sc.B.(E)	Middleboro, Mass.
Wilks, Roger Parker	A.B.	Harrison, N. Y.
Wills, Ronald Spencer	A.B.	New York, N. Y.

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Wittreich, Paul Edward	Sc.B.(C)	Tenafly, N. J.
Woelfel, Ernest John, Jr.	A.B.	Peabody, Mass.
Wood, Richard Edmond	A.B.	Dedham, Mass.
Woodhouse, Caleb Randall	A.B.	Providence
Woodsum, Richard Evan	A.B.	Duxbury, Mass.
Woolley, Walter, Jr.	A.B.	Taunton, Mass.
Worth, Donn Hamilton	A.B.	Providence
Young, Jerold Owen	A.B.	Swampscott, Mass.
Young, Sumner Sullivan	A.B.	Wayzata, Minn.
Zack, Jordan	A.B.	Southbridge, Mass.

JUNIORS: CLASS OF 1955

Aarons, Leroy Franklin	A.B.	New York, N. Y.
Ablow, Herbert Lester	A.B.	Salem, Mass.
Abramowitz, Arnold Chester	A.B.	Brooklyn, N. Y.
Ades, Harvey J	A.B.	New Bedford, Mass.
Aguiar, Leonard Marshall	A.B.	Barrington
Albert, Carl Mayer	A.B.	Waterbury, Conn.
Aldrich, John Duane	A.B.	Bellows Falls, Vt.
Allsbrook, Torrence Richard	A.B.	Oakmont, Pa.
Amhowitz, Harris Jacob	A.B.	Bay Shore, N. Y.
Anderson, Harry Leslie, Jr.	A.B.	Johnston
Anderton, Norman Ralph	A.B.	Rumford
Andrew, Ross, Jr.	A.B.	Middletown, Conn.
Andrews, Charles Anthony, Jr.	A.B.	Providence
Arbitman, Albert	A.B.	Providence
Arnold, Benjamin William, IV	A.B.	Warwick
Asselin, Charles Arvid	A.B.	Patterson, N. J.
Atkinson, Richard Franklin, II	Sc.B.(E)	White Plains, N. Y.
Baldino, Salvatore Carmen	A.B.	Nutley, N. J.
Barenboim, Eliot Vincent	A.B.	Providence
Barrett, William Fergus	A.B.	Pelham Manor, N. Y.
Barron, Robert Anthony	A.B.	Great Neck, N. Y.
Barrows, Fred Howard, III	A.B.	North Scituate
Basile, Orazio Joseph	A.B.	Providence
Beers, Richard Minturn	A.B.	Wood Acres, D. C.
Beil, Arthur Randall, Jr.	A.B.	Flushing, N. Y.
Bergeron, Lucien Alvernie, Jr.	A.B.	Putnam, Conn.
Bernheim, Robert Allen	Sc.B.(C)	Colorado Springs, Col.
Bishop, Lewis Graham	Sc.B.(P)	Needham, Mass.
Blaustein, Arthur I.	A.B.	New York, N. Y.
Blazar, Andrew Stephen	A.B.	Providence
Blinn, Bruce Allan	A.B.	Long Beach, N. Y.
Bloch, Gene Edward	Sc.B.(P)	Mayfield Hgts, Ohio
Blumberg, Joseph Richard	A.B.	New Haven, Conn.
Blumen, Joseph	A.B.	Newport
Blythe, Charles David	A.B.	South Dartmouth, Mass.
Bombino, Joseph Francis	A.B.	Cambridge, Mass.
Boom, Gary William	A.B.	Wellsboro, Pa.

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Borah, Robert Edward	A.B.	Providence
Borjeson, Harold Paul	A.B.	Holden, Mass.
Borod, Robert Leon	A.B.	Providence
Borodach, Gerold Nathan	A.B.	Williamantic Conn.
Borst, James Frederick	Sc.B.(E)	Drexel Hill, Pa.
Bosland, Paul Cullen	A.B.	Greenwood
Bosler, John Ralph, Jr.	A.B.	Norristown, Pa.
Boulanger, Henry Joseph, Jr.	A.B.	North Providence
Bouras, Leonard	A.B.	Brockton, Mass.
Bouton, Norman Mansfield	A.B.	Howe, Ind.
Brodeur, Richard Henry	A.B.	Marlboro, Mass.
Brown, Charles Joseph	A.B.	Wellesley, Mass.
Bry, Richman	A.B.	St. Louis, Mo.
Bulley, Allan Edgar, Jr.	Sc.B.(E)	Kenilworth, Ill.
Bullock, David Brewster	A.B.	Hatchville, Mass.
Burke, John Patrick	A.B.	Buffalo, N. Y.
Burnham, James Barry	A.B.	Rutherford, N. J.
Burroughs, John Edward	Sc.B.(P)	Bristol, Conn.
Bushell, Gordon Phillip	A.B.	New York, N. Y.
Butler, Charles Thomas	A.B.	Saranac Lake, N. Y.
Cahill, Robert Francis	A.B.	Brockton, Mass.
Cannon, Philip Gunn	A.B.	Windsor Locks, Conn.
Capuano, Vincent Allen	A.B.	Providence
Cardoso, Norman	A.B.	Swansea, Mass.
Carey, John Rayworth	A.B.	Providence
Carlson, Robert Paine	A.B.	Riverside
Carron, Desmond James	A.B.	Cranston
Carson, Barry V	A.B.	Westport, Conn.
Carter, Charles Elmer	A.B.	North Providence
Casselman, Thomas Norman	Sc.B.(R)	Erie, Pa.
Castleberry, Edward Francis	A.B.	Cincinnati, Ohio
Chambers, George Kenneth	A.B.	Tennent, N. J.
Chandler, John Wardwell	A.B.	Portland, Me.
Chapin, Breck	A.B.	North Bangor, N. Y.
Chase, John Wallace	Sc.B.(P)	Leonia, N. J.
Chernell, Eugene	A.B.	Brooklyn, N. Y.
Chipurnoi, Laurence Zachary	A.B.	Great Neck, N. Y.
Chirico, Cosmo Salvatore	A.B.	Providence
Chu, Daniel	A.B.	Sarasota, Fla.
Cobb, John Wyman	A.B.	Fourside, Me.
Cole, James Payson	A.B.	West Englewood, N. J.
Coletti, Barry Domenic	A.B.	Wollaston, Mass.
Collins, Bruce Turner	Sc.B.(C)	Attleboro, Mass.
Conn, George	Sc.B.(E)	Melrose, Mass.
Corbridge, James Noel, Jr.	A.B.	Garden City, N. Y.
Corcoran, Lawrence Powers	A.B.	Rockland, Mass.
Cottrell, Thomas Sylvester	A.B.	Detroit, Mich.
Coukos, James Stephen	A.B.	Lynn, Mass.
Crane, George Warren	A.B.	New York, N. Y.
Curran, Joel Danforth	A.B.	Providence

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Dalton, Paul Austin	A.B.	Wellesley, Mass.
De Camp, Richard Surridge	A.B.	Dayton, Ohio
Decker, David Stanton	A.B.	Washington, D. C.
Delvisco, Anthony William	A.B.	Montclair, N. J.
Demetropoulos, Nicholas Andrew	A.B.	Pawtucket
De Patie, Richard John	A.B.	West Hartford, Conn.
Dermer, Zigmund Lowe	Sc.B.(P)	Providence
Devoe, Harry Leslie, Jr.	A.B.	Providence
Dimmitt, Sterling	A.B.	Providence
Dinkel, George Rudolph, Jr.	A.B.	Maplewood, N. J.
Dinneen, John Edward	A.B.	Edgewood
Disney, Michael Brockway	A.B.	Mundelein, Ill.
Dodge, Thomas Wesley	A.B.	Tyringham, Mass.
Dorer, John	A.B.	Maplewood, N. J.
Dorr, Melbourne Stanwood	A.B.	Weston, Mass.
Dover, Robert Fairbanks	A.B.	Barrington
Drabb, Michael John	A.B.	Bridgeport, Conn.
Dunham, George Kenneth	A.B.	Queens Village, N. Y.
Eckel, John William	A.B.	Scotia, N. Y.
Ecker, Robert Alan	Sc.B.(E)	Patchogue, N. Y.
Edgecomb, John Stedman	A.B.	Quaker Hill, Conn.
Egan, James Thomas	A.B.	Warwick
Ehrlich, Stephen Roger	A.B.	Brooklyn, N. Y.
Erwin, Stuart Philip, Jr.	A.B.	New York, N. Y.
Fagereng, Per Daniel	A.B.	Manhasset, N. Y.
Fairman, Roger Milton	A.B.	Stamford, Conn.
Faulkner, Richard Harvey	A.B.	Cranston
Fay, Jon Wells	A.B.	Pittsburgh, Pa.
Fell, Ernest Millward, Jr.	A.B.	Fall River, Mass.
Ferando, Louis John	A.B.	Westerly
Fern, Mattis Isa	A.B.	Brooklyn, N. Y.
Fitzgerald, Robert Drake, Jr.	A.B.	Milwaukee, Wis.
Fletcher, William, III	A.B.	Barrington
Fliegelman, Harold Norman	A.B.	Norristown, Pa.
Fontan, Ernest Haviland, Jr.	A.B.	Lyndhurst, N. J.
Fordon, Frederick Flower	A.B.	Detroit, Mich.
Forest, Robert Norman	A.B.	Pawtucket
Fort, Bradford Latham	A.B.	Southport, Ind.
Fox, Paul William	A.B.	East Orange, N. J.
Frazier, William Jay, Jr.	A.B.	Chicago, Ill.
French, Frederick Rawson, Jr.	A.B.	Brockton, Mass.
Frenette, Robert Alfred	A.B.	Somerset, Mass.
Friend, John Greenebaum	A.B.	Glencoe, Ill.
Fries, Burkhard Christopher	A.B.	Bridgewater, Mass.
Fuller, Gordon E. C.	A.B.	Buffalo, N. Y.
Fuller, John Wesley	A.B.	Maplewood, N. J.
Funck, James Richard	A.B.	Camp Hill, Pa.
Gaeta, Joseph Roland	A.B.	Providence
Gallup, Asa Oran, IV	A.B.	Grosse Pointe, Mich.
Gardner, Marvin Leonard	A.B.	Providence

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Geer, Fred Louis	A.B.	Natick, Mass.
Genua, Vincent Loreto	A.B.	Waterbury, Conn.
Gesen, Charles Jackman	A.B.	Concord, N. H.
Ginsberg, George Leon	A.B.	Fall River, Mass.
Gleason, Lawrence MacMillan	Sc.B.(E)	Rutherford, N. J.
Gleeson, John William	A.B.	Upper Montclair, N. J.
Goetz Robert Bernard	Sc.B.(E)	Troy, N. Y.
Goldberg, Joel Marvin	A.B.	Newport
Goldfarb, Walter Benjamin	A.B.	Brookline, Mass.
Granger, Joseph Francis, Jr.	A.B.	Marlborough, Mass.
Gray, David Maxwell	A.B.	Santa Barbara, Calif.
Green, Raymond	A.B.	Fall River, Mass.
Greenhall, Robert Leonard	A.B.	East Orange, N. J.
Grimes, Donald Michael	A.B.	Warwick
Halpert, Stephen Karl	A.B.	Portland, Me.
Halvorsen, David Wayne	A.B.	Cranston
Hamre, Peter Jay	A.B.	North Weymouth, Mass.
Hanna, George Lloyd, Jr.	A.B.	Pawtucket
Harrell, James	A.B.	Merrick, N. Y.
Harrington, Robert Dudley, Jr.	A.B.	Worcester, Mass.
Harris, William Dale	Sc.B.(E)	Tarentum, Pa.
Harvey, Richard McNeely	A.B.	Spring Lake, N. J.
Hawes, Colin Dana	A.B.	Saylesville
Hebner, Robert Joseph	A.B.	Attleboro, Mass.
Helgerson, Carl Mauritz	A.B.	East Providence
Henningson, John Joseph	A.B.	Cranston
Hetherington, John Milton, Jr.	A.B.	Providence
Hetterly, Robert Malcom	A.B.	Hanover, N. J.
Hilton, Joseph	A.B.	New York, N. Y.
Hinckley, William Pitt	A.B.	Riverside
Hobron, Robert Stephen	A.B.	New London, Conn.
Hodgate, Charles, Jr.	Sc.B.(E)	Fall River, Mass.
Hoik, Daniel Batchelder	A.B.	Concord, N. H.
Holtzman, Boris Shae	A.B.	Hillside, N. J.
Hotton, George Erik	A.B.	Dorchester, Mass.
Houk, John Talbott, Jr.	A.B.	Sea Island, Ga.
Ilchman, Warren Fred	A.B.	Denver, Colo.
Iseminger, Boyd Austin, Jr.	A.B.	Middleboro, Mass.
Jaffe, Anthony Robert	A.B.	New York, N. Y.
Janis, Donald Richard	A.B.	Providence
Jarvinen, Philip Onni	Sc.B.(E)	Rockland, Mass.
Jazwinski, Vincent Thomas	A.B.	Whippany, N. J.
Jenness, Raymond Nathaniel, Jr.	A.B.	Hatfield, Mass.
Jenney, Robert Melvin	Sc.B.(E)	Melrose, Mass.
Joel, William Lee, II	A.B.	Richmond, Va.
Joest, Fred August, Jr.	Sc.B.(E)	South Plainfield, N. J.
Johnson, Gordon Elbert, Jr.	A.B.	Hamden, Conn.
Jones, Thomas Frederick, Jr.	A.B.	Wilmette, Ill.
Juergens, Wladislaw	Sc.B.(E)	Philadelphia, Pa.
Juncker, Henry, III	A.B.	New York, N. Y.

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Kaplan, Lewis	A.B.	Brooklyn, N. Y.
Kaplan, Mark	A.B.	Lowell, Mass.
Kase, Stuart	A.B.	Brooklyn, N. Y.
Kearney, David Quentin	A.B.	Washington Depot, Conn.
Keefe, Daniel Mark	A.B.	Newton, Mass.
Kelleher, Henry	A.B.	Taunton, Mass.
Kelley, Gilbert Holmes	Sc.B.(E)	South Braintree, Mass.
Kelley, William Patrick	A.B.	Albany, N. Y.
Kenny, Robert Edmund	A.B.	South Attleboro, Mass.
Kern, George William	A.B.	Providence
Khachian, Richard	A.B.	Norwalk, Conn.
Kilpatrick, James Maybra	A.B.	Highland Park, Ill.
Kimball, Dean Fiske	A.B.	Manhasset, N. Y.
Kincade, Edward Francis, Jr.	A.B.	Leonia, N. J.
Kinsey, Kenneth Francis	A.B.	Warwick
Klaess, William John	A.B.	Rockville Center, N. Y.
Knowles, Robert Curtis	A.B.	Saylesville
Koch, Carl Wilson	A.B.	Allentown, Pa.
Kohut, Pete, Jr.	A.B.	Ambridge, Pa.
Kolb, Clifford Ellsworth, Jr.	A.B.	Rockaway, N. J.
Korman, Tom Stuart	A.B.	Lawrance, N. Y.
Kramer, Ronald Edmund	A.B.	Newton, Mass.
Kraut, William	A.B.	Jersey City, N. I.
Kroll, Stanley	A.B.	Brooklyn, N. Y.
Kunstler, David Bruce	A.B.	New York, N. Y.
Labush, Leonard William	A.B.	Providence
Lachance, Roland Martin	A.B.	West Warwick
Laferriere, Arthur Leo	Sc.B.(C)	Pawtucket
Lake, Benson	Sc.B.(E)	Germantown, Pa.
Lakin, Leonard Sherwin	A.B.	Fall River, Mass.
Land, Mark Allen	A.B.	Passaic, N. J.
Landau, Steven Andrew	A.B.	Riverside, Pa.
Landman, Owen Barry	A.B.	Newport
Lary, Ralph Leon	Sc.B.(E)	West Scarboro, Me.
Lasley, Jerry Kingsley	Sc.B.(E)	New York, N. Y.
Lauber, Alan Lee	A.B.	Short Hills, N. J.
Lavallee, Richard Donald	A.B.	Webster, Mass.
Lawson, John Wentworth	A.B.	Providence
Lawson, Richard Alan	A.B.	Providence
Leonard, Donald Edward	A.B.	Providence
Le Sueur, Harvey Crockett	Sc.B.(E)	South Portland, Me.
Letiecq, Paul Henry	A.B.	Briarcliff Manor, N. Y.
Levin, Colman	A.B.	Brookline, Mass.
Levine, Michael Howard	A.B.	New York, N. Y.
Lichtenstul, Joel Adelson	A.B.	Pittsburgh, Pa.
Linsky, Leo Joseph	A.B.	Salem, Mass.
Lisbon, Peter Wallace	A.B.	Providence
Logan, Francis Matthew, Jr.	A.B.	Lawrence, Mass.
Longo, Robert	Sc.B.(E)	Cranston
Lord, Willard Richardson	A.B.	East Mt. Kisco, N. Y.

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Louttit, Thomas Robley, Jr.	A.B.	Providence
Lowe, Douglas Robert	A.B.	Milford, Conn.
Lownds, John Richard	A.B.	Danbury, Conn.
Lucas, Wilder George	A.B.	University City, Mo.
Ludington, Nicholas Lammert	A.B.	New York, N. Y.
Ludlow, George Byron, Jr.	A.B.	Warwick
Lund, Richard Boardman	A.B.	Warren
Lynch, Jerome Benedict	A.B.	Providence
Lynch, Robert Francis	A.B.	Westbury, N. Y.
MacDonald, Robert Alexander	A.B.	Glenbrook, Conn.
Malamud, Michael Harlen	A.B.	Weston, Mass.
Malinou, Martin Seymour	A.B.	Providence
Malkiewicz, Raymond Joseph	A.B.	Passaic, N. J.
Mangione, Francis Cornelius	A.B.	Gaspee Plat
Mara, Rodney Nicholas	A.B.	Providence
Mariani, Terence David	A.B.	Waterbury, Conn.
Marratt, Charles Edward	A.B.	Maplewood, N. J.
Marx, Lawrence Jackson	A.B.	New York, N. Y.
Mason, George Edgar	A.B.	South River, N. J.
Matulionis, Algis	A.B.	Providence
Mavor, Leon Wayne	A.B.	Staten Island, N. Y.
Maxwell, Douglass Crane	A.B.	San Mateo, Calif.
Mayerson, Peter	A.B.	New Orleans, La.
Mayette, Robert John	Sc.B.(E)	Providence
McAlister, Charles Andrew	A.B.	Foxboro, Mass.
McClellan, Gordon	A.B.	Lowell, Mass.
McCombs, Francis John	A.B.	McKeesport, Pa.
McCutcheon, Douglas Milton	A.B.	Slatersville
McGall, James Graham, Jr.	Sc.B.(E)	Nutley, N. J.
McKechnie, Joseph Roy	A.B.	Pawtucket
McKee, Brian Bromwell	A.B.	Barrington
Meyers, Peter Wallace	A.B.	Flemington, N. J.
Mihalakos, Socrates Harry	A.B.	Waterbury, Conn.
Milne, David John	A.B.	New Rochelle, N. Y.
Minor, William Ernst, III	A.B.	Cincinnati, Ohio
Mitten, Roger Charles	A.B.	Larchmont, N. Y.
Monaghan, John Joseph	A.B.	Pawtucket
Montgomery, William Kent	A.B.	Yonkers, N. Y.
Moore, Richard Koelle	A.B.	Port Washington, N. Y.
Morick, Harold John	A.B.	New York, N. Y.
Morie, Thomas Albert	A.B.	Wenonah, N. J.
Morris, James Thomas	A.B.	Taylor, Pa.
Motherway, Joseph Edward	Sc.B.(E)	Providence
Murchelano, Robert Adrian	A.B.	Providence
Muse, Joseph Francis, Jr.	Sc.B.(E)	Bellmore, N. Y.
Nangle, Paul Michael, Jr.	A.B.	Marblehead, Mass.
Naylor, Charles Burton	A.B.	Worcester, Mass.
Newman, George Donald	A.B.	Weston, Mass.
Newman, Herbert Saul	A.B.	Waterbury, Conn.
Newman, Theodore Roosevelt, Jr.	A.B.	Tuskegee, Ala.

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Newsam, Arthur Roland, Jr.	A.B.	Cranston
Nourie, Richard Fisher	A.B.	North Providence
Noyes, Sydney West	A.B.	East Providence
O'Brien, John Dennis	A.B.	Rockland, Mass.
O'Donnell, William Henry, Jr.	Sc.B.(P)	Naugatuck, Conn.
O'Hara, James Declan	A.B.	Greenfield, Mass.
Olding, Duncan Robert	Sc.B.(E)	Fall River, Mass.
O'Malley, Edward William	A.B.	Swansea, Mass.
Orodenker, Norman Gilbert	A.B.	Providence
O'Such Robert Francis	A.B.	Forest Hills, N. Y.
Palcho, Ralph John	A.B.	Pittsburgh, Pa.
Pearce, William Joslin	A.B.	Providence
Pearson, Everett Alden	A.B.	Seekonk, Mass.
Pendergast, James Francis	A.B.	Riverview
Penhallow, William Scott	Sc.B.(P)	Woonsocket
Perry, Gordon Edward	A.B.	New Haven, Conn.
Perry, Richard Anthony	Sc.B.(E)	Fall River, Mass.
Peterson, Kenneth Robert	A.B.	Haverhill, Mass.
Peterson, Neale Lawrence	A.B.	Westfield, N. J.
Pfuderer, Albert Peter	Sc.B.(C)	Hamden, Conn.
Phillips, Alfred Hazen	Sc.B.(E)	East Providence
Plaisted, Edward Endicott	A.B.	Methuen, Mass.
Poliks, Gerald Joseph	A.B.	Gardner, Mass.
Politi, Albert Henry	A.B.	Palisades Park, N. J.
Popp, Robert Stanley	A.B.	Rockland, Mass.
Priety, William Thomas	A.B.	Waterbury, Conn.
Ralston, Rodney	A.B.	Cranston
Reilly, Michael Joseph	A.B.	Yonkers, N. Y.
Remington, Albert Andrew, III	A.B.	Rumford
Renzulli, William	A.B.	Providence
Riccio, Willis Hugh	A.B.	Providence
Richards, Robert Burt	A.B.	Riverside
Rider, James Eddy Hanson	Sc.B.(E)	Providence
Rivera, Eugene Philip	A.B.	Providence
Robinson, Edgar Allen	A.B.	Brookline, Mass.
Roll, John Ides	A.B.	Berwick, Pa.
Ross, Robert Baldwin	A.B.	Providence
Russo, Raymond Michael	A.B.	New York, N. Y.
Ruwe, Lester Nicholas	A.B.	Grosse Pointe Farms, Mich.
Sammartino, Alexander John Francis	A.B.	North Providence
Samsel, Loren Wesley, Jr.	Sc.B.(E)	Dallas, Pa.
Sander, William Glew, Jr.	A.B.	Pittsburgh, Pa.
Sargent, William Henry	Sc.B.(E)	Providence
Schaughency, Michael Frederick	Sc.B.(C)	Cranston
Schoenrock, Bruce Warren	A.B.	Meriden, Conn.
Schwalberg, Martin Arnold	A.B.	New York, N. Y.
Schwartz, Eric Davis	Sc.B.(E)	Great Neck, N. Y.
Schwartz, Marvin Heidingsfeld	A.B.	Cincinnati, Ohio
Scott, Arthur, Jr.	A.B.	Pawtucket
Scott, George Wilkinson	A.B.	Warwick

LIST OF STUDENTS: JUNIORS

NAME	DEGREE	RESIDENCE
Seifert, Donald Max	A.B.	Bethel, Conn.
Sequino, Francis Michael	A.B.	Warren
Shapiro, Joel Lawrence	A.B.	Belle Harbor, N. Y.
Shaw, Russell Franklin	A.B.	Pawtucket
Shearing, John Arthur	Sc.B.(E)	Great Neck, N. Y.
Silverman, Sidney	A.B.	Norwich, Conn.
Simenkow, Peter	Sc.B.(E)	Providence
Smith, Andrew Knowles	A.B.	Warwick
Smith, James Richard	A.B.	Johnstown, Pa.
Smith, Mitchill Lee	A.B.	Glen Ridge, N. J.
Smith, Richard Moisseiff	A.B.	Ridgefield, Conn.
Smolokoff, Sheldon	A.B.	Glen Cove, N. Y.
Spalding, Robert Varnum	A.B.	Newton Highland, Mass.
Spangenberg, Peter Eugene	Sc.B.(E)	Westport, Conn.
Spizzirri, Richard Dominic	A.B.	Oak Park, Ill.
Spranger, Geoffrey Hart	A.B.	Cranston
Stagg, Theodore, Jr.	A.B.	Radburn, N. J.
Stahler, Alfred Francis	Sc.B.(E)	Ridgewood, N. J.
Stavis, Frederick	A.B.	Newton Centre, Mass.
Stedman, Derek Cornell	A.B.	New York, N. Y.
Steinitz, Sidney Abraham	A.B.	Pittsburgh, Pa.
Stone, Edward Albert	Sc.B.(E)	Cranston
Stone, Harris Botwinik	A.B.	New Haven, Conn.
Sullivan, Robert Cook	Sc.B.(C)	Providence
Summerfield, John Alan	A.B.	Chicago, Ill.
Sutherland, Edmund Richie	A.B.	Grosse Pointe, Mich.
Tanenbaum, Louis Allan	A.B.	Denver, Colo.
Tansey, Russell Huett	A.B.	New London, Conn.
Taylor, Raymond Leonard	Sc.B.(C)	Providence
Thayer, Kendrick	A.B.	Providence
Thea, Joel	A.B.	Brooklyn, N. Y.
Thom, Robert	A.B.	Vineland, N. J.
Thomson, Alan Paul	A.B.	Stratford, Conn.
Tooley, Edward Joseph	A.B.	Yonkers, N. Y.
Trepte, Donald Paul	A.B.	Villa Park, Ill.
Tryon, Jonathan Stedman	A.B.	Rockport, Mass.
Tucci, Joseph Ralph	A.B.	Providence
Udall, Gordon Floyd, Jr.	A.B.	Amityville, N. Y.
Ulrich, George Erwin	A.B.	Concord, N. H.
Valkys, Irving Michael	A.B.	Palisades Park, N. J.
Van Hulsteyn, David Bentley	Sc.B.(P)	Winchester, Mass.
Vaughan, Wayland Edward	A.B.	Needham, Mass.
Vivian, John Albert	A.B.	Providence
Votaw, France Edgar, Jr.	A.B.	Winchester, Mass.
Walker, Thomas Edward	A.B.	Portland, Me.
Wallace, Brian Brendan	A.B.	Milton, Mass.
Walter, John Fenner	Sc.B.(E)	Bayside, N. Y.
Watelet, Robert Paul	Sc.B.(E)	Greenwood
Webb, Philip Kalien	A.B.	Providence
Webster, James Gillis, III	A.B.	Englewood, N. J.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Wehe, Theodore John	A.B.	Providence
West David Fielding	A.B.	Tenafly, N. J.
West, Robert Daniel	A.B.	Edgartown, Mass.
Whistler, Leonard, II	A.B.	Syracuse, N. Y.
White, Maynard Pressley, Jr.	A.B.	Ardmore, Okla.
Whitehead, William Henry	A.B.	Syosset, L. I., N. Y.
Whitehouse, Daniel Roger	A.B.	Woonsocket
Wigod, Robert Maynard	A.B.	Flushing, N. Y.
Willette, Gordon Louis	Sc.B.(C)	Dighton, Mass.
Wilson, Garwood Peck	A.B.	New Haven, Conn.
Winans, Laurance Withrow	A.B.	Bronxville, N. Y.
Wolfson, Richard Baume	A.B.	Fall River, Mass.
Womsley, Robert Brand	A.B.	Dayton, Ohio
Works, John Wolcott	A.B.	Salem, Ohio
Yatsu, Frank Michio	A.B.	Cleveland, Ohio
Young, David Longstaff	A.B.	Norwalk, Conn.
Young, Robert Thur	A.B.	Branford, Conn.
Zavarine, Richard	A.B.	Belmont, Mass.
Zucconi, David John	A.B.	New York, N. Y.

SOPHOMORES: CLASS OF 1956

Abbott, Bruce Norman	A.B.	Beverly, Mass.
Adelberg, Samuel Bertram	A.B.	Brighton, Mass.
Adkins, Douglas Lee	Sc.B.(C)	Fall River, Mass.
Ahlborn, Lee	A.B.	White Plains, N. Y.
Ahonen, Vaino Axel	A.B.	West Barnstable, Mass.
Aleixo, Antonio Nunes, Jr.	Sc.B.(C)	Valley Falls
Alexandre, Gilbert	A.B.	New York, N. Y.
Allgair, George William	A.B.	Summerville, N. J.
Alsfeld, Vincent Leo	Sc.B.(C)	Edgewood
Alway, John Richard	A.B.	Ann Arbor, Mich.
Anderson, Zane Jacob	A.B.	Port Morris, N. J.
Andrews, Edward Reed	Sc.B.(E)	Providence
Apostolacus, William Theodore	Sc.B.(E)	Long Branch, N. J.
Arabian, Martin Vahe	A.B.	Puerto Cabello, Venezuela
Arovas, Jack	A.B.	New Haven, Conn.
Arpin, Oscar Edward	Sc.B.(E)	Providence
Arroll, Richard Joseph	Sc.B.(C)	Swampscott, Mass.
Atherton, Dudley Ray	A.B.	Scranton, Pa.
Atwood, Alan Franklin	A.B.	Nantucket, Mass.
Averill, William Thurlow	A.B.	Upper Montclair, N. J.
Baer, Henry Philip	A.B.	New York, N. Y.
Bailey, Gordon Burgess	A.B.	Needham, Mass.
Baird, John Edward	Sc.B.(E)	Cleveland, Ohio
Baird, John Frederick	Sc.B.(E)	Glen Rock, N. J.
Balas, Robert Michael	A.B.	Teaneck, N. J.
Balogh, Dominic Vincent	A.B.	Hamden, Conn.
Barber, Donald Clark	A.B.	Providence
Bartsch, Bruce Raymond	Sc.B.(C)	West Englewood, N. J.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Bartuska, Peter Moses	Sc.B.(E)	Nanticoke, Pa.
Bathrick, John Robert, Jr.	Sc.B.(E)	Yorkville, N. Y.
Baugh, Ned Peter	A.B.	Elmhurst, Ill.
Bearce, Denny Neil	A.B.	Pleasantville, N. Y.
Becker, Fred Kenneth	A.B.	West Orange, N. J.
Bensinger, Roger Galston	A.B.	Chicago, Ill.
Bergeron, Clifford Maurice	Sc.B.(E)	Providence
Bernstein, Allen Thomas	A.B.	New York, N. Y.
Berrier, James Tyler	A.B.	Plainfield, N. J.
Biddle, Justin Miller	Sc.B.(E)	Putney, Vt.
Bishop, Dwight Beighley	A.B.	Oyster Bay, N. Y.
Bivens, William Stone	A.B.	Kansas City, Mo.
Blage, Blair Edward	A.B.	West Hempstead, N. Y.
Blair, John George	A.B.	Needham Heights, Mass.
Blank, Barry William	A.B.	Sea Girt, N. J.
Bobrow, Joseph Sheldon	A.B.	Riverdale, N. Y.
Boggs, James Caleb, Jr.	A.B.	Wilmington, Del.
Bologna, Joseph James	Sc.B.(E)	Brooklyn, N. Y.
Bomann, Donald, Jr.	A.B.	Rye, N. Y.
Borjeson, Richard Antone	A.B.	Worcester, Mass.
Boulukos, George Nicholas	A.B.	Merrick, N. Y.
Bowden, William Robinson	A.B.	Wakefield
Bowen, Donald Deane	A.B.	Denver, Colo
Boynton, Daniel Chase	Sc.B.(E)	Providence
Bradley, William Edward	A.B.	Corning, N. Y.
Branner, Don	Sc.B.(E)	Mt. Vernon, N. Y.
Brenner, Paul Harold	A.B.	Cedarhurst, N. Y.
Brighenti, James Marshall	A.B.	Lee, Mass.
Brightman, William Thomas	A.B.	Providence
Briner, Jack Vedder	Sc.B.(E)	Arlington, Va.
Brown, Edward Bertram	A.B.	Providence
Brown, Ralph Douglas	A.B.	New York, N. Y.
Buck, Richard Edwin	A.B.	Islington, Mass.
Bull, Mason, Jr.	A.B.	Morrison, Ill.
Burgin, Jon Harvey	A.B.	Quincy, Mass.
Burnham, Robert Lyndon	A.B.	Winchester, Mass.
Caffrey, George Jerome	A.B.	Watertown, Conn.
Cameron, Hugh Boyd	A.B.	Elyria, Ohio
Campbell, Robert Spencer	Sc.B.(E)	Birmingham, Mich.
Campbell, Sumner	A.B.	West Harwich, Mass.
Campisi, Peter Louis	A.B.	Maplewood, N. J.
Capozzoli, Nicholas John	A.B.	Freeport, N. Y.
Carleton, Donald Crafts	A.B.	Reading, Mass.
Cavallaro, Aldo Mario	A.B.	Manville
Chadwick, Peter David	Sc.B.(C)	Hamden, Conn.
Chapman, George Alvin, Jr.	A.B.	West Lebanon, N. H.
Charles, Keith Workman	A.B.	Woonsocket
Chorney, Paul	Sc.B.(E)	Pawtucket
Christian, George Thomas, Jr.	Sc.B.(E)	Carmel, N. Y.
Clayson, George Phelps, III	A.B.	Pittsfield, Mass.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Cline, Jerome Stuart	A.B.	Bronxville, N. Y.
Cohen, Donald	Sc.B.(P)	Providence
Cohen, Edwin Dearborn	A.B.	St. Albans, N. Y.
Cohen, Stafford Irwin	A.B.	Newton, Mass.
Columbus, Ronald Charles	A.B.	Brooklyn, N. Y.
Connell, Gerard Thomas	Sc.B.(E)	Wantagh, N. Y.
Conner, Robert Bennett	A.B.	Rockville Centre, N. Y.
Cooke, Raymond Richard	Sc.B.(E)	Plainville, Conn.
Cooper, William Allen	Sc.B.(E)	West Haven, Conn.
Corbus, William Rudolph	A.B.	Newport
Corning, Peter Andrew	A.B.	New York, N. Y.
Coveney, Richard Marean	A.B.	Cambridge, Mass.
Cowen, Norman Jay	A.B.	Providence
Cowey, Ross Edwin	A.B.	Newport
Crann, Donald Marsh	Sc.B.(E)	Summit, N. J.
Crawford, Charles Niles, Jr.	Sc.B.(E)	South Weymouth, Mass.
Crawford, Richard Lovelace	Sc.B.(C)	Valley Falls
Crecca, Richard Reynolds	A.B.	Glen Ridge, N. J.
Cronin, William Patrick	A.B.	West Newton, Mass.
Crooks, William Dunbrack Kenneth	A.B.	Marblehead, Mass.
Crowley, Herbert Riley	A.B.	Bronxville, N. Y.
Curran, Maurice Joyce, 3rd	A.B.	Andover, Mass.
Cutler, John Harvey	A.B.	Great Neck, N. Y.
Dacey, Thomas Francis	A.B.	North Agawam, Mass.
Daley, Joseph Michael, Jr.	A.B.	Winfield Park, Linden, N. J.
Dalzell, Bruce Townsend	Sc.B.(E)	New Bedford, Mass.
Damutz, Edward Victor	Sc.B.(E)	Northford, Conn.
Dana, Richard Maurice	A.B.	Brookline, Mass.
Darnley, Wallis Hammond	A.B.	Longmeadow, Mass.
Davis, Joel	A.B.	New York, N. Y.
Davis, Russell Vincent, Jr.	A.B.	Rumford
Davitt, Maurice Charles	A.B.	Fairfield, Conn.
Dawley, George Washington, Jr.	A.B.	Lincoln
Debbs, Joseph Robert	A.B.	Maplewood, N. J.
De Ciccio, Donald Richard	A.B.	Providence
deFreitas, Gabriel Fernandes	A.B.	New Bedford, Mass.
Delhagen, John Edward	A.B.	Nutley, N. J.
Del Santo, Ralph Fredrick, Jr.	Sc.B.(E)	East Greenwich
Demchak, William Lee	A.B.	Vandergrift, Pa.
De Mund, James Mortimer	A.B.	West Hartford, Conn.
Derderian, Kelam Steven	A.B.	Cranston
Diamond, Evans	A.B.	Forest Hills, N. Y.
Dickerson, Neil Otis	Sc.B.(E)	Shelter Island, N. Y.
Di Zoglio, Harry Francis	Sc.B.(E)	Providence
Dobbing, William Robert	Sc.B.(E)	Lonsdale
Doherty, Thomas Gerald, Jr.	Sc.B.(E)	Stratford, Conn.
Doll, John Gregory	A.B.	Pawtucket
Donaldson, John Cecil, Jr.	A.B.	Wilton, Conn.
Doolan, Dwight Morris	A.B.	Cranford, N. J.
Dornstein, Perry	A.B.	Brooklyn, N. Y.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Dorsey, Frank Colston	Sc.B.(C)	Baltimore, Md.
Dragat, Andrew Sack	A.B.	Hartford, Conn.
Dubosque, Robert Erwin	A.B.	Boston, Mass.
Duffy, Robert Daniel	A.B.	Providence
Du Pont, Joseph, Jr.	A.B.	Bristol
Durfee, David Rising	A.B.	Hoosick Falls, N. Y.
Dyer, William Winfield, Jr.	Sc.B.(E)	Marblehead, Mass.
Easton, George William	A.B.	Springfield, Mass.
Ehmann, Carl Frederick	A.B.	Bellerose, N. Y.
Eigen, Lewis David	A.B.	New York, N. Y.
Elkins, Robert Alan	A.B.	Jersey City, N. J.
Evans, David Sturgis	Sc.B.(P)	North Scituate, Mass.
Ewing, James Glasgow	A.B.	Boston, Mass.
Feder, Jay Paul	A.B.	New York, N. Y.
Feldman, Richard Samuel	A.B.	Rochester, N. Y.
Field, Noel Macdonald, Jr.	A.B.	Providence
Finnegan, James Roland	Sc.B.(E)	Brockton, Mass.
Fishman, David Seymour	Sc.B.(E)	Providence
Fitzgerald, Edward James	A.B.	Huntington, N. Y.
Fitzgerald, Thomas Barker	A.B.	Milwaukee, Wis.
Flather, Charles Randolph	A.B.	Providence
Focarino, Joseph Allen	A.B.	Lodi, N. J.
Fogelson, Richard Charles	A.B.	Chicago, Ill.
Foley, John Robert	A.B.	Grosse Pointe Farms, Mich.
Forman, Edwin Noel	A.B.	Brooklyn, N. Y.
Forster, Stephen	A.B.	New York, N. Y.
Foster, Ronald Eldon	Sc.B.(E)	Noroton, Conn.
Fox, George Raymond, Jr.	A.B.	Riverside
Frank, Armin Henry	A.B.	Blanchester, Ohio
Fredette, Richard Chester	A.B.	Pawtucket
Freedlender, Arthur Elliott	A.B.	Haverhill, Mass.
Freeman, Donald Kenneth, Jr.	A.B.	Detroit, Mich.
Freese, Herman	Sc.B.(E)	Baldwin, N. Y.
Friedman, Alvin Emanuel	A.B.	New York, N. Y.
Fuger, Pierre Godfroy, Jr.	A.B.	Grosse Point Farms, Mich.
Fry, James Craig	Sc.B.(E)	Arlington Heights, Ill.
Fulton, Chandler Montgomery	A.B.	Naugatuck, Conn.
Fuschetti, Edward Alfred	A.B.	Summit, N. J.
Gabele, Carl Frederick, Jr.	Sc.B.(E)	Roslindale, Mass.
Gagliardi, James Peter	A.B.	Hartford, Conn.
Gainer, Harold Norman Lester, Jr.	A.B.	Forest Hills, N. Y.
Gallotta, Richard Arnold	A.B.	Providence
Galloway, Oliver Goldsmith	A.B.	Boston, Mass.
Gardiner, Charles Carroll	A.B.	Providence
Gardiner, Donald Stephen	A.B.	Needham Heights, Mass.
Gemma, Alfred Joseph	A.B.	Cranston
Gerould, Wayne Philip	A.B.	Waverly, N. Y.
Giusti, Gerald John	A.B.	East Providence
Goemans, John Walter	A.B.	Milwaukee, Wis.
Going, Joseph Burke	A.B.	Providence

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Gold, Daniel Peter	A.B.	Denville, N. J.
Golden, John Henry	A.B.	Braintree, Mass.
Goldenberg, Louis	A.B.	Brookline, Mass.
Golder, John Kenneth, Jr.	A.B.	Allwood Clifton, N. J.
Goodrum, Ralph Richard	A.B.	Fall River, Mass.
Gordon, Robert Frederick	A.B.	Lowell, Mass.
Gottelher, Barry Hugh	A.B.	New York, N. Y.
Goulet, Claude Bernard	A.B.	Cranston
Gray, Barry Wesley	A.B.	Pawtucket
Green, Nathaniel Drew	A.B.	Clayton, Mo.
Greene, Barry David	A.B.	New Haven, Conn.
Greene, Benjamin Russell	A.B.	Wellesley, Mass.
Greenstein, Howard Burt	A.B.	Cranston
Greer, James Bradford	A.B.	West Newton, Mass.
Griffin, David Hamlin	Sc.B.(C)	Falls Church, Va.
Griffin, James Henry	A.B.	Long Beach, Michigan City, Ind.
Grocott, James Murdoch	Sc.B.(E)	Ocean Grove, Mass.
Gumaskas, Ambrose Edward	A.B.	Providence
Hagan, Ralph Ernest, III	A.B.	Raynham Center, Mass.
Hakham, Elias Naji	A.B.	Tehran, Iran
Hale, Roger Loucks	A.B.	Wayzata, Minn.
Halkyard, Robert Carr	A.B.	Sharon, Mass.
Hamilton, Earl Dalton	A.B.	Providence
Hamilton, Philip Richardson	A.B.	Beaver, Pa.
Hardenbergh, Daniel Kingman	A.B.	Chappaqua, N. Y.
Harris, Richard Elton	A.B.	Riverside
Harrity, Peter Conrad	A.B.	Philadelphia, Pa.
Hassenfeld, Irwin Nathan	A.B.	Providence
Hatch, Lawrence Otis	A.B.	South Thomaston, Me.
Hatch, Paul Janson	Sc.B.(E)	West Hartford, Conn.
Hausman, Sanford Albert	A.B.	Hackensack, N. J.
Hazell, Roger Keith	Sc.B.(E)	Silver Spring, Md.
Hazlewood, Gordon Austin	A.B.	Warwick
Henry, Francis Joseph	Sc.B.(E)	East Providence,
Herzog, Samuel Adolphe	A.B.	Forest Hills, N. Y.
Hessenthaler, David	Sc.B.(E)	Providence
Hines, John Joseph	A.B.	Elmhurst, L. I., N. Y.
Hoffmann, Louis Robert, II	A.B.	Sea Girt, N. J.
Holmes, Thomas William, Jr.	A.B.	Fort Lauderdale, Fla.
Horowitz, Lewis Jay	A.B.	New York, N. Y.
Howard, John Arnold	Sc.B.(E)	Westminster, Mass.
Howard, Phillip Carl	Sc.B.(P)	Swampscott, Mass.
Hughes, Guy D'Oyly	A.B.	Clayton, Mo.
Hughes, Richard D'Oyly	A.B.	Clayton, Mo.
Humphreys, Kellogg Patton	Sc.B.(E)	Salem, Mass.
Hutchins, Edwin Merle, Jr.	A.B.	Schenectady, N. Y.
Ise, Robert Henry	A.B.	Providence
Iser, Bernard	A.B.	Brooklyn, N. Y.
Jackson, David Pingree	A.B.	Marblehead, Mass.
Jackson, James Wolfe	A.B.	Park Forrest, Ill.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Jacobs, Peter Leopold	A.B.	Woodmere, N. Y.
Jacobsmeier, William Edward	Sc.B.(E)	Portsmouth, N. H.
Jaggi, Frederick Lawrence	Sc.B.(C)	Oaklawn
Jeffers, John Herrick	A.B.	Providence
Jerome, Jeremiah James	A.B.	Yonkers, N. Y.
Johnson, Kurt William	A.B.	Derby, Conn.
Johnson, Robert Laurance	A.B.	Winchester, Mass.
Johnston, David Porter	A.B.	Waterbury, Conn.
Josephson, Harry Raymond	A.B.	Canton, Mass.
Joukowsky, Artemis Wolynsky	A.B.	Larchmont, N. Y.
Kane, Irving Joel	A.B.	Brookline, Mass.
Karnes, Seymour Gordon	Sc.B.(C)	Providence
Keane, Donald Joseph	A.B.	Stratford, Conn.
Keating, Bruce Creighton	Sc.B.(E)	Malverne, N. Y.
Keating, Richard Charles	A.B.	Fort Lee, N. J.
Keen, William	A.B.	Cynwyd, Pa.
Kehoe, Gerald Francis	A.B.	Providence
Kelley, James Robert	A.B.	Hyannisport, Mass.
Kelly, Albert Dunston, Jr.	A.B.	Foxboro, Mass.
Kendall, Richard Elkton	A.B.	Falmouth, Mass.
Kessler, Harold Irwin	A.B.	Providence
Keyworth, Edward Cornell, Jr.	A.B.	East Greenwich
Kilianski, Rudolf Paul	A.B.	Providence
King, Paul James Donald	A.B.	Scarsdale, N. Y.
King, Rudolph Henry	A.B.	Evanston, Ill.
Kingman, Stanley Russell, Jr.	A.B.	Arlington, Mass.
Kinter, Joseph Watson	A.B.	Indiana, Pa.
Kirby Peter Benaglia	A.B.	Shrewsbury, Mass.
Klein, Frank Heninger	Sc.B.(E)	Yonkers, N. Y.
Klein, Lawrence Morton	A.B.	Taunton, Mass.
Klenke, Robert Herman	Sc.B.(C)	Hungtington, N. Y.
Kluger, Sanford	A.B.	Patterson, N. J.
Knauff, Robert Philip	A.B.	New London, Conn.
Kneeland, Thomas Eugene, Jr.	A.B.	Winchester, Mass.
Koczak, Edward Joseph, Jr.	A.B.	Wallingford, Conn.
Kopper, William Bruce	A.B.	Princeton, N. J.
Kovalchick, Robert	Sc.B.(E)	Indiana, Pa.
Kraft, Quentin Guild	A.B.	Dover, Mass.
Kralik, Joseph John, III	A.B.	Newark, N. J.
Krieg, Edwin Holmes	Sc.B.(E)	Wellesley Hills, Mass.
Kritz, Arnold Herman	Sc.B.(P)	Providence
Kugler, Ernest Richard	A.B.	Valley Falls
La Bonte, Jovite, Jr.	A.B.	Providence
Lachmann, Norbert	A.B.	Montclair, N. J.
Lamb, Richard Youngblut	Sc.B.(E)	River Forest, Ill.
Lambright, Harold Raymond, Jr.	Sc.B.(E)	Hamden, Conn.
Lary, Edmund Charles	Sc.B.(E)	West Scarborough, Me.
Lasca, Norman Paul, Jr.	A.B.	Grosse Pointe, Mich.
La Tulippe, Edward Brendon	Sc.B.(E)	Fall River, Mass.
Leaska, Mitchell Alexander	A.B.	Putnam, Conn.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Le Blond, Charles J.	A.B.	Cincinnati, Ohio
LeBlond, Henry Edmour Joseph	A.B.	Pawtucket
Lederman, Theodore	A.B.	New York, N. Y.
Lee, Edward Lewis, Jr.	A.B.	Fort Washington, Pa.
Lee, Frederick	A.B.	Stockton, Calif.
Leland, Robert Farnham	A.B.	Elgin, Ill.
Leva, John Ambrose	A.B.	Braintree, Mass.
Levenson, Alan Joel	A.B.	Portland, Me.
Levesque, Norman Paul	A.B.	Providence
Levy, Howard Milton	Sc.B.(E)	Providence
Lewis, Edwin Francis, Jr.	Sc.B.(E)	Andover, Mass.
Lewis, William Edward	Sc.B.(E)	Greenfield, Mass.
Lewry, Arthur Tomes	A.B.	Taunton, Mass.
Linney, William Jette	A.B.	Plattsburg, N. Y.
Lohr, James Barnhart	A.B.	Somerset, Pa.
Loomis, Raymond James	Sc.B.(E)	Pawtucket
Lopatin, Myles White	A.B.	Worcester, Mass.
Love, Arthur MacBride, Jr.	A.B.	Wellesley Hills, Mass.
Lovell, Bruce Walton	Sc.B.(E)	Wethersfield, Conn.
Lowry, Donald Grey	A.B.	Westwood, Mass.
Lubin, Sheldon Bertram	A.B.	Chestnut Hill, Mass.
Ludington, Martin Lammert	A.B.	Clayton, Mo.
Luque, William John	A.B.	Guayquil Quito, Ecuador
Lutes, Philip Haynes	A.B.	Woonsocket
Luther, Clifford Joseph	Sc.B.(E)	Plainsboro, N. J.
Lyons, Thomas Tolman	A.B.	Cambridge, Mass.
MacLeish, James Walter	A.B.	East Weymouth, Mass.
Malzan, Albert Hamlin	A.B.	Falmouth, Mass.
Mansfield, Bruce Alexander	A.B.	Wellesley, Mass.
Marcoux, Leo	Sc.B.(E)	Pawtucket
Marcus, Burton Seymour	A.B.	Great Neck, N. Y.
Marean, David Francis	Sc.B.(E)	Swampscott, Mass.
Martin, Andrew Bonner	A.B.	Schenectady, N. Y.
Mastrobuono, Richard Louis	A.B.	Lafayette
Matteodo, Eugene Anthony	A.B.	Providence
Mauran, William Walter	A.B.	Providence
McCarthy, Robert Emmett	A.B.	Tuckahoe, N. Y.
McCulloch, Eugene Franklin, Jr.	A.B.	Needham Heights, Mass.
McDaniels, John Francis	A.B.	Raymond, N. H.
McGinn, John Edward	A.B.	Providence
McGuinness, James Patrick	Sc.B.(E)	Rumson, N. J.
McKay, Paul Harold	A.B.	West Hartford, Conn.
McKenney, Richard Gove	A.B.	Beverly, Mass.
Mears, James William	Sc.B.(E)	Springfield, Mass.
Mehler, Philip Robert	A.B.	Great Neck, N. Y.
Melendy, Herbert Edward	A.B.	Farmington, Me.
Merritt, Charles Wesley, Jr.	A.B.	New York, N. Y.
Merson, David Ward	A.B.	Lewiston, Me.
Midwood, George Albert	A.B.	West Barrington
Milbauer, John Patrick	A.B.	Millburn, N. J.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Miller, Albert Alan	A.B.	New York, N. Y.
Mitchell, Neal Burgess, Jr.	Sc.B.(E)	Salem, Mass.
Moberger, William Harold	A.B.	Providence
Moir, Stewart Hay	A.B.	Cambridge, Mass.
Morley, Kenneth Cameron, Jr.	A.B.	Maplewood, N. J.
Mosher, Robert Allen	Sc.B.(E)	Weston, Mass.
Mullin, Martin John, Jr.	A.B.	Waban, Mass.
Murphy, Christopher Huyck	A.B.	New Canaan, Conn.
Nachajski, Peter John	Sc.B.(E)	Danbury, Conn.
Nashel, Richard Bernard	Sc.B.(E)	Teaneck, N. J.
Nathanielsz, Ault Mellor	A.B.	Richmond Hill, N. Y.
Nelson, William Russell	A.B.	Leonia, N. J.
Nielsen, Carl Ernest, Jr.	Sc.B.(E)	East Bridgewater, Mass.
Noble, William Richard, Jr.	A.B.	Hackensack, N. J.
Norigian, Gerald Gregory	A.B.	Providence
Norton, Robert Alexander	A.B.	Marblehead, Mass.
Nothelfer, Richard Albert	A.B.	Dedham, Mass.
Nunes, Anthony Norbert	A.B.	Warren
Oberbeck, Paul Armin	Sc.B.(P)	University City, Mo.
O'Brien, Philip Joseph	A.B.	Gardner, Mass.
O'Dowd, Michael	A.B.	Tappan, N. Y.
Olton, Tinley Lionel	Sc.B.(E)	Providence
O'Neill, John Thomas, Jr.	A.B.	Red Hook, N. Y.
O'Neil, Richard Gregory	A.B.	Cranston
Orr, John Clifton, III	A.B.	Mount Kisco, N. Y.
Ott, David Fentress	A.B.	Lake Forest, Ill.
Otto, George Alywin	A.B.	Glen Head, N. Y.
Packard, George Quincy, Jr.	A.B.	Melrose, Mass.
Page, Josiah Bartlett	A.B.	Scarsdale, N. Y.
Page, James Randolph	A.B.	New York, N. Y.
Panarelli, Joseph Emilio	A.B.	Providence
Parker, Gordon Lancaster, Jr.	A.B.	Providence
Parrott, Arthur Leonard	A.B.	Fairfield, Conn.
Pascal, David	A.B.	Woonsocket
Patey, Reuben Henry, Jr.	A.B.	White Plains, N. Y.
Payne, William Leonard	Sc.B.(C)	South Weymouth, Mass.
Pearson, John Davie	Sc.B.(P)	Swarthmore, Pa.
Peavy, Lester Roy	A.B.	Bridgeport, Conn.
Pelen, Paul Thomas	Sc.B.(E)	Providence
Pemberton, William Peter	A.B.	Providence
Perkins, Craig Powers	A.B.	Rochester, N. Y.
Perrino, Albert Carl	Sc.B.(C)	Cranston
Peterson, David Dean	Sc.B.(E)	Edgewood
Petterson, Lewis Waldemar, Jr.	A.B.	Edgewood
Philippi, Peter Swain	Sc.B.(E)	Newark, N. J.
Pienkny, Seymour	A.B.	Far Rockaway, N. Y.
Pietro, William Edward	A.B.	Worcester, Mass.
Place, Graham Browning	A.B.	Providence
Pombo, Melvin Martin	Sc.B.(E)	Seekonk, Mass.
Porter, Bruce Fairchild	A.B.	West Haven, Conn.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Prescott, Gary Owen	A.B.	Newport
Price, Robert Kreamer	A.B.	Woodbury, N. J.
Prifty, Robert James	A.B.	Waterbury, Conn.
Prince, Frank Charles	A.B.	New York, N. Y.
Pringle, William Duncan	A.B.	New York, N. Y.
Rakatansky, Herbert	A.B.	Providence
Randall, Edward Vincent, Jr.	A.B.	Monroe, Conn.
Randazza, Joseph Peter	A.B.	Gloucester, Mass.
Randazzo, Anthony Philip	A.B.	Passaic, N. J.
Ray, Louis Charles	Sc.B.(P)	Providence
Read, Robert Wheaton	A.B.	Seekonk, Mass.
Redding, Conway Holmes	A.B.	Hampton, Va.
Reese, Louis Henry	A.B.	Scranton, Pa.
Regan, Frank Clinton	A.B.	Dorchester, Mass.
Rego, Francis Carmine, Jr.	Sc.B.(E)	Hamden, Conn.
Resnic, Harold Irving	A.B.	Holyoke, Mass.
Revis, David Jay	A.B.	Mattapan, Mass.
Reynolds, David Wesley	Sc.B.(C)	Manchester, N. H.
Ricci, Raymond Edward	Sc.B.(E)	Cranston
Richards, Stephen, Jr.	Sc.B.(E)	New York, N. Y.
Richards, Wayne Herbert	A.B.	Versailles, Conn.
Rider, Kenneth Graham Salkeld	Sc.B.(E)	Brightwaters, L. I., N. Y.
Ridley, Clifford Anthony	A.B.	Wilton, Conn.
Robinson, John Stuart	A.B.	West Newton, Mass.
Rogers, James Harriman, Jr.	A.B.	Winnetka, Ill.
Romano, Jerry Anthony	A.B.	Medford, Mass.
Romano, William Scudder	Sc.B.(P)	Northport, N. Y.
Rona, Peter Arnold	A.B.	New York, N. Y.
Rosenbaum, David Mark	Sc.B.(P)	Brookline, Mass.
Rosenberg, Stephen	A.B.	Baltimore, Md.
Rosenblum, Jerome Jay	A.B.	New York, N. Y.
Ross, Harold Stanley	A.B.	Yonkers, N. Y.
Roth, Alan	A.B.	New York, N. Y.
Rubin, Robert Michael	A.B.	New York, N. Y.
Russell, William Walker, Jr.	A.B.	East Providence
Ryder, Alton Vernon	Sc.B.(P)	Bristol, Conn.
Sackett, Richard Edwin	A.B.	Greenwich, Conn.
Sackey, James Alfred Attram Kofi	Sc.B.(C)	Accra Gold Coast
Saharian, Alexander	Sc.B.(E)	Providence
Samuels, Jack Donald	A.B.	New York, N. Y.
Sanford, Timothy Fox	A.B.	New Canaan, Conn.
San Soucie, William Bryce	A.B.	Pasoag
Sapir, Daniel Gustave	A.B.	Forest Hills, N. Y.
Schaffer, Lewis Adam	A.B.	East Orange, N. J.
Scharf, Ronald Mann	A.B.	New York, N. Y.
Schneider, Robert Albert	A.B.	Newtonville, Mass.
Schultz, William Bradford, Jr.	Sc.B.(E)	Sturbridge, Mass.
Schwartz, Ronald Alan	A.B.	Fall River, Mass.
Scudder, John Paul	A.B.	Morristown, N. J.
Sulco, Mario Joseph	A.B.	Westerly

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Seid, John Jacob	A.B.	Essex, Conn.
Semel, Daniel Mindlin	A.B.	Cedarhurst, N. Y.
Shaffer, Frank Holmes, III	Sc.B.(E)	Cincinnati, Ohio
Shanley, Richard Allen	A.B.	Hamden, Conn.
Shatkin, Aaron Joseph	A.B.	E. Greenwich
Sheffer, Joseph	A.B.	Chestnut Hill, Mass
Sheldon, Arthur Keith	A.B.	Providence
Shutkin, Peter Michael	A.B.	Milwaukee, Wis.
Siegel, Sheldon Proctor	A.B.	Brookline, Mass.
Silverman, Donald Arthur	A.B.	Brookline, Mass.
Silverstein, Michael Alan	A.B.	Providence
Simpson, Joseph Warren, III	A.B.	Milwaukee, Wis.
Sinclair, Donald McKinnon	A.B.	Milwaukee, Wis.
Sinclair, Ian Alexander	A.B.	Milwaukee, Wis.
Singer, Roger Nelson	A.B.	Rahway, N. J.
Sjostrom, John William	A.B.	Wildwood, N. J.
Sloane, Barry Locke	A.B.	Chestnut Hill, Mass.
Smiles, Christopher, Jr.	A.B.	Wilton, Conn.
Smith, Arnold Perry	Sc.B.(E)	Norwichtown, Conn.
Smith, Douglas Albertson	Sc.B.(E)	Cranford, N. J.
Smith, John Allen	Sc.B.(E)	Riverside
Smith, Langdon Spaulding	A.B.	East Providence
Snow, Kennedy Bruce	A.B.	Boulder, Col.
Solimine, Joseph, Jr.	A.B.	Essex Fells, N. J.
Soloway, Joseph	A.B.	Jamaica, N. Y.
Spiller, Donald Gibson	A.B.	Sharonville, Ohio
Stearns, John Sargent	A.B.	Wellesley Hills, Mass.
Stephens, Nicholas Meriwether	Sc.B.(E)	Newport
Sterling, Robert Lee, Jr.	A.B.	Shaker Heights, Ohio
Stewart, Michael Gregory	A.B.	Florham Park, N. J.
Stockwell Frank Whitten, Jr.	Sc.B.(E)	Newburyport, Mass.
Stowik, William Joseph	Sc.B.(E)	Lonsdale
Straub, George Hyde, Jr.	Sc.B.(E)	Elkins Park, Pa.
Strickland, Richard Alan	Sc.B.(E)	Woonsocket
Sturtevant, Thomas Clark	A.B.	Belmont, Mass.
Sullivan, Cornelius Joseph, Jr.	A.B.	Fall River, Mass.
Sullivan, Philip Paul	A.B.	Portsmouth
Sutherland, Reynolds Jay	A.B.	Yonkers, N. Y.
Swain, James Edgar, Jr.	A.B.	Allentown, Pa.
Swanson, Charles William	A.B.	Tenafly, N. J.
Swartz, Robert Phillip	A.B.	Milford, Mass.
Sweeney, Thomas Stratton	A.B.	Providence
Sydney, Irwin Lee	A.B.	Providence
Tanenbaum, Basil Samuel	A.B.	Providence
Terrill, Stuart Fairchild, Jr.	A.B.	Brookfield Center, Conn.
Thomas, Benjamin Morris	A.B.	Great Neck, N. Y.
Thompson, David Gale	A.B.	Ilion, N. Y.
Thompson, Richard Lawton	A.B.	Auburndale, Mass.
Thompson, Thomas Donald	A.B.	Auburndale, Mass.
Thorpe, Richard Macy	A.B.	Pittsburgh, Pa.

LIST OF STUDENTS: SOPHOMORES

NAME	DEGREE	RESIDENCE
Tingley, Frederick Maryon	A.B.	Bristol
Titelbaum, Jules Arnold	A.B.	Brooklyn, N. Y.
Tortolani, Raymond Michael	A.B.	Providence
Tower, Eugene Nichols	A.B.	Cohasset, Mass.
Trippett, Peter Rivers	Sc.B.(C)	East Orange, N. J.
Trost, Frederick Felix	A.B.	Red Hook, N. Y.
Trott, Donald Irwin	A.B.	Jamaica, N. Y.
Trowbirdge, Augustus	A.B.	Chestnut Hill, Pa.
Tutless, Peter Joseph	A.B.	Seekonk, Mass.
Tuttle, Howell Robertson	A.B.	Darien, Conn.
Uhl, Donald Peter	A.B.	Plandome, L. I., N. Y.
Underhill, Christopher Sands	A.B.	Sandy Hook, Conn.
Usdan, Michael David	A.B.	Bronx, N. Y.
Valicenti, Richard Edward	A.B.	Flushing, N. Y.
Vanderhoop, John Occooch	A.B.	Gay Head, Mass.
Vandersip, Henry Annis	Sc.B.(E)	Providence
Vandervliet, Wesley Maurice	A.B.	Groton, Conn.
Van Loon, Hendrik Willem	A.B.	Wilton, Conn.
Veaudry, Ronald Robert	A.B.	Pawtucket,
Vesely, Richard John	A.B.	Cleveland, Ohio
Walls, Alden Robert, Jr.	A.B.	Atlanta, Ga.
Walsh, Donald Eugene	A.B.	North Providence
Warner, Russell Eugene	A.B.	Castle on Hudson, N. Y.
Wasicko, William James	A.B.	Yonkers, N. Y.
Watts, Robert Allen	A.B.	Garden City, N. Y.
Weaver, Clarence Gerald	A.B.	Providence
Webb, Robert Lewis	A.B.	Cranston
Weber, Walter Jacob	Sc.B.(E)	Willtown, N. J.
Weddell, Arthur, Jr.	A.B.	Rumford
Weingarten, Charles Henry	Sc.B.(C)	Forest Hills, N. Y.
Weiss, Hilton Miller	Sc.B.(C)	Providence
Wells, Walter Neal	A.B.	Reading, Mass.
Wescott, William Albert	Sc.B.(E)	Little Silver, N. J.
West, Edward James	A.B.	Providence
West, Theodore Lee	A.B.	Teaneck, N. J.
Westcote, Walter Murray	A.B.	Glen Ridge, N. J.
Whalen, Richard Edward	A.B.	Holyoke, Mass.
Wheeler, William March	Sc.B.(C)	Rochelle Park, N. J.
White, Stephen Turner	A.B.	Menlo Park, Calif.
Whittemore, Allen West	A.B.	St. Louis, Mo.
Whittemore, William Haarstick	Sc.B.(E)	St. Louis, Mo.
Wilenzik, Marvin Leonard	A.B.	Barnesboro, Pa.
Wiley, John Pennock	Sc.B.(E)	Lincoln, Mass.
Williams, Archie	A.B.	Springfield, Mass.
Williams, Richard Ellis	Sc.B.(E)	Wyoming, Pa.
Williams, Roger Bennett	A.B.	Edgewood
Willis, David Scoville	A.B.	Glens Falls, N. Y.
Wojcicki, Andrew Adalbert	Sc.B.(C)	Washington, D. C.
Wolins, Donald Morton	A.B.	Riverhead, N. Y.
Wood, John Howard	A.B.	Lake Bluff, Ill.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Worsley, John Ashton	A.B.	Pawtucket
Wragg, Dodd Benham	A.B.	New London, Conn.
Yanni, Frank Richard	A.B.	Brockton, Mass.
Youman, Stephen Daniel	Sc.B.(E)	Medway, Mass.
Zimmerman, Robert Fairchild, Jr.	A.B.	Convent, N. J.
Zinn, Theodore	A.B.	Manhasset, N. Y.
Zych, Leonard Peter	A.B.	New Bedford, Mass.

FRESHMEN: CLASS OF 1957

Abbatomarco, Philip Francis	Sc.B.(E)	Providence
Abramowitz, Mark	A.B.	Brooklyn, N. Y.
Abramson, David Bruce	A.B.	Brookline, Mass.
Ackerman, Robert Harold	A.B.	New York, N. Y.
Adamczyk, Edmund John	Sc.B.(E)	Adams, Mass.
Adams, Arthur Gray, Jr.	A.B.	Bergenfield, N. J.
Aho, Richard John	Sc.B.(E)	Lunenburg, Mass.
Alexander, John William	A.B.	Chehalis, Wash.
Allin, Edward Francis	A.B.	North Providence
Almallah, Moyassar Yahia	Sc.B.(E)	Mosul, Iraq
Alves, Daniel Joseph	A.B.	Pawtucket
Anderson, Ralph Pierce	Sc.B.(E)	West Roxbury, Mass.
Andrew, Donald Gibson	A.B.	Warwick
Andrews, Paul	A.B.	Worcester, Mass.
Arcaro, Harold Conrad, Jr.	A.B.	Providence
Aronoff, Stephen Jay	A.B.	New York, N. Y.
Arsenault, Donald William	A.B.	Slatersville
Artinian, Edward	A.B.	Pawtucket
Backhaus, George John	Sc.B.(C)	New Rochelle, N. Y.
Bain, Frank Crook	A.B.	Pawtucket
Baker, Ronald Edward	A.B.	Tuckahoe, N. Y.
Baranyay, William George, Jr.	A.B.	Linden, N. J.
Barbuscio, Frank Donald	Sc.B.(C)	East Providence
Barker, Richard Canfield	A.B.	Wethersfield, Conn.
Barnes, Irving Charles	A.B.	Westfield, Mass.
Barstow, Peter Tucker	A.B.	Sioux City, Iowa
Bartlett, Arthur Clarke	A.B.	Wakefield, Mass.
Basse, Albert, Jr.	A.B.	Belmont, Mass.
Bates, Robert Swinton	Sc.B.(E)	Riverside
Bearce, Noel Sayles	A.B.	Pleasantville, N. Y.
Beattie, John Boyer	A.B.	Scarsdale, N. Y.
Beeman, John Prentice	A.B.	Litchfield, Conn.
Behringer, Fred Dietz	A.B.	Ambler, Pa.
Bence, Richard Lorin	A.B.	Somerset, Mass.
Bernstein, Henry Sack	A.B.	West Hartford, Conn.
Besser, James Russell	A.B.	Ho Ho Kus, N. J.
Bevins, Edwin Leon	A.B.	St. Albans, Vt.
Bierwirth, Arthur	A.B.	Linden, N. J.
Bird, Charles Stephen	A.B.	East Rockaway, N. Y.
Bird, Donald Ware	Sc.B.(P)	San Antonio, Texas

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Bird, John Peter	Sc.B.(E)	Waltham, Mass.
Bird, Robert Arthur, Jr.	Sc.B.(E)	Valley Falls
Bitting, George Capen	A.B.	St. Louis, Mo.
Blake, Richard Albert	A.B.	Riverside
Blank, Burton Warren	A.B.	New York, N. Y.
Bliss, Bruce James	A.B.	North Attleboro, Mass.
Bliss, Dan Michael	A.B.	Providence
Bollow, William Russell	A.B.	Downers Grove, Ill.
Bolotow, Norman Jay	A.B.	Providence
Bolton, William Arthur Peter	A.B.	Glenside, Pa.
Booth, Anthony Crawford	Sc.B.(E)	Rumford
Borton, Roland Cameron	A.B.	Scarsdale, N. Y.
Bower, Richard Hamilton	A.B.	Bronxville, N. Y.
Brandli, John Danner, Jr.	A.B.	Short Hills, N. J.
Bride, William Thomas, Jr.	A.B.	Andover, Mass.
Brody, Robert Marvin	A.B.	New York, N. Y.
Brody, Robert Stanley	A.B.	Haverhill, Mass.
Brogunier, Joseph Edward	A.B.	Hagerstown, Md.
Brook, Leonard Benjamin	A.B.	New York, N. Y.
Brosseau, William Alfred	A.B.	Chicopee, Mass.
Brown, Frank Abbott, Jr.	A.B.	Evanston, Ill.
Brown, Harold Frederick, Jr.	Sc.B.(E)	Newton Centre, Mass.
Brown, Macomb Duff	A.B.	Bellevue, Pa.
Brown, Paul Patten	Sc.B.(E)	Rumford
Brust, Norman Terry	Sc.B.(E)	Oceanside, N. Y.
Buchanan, Peter Stuart	Sc.B.(E)	West Cheshire, Conn.
Buckley, Daniel Aloysius, Jr.	A.B.	Brockton, Mass.
Bullis, Robert Howard	Sc.B.(E)	Troy, N. Y.
Bullock, Donald Paige	A.B.	Hatchville, Mass.
Buote, James Francis	A.B.	Cranston
Burke, Anthony Kyrle	A.B.	Tuxedo, N. Y.
Burke, William Gerald, Jr.	A.B.	Hicksville, N. Y.
Campbell, Marshall Fields, Jr.	A.B.	Beverly Farms, Mass.
Capalbo, William Norman	A.B.	Greenville
Capen, Samuel Wacker	A.B.	New York, N. Y.
Carleton, Scott Oberle	A.B.	Oradell, N. J.
Carlin, Richard Lewis	Sc.B.(C)	Plymouth, Mass.
Carlson, Raymond Arthur	Sc.B.(E)	Providence
Carman, William Garner	A.B.	Islip, N. Y.
Carnabuci, Joseph Serafino, Jr.	A.B.	Brockton, Mass.
Carpenter, Bruce Hooper, Jr.	A.B.	Balboa, Box 2035, Canal Zone
Carver, Richard David	A.B.	Elkton, Md.
Casimir, Anthony Stephen	A.B.	Big Indian, N. Y.
Cerasoli, James Robert	A.B.	Clairton, Pa.
Chabot, Paul Armand	A.B.	Woonsocket
Chagnot, Richard Anthony	A.B.	Needham, Mass.
Chandler, John Rust, Jr.	A.B.	Cleveland, Ohio
Chappell, Oliver Spaulding	Sc.B.(P)	Willimantic, Conn.
Choate, John Hyatt, III	Sc.B.(E)	Katonah, N. Y.
Christiansen, Paul Herbert	A.B.	Shortsville, N. Y.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Churbuck, Thomas Vinton	Sc.B.(C)	Manhasset, N. Y.
Chuvala, Raymond Daniel	Sc.B.(C)	Danbury, Conn.
Cianciolo, Lawrence Frank	Sc.B.(E)	Arlington, Mass.
Clapp, Nicholas Roger	A.B.	Providence
Clark, John Warden	A.B.	Baltimore, Md.
Clark, Richard Perry	A.B.	Wakefield
Clarke, John Caleb Forman	A.B.	New Brunswick, N. J.
Cleghorn, James Leon	A.B.	Pawtucket
Clemetson, John Anton	Sc.B.(E)	Prairie View, Ill.
Cohen, James Philip	A.B.	New York, N. Y.
Coken, Morton Lloyd	A.B.	Providence
Colangelo, Theodore Donald	A.B.	East Norwalk, Conn.
Colinan, David	A.B.	Saylesville
Colombo, Donald Anthony	A.B.	Valhalla, N. Y.
Conde, James Callahan	Sc.B.(E)	Andover, N. Y.
Connell, Robert Edward	A.B.	Winthrop, Mass.
Conner, John Francis	A.B.	New York, N. Y.
Conron, Michael Anthony	A.B.	Providence
Corr, Peter Sarsfield, Jr.	Sc.B.(E)	Providence
Corrigan, James Nicholas	A.B.	Providence
Corrigan, Robert Anthony	A.B.	Springfield, Mass.
Cota, Richard Edward	Sc.B.(E)	Cranston
Cottrell, Stephen Richard	A.B.	Detroit, Mich.
Coupe, Alan Gregory	Sc.B.(C)	Manville
Cowan, Robert Allan	Sc.B.(E)	Cleveland, Ohio
Cowen, Edwin Alfred, Jr.	A.B.	West End, N. J.
Cowles, George Welsh	A.B.	Glens Falls, N. Y.
Cox, James Warren	Sc.B.(E)	Hamburg, N. Y.
Cramer, John Oliver	A.B.	Old Saybrook, Conn.
Crews, Richard Charles	A.B.	Ardsley, Pa.
Cuddy, Joseph Michael	A.B.	Pawtucket
Cutler, Stephen David	A.B.	Quincy, Mass.
Day, Clive Cameron, Jr.	A.B.	Short Hills, N. J.
Day, Richard Willard	Sc.B.(E)	Rumford
Dean, Britten	A.B.	Guilderland, N. Y.
Dean, Phillips Vose, Jr.	Sc.B.(E)	Guilderland, N. Y.
De Cesare, John Anthony	A.B.	Tuckahoe, N. Y.
Delaney, George Bernard, Jr.	A.B.	Walpole, Mass.
Dennehy, Thomas Morris	A.B.	Lake Forest, Ill.
Dennis, Robert Capen	A.B.	Albany, N. Y.
Denny, William Murdock, Jr.	Sc.B.(C)	Schenectady, N. Y.
Devereaux, Peter Warfield	A.B.	Barrington, Ill.
Dickert, Clarence Stewart	Sc.B.(E)	Providence
Dimond, Renwick DeGroat	A.B.	New York, N. Y.
Doctor, Kuno Karl Joachim	A.B.	Providence
Driscoll, James Raymond	A.B.	Lee, Mass.
Dumaine, Dudley Bradley	A.B.	Weston, Mass.
Dunham, Arthur, III	A.B.	Fremont, Neb.
Dunlap, Daniel Cummings	Sc.B.(E)	Lexington, Mass.
Dunleavy, Raymond Edward	A.B.	Bronxville, N. Y.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Dunnan, Bruce Turner	A.B.	Lexington, Mass.
Eckel, Karl Matthew	A.B.	Scotia, N. Y.
Edwards, Daniel Jay	Sc.B.(P)	Brightwaters, L. I., N. Y.
Eisentrager, Robert William	A.B.	New York, N. Y.
Elliott, Howard, Jr.	A.B.	Clayton, Mo.
Espinola, Ronald Paul	Sc.B.(P)	Providence
Esterline, John Walter, III	A.B.	New Augusta, Ind.
Etscovitz, Lional Potter	A.B.	Houlton, Me.
Evans, Thomas Lloyd	A.B.	Eire, Pa.
Fahey, John Joseph, Jr.	Sc.B.(E)	East Providence
Fake, Peter Herbert	A.B.	Paramus, N. J.
Farrell, Walter Joseph	A.B.	Harrisburg, Pa.
Feiten, Paul Marsh	Sc.B.(E)	Atherton, Calif.
Ferguson, Theodore Parkman, Jr.	Sc.B.(E)	Norwood
Fernald, Frederick Gordon	Sc.B.(E)	Verona, N. J.
Feuchtwanger, Joseph, III	A.B.	Scarsdale, N. Y.
Fialco, Marvin Joshua	A.B.	Cincinnati, Ohio
Finch, Eugene Joseph	Sc.B.(E)	Providence
Fishback, James Frederick	A.B.	Bethesda, Md.
Fishkin, Alan Edward	Sc.B.(P)	Wakefield, Ohio
Fleisig, Norbert	A.B.	Providence
Foley, Frank McRandle	A.B.	Providence
Fortner, William Rogers	A.B.	Euclid, Ohio
Foster, James Milton	A.B.	Halesite, N. Y.
Fraizer, George Alexander, Jr.	Sc.B.(E)	Providence
Frank, Richard Leo	A.B.	Canton, Ohio
Frank, Willard Chabot, Jr.	A.B.	Hamburg, N. Y.
Franz, Paul Bradford	Sc.B.(E)	Rye, N. Y.
Frattali, Richard Wildon	A.B.	Groton, Conn.
Frazier, Russell Kemp	A.B.	Yonkers, N. Y.
Freeman, Robert Arthur	A.B.	Villanova, Pa.
Freund, William O. H., Jr.	A.B.	Shaker Heights, Ohio
Fries, Walter Kenneth	Sc.B.(E)	New Haven, Conn.
Fronapfel, Joseph Bernard, III	Sc.B.(E)	Belmar, N. J.
Fulton, Robert Lester	Sc.B.(C)	East Weymouth, Mass.
Fusca, Vincent James	A.B.	Pittsburgh, Pa.
Fusco, Richard Anthony	A.B.	Aliquippa, Pa.
Gallant, John Joseph	Sc.B.(E)	Riverside
Ganz, Elliot Joseph	A.B.	Providence
Gardner, Glen Tilton	A.B.	Larchmont, N. Y.
Garland, John Alan, Jr.	A.B.	New Canaan, Conn.
Garrett, Scott Lee	Sc.B.(E)	Niles, Ohio
Gatti, Anthony Roger	Sc.B.(C)	Providence
Geraghty, Phillips Robert	A.B.	Norwood, Mass.
Geremia, Michael Charles	A.B.	North Providence
Gersky, Robert Henry	A.B.	Tarry town, N. Y.
Gerstein, Joseph Franklin	A.B.	Brookline, Mass.
Giddings, Jack Edwards	A.B.	Manchester Center, Vt.
Gillmar, Stanley Frank	A.B.	Honolulu, Hawaii
Ginther, Joseph Rawlings, Jr.	A.B.	Norristown, Pa.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Giordano, Robert Joseph	A.B.	Rutherford, N. J.
Giovine, Alfred Norman, Jr.	A.B.	Cranston
Glassman, George Morton	A.B.	New York, N. Y.
Glover, Gordon Gray	A.B.	Simsbury, Conn.
Gluck, Barry Jay	A.B.	Cedarhurst, N. Y.
Goddard, John Calvin	Sc.B.(C)	Needham Heights, Mass.
Godfrey, Richard Dudley	A.B.	Rye, N. Y.
Godshall, Douglas Reed	Sc.B.(E)	Collegeville, Pa.
Goff, Robert Hathaway, Jr.	A.B.	Providence
Gold, Benson Peter	A.B.	Brooklyn, N. Y.
Goldsmith, James Alfred, III	A.B.	Westport, Conn.
Gomez, Joaquin Carlos	A.B.	Cali, Colombia, South America
Goodman, Gordon Lee	Sc.B.(E)	Providence
Goodwin, Don Fielding	Sc.B.(E)	Cranston
Gordon, Alan Mayer	Sc.B.(E)	Paterson, N. J.
Gordon, Charles Fox, Jr.	Sc.B.(E)	El Paso, Tex.
Gordon, Richard William	A.B.	New Hyde Park, N. Y.
Gorman, Robert Herancourt	A.B.	Wyoming, Ohio
Gould, John Philip	Sc.B.(E)	Highland Park, Ill.
Grace, Nathan Myron	A.B.	Worcester, Mass.
Grafton, Robert Bruce	Sc.B.(E)	Wakefield, Mass.
Gray, Garland Alonzo, Jr.	Sc.B.(E)	Chelsea, Mass.
Greene, Gordon Hazard	A.B.	East Greenwich
Greene, Nathanael	A.B.	Providence
Gregory, George Martin	A.B.	Providence
Greif, Kenneth Lee	A.B.	New York, N. Y.
Griess, William Ernest, Jr.	A.B.	Cincinnati, Ohio
Groves, George Shaw	A.B.	Glenshaw, Pa.
Gunderson, James Tucker	A.B.	Gibsonia, Pa.
Gurney, Peter	A.B.	Lakeville, Conn.
Hale, John Francis	A.B.	Lonsdale
Hale, Robert Lee	A.B.	Erie, Pa.
Hambuchen, James Ernest	Sc.B.(P)	Huntington, L. I., N. Y.
Hamilton, Hugh Ford-Smith	A.B.	Baldwin, N. Y.
Hanley Jerome Richard	Sc.B.(P)	Loudonville, N. Y.
Hanna, Glenn	A.B.	Leonia, N. J.
Hannon, Fred William	A.B.	Shrewsbury, N. J.
Hanoian, Kerrigan George	A.B.	Providence
Harmon, James Allen	A.B.	Mamaroneck, N. Y.
Harmon, John McLean	Sc.B.(E)	Pittsburgh, Pa.
Harrison, John Gerald	A.B.	Council Bluffs, Iowa
Haslam, William Lester	A.B.	East Providence
Haverl, Ronald Anton	Sc.B.(E)	Stratford, Conn.
Hayes, William Abbott, Jr.	A.B.	Springfield, Mass.
Hazelhurst, Thomas Edgar	A.B.	Providence
Heilbraun, Martin	A.B.	Brooklyn, N. Y.
Helgeland, Walter	Sc.B.(C)	New Bedford, Mass.
Hellstrom, Robert Gordon	A.B.	West Hartford, Conn.
Hesslein, Thomas George	A.B.	Chappaqua, N. Y.
Hill, Morton Charles	A.B.	Bridgeton, N. J.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Hill, Robert Winthrop, Jr.	Sc.B.(E)	Elizabeth, N. J.
Hills, Francis Joseph	A.B.	Rahway, N. J.
Hills, John Parker	A.B.	West Yarmouth, Mass.
Hirst, Arthur Ralph	A.B.	Cranston
Hitt, Robert Kirkbribe	A.B.	Hamden, Conn.
Hoffman, John Hardie	Sc.B.(E)	Lombard, Ill.
Hoffner, Burton Paul	A.B.	Arverne, N. Y.
Holden, Kenneth George	Sc.B.(C)	Summit, N. J.
Holleman, James Maxey	A.B.	Tulsa, Okla.
Hollitscher, Peter John	A.B.	New Rochelle, N. Y.
Holt, Marmaduke Burrell, III	A.B.	Denver, Col.
Homer, Stephen Bartlett	A.B.	Bethlehem, Pa.
Hood, Ralph Henderson	A.B.	Philadelphia, Pa.
Horner, Winfield Grier	A.B.	Tarrytown, N. Y.
Howe, Stephen Scott	A.B.	Sudbury, Mass.
Huber, Paul Antone	A.B.	Hollis, N. Y.
Hudson, Royal Carlton, Jr.	Sc.B.(C)	Coventry
Hudson, William Charles	A.B.	East Rockaway, N. Y.
Huffman, James Wylie, Jr.	A.B.	Columbus, Ohio
Humeston, Frederick Leon	A.B.	Danbury, Conn.
Hummerstone, Robert George	A.B.	Manhasset, N. Y.
Hurley, Thomas Joseph, Jr.	Sc.B.(C)	West Haven, Conn.
Huttner, Donald Jay	A.B.	Denver, Col.
Imm, Martin Hilmar, Jr.	A.B.	St. Paul, Minn.
Ionata, Richard Andrew	Sc.B.(E)	Providence
Irwin, Richard Edward	Sc.B.(E)	Seekonk, Mass.
Jacobson, Allan Lewis	A.B.	Providence
Jacobus, Lee Andree	A.B.	West Orange, N. J.
Jannarone, Philip	Sc.B.(E)	Neptune, N. J.
Janssen, Thomas Bennett	A.B.	Bronxville, N. Y.
Janssen, Webster Elliot	A.B.	Bronxville, N. Y.
Johnson, Conrad Philip	A.B.	Worcester, Mass.
Johnson, David Kimball	A.B.	Melrose, Mass.
Jones, Courtney Shepherd	Sc.B.(P)	Hampton, Va.
Jones, Edward Thomas	A.B.	Brockton, Mass.
Jones, Ernest Richard	A.B.	Gloversville, N. Y.
Jordan, Richard Charles	A.B.	Fair Lawn, N. J.
Jordan, Theodore Foster, Jr.	A.B.	Mineola, N. Y.
Just, John Francis	A.B.	Donora, Pa.
Kaplan, Alfred Richard	A.B.	Riverdale, N. Y.
Kaplan, David Michael	A.B.	Brookline, Mass.
Karan, Paul Richard	A.B.	Forest Hills, N. Y.
Karl, Paul Titus	A.B.	Pleasant Valley, N. Y.
Kaufman, K. Richard	A.B.	Scarsdale, N. Y.
Keifer, Thomas William	A.B.	Philadelphia, Pa.
Keith, John Monroe, Jr.	Sc.B.(E)	Springfield, N. J.
Kelley, John	A.B.	Albany, N. Y.
Kelly, William Joseph	A.B.	Springfield, Mass.
Kennedy, Thomas Bryant, Jr.	A.B.	Peoria, Ill.
Kerrigan, Paul Joseph	Sc.B.(E)	Hudson, Mass.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Kessler, Mark Keil	A.B.	Lancaster, Pa.
Kiley, Daniel Fallon	A.B.	Pawtucket
Kilkenny, Gustave Wadsworth	A.B.	Seekonk, Mass.
King, William Dana	A.B.	Newton Highlands, Mass.
Kingman, William Seely	A.B.	Providence
Klein, Donald Roth	A.B.	Yonkers, N. Y.
Klein, Michael Martin	A.B.	Riverdale, NYC, N. Y.
Koester, Kenneth Oliver	A.B.	New Rochelle, N. Y.
Kohlhepp, A. John, Jr.	Sc.B.(E)	Yonkers, N. Y.
Kohn, Lewis Avrom	A.B.	Glens Falls, N. Y.
Koly, Richard Manchester	A.B.	North Smithfield
Korn, Michael	A.B.	Denver,
Kostecki, Richard Joseph	A.B.	Brooklyn, N. Y.
Kraihanzel, Charles Stephen	Sc.B.(C)	New Bedford, Mass.
Kirkorian, Robert Richard	Sc.B.(C)	Providence
Kroll, Jerome Lewis	A.B.	Brooklyn, N. Y.
Lalumia, Edward Joseph	A.B.	Hamden, Conn.
Lamb, Richard Forrest	A.B.	Buffalo, N. Y.
Lange, Paul Kruse	A.B.	Glens Falls, N. Y.
Lanphere, Lloyd Cessna	A.B.	Corry, Pa.
Larson, Warren Alfred	Sc.B.(C)	Milford, Mass.
Latchis, Kenneth Spero	A.B.	Brattleboro, Vt.
Lauenstein, Karl Frederick	A.B.	Chatham, N. J.
Laviano, Edmund Gerard	A.B.	Patchogue, N. Y.
Lawton, Donald Richard	Sc.B.(E)	Schenectady, N. Y.
Leavitt, Jay Allen	A.B.	Fall River, Mass.
Lehner, Peter Robert	A.B.	Brookline, Mass.
Lenz, Philip Cobin, Jr.	Sc.B.(E)	Barrington
Leonard, Ralph Lovett, Jr.	Sc.B.(E)	Beverly, Mass.
Levin, Ira David	A.B.	Newton, Mass.
Lew, John Peter	A.B.	Manhasset, N. Y.
Lewis, David Carlton	A.B.	Newton, Mass.
Lewis, William Peabody	A.B.	Beverly, Mass.
Licht, Arthur Lewis	Sc.B.(P)	Providence
Litchfield, Loring Robert	Sc.B.(E)	Waban, Mass.
Littell, Willis Guy	A.B.	Milwaukee, Wis.
Loveman, Lester Edward	A.B.	New York, N. Y.
Lowen, Arthur Barry	A.B.	Yonkers, N. Y.
Lyden, John Kenneth	A.B.	Tarrytown, N. Y.
MacArthur, Robert Nickerson	A.B.	Winchester, Mass.
Mackey, Thomas Abbott	A.B.	Detroit, Mich.
MacLean, John Calder	A.B.	Boston, Mass.
Mahoney, Thomas Raphael, Jr.	Sc.B.(E)	Amityville, N. Y.
Main, Frank Proctor	A.B.	Boonton, N. J.
Mainardi, Edward Guala	A.B.	Patterson, N. J.
Maloney, Matthew Joseph	A.B.	New Milford, Conn.
Manning, Craig Alan	A.B.	Scarsdale, N. Y.
Mansell, Roger	Sc.B.(E)	Wantagh, N. Y.
Mansfield, Kenneth Newhall	A.B.	Rochester, N. Y.
Mansfield, Robert Leslie	A.B.	Garden City, N. Y.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Marchesani, Anthony Michael	A.B.	Providence, R. I.
Marcus, Allen Richard	A.B.	Pittsburgh, Pa.
Marcus, Charles Paul	A.B.	Oak Park, Ill.
Marshall, John Leo	Sc.B.(E)	Pawtucket
Martinage, Louis Hubert	Sc.B.(E)	Reading, Mass.
Mathieson, Lester Byron	A.B.	Sharon, Pa.
Matthias, John Stephen	A.B.	Washington, D. C.
May, John William	Sc.B.(E)	Cranston
McCaughey, Patrick Edward, Jr.	A.B.	Short Hills, N. J.
McClea, Richard Joseph	A.B.	Detroit, Mich.
McClelland, Marc Mermod	A.B.	Marion, Mass.
McColgan, John Arthur	A.B.	Saginaw, Mich.
McCurrach, James Crampton, Jr.	A.B.	Monmouth Beach, N. J.
McGarry, Walter Leo, Jr.	A.B.	Cranston
McIntosh, Kenneth Thomas	A.B.	Pawtucket
McKnight, John Stephen	A.B.	Cranston
McLain, Donald Jack	Sc.B.(E)	Springfield, Mass.
McLandress, Robert Shannon	A.B.	Glens Falls, N. Y.
McLean, Edward Barnard	A.B.	Barrington
McLellan, Paul Curtis, Jr.	Sc.B.(E)	Pawtucket
McNulty, George Albert	A.B.	St. Louis, Mo.
Meader, Charles Robert	A.B.	North Westport, Mass.
Medeiros, Antone Arruda	A.B.	New Bedford, Mass.
Merkin, Barry Allen	A.B.	Patchogue, N. Y.
Mernick, Frederick Joseph	Sc.B.(P)	Providence
Mertens, Richard Buchanan	A.B.	Park Ridge, Ill.
Miles, Burnley Lankford	Sc.B.(E)	Decatur, Ala.
Miller, Donald Evan	A.B.	Providence
Miller, Howard	Sc.B.(E)	Philadelphia, Pa.
Miller, Richard Watson	A.B.	West Newton, Mass.
Miller, William Homer	Sc.B.(E)	Pompton Lakes, N. J.
Minnerly, Robert Ward	A.B.	Yonkers, N. Y.
Mintzer, Steven Adam	A.B.	Brooklyn, N. Y.
Monaghan, William John	A.B.	Jackson Heights, N. Y.
Monsarrat, Nicholas Thomas	A.B.	Seekonk, Mass.
Mont, George Edward	Sc.B.(C)	New Bedford, Mass.
Montanaro, Louis, Jr.	Sc.B.(E)	Providence
Moody, Hiram Frederick, Jr.	A.B.	Winchester, Mass.
Moon, Warren, Eldred	Sc.B.(E)	Providence
Moos, Henry Warren	Sc.B.(P)	New Hyde Park, N. Y.
Morong, Carrol Oscar, Jr.	A.B.	Hightstown, N. J.
Morrison, Donald Edward, Jr.	A.B.	Randolph, Mass.
Morse, Michael	A.B.	Chestnut Hill, Mass.
Muecke, Berthold, III	A.B.	Ruxton, Md.
Muldoon, James Edward	Sc.B.(E)	Glen Cove, N. Y.
Murphy, Jonathan Farmer	A.B.	New Canaan, Conn.
Mushkin, Albert Samuel	A.B.	Brooklyn, N. Y.
Nannig, William Ira	A.B.	Chepachet
Narkiewicz, William Paul	Sc.B.(E)	Bellows Falls, Vt.
Nathan, Richard Perle	A.B.	Albany, N. Y.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Neil, David French	A.B.	East Orange, N. J.
Nemlich, Lee Steven	A.B.	Elmsford, N. Y.
Newell, Thaddeus Selby, III	A.B.	Rochester, N. Y.
Newhouse, John Spencer, Jr.	A.B.	St. Louis, Mo.
Newton, George Berryman, Jr.	Sc.B.(E)	Attleboro, Mass.
Nickoll, John Fredrick	A.B.	Milwaukee, Wis.
Nooney, Richard Robert	Sc.B.(E)	Pawtucket
Norman, Robert Arthur	Sc.B.(E)	Rye, N. Y.
Norton, Lee Edward, Jr.	Sc.B.(E)	Portland, Me.
Nutt, Charles	A.B.	Glastonbury, Conn.
Nystrom, Peter Conrad	Sc.B.(E)	Rutherford, N. J.
Oberg, Robert Edward	Sc.B.(C)	Plaineville, Conn.
O'Brien, Robert Vincent	A.B.	Hamden, Conn.
O'Bryan, Victor John	A.B.	Herkimer, N. Y.
Odell, Edward Thomas	Sc.B.(E)	Lowell, Mass.
Ogden, James Stuart	A.B.	Barrington, Ill.
O'Leary, James Arthur, Jr.	A.B.	Worcester, Mass.
Oppenheimer, Paul Lownes	A.B.	Buffalo, N. Y.
O'Rourke, Thomas Edward, Jr.	Sc.B.(E)	Attleboro, Mass.
Packert, Richard Hibbard, Jr.	Sc.B.(E)	North Caldwell, N. J.
Pakradooni, Haig Herant, 3rd	A.B.	Wynnewood, Pa.
Panthen, Karl Craigie	Sc.B.(E)	Scarsdale, N. Y.
Parrish, Theodore Roosevelt, Jr.	A.B.	Springfield, Mass.
Patton, Keith Dunlap	A.B.	Ridgewood, N. J.
Paulin, Joseph Harry	A.B.	Wilmington, Del.
Peartree, Charles Edward	A.B.	Wynnewood, Pa.
Peirce, Richard Graham	A.B.	Poughkeepsie, N. Y.
Pelletier, Valmore Alexis, Jr.	A.B.	Norwood, Mass.
Perkins, Winston Eugene	A.B.	Roxbury, Conn.
Perlman, Matthew Saul	A.B.	Washington, D. C.
Peters, Ronald Vincent	A.B.	Parris Island, S. C.
Peterson, David Barner	Sc.B.(E)	Riverhead, N. Y.
Pianka, Edward Walter	Sc.B.(E)	Fall River, Mass.
Pickard, Artemas Matthew	A.B.	Glencoe, Ill.
Pierce, Richard Holton	A.B.	Westwood, Mass.
Pliakas, George Andrew	A.B.	Providence
Poillon, William Neville	Sc.B.(C)	Shortsville, N. Y.
Pond, William Ashley	A.B.	Penn Yan, N. Y.
Potter, David Carlisle	A.B.	Wayland, Mass.
Powning, Allen Gleason	A.B.	Wayland, Mass.
Prenzel, Byron Curt	A.B.	River Edge, N. J.
Press, Robert Mitchell	A.B.	Providence
Quinn, John Canning	Sc.B.(E)	Providence
Quinn, Richard Michael	A.B.	Pawtucket
Quint, George Morrow	Sc.B.(E)	Syracuse, N. Y.
Ralston, Bruce	A.B.	Cranston
Ramsden, Robert Arthur	A.B.	Pawtucket
Rankin, Andrew Meserve, II	A.B.	Providence
Rapp, Thomas Hughes	A.B.	Greenwich, Conn.
Reback, Harvey Arnold	A.B.	Fall River, Mass.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Reed, Philip Marvin	A.B.	West Nyack, N. Y.
Reed, William Frederick	A.B.	Philippines
Reid, Robert James	A.B.	Sharon, Mass.
Reisberg, Boris Elliot	A.B.	Long Beach, N. Y.
Reynolds, Robert James	Sc.B.(E)	Gainesville, Ga.
Reynolds, Thomas James	A.B.	Cranston
Rhine, Donald Joel	A.B.	Hewlett Harbor, N. Y.
Rhodes, Reginald William	A.B.	Douglaston, B. Y.
Richardson, Arthur Bertholin Larsen	Sc.B.(E)	Manhasset, N. Y.
Rideout, Bruce Kingston	A.B.	Port Chester, N. Y.
Ridley, Leonard Sanford	A.B.	Fairhaven, Mass.
Riley, George Francis	Sc.B.(P)	Fall River, Mass.
Rivelli, William Raymond	A.B.	Providence
Robbins, William Arthur	Sc.B.(E)	Rockland, Mass.
Roche, John Jefferson	Sc.B.(E)	Salisbury, Conn.
Roche, Peter Joseph	A.B.(E)	White Plains, N. Y.
Roe, John Judson, III	A.B.	Blue Point, L. I., N. Y.
Roesel, William Charles	Sc.B.(E)	Cranford, N. J.
Rollinson, George Mettam	Sc.B.(E)	Rutherford, N. J.
Romer, William Miller	Sc.B.(C)	Albany, N. Y.
Rose, Graham Sheldon	A.B.	Mineola, N. Y.
Rosenblatt, Robert Mordecai	A.B.	Albany, N. Y.
Rosenfeld, Peter Ernest	Sc.B.(E)	New York, N. Y.
Rosner, Andrew	Sc.B.(C)	Warren
Rubel, Philip John Bleriot	A.B.	New York, N. Y.
Ruffolo, Henry Philip	A.B.	Jamaica, N. Y.
Sabin, Kent Hill	Sc.B.(E)	Mansfield, Mass.
Saltonstall, Robert Jr.	A.B.	North Andover, Mass.
Sampson, Clark Douglas	A.B.	Dayton, Ohio
Sandler, Charles Allen	A.B.	Norristown, Pa.
Sargenti, Philip Vincent	A.B.	New York, N. Y.
Sargon, Ivor	A.B.	Winthrop, Mass.
Saunders, Donald Leslie	A.B.	Brookline, Mass.
Scardera, Michael	Sc.B.(C)	Providence
Scarlato, Theodore Fotios	A.B.	Nassau N. P., Bahamas
Scheibeler, James Norton	A.B.	Chevy Chase, Md.
Schellbach, Lewis Carl	A.B.	Rockville Centre, N. Y.
Schenker, Ben David	A.B.	Glencoe, Ill.
Schiffer, Robert Franklin	A.B.	Grosse Pointe Park, Mich.
Schwartz, Walter Henry, Jr.	Sc.B.(E)	St. Albans, L. I., N. Y.
Seligson, Carl H.	A.B.	New York, N. Y.
Semonite, Alan Dean	A.B.	Cranford, N. J.
Sepe, William Roy	A.B.	Cranston
Serving, Frederick Tracy, Jr.	A.B.	Ventnor City, N. J.
Shalita, Alan Remi	A.B.	New York, N. Y.
Shattuck, Seth Morse	A.B.	Mountain Lakes, N. J.
Shaw, Joseph Winterbottom	A.B.	Chicago, Ill.
Shaw, Robert Thomas	Sc.B.(E)	Baldwin, L. I., N. Y.
Sherlock, Raymond Dominic	A.B.	Providence

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Siddall, John Albert	A.B.	Attleboro, Mass.
Siegel, Daniel G.	A.B.	Glencoe, Ill.
Sills, Leonard Haber	A.B.	Worcester, Mass.
Silva, Charles Clifford	A.B.	Nantucket, Mass.
Simeone, Joseph Thomas	A.B.	Edgewood
Singer, Martin David	Sc.B.(C)	Peabody, Mass.
Sklar, Richard Joel	A.B.	Newton, Mass.
Slater, Clifford Eldridge	A.B.	Waterbury, Conn.
Smith, Frank John	A.B.	Bethlehem, Pa.
Smith, Harry Joseph	Sc.B.(C)	North Bellmore, N. Y.
Smith, Hugh Rodney	A.B.	Mystic, Conn.
Smith, James Frederick	Sc.B.(E)	Trenton, N. J.
Smith, Orin Robert	Sc.B.(E)	Newark, N. J.
Smithwick, Stephen Mixer	A.B.	Marblehead Neck, Mass.
Snyder, John Kennedy	A.B.	Sharon, Conn.
Snyder, Louis Michael	A.B.	Newton Centre, Mass.
Sobin, Gustaf Peter	A.B.	Brookline, Mass.
Sparkman, Palmer Drake	A.B.	New Rochelle, N. Y.
Spence, Stuart Breary	Sc.B.(E)	Mamaroneck, N. Y.
Spielmacher, Stephen John	A.B.	North Providence
Spooner, Allen Milton	A.B.	Walpark Center, N. J.
Sproul, Joseph Harvey	A.B.	Clarks Green, Pa.
Stanton, David Cromwell	A.B.	Marshfield, Mass.
Stephenson, George Henry	A.B.	Chestnut Hill, Mass.
Stern, Michael Stephen	A.B.	Brookline, Mass.
Stevenson, Robert Baker	Sc.B.(P)	Wauwatosa, Wis.
Stevenson, Robert Thomas, Jr.	A.B.	Buzzards Bay, Mass.
Stoddard, Roger Eliot	A.B.	Needham, Mass.
Stonehill, Charles Martin	A.B.	Plainfield, N. J.
Sturdy, David Alden	A.B.	Attleboro, Mass.
Sullivan, Alvin Joseph, Jr.	A.B.	Fall River, Mass.
Sullivan, William Herbert, Jr.	A.B.	Rumford
Supino, Roch Patrick	A.B.	Demarest, N. J.
Sutphen, Harold John	Sc.B.(C)	Belleville, N. J.
Sweeney, Robert Leon	A.B.	Trenton, N. J.
Sweetland, Peter	Sc.B.(P)	Boston, Mass.
Talbot, William Henry	A.B.	West Warwick
Tapper, Edward Michael	A.B.	Pittsburgh, Pa.
Tatem, Robert Edgar	Sc.B.(E)	Westbury, N. Y.
Taylor, Arthur Robert	A.B.	Rahway, N. J.
Taylor, Charles Herbert, Jr.	A.B.	Cranston
Taylor, Gerald Clark	Sc.B.(E)	Darien, Conn.
Taylor, Richard Dean	A.B.	Hoosick Falls, N. Y.
Tempesta, Paul Andrew	A.B.	Quincy, Mass.
Thompson, Henry Lee, Jr.	Sc.B.(P)	Cranston
Thomson, Richard Donald	Sc.B.(E)	Stratford, Conn.
Thorley, Francis Wood	A.B.	North Dartmouth, Mass.
Tildon, John Wesley Haywood	A.B.	Tuskegee, Ala.
Tison, James Sinkler	Sc.B.(E)	Seattle, Wash.

LIST OF STUDENTS: FRESHMEN

NAME	DEGREE	RESIDENCE
Toole, Frank Edward	A.B.	New Haven, Conn.
Townsend, Joseph Winter, Jr.	A.B.	River Forest, Ill.
Tracy, Harvey Thatcher, Jr.	A.B.	Swansea, Mass.
Turner, Glenn Heselton	A.B.	Pawtucket
Twaddell, Stephen Treadway	A.B.	Providence
Urquhart, Peter Andrew	A.B.	Brooklyn, N. Y.
Uyeyama, Terry Jun	A.B.	Leonia, N. J.
Vander Veer, Gerritt Hendry, Jr.	A.B.	Uncasville, Conn.
Van Leight, Peter Robert	A.B.	New York, N. Y.
Van Liew, Alfred Buttler	A.B.	St. James, N. Y.
Van Loan, William Wilson	A.B.	Evanston, Ill.
Velonis, Nicholas	A.B.	Indianapolis, Ind.
Vieira, Manuel	A.B.	Swansea, Mass.
Viessmann, Alex Jan	A.B.	Sayville, N. Y.
Vincent, Stanford Bates	Sc.B.(E)	Waban, Mass.
Volterra, Max	Sc.B.(C)	Attleboro, Mass.
Von Stein, Peter	A.B.	Colorado Springs, Col.
Wadsworth, William Bingham	A.B.	Whitesboro, N. Y.
Waldman, Robert Hugh	A.B.	Brooklyn, N. Y.
Walker, Gabriel, Jr.	A.B.	Portland, Me.
Walters, Leonard Brayton	A.B.	Marblehead, Mass.
Ward, Richard Rollins	A.B.	Hingham, Mass.
Warr, William Bruce	A.B.	Melrose, Mass.
Waterman, Lawrence Charles	A.B.	Great Neck, N. Y.
Waters, Lion Sanford	A.B.	Mamaroneck, N. Y.
Watts, Donald Everett	Sc.B.(E)	Lonsdale
Weiffenbach, James Milton	A.B.	St. Louis, Mo.
Wells, Peter	Sc.B.(E)	New York, N. Y.
West, William Elwin, Jr.	A.B.	Attleboro, Mass.
Wetzler, Monte Edwin	A.B.	New York, N. Y.
White, Augustus Aaron	A.B.	Memphis, Tenn.
Wiener, Thomas Freud	Sc.B.(E)	Arlington, Va.
Wilder, Michael Lot	A.B.	Rochester, N. Y.
Williams, Arthur Benjamin, Jr.	A.B.	East Providence
Williams, Warren Wellde	A.B.	Palo Alto, Cal.
Winans, Lawrence Adrian	A.B.	Short Hills, N. J.
Winkler, Stuart Michael	A.B.	Hewlett, N. Y.
Winning Robert Mayer	A.B.	New Bedford, Mass.
Wolfe, John Gordon Reaney	A.B.	Baltimore, Md.
Wolford, James Carslake	A.B.	Forest Hills, N. Y.
Wooster, Charles Bushnell, Jr.	A.B.	Philadelphia, Pa.
Wright, Robert Alfred	A.B.	Saxtons River, Vt.
Wright, Robert Norman, II	A.B.	North Falmouth, Mass.
Wylie, Sheldon	A.B.	Cleveland Heights, Ohio
Yamazaki, Susumu	A.B.	Barrington
Yeutter, Bruce Dee	A.B.	Oradell, N. J.
Zieselman, Jerold	A.B.	Stamford, Conn.
Zimmerman, Robert Paul	Sc.B.(E)	Brooklyn, N. Y.
Zucker, Morris Robert	A.B.	South Orange, N. J.
Zurro, Joseph Vincent	A.B.	Providence

LIST OF STUDENTS: SPECIALS

SPECIALS

NAME	RESIDENCE
Conn, Alton Howard	Coventry
Cummings, Frank Warren	South Attleboro, Mass.
Kramer, Jack	Providence
Labella, Sebastian Louis	Middletown, Conn.
Mallozzi, Americo	Providence
Owens, James Edward	East Greenwich
Pierce, George Frederic, Jr.	Providence
Richard, Cornelius C., Jr.	Scotch Plains, N. J.
Rousseau, Will Louis	Berlin, N. H.
Wiens, Clifford Donald	Saskatchewan, Canada

SUMMARY OF REGISTRATION

UNDERGRADUATE MEN

	<i>1952-1953</i>	<i>1953-1954</i>
	Semester II	Semester I
Seniors	444	397
Juniors	419	405
Sophomores	418	535
Freshmen	559	589
Special Students	4	10
Total	1,844	1,936

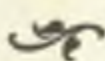
GENERAL SUMMARY

	<i>1952-1953</i>	<i>1953-1954</i>
	Semester II	Semester I
Undergraduate men	1,844	1,936
Pembroke College	753	786
Graduate School	377	368
	2,974	3,090
Registration in Extension Courses, Second Semester 1952-53		650
First Semester 1953-54		974
		1,624

STATISTICS OF GRADUATES

At the close of the one hundred and eighty-fifth commencement of the University in 1953, there were enrolled the names of 25,196 graduates, both men and women. Of this number 17,513 men and 4,946 women had received the Bachelor's degree; 1,713 exclusive of the foregoing had received advanced degrees; 69 received the degree of Doctor of Medicine, 955 had received honorary degrees.

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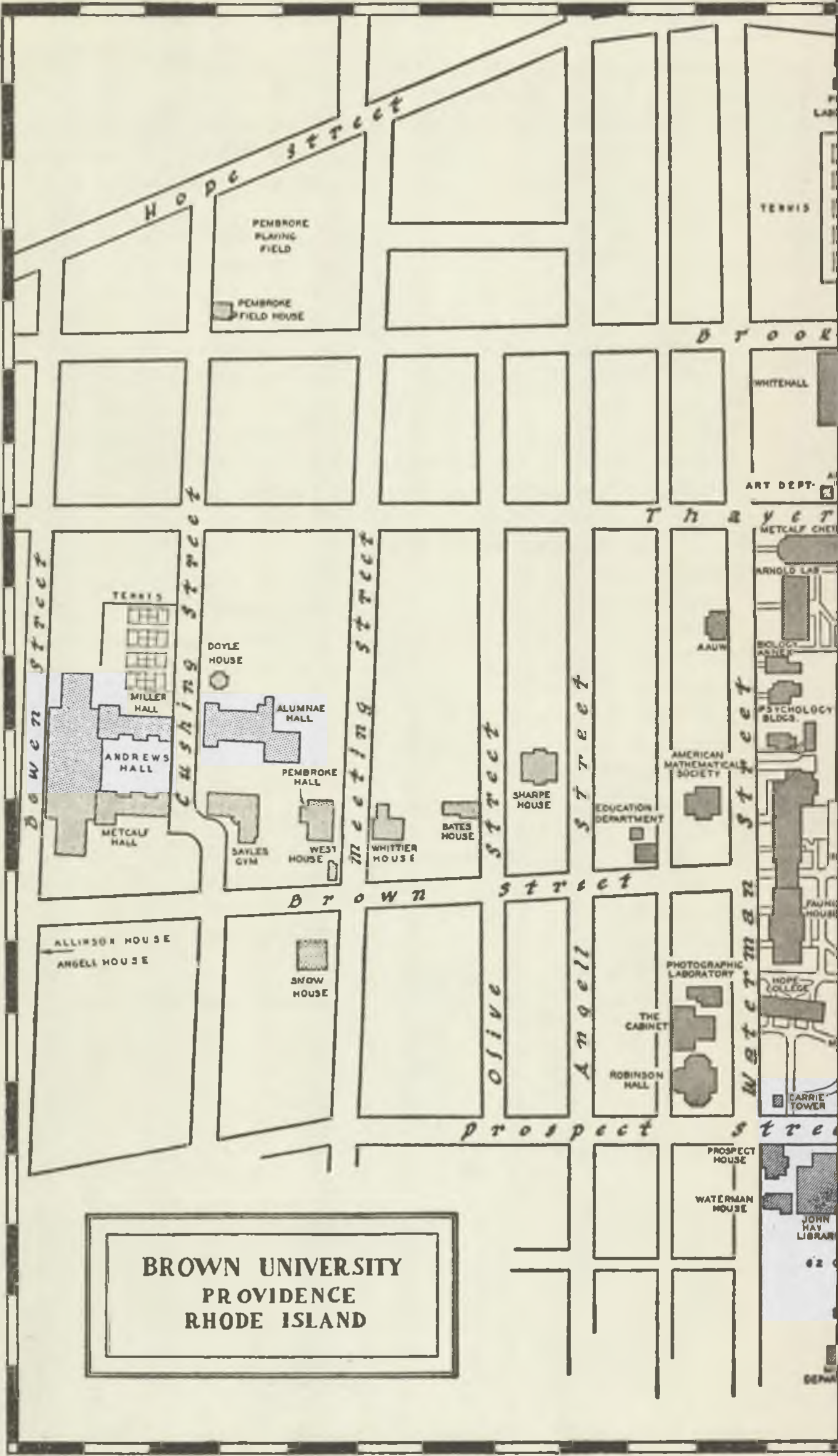
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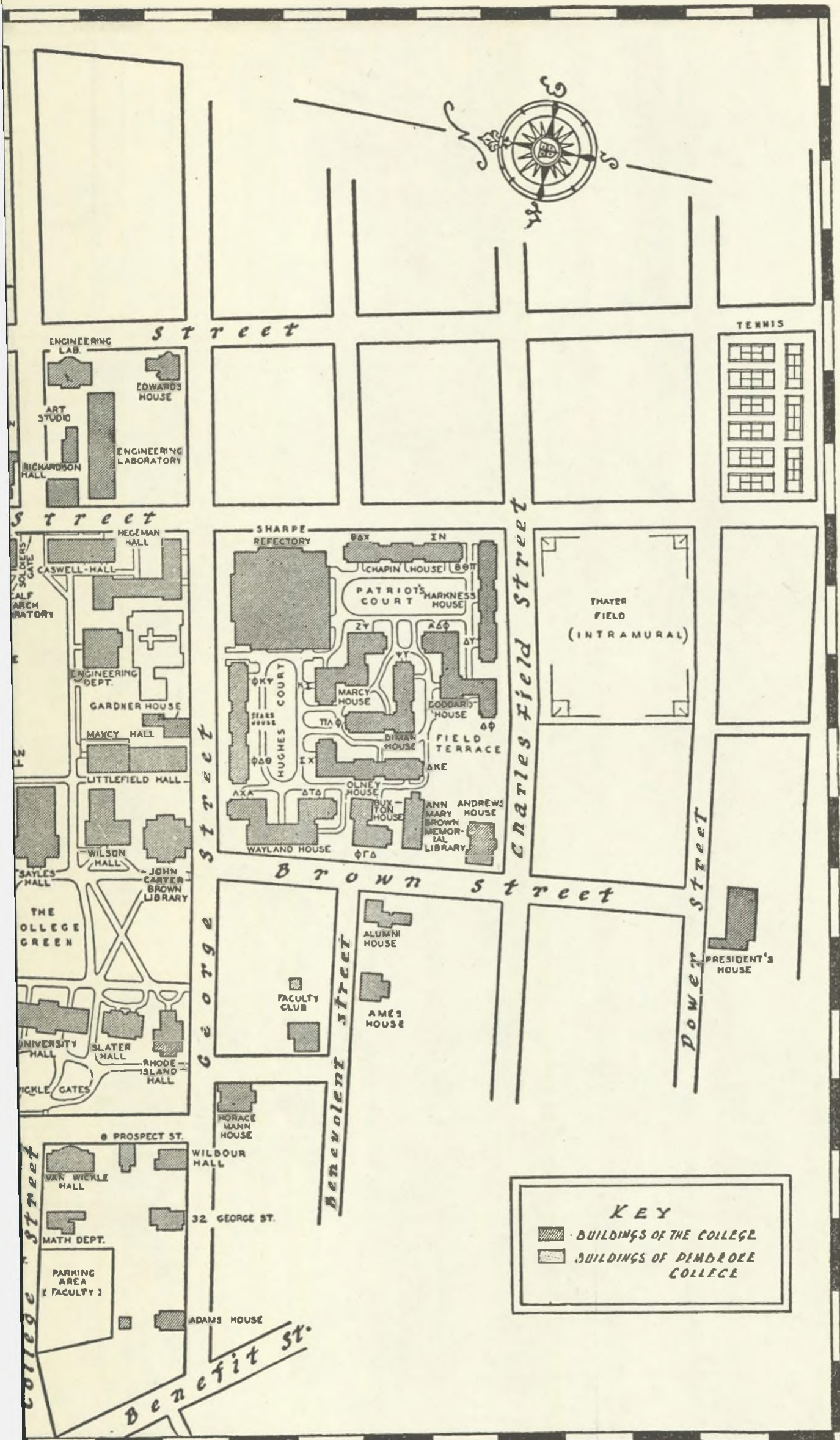
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SCHEDULE OF RECITATION GROUPS

Arranged According to Hours

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	A	B	A	B	A	B
9:00	C	D	C	D	C	D
10:00	E	F	E	F	E	F
11:00	G	H	G	H	G	H
12:00						
1:10	I	N	I	N	I	
2:10	J	N	J	O	J	
3:10	K	O	K	P	K	
4:10	L	O	L	P	L	
5:10	M	P	M		M	

Brown University

THE COLLEGE. An undergraduate college for men, with courses leading to the degrees of A.B., Sc.B. in Chemistry, Sc.B. in Engineering, and Sc.B. in Physics.

PEMBROKE COLLEGE. An undergraduate college for women, with courses leading to the degrees of A.B., Sc.B. (in Nursing), Sc.B. in Chemistry, Sc.B. in Engineering, and Sc.B. in Physics.

THE GRADUATE SCHOOL. A graduate school for men and women, with courses leading to the degrees of A.M., Sc.M., and Ph.D.

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