

UNIVERSITY SYSTEM OF GEORGIA

Volume XXXVII

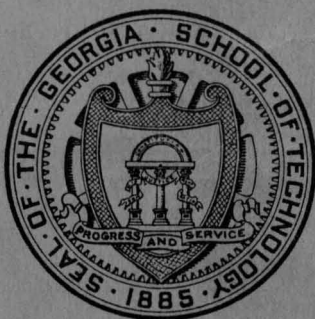
April, 1940

Number 1

BULLETIN

GEORGIA SCHOOL OF TECHNOLOGY

ATLANTA, GEORGIA



ANNOUNCEMENTS

1940 - 1941

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1940

January							April							July							October						
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14	15	16	17	18	19	20	14	15	16	17	18	19	20	14	15	16	17	18	19	20	13	14	15	16	17	18	
21	22	23	24	25	26	27	21	22	23	24	25	26	27	21	22	23	24	25	26	27	20	21	22	23	24	25	
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February							May							August							November						
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11	12	13	14	15	16	17	12	13	14	15	16	17	18	11	12	13	14	15	16	17	10	11	12	13	14	15	16
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25	26	27	28	29	—	—	26	27	28	29	30	31	—	25	26	27	28	29	30	31	24	25	26	27	28	29	30
March							June							September							December						
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1941

January							April							July							October						
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February							May							August							November						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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March							June							September							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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GEORGIA SCHOOL OF TECHNOLOGY ATLANTA, GEORGIA

A SCHOOL OF AERONAUTICAL, ARCHITECTURAL, CERAMIC,
CHEMICAL, CIVIL, ELECTRICAL, GENERAL, MECHANICAL,
PUBLIC HEALTH AND TEXTILE ENGINEERING; ARCHI-
TECTURE, CHEMISTRY, AND INDUSTRIAL MANAGEMENT

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- RALPH A. HEFNER, PH.D. 724 Techwood Drive, N.W.
Professor of Mathematics
- JOHN HENRY HENIKA. 894 Oak St., S.W.
Foreman of Wood Shop
- **ARTHUR VAN HENRY, PH.D. 826 Peachtree St., N.E.
Professor of Ceramic Engineering and Head of the Department
- NEWTON SAMUEL HEROD, PH.D. Georgia Tech
Professor of Physics
- FRANCIS MARION HILL, B.S. in Gen. Eng.
1076 Los Angeles Ave., N.E.
Assistant Professor of Engineering Drawing and Mechanics
- RALPH LENTON HILL, B.S. in T.E. 127 Lindbergh Drive, N.E.
Associate Professor of Textile Engineering
- W. A. HINTON, B.S. in M.E., M.S. in M.E. 1971 Tuxedo Ave., N.E.
Assistant Professor of Mechanical Engineering
- ARCHIBALD DINSMORE HOLLAND, B.S. in Eng., M.S. in M.E.
866 Greenwood Ave., N.E.
Associate Professor of Mechanical Engineering
- CHANDLER H. HOLTON, A.B., A.M. Techwood Dormitory
Instructor in Mathematics
- MARTIAL ALFRED HONNELL, B.S. in E.E. 1586 W. Peachtree, Apt. 1
Instructor in Electrical Engineering
- CLARKE W. HOOK, A.B., M.A. 633 Amsterdam Ave., N.E.
Instructor in Mathematics

†Resigned.

**Deceased.

- SAMUEL H. HOPPER, PH.D. 55 Montclair Drive, N.E.
Assistant Professor of Biology and Public Health
- ROGER SHEPPARD HOWELL, B.S. in M.E., M.Sc. 139 Fifth St., N.W.
Professor of Mechanical Engineering
- JOSEPH HERMAN HOWEY, PH.D. 171 Fourth St., N.W.
Professor of Physics and Head of the Department
- W. P. HUDSON, A.B., A.M. 159 Fourth St., N.W.
Instructor in English
- R. KENNETH JACOBS, B.S. in C.E., B.S. in Education, M.S.
313 Fourth Street, N.W.
Instructor in Engineering Drawing and Mechanics
- WILLIAM BEN JOHNS, JR., B.S. in Gen. Eng., M.S. in A.E.
585 Martina Drive
Professor and Head of the Department of Engineering Drawing and Mechanics
- LAWRENCE V. JOHNSON, B.S. and M.S. in Physics
866 Virginia Circle, N.E.
Assistant Professor of Physics
- CHARLES ALFRED JONES, B.S. in T.E. Vinings, Ga.
Professor of Textile Engineering and Head of the Department
- MATT L. JORGENSEN, A.B., M.Arch. 1161 Peachtree St., N.E.
Assistant Professor of Architecture
- ROY STEVENSON KING, M.E., M.Sc., Sc.D. 1293 Oxford Road, N.E.
Professor of Mechanical Engineering and Head of the Department
- MONTGOMERY KNIGHT, B.S. in E.E. 2525 Brookwood Drive, N.E.
Professor of Aeronautical Engineering and Head of the Department
- RALPH ELTON LEWIS, B.S. in M.E., M.S. in M.E.
310 Ponce de Leon Ave., N. E.
Instructor in Engineering Drawing and Mechanics
- ROBERT H. LINTON, B.A., M.A. 189 Fourth St., N.W.
Instructor in English
- EMORY GALEN LOWER, A.B., M.D. 619 Myrtle St.
Assistant Professor of Biology
- WILLIAM FRANKLIN LOZIER, A.B., LL.B. 1294 Piedmont Ave., N.E.
Assistant Professor of Economics and Social Science
- JAMES HERTY LUCAS, B.S. in M.E., B.S. in C.E., M.S. in C.E.
1117 Lanier Boulevard, N.E.
Associate Professor of Highway Engineering

- EDWARD BENBOW MARTINDALE 86 Fifth St., N.W.
Foreman of Machine Shop
- HOWARD WARD MASON, B.S. in M.E., M.S., M.E.
Knowles Dormitory
Professor of Mechanical Engineering in charge of Mechanical Laboratories
- JESSE W. MASON, PH.D. 127 Superior Ave., Decatur, Ga.
Assistant Professor of Chemical Engineering
- J. R. MCARTHUR, B.S. 587 Techwood Drive, Apt. 302
Assistant Coach, Football
- J. WELDON McCARTY, B.S. in Textiles Georgia Tech Y. M. C. A.
Instructor in Textile Engineering
- JAMES ERSKINE McDANIEL, M.A., LL.B. Cloudman Dormitory
Professor and Director of the Co-operative Department
- LANE MITCHELL, B.S. and M.S. in Cer.E. 1150 St. Charles Place, N.E.
Associate Professor of Ceramic Engineering
- RICHARD THOMAS MORENUS, B.Arch. North Ivy Road, Route 6
Associate Professor of Architecture
- ROY MUNDORFF, B.S. 734 Techwood Drive
Assistant Professor of Mathematics
- PHIL BLASIER NARMORE, B.S. in Eng., M.S., Ph.D. 55 Park Circle
Professor of Engineering Drawing and Mechanics
- *HOMER HARLAN NORMAN 436 Fourth St., N.W.
Instructor in Wood Shop
- WILLIAM GILMER PERRY, A.M., Litt.D. 192 E. Seventeenth St.
Professor of English and Head of the Department
- C. RUSSELL PHELPS, B.S., A.M. 171 Fourth St., N.W.
Instructor in Mathematics
- DAVID ERNEST PHILPOT 1131 Woodland Ave., S.E.
Instructor in Textile Engineering
- WILLIAM J. PROCTOR, A.B., M.A. and LL.B. 190 North Ave., N.W.
Assistant Professor of Economics and Social Science
- EDWARD THERON PROSSER, B.A., M.A. 794 Williams St., N.W.
Assistant Professor of Physics
- THOMAS H. QUIGLEY, A.B., B.S. 259 Fifth St., N.W.
Professor of Industrial Education and Head of the Department

*Deceased.

- GLENN W. RAINEY, A.B., M.A. 165 Avery Drive, N.E.
Assistant Professor of English
- WALTER REYNOLDS, JR., B.S. in M.E., M.Sc. 22 Glenwood Drive
Assistant Professor of Mathematics
- WILLIAM BANKS RICHARDSON, B.S. in Chem. Eng., M.S. Chem.
2286 Stephen Long Drive, N.E.
Assistant Professor of Chemistry
- NELSON ROBINSON, PH.D. 63 LaFayette Drive
Instructor in Mathematics
- GERALD A. ROSSELOT, PH.D. 166 Fifth St., N.W.
Associate Professor of Physics
- J. W. SANDERS, JR., M.S. 723 Williams, N.W.
Instructor in Chemistry
- DOMENICO PIETRO SAVANT, B.S. in E.E., M.S. in E.E., E.E.
737 Techwood Drive
Professor of Electrical Engineering
- A. M. SCHWARTZ, A.E. 1140 Piedmont Ave., N.E., Apt. 11
Assistant Professor of Aeronautical Engineering
- WALTON H. SEARS, JR., A.B., M.A. 28 Seventh St., N.E., Apt. 11
Instructor in Mathematics
- THOMAS GRAYSON SEIDELL, B.S. in E.E., E.E.
25 Exeter Road, Avondale Estates
Professor of Electrical Engineering
- *W. E. SEWELL, PH.D. Techwood Dormitory
Assistant Professor of Mathematics
- MAURICE SIEGLER, Graduate of Penn. Academy of Fine Arts,
B.S. in Arch. 670 Juniper St., N.E.
Assistant Professor of Architecture
- WILLIAM VERNON SKILES, B.S., A.M., Sc.D.
1057 Springdale Rd., N. E.
Dean and Professor of Mathematics
- DAVID M. SMITH, PH.D. 192 E. Seventeenth St.
Professor of Mathematics and Head of the Department
- JACK MORGAN SMITH, B.S., M.S., C.E. 1434 Morningside Drive
Professor of Civil Engineering

*Leave of absence.

- FRANKLIN C. SNOW, B.S., C.E., Sc.D. 1198 North Ave., N.E.
*Professor of Civil Engineering and Highway Engineering and
Head of the Departments*
- WILLIAM MONROE SPICER, PH.D. 1230 Virginia Ave.
Instructor in Chemistry
- ASHFORD WORTHINGTON STALNAKER, E.E. 593 Hightower Road
Assistant Professor of Electrical Engineering
- DAVID LESLIE STAMY, A.B., A.M. 930 Myrtle St., N.E.
Associate Professor of Mathematics
- AUSTIN LAROE STARRETT, A.B. and A.M. 153 Roanoke Ave., N.E.
Instructor in Mathematics
- FREDERICK HENRY STEEN, PH.D. 532 Peebles Street, S.W.
Assistant Professor of Mathematics
- RAY L. SWEIGERT, B.S. in M.E., M.A., PH.D.
1755 Inverness Ave., N.E.
*Professor of Mechanical Engineering and Director of Freshman
Engineering*
- CHARLES CROMBIE TAYLOR, B.S., M. Arch. 149 Peachtree Circle, N.E.
Instructor in Architecture
- JAMES L. TAYLOR, A.B., M.S. 618 Cresthill Ave., N.E.
Instructor in Chemistry
- WILLIAM SIMPSON TAYLOR, PH.D. 788 Spring St., N.W.
Professor of Chemistry
- MACK THARPE, B.S. Biltmore Apartments
Assistant Coach, Football
- KENNETH MATHESON THRASH, B.S. in C.E., M.S. in C.E.
24 E. Lake Drive, N.E.
Assistant Professor of Civil Engineering
- JOHN TOPHAM 224 Dodd Ave., S.W.
Instructor in Machine Shop
- RICHARD ADELBERT TROTTER, B.S. in M.E., M.S. in M.E.
28 Thirteenth St., N.E.
Associate Professor of Mechanical Engineering
- WILLIAM VAN HOUTEN 170 Fifth St., N.W.
Foreman of Foundry
- WILLIAM HARRY VAUGHAN, B.S. in Eng. Chem., M.S. in Cer. Eng.
2569 Tilson Drive
Professor and Head of Ceramic Engineering

- JOSEPH PAUL VIDOSIC, M.E., M.S. 820 Techwood Drive, N.W.
Instructor of Engineering Drawing and Mechanics
- HOWARD MEFFERT WADDLE, PH.D. 741 William St., N.W.
Assistant Professor of Chemistry
- ANDREW J. WALKER, PH.D. 765 San Antonio Drive
Associate Professor of English
- NOAH WARREN, B.S. in Commerce, M.A., C.P.A.
1742 Johnson Road, N.E.
Associate Professor of Economics and Social Science
- DONALD L. WEBB, PH.D. 649 Norfleet Rd., N.W.
Assistant Professor of Mathematics
- HOMER S. WEBER, B.S. in M.E., M.S. 66 Eleventh St., N.E.
Associate Professor of Engineering Drawing and Mechanics
- PAUL WEBER, A.B., M.S., PH.D. 729 Techwood Drive
Associate Professor of Chemical Engineering
- CORNELIUS AUGUSTUS WELLS, B.S., M.S., A.M. 365 Sixth St., N.W.
Assistant Professor of Chemistry
- WILLIAM RUPPERT WEEMS, B.S. in A.E., M.S.
1031 Virginia Ave., N.E.
Assistant Professor of Aeronautical Engineering
- FRED B. WENN, B.C.S., M.A. 114 Fifth St., N.W.
Associate Professor of Economics and Social Science
- WYATT CARR WHITLEY, PH.D. 21 Third St., N.E., Apt. 4
Assistant Professor of Chemistry
- DONALD BROOKS WILCOX, B.S., M.S. in M.E. 344 Fourth St., N.E.
Instructor in Mechanical Engineering
- BENJAMIN BLACKISTON WROTH, PH.D. 190 Fifth St., N.W.
Professor of Chemistry
- HUGH ALLEN WYCKOFF, B.S., M.S. 3201 W. Shadow Lawn
Professor of Biology and Head of the Department
- STUART ESTES WHITCOMB, PH.D. 166 Fifth St., N.W.
Instructor in Physics
- L. DAVID WYLY, M.S. 680 Juniper St., N.E.
Instructor in Physics
- CHARLES F. WYSONG, B.S. 1294 Piedmont Ave.
Instructor in Ceramic Engineering

RESEARCH FELLOWS

- IRVIN BARNETT.....*Experiment Station*
- M. W. BEARDSLEY.....*Experiment Station*
- E. I. BRICKER.....*Experiment Station*
- R. H. FAGAN.....*Experiment Station*
- O. C. FALKOVICH.....*Experiment Station*
- CHARLES P. GOODYEAR.....*Experiment Station*
- J. B. HOSMER.....*Experiment Station*

GRADUATE ASSISTANTS

- L. R. AHERN.....*Chemical Engineering*
- ALFRED BARNARD.....*Experiment Station*
- C. L. BELCHER, JR.....*Geology*
- L. L. BLANTON.....*Chemistry*
- E. P. BOUNOUS.....*Aeronautical Engineering*
- W. J. BRENNAN.....*Chemistry*
- L. C. BROOKS.....*Chemistry*
- J. A. CARRAN.....*Experiment Station*
- J. C. CLARK.....*Experiment Station*
- T. J. DANIELS.....*Chemical Engineering*
- D. W. DUTTON.....*Experiment Station*
- A. K. FORNEY.....*Experiment Station*
- C. W. GAYLER.....*Chemistry*
- L. A. GEYER.....*Aeronautical Engineering*
- H. H. HERRING.....*Chemistry*
- JERRY HOFFER.....*Aeronautical Engineering*
- D. M. LESLIE.....*Electrical Engineering*
- T. H. LIGHTNER.....*Chemistry*
- R. E. MERRYMAN.....*Chemical Engineering*
- L. E. PARKS.....*Chemistry*
- J. T. REDD.....*Physics*
- V. G. REDMOND.....*Aeronautical Engineering*
- F. M. ROBERTS.....*Chemistry*
- WATERS ROSS.....*Chemistry*
- W. E. SISCO.....*Chemistry*
- J. D. SMITH.....*Chemistry*
- NATHAN SUGARMAN.....*Experiment Station*

STUDENT ASSISTANTS

- F. M. MACK.....*Chemistry*
- J. D. HUTCHESON.....*Mechanical Engineering*
- J. W. CHENEY.....*Electrical Engineering*

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Reserve Officers' Training Corps

FELIX E. GROSS, Lt. Col., C.A.C.

Commandant and Professor of Military Science and Tactics

HEADQUARTERS STAFF

TECHNICAL SERGEANT H. L. ELLIS (D.E.M.L.)

Property and Finance

SERGEANT R. M. SIMMS (D.E.M.L.)

INFANTRY

LT. COL. DONALD HENLEY, Inf.

Unit Commander

ASSISTANTS

MAJOR EDMUND J. LILLY, Jr., Inf.

STAFF SERGEANT D. S. PARCHMAN (D.E.M.L.)

COAST ARTILLERY CORPS

MAJOR WM. D. EVANS, C.A.C.

Unit Commander

ASSISTANTS

MAJOR RILEY E. MCGARRAUGH, C.A.C.

CAPTAIN HOWARD H. NEWMAN, C.A.C.

SERGEANT E. G. PATRICK (D.E.M.L.)

SIGNAL CORPS

LT. COL. JAMES B. HASKELL, S.C.

Unit Commander

ASSISTANTS

CAPTAIN GEORGE L. RICHON, S.C.

SERGEANT DICK WEIR (D.E.M.L.)

ORDNANCE

CAPTAIN EDWARD C. FRANKLIN, O.D.

Unit Commander

SERGEANT CHARLES H. WEESE (D.E.M.L.)

DEPARTMENT OF NAVAL SCIENCE AND TACTICS

Reserve Officers' Training Corps

CAPTAIN REED M. FAWELL, U. S. Navy

Commandant and Professor of Naval Science and Tactics

STAFF

COMMANDER HUBERT E. PADDOCK, U. S. Navy

LIEUTENANT COMMANDER PAUL R. COLONEY, U. S. Navy

LIEUTENANT COMMANDER WYATT CRAIG, U. S. Navy

LIEUTENANT WILTON S. HEALD, U. S. Navy

LIEUTENANT GEORGE W. ASHFORD, U. S. Navy

FRANK M. CRISWELL, C.G.M., U.S.N.R.

PAUL B. FICKES, C.S.M., U.S.N.R.

EUGENE ANHEIR, C.Y., U.S.N.R.

THOMAS A. HOWARD, C.S.K., U.S.N.R.

HISTORICAL SKETCH

On November 24, 1882, the General Assembly passed a resolution, introduced by Honorable N. E. Harris, to consider the establishment of a technical school in Georgia. A commission of ten was appointed to visit the leading engineering institutions of the country, and in 1885, the law was passed appropriating \$65,000 for the institution. In January, 1886, the first commission was appointed, consisting of Honorable N. E. Harris, S. M. Inman, O. S. Porter, E. R. Hodgson and Columbus Heard. Five places, Athens, Atlanta, Macon, Milledgeville and Penfield, offered bids for the new school, and on October 20, 1886, Atlanta was chosen as the location. Professor M. P. Higgins of the Worcester Institute was secured to supervise the new work, and on October 7, 1888, the installation ceremonies were held at the Opera House in Atlanta.

CAMPUS

Five acres were purchased from the Peters Land Company at the outset, and later, Mr. Richard Peters donated four additional acres. The campus has been increased by purchase and gifts from time to time until it now comprises 44 acres. The original shop buildings destroyed by fire were replaced in 1891, and at present there are on the campus the following:

	Completed
Academic Building.....	1888 \$ 80,000
Old Shop Building.....	1892 40,000
Knowles Dormitory.....	1898 55,000
Textile Building.....	1898 60,000
Swann Building.....	1900 60,000
Electrical Building.....	1901 50,000
President's House.....	1903 15,000
The Lyman Hall Laboratory.....	1906 50,000
Carnegie Building.....	1906 30,000
Whitehead Memorial Hospital.....	1910 30,000
Y. M. C. A. Building.....	1911 80,000
Power Plant.....	1914 80,000
Military Building.....	1917 10,000
Automobile Building.....	1918 5,000
Mechanical Building.....	1920 190,000
Physics Building.....	1923 225,000
Ceramics Building.....	1924 35,000
Julius Brown Memorial Hall.....	1925 85,000
Grant Field Stadium.....	1925 300,000
Emerson Addition to Chemistry Bldg.....	1925 100,000
N. E. Harris Dormitory.....	1926 75,000

Army Headquarters Building.....	1927 30,000
Dining Hall.....	1928 150,000
Rose Bowl Building.....	1929 75,000
Guggenheim Building.....	1930 100,000
Cloudman Dormitory.....	1931 75,000
Naval Armory.....	1934 130,000
*Techwood, Inc., Dormitory.....	1935 250,000
W.P.A. Addition to Chemistry Bldg.....	1936 40,000
Auditorium-Gymnasium (in part).....	1937 93,000
Civil Engineering Building.....	1938 150,000
Engineering Drawing Building.....	1938 130,000
Clark Howell Dormitory.....	1939 106,000
George W. Harrison, Jr., Dormitory.....	1939 100,000
Engineering Experiment Station.....	1939 100,000

GIFTS

Several of these in part and much of the machinery and apparatus have been given by generous friends. Some of these are the Knowles and Swann Dormitories, the A. French Textile Building, Electrical Building, Lyman Hall Laboratory of Chemistry, Carnegie Library, Y. M. C. A. Building, Grant Field, and Stadium, The Joseph Brown Whitehead Memorial Hospital, and the Physics Building, towards which the Carnegie Corporation made an appropriation of \$150,000; the remainder of the \$200,000 expended upon this structure was received from the Alumni and friends of the school, through subscriptions to the Greater Tech Campaign Fund of \$1,585,080.11. By will, Honorable Julius L. Brown left two-thirds of his estate to the school, and this it is believed will be when realized in full approximately \$200,000. Mrs. Josephine Cloudman left the residue of her estate to the endowment fund in amount believed to be approximately \$70,000. In 1930, the Guggenheim Board gave \$300,000 for the establishment of a Department of Aeronautical Engineering at Georgia Tech. In addition, generous friends have contributed loan funds to help needy students, as will be shown under the head of Scholarships and Prizes. George W. Harrison, Jr., left by will \$16,000 which is invested in the purchase of two lots near the campus and in improvement of the Ceramic Building.

PRESIDENTS AND TRUSTEES

Dr. I. S. Hopkins was the first President of the Georgia School of Technology. While at the head of Emory College in 1886, there was built under his direction the first shop for technical training of college

*Owned by the Federal agency, Techwood, Inc., for use of the Georgia School of Technology.

men in this State. Naturally, he was the choice of the Trustees for leadership in the new work. He served until his health failed in 1896.

Dr. Lyman Hall, Professor of Mathematics at the School, a graduate of West Point, was the second president. The continuous effort to meet the conditions required by the General Assembly in providing funds for the new buildings undermined his health, and he died in 1905.

To succeed him, the Trustees elected Dr. K. G. Matheson, who was then Professor of English at Georgia Tech. Dr. Matheson continued as president until April 1, 1922, when he resigned to become president of Drexel Institute in Philadelphia.

Mr. N. P. Pratt, Chairman of the Executive Committee of the Board of Trustees, served as Administration Executive Ad Interim for four months, until the Board elected Dr. M. L. Brittain as President, effective August 1, 1922.

Governor N. E. Harris served as chairman of the Board of Trustees until his death, September 21, 1929. Other trustees besides the four already mentioned on the first commission who have rendered service are: D. N. Speer, W. B. Miles, George Winship, George W. Parrott, Walter M. Kelley, N. P. Pratt, Hal G. Nowell, E. R. Hodgson, Sr., and Jr., George G. Crawford, L. W. Robert, Jr., Floyd Furlow, E. R. Black, Harrison J. Baldwin, J. S. Akers, John W. Grant, George H. Carswell, W. H. Glenn, John H. Porter, Frank Freeman, G. M. Stout, Harrison Hightower and John S. Cohen. Besides these regular members, there were three ex-officio trustees appointed each by the Chairman of the Board of Trustees of the University of Georgia, and in addition the Governor and State Superintendent of Schools served ex-officio. On January 1, 1932, all State boards of Georgia State Colleges were abolished and the following now compose the State Board of Regents for the entire University System:

John G. Kennedy, J. D. Gardner, Miller S. Bell, R. D. Harvey, George C. Woodruff, Cason Callaway, Clark Howell, Jr., John W. Bennett, Sandy Beavers, Abit Nix, Marion Smith, George Haines, Jack Lance, Dr. J. Knox Gholston, L. W. Robert, Jr., and Governor E. D. Rivers.

COURSES AND DEGREES

During the first eight years of its history the Georgia School of Technology offered one course of study leading to the degree of Bachelor of Science in Mechanical Engineering. From time to time other courses have been added, and at present the following degrees are granted, the figures giving the year when each course was established:

Bachelor of Science in Mechanical Engineering.....	1888
Bachelor of Science in Electrical Engineering.....	1896
Bachelor of Science in Civil Engineering.....	1896

Bachelor of Science in Textile Engineering.....	1899
Bachelor of Science in Chemical Engineering.....	1901
Bachelor of Science in Chemistry.....	1906
Bachelor of Science in Architecture.....	1908
Bachelor of Science in Engineering Courses, Co-operative Plan	1912
Master of Science.....	1922
Bachelor of Science.....	1923
Bachelor of Science in Ceramic Engineering.....	1924
Bachelor of Science in Aeronautical Engineering.....	1930
Bachelor of Science (General Engineering).....	1934
Bachelor of Architecture.....	1934
Bachelor of Science (Industrial Management).....	1934
Bachelor of Science in Public Health Engineering.....	1939

GENERAL REGULATIONS

The regular session officially opens on Wednesday following the second Friday in September. For further details see calendar on page 2.

All students are urged to be present at the beginning of the term, since those who enter classes late are seriously handicapped. Freshmen, except those in the co-operative course, are required to report for registration at 9 a. m. or 2 p. m. on Tuesday, September 17, 1940.

All freshmen are required to take placement tests in English, Mathematics, Science, and Social Science. This work begins at 8 a. m. on Wednesday, September 18, 1940, and continues through the week including besides the placement tests, physical examination, payment of fees, use of Library, etc. Any transfer student who is rated as a freshman (i.e., 50% or more of his schedule in the freshman class) is required to take the above tests.

ENTRANCE REQUIREMENTS

An applicant may be admitted to the freshman class by certificate under the following conditions:

(1) He must have graduated from an accredited school with a record high enough to indicate that he is prepared for college work. (2) He must meet the requirements in units as shown below. (3) He must be at least sixteen years of age.

The institution reserves the right to reject or to require entrance examinations of any applicant whose record indicates that he is not adequately prepared to do college work. Non-residents of Georgia, who rank in the lower third of their classes, are not eligible to take the examinations. Entrance examinations may also be required of those who have finished high school more than one year prior to entering college. See "Admission by Examination."

Those who have attended a college or other educational institution since graduation from preparatory or high school must present a record of such attendance with the credits received and an honorable discharge. See "Admission with Advanced Standing."

SPECIFIED OR REQUIRED UNITS

(It is very important that all of these be presented on entrance. A qualitative condition, if allowed, must be made up within one year.)

English	3	History	1
Algebra	2	†Physics	1
Plane Geometry*	1	Optional Units, at least.....	7

*Solid Geometry also is strongly recommended.

†An applicant for Architectural, Industrial Management, or regular Textile Course may substitute another science for Physics.

GENERAL REGULATIONS

Applicants for Architecture should offer two units in French.

Prospective students in Chemistry or Chemical Engineering should take either French or German in High School.

OPTIONAL UNITS

English	1	Biology	½ to 1
Sol. Geometry	½	Chemistry	½ to 1
Trigonometry	½	Gen. Science	½ to 1
Adv. Arithmetic	½	Physiography	½ to 1
Hist. and Civics.....	1 to 3	Physiology	½ to 1
Economics	½ to 1	Drawing	½ to 2
Latin or Greek.....	1 to 4	Commerce	1 to 3
Ger., French or Span.....	1 to 3	Shop Work	½ to 2
Bible	½ to 1	Agriculture	1 to 2
		Military	½ to 1

Ordinarily not more than three units will be allowed from the group including Drawing, Commerce, Agriculture, Military and Shop Work.

Special attention is called to the required units in Algebra, as a great many students are conditioned in this subject. To receive entrance credit for the second year in algebra the course must have included *Logarithms, Ratio, Proportion, Variation, Binomial Theorem and Progressions.*

We wish to urge that students have a good working knowledge of all the Mathematics required for entrance. It frequently happens that members of the Freshman Class must be turned back to review their foundation work in Algebra. During the last half year of the high school course the prospective engineering freshman should be given a thorough review of simplifications, exponents, radicals and equations. Such a review will be of great value and may prevent discouragement and failure in college work.

ADMISSION BY EXAMINATION

An applicant with fifteen or more units, who is not eligible for admission by certificate but whose general record is approved, may enter by passing qualifying examinations. These examinations are: *English, Advanced Algebra, Plane Geometry and Physics.* Students who expect to take Architecture, Textile Engineering or Industrial Management may substitute some other science for Physics.

Two general entrance examinations will be held: One at the time of the final examinations of the spring term, and the other at the opening of the fall term. Applicants for admission to the Freshman Class will be admitted to either or both of these examinations, and by special arrangements with the principal may stand entrance examinations at their local schools about June 1st. For full particulars address the Registrar, Georgia School of Technology.

ADMISSION WITH ADVANCED STANDING

Applicants who have made satisfactory records in scholarships and in conduct in other accredited colleges may enter with advanced standing provided the subjects satisfactorily passed cover in time and content certain of the required subjects in the courses which they expect to enter at Georgia School of Technology. Such students, especially those from colleges of arts and sciences, are notified that in transferring to a technical course they will lose some of their credit hours. No definite statement of advanced standing can be given until an official transcript is received from the Registrar of the institution previously attended. A catalog of the institution must be sent with the transcript. Ordinarily an applicant who has less than a "C" average is not accepted. A student who has been dropped from another college for failure in his studies or for misconduct cannot be admitted. First year transfer students who are rated here as freshmen may be required to live for one year in one of the college dormitories.

Transfers from other colleges with sixty or more semester hours of credit will not be required to take the basic course in R.O.T.C. but for graduation will be required to present six credit hours to cover the two-year basic course in Military.

TUITION AND FEES

The rates for fees, board and room rent are subject to change at the end of any semester. BEGINNING WITH THE 1940-41 SESSION THE TUITION WILL BE \$115.00 ANNUALLY FOR GEORGIA STUDENTS AND \$230.00 ANNUALLY FOR THOSE RESIDING OUTSIDE THE STATE.

All checks for fees, board, or other deposits should be made payable to the Georgia School of Technology and mailed to F. K. Houston, Treasurer.

By a law of the State, the fees for each term must be paid in advance before the day on which the term opens. *To qualify for Georgia tuition the student's parents must be legal and actual residents of Georgia.* The fees for 1940-41 are:

For students whose parents are legal residents of Georgia:

	1st Term	2nd Term
Tuition	\$57.50	\$57.50
Student Activities Fee.....	11.00	11.00
**Deposit for Laboratories, etc.....	10.00	
Medical Fee.....	3.00	
Total charges.....	\$81.50	\$68.50*

*To this amount must be added laboratory charges incurred during the 1st term. The normal laboratory fee for freshmen is \$3.00.

**For students majoring in Chemistry or Chemical Engineering, whose rating is sophomore or higher, the deposit for laboratories, etc., is \$20.00.

For students whose parents are not legal residents of Georgia:

	1st Term	2nd Term
Tuition	\$115.00	\$115.00
Student Activities Fee.....	11.00	11.00
*Deposit for Laboratories, etc.....	10.00	
Medical Fee	3.00	
Total charges.....	\$139.00	\$126.00*

Deposit for Laboratories, etc. This is not a fee but a deposit, required of every student upon admission, and must be kept intact as long as he is in school. All laboratory or other similar charges are made against the student and deducted from this deposit. Some laboratory courses carry special fees, the amounts of which are given in the description of the courses. At the beginning of each term the student pays the amount of these charges for the preceding term, and keeps the credit balance at \$10.

SUMMARY OF EXPENSES

Below is an estimate of the necessary expenses for the first half year of a freshman *whose parents are legal residents of Georgia* and who is taking the regular course. Those whose parents are not legal residents of Georgia must add \$57.50 to the figures given. Students entering the co-operative courses should consult the bulletin issued by that department.

	Low	High
Tuition and Fees.....	\$ 81.50	\$ 81.50
Board, Room and Laundry.....	135.00	175.00
Uniform	27.50	27.50
Books and Equipment.....	25.00	40.00
Total for First Term.....	\$269.00	\$324.00

Expenses for second term should average \$40.00 less than the above figures.

PHYSICAL EXAMINATIONS

Each student upon registration and before attendance at any classes is required to take a physical examination, which is given by a corps of specialists.

Each student is required to submit, to the examining physician, a certificate from his family doctor, stating that he has had satisfactory

*See footnote on page 28.

163.00
167.00

81.50
2
163.00
230
67

230
115
115

5750
2
715.00
230
115

smallpox immunization within the past four years. All students are also urged to have typhoid-paratyphoid prophylaxis before entering school.

For the school year 1940-41 the examinations will be held from Wednesday, September 18, through Saturday, September 21.

An additional fee of \$2.00 will be charged each student who fails to take this examination when scheduled. Medical certificates from elsewhere will not be accepted.

R. O. T. C.

All freshmen and sophomores, except aliens and those physically unfit, are required to take military or naval training. The freshman military uniform is furnished at a cost of \$27.50 which amount must be paid to the Treasurer by every new freshman or sophomore. This deposit will be refunded to those exempted from military. Further information will be found on those pages of this catalog which are headed "Military Science and Tactics."

A student who is physically disqualified for military or who is not a citizen of the United States must present for graduation six hours of extra credit for the two-year basic course in Military.

MISCELLANEOUS

Each member of the Senior Class must pay a diploma fee of \$5.00 before graduating.

Examinations at other than the regular examination times will be granted in exceptional cases only and by Faculty action. A fee of \$2.00 will be charged in all such cases.

A fee of \$2.00 will be charged to old students reporting late for registration or payment of fees without a valid excuse.

The student is advised to defer the purchase of drawing instruments and materials until he can have the direction of the professors in their selection. The prices range from \$15.00 up.

No fees are refunded to students who are required to withdraw on account of conduct or for failure in work or who may withdraw for any reason, except for disabling sickness, properly certified to by a reputable physician. In the latter event, an equitable prorated amount will be refunded, provided the student is not able to return to the School before the end of the term in which he withdraws.

The remainder of the laboratory deposit may be returned to the student at the end of the school year, provided he presents a written statement from his parent or guardian that he has withdrawn from the institution.

DORMITORIES

All students in the freshman class who do not reside with their parents, near relatives, or bona fide guardians legally appointed, are re-

quired to live in the school dormitories for the entire school year. This applies also to transfers from other colleges, who are rated here as freshmen. Students in other classes who are assigned to a dormitory must remain there throughout the year. The School has dormitory accommodations for about 1000 students. Those who expect to enter the freshman class should write early in the preceding term for a room reservation and should state which dormitory is preferred. A deposit will be required with each reservation as explained below.

Address all correspondence about dormitory reservations to the Superintendent of Dormitories, and not to the Registrar's office.

KNOWLES DORMITORY

The Knowles Dormitory is one of the older buildings, but many students prefer it both for its convenient location and for the lower rates. Two students are assigned to a room, and the rate for each is \$22.50 per term, payable in advance. In the assignment of rooms in this building preference will be given to students from Georgia.

HARRIS DORMITORY

This building is located on Techwood Drive immediately across the athletic field from the center of the campus. Two students are assigned to a room and the rate for each is \$45 per term, payable in advance for the term of four and a half months.

JULIUS BROWN MEMORIAL HALL

This dormitory has accommodations for 100 students, two in each room. The rates are \$45 per term per student, payable in advance for the term of four months and a half.

CLARK HOWELL DORMITORY

This dormitory, which was first occupied in September, 1939, will accommodate about one hundred freshmen who are enrolled in a regular course. Two students are assigned to a room, and the rates are \$45 per student for the term of four and one-half months.

CLOUDMAN HALL

This dormitory is open to co-operative students. The room rent is \$22.50 per quarter. Co-operative freshmen who are non-residents of Atlanta are required to send in advance a deposit of \$22.50 for a room reservation.

GEORGE W. HARRISON DORMITORY

This new dormitory is open to students on the Co-operative Plan except freshmen. Two students are assigned to a room and the rates are \$27 per quarter for each student.

TECHWOOD DORMITORY

Through the Federal Government the Techwood Dormitory has been recently erected at a cost of \$250,000 on a lot adjacent to the Georgia Tech Campus. This building is not open to Freshmen, but students in other classes may obtain rooms there at rates of \$8 or \$10 per month per person.

DORMITORY DEPOSITS AND LIVING EXPENSES

(Make all checks payable to Georgia School of Technology and mail remittance to Mr. F. K. Houston, Treasurer.)

All regular students who make dormitory reservations are required to deposit with the Treasurer by August 15th the amount shown below:

For Knowles Dormitory.....	\$22.50
For Harris, Brown or Howell Dormitory.....	45.00

In case the student finds it impossible to enroll, the deposit will be refunded provided notice is given the President not later than September 4th.

Students who room in the dormitories are required to furnish the following articles: One pillow, three pillow cases, four sheets, blankets or comforts, towels, and other small and portable articles needed about their rooms. The articles named should be brought from home. The school furnishes with each room: single beds, mattresses, springs, wardrobe, or closet, bureau and table.

THE DINING HALL

The dining hall is thoroughly modern and sanitary throughout. The plant embodies the best features of the cafeterias in use in the leading colleges and universities. It accommodates more than 500 students at one time, and provides table service for more than 1500. Through this service, it is possible to furnish meals at cost to a majority of the students, and thus effect a substantial reduction in their living expenses.

Students are advised to purchase meal ticket books, \$22.50 for \$20.00 or \$11.00 for \$10.00.

LAUNDRY

Laundry is handled by contract. The student receives a discount on his actual bill, which usually averages seventy-five cents to a dollar per week. All students in the dormitories are required to send their laundry to the company holding contract.

EXAMINATIONS

Final examinations are held at the end of each term. Students may be dropped from the roll of their classes at any examination, when they do not meet the requirements, as well as at any time when they neglect their studies and fall hopelessly behind their classes. No fees are refunded under such circumstances.

The General Assembly of Georgia requires each Senior to pass a satisfactory examination on the State and Federal Constitutions as a prerequisite for graduation. Instruction is given by lecture and otherwise in these subjects, and the required examination is given in March or April.

REPORTS

Reports of the standing of students are issued at the close of each term.

At the end of each period of *six weeks* reports of students whose work is unsatisfactory in any subject are posted on the bulletin boards of the departments, and copies of such reports are mailed to parents.

The Faculty will drop from the rolls at any time a student whose record in scholarship, attendance, or conduct is plainly unsatisfactory.

CHANGES OF COURSES AND WITHDRAWALS

Changing from one course to another, in some cases, is highly advisable, but is to be discouraged unless there are valid reasons for such a change. In all cases where the student wishes to change his course or to withdraw from the school, he must file written permission from his parent or guardian to this effect.

It is extremely important that the parent notify the President of the Institution promptly when a student withdraws on account of illness or for any other reason.

MARKING OR GRADING SYSTEM

The following marking system is now in effect: A—Excellent; B—Good; C—Fair; D—Barely Passing; E—Conditioned; F—Failure. A mark of E will entitle the student to a re-examination the following September if he is otherwise eligible to continue. However, a student having a mark of E in a first term subject will ordinarily repeat it if offered during the second term. A subject carrying a mark of F must be repeated.

A mark of D is passing in a single subject but a general average of approximately C is required for graduation.

CURRICULA

In the following pages there will be found in alphabetical order a tabulation of the work required for a degree in the regular four-year courses offered by the Georgia School of Technology.

The basic Freshman course given below is required in all the engineering courses. The Freshman work in Architecture, which differs somewhat from the basic course in Engineering, as described in the sections devoted to this department. The Freshman work in Industrial Management substitutes Drawing 5-6 for Drawing 9-10, but is otherwise the same as the course given below, except as shown in the footnotes.

FRESHMAN YEAR

*Uniform in all Engineering Courses**

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	3 or 7	Inorganic Chemistry	4	3	4
Dr.	9	Engineering Drawing		6	2
Eng.	11	Composition and Rhetoric.....	3		3
Math.	17	Elementary Functions	5	1	5
M. L.		French, Spanish or German†.....	3		3
		or			
S.S.	11	Social Science			
R.O.T.C.	1	Military or Naval Instruction.....		5	1.5
Or.		Orientation	1		0
Total.....			16	15	18.5

SECOND TERM

Chem.	4 or 8	Inorganic Chemistry	4	3	4
Dr.	10	Engineering Drawing		6	2
Eng.	12	Composition and Rhetoric.....	3		3
Engr.	2	Introduction to Engineering.....	1		5
Math.	18	Analytic Geometry	5	1	5
M. L.		French, Spanish or German†.....	3		3
		or			
S.S.	12	Social Science			
R.O.T.C.	2	Military or Naval Instruction.....		5	1.5
Total.....			16	15	19.5

*Freshmen in Industrial Management take Drawing 5-6 instead of Drawing 9-10, and they may substitute S. S. 21-22 for M. L. or for S. S. 11-12.

†Freshmen who expect to major in Chemistry or Chemical Engineering must elect German.

DEPARTMENT OF AERONAUTICAL ENGINEERING

Daniel Guggenheim School of Aeronautics

PROFESSOR KNIGHT, ASSISTANT PROFESSORS SCHWARTZ, WEEMS,
AND GAIL, AND ASSISTANT

GENERAL INFORMATION

The Department of Aeronautical Engineering, which is known as the Daniel Guggenheim School of Aeronautics, was established in 1930 through a gift of \$300,000 from the Daniel Guggenheim Fund for the Promotion of Aeronautics. The purpose of this award was to establish opportunities at the Georgia School of Technology for study and research of the highest order in the field of aeronautics.

The School of Aeronautics offers three alternatives to prospective students.

1. Students may take the five basic aeronautical courses, A. E. 121, 124, 133, 134, 141, and 142, listed below, in the Senior year of the course in General Engineering and receive the degree of Bachelor of Science in General Engineering at the end of the fourth year. This course is suited to students wishing to obtain employment with the air transport companies and is recommended for students who contemplate taking fifth year or graduate work in Aeronautical Engineering. For information on the General Engineering course, see page 123.

2. Students who have received the degree of Bachelor of Science in General, Mechanical, Electrical, or Civil Engineering may obtain the degree of Bachelor of Aeronautical Engineering by taking a fifth year study. This broad training in Aeronautical Engineering will enable the student to qualify in the design and manufacture of aircraft and aeronautical accessories. Students contemplating fifth year study should communicate with Prof. Knight prior to the second term of their Senior year regarding prerequisites.

3. Students who have received the degree of Bachelor of Science in Aeronautical, General, Mechanical, Electrical, or Civil Engineering may obtain the degree of Master of Science in Aeronautical Engineering by completing a course consisting of intermediate and graduate subjects plus a thesis, the curriculum in each case to be approved by the Committee on Graduate Courses. This advanced work will prepare the student for research or teaching in aeronautics. Most candidates for this degree, and especially those who have not taken undergraduate courses in aeronautics, will find it necessary to spend more than one year in fulfilling the requirements. For complete information on graduate courses see page 178 of this catalogue.

EQUIPMENT

The School of Aeronautics is well equipped for offering laboratory work to augment and lend interest to the theoretical courses. Most of

this equipment is also suitable for research projects conducted by graduate students and members of the staff.

The School is housed in a large building designed especially for it. Among other things this building contains a 9 ft. wind tunnel, a 2½ ft. wind tunnel, an aircraft structural testing laboratory, an instrument laboratory, and a laboratory for the testing of high speed blowers. The School also has its own machine and woodworking shop in which all its models and special apparatus are constructed. A large drafting room is provided adjacent to which is a room containing structural exhibits for the use of design students. A comprehensive and completely indexed reference library on aeronautical subjects is also located in the building. In addition, the Mechanical Engineering Department possesses three large aeronautical engines and dynamometer equipment.

FIFTH YEAR COURSE IN AERONAUTICAL ENGINEERING FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
A. E.	121	¹ Aerodynamics of the Airplane I	3		3
A. E.	133	¹ Theory of Aircraft Structures I	3		3
A. E.	141	¹ Airplane Design I		9	3
A. E.	145	Seminar	1		1
A. E.	155	Aircraft Structural Laboratory		3	1
A. E.	157	Wind Tunnel Laboratory		3	1
A. E.	163	Aeronautical Instrumentation	3		3
M. E.	186	Aeronautical Engines	3		3
Total			13	15	18

SECOND TERM

A. E.	124	¹ Aerodynamics of the Airplane II	3		3
A. E.	134	¹ Theory of Aircraft Structures II	3		3
A. E.	142	¹ Airplane Design II		9	3
A. E.	146	Seminar	1		1
A. E.	152	Dynamics of the Airplane	3		3
A. E.	148	² Airplane Detail Design	3	3	1
A. E.	158	² Aeronautical Laboratory			
A. E.	164	² Aircraft Instrument Laboratory			
A. E.	166	Propeller Design	1	3	2
M. E.	94	Aeronautical Engine Laboratory		3	1
Total			11	18	17

¹Note: Fifth year students who have already taken these courses must substitute approved electives.

²Note: Choice of A. E. 148, A. E. 158, or A. E. 164.

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

A. E. 121-124. AERODYNAMICS OF THE AIRPLANE I-II. Prerequisites: Math. 136, Mech. 40.

Senior G. E. and Fifth Year A. E., first and second terms, 3-0-3.

Applied aerodynamics including performance calculations, static stability and other problems of airplane design.

A. E. 133-134. THEORY OF AIRCRAFT STRUCTURES I-II. Prerequisites: Mech. 40, 48.

Senior G. E. and Fifth Year A. E., first and second terms, 3-0-3.

Development of the basic theory of structural analysis progressing through the methods of analysis for complex structures including those of the monocoque type.

A. E. 141-142. AIRPLANE DESIGN I-II. Prerequisites: Mech. 40, 48. Parallels A. E. 121, 124, 133, and 134.

Senior G. E. and Fifth Year A. E., first and second terms, 0-9-3.

Design of a stressed-skin type airplane in accordance with the U. S. Civil Aeronautics Authority airworthiness requirements including stress analysis for the more important loading conditions.

A. E. 145-146. SEMINAR.

Fifth Year A. E., first and second terms, 1-0-1.

Scheduled meetings at which individual students present technical papers on important current aeronautical developments, the reading of each paper being followed by a class discussion.

A. E. 148. AIRPLANE DETAIL DESIGN. Prerequisites: A. E. 121, 133, 141.

Fifth Year, A. E., second term, 0-3-1.

Detail design and layout of aircraft fittings and sub-assemblies and preparation of production drawings.

A. E. 152. DYNAMICS OF THE AIRPLANE. Prerequisite: A. E. 121.

Fifth Year A. E., second term, 3-0-3.

Mathematical study of dynamic stability and certain special maneuvers such as the spin.

A. E. 155. AIRCRAFT STRUCTURAL LABORATORY. Prerequisites: Mech. 40, 48. Parallels A. E. 133.

Fifth Year A. E., first term, 0-3-1.

Testing of aircraft materials and structural elements to show extent of agreement between theory and experiment and to acquaint the student with aircraft structural testing methods.

A. E. 157. WIND TUNNEL LABORATORY. Prerequisites: Math. 24, Mech. 40. Parallels A. E. 121.

Fifth Year A. E., first term, 0-3-1.

Testing of a complete airplane model in the 2½' wind tunnel to demonstrate the value of this form of testing to the airplane designer.

A. E. 158. AERONAUTICAL LABORATORY. Prerequisite: A. E. 157.

Fifth Year A. E., second term, 0-3-1.

Study of special problems for students interested in aeronautical research.

A. E. 163. AERONAUTICAL INSTRUMENTATION. Prerequisites: Math. 136, Mech. 40.

Fifth Year A. E., first term, 3-0-3.

Theoretical study of instruments used in aircraft and in aeronautical laboratories.

A. E. 164. AERONAUTICAL INSTRUMENT LABORATORY. Prerequisite: A. E. 163.

Fifth Year A. E., second term, 0-3-1.

Study of aeronautical instruments under laboratory and operating conditions.

A. E. 166. AIRCRAFT PROPELLERS. Prerequisites: A. E. 121, 133.

Fifth Year A. E., second term, 1-3-2.

Study of the aerodynamic and structural design of aircraft propellers.

For Graduate courses see page 180 of this catalogue.

DEPARTMENT OF ARCHITECTURE

PROFESSORS BUSH-BROWN AND GAILEY; ASSOCIATE PROFESSORS MORENUS AND HEFFERNAN; ASSISTANT PROFESSORS SIEGLER AND JORGENSEN; PART-TIME INSTRUCTORS HARRIS, ANDERSON AND TAYLOR; AND SPECIAL LECTURER AND CRITIC RICHARD BAUER

The course in Architecture was opened to the students in the autumn of 1908 as one of the full professional courses in the Georgia School of Technology. The regular course extends over five years, leading to the degree of Bachelor of Architecture.

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture. The degree carries with it certain examination immunities for those seeking licenses to practice architecture.

The "University Medal" was awarded to the Department of Architecture, February, 1940, by the Groupe Americain, Societe Des Architectes Diplomes Par Le Gouvernement Francaise, for excellence in teaching based on record of awards, 1938-1939, for student work submitted to Beaux-Arts Institute of Design in New York.

The new five-year curriculum in Architecture, as contained in this catalogue, went into effect beginning September, 1934. Except for one course, An Introduction to Design, the freshman year is virtually the same as for the men taking Engineering. At the beginning of the Sophomore year students taking Architecture will be called upon to select either the Design option or the Structural option. Both of these options lead to the degree of Bachelor of Science at the end of the four-year course. For those who select Option No. 1, the Design option, and intend to become practicing architects, a fifth year will be given leading to the degree of Bachelor of Architecture. For those who may wish to hold a position in almost any branch of the building industry, either four-year option will furnish a preparation.

The fifth year is for men whose intention is to become architects, and only such men as complete the five-year course will receive a degree in Architecture. A student will be admitted to the fifth year only upon recommendation of the faculty of the Department.

The architect is, more than anyone else, responsible for the safe, useful, and aesthetic realization of our needs as to shelter. He is the natural leader in the building industry. He should be something of an artist, an engineer, and an executive. He must combine common sense and imagination in order to bring into being structures which are to be permanent and serviceable in addition to expressing their purpose.

It is evident that a broad foundation of academic training is necessary. The fundamental and cultural courses include English, the Social

Sciences, Physics, Mathematics, and Modern Language. In addition, the purely professional subjects may be classified under a number of general headings. For the five-year professional course Option No. 1, these are listed as follows:

- (1) *Architectural Design*. (4 yrs., 50 cr. hrs.) Individual creative work on the part of the student representing analysis and solution of architectural problems.
- (2) *Architectural Engineering*. (3 yrs., 24 cr. hrs.) Closely associated with the above and including building materials, structural theory and design, and the mechanical plant.
- (3) *History*. (2 yrs., 10 cr. hrs.) The history of the architecture of the Western World from Egypt to, and including, the present.
- (4) *Freehand Drawing*. (4 yrs., 11 cr. hrs.) Charcoal, watercolor, pencil rendering, life drawing, etc.
- (5) *Graphics*. (1 yr., 5 cr. hrs.) Descriptive Geometry, Shades and Shadows, and Perspective.
- (6) *Professional Practice*. (1 term, 2 cr. hrs.) The business, legal, and ethical phases of architectural practice.

COMBINATION COURSE

By taking additional courses during at least one summer session, it is possible to take Option 2 receiving the B.S. degree with a major in Architectural Engineering at the expiration of four years and at the same time qualify to receive the B. of Arch. degree at the end of the fifth year. A special program of courses should be determined with the approval of the Head of the Department by the end of the Freshman Year.

SPECIAL COURSES

Under certain conditions special students may enroll in the Department with the intention of concentrating on professional subjects. To be classified as a SPECIAL STUDENT, a man must be a high school graduate; he must have had at least three years of experience in the office of a practicing architect or the equivalent; and he must be ordinarily at least twenty-one years of age. The special course is intended for mature men of proved ability who have become definitely committed to architecture as a life work. Letters of recommendation from employers testifying to length and quality of service are required, and no applicant will be finally admitted except after an interview with the Head of the Department. At the successful completion of the required professional studies, for which a minimum of three years should be anticipated, such men are entitled to a Certificate of Proficiency.

ANNOUNCEMENT: A COURSE IN INDUSTRIAL DESIGN

Beginning September, 1940, elementary courses in Industrial Design will be offered intended primarily for Sophomores. It is the intention to

include in next year's catalogue a complete four year curriculum leading to a B.S. degree in Industrial Design.

Students who may be interested in the field of design as applied to the products of industry should investigate further. There is a need in industry for designers having a basic understanding of materials and the process of manufacture and who have the ability and training to design successfully. To do so necessitates an understanding of the laws of aesthetics and presupposes a feeling for form, color, and texture, as well as technological knowledge, and an analytical approach.

Under Industrial Design may be included various fields such as the Textile Industry; the clay products and glass and china industries; household appliances and furnishings; industrial and commercial equipment and displays; transportation; building products, etc. The most used materials include ceramics (clay and glass), metal, wood, plastics and textiles. Georgia School of Technology is in a unique position in being able to furnish a complete technological foundation for Industrial Design in all its various branches.

EQUIPMENT

The quarters occupied by the Department of Architecture provide for two large drafting rooms, a lecture room, a library, a freehand studio, a materials laboratory, and several smaller rooms and offices. The library is part of the school library, but functions as a separate departmental library, and all architectural books are permanently housed in the department. Books and documents, which serve as such an important part of the work, are easily accessible to the students and are used extensively in Design, History, and other courses. The library contains some 1,800 volumes, and is kept up to date by constant additions.

SCHOLARSHIPS AND LOAN FUNDS IN ARCHITECTURE

The Georgia Chapter of The American Institute of Architects has donated \$200.00 to be used as a loan fund to help students in architecture.

Through the generosity of Mrs. Blanche Coleman of Milwaukee, Wisconsin, a scholarship of \$60.00 per year has been established as a memorial to her son, Holland Coleman, and is awarded to a deserving student in the Department.

THE REGULAR COURSE IN ARCHITECTURE FRESHMAN YEAR

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 1	Introduction to Design	2	3	3
Eng. 11	Composition and Rhetoric	3		3
Math. 17	Elementary Functions	5	1	5
M. L.	French or German	3		3
S. S. 11	Social Science	3		3
R.O.T.C. 1	Military or Naval Instruction		5	1.5
Or.	Orientation	1		
Total		17	9	18.5

SECOND TERM

Arch. 2	Introduction to Design	1	6	3
Eng. 12	Composition and Rhetoric	3		3
Math. 18	Analytic Geometry	5	1	5
M. L.	French or German	3		3
S. S. 12	Social Science	3		3
R.O.T.C. 2	Military or Naval Instruction		5	1.5
Total		15	12	18.5

Note: A student entering without French or German will be required to take two years of one or the other, except that this will not apply to a man selecting Option No. 2.

SOPHOMORE YEAR (Option No. 1—Architectural Design)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 9a	Freehand Drawing		3	1
Arch. 11a	Architectural Design (elementary)	1	12	5
Arch. 13	Graphics—Shades and Shadows	1	4	2.5
Eng. 33	Humanities	3		3
Phys. 21	Physics	3	3	4
R.O.T.C. 3	Military or Naval Instruction		5	1.5
Total		8	27	17

SECOND TERM

Arch. 9b	Freehand Drawing		3	1
Arch. 11b	Architectural Design (elementary)	1	12	5
Arch. 14	Graphics—Perspective	1	4	2.5
Eng. 34	Humanities	3		3
Phys. 22	Physics	3	3	4
R.O.T.C. 4	Military or Naval Instruction		5	1.5
Total		8	27	17

Note: A student entering with advanced standing who can be given credit for Chemistry, may substitute this for Physics.

JUNIOR YEAR (Option No. 1—Architectural Design)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 9c	Freehand Drawing		3	1
Arch. 11c	Architectural Design (intermediate)	1	16	6
Arch. 15a	History of Architecture	3		2.5
Arch. 30a	Construction—Building Materials	2		2
Ec. 24	Economics	3		3
	Elective: Government or English	3		3
Total		12	19	17.5

SECOND TERM

Arch. 9d	Freehand Drawing		3	1
Arch. 11d	Architectural Design (intermediate)	1	16	6
Arch. 15b	History of Architecture	3		2.5
Arch. 30b	Construction—Building Materials	2		2
Mech. 42	Mechanics of Materials	3		3
	Elective: Public Speaking or Economics	3		3
Total		12	19	17.5

SENIOR YEAR (Option No. 1—Architectural Design)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 9e	Freehand Drawing		3	1
Arch. 11e	Architectural Design (intermediate)	1	16	6
Arch. 15c	History of Architecture	3		2.5
Arch. 33	Construction—Wood	3	3	4
Arch. 83	Water Color		3	1
M. E. 69	The Mechanical Plant	2		2
Total		9	25	16.5

SECOND TERM

Arch. 9f	Freehand Drawing		3	1
Arch. 11f	Architectural Design (intermediate)	1	16	6
Arch. 15d	History of Architecture	3		2.5
Arch. 34	Construction—Steel	3	3	4
Arch. 84	Water Color		3	1
E. E. 56	The Mechanical Plant (electricity)	1		1
	Elective	2		2
Total		10	25	17.5

FIFTH YEAR (Option No. 1—Architectural Design)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 65	Professional Practice	2		2
Arch. 109a	Freehand Drawing (life)		4	1.5
Arch. 111a	Architectural Design (advanced)	1	21	8
C. E. 71	Construction (reinforced concrete)	1	3	2
	Architectural Electives	2	3	3
Total		6	31	16.5

SECOND TERM

Arch. 109b	Freehand Drawing (life)		4	1.5
Arch. 111b	Architectural Design (advanced)	1	21	8
	Architectural Electives	2	3	3
	Academic Elective	3		3
C. E. 72	Construction (reinforced concrete)	1	3	2
Total		7	31	17.5

ARCHITECTURAL ELECTIVES:

Arch. 81	Landscape Architecture	2		2
Arch. 77 & 78	Pen and Ink		4	1.5
Arch. 70	History of Art	2		2
Arch. 71 & 72	Modeling	1	3	2
Arch. 79 & 80	Outdoor Sketching		4	1.5
Arch. 120	Town Planning and Housing	1		1
Phys. 40	Acoustics and Illumination	2		2

SOPHOMORE YEAR (Option No. 2—Architectural Engineering)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 13	Graphics	1	4	2.5
Arch. 30a	Construction—Building Materials	2		2
Eng. 33	Humanities	3		3
Math. 23	Calculus	5		5
Phys. 21	Physics	3	3	4
R.O.T.C. 3	Military or Naval Instruction		5	1.5
Total		14	12	18

SECOND TERM

Arch. 14	Graphics	1	4	2.5
Arch. 30b	Construction—Building Materials	2		2
Eng. 34	Humanities	3		3
Math. 24	Calculus	5		5
Phys. 22	Physics	3	3	4
R.O.T.C. 4	Military or Naval Instruction		5	1.5
Total		14	12	18

JUNIOR YEAR (Option No. 2—Architectural Engineering)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 6a	Design and Working Drawings	1	12	5
Arch. 9a	Freehand Drawing		3	1
Arch. 57	History: General Survey	2		2
C. E. 21	Plane Surveying	1	3	2
Ec. 24	Economics	3		3
Mech. 33	Applied Mechanics	3	3	4
Total		10	21	17

SECOND TERM

Arch. 6b	Design and Structure	1	12	5
Arch. 9b	Freehand Drawing		3	1
Arch. 46	Construction—Wood and Masonry	3		3
Arch. 58	History: General Survey	2		2
Ec. 32	Economics	3		3
Mech. 36	Applied Mechanics	2		2
	Elective	2		2
Total		13	15	18

SENIOR YEAR (Option No. 2—Architectural Engineering)

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Arch. 6c	Design and Construction	1	16	6
Arch. 47	Construction—Steel	3		3
Arch. 51	Office Practice	2		2
Ec. 51	Government or Elective	3		3
M. E. 57	Materials Lab.	1	3	1.3
M. E. 69	The Mechanical Plant (Plumbing and Heating)	2		2
Total		12	19	17.3

SECOND TERM

Arch. 6d	Design and Construction	1	16	6
Arch. 52	Office Practice	2		2
C. E. 74	Construction—Concrete	3	3	4
E. E. 56	The Mechanical Plant (Electrical)	1		1
Eng. 45	Public Speaking or Elective	3		3
Total		10	19	16

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

ARCH. 1 and 2. INTRODUCTION TO DESIGN.

Freshman, first term, 2-3-3; second term, 1-6-3.

An introductory study of the principles of visual design and the relation of design to everyday living through art and industry. A survey of the fields of Architecture and Industrial Design—their function, scope, and requirements. The course consists of lectures, assigned reading, class work, and first hand experience in drafting room and shop.

ARCH. 6. DESIGN, WORKING DRAWINGS, AND STRUCTURAL DESIGN.

6a and 6b—Juniors, Option No. 2, first and second term, 1-12-5.

6c and 6d—Seniors, Option No. 2, first and second term, 1-16-6.

This course is in part similar to Arch. 11 but includes, besides the work in design, carrying certain problems through the working-drawing stage and later design problems are used as a basis for construction problems including computations and drawings of structures of wood, steel and concrete.

ARCH. 9a and 9b. FREEHAND DRAWING.

Sophomores, first and second term, 0-3-1.

Drawing from simple plaster casts in pencil and charcoal. Principles of proportion and values are stressed.

ARCH. 9c and 9d. FREEHAND DRAWING. Prerequisite, Arch. 9b.

Juniors, first and second term, 0-3-1.

A continuation of Arch. 9b, the casts now used being of sculptural architectural details.

ARCH. 9e and 9f. FREEHAND DRAWING. Prerequisite, Arch. 9d.

Seniors, first and second term, 0-3-1.

Drawings of various subject matter, including outdoor sketching.

ARCH. 11. ARCHITECTURAL DESIGN.

11a, 11b—Sophomore (Elementary) 1-12-5. Prerequisite, Arch. 1 and 2.

11c, 11d, 11e, 11f—Junior and Senior (Intermediate) 1-16-6. Prerequisite, Arch. 11a.

111a, 111b—Fifth year (Advanced) 1-21-8.

Laboratory fee, Juniors, Seniors and Fifth Year men, \$7.50 per term to cover registration in B. A. I. D.

Programs giving conditions of a problem are issued at intervals to the class. Each student, with individual criticism and under the guidance of the instructor, works out and presents his own solution. The drawings by students of a class, turned in together at a specified time, are judged by a jury consisting of members of the faculty, assisted, ordinarily, by one or two practicing architects of Atlanta. The problems assigned are at first simple; in the intermediate classes medium sized buildings are studied and designed; in advanced work the programs deal with larger buildings or groups of buildings constituting problems of greater complexity.

Programs issued by the Beaux Arts Institute of Design, New York, are used very largely. Each major problem covers a period of five or six weeks. Short problems and one-day sketches without criticism are also assigned from time to time to encourage independence of thought, originality, and rapidity of expression.

Drawings considered worthy are sent to New York for judgment in competition with those from other schools throughout the country. Drawings are the property of the school and such drawings as are needed for exhibition or other purposes will be retained.

In order to emphasize the fact that design is an art based on or conditioned by consideration of structure and the practical use and disposition of materials, some time during the intermediate design course at least one problem is carried beyond the usual presentation stage and completed in the form of scale working drawings, and one other program is carried on through the engineering design of structural elements.

The work in the drafting room outlined above is accompanied by lectures on the theory and principles of design. Included under this are such related subjects as Landscape Architecture, Housing and City Planning.

ARCH. 13 and 14. GRAPHICS.

Sophomores, first and second term, 1-4-2.5.

Descriptive Geometry, shades and shadows, perspective—the representation of three dimensional form in what is the architect's medium of expression, two dimensional drawings.

Text: Kenison and Bradley, Descriptive Geometry. Lawrence's Perspective.

ARCH. 15a. HISTORY OF ARCHITECTURE (Ancient).

Juniors, first term, 3-0-2.5.

Two lectures a week are given with the aid of lantern slides, and a

seminar once a week—subject, the history of architecture from early Egypt to and including ancient Rome. Research on the part of the students, both selective and assigned, supplements the class room lectures, and illustrated reports or notes are called for from time to time.

ARCH. 15b. HISTORY OF ARCHITECTURE (Medieval). Prerequisite, Arch. 15a.

Juniors, first term, 3-0-2.5.

The history of Early Christian, Byzantine, Romanesque, and Gothic Architecture.

ARCH. 15c. HISTORY OF ARCHITECTURE (Renaissance). Prerequisite, Arch. 15b.

Seniors, first term, 3-0-2.5.

The history of the Renaissance in Italy and the other principal countries of Europe.

ARCH. 15d. HISTORY OF ARCHITECTURE (American). Prerequisite, Arch. 15c.

The history of American Architecture is studied, beginning with the early settlements and tracing its development through to the present, including an analysis of the contemporary movement.

ARCH. 22. FREEHAND DRAWING.

Sophomores, Textile, second term, 0-3-1.

This begins with problems in freehand perspective followed by problems done in pencil with the object of developing a sense of proportion and in general, a better coordination between eye and hand.

ARCH. 30a and 30b. CONSTRUCTION (Building Materials).

Option No. 1, Juniors; Option No. 2, Sophomores; 2-0-2.

This course is devoted to the study of the materials of construction, with attention given to the effect which the nature of the material should have on design, and the best ways of using building materials in modern construction.

ARCH. 33 and 34. BUILDING CONSTRUCTION. Prerequisite, Arch. 30a and 30b.

Option No. 1, Seniors, first and second term, 3-3-4.

This course is devoted to the theory of building construction, deduction of formulas, the use of statics to investigate forces and stresses,

and the study of the strength of materials to resist stresses. The principles studied are applied to practical building design by problems in wood, steel, and masonry construction, worked out in conference between instructor and student.

Text: Wood, Structural Design Data. Hauf, Design of Steel Buildings.

ARCH. 46. CONSTRUCTION (Wood and Masonry). Prerequisite, Arch. 30a and 30b, and Mech. 47.

Option No. 2, Juniors, second term, 3-0-3.

Frame, mill, and ordinary construction.

ARCH. 47. CONSTRUCTION (Steel). Prerequisite, Arch. 46.

Option No. 2, Seniors, first term, 3-0-3.

Fireproof and non-fireproof steel construction.

ARCH. 51 and 52. OFFICE PRACTICE. Prerequisite, Arch. 30a and 30b.

Option No. 2, Seniors, first and second term, 2-0-2.

Writing specifications, architectural supervision, building superintendence, and estimating.

ARCH. 57 and 58. ELEMENTARY SURVEY OF ARCHITECTURE.

Juniors and Seniors, first and second term, 2-0-2.

This course is given for men taking Option No. 2 and for those not pursuing a professional course in Architecture. It covers in outline the historic styles down to and including the present, and is intended to familiarize the student with architectural form and give him an elementary understanding of the principles of design.

ARCH. 65. PROFESSIONAL PRACTICE.

Fifth year, first term, 2-0-2.

A course of lectures and discussions on professional ethics, office organization and management, competitions, contracts, specifications, legal questions, and the general procedure of architectural practice.

ARCH. 70. HISTORY OF ART. Prerequisite, Arch. 15c.

Elective; first or second term, 2-0-2.

This is a course of lectures, assisted by lantern slides, starting with

the primitive manifestations of the artistic instinct, and covering in successive steps the further development of art down to modern art.

ARCH. 71 and 72. MODELING.

Fifth year elective; first and second terms, 1-3-2.

Modeling of architectural ornament.

ARCH. 77 and 78. PEN AND INK DRAWING. Prerequisite, Arch 9d.

Elective; first and second terms, 0-4-1.5.

The drawing and rendering in pen and ink of architectural subjects. Stress is laid upon the composition of the sketch as well as its presentation. Drawings by recognized masters are studied to familiarize the student with good technique.

ARCH. 81. INTRODUCTION TO LANDSCAPE ARCHITECTURE.

(Optional) 2-0-2.

The different styles of landscape architecture and the principles governing landscape design.

Text: Hubbard and Kimball.

ARCH. 83 and 84. WATER COLOR.

Senior, first and second term, 0-3-1.

Water color drawings are made from nature, still life objects, and architectural details.

ARCH. 109a and 109b. LIFE DRAWING. Prerequisite, Arch. 9d.

Fifth-year students, first and second term, 0-4-1.5.

This course is devoted to practice in drawing from the living model, not only to give familiarity with the human figure but because of the value of this practice as training.

ARCH. 120. TOWN PLANNING AND HOUSING.

Fourth and fifth year, 1-0-1.

ARCH. 179 and 180. OUTDOOR SKETCHING. Prerequisite, Arch. 9d.

Elective; first and second terms, 0-4-1.5.

Studies in various media, mainly dealing with outdoor subjects.

For Graduate Courses see page 182 of this catalogue.

DEPARTMENT OF BIOLOGY AND PUBLIC HEALTH

PROFESSOR WYCKOFF, ASSISTANT PROFESSOR LOWER,

ASSISTANT PROFESSOR HOPPER, AND INSTRUCTOR A. E. CANNON

The course in Public Health Engineering is arranged to meet the increasing demand for men who have knowledge of bacteriology and the principles of sanitation, public health, industrial hygiene, and public health administration, together with sound basic training in engineering. Men with such training should be of immediate value in such fields as the various public health agencies; consulting sanitary engineers organizations and other private engineering practice; manufacturing industries where water supply and stream pollution from industrial wastes are problems of the first magnitude; sales engineering positions representing manufacturers of equipment used in sanitary engineering structures; and other organizations having special problems in sanitation.

In conjunction with the course outlined below will be numerous inspection trips to water and sewage treatment plants, public health laboratories, industrial plants presenting problems in sanitation, and field trips to projects dealing with mosquito eradication, rat-proofing, etc.

Satisfactory completion of the course leads to the degree of Bachelor of Science in Public Health Engineering.

FRESHMAN YEAR

See Page 34

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Biol.	45	General Biology	3	4	4.3
Eng.	33	Humanities	3		3
Math.	23	Calculus	5		5
Phys.	27	Physics	5	3	6
R.O.T.C.	3	Naval or Military Instruction		5	1.5
Total			16	12	19.8

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	13	Qualitative Analysis	2	6	3
C. E.	25	Topographical Mapping		3	1
Eng.	34	Humanities	3		3
Math.	24	Calculus	5		5
Phys.	28	Physics	5	3	6
R.O.T.C.	4	Naval or Military Instruction		5	1.5
Total			15	17	19.5

JUNIOR YEAR

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Biol. 47	Parasitology	2	3	3
Chem. 17	Quantitative Analysis	2	6	3
Chem. 26	Organic Chemistry	3	3	4
C. E. 21	Plane Surveying	1	3	2
C. E. 33	Hydraulics	3		3
Mech. 31	Applied Mechanics	3		3
Total		14	15	18

SECOND TERM

Biol. 58	Bacteriology	3	4	4.3
Chem. 18	Quantitative Analysis	1	6	2.3
Chem. 27	Organic Chemistry	3	3	4
C. E. 35	Sewerage and Sewage Treatment	2		2
Eng. 45	Public Speaking	3		3
Mech. 47	Mechanics of Materials	2		2
Total		14	13	17.6

SENIOR YEAR

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Biol. 61	Sanitary Chemistry	2	3	3
Biol. 63	Sanitation	3		3
C. E. 51	Water Supply Engineering	2		2
C. E. 155	Concrete Structures	3	3	4
C. E. 153	Structures	3	3	4
M. E. 69	Heating, Ventilation and Plumbing	2		2
Total		15	9	18

SECOND TERM

Biol. 66	Industrial Hygiene	3		3
Biol. 68	Sanitary Bacteriology	2	4	3.3
Biol. 70	Epidemiology	2		2
Biol. 72	Public Health Administration	2		2
C. E. 40	Quantity Surveying	1	3	2
C. E. 61	Contracts and Specifications	2		2
Biol. 74	Vital Statistics	2		2
Total		14	7	16.3

COURSES OF INSTRUCTION

BIOLOGY 38, 38c. GENERAL BACTERIOLOGY.

Junior C. E., either term, 2-4-3. Fee, \$2.50.

Junior C. E. Co-op., second and third terms, 3-4-3.

The purpose of this course is that of familiarizing the student with the bacteriology of sanitation. It is necessary that this be preceded by a study of the general characteristics and activities of bacteria. A large part of the course is, therefore, given to the study of the activities of the different groups of bacteria and their significance.

Text: Elementary Bacteriology, Greaves.

BIOLOGY 45. GENERAL ZOOLOGY.

Sophomore, Industrial Management and Public Health Engineering.

First term, 3-4-4.3. Fee, \$3.00.

This is an introductory course in which the fundamental principles, the theories and problems of biology are presented. Attention is directed to the vital phenomena as exhibited in the lower animals with the purpose of giving the student a broader and more accurate conception of those processes at work in the higher forms of life, including man himself. In the laboratory special study is made of representatives of the various invertebrate forms.

Texts: College Zoology, Hegner. Hyman's Laboratory Manual for General Zoology, and Library References.

BIOLOGY 46. VERTEBRATE ZOOLOGY.

Second term, 3-4-4.3. Fee, \$3.00.

This is a continuation of course 45. The lectures take up the development, structure, functions and relationships of the vertebrate animals. In the laboratory representatives of the various vertebrate classes are studied, stressing comparative anatomy.

Texts: Vertebrate Zoology, Newman; Biology of the Vertebrates, Walters; College Zoology, Hegner.

BIOLOGY 47. PARASITOLOGY. Prerequisite, Biol. 45.

First term, 2-3-3. Fee, \$2.50.

A general survey of the parasites of man consisting of three approximately equal parts: (1) protozoology, (2) helminthology, and (3) in-

sects of medical importance. Special attention is given the public health aspects of the subject.

Text: Parasitology, Chandler.

BIOLOGY 51. HUMAN PHYSIOLOGY. Prerequisite, Biol. 45.

Second term, 3-0-3.

This course is designed to give the student definite information as to the structure and function of the human body, together with the conditions which may interfere with normal functioning.

BIOLOGY 58. BACTERIOLOGY.

P. H. Eng., Second term, 3-4-4.3. Fee, \$2.50.

Dealing with the fundamental principles of bacteriology and the relation of micro-organisms to fermentation, putrefaction, and disease; the principles of infection and resistance; the practice of bacteriological technique.

BIOLOGY 61. SANITARY CHEMISTRY. Prerequisites, Chem. 18 and 27.

First term, 2-3-3. Fee, \$3.00.

Chemical examination of water and sewage with lectures on the sanitary significance and practical applications.

BIOLOGY 63. SANITATION.

First term, 3-0-3.

Dealing with the general principles of sanitation including water supplies, sewage and refuse disposal, milk and food sanitation, housing, swimming pools, and general inspection methods.

BIOLOGY 66. INDUSTRIAL HYGIENE.

Second term, 3-0-3.

The problems of health administration in industry. Special attention is given to industrial poisons, occupational hazards and diseases, industrial fatigue, ventilation, and accident prevention.

BIOLOGY 68. SANITARY BACTERIOLOGY. Prerequisite, Biol. 58.

Second term, 2-4-3.3. Fee, \$2.50.

The bacteriology of water, sewage, and foods. Special attention is given the various standard methods of analysis.

BIOLOGY 70. EPIDEMIOLOGY.

Second term, 2-0-2.

Detailed consideration of the natural history of disease epidemics and their causes in relation to public water supplies, milk supplies, sewage systems, insects, and personal causative factors.

BIOLOGY 72. PUBLIC HEALTH ADMINISTRATION.

Second term, 2-0-2.

Consideration of the history, organization and administration of public health departments and various health agencies.

BIOLOGY 74. VITAL STATISTICS.

Second term, 2-0-2.

A study of statistical methods, consideration of possible errors, critical analysis and interpretation of data.

DEPARTMENT OF CERAMIC ENGINEERING

PROFESSOR VAUGHAN, ASSOCIATE PROFESSOR MITCHELL,
INSTRUCTORS WYSONG AND HARRIS

A four-year curriculum leads to the degree of Bachelor of Science in Ceramic Engineering. Graduate work leading to the Master of Science in Ceramic Engineering is also offered. A broad basic training is given in the fundamental and engineering courses, thus preparing the student to enter successfully any division of ceramic engineering. However, the necessary cultural courses are included. The class room, laboratory and library work are coordinated to combine theoretical and practical knowledge. Periodic contacts with the clay-working industries of the State enlarge the practical viewpoint of the student.

The department also concerns itself with direct service to the ceramic industries. This takes the form of research, testing of materials and products, and manufacturing assistance. Georgia is in the center of an area which produces much of the country's supply of ceramic raw materials, and either leads or ranks high in the production of kaolin, fullers earth, ocher, manganese and limestone. In recognition of favorable market and manufacturing advantages, the department is using its facilities to aid logical industrial development in the South.

THE COURSE IN CERAMIC ENGINEERING

FRESHMAN YEAR

See Page 34

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Cer. E.	21	Functional Ceramic Art		3	1
Cer. E.	23	Products and Materials	3		3
Eng.	33	Humanities	3		3
Math.	23	Differential Calculus	5		5
Phys.	27	Physics	5	3	6
R.O.T.C.	3	Military or Naval Instruction		5	1.5
Total			16	11	19.5

SECOND TERM

Cer. E.	24	Equipment and Tests	1	3	2
Chem.	13	Qualitative Analysis	2	6	3
Eng.	34	Humanities	3		3
Math.	24	Integral Calculus	5		5
Phys.	28	Physics	5	3	6
R.O.T.C.	4	Military or Naval Instruction		5	1.5
Total			16	17	20.5

CERAMIC ENGINEERING

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Cer. E.	31	Processing and Forming	3		3
Cer. E.	35	Heavy Clay Products Laboratory		6	2
Geol.	41	General Geology	3		3
Mech.	33	Applied Mechanics	3	3	4
M. E.	43	Thermodynamics	2		2
Dr.	23	Engineering Drawing		6	2
*Ec.	95	Accounting	3		3
Total			14	15	19

*Military or Naval Instruction is optional for Accounting.

SECOND TERM

Cer. E.	36	Bodies	4		4
Cer. E.	38	Calculations	3		3
Chem.	20	Quantitative Analysis	3	6	5
Geol.	44	General Geology Laboratory		3	1
Mech.	36	Applied Mechanics	2		2
Phys.	50	Pyrometry	1	3	2
Total			13	12	17

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Cer. E.	51	Drying Claywares	3		3
Cer. E.	59	Whitewares Laboratory	1	6	3
Cer. E.	165	Ceramic Microscopy	2	3	3
Chem.	151	Physical Chemistry	4		4
Geol.	51	Mineralogy	1	3	2
M. E.	77	Steam Power Engineering	3		3
*M. E.	45	Instruments and Fuel Laboratory	1	3	1.3
Total			15	15	19.3

*Military or Naval Instruction optional for Instruments and Fuel Laboratory.

SECOND TERM

Cer. E.	52	Firing Claywares	2		2
Cer. E.	54	Refractories	2		2
Cer. E.	56	Vitreous Ceramic Coatings	3	3	4
Cer. E.	64	Design and Construction		8	2.5
Chem.	152	Physical Chemistry	3		3
*Ec.	24	Economics	3		3
		**Electives			3
Total			13	11	19.5

*Military or Naval Instruction is optional for Economics.

**ELECTIVES

Course	No.	Subject	Class	Lab.	Credit
Cer. E.	70	Thesis		9	3
Cer. E.	110	Enamels	2	3	3
Cer. E.	120	Cements	2	3	3

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

CER. E. 21. FUNCTIONAL CERAMIC ART.

Sophomore, first term, 0-3-1.

History, theory and practice of color and design composition; their functional values in utilitarian ceramic products.

CER. E. 23. PRODUCTS AND MATERIALS. Prerequisite, Chem. 4.

Sophomore, first term, 3-0-3.

An engineering survey of ceramics; relationship between industrial service requirements and the properties of ceramic products. The common ceramic materials are classified according to mineralogical character; their influence on each other and the effects of size, physical, and pro-physical properties of particles are stressed.

CER. E. 24. EQUIPMENT AND TESTS. Prerequisite, Cer. E. 23.

Sophomore, second term, 1-3-2.

Testing of ceramic raw materials and products; requirements of proper test methods and practical applications to industry.

Interpretation of results and writing of formal reports. Uses, operation, and calibration of machinery, apparatus, and equipment for ceramic manufacture or testing. Mathematical analysis of data; inherent errors.

CER. E. 31. PROCESSING AND FORMING. Prerequisite, Cer. E. 24.

Junior, first term, 3-0-3.

Winning, refining and preparation of ceramic raw materials; methods and mechanism of processing and forming ceramic products; their effects on the control of the properties of the products and adaptation to service requirements.

CER. E. 35. HEAVY CLAY PRODUCTS LABORATORY. Prerequisite, Cer. E. 31.

Junior, first term, 0-6-2.

The relation of laboratory technique to plant practice including properties of materials, machines, processing and products. Commercial raw materials and products are provided and analyzed and, where practical, the corresponding plants are visited.

CER. E. 36. BODIES. Prerequisites, Chem. 13, Cer. E. 31.

Junior, second term, 4-0-4.

The physical and chemical properties of earthy materials throughout common processes used in the production of ceramic wares. Control of phases of manufacture to introduce in the product those properties service conditions require. Principally concerned with white-wares, but terra cotta, heavy clay products and glass are included.

CER. E. 38. CALCULATIONS. Prerequisite, Cer. E. 31.

Junior, second term, 3-0-3.

Solutions of engineering and practical mathematical problems involved in the manufacture of ceramic wares. Statistical methods.

CER. E. 51. DRYING CLAYWARES. Prerequisites, Phys. 28, Cer. E. 36.

Senior, first term, 3-0-3.

Fundamental considerations of water removal from unfired ceramic products by heat and air. Control of humidity, temperature, air velocity and volume; economy and efficiency of drying and driers; problems to be met in safe drying.

CER. E. 52. FIRING CLAYWARES. Prerequisite, Phys. 28, M. E. 77.

Senior, second term, 2-0-2.

Objectives of firing; combustion behavior of gaseous, liquid and solid fuels; the mechanics of heat transfer, physical and chemical properties of clay and other raw materials under heat treatment; design, operation and heat accounts of periodic and continuous kilns.

CER. E. 54. REFRACTORIES.

Senior, second term, 2-0-2.

The utilization of refractories in industry; the control of properties of refractories through raw materials and all phases of manufacture to best meet industrial requirements; fundamentals of aggregate packing and photo-elastic study of expansion and contraction.

CER. E. 56. VITREOUS CERAMIC COATINGS.

Senior, second term, 3-3-4.

Phase relations of the important oxides and the properties of these oxides in siliceous melts are studied. The fundamental underlying methods of calculating, compounding, manufacturing and using silicate coatings on ceramic and metallurgical bodies are covered as well as the methods commonly employed to correct faults.

CER. E. 59. WHITEWARES LABORATORY. Prerequisite, Cer. E. 36.
Senior, first term, 1-6-3.

Practical and fundamental laboratory studies to determine the control characteristics and properties of molds, saggers, whitewares, and slips by experiment and conclusions. Students are also encouraged to design and execute pieces and experiments in their spare time.

CER. E. 64. DESIGN AND CONSTRUCTION. Prerequisite, Cer. E. 51.
Senior, second term, 0-8-2.5.

Design and working drawings of ceramic manufacturing equipment and plant layouts for specified products. The student makes his own selection under the supervision and with the approval of the instructor.

CER. E. 70. THESIS.

Senior, second term, 0-9-3.

Each senior electing to prosecute a thesis, conducts an original investigation on an approved ceramic subject under the supervision of the instructor in charge. The object of this course is to place the student upon his own initiative and to coordinate the knowledge that he has previously received.

CER. E. 110. ENAMELS.

Senior, second term, 2-3-3.

Covers metallurgy and foundation materials, and the processing of the metal and enamels for sheet iron and cast iron enameled ware. Past and current theory and practice are included.

CER. E. 120. CEMENTS.

Senior, second term, 2-3-3.

Includes the required properties of raw materials, processing and the hydraulic properties of cements. Portland, magnesia, high alumina, dental, and gypsiferous cements are included.

CER. E. 165. CERAMIC MICROSCOPY. Prerequisite, Geol. 51, Phys. 28.
Senior, first term, 2-3-3.

Involves the use of the microscope in the study and control of composition and structure of ceramic bodies and raw materials. Nature of light and crystallography are briefly studied.

INSPECTION TRIPS.

Periodically during the course, representative ceramic industries of the Southeast are visited and studied. The seniors are encouraged to attend the annual meeting of the American Ceramic Society and to take part in the functions and plant tours.

For Graduate Courses see page 182 of this catalogue.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

GILBERT H. BOGGS, PROFESSOR AND DIRECTOR OF THE DEPARTMENT

The Department operates in two branches, the Division of Chemistry and the Division of Chemical Engineering.

THE DIVISION OF CHEMISTRY

JOHN L. DANIEL, PROFESSOR AND CHIEF OF THE DIVISION

PROFESSORS WROTH AND TAYLOR, W.S.; ASSOCIATE PROFESSOR FRIEDMAN, ASSISTANT PROFESSORS WELLS, RICHARDSON, WHITLEY, AND WADDLE; INSTRUCTORS SPICER, TAYLOR, J. L. EDWARDS, CALAWAY, AND CLARY, AND ASSISTANTS

Included in this Division are:

1. The courses in chemistry required in the various engineering curricula.
2. A curriculum leading to the degree of Bachelor of Science in Chemistry.
3. Graduate courses which may be used in meeting the requirements for the Master's Degree. (See page 183.)

The number of students accepted as candidates for the degree in chemistry will be limited. A selection will be made at the beginning of both the Sophomore and the Junior years.

FRESHMAN YEAR

See page 34. German must be elected.

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	15	Theory of Analysis	3	6	5
Eng.	33	Humanities	3		3
Math.	23	Differential Calculus	5		5
Phys.	27	Mechanics and Heat	5	3	6
Mil.	3	R.O.T.C. Basic Course		5	1.5
Total			16	14	20.5

SECOND TERM

Chem.	20	Quantitative Analysis	3	6	5
Eng.	34	Humanities	3		3
Math.	24	Integral Calculus	5		5
Phys.	28	Electricity, Sound, and Light	5	3	6
Mil.	4	R.O.T.C. Basic Course		5	1.5
Total			16	14	20.5

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	28	Organic Chemistry	3	6	5
Chem.	157	Physical Chemistry	4	5	5.6
Ec.	24	Economics for Engineers	3		3
Electives					6

SECOND TERM

Chem.	29	Organic Chemistry	3	6	5
Chem.	158	Physical Chemistry	3	5	4.6
Phys.	161	Introduction to Modern Physics	3		3
Electives					6

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	107	Advanced Topics in Chemistry	3		3
Chem.	128	Technical Analysis	1	9	4
Electives					10

SECOND TERM

Chem.	108	Advanced Topics in Chemistry	3		3
Chem.	111	Industrial Chemistry	3		3
Chem.	114	Organic Analysis	1	9	4
Electives					8

The degree, Bachelor of Science in Chemistry, will be awarded upon the completion of the above prescribed courses and 30 semester hours of elective work chosen from the following list of subjects in conference with the Chief of the Division. No elective course will be given for less than six applicants. A student must have had the prerequisites for any course he elects.

ELECTIVES

Course No.	Subject	Class	Lab.	Credit
Chem. 121	Colloid Chemistry	3	3	4
Chem. 122	Food and Nutrition	2	3	3
Chem. 105-6	Special Problems	(By Arrangement)		
Chem. 123	Topics in Organic Chemistry	3		3
Chem. 124	Topics in Physical Chemistry	3		3
Chem. 125	Valence and Structural Chemistry	3		3
	Any Course in Chemical Engineering			
	Any No. 200 to 299 Course in Chemistry			
	Any Course in Biology			
	Any Course in Geology			
	Any Course in Physics from No. 100 to No. 299			
	Any Course in Mathematics from No. 100 to 299			
	English 45			
	Mat. 5, 6, 7, 8			
	Phys. 65			

COURSES OF INSTRUCTION IN CHEMISTRY

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.
CHEM. 0.

Students unprepared to take the Freshman Chemistry course are placed in Chem. 0. No college credit is allowed for completion of this course.

CHEM. 3-4. ELEMENTARY GENERAL CHEMISTRY.

Both courses, both terms, Freshman, 4-3-4. Fee, \$3.00, each term.

In this course the simpler and more fundamental laws and theories of Chemistry are studied with enough descriptive matter for illustrative purposes. Parallel laboratory work exemplifies the classroom study.

CHEM. 7-8. GENERAL CHEMISTRY. Prerequisite, Entrance Chemistry and Physics.

First and second terms, Freshman, 3-3-4. Fee, \$3.00, each term.

A somewhat more advanced course for Freshmen who have had good preparatory courses in Chemistry and Physics.

CHEM. 7c-8c. GENERAL CHEMISTRY.

First term, Freshmen Co-op, 5-3-4.

Second term, Freshmen Co-op., 4-6-4. Fee, \$3.00, each term.

CHEM. 13. ELEMENTARY QUALITATIVE ANALYSIS. Prerequisite, Chem. 4, with a minimum grade of C, or Chem. 8.

Second term, Sophomore, Cer. E. and T. E., 2-6-3. Fee, \$5.00.

The lectures deal with the fundamental laws and theories of analytical chemistry. The practice work includes the identification of the common positive and negative ions.

CHEM. 13c. THE THEORY OF ANALYSIS. Prerequisite, Chem. 8c.

First term, Co-operative Sophomore Ch. E. and Pre-Junior T. E., 3-9-3.3. Fee, \$5.00.

The lectures deal with the laws and theories of analytical chemistry and the practice work with inorganic reactions and the identification of both positive and negative ions.

CHEM. 15. THE THEORY OF ANALYSIS. Prerequisite, Chem. 4 with a minimum grade of B, or Chem. 8 with a minimum grade of C and Math. 17.

First term, Sophomore Chem. and Ch. E., 3-6-5. Fee, \$5.00.

A classroom and laboratory study of the laws, theories and reactions of analytical chemistry with practice work in inorganic reactions and the identification of both positive and negative ions.

CHEM. 17-18. QUANTITATIVE ANALYSIS. Prerequisite, Chem. 13.

First term, Senior T. E., and P. H. Eng., 2-6-3. Fee, \$5.00.

Second term, Senior T. E., and P. H. Eng., 1-6-2.3. Fee, \$5.00.

The purpose of these courses is to give the textile and public health student drill in the simple manipulations of quantitative chemistry and the solution of chemical problems.

CHEM. 17c. QUANTITATIVE ANALYSIS. Prerequisite, Chem. 13c.

Second term, Co-operative Sophomore Ch. E., 3-9-3.3. Fee, \$5.00.

This course is similar to Chem. 20 but somewhat shorter.

CHEM. 20. QUANTITATIVE ANALYSIS. Prerequisite, Chem. 13 or Chem. 15.

Second term, Sophomore Chem. and Ch. E. and Junior Cer. E., 3-6-5. Fee, \$5.00.

A course designed to acquaint the student with the apparatus and manipulations of the analyst. The determinations will be selected to illustrate typical procedures.

CHEM. 26-27. ORGANIC CHEMISTRY. Prerequisite, Chem. 4 or Chem. 8.

First and second terms, Junior T. E., 3-3-4. Fee, \$6.00, each term.

A study of the various classes of organic compounds. The laboratory work is similar to Chem. 28 and 29 but not as extended.

CHEM. 28-29. ORGANIC CHEMISTRY. Prerequisite, Chem. 4 or Chem. 8.

First and second terms, Junior Chem. and Ch. E., 3-6-5. Fee, \$8.00, each term.

The principal classes of organic compounds, aliphatic and aromatic, are studied. The laboratory work includes the preparation of typical compounds and the study of their properties.

CHEM. 31c-32c. ORGANIC CHEMISTRY. Prerequisite, Chem. 8c.

First and second terms, Co-operative Junior T. E., 4-4-3.6. Fee, \$6.00, each term.

Similar to Chem. 26-27 with fewer laboratory exercises.

CHEM. 35c-36c. ORGANIC CHEMISTRY. Prerequisite, Chem. 8c.

First and second terms, Co-operative pre-Junior Ch. E. 4-8-4.4. Fee, \$8.00, each term.

Similar to Chem. 28-29.

CHEM. 105-106. SPECIAL PROBLEMS. Prerequisite, Chem. 20 and Chem. 29.

Either term, Senior Chem.

The instruction will be individual and will include library, conference, and laboratory work. The time and fees will vary with the problem studied.

CHEM. 107-108. ADVANCED INORGANIC CHEMISTRY. Prerequisite, Chem. 158.

First and second terms, Senior Chem., 3-0-3.

The chemical reactions of atoms and ions; the periodic law; the electronic theory of valence; history of chemistry.

CHEM. 111. INDUSTRIAL CHEMISTRY. Prerequisite, Chem. 29.

Second term, Senior Chem., 3-0-3.

The chemistry of the Process Industries is studied, as well as the orientation of the chemist in industry.

CHEM. 114. ORGANIC ANALYSIS, QUALITATIVE AND QUANTITATIVE. Prerequisite, Chem. 20 and Chem. 29.

Second term, 1-9-4. Fee, \$6.00.

Ultimate analyses of organic substances are made and the methods of identification of compounds and characteristic groups are studied.

CHEM. 121. COLLOID CHEMISTRY. Prerequisite, Chem. 147.

First or second term, 3-3-4. Fee, \$3.00.

Lectures, recitation, and laboratory work on the preparation, properties, and practical applications of colloidal substances.

CHEM. 122. FOOD AND NUTRITION, BIOCHEMISTRY. Prerequisite, Chem. 20 and Chem. 29.

First or second term, 2-3-3.

A study of the chemistry involved in the production and distribution of foods and in their nutritive values.

CHEM. 123. TOPICS IN ORGANIC CHEMISTRY. Prerequisite, Chem. 29.

First or second term, 3-0-3.

Special topics such as carbohydrates, heterocyclic compounds, isomerism and molecular rearrangements.

CHEM. 124. TOPICS IN PHYSICAL CHEMISTRY. Prerequisite, Chem. 158.

First or second term, 3-0-3.

The topics chosen depend upon the interests and needs of the students and cover such fields as chemical thermodynamics, kinetics of chemical reactions, catalysis, phase rule, and electrochemistry.

CHEM. 125. VALENCE AND STRUCTURAL CHEMISTRY. Prerequisite, Chem. 158.

First or second term, 3-0-3.

A critical discussion of the modern concept of valence and a study of the relationship between molecular structure and physical and chemical properties.

CHEM. 128. TECHNICAL ANALYSIS. Prerequisite, Chem. 20.

First term, Senior Chem., 1-9-4. Fee, \$5.00.

Tests and analyses of commercial products and methods used in the control of plant operations will be studied in class and laboratory. The modern instruments of the analytical chemist will be used.

CHEM. 147-158. PHYSICAL CHEMISTRY. Prerequisite, Chem. 20, Phys. 28, and Math. 24.

First term, Junior Ch. E., 3-5-4.6. Fee, \$3.00.

Second term, Junior Ch. E., 3-5-4.6. Fee, \$3.00.

Courses in theoretical chemistry similar to Chem. 157-158, but not as comprehensive, and with some stress on engineering applications. A laboratory course illustrating the principles studied accompanies the lectures.

CHEM. 151-152. PHYSICAL CHEMISTRY. Prerequisite, Chem. 20, Phys. 28, Math. 24.

First term, Senior Cer. E., 4-0-4.

Second term, Senior Cer. E., 3-0-3.

These courses consist of the lectures only of Chem. 157-158 below.

CHEM. 157-158. PHYSICAL CHEMISTRY. Prerequisite, Chem. 20, Phys. 28, Math. 24.

First term, Junior Chem., 4-5-5.6. Fee, \$3.00.

Second term, Junior Chem., 3-5-4.6. Fee, \$3.00.

Physico-chemical properties of matter in the gaseous, liquid, solid, and colloidal states; equilibrium, kinetics, and thermodynamics of chemical reactions; electrochemistry. A laboratory course illustrating the principles studied accompanies the lectures.

CHEM. 153c-154c. PHYSICAL CHEMISTRY. Prerequisite, Chem. 17c, Chem. 36c, Phys. 35c, and Math. 33c.

This sequence is identical in content with Chem. 147-158.

First term, Co-op Junior Ch. E., 5-6-4.7. Fee, \$3.00.

Second term, Co-op Junior Ch. E., 5-6-4.7. Fee, \$3.00.

THE DIVISION OF CHEMICAL ENGINEERING

HAROLD A. BUNGER, PROFESSOR AND CHIEF OF THE DIVISION

ASSOCIATE PROFESSOR WEBER, PAUL, ASSISTANT PROFESSOR

MASON, J. W., INSTRUCTORS YATES AND GRUBB, AND ASSISTANTS

The degree B.S. in Chemical Engineering may be obtained upon the completion of the following curriculum, or that offered on the Co-operative Plan. (See page 86.) The number of students who will be permitted to register for the Junior and Senior work in Chemical Engineering will be strictly limited. The selection will be made on the basis of the student's ability as demonstrated in two years of previous work.

Courses are also described in this section which, along with those outlined in the Graduate section, may be used as credit towards the Master's Degree in Chemical Engineering.

FRESHMAN YEAR

See page 34. Chemical German must be elected, and if Chem. 3 and 4 are taken, the record must be above the average of the class.

SOPHOMORE YEAR

Same as for Chemistry, except that an introductory course is added for Chemical Engineers, which is described on page 70.

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	45	Gas-Fuels, Stoichiometry	3	3	4
Chem.	28	Organic Chemistry	3	6	5
Chem.	147	Physical Chemistry	3	5	4.6
Ec.	21	Economics	3		3
Mech.	35	Applied Mechanics	3		3
Total			15	14	19.6

SECOND TERM

Ch. E.	44	Chem. Eng. Literature	1		1
Ch. E.	56	Unit Operations	3	3	4
Chem.	29	Organic Chemistry	3	6	5
Chem.	158	Physical Chemistry	3	5	4.6
Ec.	22	Economics	3		3
Mech.	36	Mechanics of Materials	2		2
Total			15	14	19.6

SENIOR YEAR

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Ch. E. 41	Engineering Materials	3	3	4
Ch. E. 157	Unit Operations	3	3	4
Ch. E. 161	Chem. Technology	3		3
Ch. E. 109	Special Problems		3	1
Ch. E. 171	Ch. E. Calculations	3		3
E. E. 2	Applied Electricity	3		3
Total		15	9	18

SECOND TERM

Ch. E. 110	Special Problems		3	1
Ch. E. 162	Chem. Technology	3		3
Ch. E. 172	Ch. E. Calculations	3		3
E. E. 3a	E. E. Laboratory		3	1.3
M. E. 73	Heat Engines	4		4
M. E. 74	Heat Engines Laboratory		3	1
Phys. 161	Int. Modern Physics	3		3
Phys. 65	Advanced Laboratory		3	1
	Elective	2		2
Total		15	12	19.3

155.5 is the minimum number of credits required for the Bachelor of Science Degree in Chemical Engineering.

Military or Naval Electives:

Junior, first term	Ec.	21
Junior, second term	Ec.	22
Senior, first and second term	None	

Ch. E. 160 will be offered to ten Seniors as an elective in the second term Senior year.

COURSES OF INSTRUCTION IN CHEMICAL ENGINEERING

CH. E. 33-34. INTRODUCTION TO CHEMICAL ENGINEERING.

First and second term, Sophomore, Ch. E., 0-1.5-0.

An introduction to Chemical Engineering is offered in the form of a course to students who will become applicants to enter the junior Chemical Engineering curriculum. There is no outside preparation. The course is meant to give the prospective student a preview of the training in Chemical Engineering and the place of the Chemical Engineer in industry, in order to permit him to be certain that he wishes to pursue the curriculum in the junior and senior year, and to permit the Chemical Engineering staff to become acquainted with the students so that they may be intelligently selected at the beginning of the junior year. The

course consists of lectures, practice in the use of general Chemical principles, calculations, lectures from visiting engineers, and visual training.

CH. E. 33c-34c. INTRODUCTION TO CHEMICAL ENGINEERING.

First and second term, Co-operative Sophomore, Ch. E., 0-2-.5.

See course description under Ch. E. 33-34.

CH. E. 41. ENGINEERING MATERIALS. Prerequisite, Chem. 147.

First term, Senior Ch. E., 3-3-4. Fee, \$3.00.

An introduction to the properties and preparation of the materials used in the construction of chemical plant equipment. Elementary physical metallurgy, heat treatment and corrosion are included in the class work, while these topics form the major portion of the laboratory course.

CH. E. 41c. ENGINEERING MATERIALS. Prerequisite, Chem. 153c.

Second term, Co-operative Senior Ch. E., 3-3-2.6. Fee, \$3.00.

See course description under Ch. E. 41.

CH. E. 44. CHEMICAL ENGINEERING LITERATURE. Prerequisite, Ch. E. 45.

Second term, Junior, Ch. E., 1-0-1.

This course has as its objective the training of students in the use of the sources of information and an introduction on how to find information in the library.

CH. E. 44c. CHEMICAL ENGINEERING LITERATURE.

Second term, Co-operative Junior, Ch. E., 1-0-.7.

See description under Ch. E. 44.

CH. E. 45. GAS AND FUELS, INDUSTRIAL STOICHIOMETRY. Prerequisite, Chem. 20.

First term, Junior Ch. E., 3-3-4. Fee, \$3.50.

A study of the utilization of fuels, their evaluation, analysis, calorific value, as well as the examination of petroleum products and boiler water. Heat and material balances are introduced.

CH. E. 45c. GAS AND FUELS, INDUSTRIAL STOICHIOMETRY. Prerequisite, Chem. 17c.

First term, Co-operative Junior, Ch. E., 3-3-2.6. Fee, \$3.50.

Similar to Ch. E. 45.

CH. E. 56. UNIT OPERATIONS. Prerequisite, Mech. 35.

Second term, Junior Ch. E., 3-3-4. Fee, \$3.00.

The types of equipment used for the Unit Operations of Chemical Engineering are discussed, the fundamental theory developed, and numerous problems solved in this connection. Problems are also given which involve the specification of equipment after consideration of the economic factors involved. The laboratory work follows the class work in actual performance tests of equipment.

CH. E. 56c. UNIT OPERATIONS. Prerequisite, Mech. 47c.

Second term, Co-operative Junior Ch. E., 3-3-2.6. Fee, \$3.00.

Same as Ch. E. 56.

CH. E. 61. METALLURGY. Prerequisite, Chem. 4 or Chem. 8.

First and second terms, Junior G. E., and Senior E. E., 2-0-2.

This is primarily a course in elementary applied physical metallurgy, with accent on the study of the ferrous metals. The time devoted to such subjects as ore dressing, reduction and refining, is the minimum required to lay a foundation for the discussion of these processes on the final properties and structure of the metal.

CH. E. 61c. METALLURGY. Prerequisite, Chem. 8c.

First term, Co-operative Pre-Junior C. E., M. E., Senior E. E., 4-0-2.6.

Same content as Ch. E. 67.

CH. E. 67. METALLURGY. Prerequisite, Chem. 4 or Chem. 8.

First and second terms, Sophomore, M. E., and A. E., 3-0-3.

A study of the fundamental principles of ferrous metallurgy and metallography, and the heat treatment of steels, alloy steels, and cast iron, which furnishes the theory for a subsequent course in heat treatment.

CH. E. 109-110. SPECIAL PROBLEMS. Prerequisite, Ch. E. 56 concurrently.

First and second terms, Senior Ch. E., 0-3-1; fee to be arranged.

The student is given an opportunity to develop initiative and to apply fundamental principles by doing semi-original laboratory investigation of a Chemical Engineering research nature.

CH. E. 109c-110c. SPECIAL PROBLEMS. Prerequisite, Ch. E. 161c.

First and third terms, Co-operative Senior Ch. E., 0-6-1.3. Fee will be arranged.

Same content as Ch. E. 109-110.

CH. E. 157. UNIT OPERATIONS. Prerequisite, Ch. E. 56.

First term, Senior Ch. E., 3-3-4. Fee, \$3.00.

A continuation of Ch. E. 56.

CH. E. 157c-158c. UNIT OPERATIONS. Prerequisite, Ch. E. 56c.

First and second terms, Co-operative Senior Ch. E., 3-3-2.6. Fee, \$3.00.

Continuation of Ch. E. 56c.

CH. E. 159-160. DESIGN OF CHEMICAL MACHINERY AND APPARATUS. Prerequisite, Ch. E. 157.

First and second terms, Senior Ch. E., 0-8-2.6.

Equipment for a specified purpose and capacity is designed from the student's calculations. Sketches are made which form an adequate basis for a machine drawing. Plant layouts are included as well as individual pieces of equipment.

CH. E. 160c. DESIGN OF CHEMICAL MACHINERY AND APPARATUS. Prerequisite, Ch. E. 161c.

Third term, Co-operative Senior Ch. E., 0-8-1.7.

Parallel content to Ch. E. 159-160.

CH. E. 161-162. CHEMICAL TECHNOLOGY. Prerequisite, Chem. 29 and Ch. E. 56.

First term, Senior Ch. E., 3-0-3.

Second term, Senior Ch. E., 3-0-3.

The chemical and chemical engineering principles which underlie the process industries are studied. Economic factors which have a bearing are included.

CH. E. 161c-162c-163c. CHEMICAL TECHNOLOGY. Prerequisite, Chem. 36c and Chem. 56c.

First, second and third terms Co-operative Senior Ch. E., 3-0-2.

Same content as Ch. E. 161-162.

CH. E. 165. PHYSICAL METALLURGY. Prerequisite, Ch. E. 41, or equivalent.

First term, Senior and Graduate Ch. E., M. E., 3-3-4. Fee, \$3.00.

The material discussed includes theory of heat treatment, corrosion, physical testing and allied subjects in both ferrous and non-ferrous metallurgy.

CH. E. 171-172. CHEMICAL ENGINEERING CALCULATIONS. Prerequisite, Ch. E. 56, Chem. 147.

First term, Senior Ch. E., 3-0-3.

Second term, Senior Ch. E., 3-0-3.

The application of physicochemical principles and the thermodynamic method to the problems of industry.

CH. E. 171c-172c-173c. CHEMICAL ENGINEERING CALCULATIONS. Prerequisite, Ch. E. 56c, Chem. 147c and 148c.

First, second and third term Co-operative Senior Ch. E., 3-0-2.

Same content as Ch. E. 171-172.

DEPARTMENT OF CIVIL ENGINEERING

PROFESSORS SNOW AND J. M. SMITH; ASSOCIATE PROFESSORS BLACK AND LUCAS; ASSISTANT PROFESSOR THRASH

Civil Engineering is construction engineering. The Civil Engineer designs, builds, maintains and, often times, operates railroads, highways, bridges, buildings, harbors, sewers, sewage disposal plants, water supplies, power developments, irrigation systems, drainage districts, airports, city plans and maps.

He is given a title, such as, highway engineer, bridge engineer, etc., depending on which of these becomes his specialty, but the title of "Civil Engineer," which embraces all of them, is the important one, toward which a college course should lead.

As practical experience is demanded before the C. E. degree can be granted, it is proper to confer the B. S. in C. E. at the end of the college course, or the M. S. in C. E. later, if enough additional college work is completed.

Based on these fundamental ideas, this civil engineering course, covering basic subjects, is offered.

FRESHMAN YEAR

See Page 34

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	23	Plane Surveying	2	6	4
Eng.	33	Humanities	3		3
Math.	23	Calculus	5		5
Phys.	27	Physics	5	3	6
R.O.T.C.	3	Military or Naval Training		5	1.5
Total			15	14	19.5

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	24	Route Surveying	2	6	4
Eng.	34	Humanities	3		3
Math.	24	Calculus	5		5
Phys.	28	Physics	5	3	6
R.O.T.C.	4	Military or Naval Training		5	1.5
Total			15	14	19.5

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Biol.	38	General Bacteriology	2	4	3
C. E.	25	Civil Engineering Drawing		3	1
C. E.	33	Hydraulics	3		3
Geol.	41	Geology	3		3
Math.	136	Differential Equations (Elec. for Mil.)	3		3
Mech.	39	Applied Mechanics	3	3	4
Mech.	47	Mechanics of Materials	2		2
Total			16	10	19

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	35	Sewage and Sewerage Treatment	2		2
C. E.	36	Engineering Economics (Elec. for Mil.)	2		2
Eng.	45	Public Speaking	3		3
Geol.	46	Geology	3	3	4
Mech.	48	Mechanics of Materials	3		3
M. E.	44	Thermodynamics	3		3
M. E.	10	Welding and Heat Treatment		3	1
Total			16	3	18

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	48	Highway Economics	2	3	3
C. E.	51	Water Supply Engineering (Elec. or Mil.)	2		2
C. E.	153	Framed Structures	3	3	4
C. E.	155	Reinforced Concrete	3	3	4
Ec.	24	Economics	3		3
Geol.	51	Mineralogy	1	3	2
M. E.	57	Materials Laboratory	1	3	1.3
Total			15	15	19.3

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	61	Contracts and Specifications (Mil. Elec.)	2		2
C. E.	154	Framed Structures	2	3	3
C. E.	156	Concrete Structures	2	3	3
C. E.	159	Highway Economics	2	3	3
C. E.	164	City Planning	1	3	2
M. E.	56	Hydraulic Laboratory	1	3	1.3
M. E.	77	Elementary Steam Power Engineering	3		3
Total			13	15	17.3

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

C. E. 21, 21c, 23. PLANE SURVEYING. Prerequisite, Math. 17, 11c. Fee, \$1.00.

Sophomore A. E. and M. E., second term, 1-3-2.

Junior P. H. E., first term, 1-3-2.

Sophomore C. E., and Junior G. E., first term, 2-6-4.

Junior T. E., second term, 1-3-2.

Pre-Junior C. E. and M. E. Co-op., first term, 2-4-2.2.

The construction, care and use of surveying instruments, traversing, land surveying, profile and differential leveling, computation of areas, parting of land, reduction and plotting of field notes.

Theory of stadia, plane table applications to topographic surveying, city and mine surveying, U. S. Government system of public land surveys. Filing and recording of deeds.

For the final project a complete topographic survey is made and the notes plotted. A finished map is required of each student.

Texts: Elements of Surveying, Davis, Foote and Rayner. Plane Surveying, Finch; Surveying Manual, Ives.

C. E. 24, 24c. ROUTE SURVEYING. Prerequisites, C. E. 23, 21c. Fee, \$1.00.

Sophomore C. E., second term, 2-6-4.

Junior C. E. Co-op., first term, 3-4-3.

Reconnaissance, preliminary, location and construction surveys for routes of all kinds, including simple, compound and reverse curves, spirals and easement curves as used on railroads and highways. Super-elevation of curves. Computations of earthwork. Construction of quantity, haul and mass diagrams.

For a final project a complete railroad location must be made and the maps finished.

Text: Route Surveying, Ruby.

C. E. 25, 25c, 26c. CIVIL ENGINEERING DRAWING.

Junior C. E., second term, 0-3-1.

Sophomore C. E., Co-op., first term, 0-3-7.

Sophomore C. E. Co-op., second term, 0-6-1.3.

Sophomore P. H. E., first term, 0-3-1.

Mapping, profile plotting, topography, plotting from field notes, titles and map lettering. For a final project a complete set of highway plans is required of each student.

Text: French, Engineering Drawing.

C. E. 33, 33c. HYDRAULICS. Prerequisites, Phys. 27, 33c. Math. 23, 32c.

Junior E. E. and G. E., second term, 3-0-3.

Junior C. E., M. E. and P. H. E., first term, 3-0-3.

Junior C. E. and M. E. Co-op., second term, 4-0-2.6.

Junior E. E. Co-op., second term, 4-0-2.6.

The study of the laws which govern the flow of liquids and control their behavior at rest. Hydrostatics, hydrokinetics, measurement of volumes. Applications to pipes, canals, conduits. Generation of water power.

Text: Hydraulics, Schoder and Dawson.

C. E. 35, 35c, 81c, 82c. SEWERAGE AND SEWAGE TREATMENT. Prerequisites, C. E. 33, 33c.

Junior C. E. and P. H. E., second term, 2-0-2.

Senior C. E., Co-op., second and third term, 2-0-1.3.

A study of the design, construction and maintenance of sewerage systems and sewage disposal plants. Methods of sewage disposal.

Text: Civil Engineering Handbook, Urquhart.

C. E. 36, 38c. ENGINEERING ECONOMICS.

Junior C. E. and I. M., second term, 2-0-2.

Pre-Junior Co-op., first term, 3-0-2.

This course is intended to give the student a foundation for the solving of the problems of economic selection. It deals with Interest, Annuities, Depreciation, Sinking Funds, Salvage, Repairs and Renewals, Annual Costs, Selection of the best machine for a given purpose, Bonds, Valuations.

Text: Mimeographed notes.

C. E. 40. QUANTITY SURVEYING.

Senior P. H. E., second term, 1-3-2.

A course in the estimating of quantities of materials required in construction, made from plans. Material ordering sheets. Reinforced concrete bar bending schedules, Labor needed in several types of building construction. Computing of bids and checking of costs. Collection of cost data.

C. E. 48, 48c, 83c. HIGHWAY ENGINEERING.

Senior C. E., first term, 2-3-3.

Senior C. E. Co-op., second term, 3-6-3.3.

Includes the historic, economic and structural phases of highway engineering. Study of traffic census, traffic classification as related to type of highways. Methods of construction and design of highway and road types. Grades and curves, clear sight distance. Study of soils, road machinery and materials.

Text: Principles of Highway Engineering, Wyley.

The laboratory course is intended to teach the student how to test materials of construction such as cement, sand, gravel, slag, rock, etc.,

for the purpose of deciding whether they are suitable for use in roads, buildings or other structures. Fee, \$1.00.

Text: Mimeographed notes.

C. E. 51, 51c, 85c. WATER SUPPLY ENGINEERING. Prerequisites, C. E. 33, 33c.

Senior C. E. and P. H. E., first term, 2-0-2.

Senior C. E., Co-op., first term, 2-0-1.3.

Methods of impounding water, designing of city water systems. The design of dams and stand pipes. Water purification processes and plants. Water softening.

Text: Civil Engineering Handbook, Urquhart.

C. E. 61, 61c, 62c. CONTRACTS AND SPECIFICATIONS.

Senior C. E., M. E. and P. H. E., second term, elective, 2-0-2.

Senior C. E., M.E., Co-op., third term, 3-0-2.

A course in business law for engineers and the writing of engineering specifications. A complete set of specifications, contract, proposal, advertisement, etc., is required of each student as a final project.

Text: Business Law for Engineers, Allen.

C. E. 63c, 164. CITY PLANNING AND GEODETIC SURVEYING. Prerequisites, C. E. 23, 21c. Fee, \$1.00.

Senior C. E., second term, 1-3-2.

Senior C. E. Co-op., first term, 3-3-2.7.

Cadastral and aerial surveys, astronomical observations, geodetic computations, city planning, airport design.

Texts: Surveying, Davis, Foote and Raynor; City Planning, Lohmann; Government bulletins.

C. E. 71, 72. BUILDING CONSTRUCTION.

Senior Arch E., first and second term, 1-3-2.

Methods of designing concrete floors, buildings, columns, beams, foundations and footings.

Text: Mimeographed notes.

C. E. 75. MATERIALS OF CONSTRUCTION.

Junior M. E., first term, 2-0-2.

Design of concrete mixes, selection of concrete aggregates, mixing, placing and protection of concrete, waterproofing of concrete, design of simple concrete structures.

Text: Mimeographed notes.

C. E. 86c. RESERVOIRS AND DAMS.

A continuation of 85c dealing with design of Dams, Impounding Reservoirs and Conduits.

Senior C. E., Co-op., third term, 2-0-1.3.

C. E. 153, 53c, 68c, 69c. FRAMED STRUCTURES. Prerequisites, Mech. 39, 47, 47c, 48, 48c.

Senior C. E., G. E. and P. H. E., first term, 3-3-4.

Senior C. E. Co-op., first and second term, 2-3-2.2.

A course in which is grouped the analytical and graphical determination of stresses in framed structures. The subjects covered are girders, roof and bridge trusses, wood and steel trestles, towers, viaducts and tanks.

Text: Introduction to Structural Theory, Sutherland and Bowman.

C. E. 154, 54c, 70c. FRAMED STRUCTURES. Prerequisite, C. E. 153, 53c.

Senior C. E., second term, 2-3-4.

Senior C. E. Co-op., third term, 2-3-2.2.

A continuation of C. E. 153 and 53c. Designs and details of steel structures. Bills of materials. Detail plans, fabrication and erection.

Text: Steel Structures, Urquhart and O'Rourke.

C. E. 155, 55c, 65c, 66c. REINFORCED CONCRETE. Prerequisites, Mech. 39, 47, 47c, 48, 48c, or parallel 48, 48c.

Senior C. E. and P. H. E., first term, 3-3-4.

Senior C. E. Co-op., first and second terms, 2-3-2.2.

Construction of shear and moment diagrams under intricate loadings and the practical applications to reinforced concrete. Continuous moments. Straight line design theories, fundamental formulae and the applications to beams, girders, floors, bridges, columns and buildings.

Text: Mimeographed notes.

C. E. 156, 56c, 67c. CONCRETE STRUCTURES. Prerequisites, C. E. 155, 55c.

Senior C. E., second term, 2-3-3.

Senior C. E. Co-op., third term, 2-3-2.

A continuation of C. E. 155 and 55c, devoted to the design of retaining walls, buildings, arches, floors and special structures. Each student is placed very largely on his own resources and is watched carefully and guided by his instructor to prevent him from arriving at absurdities.

Text: Mimeographed notes.

C. E. 159, 59c, 84c. HIGHWAY ECONOMICS. Prerequisites, C. E. 48, 48c, 83c.

Senior C. E., second term, 2-3-3.

Senior C. E. Co-op., second and third term, 3-6-3.3.

The economic design of highway structures, the costs of maintenance of various types of pavements, methods of financing road construction, estimates of original costs. The laboratory work is a continuation of that of C. E. 48, 48c and 71c. Fee, \$1.00.

Text: Johannesson's Highway Economics.

For Graduate Courses see page 185 of this catalogue.

THE CO-OPERATIVE PLAN

COURSES IN CHEMICAL, CIVIL, ELECTRICAL, MECHANICAL, AND TEXTILE ENGINEERING

J. E. McDANIEL, DIRECTOR OF THE CO-OPERATIVE PLAN; J. I. TEAT, ASSISTANT TO THE DIRECTOR; MARY WARING GREEN, SECRETARY

(For the faculty see the regular departments listed in alphabetical order.)

Since 1912 the Georgia School of Technology has offered two courses in engineering, the standard four-year course as given by other engineering colleges, and a five-year co-operative course for those students who wish to combine practical experience with technical theory.

The Co-operative Plan originally offered only the Mechanical and the Electrical course; but, during the period between September, 1920, and September, 1928, the Civil, Textile, and Chemical courses were added, making five engineering courses available to students under this Plan. This work is arranged to equip students for positions in designing, production, and sales departments of industry.

Under the Co-operative Plan the students are divided into two sections: While section one is on college class work three months, section two is at work for the same length of time in the various shops throughout the Southeast. The two sections alternate or exchange places with each other every three months until the second semester of the senior and fifth year when they merge, remaining at college continuously until graduation exercises in June. The students always remain on the jobs assigned them until the shop and college officials advance them to a higher grade of work. By the time they graduate they will have received training in practically all departments of an industry. Three weeks vacation on college time is given within a year, one week coming during the Christmas holidays, and two weeks within the month of June.

No applicant will be placed at work until he has attended classes under the co-operative plan three months. Without permission from the co-operative office, no student is allowed to seek a position which another student has held; neither is he allowed to leave or change his job.

The school is at present co-operating with about one hundred and sixty firms, including power companies, gas companies, railroads, manufacturers of machinery and mechanical equipment, pulp and paper companies, chemical industries, foundries, steel mills, construction and engineering firms, textile mills, electric and telephone companies. The area

covered by these industries includes the Southern States and many sections of the Middle Atlantic States.

These co-operating firms offer a wide variety of practical training and many lines of specialization. It is expected that by the end of the first year the student will have found the career in which he is most interested; the school will then use every effort to place him in the work for which he is best fitted. A high percentage of students located and trained in this way follow and succeed in their chosen profession.

The co-operative student will receive wages for his work at the prevailing rate in the particular shop in which he is employed. The school does not guarantee work nor stipulate any certain amount of compensation, but uses every effort to place students to their best financial and educational advantage. The employers pay the wages directly to the students for the actual time worked in the shops.

The average freshman should have at least \$350 subject to checking account, in addition to what he will earn from his practice work. Upper-classmen should need less additional money each year as they advance in their practice field.

For co-operative students who live in cities away from Atlanta it is obviously advantageous to work in the shops of their home town, thus reducing the cost of room and board.

Co-operative students pay slightly less tuition per year than the four-year students, since the co-operative tuition is prorated over a period of five rather than four years.

Freshmen who do not live in Atlanta are required to lodge in Cloudman Hall, the co-operative dormitory, and must pay the \$22.50 rent each term in advance.

The entrance requirements for co-operative engineering courses include all specified units on page 26. Seven optional units on page 27 must be selected to make a total of fifteen units. However, an applicant must be a graduate of an accredited secondary school, and must be specifically recommended by its principal. Only applicants who are in the upper third of their high school or preparatory class and who expect to graduate under the co-operative plan are accepted for this course.

Anyone interested in making application for admission into the co-operative courses should write for the departmental bulletin which gives full particulars about fees, living expenses, wages paid the student while at work, discipline, school activities, etc.

Address communications to:

J. E. MCDANIEL,
Director of the Co-operative Plan,
Georgia School of Technology,
Atlanta, Georgia.

FRESHMAN YEAR (Identical for all Co-op. Engineering Courses)

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Chem.	7c	Inorganic Chemistry	5	3	4
†Co-op.	1c	Co-ordination	1		.2
Dr.	9c	Engineering Drawing		9	2
Eng.	11c	Composition and Rhetoric	4		2.6
Math.	11c	Elementary Functions	5		3.3
Mil.	11c	Military Instruction		5	1
Total			15	17	13.1

SECOND TERM (11 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Chem.	8c	Inorganic Chemistry	4	6	4
Dr.	10c	Engineering Drawing		9	2
Eng.	12c	Composition and Rhetoric	4		2.6
Math.	12c	Elementary Functions	6		4
Mil.	12c	Military Instruction		5	1
Total			14	20	13.6

†Required of all first-term freshmen.

SOPHOMORE YEAR (Identical for Co-op. Civil, Electrical, Mechanical, and Textile Engineering Courses except as noted)

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
*Dr.	25c	Engineering Drawing		3	.7
Eng.	33c	Humanities	4		2.6
Math.	13c	Analytic Geometry	6		4
Mil.	13c	Military Instruction		5	1
Phys.	33c	Physics	6	3	4.7
Total			16	11	13

SECOND TERM (11 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
*Dr.	26c	Engineering Drawing		6	1.3
Eng.	34c	Humanities	5		3.3
Math.	31c	Calculus	5		3.3
Mil.	14c	Military Instruction		5	1
Phys.	34c	Physics	6	3	4.7
Total			16	14	13.6

*Civil Engineering students have C. E. 25c, three hours a week the first term instead of Drawing 25c; C. E. 26c, six hours a week, the second term instead of Drawing 26c.

CHEMICAL ENGINEERING

The first year of co-operative chemical engineering includes the fundamental subjects which are given in all co-operative engineering courses. The three remaining years, which have principally the study of chemical engineering, prepare students for work in large chemical industries.

Unless twelve or more students elect this course it will not be given.

For Freshman Year, see page 85.

SOPHOMORE YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	33c	Introduction to Chem. Eng.		2	.5
Chem.	13c	Qualitative Analysis	3	9	3.3
Math.	13c	Analytic Geometry	6		4
Mil.	13c	Military Instruction		5	1
Phys.	33c	Physics	6	3	4.7
Total			15	19	13.5

SECOND TERM (11 WEEKS)

Ch. E.	34c	Introduction to Chem. Eng.		2	.5
Chem.	17c	Quantitative Analysis	3	9	3.3
Math.	31c	Calculus	5		3.3
Mil.	14c	Military Instruction		5	1
Phys.	34c	Physics	6	3	4.7
Total			14	19	12.8

PRE-JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Chem.	35c	Organic Chemistry	4	8	4.4
Math.	32c	Calculus	5		3.3
Phys.	35c	Physics	4	3	3.3
*M. L.	1c	German	3		2
Total			16	11	13.0

SECOND TERM (11 WEEKS)

Chem.	36c	Organic Chemistry	4	8	4.4
Math.	33c	Calculus	5		3.3
Mech.	39c	Applied Mechanics	4	6	4
*M. L.	2c	German	3		2
Total			16	14	13.7

JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	45c	Gas-Fuel	3	3	2.6
Chem.	153c	Physical Chemistry	5	6	4.7
Eng.	33c	Humanities	4		2.6
Mech.	47c	Mechanics of Materials	3		2
*M. L.	3c	German	3		2
Total			18	9	13.9

SECOND TERM (11 WEEKS)

Ch. E.	44c	Chem. Eng. Literature	1		.7
Ch. E.	56c	Unit Operations	3	3	2.6
Chem.	154c	Physical Chemistry	5	6	4.7
Eng.	34c	Humanities	5		3.3
*M. L.	4c	German	3		2
Total			17	9	13.3

SENIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	109c	Special Problems		6	1.3
Ch. E.	157c	Unit Operations	3	3	2.6
Ch. E.	161c	Chemical Technology	3		2
Ch. E.	171c	Chem. Eng. Calculations	3		2
*Ec.	24c	Economics	4		2.6
E. E.	71c	Applied Electricity	4		2.6
Total			17	9	13.1
*M. L.	1c	German	3		2
Total			20	9	15.1

SECOND TERM (11 WEEKS)

Ch. E.	41c	Engineering Materials	3	3	2.6
Ch. E.	158c	Unit Operations	3	3	2.6
Ch. E.	162c	Chemical Technology	3		2
Ch. E.	172c	Chem. Eng. Calculations	3		2
E. E.	74c	E. E. Laboratory		4	1
*Eng.	45c	Public Speaking	3		2
M. E.	43c	Thermodynamics	3		2
Total			18	10	14.2

THIRD TERM (11 WEEKS)

Ch. E.	110c	Special Problems	6	1.3
Ch. E.	160c	Design	8	1.7
Ch. E.	163c	Chemical Technology	3	2
Ch. E.	173c	Chem. Eng. Calculations	3	2
Eng.	63c	Technical English	3	2
M. E.	74c	Heat Engines Lab.	1	3
M. E.	77c	Elementary Power Eng.	4	2.6
Total			14	17
†M. L.	2c	German	3	2
Total			17	17
			14.6	

*The advanced course in military, 2 credit hours per quarter for six quarters, may be taken instead of German, Economics, and Public Speaking.

†Seniors taking advanced military who have not completed M. L. 1c and 2c, will be required to take M. L. 1c and 2c in the first and third terms senior year.

CIVIL ENGINEERING

The co-operative civil engineering course, which is practically the same as that of the four-year school, prepares its students for construction and design work of various kinds.

Unless twelve or more students elect this course it will not be given.

COURSE OF STUDY

For Freshman and Sophomore Years, see page 85.

PRE-JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	61c	Metallurgy	4		2.6
C. E.	21c	Plane Surveying	2	4	2.2
Math.	32c	Calculus	5		3.3
M. E.	10c	Welding		3	.7
M. L.	1c	German	3		2
Phys.	35c	Physics	4	3	3.3
Total			18	10	14.1

SECOND TERM (11 WEEKS)

C. E.	38c	Engineering Economics	3		2
Geol.	36c	Geology	3	3	2.7
Math.	33c	Calculus	5		3.3
Mech.	39c	Applied Mechanics	4	6	4
*M. L.	2c	German	3		2
Total			18	9	14.0

JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
C. E.	24c	Route Surveying	3	4	3
Eng.	45c	Public Speaking	3		2
M. E.	43c	Thermodynamics	3		2
M. E.	45c	Calibration Laboratory	1	3	1
Mech.	40c	Applied Mechanics	3		2
Mech.	47c	Mechanics of Materials	3		2
*M. L.	3c	German	3		2
Total			19	7	14

SECOND TERM (11 WEEKS)

Blol.	38c	Sanitary Engineering	3	4	3
C. E.	33c	Hydraulics	4		2.6
M. E.	56c	Hydraulic Laboratory	1	3	1
M. E.	77c	Elementary Power Engineering	4		2.6
Mech.	48c	Mechanics of Materials	4		2.6
*M. L.	4c	German	3		2
Total			19	7	13.8

SENIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
C. E.	63c	Geodesy and City Planning	3	3	2.7
C. E.	65c	Reinforced Concrete	2	3	2.2
C. E.	68c	Framed Structures	2	3	2.2
C. E.	85c	Water Supply Engineering	2		1.3
Eng.	63c	Technical English	3		2
*E. E.	71c	Applied Electricity	4		2.6
M. E.	83c	Heat Power Laboratory		4	1
Total			16	13	14.0

SECOND TERM (11 WEEKS)

C. E.	66c	Reinforced Concrete	2	3	2.2
C. E.	69c	Framed Structures	2	3	2.2
C. E.	83c	Highway Engineering	3	6	3.3
C. E.	81c	Sewerage and Sewage Treatment	2		1.3
Ec.	24c	Economics	4		2.6
*E. E.	74c	Electrical Engineering Laboratory		4	1
Total			13	16	12.6

THIRD TERM (11 WEEKS)

C. E.	62c	Contracts and Specifications	3	2	
C. E.	67c	Reinforced Concrete	2	3	2.2
C. E.	70c	Framed Structures	2	3	2.2
C. E.	84c	Highway Economics	3	6	3.3
C. E.	82c	Sewerage and Sewage Treatment	2		1.3
C. E.	86c	Reservoirs and Dams	2		1.3
M. E.	57c	Materials Laboratory	1	3	1
Total			15	15	13

*The advanced course in military, 2 credit hours per quarter for six quarters, may be taken instead of German, Applied Electricity, and Electrical Engineering Laboratory.

ELECTRICAL ENGINEERING

The first two years of co-operative electrical engineering include principally the fundamental subjects, such as mathematics, chemistry, applied mechanics, and mechanical drawing. The last three years which have to do with some mechanical engineering subjects, but more especially with electrical subjects, prepare students for the branches of applied electricity, such as transportation engineering, power generation and transmission, the design of electrical machinery, experimental investigation, and management of public utilities.

Unless twelve or more students elect this course it will not be given.

COURSE OF STUDY

For Freshman and Sophomore Years, see page 85.

PRE-JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ec.	24c	Economics	4		2.6
E. E.	91c	Electricity and Magnetism	4		2.6
Math.	32c	Calculus	5		3.3
*M. L.	1c	German	3		2
Phys.	35c	Physics	4	3	3.3
Total			20	3	13.8

SECOND TERM (11 WEEKS)

E. E.	92c	Principles of D. C. Machinery	4		2.6
Math.	33c	Calculus	5		3.3
M. E.	43c	Thermodynamics	3		2
Mech.	39c	Applied Mechanics	4	6	4
*M. L.	2c	German	3		2
Total			19	6	13.9

JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
E. E.	81c	Electrical Engineering Laboratory	1	5	1.4
E. E.	93c	Alternating Current Circuits	4		2.6
Math.	136c	Differential Equations	4		2.6
Mech.	40c	Applied Mechanics	3		2
Mech.	47c	Mechanics of Materials	3		2
*M. L.	3c	German	3		2
Total			18	5	12.6

SECOND TERM (11 WEEKS)

C. E.	33c	Hydraulics	4		2.6
E. E.	82c	Electrical Engineering Laboratory	1	5	1.4
E. E.	94c	Alternating Current Circuits	4		2.6
M. E.	45c	Instruments and Fuels Laboratory	1	3	1
M. E.	77c	Power Plant Engineering	4		2.6
*M. L.	4c	German	3		2
Total			17	8	12.2

***Signal Corps students take E. E. 50c and one hour of Military instead of German.

SENIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
E. E.	27c	Seminar	1		.7
E. E.	83c	Electrical Engineering Laboratory	1	7	1.8
E. E.	95c	Alternating Current Machinery	5		3.3
E. E.	133c	Radio Engineering	4		2.6
M. E.	10c	Welding and Heat Treating		6	1.4
M. E.	47c	Power Plant Auxiliaries	1	3	1
		**Military or Elective	3		2
Total			18	16	12.8

SECOND TERM (11 WEEKS)

E. E.	28c	Seminar	1		.7
E. E.	66c	Transmission	4		2.6
E. E.	84c	Electrical Engineering Laboratory	1	7	1.8
E. E.	96c	Alternating Current Machinery	4		2.6
†E. E.	134c	Radio Engineering or an Elective	5		3.3
M. E.	83c	Heat Power Laboratory		4	1
		**Military or Elective	3		2
Total			18	11	14

†Signal Corps students who take E. E. 134c will be excused from two hours of Military.

THIRD TERM (11 WEEKS)

Ec.	93c	Finance	3	2	
E. E.	85c	Electrical Engineering Laboratory	1	7	1.8
E. E.	97c	Alternating Current Machinery	3		2
**E. E.	136c	Radio Laboratory or an Elective	1	8	2
Eng.	45c	Public Speaking	3		2
M. E.	87c	Heat Power Laboratory		4	1
		**Elective	3		2
Total			14	19	12.8

*Advanced course in military, 2 credit hours per quarter for six quarters, may be taken instead of German and electives.

**Electives are listed on page 107.

MECHANICAL ENGINEERING

The co-operative mechanical engineering course affords broad training which may be applied successfully to various kinds of engineering.

Many students taking this course spend their first two years of practice work in welding, forge and machine shops, and their last three years in drafting rooms, pattern shops and testing departments.

Unless twelve or more students elect this course it will not be given.

COURSE OF STUDY

For Freshman and Sophomore Years, see page 85.

PRE-JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	61c	Metallurgy	4		2.6
M. E.	22c	Heat Treating and Welding Laboratory	2	8	2.3
Math.	32c	Calculus	5		3.3
*M. L.	1c	German	3		2
Phys.	35c	Physics	4	3	3.3
Total			18	11	13.5

SECOND TERM (11 WEEKS)

Ec.	24c	Economics	4		2.6
Math.	33c	Calculus	5		3.3
M. E.	7c	Foundry		4	1
M. E.	23c	Pattern Making	1	3	1
Mech.	39c	Applied Mechanics	4	6	4
*M. L.	2c	German	3		2
Total			17	13	13.9

JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
M. E.	39c	Thermodynamics	5		3.3
M. E.	53c	Time and Motion Study	1	3	1.3
M. E.	16c	Machine Laboratory	2	6	2
M. E.	45c	Instruments and Fuels Laboratory	1	3	1
Mech.	40c	Applied Mechanics	3		2
Mech.	47c	Mechanics of Materials	3		2
*M. L.	3c	German	3		2
Total			18	12	13.6

SECOND TERM (11 WEEKS)

M. E.	103c	Fluid Flow	4		2.6
M. E.	40c	Thermodynamics	3		2
M. E.	47c	Power Auxiliaries Laboratory	1	3	1
M. E.	58c	Seminar	1		.2
M. E.	68c	Power Plants	5		3.3
Mech.	48c	Mechanics of Materials	4		2.6
*M. L.	4c	German	3		2
Total			21	3	13.7

SENIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
C. E.	21c	Surveying	2	4	2.2
E. E.	61c	D. C. Machines	3		2
M. E.	79c	Machine Design	3		2
M. E.	55c	Organization and Management	4		2.6
M. E.	66c	Internal Combustion Engines	3		2
M. E.	83c	Heat Power Laboratory		4	1
*Ec.	94c	Marketing	3		2
Total			18	8	13.8

SECOND TERM (11 WEEKS)

E. E.	62c	A. C. Machines	3		2
Eng.	45c	Public Speaking	3		2
M. E.	59c	Seminar	1		.2
M. E.	80c	Machine Design	5		3.3
M. E.	87c	Heat Power Laboratory		4	1
M. E.	70c	Refrigeration, Heating and Ventilating	5		3.3
*Ec.	95c	Accounting	3		2
Total			20	4	13.8

THIRD TERM (11 WEEKS)

C. E.	62c	Contracts and Specifications	3		2
E. E.	64c	Electrical Engineering Laboratory	1	6	2
Eng.	63c	Technical English	3		2
M. E.	60c	Seminar	1		.2
M. E.	88c	Heat Power Laboratory		4	1
M. E.	81c	Machine Design	5	3	4
		Elective	3		2
Total			16	13	13.2

*The advanced course in military, 2 credit hours per quarter for six quarters, may be taken instead of German, Marketing, and Accounting.

TEXTILE ENGINEERING

The co-operative textile course gives special training in yarn manufacture, dyeing and finishing, fabric design and analysis, weaving, and knitting. These students obtain practice work in various kinds of textile industries, such as rayon plants, cotton, woolen, and silk mills.

Unless twelve or more students elect this course it will not be given.

COURSE OF STUDY

For Freshman Year, see page 85.

PRE-JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Chem.	13c	Qualitative Analysis	3	9	3.3
Math.	32c	Calculus	5		3.3
*M. L.	1c	German	3		2
Phys.	35c	Physics	4	3	3.3
T. E.	23c	Fabric Design		4	1
T. E.	39c	Weaving		4	1
Total			15	20	13.9

SECOND TERM (11 WEEKS)

Math.	33c	Calculus	5		3.3
M. E.	45c	Calibration Laboratory	1	3	1
Mech.	39c	Applied Mechanics	4	6	4
*M. L.	2c	German	3		2
T. E.	24c	Fabric Design		4	1
T. E.	40c	Weaving	3	3	2.7
Total			16	16	14

JUNIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
Chem.	31c	Organic Chemistry	4	4	3.6
M. E.	37c	Kinematics of Mechanism	3	4	3
*M. L.	3c	German	3		2
T. E.	33c	Fabric Design		4	1
T. E.	45c	Weaving	3	4	3
T. E.	61c	Yarn Manufacture, Theory	4		2.6
Total			17	16	15.2

SECOND TERM (11 WEEKS)

Chem.	32c	Organic Chemistry	4	4	3.6
M. E.	43c	Thermodynamics	3		2
*M. L.	4c	German	3		2
T. E.	22c	Dyeing Laboratory		4	1
T. E.	34c	Fabric Design		4	1
T. E.	46c	Weaving	4		2.6
T. E.	62c	Yarn Manufacture, Theory	4		2.6
Total			18	12	14.8

SENIOR YEAR

FIRST TERM (12 WEEKS)

Course	No.	Subject	Class	Lab.	Credit
E. E.	71c	Applied Electricity	4		2.6
T. E.	27c	Fabric Analysis		4	1
T. E.	37c	Jacquard Design		4	1
T. E.	53c	Weaving		4	1
T. E.	63c	Yarn Manufacture, Theory and Practice	4	4	3.6
T. E.	83c	Dyeing	4	4	3.5
Total			12	20	12.7

SECOND TERM (11 WEEKS)

Ec.	24c	Economics	4		2.6
E. E.	74c	Applied Electrical Engineering Laboratory		4	1
M. E.	77c	Elementary Power Engineering	4		2.6
T. E.	28c	Fabric Analysis		4	1
T. E.	64c	Yarn Manufacture, Theory and Practice	4	4	3.6
T. E.	168c	Testing	2	3	2
Total			13	15	12.8

THIRD TERM (11 WEEKS)

Eng.	45c	Public Speaking	3	2	
T. E.	38c	Jacquard Design		4	1
T. E.	54c	Weaving		4	1
T. E.	84c	Dyeing	3	4	3
T. E.	81c	Knitting	1	3	1.3
T. E.	91c	Textile Costing	3		2
		Elective			3
Total			10	15	13.3

*The advanced course in military, 2 credit hours per quarter for four quarters, may be taken instead of two years German.

ELECTIVES

T. E.	187c	Rayon Processing	2	6	3
or					
T. E.	101c	Textile Raw Materials	3		2
T. E.	133c	Fabric Layouts	1	2	1

Note: For 1940-1941 senior co-op students will follow the regular four-year senior curriculum, selecting any one of the four options offered.

SPECIAL COURSE OF INSTRUCTION

CO-ORDINATION

Before the freshmen are sent to work in the practical field, members of the co-operative department instruct and advise them how they should make friends with regular shop employees. Harmony and good will between the co-operative apprentices and regular shop forces are necessary for efficiency and production. Oftentimes a personal interview with a superintendent or foreman will clear up a difficulty that might be aggravated through a letter. The increase or adjustment of wages, the transfer of a student from one department to another may be accomplished only by a personal visit to the shop.

The correlation of practical work with a course of study at college can be obtained only when the shop and college officials find common interest in each other, particularly in the work of student apprentices. Personal contact arouses this interest and brings about co-ordination.

DEPARTMENT OF ECONOMICS AND
SOCIAL SCIENCE

PROFESSOR DENNISON; ASSOCIATE PROFESSORS ARMSTRONG, WENN, WARREN, HARTZELL, BREWSTER; ASSISTANT PROFESSORS PROCTOR, LOZIER; INSTRUCTORS ELLIOTT AND BROWN

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

EC. 21. PRINCIPLES OF ECONOMICS.

First term, 3-0-3.

This is an introductory course covering the fundamental principles of Economics. The subject matter includes a general survey of our present economic system and a study of the principles describing its operation. This course is designed to serve as a foundation for all of the more specialized courses which follow it.

EC. 22. ECONOMIC PROBLEMS.

Second term, 3-0-3.

This is a continuation of Ec. 21, which must precede it, the general purpose being to apply the principles of economics to contemporary problems, particularly those related to industrial management and engineering. Problems of maladjustments in production, employment, distribution, money and credit and the place of the manager and engineer in economic planning are given special attention.

EC. 24. ECONOMICS FOR ENGINEERS.

First and second terms, 3-0-3.

This course is designed particularly for those students who are unable to include more than three hours of economics in their courses. It is essentially a summary of Ec. 21 and Ec. 22, except that problems related to engineering are given special emphasis. Engineering students desiring a more comprehensive course are urged to take Ec. 21 and Ec. 22.

EC. 27. PARTNERSHIP AND AGENCY.

First term, 3-0-3.

This course deals with the formation, characteristics, duration and dissolution of the partnership; the rights, powers and duties of the partners; limited partnerships and the Uniform Partnership Act.

It also includes a brief discussion of the Law of Principal and Agent.

EC. 28. CORPORATIONS.

Second term, 3-0-3.

This course deals with the formation of corporations, their management, including the issue and transfer of stock; the rights and liabilities of promoters, stockholders and directors; the proper methods of holding corporate meetings; liability of the corporation for torts and crimes; the dissolution of the corporation.

EC. 32. LAND ECONOMICS AND HOUSING.

Second term, 3-0-3.

This course is designed especially for those students who plan to enter the fields of architecture, city engineering and management, and construction. It deals chiefly with principles of city growth and structure, appraising problems, and problems of urban land utilization. Housing problems and slum clearance are given special attention. Prerequisite, Ec. 21 or Ec. 24.

EC. 33. INTRODUCTORY ACCOUNTING.

Junior, first term, 3-3-4.

This is an introductory course in bookkeeping preparatory to the course in accounting. It does not require a previous knowledge of bookkeeping. It includes the theory of debits and credits, the construction of the trial balance, the profit and loss statement, and the balance sheet. Practice is given in the use of the various types of modern books of original entry. Students who have completed a high school course in bookkeeping may substitute another course for the first term's work by securing a special permit from the head of the department.

EC. 34. PRINCIPLES OF ACCOUNTING.

Junior, second term, 3-3-4.

This course reviews briefly single proprietorship and then emphasizes accounting and co-partnerships. Each individual asset account, and liability account, on the balance sheet of a co-partnership is taken in detail in lecture and illustrated by problems in classroom and in the laboratory.

EC. 37-38. BUSINESS LAW.

Junior, first and second terms, 3-0-3.

This course is designed to acquaint the student with the economic problems resulting from such fields of business law as Contracts, Agency, Bailments, Sales, Partnership, Corporation, Negotiable Instruments, Bankruptcy and Real Property.

EC. 41-42. THE ECONOMICS OF MARKETING.

Senior, first and second terms, 3-0-3.

This course deals with the location, production and assembling of raw products; with manufacturing, assembling and distributing of finished products and it presents a descriptive survey of marketing machinery. Original problems form an essential part of the course and those problems which especially concern the engineer and manager are stressed.

EC. 44. PRINCIPLES OF INVESTMENT.

Senior, second term, 3-0-3.

This course is a study of the fundamental principles of investment analysis and policy. It includes a discussion of the financial policy of corporations and gives detailed attention to various classes of public and corporate securities, investment trusts, building and loan associations, the operation of the New York Stock Exchange, underwriting, reading the financial page, and sources of information. Prerequisite, Ec. 93.

EC. 45-46. INDUSTRIAL ACCOUNTING.

Senior, first and second terms, 2-0-2.

This course deals with the application of cost analysis to manufacturing and distribution. Problems and exercises will be used to illustrate the methods of compiling and analyzing material, labor and manufacturing expense costs. In order to develop the student's ability to use statements as a means of executive control, considerable time will be given to the preparation and interpretation of financial statements for industrial organizations.

EC. 48. STATISTICAL METHODS.

Senior, first or second term, 3-0-3.

This course is designed to provide the student with an elementary knowledge of statistical analysis. Emphasis is placed on the principles of gathering, summarizing, and interpreting quantitative data in the fields of economics, business and engineering.

EC. 51. AMERICAN GOVERNMENT.

First and second terms, 3-0-3.

The primary purpose of this course is not only to develop better and more intelligent citizenship, but particularly to have the student understand the intimate relationship between government and business.

After brief consideration of the framework and functions of the branches of government, special emphasis is laid upon the regulation and promotion of business through statutes and commissions. Cases and judicial decisions are employed to show the division of constitutional authority over business between the states and the federal government.

EC. 61. PRINCIPLES OF ACCOUNTING.

Junior, first term, 3-3-4.

This is a continuation of Ec. 34. Corporation accounting is illustrated by careful study in lecture and quiz sections. A practice set illustrating corporation accounting is used in the laboratory. The laboratory practice also illustrates the evolution of the holding company and the methods of accounting for the same. A single entry bookkeeping system is studied during the latter part of the course.

EC. 62. ACCOUNTING PROBLEMS.

Junior, second term, 3-3-4.

This course consists of carefully selected problems taken from examinations set by the Certified Public Accountancy Boards in the different states, and by the American Institute of Public Accountants. They deal with single entry statements of profit and loss, single entry balance sheet construction, work sheet for adjusting a trial balance, the preparation of statements for factory operations, the opening and closing of sets of accounts for the different forms of organizations, the special problems of different corporate openings, problems involved in mergers, consolidations, promotions, holding companies, stock donations, refunding voluntary bankruptcy, statement of affairs and deficiency account, receivership, reorganization, realization and liquidation of insolvent sole proprietors, administrative accounts. In all problems the work sheets and various report forms are worked out as the case may require.

EC. 63-64. FACTORY COST ACCOUNTING.

Senior, first and second term, 3-0-3.

Lectures will be given explaining the elements of costs, principles and general methods of cost finding, direct and indirect expenses, wage systems, recording material and labor costs, and devising cost systems. The students will be required to work up a set of manufacturing cost books during the first term. During the last term they will be given problems involving the various phases of cost accounting.

Special emphasis will be given to problems relating to textile and cotton oil mills, lumbering and other distinctly Southern industries.

EC. 65. LABOR PROBLEMS.

Junior, first term, 3-0-3.

This course is designed to equip the student of engineering and management with a knowledge of the economics of labor problems. Four chief approaches to modern labor problems are presented: Trade Unionism, Collective Bargaining, Personal Management and Labor Legislation. Special attention is given to wages, hours, working conditions, unemployment, insecurity, and to methods of industrial peace.

EC. 66. PUBLIC FINANCE.

Junior, second term, 3-0-3.

This is a survey of the main principles and problems of public finance and taxation. Its main purpose is to familiarize the engineer and manager with public expenditures, borrowing, various forms of taxation and other types of public revenue. Special attention is given to the economics of taxation and to modern developments in the fields of national, state and local public finance.

EC. 67. INSURANCE.

Senior, second term, 3-0-3.

This subject is treated from the viewpoint of both the policyholder and the insurance company. It involves a study of types of policies, policy contracts, principles of rate making, hazards, reserves for protection of policyholders, examination of the company to determine its safety, adjustments of losses, state regulation and fixing of rates, and the methods of organizing an insurance company or agency.

EC. 71, 72. CORPORATE FINANCE.

Senior, first and second terms, 3-0-3.

This course treats briefly with the nature of single proprietorships and partnerships, after which follows a more extensive study of the corporation. The methods by which corporations are organized and financed and the principles that underlie corporate management are explained. The difference between what is permissible at law and what is expedient in practice will be emphasized. The course includes a study of the instruments of finance, inter-business relationships, distribution of profits, reorganizations, causes of failures and many other problems connected with the corporation. Ec. 93 may be substituted for Ec. 71.

EC. 93. FINANCE. Survey Course.

First and second terms, 3-0-3.

This course is designed to introduce the student to the main principles of money and banking and to acquaint him with the financial organization of society. It is also designed to acquaint the student with the more popular business organizations with special emphasis on the corporation. Various types of corporate securities are studied. This course may be substituted for Ec. 71.

EC. 94. MARKETING. Survey Course.

First and second terms, 3-0-3.

A general survey course designed to familiarize the students with the modern facilities for marketing, and the methods employed in distributing goods.

EC. 95. ACCOUNTING. Survey Course.

First and second terms, 3-0-3.

A brief survey of the analysis and recording of business transactions; preparation of financial statements, and their interpretation.

EC. 96. BUSINESS LAW. Survey Course.

First and second terms, 3-0-3.

This course is designed to give to the student a brief survey in Contracts, Agency, Bailments, Sales, Partnerships, Corporations, Negotiable Instruments, Bankruptcy and Real Property Law.

S. S. 11, 12. SOCIAL SCIENCE.

Freshman, first and second terms, 3-0-3, each course.

A survey of Western Civilization since the seventeenth century with emphasis on the industrial revolution, the French revolution, the evolution of democratic government in England, France and the United States, the rise of nationalism and imperialism, the first world war and its political, social and economic effects. The second semester will be devoted to the period after 1875 with special attention to post-war conditions in Europe and the United States. The pertinent offerings of History, Economics, Government, Sociology and Geography with some Philosophy, will be woven into an intelligent revelation of the unfolding of our civilization of today.

Freshmen who have attained a grade of "B" in S. S. 11 and upper-classmen may take S. S. 12 as a seminar course, provided the instructors

in charge elect to conduct the course in that manner, for the benefit of a limited number of students.

A fee of \$1.00 for each semester will be charged each student taking this course.

S. S. 19-20. THE HISTORY OF MODERN EUROPE, 1500 TO THE PRESENT.

First and second terms, 3-0-3. (Not to be taken in the same year with S. S. 11-12.)

An intensive survey of Europe from the Renaissance to the present time, with attention primarily centered upon political, social and intellectual development.

S. S. 21. THE ECONOMIC AND SOCIAL DEVELOPMENT OF ENGLAND FROM 1688 TO THE PRESENT TIME.

First term, 3-0-3.

This course will be concerned primarily with the development of English parliamentary institutions, the industrial revolution, its social and political effects in the nineteenth century, the expansion of England's colonial empire, and her policies as a world power after 1900. The economic material of this course together with S. S. 22 is designed to furnish a historical background for courses in Economics.

S. S. 22. AMERICAN ECONOMIC HISTORY.

Second term, 3-0-3.

This course is designed to furnish a background for the study of contemporary economic problems and to supplement the economic material presented in S. S. 21. Special attention is given to the rise of the modern industrial system, the frontier and westward movement, the development of banking, the rise of complex business organizations, the labor movement, and government regulation of economic activity.

S. S. 25. HISTORY OF THE UNITED STATES.

First term, 3-0-3.

A survey of the history of the United States with special attention given to particular periods of American development. Among the subjects receiving special emphasis are: colonial society, the revolutionary period, adoption of the Constitution, Jeffersonian Democracy, the frontier, states' rights, Jacksonian Democracy, the conflict between the states, reconstruction, urbanization, trusts, the tariff, imperialism, the World War and post-war problems.

S. S. 31. SEMINAR IN WORLD HISTORY SINCE THE ARMISTICE.

First term, 3-0-3.

Not open to Freshmen or other students with less than a "B" average. Enrollment limited to ten students. Permission of instructor in charge required for admission to the class.

S. S. 42. APPLIED PSYCHOLOGY. 3-0-3.

This course undertakes to show the part psychology plays in daily industrial life. Special attention will be given to such problems as: Motivation, Vocational Guidance, The Man and His Job, Personal Efficiency, Directing the Work of Others. Students will be given text assignments as a guide to aid in making special reports and conducting psychological tests. The course should be of special application to those intending to handle administrative duties.

DEPARTMENT OF ELECTRICAL ENGINEERING

PROFESSORS FITZGERALD, SEIDELL, SAVANT AND DULING; ASSOCIATE PROFESSOR ELLIS; ASSISTANT PROFESSORS STALNAKER AND GERKS; INSTRUCTOR HONNELL

The curriculum includes courses in English, economics, the humanities, and public speaking. It is planned so as to also give a comprehensive training in the fundamental sciences of chemistry, physics, mathematics, and applied mechanics. Adequate training is given in the scientific and applied aspects of important branches of engineering other than electrical, such as constructive materials, steam engineering, hydraulics, and hydraulic machinery.

Parallel with the theoretical work are carefully planned laboratory courses, beginning with the first year in chemistry and continuing throughout the four years in the various sciences and engineering branches studied. The laboratory work is so conducted as to enable the student to verify theory by performing fundamental experiments.

In the majority of cases students can complete both the electrical and mechanical engineering courses in five years provided they plan their work with the two departments concerned, beginning with the Junior year.

The course of study for the Sophomore, Junior and Senior years is given in the following pages. For the Freshman year, see page 34.

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ec.	24	Economics	3		3
Eng.	33	Humanities	3		3
Math.	23	Calculus	5		5
Phys.	27	Physics	5	3	6
R.O.T.C.	3	Military or Naval Instruction		5	1.5
Total			16	8	18.5

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
Ec.	95	Accounting	3		3
Eng.	34	Humanities	3		3
Math.	24	Calculus	5		5
Phys.	28	Physics	5	3	6
R.O.T.C.	4	Military or Naval Instruction		5	1.5
Total			16	8	18.5

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
E. E.	87	Principles of Electrical Engineering	5		5
Math.	136	Differential Equations	3		3
M. E.	5	Heat Treating Laboratory	1	3	1.3
M. E.	43	Thermodynamics	2		2
Mech.	31	Applied Mechanics	3		3
Mech.	47	Mechanics of Materials	2		2
Elective		R.O.T.C. Elective	2		2
Total			18	3	18.3

SECOND TERM

C. E.	33	Hydraulics	3		3
E. E.	16	Laboratory	1	7	2.7
E. E.	188	Alternating Current Circuits	5		5
M. E.	14	Machine Shop		3	1
M. E.	45	Instruments and Fuels Laboratory	1	3	1.3
M. E.	77	Power Plant Engineering	3		3
Elective		R.O.T.C. Elective	2		2
Total			15	13	18

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
E. E.	27	Seminar	1		1
E. E.	117	E. E. Laboratory	1.5	6.5	2.7
E. E.	130	Transmission	3		3
E. E.	133	Radio Engineering	3		3
E. E.	189	A. C. Machinery	5		5
M. E.	47	Power Plant Auxiliaries Laboratory	1	3	1.3
Elective		R.O.T.C. Elective	2		2
Total			16.5	9.5	18

SECOND TERM

E. E.	28	Seminar	1		1
E. E.	118	E. E. Laboratory	1.5	6.5	2.7
E. E.	190	A. C. Machinery	3		3
Eng.	45	Public Speaking	3		3
M. E.	83	Heat Power Laboratory		4	1.3
Elective		R.O.T.C. Elective	2		2
		*Electives			5
Total					18

*Recommended electives.

RECOMMENDED ELECTIVES

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ch. E.	67	Metallurgy	3		3
Ec.	93	Finance	3		3
Ec.	94	Marketing	3		3
E. E.	49	Telephony	2		2
Eng.	63	Technical English	3		3
Geol.	41	General Geology	3		3
M. E.	48	Industrial Relations	2		2
Phys.	93	Special Problems		4	1

SECOND TERM

C. E.	36	Engineering Economics	2		2
Ec.	96	Business Law	3		3
E. E.	134	Radio Engineering	3		3
E. E.	136	Radio Laboratory	1	5	2
Eng.	49	Radio Speaking	3		3
Math.	39	Introduction to Statistical Methods	3		3
Mech.	40	Applied Mechanics	2		2
Phys.	94	Special Problems		8	2

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

E. E. 2. APPLIED ELECTRICITY. Prerequisite, Physics 28 (Physics 22 for T. E. Seniors.)

Senior T. E. and Senior Ch. E., first term, 3-0-3.

The fundamental principles and characteristics of direct and alternating current machines.

E. E. 3. ELECTRICAL ENGINEERING LABORATORY. Prerequisite, E. E. 2. Fee, \$2.50.

Senior Ch. E. and Senior T. E., second term, 0-4-1.3.

The experimental determination of the characteristics of direct and alternating current machines.

E. E. 12. ELECTRICAL MACHINES.

Senior Industrial Management, first or second term, 1-2-1.

This course is intended to familiarize the student with the construction of electrical machines and auxiliary apparatus.

E. E. 16. ELECTRICAL ENGINEERING LABORATORY. Prerequisite, E. E. 87. Fee, \$4.00.

Junior E. E., second term, 1-7-2.7.

The experimental determination of the characteristics, efficiency and regulation of direct current generators and motors.

E. E. 27, 27c. SEMINAR.

Senior E. E., first term, 1-0-1.

Co-operative course, Senior E. E., first term, 1-0-7.

A course consisting of the delivery and discussion of technical papers in class. The papers deal with subjects of timely interest in electrical engineering.

E. E. 28, 28c. SEMINAR.

Senior E. E., second term, 1-0-1.

Co-operative course, Senior E. E., second term, 1-0-7.

A continuation of E. E. 27.

E. E. 49. TELEPHONY. Prerequisite, E. E. 188.

Senior E. E., first term, 2-0-2.

The principles of telephone apparatus and circuits. Carrier currents, etc.

E. E. 50c. TELEPHONY. Prerequisite, E. E. 93c.

Co-operative course, E. E. Junior Signal Corps, third and fourth quarters, 2-0-1.3.

The principles of telephone apparatus and circuits. Carrier currents, etc.

E. E. 56. THE MECHANICAL PLANT OF BUILDINGS.

Arch. Seniors, second term, 1-0-1.

A course dealing with the fundamentals of electrical engineering as applied to modern buildings and including its application to simple problems.

E. E. 61c. APPLIED ELECTRICITY. Prerequisite, Physics 35c.

Co-operative course, M. E. Senior, first term, 3-0-2.

Some of the principles of electric and magnetic circuits, and the applications of direct current machinery.

E. E. 62c. APPLIED ELECTRICITY. Prerequisite, E. E. 61c, Math. 32c.

Co-operative course, M. E. Senior, second term, 3-0-2.

The elementary principles of alternating current circuits, and the applications of alternating current machinery.

E. E. 64c. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 62c. Fee, \$3.00.

Co-operative course, M. E. Senior, third term, 1-6-2.

The experimental determination of the characteristics of direct and alternating current apparatus and machinery.

E. E. 66c. TRANSMISSION. Prerequisite, E. E. 94c.

Co-operative course, E. E. Senior, first term, 4-0-2.6.

A course consisting of recitations and problems devoted to the study of the operating characteristics of transmission lines, and the distribution of power.

E. E. 71c. APPLIED ELECTRICITY. Prerequisite, Physics 35c.

Senior, Civil, Textile, and Ch. E. Co-operative, first term, 4-0-2.6.

Some of the fundamental principles of direct and alternating current machines.

E. E. 74c. ELECTRICAL ENGINEERING LABORATORY. Prerequisite, E. E. 71c. Fee, \$2.00.

Senior, Civil, Textile, and Ch. E. Co-operative, second term, 0-4-1.

The experimental determination of the characteristics, efficiency and regulation, of direct and alternating current machines.

E. E. 77. APPLIED ELECTRICITY. Prerequisites, Math. 23, Phys. 28.

Junior M. E. and G. E., second term, 3-0-3.

Some of the principles of electric and magnetic circuits, and the applications of direct current machinery.

E. E. 78. APPLIED ELECTRICITY. Prerequisite, E. E. 77. Fee, \$2.00.

Senior M. E. and G. E., first term, 2-3-3.

The elementary principles of circuits and the applications of alternating current machinery. Experiments are performed in the laboratory with direct and alternating current machinery.

E. E. 81c. ELECTRICAL ENGINEERING LABORATORY. Prerequisite, E. E. 92c. Fee, \$2.00.

Co-operative course, Junior E. E., first term, 1-5-1.4.

The experimental determination of the characteristics, efficiency and regulation of direct current generators and motors.

E. E. 82c. ELECTRICAL ENGINEERING LABORATORY. Prerequisites, E. E. 81c and E. E. 92c. Fee, \$2.00.

Co-operative course, Junior E. E., second term, 1-5-1.4.

A continuation of E. E. 81c.

E. E. 83c. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 95c. Prerequisite, E. E. 81c. Fee, \$3.00.

Co-operative course, Senior E. E., first term, 1-7-1.8.

A course consisting of experiments on single-phase and three-phase circuits, and the characteristics, efficiency, and regulation of transformers and synchronous generators.

E. E. 84c. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 96c. Prerequisite, E. E. 81c. Fee, \$3.00.

Co-operative course, Senior E. E., second term, 1-7-1.8.

A course consisting of experiments on transformers, alternators, and synchronous motors.

E. E. 85c. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 97c. Prerequisite, E. E. 81c. Fee, \$2.00.

Co-operative course, Senior E. E., third term, 1-7-1.8.

A course consisting of experiments on single-phase and polyphase motors, rectifiers, and transmission lines.

E. E. 87. PRINCIPLES OF ELECTRICAL ENGINEERING. Prerequisites, Physics 28 and Math. 23.

Junior E. E., first term, 5-0-5.

Principles of electric and magnetic circuits. The construction, characteristics, and applications of direct current generators and motors.

E. E. 91c. ELECTRICITY AND MAGNETISM. Parallel Phys. 35c, Math. 32c.

Co-operative course, Pre-Junior E. E., first term, 4-0-2.6.

The principles of electric and magnetic circuits.

E. E. 92c. PRINCIPLES OF DIRECT CURRENT MACHINERY. Prerequisite, E. E. 91c.

Co-operative course, Pre-Junior E. E., second term, 4-0-2.6.

The principles, characteristics, and applications of direct current machinery.

E. E. 93c. ALTERNATING CURRENT CIRCUITS. Prerequisites, E. E. 91c, Math. 33c.

Co-operative course, Junior E. E., first term, 4-0-2.6.

The principles of single-phase and polyphase circuits.

E. E. 94c. ALTERNATING CURRENT CIRCUITS. Prerequisite, E. E. 93c.

Co-operative course, Junior E. E., second term, 4-0-2.6.

A continuation of E. E. 93c, and a study of non-harmonic waves.

E. E. 95c. ALTERNATING CURRENT MACHINERY. Prerequisite, E. E. 94c.

Co-operative course, Senior E. E., first term, 5-0-3.3.

A study of transformers and alternators.

E. E. 96c. ALTERNATING CURRENT MACHINERY. Prerequisite, E. E. 95c.

Co-operative course, Senior E. E., second term, 4-0-2.6.

A study of alternators and synchronous motors.

E. E. 97c. ALTERNATING CURRENT MACHINERY. Prerequisite, E. E. 95c.

Co-operative course, Senior E. E., third term, 3-0-2.

A study of induction motors and rectifiers.

E. E. 117. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 189. Prerequisite, E. E. 16. Fee, \$4.00.

Senior E. E., first term, 1.5-6.5-2.7.

A course consisting of experiments on single-phase and three-phase circuits, and the characteristics, efficiency, and regulation of transformers and synchronous generators.

E. E. 118. ELECTRICAL ENGINEERING LABORATORY. Parallel or after E. E. 190. Prerequisite, E. E. 16. Fee, \$4.00.

Senior E. E., second term, 1.5-6.5-2.7.

The experimental determination of the characteristics, efficiency and regulation of polyphase and single-phase motors and rotary converters. A study of thermionic rectifiers and transmission lines.

E. E. 130. ELECTRICAL TRANSMISSION OF POWER. Parallel E. E. 189.

Senior E. E., first term, 3-0-3.

Recitation and problem work devoted to the study of the construction and operating characteristics of transmission lines, and the distribution of power.

E. E. 133, 133c. RADIO ENGINEERING PRINCIPLES. Prerequisite, E. E. 188, or E. E. 94c.

Senior E. E., first term, 3-0-3.

Co-operative course, Senior E. E., first term, 4-0-2.6.

An introductory course presenting the basic principles of operation of radio communication apparatus and electronic devices.

E. E. 134, 134c. RADIO ENGINEERING PRINCIPLES. Prerequisite, E. E. 133.

Senior E. E., second term, 3-0-3.

Co-operative course, Senior E. E., second term, 5-0-3.3.

The quantitative analysis and design of various types of thermionic amplifiers and of radiating systems.

E. E. 136, 136c. RADIO LABORATORY. Parallel or after E. E. 134. Fee, \$3.00.

Senior E. E., second term, 1-5-2.

Co-operative course, Senior E. E., second term, 1-8-2.

A practical course dealing with tuned circuits, filters, transmission lines, thermionic amplifiers, oscillators, detectors, and photocells.

E. E. 188. ALTERNATING CURRENT CIRCUITS. Prerequisite, E. E. 87.

Junior E. E., second term, 5-0-5.

Single-phase and polyphase circuits, non-harmonic waves.

E. E. 189. ALTERNATING CURRENT MACHINERY. Prerequisite, E. E. 188.

Senior E. E., first term, 5-0-5.

The construction, characteristics, and applications of alternating current machinery.

E. E. 190. ALTERNATING CURRENT MACHINERY. Prerequisite, E. E. 189.

Senior E. E., second term, 3-0-3.

A continuation of E. E. 189, consisting of recitations and problems devoted to the study of the theory, construction, and operating characteristics of polyphase and single-phase motors and rotary converters.

For Graduate Courses see page 186 of this catalogue.

DEPARTMENT OF ENGINEERING DRAWING
AND MECHANICS

PROFESSOR JOHNS; ASSOCIATE PROFESSOR WEBER, IN CHARGE OF
DRAWING; PROFESSOR NARMORE; ASSISTANT PROFESSORS BROWN
AND HILL; INSTRUCTORS BOGLE, LEWIS, JACOBS, VIDOSIC AND
BILYK, AND ASSISTANTS

ENGINEERING DRAWING

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

DRAWING 5. BLUE PRINT READING.

Freshman I. M., first term, 0-6-2.

This course covers lettering, the theory and delineation of simple orthographic projection, and blue print reading.

DRAWING 6. GRAPHIC CHARTS AND GRAPHS.

Freshman I. M., second term, 0-6-2.

A study of the theory and construction of charts and graphs used to illustrate production and business trends.

DRAWING 9 and 9c. ENGINEERING DRAWING.

Dr. 9c. First term, Freshman, 0-6-2.

Dr. 9c. First term, Co-op., Freshman, 0-9-2.

Instruction is given in the proper use of drawing instruments and equipment. The course covers the theory of orthographic, isometric, and oblique projections; also a study of simple sections and methods of dimensioning. Particular emphasis is placed on the development of technique. Pencil drawings, only, are required.

DRAWING 10 and 10c. ENGINEERING DRAWING.

Dr. 10. Second term, Freshman, 0-6-2. Prerequisite, Dr. 9.

Dr. 10c. Second term, Co-op., Freshman, 0-9-2. Prerequisite, Dr. 9c.

A course covering the more intricate and advanced phases of orthographic projection and the conventions of machine drawing. Freehand working sketches are drawn of machine parts and from assemblies, followed by detail pencil drawings from which tracings are made on cloth. It is required that every student make a blue print.

DRAWING 23. ENGINEERING DRAWING.

First term, Sophomore, M. E. and Junior Cer. E., 0-6-2. Prerequisite, Dr. 10.

All the work of Dr. 25 and Dr. 26 in one term.

DRAWING 25 and 25c. ENGINEERING DRAWING.

Dr. 25. First term, Sophomore, G. E., M. E., 0-3-1. Prerequisite, Dr. 10.

Dr. 25c. First term, Sophomore Co-op. (except C. E. and Ch. E.), 0-3-7. Prerequisite, Dr. 10c.

The fundamentals of applied descriptive geometry. Simple intersections. Elementary practical applications. Lectures, class (no outside preparation) and drafting.

DRAWING 26 and 26c. ENGINEERING DRAWING.

Dr. 26. Second term, Sophomore, G. E., M. E., 0-3-1. Prerequisite, Dr. 25.

Dr. 26c. Second term, Co-op., Sophomore (except C. E. and Ch. E.), 0-6-13. Prerequisite, Dr. 25c.

Descriptive geometry as applied to surface intersections and space curves. Applications to structural problems. Practical layout problems in development. Warped surfaces.

Lectures, class (no outside preparation) and drafting.

ENGINEERING MECHANICS

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

MECH. 29. ELEMENTARY APPLIED MECHANICS. Prerequisites, Phys. 21, Math. 23.

Junior T. E., first term, 4-0-4.

Elementary statics, kinetics, and mechanics of materials.

MECH. 31. APPLIED MECHANICS. Prerequisites, Phys. 27, Math. 23, Math. 24, or concurrently.

E. E., P. H. E., first term, 3-0-3.

Topics of study: Elements of statics; laws of equilibrium with application to machines and structures; symmetrical and unsymmetrical suspension of parabolic and catenary cables; kinematics and kinetics of rectilinear and curvilinear motion of particles and bodies.

MECH. 33. APPLIED MECHANICS. Prerequisites, Phys. 21, Math. 23, Arch. 13.

Junior Architects (option No. 2), Junior Cer. E., first term, 3-3-4.
Class work, Mech. 35; Laboratory, Mech. 39.

MECH. 35. APPLIED MECHANICS. Prerequisites, Phys. 27, Math. 23, Math. 24, or concurrently.

Junior Ch. E., first term, 3-0-3.

Topics of study: Resolution and composition of forces; Moments of forces; General principles of equilibrium; Physical properties of common engineering materials; Stresses and corresponding deformation of these materials in tension, compression and shear; Transverse shear and bending moments in beams; Centroids and moments of inertia of plane areas; Stresses in beams, simple cases.

MECH. 36. APPLIED MECHANICS. Prerequisites, Mech. 33 or 35.

Junior Ch. E., Junior Cer. E., and Architects (option No. 2), second term, 2-0-2.

Topics of study: Stresses in beams; Deflections of statically determinate beams; Columns; Riveted joints; Pressure vessels; Shafts.

MECH. 39, 39c. APPLIED MECHANICS. Prerequisites to class: Phys. 27, Math. 23, Math. 24, or concurrently. Prerequisite to lab.: Dr. 10.

Junior C. E., G. E., M. E., first term, 3-3-4.

Pre-Junior Co-op., second term, 4-6-4 (Mech. 39c).

For topics of study in class see Mech. 31. (Students in Mech. 31 and in class part of Mech. 39 and 39c are grouped together in the same class without regard to course number.)

Topics of study in lab.: Composition and resolution of forces and couples; Forces in equilibrium; Application of principles of equilibrium to determine loads on members of roof trusses, cranes, and other simple structures; Friction.

MECH. 40, 40c. APPLIED MECHANICS. Prerequisite, Mech. 31 or 39.

Junior E. E., G. E., M. E., second term, 2-0-2.

Junior Co-op., except T. E. and Ch. E., first term, 3-0-2. (Mech. 40c.)

Topics of study: Kinetics of plane motion; work, power, and energy; impulse and momentum; the general case of rotation; balancing of rigid bodies; the gyroscope.

MECH. 42. MECHANICS OF MATERIALS.

Junior Arch., Option No. 1. Prerequisite, Math. 17, second term, 3-0-3.

Topics of study: Moments and shears in simple and continuous beams; flexure formula; a brief study of column design; resolution and composition of forces with especial reference to trusses.

MECH. 47, 47c. MECHANICS OF MATERIALS. Prerequisite, Mech. 31 or 39, or concurrently.

Junior C. E., E. E., G. E., M. E., first term; P. H. E., second term, 2-0-2.

Junior Co-op., Ch. E., C. E., E. E., M. E., first term, 3-0-2 (Mech. 47c).

Topics of study: The physical properties of materials; Shear and bending moment; Moments of inertia; The flexure formula; Simple elastic curves; Torsion of circular shafts; An elementary treatment of columns; Cylinders with thin walls under internal pressure.

MECH. 48, 48c. MECHANICS OF MATERIALS. Prerequisite, Mech. 47.

Junior C. E., G. E., M. E., second term, 3-0-3.

Junior Co-op., C. E., M. E., second term, 4-0-2.6 (Mech. 48c).

Topics of study: A more advanced treatment of elastic curves; Slope-deflection methods applied to beams; Continuous beams; Horizontal shear; Combined stresses; Moving loads; Beams of constant strength; Springs; A more advanced treatment of columns.

For Graduate Courses see page 187 of this catalogue.

DEPARTMENT OF ENGLISH

PROFESSORS PERRY AND CHAPIN; ASSOCIATE PROFESSORS FOLK AND WALKER; ASSISTANT PROFESSORS BROWN, RAINEY, COX, AJAX, AND ANDERSON; INSTRUCTORS COMER, BOWDEN, HUDSON, CRANE, LINTON, AND BAKER

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

Comment on the Freshman English Course

At the opening of the school year all incoming Freshmen are required to take a placement test, which is given uniformly throughout all branches of the Georgia University System. On the basis of this test the Freshmen are grouped into various sections according to their indicated ability.

Every student is required to have credit for two terms of Freshman English. Students notably deficient in the fundamentals of English composition may be assigned to a non-credit section; and those notably proficient may be given credit for the first term's work.

A definite number of themes is required of students during each term. No theme is accepted which is unsatisfactory in grammar and spelling, and no student is given credit for the course until he has acquired correctness in these particulars and a reasonable facility in the use of the English language. If the student fails to receive credit for the course, he will be required to repeat the work as often as may be necessary to teach him to write correctly.

The schedule of each student provides for a consultation hour with his instructor.

Students in more advanced classes whose work in composition is unsatisfactory may be required to take this course, as a whole or in part, even though they have credit for the course. A "Laboratory Section" in English composition is conducted to meet the needs of such students.

ENGLISH 11. COMPOSITION AND RHETORIC.

Required of all Freshmen, first term, 3-0-3.

The course offers a study of the basic principles of rhetoric and composition, including punctuation, grammatical form, the correct and effective use of words, and the structure of the sentence and the paragraph. The emphasis is placed on the application of these principles in the student's themes.

Text: Jones, *Practice Handbook in English; an approved dictionary.*

ENGLISH 12. COMPOSITION AND RHETORIC. Prerequisite, English 11.

Required of all Freshmen, second term, 3-0-3.

The course is a continuation of English 11. Its main concern is with the larger units of composition, the paragraph and the theme as a whole, with special emphasis on the collecting and organizing of material for the expository essay.

Text: Chapin, Walker, Ajax, *Advanced Composition.*

FRESHMAN COLLATERAL READING

All Freshmen are required to read each term, as an integral part of their Freshman English course, a designated amount of collateral reading. This collateral reading will be approximately one thousand pages, one-third of which must be non-fiction. The books selected by the student for reading must have the approval of the instructor. The books are, in the main, supplied by the School Library. The larger book collection of the Carnegie Library of Atlanta is also made available for the use of all Tech students.

SURVEY OF THE HUMANITIES

In lieu of a study of literature during the Sophomore year there is given the Survey Course in the Humanities which is a uniform part of the curriculum of all units of the University System of Georgia.

ENGLISH 33. SURVEY OF THE HUMANITIES. Prerequisite, English 11 and 12.

Required of all Sophomores, first term, 3-0-3.

The course presents a general survey of the Humanities from the earliest times to the close of the Renaissance. It is conducted by means of lectures, oral and written quizzes, and written reports.

Text: Robbins and Coleman, *Western World Literature.*

ENGLISH 34. SURVEY OF THE HUMANITIES. Prerequisite, English 33.

Required of all Sophomores, second term, 3-0-3.

The course continues the survey of the Humanities from the close of the Renaissance to the present. It is similar in aim and scope to English 33.

Text: Robbins and Coleman, *Western World Literature*.

Collateral reading, required in both English 33 and 34, will be announced by the instructor.

ENGLISH 41.* AMERICAN LITERATURE. Prerequisite, English 11 and 12.

Juniors and Seniors, first term, 3-0-3.

The course presents a general survey of American literature from the beginning to the Civil War.

Not given 1939-40.

ENGLISH 42.* AMERICAN LITERATURE. Prerequisite, English 41.

Juniors and Seniors, second term, 3-0-3.

The course continues the survey of American literature, from the Civil War to the present.

Not given 1939-40.

ENGLISH 45. PUBLIC SPEAKING.

Juniors and Seniors, one term, 3-0-3.

This brief course attempts to inform the student of the principles underlying effective informal public speaking and to furnish him with some experience and practice in the art.

In Speech Laboratory the student will record his voice and receive instruction in the correction of his speech habits. Fee, \$1.50.

Text: Folk and Walker, *Outline for Public Speaking*.

ENGLISH 49. RADIO SPEAKING.

Juniors and Seniors, one term, 3-0-3. Prerequisite, English 45.

Admission by consent of instructor. The principles and practice of

*Taught in extension.

radio speaking, including the preparation of manuscript, will be studied. Recordings of the student's voice will be made at frequent intervals. Fee, \$2.00.

Text: Abbott, *Handbook of Broadcasting*.

ENGLISH 50.* ENGLISH POETRY.

Juniors and Seniors, one term, 3-0-3.

This course is designed to heighten the student's appreciation of poetry by means of a study of the basic technique of the art and of the principal poetic forms and by readings in good English poetry.

Not given 1939-40.

Juniors and Seniors, one term, 3-0-3.

ENGLISH 51. MODERN DRAMA.

This course presents a brief study of dramatic theory and technique, illustrated by the work of a number of modern playwrights. The class study is supplemented by collateral readings in modern drama.

ENGLISH 54. ELIZABETHAN DRAMA.

Juniors and Seniors, one term, 3-0-3.

Starting with a hurried review of the history of the drama, the course proceeds to a careful study of Shakespeare, whose work fills the larger part of the course. The minor Elizabethan playwrights and those of the Restoration are glanced at in the class room and in the collateral reading.

Texts: Complete edition of *Shakespeare's Plays*; other selected plays to be announced.

ENGLISH 61. THE ENGLISH NOVEL.

Juniors and Seniors, one term, 3-0-3.

This course comprises a brief survey of the general history of the novel in England and an intensive study of certain representative novels written since the time of Scott. Lectures are supplemented by extensive parallel reading and by oral and written quizzes and reports.

ENGLISH 63. TECHNICAL ENGLISH. Prerequisite, English 11 and 12.

Juniors and Seniors, one term, 3-0-3.

This course offers special training in those forms of composition which are specifically demanded of the engineer. It seeks to give study

*Taught in extension.

and practice in the use of correct and effective English in business letters, technical papers, and engineering reports.

Text: *The Engineer's Manual of English*, Sypherd-Brown.

ENGLISH 65. BUSINESS ENGLISH. Prerequisite, English 11 and 12. Juniors and Seniors, one term, 3-0-3.

This course offers a study of the fundamental principles of practical composition as applied to the problems of business correspondence. The content of the course is parallel with that of English 63, except that the emphasis is placed upon correctness and effectiveness in the language of business letters.

Text: *College Guide to Business English*, Marcoux.

COURSES IN ENGLISH IN THE CO-OPERATIVE DEPARTMENT

Eng. 11c, Eng. 12c, Eng. 33c, Eng. 34c, Eng. 45c, Eng. 63, 65c are, in content, identical with Eng. 11, Eng. 12, Eng. 33, Eng. 34, Eng. 45, Eng. 63 and 65.

NON-CREDIT COURSES

ENGLISH 9, 10.

English 9 is designed to meet the needs of foreign students. English 10 is for students unprepared to take regular college Freshman English. Both are non-credit courses.

THE GENERAL ENGINEERING COURSE

PROFESSOR D. P. SAVANT, *Director*

The degree of Bachelor of Science in General Engineering is awarded on the completion of one of the following options:

Option No. 1, General.

Option No. 2, Aeronautical Engineering, page 35.

Option No. 3, Engineering Physics, page 164.

The course, Option No. 1, has been established for students who wish to secure a training in engineering principles and their application, but who do not desire to specialize in any particular branch of engineering.

FRESHMAN YEAR

See page 34.

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Dr.	25	Engineering Drawing		3	1
Eng.	33	Humanities	3		3
Math.	23	Calculus	5		5
M. E.	16	Machine Laboratory		6	2
Phys.	27	Physics	5	3	6
R.O.T.C.	3	Military or Naval Instruction		5	1.5
Total			13	17	18.5

SECOND TERM

Dr.	26	Engineering Drawing		3	1
Eng.	34	Humanities	3		3
Math.	24	Calculus	5		5
M.E.	2	Wood Laboratory		6	2
Phys.	28	Physics	5	3	6
R.O.T.C.	4	Military or Naval Instruction		5	1.5
Total			13	17	18.5

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	23	Plane Surveying	2	6	4
Ec.	24	Engineering Economics	3		3
Math.	136	Differential Equations	3		3
Mech.	39	Applied Mechanics	3	3	4
Mech.	47	Mechanics of Materials	2		2
		Approved Elective	3		3
Total			16	9	19

SECOND TERM

Ch. E.	67	Metallurgy	3	3	
Eng.	63	Technical English	3	3	
M. E.	44	Thermodynamics	3	3	
M. E.	45	Instruments and Fuels Laboratory	1	3	1.3
Mech.	40	Applied Mechanics	2	2	
Mech.	48	Mechanics of Materials	3	3	
		Approved Elective	3	3	
Total			18	3	18.3

SENIOR YEAR

Option No. 1

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
C. E.	153	Framed Structures	3	3	4
C. E.	155	Reinforced Concrete	3	3	4
E. E.	77	Applied Electricity	3		3
M. E.	161	Machine Design	5	3	6
		Approved Elective	2		2
Total			16	9	19

SECOND TERM

C. E.	33	Hydraulics	3	3	3
C. E.	156	Concrete Structures	2	3	3
E. E.	78	Applied Electricity	2	3	3
Eng.	45	Public Speaking	3		3
M. E.	47	Power Auxiliaries Laboratory	1	3	1.3
M. E.	77	Steam Power Engineering	3		3
		Approved Elective	2		2
Total			16	9	18.3

SENIOR YEAR

Option No. 2

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
A. E.	121	Aerodynamics of the Airplane.....	3		3
A. E.	133	Theory of Aircraft Structures.....	3		3
A. E.	141	Airplane Design I.....		9	3
C. E.	75	Materials of Construction.....	2		2
E. E.	77	Applied Electricity.....	3		3
M. E.	57	Materials Laboratory.....	1	3	1.3
		Approved Elective.....	3		3
		Total.....	15	12	18.3

SECOND TERM

A. E.	124	Aerodynamics of the Airplane	3		3
A. E.	134	Theory of Aircraft Structures	3		3
A. E.	142	Airplane Design II		9	3
E. E.	78	Applied Electricity	2	3	3
Eng.	45	Public Speaking	3		3
M. E.	77	Steam Power Engineering	3		3
		Approved Elective	2		2
Total			16	12	20

Approved Electives: Adv. R. O. T. C., C. E. 36, Ec. 51, Ec. 96, Engr. 102, Geol. 41, S. S. 42.

OPTION No. 3

The Freshman and Sophomore Years of Option No. 3 are the same as for Option No. 1, except that Elementary German or Elementary French must be taken in the Sophomore Year instead of Drawing 25 and 26.

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Math.	136	Differential Equations	3		3
*Mech.	35	Applied Mechanics	3		3
Phys.	101	Theoretical Mechanics	3		3
Phys.	107	Electricity and Magnetism	3		3
Phys.	113	Experimental Physics I	1	6	3
		Approved Electives			3
Total			13	6	18

SECOND TERM

*Mech.	36	Applied Mechanics	2		2
Phys.	104	Heat and Kinetic Theory			
		or			
Phys.	110	Light	3		3
Phys.	161	Intermediate Modern Physics	3		3
Phys.	114	Experimental Physics II	1	6	3
		Approved Electives			6
Total			9	6	17

*Mech. 31, 40, 47, 48 may be substituted for Mech. 35 and 36, if desired.

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
E. E.	77	Applied Electricity	3		3
Ec.	24	Economics for Engineers			
		or			
Eng.	63	Technical English	3		3
Phys.	115	Experimental Physics III	1	6	3
		Approved Electives			9
Total			7	6	18

SECOND TERM

E. E.	78	Applied Electricity	2	3	3
Eng.	45	Public Speaking	3		3
Phys.	116	Experimental Physics	1	6	3
Phys.	110	Light			
		or			
Phys.	104	Heat and Kinetic Theory	3		3
		Approved Electives			7
Total			9	9	19

In addition to the above courses, Phys. 94, Special Problems, must be taken sometime during the Junior or Senior year.

Approved Electives:

- Any course in Aeronautical Engineering from 100 to 299.
- Any course included in the Chemistry or Chemical Eng. curricula.
- Any course in Electrical Engineering from 100 to 299.
- Any course in Mathematics or Physics from 200 to 299.
- Mechanical Engineering, 8 and 57.

GEOLOGY

PROFESSOR GIBSON

The work of the department of Geology is designed to give the student a thorough grounding in the basic principles of Geology and Mineralogy and their application to the particular field of engineering the student is preparing to enter. The department has type collections for Mineralogy and Geology; a collection of building stones and ceramic clays; maps, charts and folios; and the usual Mineralogy laboratory equipment.

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

GEOL. 36C. ENGINEERING GEOLOGY. Prerequisites, Chem. 3, 4; Phys. 27; C. E. 21 or 23.

Pre-Junior C. E. Co-operative students, second term, 3-3-2.7.

A course in general, structural, and economic geology.

GEOL. 37. ECONOMIC GEOGRAPHY.

A course of lectures; elective for Juniors and Seniors, 3-0-3.

GEOL. 41, 42. GENERAL GEOLOGY. Prerequisites, Chem. 3, 4; Phys. 27; C. E. 21 or 23.

41, Juniors in C. E., Cer. E., Chem. and I. M., first term, 3-0-3.

A somewhat detailed account of geologic processes.

42, Juniors in Chem., second term, 3-0-3.

A course of recitations and lectures in Historical Geology.

GEOL. 44. GENERAL GEOLOGY LABORATORY. Prerequisite, Geol. 41.

Junior Cer. E., second term, 0-3-1.

A laboratory course in General Geology with some map interpretation. Various field trips are taken during the term.

GEOL. 46. GENERAL GEOLOGY. Prerequisite, Geol. 41.

Juniors in C. E., second term, 3-3-4.

A course in Historical Geology and Map Reading.

GEOL. 51. MINERALOGY. Prerequisites, Geol. 41, 42, 44.

Seniors in C. E., Cer. E. and Chem., first term, 1-3-2.

A course in descriptive and determinative mineralogy which includes

an introduction to crystallography, blow-piping, and the determination of important minerals and rocks by their chemical and physical properties.

GEOL. 101. ADVANCED MINERALOGY.

Crystallography stressed. 1-6-3.

GEOL. 103. PALEONTOLOGY.

Invertebrates. 3-0-3.

GEOL. 104. PALEONTOLOGY.

Vertebrates. 3-0-3.

GEOL. 105. FIELD GEOLOGY.

Theory. 3-0-3.

GEOL. 106. FIELD GEOLOGY.

Practice. 1-6-3.

GEOL. 109. STRUCTURAL GEOLOGY.

Lectures on Earth Structures. 3-0-3.

GEOL. 116. PETROGRAPHY.

Determinations and classification by microscopy. 1-6-3.

GEOL. 125. HYDROLOGY.

Underground waters. 3-0-3.

GEOL. 132. ECONOMIC GEOLOGY. 3-0-3.

A Geological and Economic study of all commercially valuable minerals and rocks.

Junior and Senior I. M., second term.

INDUSTRIAL MANAGEMENT

PROFESSOR W. V. DUNKIN, *Director*

This course, which leads to the degree, Bachelor of Science, provides adequate training for those students who intend to do executive work in industry. The first two years lay the foundation for a liberal education, with English, History, Social Science, Biology, and the basic physical sciences. Mathematical training is given which enables the student to master the important work in Finance, Accounting, and Statistics given in the Junior and Senior years. Unusually strong courses are given in Economics, Business Law, Distribution of Products, and Industrial Organization.

INDUSTRIAL MANAGEMENT

FRESHMAN YEAR

See page 34.

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Biol.	45	General Zoology	3	4	4.3
Ee.	21	Economics	3		3
Eng.	33	Humanities	3		3
Eng.	45	Public Speaking	3		3
Phys.	21	Physics	3	3	4
R.O.T.C.	3	Military		5	1.5
Total			15	12	18.8

SECOND TERM

Course	No.	Subject	Class	Lab.	Credit
Biol.	46	Vertebrate Zoology	3	4	4.3
Ee.	22	Economics	3		3
Eng.	34	Humanities	3		3
Math.	20	Mathematics of Finance	3		3
Phys.	22	Physics	3	3	4
R.O.T.C.	4	Military		5	1.5
Total			15	12	18.8

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ec.	33	Accounting	3	3	4
Ec.	37	Business Law	3		3
Biol.	51	Human Physiology	3		3
Geol.	41	General Geology	3		3
M. E.	61	Industrial Organization	3		3
M. E.	1	Wood Laboratory		3	1
		Electives			2
Total			15	6	19

SECOND TERM

C. E.	36	Economic Selection—R.O.T.C. Elective	2		2
Ec.	34	Accounting	3	3	4
Ec.	38	Business Law	3		3
Eng.	63	Technical English	3		3
Geol.	132	Economic Geology	3		3
Math.	39	Introduction to Statistical Methods	3		3
M. E.	14	Machine Laboratory		3	1
Total			17	6	19

SENIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ec.	41	Distribution of Products	3		3
Ec.	45	Industrial Accounting	2		2
Ec.	93	Corporation Finance	3		3
M. E.	8	Foundry and Welding		3	1
M. E.	35	Industrial Relations	3		3
M. E.	152	Industrial Management	3		3
		Electives			4
Total			14	3	19

SECOND TERM

Ec.	42	Distribution of Products	3		3
Ec.	44	Investments	3		3
Ec.	46	Industrial Accounting	2		2
Ec.	48	Statistics	3		3
E. E.	12	Electrical Machinery		3	1
M. E.	92	Development of American Industry	3		3
		Electives			3
Total			14	3	18

Electives may be chosen, subject to required prerequisites, and approval of the director.

DEPARTMENT OF MATHEMATICS

PROFESSORS SMITH, FIELD, SKILES, AND HEFNER; ASSOCIATE PROFESSORS STAMY AND FULMER; ASSISTANT PROFESSORS MUNDORFF, REYNOLDS, BALLOU, STEEN, SEWELL, AND WEBB; INSTRUCTORS HOOK, STARRETT, SEARS, HOLTON, PHELPS, ROBINSON, GREEN AND CARROLL

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

MATH. 3. ENTRANCE ALGEBRA. Freshman, first term, six hours per week. A non-credit course for students who are not prepared to take Math. 17.

Text: Sewell, *Review Algebra*.

MATH. 11. ADVANCED ALGEBRA. Prerequisite, Entrance Mathematics.

First year Co-operative course, first and second quarters, 5-0-3.3.

This course begins with a review of factoring, fractions, simplifications, linear equations and quadratics, and includes the usual study of Theory of Equations.

Text: Rosenbach and Whitman, *College Algebra*.

MATH. 12. TRIGONOMETRY. Prerequisite, Math. 11.

First year Co-operative course, third and fourth quarters, 6-0-4.

This course covers the Trigonometry as taught in Math. 17 and includes use of the Slide Rule.

Text: Palmer and Leigh, *Trigonometry*.

MATH. 13. ANALYTIC GEOMETRY. Prerequisite, Math. 12.

Second year Co-operative course, first and second quarters, 6-0-4.

The course includes the analytic geometry of point, line and circle, elementary properties of conic sections, transformations of co-ordinates, polar and rectangular graphs, transcendental curves useful in engineering and parametric representation.

Text: Sisam, *Analytic Geometry*.

MATH. 17. ELEMENTARY FUNCTIONS. Prerequisite, Entrance Mathematics.

Freshman, first term, 5-1-5.

The course begins with a review of selected topics in algebra and includes functions and graphs, advanced quadratics, variation, binomial theorem, complex numbers and elementary theory of equations. In trigonometry it covers the standard course. The function concept is stressed as a means of unifying the theory, and the problems used are, to a large extent, those of frequent occurrence in actual engineering work.

Text: Rosenbach and Whitman, *College Algebra*; Palmer and Leigh, *Trigonometry*.

MATH. 18. ANALYTIC GEOMETRY. Prerequisite, Math. 17.

Freshman, second term, 5-1-5.

The course includes the analytic geometry of point, line and circle, transformation of co-ordinates, polar and rectangular graphs of transcendental curves useful in engineering, conic sections, and the elements of solid analytic geometry.

Text: Sisam, *Analytic Geometry*.

MATH. 20. MATHEMATICS OF FINANCE. Prerequisite, Math. 17.

Sophomore, Industrial Management, second term, 3-0-3.

The course includes short methods of computation, simple and compound interest, equated date, compound discount, annuities, amortization, depreciation, valuation and yield of bonds, and building and loan associations. Especial attention is given to practical problems of frequent occurrence in actual business transactions.

Text: Rietz, Crathorne and Rietz, *Mathematics of Finance*.

MATH. 23. DIFFERENTIAL CALCULUS. Prerequisite, Math. 18.

Sophomore, first term, 5-0-5.

The course includes derivatives of algebraic and transcendental functions, simple applications of the derivative and differential, maxima and minima, rates, curvature, velocity and acceleration, Newton's method, the definite integral, and its application to plane areas, volumes of revolution, pressure, and work, indeterminate forms and series.

Text: Smith, Salkover and Justice, *Calculus*.

MATH. 24. INTEGRAL CALCULUS. Prerequisite, Math. 23.

Sophomore, second term, 5-0-5.

This course is a continuation of Math. 23. It includes methods of integration, exact and approximate; the application of single and iterated integrals to lengths, areas, surfaces of revolution, volumes, pressure, work, center of pressure, center of gravity and moments of inertia; partial and total derivatives with application to geometry and rate problems.

Text: Smith, Salkover and Justice, *Calculus*.

MATH. 31. DIFFERENTIAL CALCULUS. Prerequisite, Math. 13.

Second year Co-operative course, third and fourth quarters, 5-0-3.3.

The course includes derivatives of algebraic and transcendental functions and applications to slopes, maxima and minima, integration of polynomials and application to area, volume of revolution, pressure and work.

Text: Smith, Salkover and Justice, *Calculus*.

MATH. 32. DIFFERENTIAL AND INTEGRAL CALCULUS. Prerequisite, Math. 31.

Third year Co-operative course, first and second quarters, 5-0-3.3.

This course is a continuation of Math. 31 and includes rates, curvature, space geometry, indeterminate forms, series, partial differentiation and integration of standard forms.

Text: Smith, Salkover and Justice, *Calculus*.

MATH. 33. INTEGRAL CALCULUS. Prerequisite, Math. 32.

Third year Co-operative course, third and fourth quarters, 5-0-3.3.

This course completes the study of integration as begun in Math. 32 and includes applications to areas, lengths, surfaces, volumes, pressure, work, center of gravity, moments of inertia, and approximate integration.

Text: Smith, Salkover and Justice, *Calculus*.

MATH. 39. INTRODUCTION TO STATISTICAL METHODS.

Junior I. M. Elective, 3-0-3.

An introduction to the mathematics of elementary statistics.

Text: Richardson, *Elementary Statistical Analysis*.

MATH. 136. DIFFERENTIAL EQUATIONS. Prerequisite, Math. 24.

Junior A. E., E. E., G. E., and Ch., 3-0-3.

Ordinary Differential Equations of first and second orders and special types of higher order. Numerous applications to Physics and Mechanics are given.

Text: Phillips, *Differential Equations*.

MATH. 136C. DIFFERENTIAL EQUATIONS. Prerequisite, Math. 33.

Fourth year Co-operative course, first and second quarters, 4-0-2.6.

The course includes Ordinary Differential Equations of first and second orders and special types of higher order. Applications to Physics and Mechanics are given. Required for students in Electrical and Chemical Engineering.

Text: Phillips, *Differential Equations*.

For Graduate Courses, see page 188.

DEPARTMENT OF MECHANICAL ENGINEERING

PROFESSORS KING, DUNKIN, MASON, HOWELL AND SWEIGERT; ASSOCIATE PROFESSORS TROTTER, HOLLAND, AND HARRELSON; ASSISTANT PROFESSOR HINTON; INSTRUCTORS CASE, MARTINDALE, HENIKA, VAN HOUTEN, TOPHAM, FOSTER, WILCOX AND ALLEN, AND ASSISTANTS

Mechanical Engineering entails hard work, physical and mental, and demands from the successful engineer native ability, technical training, determination, and willingness to take responsibility. Its courses of study are not designed to cover the entire field of technical thought and achievement, but to impress basic principles upon the student and train his mind to assimilate new ideas and draw correct conclusions from given facts.

From the standpoint of theory the course in Mechanical Engineering offers a thorough training in mechanics and heat engineering with emphasis on the underlying mathematics and physics. On the practical side the shops and laboratories provide direct knowledge of the construction and use of modern tools, machines and mechanical devices, together with training in applying this knowledge to actual engineering conditions.

Two alternative courses are offered in Mechanical Engineering. The course in the first three years is identical for the two options, but the first term of the senior year the student chooses General Mechanical Engineering, or Industrial Engineering. Both options lead to the Degree of Bachelor of Science in Mechanical Engineering.

1. GENERAL MECHANICAL ENGINEERING OPTION.

This option gives the student a thorough training in the fundamentals of Mechanical Engineering, embracing Electrical Engineering, Power Plant Engineering, Machine Design, and advanced Shop Work. This option prepares the student for taking up any line of work in the mechanical engineering field.

2. INDUSTRIAL ENGINEERING OPTION.

This option gives the fundamental work in Mechanical Engineering and the principles of industrial organization, which will fit the student for entering the executive field of the industries.

COURSE IN MECHANICAL ENGINEERING
SOPHOMORE YEAR
FRESHMAN YEAR

See page 34.

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Dr. 23	Engineering Drawing		6	2
Eng. 33	Humanities	3		3
Math. 23	Calculus	5		5
M. E. 2 or 16	Wood or Machine Laboratory		6	2
Phys. 27	Physics	5	3	6
R.O.T.C. 3	Military or Navy		5	1.5
Total		13	20	19.5

SECOND TERM

C. E. 21	Surveying	1	3	2
Eng. 34	Humanities	3		3
Math. 24	Calculus	5		5
M. E. 16 or 2	Wood or Machine Laboratory		6	2
Phys. 28	Physics	5	3	6
R.O.T.C. 4	Military or Navy		5	1.5
Total		14	17	19.5

JUNIOR YEAR

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
Ch. E. 67	Ferrous Metallurgy	3		3
C. E. 75	Materials of Construction (Mil.)	2		2
M. E. 17	Machine Laboratory		3	1
M. E. 41	Thermodynamics	3	3	1.3
M. E. 45	Inst. and Fuels Laboratory	1	3	1.3
Mech. 39	Mechanics	3	3	4
Mech. 47	Mechanics of Materials	2		2
M. E. 155	Organization and Management	3		3
Total		17	9	19.3

SECOND TERM

E. E. 77	Applied Electricity	3		3
M. E. 7	Foundry (Mil.)		3	1
M. E. 22	Heat Treating and Welding Laboratory	1	8	3
M. E. 47	Power Auxiliaries Laboratory	1	3	1.3
M. E. 58	Seminar	1		0.3
M. E. 65	Power Plant Engineering	4		4
M. E. 140	Advanced Thermodynamics	2		2
Mech. 40	Mechanics	2		2
Mech. 48	Mechanics of Materials	3		3
Total		17	14	19.6

SENIOR YEAR

GENERAL OPTION

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
E. E. 78	Applied Electricity	2	3	3
M. E. 59	Seminar	1		0.3
M. E. 83	Heat Power Laboratory		4	1.3
M. E. 103	Fluid Flow	3		3
M. E. 161	Machine Design	5	3	6
M. E. 166	Internal Combustion Engines	3		3
Elective	R.O.T.C. Electives	2		2
Total		16	10	18.6

SECOND TERM

Eng. 45	Public Speaking	3		3
M. E. 60	Seminar	1		0.3
M. E. 84	Heat Power Laboratory		4	1.3
M. E. 162	Machine Design	4	3	5
M. E. 170	Refrigeration, Heating and Ventilation	5		5
Elective	Engineering Subject	2		2
Elective	R.O.T.C. Elective	2		2
Total		17	7	18.6

SENIOR YEAR

INDUSTRIAL ENGINEERING OPTION

FIRST TERM

Course No.	Subject	Class	Lab.	Credit
E. E. 78	Applied Electricity	2	3	3
M. E. 59	Seminar	1		0.3
M. E. 83	Heat Power Laboratory		4	1.3
M. E. 103	Fluid Flow	3		3
M. E. 161	Machine Design	5	3	6
Elective	R.O.T.C. Elective	2		2
M. E. 109	Production Plant Engineering	3		3
Total		16	10	18.6

SECOND TERM

Eng. 45	Public Speaking	3		3
M. E. 60	Seminar	1		0.3
M. E. 84	Heat Power Laboratory		4	1.3
M. E. 106	Factory Building Equipment	2		2
M. E. 153	Time and Motion Study	1	3	2
M. E. 156	Management Engineering	3		3
M. E. 162	Machine Design	4	3	5
Elective	R.O.T.C. Elective	2		2
Total		16	10	18.6

ELECTIVES

The following courses are elective for both Industrial and General Options in Mechanical Engineering. No course will be given to less than eight men. Any Graduate Course may be elected either term.

FIRST TERM

Course	No.	Subject
Ec.	21	Economics
Ec.	24	General Economics
Ec.	93	Finance Survey Course
Ec.	94	Marketing
Eng.	63	Technical English
Geol.	41	General Geology
Math.	136	Differential Equations
M. E.	49	Mechanical Engineering Special Problems
M. E.	95	Mechanical Engineering Laboratory
M. E.	150	Legal and Ethical Phases of Engineering
M. E.	172	Steam Turbines

SECOND TERM

C. E.	61	Contracts and Specifications
Ec.	22	Economics
Ec.	95	Accounting
Eng.	63	Technical English
M. E.	50	Mechanical Engineering Special Problems
M. E.	89 & 94	Internal Combustion and Aeronautical Engine Laboratory
M. E.	96	Mechanical Engineering Laboratory
M. E.	98	Steam Locomotives
M. E.	148a	Industrial Relations
M. E.	150	Legal and Ethical Phases of Engineering
M. E.	174	Power Plant Design
M. E.	182	Motor Vehicles
Phys.	190	High Temperature Measurements

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

The following courses are suitable for undergraduate credits only.

Note: Course numbers followed by the letter "c" are for co-operative students only.

M. E. 1. WOOD LABORATORY.

Elective either term, 0-3-1.

This course consists of instruction in the proper care and use of wood-working tools, machines and their safe operation, in benchwork, turning and elementary cabinet work, giving a thorough understanding of the fundamental principles of woodwork.

M. E. 2. WOOD LABORATORY.

Sophomore M. E., first or second term, 0-6-2.

Sophomore Gen. Eng., first or second term, 0-6-2.

The practical applications are confined to jointmaking with different woods, gluing, turning and elements of finishing. The last half of the course deals with pattern work and the use of pattern making tools.

M. E. 5. HEAT TREATING LABORATORY. No prerequisites.

Junior E. E., first term, 1-3-1.3.

This subject includes the operations of normalizing, annealing, case hardening (or carburizing), hardening, tempering and drawing of steels. Tests are made of specimens of heat treated steel alloys and non-ferrous metals as to both strength and machinability. Microscopic examinations and various mechanical proofs are used to check up on such treatments.

M. E. 7 and M. E. 7c. FOUNDRY LABORATORY.

Junior M. E., second term, 0-3-1.

Pre-Junior M. E. Co-op., second term, 0-4-1.

This course in foundry practice consists of the elements of bench and floor work, with projects in simple mould building, in which two and three part flasks are used. Machine and other methods of mass production are put through with moulding machines, core presses and other equipment, mixing and pouring non-ferrous metals, such as brass and aluminum. Computation of charges, and operation of the cupola and brass furnaces are also taught.

M. E. 8. FOUNDRY AND WELDING LABORATORY.

Elective, either term.

Senior, I. M., first term, 0-3-1.

One-half of the term is spent in the foundry and one-half of the term in welding laboratory. This course is intended to give the student a survey of foundry practice, electric and oxy-acetylene welding, and is taught by means of lectures as well as practice work.

M. E. 10 and M. E. 10c. WELDING LABORATORY.

Junior C. E., second term, 0-3-1.

Pre-Junior C. E., Co-op., first term, 0-3-0.7.

Senior E. E. Co-op., first term, 0-6-1.4.

In this course is given a brief survey of the whole field of welding

practice, including the fundamentals of electric arc and resistance, oxy-acetylene, forge, thermit, and atomic hydrogen arc welding.

By actual practice, the student is taught to use the oxy-acetylene torch, the electric arc and the electric resistance spot welding equipment.

M. E. 10b. ADVANCED WELDING.

Elective, 1-3-2.

This course may be substituted by the student for M. E. 10, if he desires the added information.

This course furnishes instruction by means of lectures and laboratory practice, which enables the student to select proper material, apparatus and procedure to be able to perform, inspect and supervise welding operations which have come to occupy such an important place in the fabrication of machines and apparatus used in engineering. Lantern slides are used to show the crystalline structure and the effects of heat upon the various metals as a result of the various procedures in use.

M. E. 14. MACHINE LABORATORY.

Junior E. E., I. M., second term, 0-3-1.

One hour of this course is devoted to the classroom where modern production methods are taught by actual demonstration. The subject of jigs, tools and fixtures used in electrical manufacturing plants are studied. The laboratory work consists wholly of building electrical motors.

M. E. 16 and M. E. 16c. MACHINE LABORATORY.

Sophomore M. E., T. E., G. E., first or second term, 0-6-2.

Junior M. E. Co-op., first term, 2-6-2.

Two hours of this course are spent in the classroom in a study of the production problems that occur in modern manufacturing plants. Time study and the design of jigs, tools and fixtures are required.

The practical work consists of projects selected for their training value. The use of simple jigs, tools and fixtures are employed throughout the course. The sequence of operation and tools used for such operations are furnished the student with standard time in which such operations should be completed.

M. E. 17. MACHINE LABORATORY. Prerequisite, M. E. 16.

Junior M. E., first term, 0-3-1.

One hour of time in this course is spent in the classroom on manufacturing methods, with special emphasis being given to various types of gears and cam production.

The students are allowed to select various objects that will carry out production theory in machine work.

The class is divided into groups of workmen, each having a foreman selected from members of the class. Each foreman serves a period of four weeks.

Each workman is furnished a complete schedule of operations, upon which is placed the standard time for such operations, with tools used for each operation. In the lecture and demonstration work, a study is made of cutting speeds and feeds on each part by simple and multiple methods which includes milling, gear cutting, cam cutting, cylindrical grinding, internal grinding and the use of the boring mills.

M. E. 18. MACHINE LABORATORY. Prerequisite, M. E. 17.

Elective, first or second term, 0-3-1.

Continuation of M. E. 17.

M. E. 22, M. E. 22c. HEAT TREATING AND WELDING LABORATORY. Prerequisite, Ch. E. 67. Fee, \$10.00.

Junior M. E., second term, 1-8-3.

Pre-Junior, M. E. Co-op., first term, 2-8-2.3.

This course presents the principles and practice related to working, heat treating and welding of steels, the steel making process and the classification of steels.

The topics are discussed fully by means of lectures and demonstrations, assisted by lantern slides. The laboratory work is taught by actual practice in the use of oxy-acetylene torch, electric arc, resistance spot welder, the forge, gas furnace, electric furnace, polishing and micro-photographic equipment. Physical tests are made upon welded joints before and after heat treating.

M. E. 23c. PATTERN MAKING.

Pre-Junior M. E. Co-op., second term, 1-3-1.

This course takes up at once the subject of materials used for pattern making, both wood and metal. Lectures are given on pattern making, layouts and methods used in commercial shops for the rapid production of castings.

M. E. 24. MACHINE TOOLS.

I. M., elective, either term, 2-0-2.

This course presents to the student the various types of tools which are used in manufacturing processes, their application, care and maintenance. Tool materials, cutting speeds and general shop practice are taught with the purpose of familiarizing the student with the most modern methods of manufacture. Inspection trips are made to manufacturing plants using both old and modern methods of production.

M. E. 25. CABINET MAKING AND FINISHING. Prerequisite, M. E. 2.

Elective, first or second term.

This course includes the actual construction of a project which will involve the fundamental principles of cabinet making, together with finishing. The use of lacquers and other finishes, by means of the spray gun, and brush work is taught.

M. E. 35. INDUSTRIAL RELATIONS. Prerequisite, Junior standing. Senior I. M., first term, 3-0-3.

Industrial relations considered as one phase of the general field of management. An analysis and description of present-day labor relations. Some elementary statistical procedure introduced.

Text: 1939-40, Yoder, *Personnel and Labor Relations*.

M. E. 37, M. E. 37c. KINEMATICS OF MECHANISM. Prerequisites, all freshman drawing.

Junior T. E., second term, 2-3-3.

T. E. Co-op., first term, 3-4-3.

This course includes an analysis of the motions and forces occurring in gearing, cams, belts, chains and linkages, and the graphical determination of the velocities, accelerations and relative motions in these mechanisms.

Text: 1939-40, Guillet, *Kinematics and Mechanism*.

M. E. 39c. THERMODYNAMICS. Prerequisites, Physics 35c and Math. 33c or parallel.

Junior M. E. Co-ops., first term, 5-0-3.3.

This course embraces a study of engineering thermodynamics. The fundamental laws are developed and the properties of fluids are studied.

Text: 1939-40, Kiefer and Stuart, *Principles of Engineering Thermodynamics*.

M. E. 40c. THERMODYNAMICS. Prerequisite, M. E. 39c.

Junior M. E. Co-ops., second term, 3-0-2.0.

This course is a continuation of M. E. 39c, dealing with the practical application of engineering thermodynamics to air compressors, internal combustion engines, vapor engines, refrigeration cycles, etc.

Text: Same as for 39c.

M. E. 41. THERMODYNAMICS. Prerequisite, Physics 27, Math. 24.

Junior M. E., first term, 3-0-3.

This course embraces a study of engineering thermodynamics. The fundamental laws are developed and the properties of fluids are studied.

Text: 1939-40, Kiefer and Stuart, *Principles of Engineering Thermodynamics*.

M. E. 43, M. E. 43c. THERMODYNAMICS. Prerequisites, Physics 27 or 35c and Math. 24 or 33c or parallel.

Junior E. E. and Cer. E., first term, 2-0-2.

Senior T. E., Option 1, first term, 2-0-2.

Junior C. E. Co-op., first term, 3-0-2.

Senior Ch. E. and T. E. Co-op., second term, 3-0-2.

Pre-Junior E. E. Co-op., second term, 3-0-2.

This brief course in Thermodynamics develops the fundamental laws of gases and vapors and lays a groundwork for the analysis of gas and vapor engine cycles, flow of fluids and heat transfer.

Text: 1939-40, Ebaugh's *Elementary Engineering Thermodynamics*.

M. E. 44. THERMODYNAMICS. Prerequisites, Physics 27 and Math. 24.

Junior C. E., second term, 3-0-3.

Junior Gen. Eng., second term, 3-0-3.

This course includes the fundamentals of engineering thermodynamics. The development of equations for transformation of energy of gases and vapors is studied.

Text: 1939-40, Kiefer and Stuart, *Principles of Engineering Thermodynamics*.

M. E. 45, 45c. INSTRUMENTS AND FUELS LABORATORY. Prerequisite or parallel, either M. E. 41, 39c, 43, 43c, 44 or 44c. Fee, \$1.75.

Senior Cer. E., Senior T. E., Option 1 and Junior M. E., first term, 1-3-1.3.

Junior E. E., G. E., second term, 1-3-1.3.

Junior C. E. and M. E. Co-ops., first term, 1-3-1.

Junior E. E. and Pre-Junior T. E. Co-ops., second term, 1-3-1.

Calibration of instruments; analysis of gaseous, liquid and solid fuels; tests of lubricating oils.

M. E. 47, 47c. POWER PLANT AUXILIARIES. Prerequisite, M. E. 45, 45c. Fee, \$2.00.

Senior E. E., first term, 1-3-1.3.

Senior G. E., Option 1 and Junior M. E., second term, 1-3-1.3.

Senior E. E. Co-ops., first term, 1-3-1.

Junior M. E. Co-ops., second term, 1-3-1.

Tests of apparatus used as auxiliary devices such as pumps, water metering devices, steam calorimeters and an economy test of a steam prime mover.

M. E. 48. INDUSTRIAL RELATIONS. Prerequisite, Junior standing.

Junior E. E., first term, 2-0-2.

Study of the development of personnel administration, employment, personnel maintenance, industrial training and education, industrial health, and safety.

Text: 1939-40, Yoder, *Personnel and Labor Relations*.

M. E. 49, M. E. 49c, M. E. 50, M. E. 50c. MECHANICAL ENGINEERING SPECIAL.

Senior M. E., first and second term, or either for one term, elective, credit 1, 2 or 3 hours.

Senior M. E. Co-op., first and second term, or either for one term, elective, credit 1, 2 or 3 hours.

This course provides an outlet for the student fitted for original or research work. Opportunity is provided for him to determine his aptitude along various lines of endeavor. Only those students who have shown by their previous work that they can qualify and are in the upper third of their class are permitted to elect this course. They may elect any subject dealing with the field of Mechanical Engineering theory or practice.

M. E. 53, 53c. TIME AND MOTION STUDY.

Senior I. M., first term, elective, 1-3-2.

Junior M. E. Co-ops., first term, 1-3-1.3.

This course includes the making of time and motion studies, the analysis and interpretation of data derived from them, the derivation of formulae and plotting of curves for the prediction of future results. The use of time studies as a tool of management and their practical application.

Text: 1939-40, Maynard and Stegemerten, *Time and Motion Study*.

M. E. 55c. ORGANIZATION AND MANAGEMENT. Prerequisite, Pre-Junior standing.

Senior M. E. Co-op., first term, 4-0-2.6.

See M. E. 155 for course description.

M. E. 56, 56c. HYDRAULIC LABORATORY. Prerequisite, C. E. 33, 33c. Fee, \$1.75.

Senior C. E., second term, 1-3-1.3.

Junior C. E. Co-ops., second term, 1-3-1.

The calibration of nozzles, orifices, pitot tubes, weirs, water meters of different types; the testing of pumps, hydraulic rams, and water wheels; the flow of water in pipes.

M. E. 57, 57c. MATERIALS LABORATORY. Prerequisite, Mech. 47, 47c, 48 and 48c. Fee, \$2.25.

Senior Arch., Option 2 and C. E., first term, 1-3-1.3.

Senior G. E., Option 2, second term, 1-3-1.3.

Senior C. E. Co-ops., third term, 1-3-1.

The testing of strength of materials in compression, cross bending, hardness, shear, tension, and torsion; laboratory determination of the stresses in reinforced concrete members and steel structures; commercial tests of structural materials.

M. E. 58, 59, 60. SEMINAR.

M. E. 58c, 59c, 60c.

Junior and Senior M. E., and Junior and Senior M. E. Co-op.

Believing that the student branch of the national engineering society known as the American Society of Mechanical Engineers should have an opportunity to meet at a regular scheduled period, one hour per week

is set aside for their use. Members hold their meetings under the direction of their own officers. Students who are not members of the student branch are required to attend the regular seminar recitation. This student organization has been active for a number of years and was among the first student branches organized by the parent society.

M. E. 61. ORGANIZATION AND MANAGEMENT OF INDUSTRIAL CONCERNS. Prerequisite, Ec. 22.

Junior I. M., first term, 3-0-3.

Organization and operation of an industrial enterprise. Production control and time study illustrations from practice.

Text: 1939-40, Cornell, *Organization and Management in Industry and Business*.

M. E. 65. POWER PLANT ENGINEERING. Prerequisites, Math. 24, Physics 27, M. E. 41 and 140 parallel.

Junior M. E., second term, 4-0-4.

This course embraces a study of fuels and combustion, steam boilers, furnaces, stokers, superheaters, coal and ash handling apparatus, chimneys, mechanical draft, steam engines and turbines, condensers, feed water purifiers and heaters, pumps, and cost of power.

Text: 1939-40, Butterfield, Jennings and Luce, *Steam and Gas Engineering*.

M. E. 66c. INTERNAL COMBUSTION ENGINES. Prerequisite, M. E. 40c.

Senior M. E. Co-op., first term, 3-0-2.

See M. E. 166 for course description.

M. E. 68c. POWER PLANT ENGINEERING. Prerequisite, M. E. 39c.

Junior M. E. Co-ops., second term, 5-0-3.3.

See M. E. 65 for description of this course.

M. E. 69. THE MECHANICAL EQUIPMENT OF BUILDINGS.

Senior Arch., P. H. E., first term, 2-0-2.

A study of the principles of heating, ventilating, and plumbing, with the application of special problems.

M. E. 70c. REFRIGERATION, HEATING AND VENTILATION. Prerequisite, Thermodynamics.

Senior M. E. Co-op., second term, 5-0-3.3.

See M. E. 170 for course description.

M. E. 73. HEAT ENGINEERING. Prerequisites, Phys. 27.

Senior Chem. E., second term, 4-0-4.

This course will embrace the fundamentals of engineering thermodynamics, heat engines and power plants, with laboratory work parallel with the classroom instruction.

Text: 1939-40, Butterfield, Jennings and Luce, *Steam and Gas Engineering*.

M. E. 74, 74c. HEAT POWER LABORATORY. Prerequisite either M. E. 73 or M. E. 77c parallel. Fee, \$2.50.

Senior Ch. E., second term, 0-3-1.

Senior Ch. E. Co-ops., third term, 1-3-1.

Calibration of instruments, steam calorimeters, boiler testing, steam engine economy, steam pumps, internal combustion engines, air conditioning, and refrigeration machinery.

M. E. 77, M. E. 77c. ELEMENTARY STEAM POWER ENGINEERING. Prerequisites, M. E. 43, M. E. 43c or M. E. 44.

Senior Cer. E., first term, 3-0-3.

Senior C. E., T. E., G. E., Junior E. E., second term, 3-0-3.

Junior C. E., Co-op., second term, 4-0-2.6.

Senior T. E. Co-op., second term, 4-0-2.6.

Senior Ch. E. Co-op., third term, 4-0-2.6.

Junior E. E., Co-op., second term, 4-0-2.6.

This course covers the study of fuels and combustion, steam boilers, smoke prevention, furnaces, stokers, superheaters, coal and ash handling machinery, chimneys, mechanical draft, steam engines and steam turbines, finance and economics of power plants and the cost of power.

Texts: 1939-40, Butterfield, Jennings and Luce, *Steam and Gas Engineering*.

M. E. 79c. MACHINE DESIGN. Prerequisite, Mech. 40c and 48c.

Senior M. E. Co-ops., first term, 3-0-2.

This course includes an analysis of motions and forces occurring in gearing, cams, belts, chains and linkages, and the graphical determina-

tion of velocities, accelerations and relative motions in mechanisms. Fundamental principles underlying the design of machines are started.

Text: 1939-40, Faïres, *Machine Design*.

M. E. 80c. MACHINE DESIGN. Prerequisite, M. E. 79c.

Senior M. E. Co-ops., second term, 5-0-3.3.

The fundamental principles of the design of machines is continued, and the design of machine parts of structures are taken up. Consideration is given to the practical questions involved.

Text: Same as M. E. 79c.

M. E. 81c. MACHINE DESIGN. Prerequisite, M. E. 80c.

Senior M. E. Co-ops., third term, 5-3-4.

The continuation of M. E. 80c which takes up the solution of many problems in machine design and the use of graphic methods for determining stresses in machine parts. The data for many of these problems are taken directly from existing machines.

Text: Same as M. E. 79c.

M. E. 82c. AUTOMOTIVE ENGINEERING. Prerequisites, M. E. 66c, M. E. 81c parallel.

Senior M. E. Co-ops., third term, elective, 3-0-2.

See M. E. 182 for course description.

M. E. 83. HEAT POWER LABORATORY. Prerequisites, M. E. 43, 45, 65 or 77, 140. Fee, \$2.50.

Senior M. E., first term, 0-4-1.3.

Senior E. E., and T. E., Option 1, second term, 0-4-1.3.

Air compression, boiler testing, feedwater treatment, internal combustion engines, steam turbines and refrigeration machinery.

M. E. 83c. HEAT POWER LABORATORY. Prerequisite, M. E. 45c, 65c or 77c. Fee, \$1.50.

Senior C. E., and M. E. Co-ops., first term, 0-4-1.

Senior E. E. Co-ops., second term, 0-4-1.

Air compression, coal analyses, testing of internal combustion engines, refrigeration machinery and economy test of a steam engine.

M. E. 84. HEAT POWER LABORATORY. Prerequisite, M. E. 45, 65, and 140. Fee, \$2.00.

Senior M. E., second term, 0-4-1.3.

Air conditioning, air meters, fans, heat transfer, pipe friction, auto engine, combustion efficiency and ignition analysis.

M. E. 86c. AERONAUTICAL ENGINES. Prerequisite, M. E. 40c.

Senior M. E. Co-op., first term, elective, 3-0-2.

See M. E. 186 for course description.

M. E. 87c. HEAT POWER LABORATORY. Prerequisite, M. E. 83c. Fee, \$1.50.

Senior M. E. Co-ops., second term, 0-4-1.

Senior E. E. Co-ops., third term, 0-4-1.

Air conditioning, air meters, boiler testing, refrigeration machinery, fans, and steam turbine.

M. E. 88c. HEAT POWER LABORATORY. Prerequisite, M. E. 87c. Fee, \$1.50.

Senior M. E. Co-ops., third term, 0-4-1.

Fans, heat transfer, pipe friction, auto engine combustion efficiency and ignition analysis.

M. E. 89. INTERNAL COMBUSTION ENGINE LABORATORY. Prerequisites, M. E. 166. Fee, \$2.25.

Senior elective, first term, 0-3-1.

This course involves a study of the effect on power output and economy with varying engine temperatures, pressures, air-fuel ratios, etc.

M. E. 92. DEVELOPMENT OF AMERICAN INDUSTRY. Prerequisite, Senior standing in Industrial Management.

Senior I. M., second term, 3-0-3.

In general, the treatment covers history, including discoveries and operations, and leaders; volume and volume increases in product; internal organization; importance; legislation affecting the industry and possible future developments.

Text: 1939-40, Glover and Cornell, *Development of American Industry*.

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M. E. 94. AERONAUTICAL ENGINE LABORATORY. Parallel 186. Fee, \$2.25.

Fifth year A. E., second term, 0-3-1.

Economy and power tests of in-line and radial type engines together with testing of fuels and lubricants.

M. E. 95, 95c. SPECIAL MECHANICAL ENGINEERING LABORATORY. Fee, \$2.00.

Senior M. E., elective, 0-9-3.

Senior M. E. Co-op., elective, 0-9-2.

The work in this course consists of special laboratory problems pertaining to the student's course and selected with the approval of the department. The purpose is to give the student an opportunity to analyze and effect a solution to a problem as an individual and not as a member of a group.

M. E. 96. SPECIAL MECHANICAL ENGINEERING LABORATORY. Fee, \$2.00.

Senior M. E., elective, second term, 0-9-3.

A continuation of the work in M. E. 95.

M. E. 98, M. E. 98c. STEAM LOCOMOTIVES. Prerequisites, M. E. 40c, M. E. 140, M. E. 65 and M. E. 68c.

Senior M. E. Co-op., elective, 3-0-2.

Senior M. E., elective, 2-0-2.

A study of the steam locomotive as a power plant is made as well as the mechanical construction and future possibilities.

The following courses are suitable for both advanced undergraduate and graduate credit.

M. E. 103, 103c. FLUID FLOW. Prerequisite, M. E. 140, Mech. 40, Mech. 40c, Mech. 39c.

Senior M. E., first term, 3-0-3, Junior M. E. Co-op., second term, 3-0-2.

This course includes the study of: Statics and dynamics of fluids; Impulse and momentum of fluids; Flow of viscous fluids through pipes, orifices, etc., and dynamic similarity. This course includes the study of compressible as well as noncompressible fluids. Use is made of dimensional analysis, and thermodynamics.

M. E. 106. FACTORY BUILDING EQUIPMENT. Prerequisite, Junior standing.

Senior M. E., Industrial Option, second term, 2-0-2.

A study of the principles of heating, ventilating, plumbing, fire protection and water supply for industrial buildings, with the application to special problems.

Text: 1939-40, Gay and Fawcett, *Mechanical and Electrical Equipment for Buildings*.

M. E. 109. PRODUCTION PLANT ENGINEERING. Prerequisite, Senior standing in Mechanical Engineering, and M. E. 155.

Senior M. E., Industrial Option, first term, 3-0-3.

The purpose of this course is to acquaint the student with a logical sequence of the practical considerations involved in the design of a modern manufacturing plant capable of a predetermined output. After a series of guided tours through a variety of modern plants, the topics of building types, machines and handling equipments, material flow, tools, jigs and gauges will be studied.

Text: Mimeographed Notes.

Fee, \$1.00.

M. E. 140. ADVANCED THERMODYNAMICS. Prerequisite, M. E. 41. Junior M. E., second term, 2-0-2.

This course is a continuation of M. E. 41 dealing with the practical application of engineering thermodynamics. Compressors, internal combustion engine, vapor engine and refrigeration cycles are studied.

M. E. 150. LEGAL AND ETHICAL PHASES OF ENGINEERING.

Senior M. E., either term, elective, 3-0-3.

This course covers the subject of contracts, patents, copyrights and trademarks, agency, sales agreements, and engineering specifications. The engineer and his relation to the law, to the public and the ethics of his profession.

Text: Harding and Canfield, *Legal and Ethical Phases of Engineering*.

M. E. 152. INDUSTRIAL MANAGEMENT. Prerequisite, M. E. 61 or parallel.

Senior I. M., first term, 3-0-3.

The case method of instruction is used. The divisions of the subject considered are (a) Economics of Production; (b) Factors of Production, and (c) Control of Production Processes.

Text: 1939-40, Folts, *Introduction to Industrial Management*.

M. E. 153. TIME AND MOTION STUDY.

Senior M. E., T. E., second term, 1-3-2.

This course covers the making of time and motion studies, the analysis and interpretation of data derived from them, the derivation of formulas and the plotting of curves for the prediction of future results, the use of time studies as a tool of management and their practical application.

Text: 1939-40, Barnes, *Motion and Time Study*.

M. E. 155. ORGANIZATION AND MANAGEMENT. Prerequisite, Junior standing.

Senior T. E., Junior M. E., first term, 3-0-3.

A course in the principles of factory organization and management. The type of industrial organization, fundamental considerations involving production control, purchasing, production, accounting, employment and executive control, are some of the important topics studied.

Text: 1939-40, Cornell, *Organization and Management*.

M. E. 156. ENGINEERING ECONOMY. Prerequisite, Senior standing in Mechanical Engineering.

Senior M. E., Industrial Option, second term, 3-0-3.

The economic aspects of machines are emphasized. Principles of cost comparison are illustrated by a study of particular cases rather than by formula. The solution of a wide variety of problems is required.

Text: 1939-40, Grant, *Principles of Engineering Economy*. Rev. Ed. 1938 and *Problem Book* by same author.

M. E. 161. MACHINE DESIGN. Prerequisite, Mech. 40 and 48.

Senior M. E., first term, 5-3-6.

Senior G. E., second term, 5-3-6.

This course includes an analysis of motions and forces occurring in gearings, cams, belts, chains, linkages, and the graphical determination of velocities, accelerations and relative motion in mechanisms. The

study of fundamental principles underlying the design of machines is begun.

Text: 1939-40, Hyland and Kommers, *Machine Design*.

M. E. 162. MACHINE DESIGN. Prerequisite, M. E. 161.

Senior M. E., second term, 4-3-5.

This is a continuation of M. E. 161 which takes up the solution of many problems in machine design and is used on graphic methods for determining stresses in machine parts. The data for many of these problems are taken directly from existing machines.

Text: 1939-40, Hyland and Kommers, *Machine Design*.

M. E. 166. INTERNAL COMBUSTION ENGINES. Prerequisites, M. E. 140, Mech. 40 and 48.

Senior M. E., General Option, first term, 3-0-3.

A study of the mechanical construction, engine cycles, ignition, fuels, fuel feeds, combustion, vibration and balancing, and performance of internal combustion engines with reference to aeronautical, automotive, and industrial use.

Text: 1939-40, Taylor and Taylor, *Internal Combustion Engines*.

M. E. 170. REFRIGERATION, HEATING AND VENTILATION. Prerequisite, Thermodynamics.

Senior M. E., second term, 5-0-5.

This course is a study of the compressor, condenser, piping and accessories of the refrigeration plant, and other practical applications of the principles of refrigeration.

A study of the theory of heating and ventilation, with practical applications to existing buildings and other structures is made.

Text: 1939-40, Severns, *Heating, Ventilating and Air Conditioning Fundamentals*; Macintire, *Refrigeration Engineering*.

M. E. 172. STEAM TURBINES. Prerequisite, M. E. 65, M. E. 140.

Senior M. E., first term, elective, 2-0-2.

This course includes a detailed study of the design and operation of steam turbines.

Text: 1939-40, Church, *Steam Turbines*.

M. E. 174. POWER PLANT DESIGN. Prerequisite, M. E. 65.

Senior M. E., second term, elective, 3-0-3.

This course covers the design of a power plant. Load curves are analyzed in order that the proper type and size of steam generator, prime movers and all auxiliary equipment may be selected for the given requirements. Due consideration is given to the financial side of the problem. Specifications are considered with the purpose of limiting uncertainties and approaching the standards of modern practice.

Text: 1939-40, Morse, *Power Plant Engineering and Design*.

M. E. 182. MOTOR VEHICLES. Prerequisites, M. E. 166, M. E. 162 parallel.

Optional Senior M. E., second term, 2-0-2.

This course takes up the general layout of cars, including a study of clutches, transmissions, universal joints, differentials, front and rear axles, worm drive, brakes, steering gears, controls, frames, springs, etc., supplemented with assigned problems of design.

M. E. 186. AERONAUTICAL ENGINES. Prerequisite, M. E. 44, or M. E. 140, Mech. 40 and 48.

Fifth year, A. E., first term, 3-0-3.

This course deals with the latest type of aeronautical engines with emphasis on such features as weight, economy, performance, fuels, testing, thermodynamics, vibration and noise.

For Graduate Courses see page 188 of this catalogue.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Reserve Officers Training Corps

For list of instructors and staff see page 20.

The War Department maintains four units of the R. O. T. C. in operation. They are as follows:

INFANTRY, COAST ARTILLERY, SIGNAL CORPS, ORDNANCE

As far as practicable students are enrolled in units in which the instruction is along the lines of their academic courses. For example only Electrical Engineering students are ordinarily accepted for the advanced Signal Corps course. Enrollment in the Coast Artillery unit is ordinarily restricted to Civil, Mechanical and Electrical Engineering students.

Ordnance and Signal Corps courses are available to co-operative students only.

COURSES

Infantry: National Defense Act, Obligation of Citizenship, Military History, Current International Situation, Military Discipline and Courtesy, Sanitation and First Aid, Organization, Map Reading and Aerial Photographs, Infantry Drill, Leadership, Rifle Marksmanship, Infantry Weapons, Scouting and Patrolling, Musketry, Combat Principles, Field Engineering, Military Law, Administration and Supply, Mechanization and Signal Communication.

Coast Artillery: Basic Infantry Drill, Leadership, Army Organization, Military History and Policy, Sanitation, First Aid and Personal Hygiene, Artillery Weapons and Ammunition, Rifle Marksmanship, Obligations of Citizenship, Map Reading, Interpretation of Aerial Photographs, Orientation, Gunnery and Fire Control for Seacoast and Anti-aircraft Artillery, Military Law, Tactics and Field Engineering.

Signal Corps: National Defense Act and R.O.T.C. Regulations, Sanitation and First Aid, Map Reading, Military Courtesy and Customs of the Service, Military Organization, General Signal Communications, Military History and Policy, Aerial Photograph Reading, Installation—Operation and Maintenance of Field Wire Systems, Theory of Wire Communications, Installation—Operation and Maintenance of Radio Communication, Theory of Radio Communication, Signal Tactics—

Combat Orders and the solution of Map Problems, Signal Corps Staff Duties, Military Law, Interior Guard Duty, Infantry Drill, Pistol Marksmanship, Military Administration and Supply and Leadership.

Ordinance: Ammunition and Explosives, Ordnance Material, Military Law and O. R. C. Regulation, Military History and Policy, Company Administration and Supply, Ordnance Field Service, Elementary Ordnance Engineering, Mechanization, Organization of Ordnance Department, Industrial Mobilization, and General Lectures.

EQUIPMENT

The United States has placed equipment valued at several hundred thousand dollars at "Tech" for use of the R.O.T.C. This equipment consists of .30 calibre rifles, machine guns, automatic rifles, trench mortars, 37 m/m guns, grenades, .22 calibre rifles and ammunition for small bore rifle shooting, 155 m/m cannon, 3-inch anti-aircraft cannon, two trucks, complete fire control and range finding equipment, surveying instruments, radio, telephone and telegraph equipment, complete telephone equipment and all types of visual signal equipment.

BENEFITS

Each advanced course student (Junior and Senior) receives pay at the rate of 25c per day during the time enrolled in the Advanced Course (not to exceed two academic years) except during the six weeks summer camp period when he receives seventy cents (70c) per day. The total pay of an Advanced Course student, exclusive of allowances for clothing, and for travel and subsistence while at camp, is approximately \$180.00.

UNIFORMS

BASIC COURSE (Freshman and Sophomore Years): The approximate cost of the uniform is \$30.00, which must be deposited with the school treasurer upon registration. The uniform consists of cap, coat, trousers, shirt, black cravat, and belt. In addition to the articles enumerated above each student is required to provide himself with one pair of serviceable tan or russet shoes and tan or brown socks to be worn with the uniform. Each student is required to maintain his uniform in good condition and must replace lost articles and those articles that become unserviceable. The Government makes an allowance of \$9.00 for each of the Freshman and Sophomore years to each student who completes the year.

ADVANCED COURSE (Junior and Senior Years): For the Advanced Course the uniform is a standard United States Army Officers' uniform

consisting of cap, coat, trousers, shirt, belt, black cravat and tan shoes. The approximate cost of the uniform will vary from \$40.00 to \$50.00, depending upon the quality of material selected by the student. The Government allowance for the Advanced Course uniform is \$29.00 for the first year and \$7.00 for upkeep in the second year. With slight alterations this uniform constitutes a suitable reserve officers' uniform for use after graduation.

Students are not allowed to wear the uniform except on drill days (Tuesdays and Thursdays) or when special orders to do so are given by the P. M. S. & T.

SUMMER CAMP

Members of the Advanced Course are required to attend camp one summer and normally between the Junior and Senior years. All students going to camp receive mileage for the round trip from the school at the rate of 5c per mile and are messed, housed, uniformed and given medical attention at government expense while in camp. The camp is of six weeks' duration and is begun about June 10th each year.

In addition to the military training that the student receives in camp he has an opportunity to participate in healthy outdoor sports of all kinds and in competition with young men from other colleges. A well arranged religious program is conducted at each of the several camps by experienced chaplains.

The following college credits are allowed for Military Science and Tactics:

REGULAR FOUR-YEAR COURSE

FRESHMAN YEAR	3 credit hours (1.5 per semester)
SOPHOMORE YEAR	3 credit hours (1.5 per semester)
JUNIOR YEAR	6 credit hours (3 per semester)
SENIOR YEAR	6 credit hours (3 per semester)
TOTAL	18 credit hours

CO-OPERATIVE FIVE-YEAR COURSE

FRESHMAN YEAR	2 credit hours (1 per quarter)
SOPHOMORE YEAR	2 credit hours (1 per quarter)
PRE-JUNIOR YEAR	4 credit hours (2 per quarter)
JUNIOR YEAR	4 credit hours (2 per quarter)
SENIOR YEAR	4 credit hours (2 per quarter)
TOTAL	16 credit hours

DEPARTMENT OF MODERN LANGUAGES

PROFESSOR CRENSHAW, ASSOCIATE PROFESSORS CAMPOAMOR AND ERVIN

The department of Modern Language offers both Elementary and Advanced Courses in French, German and Spanish.

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

GERMAN

M. L. 1. ELEMENTARY GERMAN.

First term, 3-0-3.

German grammar, including the declension of nouns and adjectives, the conjugation of strong and weak verbs, the use of prepositions, and the word-order in the independent clause. Translation of easy German into English and of easy English sentences into German.

M. L. 2. ELEMENTARY GERMAN.

Second term, 3-0-3.

Continuation of M. L. 1, emphasizing the use of the tense-auxiliaries *haben*, *sein* and *werden*, the modal auxiliaries, *dürfen*, *können*, *mögen*, *müssen*, *sollen* and *wollen*, the passive voice; the separably and inseparably compounded verbs, and the word-order in the dependent clause. The translation of more difficult German and the acquisition of a larger number of common household German words.

M. L. 3. ADVANCED GERMAN.

First term, 3-0-3.

Grammar reviewed in connection with translations of classical German writers and modern writers with introduction to scientific German. Stress is laid on the acquisition of a vocabulary for speaking and writing German and for translating German into English.

M. L. 4. ADVANCED GERMAN.

Second term, 3-0-3.

German syntax with special reference to the sentence structure in connected prose. Translation of scientific German works on heat, light, electricity, electric motors, magnetism, the steam engine and commerce.

M. L. 1c, 2c, 3c, 4c. ELEMENTARY GERMAN.

Co-ops., twelve weeks each, 3-0-2 each.

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FRENCH

M. L. 7. ELEMENTARY FRENCH.

First term, 3-0-3.

Elements of French grammar, including forms of nouns and adjectives; regular conjugations, use of *avoir* and *être* as auxiliary verbs; position of personal pronoun objects; cardinal and ordinal numbers; translation of easy English sentences into French and of easy French prose into English.

M. L. 8. ELEMENTARY FRENCH.

Second term, 3-0-3.

Grammar review in connection with translation; drill on the forms of regular and irregular verbs, use of tenses, relative and interrogative pronouns, passive voice, and the infinitive; French dictation, composition and conversation.

M. L. 9. ADVANCED FRENCH.

First term, 3-0-3.

This course includes the translation of advanced literary and scientific French texts; exercises in connected French prose with special reference to French syntax; sight translations, French dictation and French conversation.

M. L. 10. ADVANCED FRENCH.

Second term, 3-0-3.

This course is a continuation of M. L. 9, in which the aim is to secure a broader knowledge of French literature and a more accurate knowledge of French composition, and French conversation. Texts are taken from the more advanced works of the classic and modern French periods, from French reviews, French newspapers and scientific magazines. Stress is laid on correct pronunciation with practice in the use of ordinary daily French conversation.

SPANISH

M. L. 13. ELEMENTARY SPANISH.

First term, 3-0-3.

Spanish grammar, including forms of nouns and adjectives; the position of adjectives; the regular conjugations; the idiomatic use of *estar*, *haber*, *hacer*, *ser*, and *tener*.

M. L. 14. ELEMENTARY SPANISH.

Second term, 3-0-3.

Spanish grammar, including the position of personal pronoun objects; verbs with radical change; irregular verbs; use of the Subjunctive mood in commands; the passive voice; the common idioms of everyday Spanish.

M. L. 15. ADVANCED SPANISH.

First term, 3-0-3.

This course is devoted to Spanish composition, Spanish conversation and to the translation of the works of greater difficulty of the classic and modern Spanish writers.

Texts: Selections from *Alarcon*, *Valdos*, *Ibanez*, *Cervantes*, *Isaacs*.

M. L. 16. ADVANCED SPANISH.

Second term, 3-0-3.

This course is a continuation of M. L. 15, in which stress is laid on the acquisition of the vocabulary of everyday life; Spanish composition and Spanish conversation; the ability to write business letters in Spanish; fluency in translating technical, commercial and newspaper Spanish as well as the classic and modern writers of the drama and the novel.

DEPARTMENT OF NAVAL SCIENCE AND TACTICS

Reserve Officers Training Corps

For list of instructors and staff, see page 21.

The primary object of the Naval Reserve Officers Training Corps is to provide systematic instruction and training at civil educational institutions which will qualify students for appointment as officers in the Naval Reserve; the Naval Reserve Officers Training Corps will be expected to supply efficient Junior Officers to the Naval Reserve and thus assist in meeting the demands for increased commissioned personnel in war time.

The course in Naval Science and Tactics of the Naval Reserve Officers Training Corps is for four years' duration, divided into the Basic Course and the Advanced Course.

The Basic Course consists of the first two years of the course in the department of Naval Science and Tactics and is available only for freshman and sophomore classes of the institution.

The Advanced Course consists of the final two years of the course in Naval Science and Tactics, or of such shorter periods of time as may be prescribed by the Secretary of the Navy. The Advanced Course is available only to students who have successfully completed the basic course and who are in the junior and senior years of the academic department.

Subjects provided are grouped under four general headings.

Seamanship: Naval Leadership, Boats, Signals, Ground Tackle, Rules of the Road, Handling and Maneuvering of Steamers, Communications, Administration and Discipline, Naval Policy and Elements of Naval Aviation.

Navigation: Piloting, Dead Reckoning, Nautical Instruments and Publications, Magnetic and Gyro Compasses, Practice of Navigation at Sea, including Celestial Navigation.

Ordnance and Gunnery: Landing Force Organization, First Aid, Ships Organization and Drills, History of Development of Explosives, Guns, Armor and Projectiles, Principles of Naval Gunnery, Fire Control, Spotting and Range Keeping, Aerial Gunnery and Bombing, Defense Against Aircraft, Torpedoes.

Naval Engineering: The course contemplates giving the Reserve Officer sufficient knowledge of the engineering machinery of a ship and

its operation to qualify him completely for his deck duties. Boilers, fuels, steam engines, steam turbines, electric propulsion, auxiliaries, refrigeration, Diesel engines, operation and management of engineering plant, electricity aboard ship, and naval communications.

Each student taking the advanced course will receive commuted rations at the rate of approximately \$7.50 a month, provided his grades are satisfactory.

At present the total number of students enrolled in the Naval Unit is limited to 205.

EQUIPMENT

The Government has furnished the Naval Unit at Georgia Tech with the following equipment: rifles, pistols, machine guns, 4-inch guns from a Destroyer, spotting boards, drill guns, etc., and equipment connected therewith; a model case with sectionized types of primers, tracers and fuses; colored prints of machine guns and depth charges; mines and anchors; a torpedo room with sectionized torpedo, torpedo parts and colored prints of the torpedo and its parts; a torpedo director; knotting and splicing boards; signal flags and pennants and visual system of communication; equipment for instruction in seamanship, navigation, etc.; a scale model of the light cruiser U. S. S. Savannah, a ten-foot model of the Cruiser *Columbia*, a replica of a ship's bridge with wheel, compass, and pelorus for instruction in steering and compass work.

SUMMER CRUISE

(a) An annual summer cruise of from 3 to 4 weeks' duration is usually provided. Before embarkation, inoculation against typhoid and smallpox is required.

(b) Every member of the Naval R.O.T.C. unit is expected to take the first cruise available if provided.

(c) One cruise is required during the advanced course.

(d) In selecting Naval R.O.T.C. students from the Freshman class preference is given those applicants who agree to take all summer cruises provided in the course.

(e) Members of the advanced course are entitled to pay of the Seventh Grade (\$21.00 per month) while on cruises.

The following college credits are allowed for Naval Science and Tactics:

FRESHMAN YEAR.....	3 credit hours (1.5 per semester)
SOPHOMORE YEAR.....	3 credit hours (1.5 per semester)
JUNIOR YEAR.....	6 credit hours (3 per semester)
SENIOR YEAR.....	6 credit hours (3 per semester)
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TOTAL.....	18 credit hours

COMPETITIVE EXAMINATIONS

Three candidates may be nominated each year by the President of the Georgia School of Technology for eligibility for competitive examination for entrance to the United States Naval Academy. Such candidates must have completed a minimum of one year's scholastic work in the Naval Reserve Officers' Training Corps.

Usually each year the President of the Georgia School of Technology is requested to nominate to the Major General Commandant, United States Marine Corps, one or two candidates from the graduates of the Naval Reserve Officers' Training Corps for appointment as Second Lieutenant, U. S. Marine Corps.

Annually the Professor of Naval Science and Tactics, Georgia School of Technology, nominates approximately five graduates of the Naval R.O.T.C. Unit for appointment as Ensign in the Supply Corps of the U. S. Navy.

Graduates of Naval R. O. T. C. Units are given preferred standing in the selection of candidates for Naval Aviation Cadets.

For detailed information regarding the above appointments write the Professor of Naval Science and Tactics, Georgia School of Technology.

DEPARTMENT OF PHYSICS

PROFESSORS HOWEY, EDWARDS, AND HEROD; ASSOCIATE PROFESSORS BORTELL, BOYD, AND ROSSELOT; ASSISTANT PROFESSORS PROSSER, EWALT AND JOHNSON; INSTRUCTORS WHITCOMB AND WYLY

It is the aim of the department to present work in physics in such a way that it will develop habits of accurate thinking and scientific reasoning, as well as give the student a thorough understanding of a body of organized knowledge which is fundamental to all types of engineering.

Students may obtain a B.S. degree specializing in Physics by taking a B.S. degree in General Engineering, Option No. 3 (see page 125). A student who completes this course of study will be qualified to take a position in industry as an Engineering Physicist, or to take graduate work in Physics at a university. Students must have the approval of the Physics Department at the beginning of the Junior Year to continue this course of study after the Sophomore Year.

Courses which may be used in meeting the requirements for the Master's Degree in Physics are given below and in the Graduate section, page 190.

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

Phys. 19. INTRODUCTION TO MECHANICS AND HEAT.

This course has five hours of class per week and three hours of laboratory. Mechanics and heat are covered in an elementary fashion. Credit in Phys. 19 may be used as a substitute for credit in Phys. 21.

Phys. 21. ELEMENTARY MECHANICS AND HEAT. Prerequisite, Math. 17. Fee, \$3.00.

Sophomore Arch., T. E., and I. M., first term, 3-3-4.

This course consists of recitations, problems and lectures. The Properties of Matter, Mechanics of Solids, Mechanics of Fluids and Heat are included in this course. A large number of numerical problems is solved.

Text: Foley, *College Physics*.

Phys. 22. ELEMENTARY SOUND, LIGHT AND ELECTRICITY. Prerequisite, Phys. 21. Fee, \$3.00.

Sophomore Arch., T. E., and I. M., second term, 3-3-4.

DEPARTMENT OF PHYSICS

A continuation of Phys. 21, Sound, Light and Electricity are treated in an elementary way.

Text: Foley, *College Physics*.

Phys. 27. MECHANICS AND HEAT. Prerequisites, Entrance Physics and Math. 18. Fee, \$3.00.

Sophomore, first term, 5-3-6.*

Phys. 27 and Phys. 28 (see below) constitute a complete course in basic physics for engineers. It consists of one lecture and four recitations per week, in addition to the laboratory. The solution of a large number of problems is required, the problems being carefully chosen to illustrate and emphasize fundamental principles. In working these problems, students are expected to acquire proficiency in the routine technique of finding numerical solutions, but the use of formulæ as mere computing devices without an adequate understanding of the underlying principles is avoided. Both metric and British Engineering units are used. The course includes some applications of the elements of the calculus.

The laboratory work is designed to give the student practice in the art of making precise measurements, proficiency in the manipulation of apparatus, and a more thorough familiarity with some of the concepts of physics. The theory of errors in measurements is stressed enough to give students the ability to decide under what conditions the greater expense of more precise measurements is justified.

Text: Duff, *Physics*, Eighth Edition, and supplementary problems.

Phys. 28. ELECTRICITY, SOUND, AND LIGHT. Prerequisite, Phys. 27. Fee, \$3.00.

Sophomore, second term, 5-3-6.*

This course is a continuation of Phys. 27.

Text: Duff, *Physics*, Eighth Edition, and supplementary problems.

Phys. 33c. MECHANICS. Prerequisite, Entrance Physics; prerequisite or concurrently with, Math. 13. Fee, \$2.00.

Sophomore Co-op., first term, 6-3-4.7.

Phys. 33c, Phys. 34c, and Phys. 35c (see below), constitute a com-

*Students with a class average below passing may be required to attend one additional recitation per week, without credit.

plete course in basic physics for engineers, divided into three parts for co-operative students. The three parts together are equivalent to the Phys. 27-Phys. 28 combination described above.

Text: Duff, *Physics*, and supplementary problems.

Phys. 34c. HEAT AND ELECTRICITY. Prerequisite, Phys. 33c. Fee, \$2.00.

Sophomore Co-op., second term, 6-3-4.7.

A continuation of Phys. 33c.

Text: Duff, *Physics*, and supplementary problems.

Phys. 35c. ELECTRICITY, SOUND, AND LIGHT. Prerequisite, Phys. 34c. Fee, \$2.00.

Pre-Junior Co-op., first term, 4-3-3.3.

A continuation of Phys. 33c and Phys. 34c.

Text: Duff, *Physics*, and supplementary problems.

Phys. 40. ACOUSTICS AND ILLUMINATION. Prerequisite, Phys. 22. Second term, 2-0-2.

This course deals with the fundamental principles of the acoustics and the illumination of buildings.

Phys. 50. INSTRUMENTS FOR MEASUREMENTS AND CONTROL. Prerequisite, Phys. 28.

First or second term, 1-3-2.

This course deals primarily with the measurement and control of temperature. In addition, certain other topics may be included dependent upon the course of study being pursued by individual students. These topics include the measurement and control of humidity, photo-electric control of color or movement, the inspection of products by X-rays, and in general the measurement and control of the physical properties of materials in industrial processing.

Phys. 65. ADVANCED LABORATORY. Prerequisite, Phys. 28.

Senior Ch. E., second term, 0-3-1.

Experiments of particular interest to chemical engineers.

Phys. 93-94. SPECIAL PROBLEMS. Admission to this course will be granted by the department only to individual students.

First term, 0-4-1; second term, 0-8-2.

The instruction will include library, conference and laboratory work designed to give the student training in the methods of industrial research.

Phys. 101. THEORETICAL MECHANICS. Prerequisite, Phys. 28. Also, Math. 136, unless taken concurrently.

First term, 3-0-3.

Phys. 101, 104, 107, and 110, together with topics in modern physics covered in Phys. 161, constitute a comprehensive introduction to theoretical physics. Free use is made of the calculus through differential equations.

Phys. 104. HEAT AND KINETIC THEORY. Prerequisite, Phys. 101. Second term, 3-0-3.

See Physics 101 for description.

Phys. 107. ELECTRICITY AND MAGNETISM. Prerequisite, Phys. 101, or concurrently.

First term, 3-0-3.

See Physics 101 for description.

Phys. 110. LIGHT. Prerequisite, Phys. 101.

Second term, 3-0-3.

See Phys. 101 for description.

Phys. 113. EXPERIMENTAL PHYSICS I. Prerequisite, Phys. 28.

Junior G. E., Option No. 3, first term, 1-6-3.

Phys. 113, 114, 115, and 116 include class and laboratory work in all the important branches of Engineering Physics, such as mechanics, vibration, molecular physics, heat, electronics, electrical oscillations, optics, spectroscopy, X-rays, etc. The calibration and use of all the common mechanical, electrical, and thermal measuring instruments is included in these courses.

Phys. 114. EXPERIMENTAL PHYSICS II. Prerequisite, Phys. 113.

Junior G. E., Option No. 3, second term, 1-6-3.

See Phys. 113 for description.

Phys. 115. EXPERIMENTAL PHYSICS III. Prerequisite, Phys. 113.

Senior G. E., Option No. 3, first term, 1-6-3.

See Phys. 113 for description.

Phys. 116. EXPERIMENTAL PHYSICS IV. Prerequisite, Phys. 113.

Senior G. E., Option No. 3, second term, 1-6-3.

See Phys. 113 for description.

Phys. 161. INTERMEDIATE MODERN PHYSICS. Prerequisites, Phys. 28 and Calculus.

Senior Ch. E. and Junior Chem., second term, 3-0-3.

The topics treated in this course include the structure of bulk matter, the structure of individual molecules and atoms, the nature of elementary particles, the nature and properties of light and X-rays, and related phenomena of practical interest.

DEPARTMENT OF TEXTILE ENGINEERING

The A. French Textile School

PROFESSOR JONES; ASSISTANT PROFESSORS HILL AND CARMICHAEL;

INSTRUCTORS PHILPOTT, BRANDON, AND CAMPBELL

The Textile Department gave the first instruction in textile education in the South in February, 1899. Since that time, it has continued to grow and serve the needs of the textile industry, which during these years has become one of the leading industries of the South.

The course of instruction covers a period of four years, and leads to the degree of Bachelor of Science in Textile Engineering. The course includes a sound foundation in engineering subjects, in addition to the purely textile branches. The work for the first three years is uniform, but during the senior year, the student may choose one of several options.

The course of instruction is arranged so as to combine the theoretical and practical aspects of the subject. The department has an excellent collection of textile books and periodicals which are used by students in their research work. Practical work is given in all phases of manufacturing throughout the course, enabling the student to familiarize himself with all details in the construction and operation of the various machines and processes. Yarns required in the weaving rooms are manufactured in the carding and spinning department, thus affording opportunity for performing the complete series of operations from raw material to finished fabric.

The department was originally intended to work solely with cotton, but since the rayon industry has become so important, the scope of instruction has been broadened to include the theoretical and practical study of these newer fibers.

The department offers excellent advantages to young men who intend entering any branch of the textile industry, and the practical results of the course are well illustrated by the positions of trust and responsibility held by the alumni.

EQUIPMENT

The textile building is of typical mill construction. Its three floors, 150 x 70 feet, contain classrooms, laboratories, library, offices, and demonstration rooms for textile equipment.

The second floor contains machinery for picking, carding, spinning,

combing, twisting, winding, and warping. In addition, there is a well equipped knitting department. The first floor contains classroom, library, exhibit room, and the weaving department. The ground floor contains the dyeing department, testing laboratories, classrooms, slasher, opener and cloth rooms.

The building is served by a freight elevator, is heated by steam, and protected by automatic sprinklers. The machinery is driven by electric power on both group and unit drives.

SPECIAL STUDENTS

Provision is made in the textile department for special students who have had sufficient preparation and experience to meet the entrance requirements.

Such students may secure training in the textile subjects as offered by this department, in conjunction with such additional courses from other departments as will best fit them for the particular work in which they may wish to specialize.

A schedule and arrangement based upon previous preparation and the requirement in each case will be made upon application.

SUMMER REQUIREMENTS

A minimum of sixty days of practical work may be required of each candidate for B.S. in Textile Engineering. This work may be done during the year before the student is admitted or between that time and graduation. Proper certification of this required work must be made by an officer of the mill in which the work is done.

COURSE OF STUDY

FRESHMAN YEAR

See page 34.

SOPHOMORE YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Ec.	24	Economics	3		3
Eng.	33	Humanities	3		3
Math.	23	Differential Calculus	5		5
Phys.	21	Physics	3	3	4
T. E.	23	Fabric Design		3	1
T. E.	39	Weaving		3	1
T. E.	59	Yarn Manufacture, Practice		3	1
R.O.T.C.	3	Military or Navy		5	1.5
Total			14	17	19.5

SECOND TERM

Arch.	22	Freehand Drawing		3	1
Chem.	13	Qualitative Analysis	2	6	3
Eng.	34	Humanities	3		3
Phys.	22	Physics	3	3	4
T. E.	24	Fabric Design		3	1
T. E.	40	Weaving	3	3	4
T. E.	60	Yarn Manufacture, Practice		3	1
R.O.T.C.	4	Military or Navy		5	1.5
Total			11	26	18.5

JUNIOR YEAR

FIRST TERM

Course	No.	Subject	Class	Lab.	Credit
Chem.	26	Organic Chemistry	3	3	4
M. E.	16	Machine Lab. (R.O.T.C. Elective, 3 hrs.)		6	2
Mech.	29	Applied Mechanics	4		4
T. E.	27	Fabric Analysis		3	1
T. E.	33	Fabric Design		3	1
T. E.	45	Weaving	2	3	3
T. E.	61	Yarn Manufacture, Theory and Practice	3	3	4
Total			12	21	19

SECOND TERM

Chem.	27	Organic Chemistry	3	3	4
M. E.	37	Kinematics of Mechanism	2	3	3
Eng.	45	Public Speaking (R.O.T.C. Elective)	3		3
T. E.	22	Dyeing		3	1
T. E.	28	Fabric Analysis		3	1
T. E.	34	Fabric Design		3	1
T. E.	46	Weaving	2	3	3
T. E.	62	Yarn Manufacture, Theory and Practice	3	4	4.3
Total			13	22	20.3

SENIOR YEAR

FIRST TERM

REQUIRED OF SENIORS IN ALL OPTIONS:

Ec.	93-96	Finance or Business Law (R.O.T.C. Elective)---	3		3
T. E.	37	Jacquard Design -----		3	1
T. E.	63	Yarn Manufacture, Theory and Practice-----	3	4	4.3
T. E.	83	Dyeing -----	3	3	4
T. E.	91	Textile Costing -----	2		2
Total-----			11	10	14.3

OPTION NO. 1

E. E.	2	Applied Electricity -----	3		3
M. E.	43	Thermodynamics -----	2		2
M. E.	45	Elementary Steam Laboratory-----	1	3	1.3
Total-----			17	13	20.6

OPTION NO. 2

T. E.	101	Textile Raw Materials-----	4		4
T. E.	133	Fabric Layouts -----	1	2	1.5
Total-----			16	12	19.8

OPTION NO. 3

Chem.	17	Quantitative Analysis -----	2	6	3
T. E.	168	Textile Testing -----	1	2	1.5
T. E.	187	Rayon Processing -----	1	3	2
Total-----			15	21	20.8

OPTION NO. 4

M. E.	153	Time and Motion Study-----	1	3	2
M. E.	155	Organization and Management-----	3		3
T. E.	168	Textile Testing -----	1	2	1.5
Total-----			16	15	20.8

SECOND TERM

REQUIRED OF SENIORS IN ALL OPTIONS:

Ec.	94	Marketing of Textiles-----	3		3
T. E.	53	Weaving (R.O.T.C. Elective)-----		3	1
T. E.	64	Yarn Manufacture, Theory and Practice-----	3	4	4.3
T. E.	81	Knitting -----	1	2	1.5
T. E.	84	Dyeing -----	2	3	3
Total-----			9	12	12.8

OPTION NO. 1

E. E.	3	Electrical Engineering Laboratory-----		4	1.3
M. E.	77	Elementary Steam Power Engineering-----	3		3
M. E.	83	Fuels, Materials, and Engine Laboratory-----		4	1.3
T. E.	168	Textile Testing -----	1	2	1.5
Total-----			13	22	19.9

OPTION NO. 2

T. E.	38	Jacquard Design -----		3	1
T. E.	104	Standard Fabrics -----	3		3
T. E.	134	Design and Analysis-----	1	2	1.5
T. E.	168	Textile Testing -----	1	2	1.5
Total-----			14	19	19.8

OPTION NO. 3

Chem.	18	Quantitative Analysis -----	1	6	2.3
T. E.	169	Testing Laboratory -----	1	2	1.5
T. E.	188	Rayon Processing -----	2		2
Total-----			13	20	18.6

OPTION NO. 4

Math.	39	Statistics -----	3		3
M. E.	156	Engineering Management -----	3		3
T. E.	164	Mill Engineering -----	1		1
Total-----			16	12	19.8

COURSES OF INSTRUCTION

NOTE: 4-3-5 means 4 hours class, 3 hours laboratory, 5 hours credit.

T. E. 22. DYEING.

Junior, second term, 0-3-1. Fee, \$2.00.

A preliminary course in bleaching and dyeing, preparatory to T. E. 83.

T. E. 23-24. FABRIC DESIGN.

Sophomores, first and second terms, 0-3-1.

A study is made of the foundation weaves and their derivatives, together with the construction of drafts and the uses for each weave.

T. E. 27-28. FABRIC ANALYSIS. Prerequisite, T. E. 23.

Juniors, first and second terms, 0-3-1. Fee, \$1.00.

Instruction in the calculations of cloth analysis. Specimens of fabrics are dissected to obtain the weave, and all other data needed to reproduce the fabric.

T. E. 33-34. FABRIC DESIGN.

Juniors, first and second terms, 0-3-1.

The work begun in T. E. 23-24 is carried on through the more complex weaves, such as backed and figured weaves, ply weaves and leno weaves.

T. E. 37-38. JACQUARD DESIGN.

Seniors (see options), 0-3-1.

The theory of jacquard designing is first studied, after which several types of designs are made. During the second term advanced work is undertaken in the composition of designs and the arrangement of figures.

T. E. 39-40, 45-46, 53-54. WEAVING.

T. E. 39, Sophomores, first term, 0-3-1.

T. E. 40, Sophomores, second term, 3-3-4.

T. E. 45-46, Juniors, first and second terms, 2-3-3.

T. E. 53-54, Seniors (see options), 0-3-1.

Theory and practice in the construction and operation of hand, plain, automatic, and jacquard looms; together with slasher and cloth room operations.

T. E. 59-60. YARN MANUFACTURE, PRACTICE.

Sophomores, first and second terms, 0-3-1.

An elementary course, preparatory to T. E. 61, combining notes, sketches, and practical work upon machines to give a general idea of the processes.

T. E. 61-62, 63-64. YARN MANUFACTURE, THEORY AND PRACTICE.

T. E. 61, Juniors, first term, 3-3-4.

T. E. 62, Juniors, second term, 3-4-4.3. Fee, \$1.00.

T. E. 63-64, Seniors, first and second terms, 3-4-4.3. Fee, \$1.00.

A course combining lectures and recitations upon the machines and processes, with machine calculations and practical work in operating the machines. The four-hour laboratory courses include one hour of cotton classing, which consists of work in grading and stapling cotton according to Government Standards and regular, standard, commercial practice.

T. E. 81. KNITTING.

Seniors (see options), 1-2-1.5.

This course is given in the form of notes, lectures, and practical work covering the construction and operation of circular latch needle hosiery machines, ribbers, and loopers. The methods involved in the production of fancy knit fabrics are also considered.

T. E. 83-84. DYEING.

Seniors, first term, 3-3-4; second term, 2-3-3. Fee, \$2.00.

A study of the theory and practice of dyeing, bleaching, finishing and related operations as applied to the common textile fibers. In this course a study of the methods and materials employed is made by means of lectures and in conjunction with laboratory and machine application.

T. E. 91. TEXTILE COSTING.

Seniors, first term, 2-0-2.

A course in the principles and problems of textile costing. The general principles of assembling and allocating the cost of material, labor and overhead are first studied, and this is followed by a discussion of the cost problems of spinning and weaving mills.

T. E. 101. TEXTILE RAW MATERIALS.

Option 2, Seniors, first term, 4-0-4.

This course covers the fibrous raw materials used in the textile industry; their production, distribution, cost, properties, uses, and methods of manufacture. All fibers are discussed during the term but more time is devoted to those of major importance—cotton, wool, rayon and silk.

T. E. 104. STANDARD FABRICS.

Option 2, Seniors, second term, 3-0-3. Fee, \$1.00.

A course designed to cover the standard fabrics of the textile industry—mainly those of cotton, but including some typical samples of other materials. These fabrics are discussed as to construction, yarn counts, methods of finishing and uses. Additional work is included in fabric calculations and costing.

T. E. 133. FABRIC LAYOUTS.

Option 2, Seniors, first term, 1-2-1.5.

Original work in the design and construction of numerous types of fabrics, such as shirtings, towels, handkerchiefs, etc., stressing the relation of color to woven fabrics. This involves the preparation of a complete layout of all information necessary for the production of a fabric including color sketch, weave, drafts, and all calculations.

T. E. 134. DESIGN AND ANALYSIS.

Option 2, Seniors, second term, 1-2-1.5. Fee, \$1.00.

A study of the methods of designing and analyzing the more compli-

cated weaves and fabrics. Considerable time is devoted to the leno weave and methods of producing it with one, two, or more sets of steel or twine doupes. Typical fabrics are analyzed for weave and all data needed for reproduction.

T. E. 164. MILL ENGINEERING.

Option 4, Seniors, second term, 1-0-1.

This course includes descriptive materials and problems on the following subjects: Mill Organization; Machinery Equipment and Layout; Costs of Mill Equipment.

T. E. 168. TEXTILE TESTING.

Seniors (see options), 1-2-1.5.

Experiments in testing various textile materials, particular emphasis being given to physical testing of vegetable fibers in accordance with standard testing laboratory practice.

T. E. 169. TESTING LABORATORY PRACTICE. Prerequisite, T. E. 168.

Option 3, Seniors, second term, 1-2-1.5.

Lectures and experiments dealing with the physical testing of the rayons and synthetic fibers. A study of their properties and test methods in comparison with the natural fibers.

T. E. 187-188. RAYON PROCESSING.

T. E. 187, Option 3, Seniors, first term, 1-3-2. Fee, \$2.00.

T. E. 188, Option 3, Seniors, second term, 2-0-2.

Lectures and laboratory practice dealing with the rayons and synthetic fibers, their chemical properties and methods of processing for textile use. In this course, attention is given also to the examination and testing of agents and materials employed in the processing of synthetic yarns and fabrics.

For Graduate Courses see page 192 of this catalogue.

UNCLASSIFIED COURSES

OR. 1. ORIENTATION.

This course is required of all freshmen during the first semester. It begins at 8 a. m. Wednesday, September 18th (for 1940) in the Naval Armory. Placement tests are required and instruction is given in regard to registration, payment of fees, medical examinations, use of the Library, etc.

This work is continued one hour per week for the first six weeks of the semester. Lectures are given in this course on Tech Traditions, How to Study, Importance of College Record, etc.

ENGR. 2. INTRODUCTION TO ENGINEERING.

Freshman, second term, 1-0-1.

This course is to acquaint the freshmen with the various branches of engineering and related fields, to discuss with the student the opportunity in each field, and to explain how he may best prepare himself for his chosen work. The program is carried out by means of lectures, discussion, motion pictures, and laboratory visits.

ENGR. 102. ENGINEERING PROBLEMS.

Senior G. E., second term, 2-0-2.

The student is required to solve numerous problems which are representative of those types found in actual engineering practice. Special emphasis will be placed on the mathematical formulation of engineering problems.

I. E. 27. THE SCHOOL AND SOCIETY.

This course gives a comprehensive picture of the activities and needs of youths and adults in the social order, particularly those served by industrial education. Consideration is given to the function of the school, including the principles of education, in society. An integrated program of education with particular reference to industrial education is formulated.

I. E. 41. METHODS OF TEACHING.

The underlying principles of the lesson procedure and actual practice in planning and teaching lessons in the industrial education field.

GRADUATE COURSES

JOHN L. DANIEL, *Dean*

Certain departments of the Georgia School of Technology offer courses of a strictly graduate character, and these are described briefly in the following pages. These subjects, numbered 200 and above, are ordinarily offered only to applicants already holding at least the bachelor's degree from an accredited institution, who are able to demonstrate to the satisfaction of the departments concerned that they have the necessary prerequisites. If lacking, these may be made up by passing equivalent undergraduate subjects or by qualifying examinations.

Undergraduate students may not schedule strictly graduate subjects without special written permission from the head of the department and the approval of the Dean of Graduate Courses.

Properly certified applicants may be permitted to enter as special students or as intended applicants for the master's degree, under conditions laid down below.

DEGREES

At present only the master's degree is offered, and this may be granted with or without designation of the major department in which the work is done. Ordinarily the degree with designation is awarded only to those who have the bachelor's degree in the same department.

FEES

Tuition and certain other fees must be paid at registration. The amount will be determined by the work scheduled and the residence of the applicant. The following rules apply: (1) For 12 or more credit hours scheduled, full tuition as listed on pages 28, 29 of this catalogue. (2) For schedules carrying 1 to 12 credit hours: (a) if legal resident of Georgia, \$3 per credit hour, with \$10 minimum; (b) for others, \$6 per credit hour, with \$20 minimum. A credit hour consists of one clock hour of either lecture or recitation, or 3 hours of laboratory, per week. In addition to tuition fees there are charges for certain laboratories the amounts of which will be found in the course descriptions. To cover damage and breakage a deposit of \$5 must be made with the Treasurer. A diploma fee of \$5 is charged at graduation.

FINANCIAL AIDS FOR GRADUATE STUDENTS

It is possible that some aid may be had through application to the N. Y. A. Information regarding this may be obtained from the Dean

of Men, Professor Floyd Field. Also, from time to time, certain departments offer Graduate Student Assistantships to selected applicants. These positions require about half-time assisting work on the part of the appointee and two years will be needed to finish the work for the master's degree. Information regarding these appointments may be had from the head of the department in which the major work is to be done. Appointments are usually made about March 1st.

ADMISSION TO GRADUATE COURSES

Those intending to take up graduate studies should make application for admission and should write for an application blank as far in advance of the opening of the session as convenient. The blank may be had from the Dean of Graduate Courses or from the office of the Registrar. At the time the blank is returned, the applicant should also forward to the Dean of Graduate Courses a complete transcript of his undergraduate record, a statement from his Registrar of his relative standing in his class, a list of subjects needed for graduation, and a catalog of his institution wherein his courses are described. The applicant will then be notified as to his acceptance.

At registration, the applicant must submit to the Dean of Graduate Courses a complete proposed program approved by the head of the major department. A form for this may be obtained from the Registrar.

ADMISSION TO CANDIDACY FOR A DEGREE

Admission as a graduate student does not constitute admission to candidacy for the master's degree. To obtain consideration for this privilege, written application must be made to the Dean of Graduate Courses no later than February 15th of the year of graduation. Ordinarily the following conditions must be fulfilled to obtain favorable action: The applicant must have a better than average grade in his undergraduate work, and must have demonstrated his ability in graduate studies by at least a grade of *B* in subjects completed. All prerequisites must have been completed, language requirements complied with or certified as being in progress, and any comprehensive tests required must have been passed satisfactorily. A thesis topic must have been selected and its title accepted by the Committee on Graduate Courses.

REQUIREMENTS FOR GRADUATION

After the applicant has been admitted to candidacy, a degree will be recommended by the Committee upon completing the following additional requirements:

- a. At least two semesters in residence.

- b. 32 credit hours passed with an average of at least *B* on all courses numbered 200 or above, and a grade of *B* or *A* on all courses numbered 100 to 200.
- c. Courses selected from not more than 3 departments.
- d. 24 of the required hours to be in the major department.
- e. A minimum of 15 hours exclusive of thesis to be in courses numbered 200 or above.
- f. A maximum of 13 credit hours to be allowed on thesis.
- g. Any undergraduate subjects taken for credit to be in courses numbered 100 or above.
- h. A thesis in acceptable English to be completed and approved by May 15th of year of graduation.
- i. Two bound copies of the thesis to be deposited in the library.
- j. All financial obligations to the school must be met.

No credit toward graduation will be allowed: for subjects already credited on undergraduate transcript; for any required because of insufficient preparation; or for those on a graduate level taken in other institutions.

The thesis shall bear the approval of the instructor in charge and two others of professorial rank, appointed by the Dean of Graduate Courses, but who may not be in the department in which the work was done. The Librarian will furnish a printed guide for the assembly of the thesis and the specifications for its binding.

For further information, write to John L. Daniel, Dean of Graduate Courses.

COURSES OF INSTRUCTION

The following graduate courses will be given provided a sufficient number of students qualify:

DEPARTMENT OF AERONAUTICAL ENGINEERING

NOTE: 3-3-4 means 3 hours class, 3 hours laboratory, 4 hours credit.

A. E. 200. THESIS.

The facilities of the School of Aeronautics are such as to permit graduate students to conduct thesis research in the fields of aerodynamics, structures, airscrews, blowers, and instruments.

A. E. 201. THEORETICAL AERODYNAMICS—PERFECT FLUIDS. Prerequisites, A. E. 121, 122, Math. 201, 202 or equivalent. (Professor Gail.)

First term, 3-0-3.

Mathematical study of classical hydrodynamics covering potential and rotational flows, the phenomenon of circulation, and the principle of superposition of flows.

A. E. 202. THEORETICAL AERODYNAMICS—WING THEORY. Prerequisite, A. E. 201. (Professor Gail.)

Second term, 3-0-3.

Critical examination of existing theories of the airfoil in two dimensions, the monoplane airfoil, and multiplane and other interference phenomena.

A. E. 205. THEORETICAL AERODYNAMICS—VISCOUS FLUIDS. Prerequisites, A. E. 121, 122, 202, Math. 201, 202, or equivalent. (Professor Gail.)

First term, 3-0-3.

Mathematical study of the laws of similarity, laminar flow of viscous fluids, boundary layer phenomena, skin friction, and turbulence.

A. E. 206. THEORETICAL AERODYNAMICS—COMPRESSIBLE FLUIDS. Prerequisites, A. E. 121, 122, 202, Math. 201, 202, or equivalent. (Professor Gail.)

Second term, 2-0-2.

Study of the effects of compressibility on the motion of bodies at velocities in the vicinity of that of sound.

A. E. 207-208. ADVANCED AIRPLANE DESIGN PROBLEMS. Prerequisites, A. E. 133, 134, 141, 142, or equivalent. (Professor Schwartz.)

First and second terms, 0-6-2.

A study of advanced theoretical and experimental methods of structural analysis, with applications to specific design problems.

A. E. 209. THEORY OF VIBRATIONS. Prerequisite, Math. 136 or equivalent. (Professor Weems.)

First term, 3-0-3.

Analytical treatment of vibrations, including induced stresses, and the reduction and isolation of vibrations, together with applications to aircraft problems.

A. E. 213. THEORY OF THE PROPULSIVE AIRSCREW. Prerequisite, A. E. 121, 122, 166. (Professor Knight.)

First term, 3-0-3.

Critical examination of existing theories of the propulsive airscrew.

A. E. 214. THEORY OF THE LIFTING AIRSCREW. Prerequisite, A. E. 213.

Second term, 3-0-3. (Professor Knight.)

Mathematical analysis of the airscrew as a lifting means in connection with the autogiro, helicopter, and types of aircraft.

A. E. 215-216. GRADUATE SEMINAR.

First and second terms.

Group discussion of problems encountered in the research work of graduate students and staff.

DEPARTMENT OF ARCHITECTURE

ARCH. 200. THESIS.

Second term.

A thesis in design is required, for which the student writes his own program, under guidance, and completely designs the building in question, including structural design, indication of materials used, details, etc.

ARCH. 215-216. HISTORY OF ARCHITECTURE.

First and second terms, 2-0-2.

These courses consist of two seminars per week. The student does his own research work; selects and outlines under guidance a treatise on some phase of architectural history; and submits a written thesis illustrated by sketches.

ARCH. 209A-209B. LIFE DRAWING.

First and second terms, 0-4-1.3.

DEPARTMENT OF CERAMIC ENGINEERING

CER. E. 200. THESIS.

CER. E. 203-204. COLLOIDAL PROPERTIES OF HYDROUS ALUMINO-SILICATES.

First term, 3-3-4; second term, 3-3-4.

The physical-chemical properties of the plastic and anti-plastic hydrous alumino-silicates are considered. The control of plasticity, vis-

cosity, adherence, permeability, dispersion, and flocculation is studied together with industrial applications.

CER. E. 205—CERAMIC APPLICATIONS OF THE PHASE RULE.

First term, 3-0-3.

The Phase Rule is reviewed with particular emphasis on its applications in the field of silicate technology. Cements, glass, glazes, enamels, refractories, and other ceramic wares furnish processing conditions which yield to the application of the phase rule for technical control.

CER. E. 207-208. GLASS TECHNOLOGY.

First term, 3-3-4; second term, 3-3-4.

The properties of silica and the broad field of glass technology are included. Sosman's "Properties of Silica" is the text for one semester. The second semester is concerned with the pyro-chemical and physical properties of the oxides, as well as the glassy melts obtainable from them. Practical processing of various types of glass is taken up in theory and laboratory practice.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

CH. E. or CHEM. 200. THESIS.

CHEM. 209-210. SEMINAR.

The work of the Seminar consists of three distinct but closely related parts:

(1) Considerable time is devoted to instruction in the use of the chemical library.

(2) Parallel reading is assigned. Each student reports to a staff member on the content of his assignment. Opportunity is provided for free discussion.

(3) All graduate students meet weekly with the departmental staff and present prepared papers on assigned topics in the literature. General discussion of the topic follows.

CHEM. 220. RESEARCH.

The instruction is individual. Time and fees may be arranged in conference with the Division Chief.

CHEM. 221-222. ORGANIC CHEMISTRY.

First and second terms, 3-0-3.

The work of this course consists of a complete review of aliphatic and aromatic organic chemistry with a more detailed study of organic metallic compounds, furfural derivatives, dyes, pyridine and piperidine derivatives, and alkaloids.

CHEM. 223. ORGANIC PREPARATIONS.

First term, 0-6-2. Fee, \$8.00.

Some of the more difficult organic preparations are made.

CHEM. 227. INTRODUCTION TO ELECTRO-CHEMISTRY. Prerequisite, Chem. 158.

First or second term, 3-0-3.

A study of the fundamental concepts of electrolytic processes, electrode reactions, and oxidation-reduction equilibria with their practical applications.

CHEM. 243-244. PHYSICAL CHEMISTRY. Prerequisite, Chem. 158 or the equivalent.

First and second terms, 3-0-3.

These are courses of selected topics in advanced physical chemistry, the content of the course being determined largely by the needs of the class.

CH. E. 210. SEMINAR.

A discussion group composed of staff and graduate students, where assigned topics from the literature are discussed, as well as research problems in progress.

CH. E. 233-234. ORGANIC CHEMISTRY AND INDUSTRY. Prerequisite, Ch. E. 162.

First and second terms, 3-0-3.

Advanced organic chemistry is studied along with its application to the chemical industries. To be offered 1939-40.

CH. E. 239-240. HEAT TRANSMISSION. Prerequisite, Ch. E. 157.

First and second terms, 3-0-3.

Problems and discussions of the more complicated apparatus used in heat transmission such as multiple effect evaporators, heat flow in the unsteady state, and an extension of heat transmission by radiation.

CH. E. 258-259. ADVANCED UNIT OPERATIONS. Prerequisite, Ch. E. 157.

First and second terms, 3-0-3.

Extension of distillation, gas absorption, drying, and filtration theory and calculations and addition of economic balance.

CH. E. 260. ADVANCED DESIGN. Prerequisite, Ch. E. 160.

Second term, 1-6-3.

A continuation of Ch. E. 160.

CH. E. 271-272. ADVANCED CHEMICAL ENGINEERING CALCULATIONS. Prerequisite, Ch. E. 172.

First and second term, 3-0-3.

Ch. E. 172 extended.

DEPARTMENT OF CIVIL ENGINEERING

C. E. 200. THESIS.

C. E. 201-202. CONCRETE DESIGN.

Four to nine hours per term. Fee, 1.00, each term.

Courses in the design and construction of multiple arch spans, office buildings, fireproof residences and arch dams.

C. E. 203-204. STEEL BRIDGE DESIGN.

Four to nine hours per term. Fee, \$1.00, each term.

Courses in the design of suspension bridges, draw spans, rolling and lift bridges.

C. E. 205-206. WATER POWER DEVELOPMENT.

Four to nine hours per term.

Methods of impounding water, the selection of turbines, and power house equipment, design of water wheels, turbines, penstocks, flumes, draft tubes, tail races.

C. E. 207-208. HIGHWAY TRANSPORTATION AND RESEARCH.

Four to nine hours per term. Fee, \$1.00, each term.

Courses in the economics of highway design and construction. Laboratory research along some line of highway development.

C. E. 209. DESIGN AND CONSTRUCTION OF AIRPORTS.

Four to nine hours per term. Fee, \$1.00.

A study of ground areas, drainage, runways, location of hangars, terminal buildings and lighting equipment.

DEPARTMENT OF ELECTRICAL ENGINEERING

E. E. 200. THESIS.

E. E. 201-202. ALTERNATING CURRENT AND ALTERNATING CURRENT MACHINERY. Prerequisites, E. E. 190, and E. E. 118.

First term, 5-0-5.

This course deals with the theory of transient phenomena and the application of mathematical analysis to problems pertaining to circuits and machines.

E. E. 203. LABORATORY. Parallel E. E. 201.

First term, 0-9-3.

A continuation of E. E. 118.

E. E. 204. TRANSMISSION AND DISTRIBUTION OF ELECTRICAL ENERGY. Prerequisites, E. E. 130, E. E. 201.

Second term, 3-0-3.

Overhead and underground transmission of power by means of alternating and direct currents. The complete solution of long transmission lines; the stability of transmission systems; short circuits occurring in networks; and inductive interference between transmission and communication lines.

E. E. 205. ILLUMINATION. Prerequisite, Phys. 28.

First term, 3-0-3.

A course dealing with the principles of illuminating engineering and photometers. Problems of illumination for specific conditions are studied.

E. E. 206. ELECTRIC RAILWAYS. Prerequisite, E. E. 190.

Second term, 3-0-3.

A course consisting of recitations and computations of special problems pertaining to modern electric railways and steam railway electrification.

E. E. 207. RADIO. Prerequisite, E. E. 189.

First term, 3-0-3.

An advanced course dealing with radio circuits and circuit elements. This includes the mathematical analysis and design of resonant circuits, coupled circuits, impedance matching networks, wave filters, transmission lines and antennas, and thermionic vacuum tubes.

E. E. 208. RADIO. Prerequisite, E. E. 207.

Second term, 3-0-3.

A continuation of E. E. 207, dealing with the detailed analysis of the operation of radio receiving and transmission systems, and a study of the factors involved in the design of numerous types of voltage and power amplifiers.

E. E. 209. ELECTRICAL MEASUREMENTS. Prerequisite, E. E. 189.

3-0-3.

A course dealing with precise measurements of resistance, inductance, and capacitance at audio and radio frequencies; measurements of e.m.f., current, power frequency, and wave form at audio and radio frequencies; and measuring instruments, including thermal and electronic types.

E. E. 210. ELECTRONICS. Prerequisite, E. E. 133.

5-0-5.

A course covering the structure and theory of operation of high-vacuum and gas-filled diodes and grid-controlled tubes, light-sensitive tubes and cathode-ray tubes. An introduction to electron optics is included.

DEPARTMENT OF ENGINEERING DRAWING AND MECHANICS

MECH. 205-206. ADVANCED STRENGTH OF MATERIALS. Prerequisites, Mech. 48 and Math. 136.

First and second terms, 3-0-3.

Stress concentration due to fillets and holes. Photo-elastic method of determining stress concentration. Stresses in thick cylinders and rotating discs. Stresses in curved bars. Beams on elastic foundation. Temperature stresses. The theory of elastic energy. Stress analysis of redundant structures. Elastic curves as influence lines.

MECH. 207-208. APPLIED ELASTICITY. Prerequisites, Mech. 48 and Math. 136.

The basic principles of the theory of elasticity with practical applications. Two-dimensional problems of stress and strain in rectangular and polar co-ordinates. Saint Venant theory of torsion. Membrane analogy. Bending of prismatical bars. Stresses in flat plates. Stability of members with thin walls.

DEPARTMENT OF MATHEMATICS

MATH. 201-202. ADVANCED CALCULUS. Prerequisite, Math. 136.
First and second terms, 3-0-3.

This course is intended to acquaint the student with methods and theorems which will be of practical value to him in solving problems that arise in his professional work, and will also enable him to understand the mathematical analysis used so frequently in technical papers and scientific journals. The topics included are functional determinants and implicit functions, maxima and minima of several variables, the Cauchy-Lagrange law of the mean, uniform convergence of series and integrals, continuity, differentiation and integration of integrals that contain a parameter, line integrals and Green's theorem, elliptic integrals, the differential equations of Gauss, Legendre and Bessel, certain partial differential equations of the second order, and the elements of Fourier series.

MATH. 213. FUNCTIONS OF A COMPLEX VARIABLE.

First term, 3-0-3.

An introductory course with emphasis on applications.

MATH. 214. VECTOR ANALYSIS.

Second term, 3-0-3.

The elements of vector algebra and calculus, applications to geometry and physics.

DEPARTMENT OF MECHANICAL ENGINEERING

M. E. 200. THESIS.

M. E. 201-202. THERMODYNAMICS. Prerequisite, M. E. 140.

First term, 3-0-3; second term, 3-0-3.

A study of general thermodynamic relations, chemical equilibrium, thermodynamics of combustion, flow of fluids, and other practical applications.

M. E. 203. FLUID FLOW. Prerequisites, M. E. 140, C. E. 33 and all mechanics.

3-0-3.

This course is a study of the theory and applications of the properties, static and dynamic, of liquids, vapors, and gases. It includes a study of metering devices, impulse and momentum of fluids, and the

flow of liquids, vapors and gases, in closed channels and around immersed bodies.

M. E. 204. POWER PLANT ENGINEERING. Prerequisite, M. E. 65.

Either term, 3-0-3.

Design, development and special problems in modern super-power stations.

M. E. 205. HEATING, VENTILATION AND AIR CONDITIONING. Prerequisite, M. E. 170.

Either term, 3-0-3.

This course consists of the design of heating, ventilating and air conditioning systems for industrial, commercial and residential service.

M. E. 206. DIESEL ENGINES. Prerequisite, M. E. 166.

3-0-3.

A study of compression ignition, with special engine problems, with special reference to the injection system, the combustion chamber and comparison, for various purposes with other types of engines.

M. E. 207. INTERNAL COMBUSTION ENGINE DESIGN. Prerequisite, M. E. 166.

3-0-3.

The design of an internal combustion engine for any selected cycle to meet certain specific conditions. The conditions may be made for aeronautical, automotive, or industrial use at the option of the student. Partial designs using different cycles may be worked out for comparative purposes. A problem in balancing in preference to a complete design may be selected.

M. E. 209. HEAT LABORATORY. Prerequisite, Phys. 28 and M. E. 140. Fee, \$2.50.

0-6-2 to 0-9-3.

The work in this course includes the determination of heat transfer characteristics for various types of apparatus, using gases, liquids, and solids. It also includes such work on the flow of fluids as might be required to suit the needs of the student.

M. E. 212. RAILWAY MOTIVE POWER. Prerequisite, M. E. 98.

Either term, 3-0-3.

A study of steam, electric, and oil locomotives, their design, development, and application.

M. E. 214. INDUSTRIAL ENGINEERING. Prerequisite, M. E. 155. 3-0-3.

Scientific management in American industry.

M. E. 216. INDUSTRIAL SAFETY ENGINEERING. Prerequisite, M. E. 155.

Either term, 3-0-3.

A study of safety problems in industry including workmen's compensation laws, safety devices, education, etc.

M. E. 219. MECHANICAL ENGINEERING OF OFFICE AND INDUSTRIAL BUILDINGS. Prerequisite, M. E. 169.

3-0-3.

A study of such building features as heating, lighting, power, water supply, sanitation and air-conditioning.

M. E. 222-223. THEORY OF MACHINES AND DESIGN. Prerequisite, M. E. 162.

First term, 3-0-3; second term, 5-0-5.

The application of mechanics of materials followed by rational design and individual problems.

M. E. 245-246. PROBLEMS IN MECHANICAL ENGINEERING.

Credit to be arranged.

This course is to meet the need of the student who has in mind a special problem or study of his own that is worth while. (Not research.)

M. E. 248-249. RESEARCH.

Credit to be arranged.

For the solution of problems of interest to the student that may require original investigation.

DEPARTMENT OF PHYSICS

In addition to any prerequisites listed below, all graduate courses in this department have the following prerequisites: Physics 27 and 28, or the equivalent; Chemistry 7 and 8, or the equivalent; Math. 23 and 24, or the equivalent.

PHYS. 200. THESIS.

PHYS. 203. KINETIC THEORY OF GASES.

First term, 2-0-2.

PHYS. 250. ATOMIC PHYSICS.

Second term, 3-0-3.

This course deals with such topics as electrical discharge through gases; photo-electric phenomena; X-rays; spectroscopy and atomic structure.

PHYS. 252. SPECIAL TOPICS IN ATOMIC PHYSICS.

Second term, 2-0-2.

This course to be taken simultaneously with Physics 250 by those desiring more credit hours in Physics.

PHYS. 261. MATHEMATICAL INTRODUCTION TO THEORETICAL PHYSICS. Prerequisites, Math. 136, Phys. 25.

First term, 3-0-3.

This course includes vector analysis, and introduction to tensor analysis; treatment of periodic phenomena with the aid of complex numbers and Fourier series, and selected topics from Functions of Complex Variables.

PHYS. 262. THEORETICAL DYNAMICS. Prerequisite, Phys. 261.

Second term, 3-0-3.

Dynamics of particles, rigid bodies and deformable bodies; wave motion; Hamilton's and Lagrange's Equations; hydro- and aero-dynamics; numerous applications.

PHYS. 268. THEORY OF ELECTRICITY AND MAGNETISM. Prerequisite, Phys. 261.

Second term, 3-0-3.

Electrostatics and magnetostatics, including material media; direct and alternating currents; motion of charged particles in electric and magnetic fields; Maxwell's electromagnetic equations, and electromagnetic waves.

PHYS. 280. CONTEMPORARY PHYSICS.

First term, 3-0-3.

Topics will be selected, including wave mechanics; quantum mechanics; nuclear physics, etc., according to individual needs and preferences.

DEPARTMENT OF TEXTILE ENGINEERING

T. E. 200. THESIS.

T. E. 222-223. DYEING. (Professor Jones.)

First and second terms, 1-3-2. Fee, \$2.00, each term.

This is a continuation of the regular course in Dyeing. Especial attention is given to dyeing of some of the textile fibers other than cotton and wool. Considerable time is devoted to the accurate matching of shades from a given sample. Time is also spent in testing the dyeings for fastness toward various agencies.

T. E. 235-236. FABRIC ANALYSIS. Prerequisite, T. E. 136. (Professor Carmichael.)

First and second terms, 0-6-2. Fee, \$2.00, each term.

A continuation of the work in T. E. 135-136, making complete analyses of complicated fabrics. Qualitative and quantitative tests for the different fibers are made with mixed goods.

T. E. 237-238. TEXTILE DESIGN. Prerequisite, T. E. 36-37. (Professor Carmichael.)

First and second terms, 0-3-1.

A course of special problems in both dobby and jacquard design. Color and pattern sketches are made and the dyehouse and loom layout necessary together with cost estimates in production.

T. E. 253-254. POWER WEAVING. Prerequisites, T. E. 45, 46, 53.

First and second terms, 1-3-2.

An advanced course in weaving, covering a detailed study of the mechanisms of the various types of dobby and jacquard looms, together with problems in the design and construction of original patterns.

T. E. 263-264. YARN MANUFACTURE.

First and second terms, 1-3-2. Prerequisite, T. E. 63-64. (Professor Hill.)

An advanced course in Yarn Manufacture, the work to include a more detailed study of newer methods and developments in yarn manufacture, together with problems and experiments in the production of special yarn numbers.

DEPARTMENT OF PERSONNEL

DIRECTOR, DEAN FLOYD FIELD; ASSISTANT DIRECTOR, G. C. GRIFFIN;
ALUMNI SECRETARY, R. J. THIESEN; OFFICE SECRETARY,
MRS. W. L. GIRARDEAU

The Georgia School of Technology maintains a Personnel Department for more satisfactory adjustment of the students to college life, and to assist them in thinking through their life problems and strengthening their standards and ideals.

The Department registers all Freshmen, explains the steps necessary for meeting classes, gives instruction in the topics: how to study; importance of a college record; health and hygiene; campus activities; and discusses the technique of making proper social contacts through churches and campus social groups.

An employment service is maintained for students who are unable to provide their school expenses. This service provides part time employment for worthy men to help pay their college expenses. It is impossible, however, for the average student to carry a full schedule and work more than two or three hours per day without failure in one or more subjects. A student who must work in order to go to school should ask for a light schedule and allow more than four years for his degree.

By the co-operation of the Government other worthy and needy students are given part time employment which provides \$10.00 to \$15.00 per month towards their expenses. Here again it is necessary to maintain a passing grade in all subjects in order to be continued in this work.

Every Freshman is given a personal interview after the work is started to see if he is properly adjusted; and many of these cases are followed up by changes in schedule, medical attention, correspondence with parents or other action which may assist the student in making progress.

It is planned to extend these conferences through the entire course as a guide in choosing life work, adjusting difficulties and making proper contacts for entering the industries.

This Department serves as an intermediary between the High School and College, visiting the High Schools for interviews with prospective students and helping them to get adjusted to college when they register.

Counsel and assistance are also given to the leaders of campus groups, in order that they may maintain their ideals and provide constructive and helpful activities for all interested students.

All seniors are allowed to register in this office for employment. Interviews are arranged for them with prospective employers and records are supplied to others which results in placing many students in positions at the time of their graduation. The Alumni Secretary, in his capacity as Alumni contact man, acts as a clearing house for Tech men after graduation. Tech graduates should keep their files in this office up to date even if they are not in line for change or promotion.

SUMMER SCHOOL

THE FORTY-FOURTH ANNUAL SESSION

Nine Weeks

Executive Committee: PROFESSORS SKILES, DANIEL, AND STAMY.

CALENDAR

Registration days, July 19, 20, 1940.

Recitations begin July 22 and end September 12. Absences will be recorded against students registering after July 22.

CURRICULUM AND TUITION

Below is a list of the courses to be given and the tuition and fees for each course:

Arch. 1, 11.	\$5.00 for each credit hour of work taken.
Chem. 0 (non-credit)	\$15.00
Chem. 3, 4	24.00
Chem. 13	20.00
Chem. 27	26.00
C. E. 21	11.00
C. E. 33	15.00
Dr. 9, 10, 23	10.00
Dr. 25, 26	5.00
E. E. 2, 77	15.00
E. E. 3	8.50
E. E. 16, 78, 117	17.00
E. E. 188	25.00
Ec. 21, 51	15.00
Eng. 10 (Entrance English)	15.00
Eng. 11, 12, 33, 34, 45	15.00
Math. 1 (Entrance Geometry)	15.00
Math. 3 (Entrance Algebra)	15.00
Math. 17, 18, 23, 24	25.00
Math. 20, 39, 136	15.00
M. E. 16	10.00
M. E. 17	5.00
M. E. 22	25.00
M. E. 41, 35, 37, 77, 44, 152, 155	15.00

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SUMMER SCHOOL

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M. E. 43, 140, 153	10.00
M. E. 45, 46, 47	8.00
M. E. 65	20.00
Mech. 31, 48	15.00
Mech. 39	21.00
Mech. 40, 47	10.00
M. L. 2, 8	15.00
Phys. 2 (Entrance Physics)	17.00
Phys. 21, 22	23.00
Phys. 27, 28	33.00
Phys. 34c	25.50
T. E. 23, 27, 37, 39, 59	5.00
T. E. 81	7.50

No student will be permitted to take more than 11 credit hours of work during the summer session.

A medical fee of one dollar must be paid by each student.

The fees and tuition are due on the day of registration and are to be paid to the school treasurer, F. K. Houston.

The school dining hall and Harris Dormitory will be open during the summer session. The room rent in Harris Dormitory will be two dollars per week for the eight weeks period. Application for room reservation should be addressed to the superintendent of dormitories.

Requests for information and applications for admission and special courses should be addressed to the Dean, Georgia School of Technology.

DIRECTIONAL STAFF

W. HARRY VAUGHAN.....	<i>Director</i>
HAROLD BUNGER.....	<i>Assistant Director</i>
MONTGOMERY KNIGHT.....	<i>Research Associate</i>
HAROLD B. FRIEDMAN.....	<i>Faculty Advisory Council</i>
C. A. JONES.....	<i>Faculty Advisory Council</i>
D. P. SAVANT.....	<i>Faculty Advisory Council</i>
ALFRED W. SCOTT.....	<i>Faculty Advisory Council (U. of Ga.)</i>

FACULTY ASSOCIATES

R. L. HILL.....	<i>Faculty Associate</i>
J. L. TAYLOR.....	<i>Faculty Associate</i>
T. H. WHITEHEAD.....	<i>Faculty Associate (U. of Ga.)</i>
A. M. SCHWARTZ.....	<i>Faculty Associate</i>
G. A. ROSSELOT.....	<i>Faculty Associate</i>
H. E. DENNISON.....	<i>Faculty Associate</i>
F. W. AJAX.....	<i>Faculty Associate</i>
J. W. FIROR.....	<i>Faculty Associate (U. of Ga.)</i>
M. C. DAVIS.....	<i>Faculty Associate (U. of Ga.)</i>
R. L. KENNER.....	<i>Faculty Associate (U. of Ga.)</i>
J. G. WOODROOF.....	<i>Associate, Agricultural Experiment Station</i>
JESSE W. MASON.....	<i>Faculty Associate</i>

The State Engineering Experiment Station, located at The Georgia School of Technology, is the engineering research agency of the University System. The purposes of this unit are to serve the industry of this section, to develop the resources of the State, to aid in the integration of agricultural and industrial activities, and to provide support for research training in fundamental and applied science in the various institutions.

The Station is affiliated with the teaching organizations in order to promote the best interests of both research and teaching by placing research work in an academic atmosphere. This integration of research with scientific teaching provides a service hitherto unavailable in the State for industry for the development of resources, enlarges the teaching scope and perspective of college work, and utilizes efficiently and economically both the available equipment and the services of experts in different branches of science.

During the year 1939-40, twenty Faculty Members, nine Research Fellows, five Research Graduate Assistants, two Research Scholars, five Technical Assistants and twenty-eight W. P. A. Assistants were engaged, either full or part time, in the prosecution of six Station problems. These projects included such items as the more efficient processing of cotton, the processing of domestic flax adapted to cotton mill methods, the development of new type of aircraft, improvements in the properties of rayon, new uses for the pecan and other oils, and an economic and technologic analysis of proper industrial types for Georgia and the southeast.

During June of each year a number of Research Graduate Assistantships and Scholarships are awarded for the ensuing fiscal year. These positions carry stipends up to \$650.00 for ten months of part-time work, and are open on a competitive basis to qualified graduates of accredited technical institutions.

The results of investigations are made available to the public through the medium of bulletins and circulars published from time to time. Two circulars and four bulletins were published.

The Station is in a position to investigate problems financed by the State alone or in cooperation with industries, governmental bureaus, and technical foundations, as outlined in a prospectus "Supremacy Through Research." Funds from external sources to finance co-operative investigations are administered in trust by the Industrial Development Council.

EXTENSION WORK THE EVENING SCHOOL OF APPLIED SCIENCE

DIRECTOR, R. S. HOWELL; SECRETARY, MRS. G. B. TURNER; ADVISORY COMMITTEE, J. F. CANNON, A. A. CASE, R. S. KING

Atlanta, as a manufacturing center, has a large population of operatives, most of whom have been denied vocational training above the average standard due to faulty apprenticeship and financial necessity.

The courses of study have been established with two purposes: First, to give men who are employed, or who seek employment in some phase of engineering or industry, a chance to supplement their knowledge through evening study; second, to provide an opportunity for educational advancement for the high school student who finds it necessary to go to work.

While the courses are not as complete as those offered in a day college, the subjects offered furnish a good training in the elements of engineering. The student who receives a certificate in any of these courses is qualified for advancement in his life work.

FACULTY

The faculty of the Evening School of Applied Science is composed of members of the day school faculty, with the following special instructors, who are specialists in their respective subjects.

CHARLES THOMAS BAKER 713 Glenn St., S.W.

Refrigeration

ROY EARL DAVIS 415 Linwood Ave., N.E.

Motor Analysis

R. W. EDENFIELD, A.B. 360 Washington St., S.W.

Mathematics

HENRY H. JORDAN 475 Clifton Road, N.E.

Blue Print Reading and Estimating

JAMES S. MORRIS 1931 Piedmont Road, N.E.

Radio Service

FEES

The admission fee for the various courses in the Evening School of Applied Science is dependent upon the number of hours scheduled per week. Three dollars of the admission fee for any course is a registration fee which cannot be refunded.

A shop or laboratory fee is charged each student taking shop or laboratory work in order to cover cost of incidental supplies. The amount of this laboratory fee varies with the nature of the laboratory or shop work.

Projects that are constructed by the student become his property upon payment for materials used.

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EXTENSION WORK

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CALENDAR, 1940-41

FALL TERM

Begins September 23, 1940. Ends January 24, 1941.

Christmas vacation: Class work will continue through Friday night, December 20, 1940, and will be resumed Friday night, January 3, 1941.

SPRING TERM

Begins January 27, 1941. Ends May 15, 1941.

CREDIT

The following regulations, concerning college subjects taken in the night classes have been approved by the day school.

1. Final examinations shall be given in the Evening School of Applied Science in those subjects in which final examinations are given in the day school and a record of the term grades shall be kept by the Director. For a student to qualify for a day school examination in a subject, his term grade must be "C" or better.
2. Evening School of Applied Science students who are not in good standing in the day school, but upon whom requirements for being re-instated have been placed, may take day school examinations for credit if otherwise eligible. Students who are "excluded" will not be permitted to take the day school examination.

Practically all subjects of the Freshman and Sophomore years are now available in the night classes. By this arrangement for credit, the night college credit courses are used advantageously by High School students and others who find it necessary to take up employment. Such students are able, during the period of employment, to pursue studies in the night school which may be credited toward a degree.

COURSES OF INSTRUCTION

A copy of the Evening School of Applied Science catalog, giving description of courses in detail will be sent on request.

TWO-YEAR CERTIFICATE APPLIED SCIENCE COURSES

Admission to the following two-year certificate courses requires a high school education or some high school training with several years' experience.

Aeronautics, Architecture, Auto Engineering, Building Construction, Chemistry, Civil Engineering, Electrical Engineering, Heating and Ventilating, Mechanical Engineering, Public Health Engineering, Radio, Structural and Textile Engineering.

SPECIAL COURSES

These practical courses are designed for those men who are engaged in similar work during the day and who either have not had sufficient preparation to take one of the certificate courses, or wish a shorter course in some special subject. Elementary courses in algebra and geometry are desirable and available, but the student can begin the course without having had work in these subjects.

Acetylene Welding, Aeronautics, Air Conditioning, Applied Electricity, Auto Ignition Analysis, Blue Print Reading, Ceramic Processes, City Planning and Housing, Combustion of Fuels, Commercial Art, Drawing, Electric Welding, Heating and Plumbing, Highway Laboratory, Machine Shop Practice, Mathematics, Mechanics, Modern Language, Physics, Power Transmission, Radio Service, Refrigeration, Testing Power Plant Equipment, Textiles, Water Purification and Control, Wood Working.

INDUSTRIAL EDUCATION

PROFESSOR T. H. QUIGLEY, ASSOCIATE PROFESSOR BABCOCK, ACTING ASSOCIATE PROFESSOR OWENS AND ASSISTANT PROFESSOR GROVES

In conformity with the provisions of the Smith-Hughes Act, this department has the responsibility of training trade and related industrial teachers for the following types of schools and classes in the State of Georgia:

1. Evening classes in public schools and industrial plants.
2. All day public trade schools.
3. Public and plant part-time schools.
4. Foremanship courses.

The activities of the department include research to determine specific industrial education needs of a community, industry or plant, developing courses of study to meet these needs, selection of teachers of the required industrial experience, training these teachers for specialized service; the development of specialized instructional materials for the use of such teachers; the training of local teacher trainers in the larger industrial centers; and the improvement of teachers in service after placement.

Because of the specialized local character of this extension work all activities are conducted under special arrangements between Georgia School of Technology, the Georgia State Board for Vocational Education, local boards of education and industrial plants. Courses and other activities are conducted at many points throughout the state. The courses offered are as follows:

Unless otherwise noted the following courses carry three hours credit:

- I. E. 22. EDUCATIONAL PSYCHOLOGY. Prerequisite, I. E. 25.
- I. E. 24. HISTORY OF EDUCATION.
- I. E. 25. INDUSTRIAL PSYCHOLOGY.
- I. E. 26. BUSINESS PSYCHOLOGY.
- I. E. 27. PRINCIPLES OF INDUSTRIAL EDUCATION.
- I. E. 41. METHODS OF TEACHING.
- I. E. 43. COURSE PLANNING.
- I. E. 45. JOURNAL READING.
- I. E. 46. LESSON PLANNING.
- I. E. 54. SHOP ORGANIZATION.
- I. E. 62. METHODS OF SHOP DEMONSTRATION.
- I. E. 71. PRACTICE TEACHING. Two hours credit.
- I. E. 72. PRACTICE TEACHING.
- I. E. 142. ORGANIZATION OF MANUAL TRAINING.
- I. E. 144. GENERAL SCHOOL ORGANIZATION.
- I. E. 151. THE TEACHING OF RELATED SUBJECTS.
- I. E. 156. VOCATIONAL GUIDANCE.
- I. E. 161. THE CONDUCTING OF FOREMANSHIP CONFERENCES.
- I. E. 165. ORGANIZATION OF TRADE EDUCATION.
- I. E. 166. ORGANIZATION OF PART-TIME EDUCATION.
- I. E. 167. INDUSTRIAL PLANT SURVEYS. Two hours credit.
- I. E. 182. THE TRAINING OF INDUSTRIAL TEACHERS IN SERVICE.
- I. E. 184. TRADE ANALYSIS.

SHORT SCHOOL FOR WATER PLANT OPERATORS

PROF. H. A. WYCKOFF, *Director*

The Georgia School of Technology, in cooperation with the State Board of Health, conducts each year, usually in November, a Short School for Water and Sewage Plant Operators. The School, which lasts for four days, is conducted on the Tech campus and consists of lectures, laboratory classes and demonstrations intended to give information concerning modern theories and practices in water purification and sewage disposal. Trips for inspection are also made to nearby water and sewage plants. Instruction is given by professors chosen from the Tech faculty, members of the State Board of Health, and men prominent in related industries, who are specialists in their various fields.

MEDICAL ATTENDANCE

DR. J. L. HENRY, MISS ZELPHA STEPHENS, MRS. CLARA M. WILL-
MARTH, AND MR. C. C. CRAWFORD

The Joseph Brown Whitehead Memorial Hospital has been in operation twenty-nine years, and the system instituted at its opening has been so successful in treating the sick and conserving the health of the student body that a similar system will be in force during the coming year.

The school physician is in charge of the hospital, assisted by a full-time laboratory and X-ray technician and two registered nurses who are in residence, thus insuring the best of care to students in case of illness. The facilities of the hospital are open to all regular undergraduate day students and cooperative students, either in school or working. Graduate students, instructors and faculty members are not entitled to free treatment or hospitalization except in case of emergency, but may receive treatment upon the payment of a small fee, if facilities are available.

For those eligible medical service is free of charge for temporary illnesses, and includes the following: all necessary medical care and minor surgery to clinic and hospital patients by the school physician, nursing care and the ordinary laboratory examinations.

Free medical service does not apply to the following conditions: major surgery, consultations, specialist's care, special laboratory examinations, special nurses, expensive medication, X-rays, or hospitalization in cases of the more serious contagious diseases, or students who are ill electing to remain outside the school hospital, the student, parents or guardian being responsible for such added expenses.

All students who are ill are expected to be treated in the school hospital provided that they do not prefer their own physician or another hospital. The school hospital is open to all recognized physicians and consultations are welcomed at all times. The basement of the hospital has been completely remodeled for the housing of an up-to-date clinical laboratory, physio-therapy equipment and a complete X-ray unit. The new X-ray unit is of the latest type and capable of caring for all ordinary X-ray examinations, including fluoroscopic studies. A moderate fee is charged the student for all necessary X-ray work.

Students are charged seventy-five cents per day for meals while in the hospital.

Tuberculin skin tests will be given at the regular annual physical examination. Students showing a positive reaction will be required to have complete X-ray examination of the chest. The fee for this X-ray will be five dollars.

LIBRARY

MRS. JAMES HENLEY CROSLAND, LIBRARIAN; MARY MINTER,
CAROLYNE ADAMS, MRS. M. D. SEABORN, JR.,
ASSISTANT LIBRARIANS

The library building, a gift of Mr. Andrew Carnegie, was formally opened in October, 1907. In 1932, two major improvements were made in the building. A new stack section which will house approximately 40,000 volumes was added and the basement renovated and made into a large, well-lighted Periodical Room.

The Library contains over 45,000 bound volumes and some 5,000 unbound pamphlets. The greater part of these which are scientific and technical are used for study and research. The Library subscribes to the journals of the leading scientific societies and to the foremost technical and scientific periodicals in this country and abroad. These, with over 5,000 bound periodicals, are kept in the new Periodical Room. There is an author, title, and subject catalogue for all books and periodicals in the general and departmental libraries.

There are five departmental libraries, all under the administration of the General Library. The more technical and highly specialized books are kept in these libraries. The departmental libraries are: Aeronautics, in the Daniel Guggenheim Building, opened in 1930; Architecture, on the third floor of the Physics Building, 1925; Ceramics, 1926, Textile, 1929, and Experiment Station, 1938, in their respective buildings.

The Library was bequeathed a part of the collection of Mr. Julius Brown. This consists of some rare and fine old volumes dating back as early as 1473. A part of the collection of the late Governor N. E. Harris was bequeathed the Library. This contains some volumes on Southern history and literature.

The Library is primarily for the use of students and members of the faculty. All books, not reference or held on reserve, may be withdrawn for home use in accordance with the rules of the Library. The General Library is open from 8 A.M. to 9 P.M. each week day except Saturday when it closes at 12 M. It is closed on Sundays and regular school holidays. Printed Library Regulations are given the Freshmen at the beginning of the school year.

A Library fee of \$1.00 per term is paid by every student.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

BOARD OF DIRECTORS

GEORGE T. MARCHMONT.....	<i>Chairman</i>
PROF. GLENN W. RAINEY.....	<i>Secretary-Treasurer</i>
W. A. ALEXANDER	LEWIS F. GORDON
JOSEPH T. BAYER	DR. LESTER RUMBLE
PROF. HAROLD BUSH-BROWN	WARREN W. TAYLOR
JACK R. DUNN	DR. HERMAN L. TURNER
PROF. COUNT D. GIBSON	GEORGE WINSHIP

ADMINISTRATION

WALTER H. MCGEE, JR.....	<i>General Secretary</i>
WILLIAM J. PROCTOR.....	<i>Executive Secretary</i>
GLADYS I. HAWES.....	<i>Office Secretary</i>
L. DAVID LOCKERY.....	<i>Student Assistant</i>

STUDENT OFFICERS, 1939-40

JOSEPH T. BAYER.....	<i>President</i>
JACK R. DUNN.....	<i>Vice-President</i>
WARREN W. TAYLOR.....	<i>Secretary</i>

Purpose: The purpose of the Young Men's Christian Association is to minister to the development of the moral, social and spiritual needs of each individual in the school community. There are few organizations on the campus that do not in some way come in contact with the Y. M. C. A.

"Y" Cabinet: Every student registered at Tech is a member of the Y. M. C. A. Any upper classman interested in taking an active part in the promotion of the Tech Y. M. C. A. program is invited to become a member of the Y. M. C. A. Cabinet. The Cabinet is organized into committees which supervise the various social and religious activities of the Association program. Only members of the Cabinet are eligible to be nominated and elected officers of the Y. M. C. A. The Cabinet calls for students with moral courage, students with a vision of a better world and a desire to join with other students to make the Tech spirit the spirit of friendship and Christian brotherhood.

Freshman "Y" Council: The Freshman "Y" Council was founded in 1923. All freshmen registered at Tech are invited to become members. Under the direction of its own officers and committees the Council explores through discussion and social activities those areas of thinking and living which provide for the highest development of personality.

Services:

1. The General Secretary is available at all times for private conferences with students wishing to discuss in confidence their personal problems.
2. A directory of students, with name, address, telephone number, church preference and class, is kept on file in the "Y" office. This information is for the use of anyone desiring to get in touch with the students.
3. The supervision and administration of the building and activities are under the direction of the secretaries. Quiet dormitory rooms on the third floor, with comfortable accommodations, are available to student roomers at nominal charges. In the basement are offices for the student publications and a barber shop and laundry operated primarily for students. The auditorium is used by the alumni, Reserve Officers, young people's organizations of the churches, the Glee Singers, and for class meetings, "pep" meetings, etc. The "Y" has a radio, reading room, and games in the lobby.
4. Three handball courts and a game room in the basement of the building are available for the recreation of students.
5. The Y. M. C. A. cooperates with the various churches near Tech in helping Tech students relate themselves to the programs of these churches.
6. Each year the Y. M. C. A. publishes the "T" Book—a neat, vest-pocket size book, containing information about all activities of the school, songs, yells, customs and traditions.
7. Through cooperation with the faculty and Tech Bible classes, a reception is held for the freshmen.
8. The Y. M. C. A. attempts to help students find jobs.
9. In the reading room of the "Y" there are twenty-five of the best magazines and daily papers available for the students. There is a limited library of religious books in the lobby of the Y. M. C. A. Pamphlets on religion and religious questions are available at all times.
10. Free stationery is available for students at the "Y" desk.

Activities:

1. During the spring of each year the annual Y. M. and Y. W. C. A. State Conference is held. Various problems confronting the different schools are discussed, along with topics of religious importance.
2. The Southern Student Y. M. and Y. W. C. A. Conference is held at Blue Ridge, N. C. Blue Ridge is a place for the student to learn what is most essential in college life, and to acquire that inspiration needed to live the fullest during his college year.
3. The Y. M. C. A. cooperates with the Athletic and Personnel Departments in undertaking a social and athletic, and in some respects a scholastic, program to involve the participation of every student at Tech. The Y. M. C. A. staff and student leaders are active in the initiation and direction of various features of the program. The building is always open to meetings, and the use of all its facilities, tangible and intangible, by students and their organizations is welcomed. Especially does the Y. M. C. A. concern itself with the interests of those students who are most likely to be neglected in the school program.
4. The Music Appreciation Club and the Camera Club are sponsored by the "Y". The former holds bi-weekly concerts of recordings and the latter conducts snapshot contests and secures speakers for talks on photography.
5. In a series of discussion groups held by the Y. M. C. A. throughout the year various problems that confront college men are discussed. These groups are led by competent men who are selected from the faculty, upper classmen and religious leaders in the city.
6. The best religious, scientific, and educational motion pictures available are shown at the Y. M. C. A. for the benefit of Tech students.
7. Under direction of the deputation committee, groups of Tech students carry religious and educational programs to churches, colleges and young people's organizations in Atlanta and nearby communities.
8. Under leadership of a competent choral director the Tech Glee Singers hold weekly rehearsals and give concerts before churches, schools and many other organizations in Atlanta. Several short trips to other cities are undertaken during the year.

THE STUDENT COUNCIL

The Student Council, which was put into operation in the fall of 1922, is a group of undergraduates elected by the student body. Its duties are to handle all matters of general student interest.

The officers and members for 1939-40 are:

C. N. MAYO, <i>President</i>	J. F. STOVALL, <i>Secretary</i>
W. R. BEARD, <i>Vice-President</i>	C. A. MCKINNON, <i>Treasurer</i>

SENIORS

J. T. BAYER, JR.	C. N. MAYO
W. R. BEARD	C. A. MCKINNON
W. F. BENNETT	G. W. PHILLIPS
H. M. CONWAY	J. M. SENA
W. H. ECTOR	

JUNIORS

F. W. ALLCORN	T. N. KELL
J. L. HARRIS	J. F. STOVALL

SOPHOMORES

J. W. BOSCH	W. W. TAYLOR
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CO-OPERATIVE REPRESENTATIVES

J. DREW	F. P. HUDSON
R. M. GRIFFIN	J. A. HUTCHINSON

EX-OFFICIO MEMBERS

F. H. HOLZ, *Editor of Yellow Jacket*
 R. J. WOODDALL, *Editor of Blue Print*
 H. B. ARTHUR, *President of Sophomore Class*
 T. C. DOZIER, *President of Freshman Class*

HONOR COMMITTEE

Faculty: PROFESSORS DANIEL, HEFNER, JOHNS

Student Body: J. T. BAYER, J. L. HARRIS, C. N. MAYO

In cases of alleged dishonesty in academic work the evidence is examined by a committee composed of three students and three faculty members. If, in the opinion of this committee, the evidence substantiates the charge, the case is referred to the Executive Committee of the Faculty for action.

THE STUDENT LECTURE AND ENTERTAINMENT SERIES
COMMITTEE

Chairman: DR. HAROLD B. FRIEDMAN

Faculty Members: DR. RALPH A. HEFNER, DR. PHIL B. NARMORE,
DR. W. G. PERRY, PROFESSOR GLENN W. RAINEY

Student Members: ROANE BEARD, MACK CONWAY, F. P. HUDSON,
TOM KELL, CHARLES MCKINNON, WARREN TAYLOR

During the school year of 1938-39 the student body voted to establish a lecture and entertainment series, to begin the following year. Under the plan adopted, each student is assessed a yearly fee of seventy-five cents and is admitted to all the features presented. (Co-operative students pay in proportion to their benefits from the series.)

In its first year the Committee followed a policy of making the series serve the Atlanta community as well as the student body and sold tickets to the general public at low prices. The large seating capacity of the auditorium and the use of voice amplifiers made this policy feasible.

GEORGIA TECH ATHLETIC ASSOCIATION

BOARD OF DIRECTORS

DR. M. L. BRITTAIN, *Chairman*

DR. J. B. CRENSHAW

PROF. FLOYD FIELD, *Secretary and Treasurer*

DEAN W. V. SKILES

PROF. A. H. ARMSTRONG, *Faculty Chairman of Athletics and Business Manager*

PROF. H. A. WYCKOFF

COACH W. A. ALEXANDER, *Advisory Member without vote*

MR. GEORGE W. MCCARTY, JR.

MR. R. T. JONES, JR.

MR. WILLIAM H. GLENN

MR. CHARLES MAYO, *President of Student Council*

MR. MACK CONWAY, *Editor of Technique*

MR. R. W. MURPHY, *Captain of Football Team*

The athletic program for the 1940-41 session is in charge of the following staff:

COACHING STAFF

W. A. ALEXANDER, *Football*

R. L. DODD, *Football*

MACK THARPE, *Football*

J. R. MCARTHUR, *Football and Basketball*

N. C. DEAN, *Freshman Football and Track*

R. M. MUNDORFF, *Basketball and Baseball*

G. C. GRIFFIN, *Track and Cross Country*

E. E. BORTELL, *Tennis*

H. E. DENNISON, *Golf*

R. T. MORENUS, *Fencing*

F. A. LANOUE, *Swimming*

CLAUD BOND, *Trainer*

COLLEGE ATHLETICS

College Athletics at the Georgia School of Technology are managed by a Board of Directors consisting of six members of the Faculty, appointed by the President, who is ex-officio chairman of the Board; three alumni appointed by the president of the school; the President of the Student Council, the captain of the football team, and the editor of the Technique. This board aims to secure co-operation of the faculty and students in athletic affairs, to maintain the highest standards of sportsmanship, to give every student an opportunity to take part in some athletic activity. The liberal policy adopted by the Faculty toward athletics has resulted in such interest in college sports that the number engaged in some form of outdoor exercise is very large—over fifty per cent—and is increasing yearly.

Intercollegiate schedules are played in football, baseball, basketball, tennis, swimming, fencing, golf, track, cross country, and rifle shooting.

HUGH INMAN GRANT FIELD

The liberality of Mr. John W. Grant, of Atlanta, whose donations for this purpose have reached the sum of fifty thousand dollars, aided by gifts from other friends of the institution, has provided the school with an athletic field 900 feet long and 450 feet wide. This field has been named the "Hugh Inman Grant Field" as a memorial to Mr. Grant's son.

STADIUM

Upon this field has been developed a splendid U-shaped stadium 410 feet in length with locker-rooms, bath-rooms, stock-rooms, coaches' offices and a running track under cover for early spring practice. The total seating capacity, with temporary wooden stands built in on the north end, is over 35,000. Grant Field, with its quarter mile track, and this stadium, has been added to the equipment of the school at a cost of \$350,000.

THE ROSE BOWL FIELD

In order to provide space for outdoor sports the Board of Directors of the Georgia Tech Athletic Association purchased at the close of the 1928 football season a new field 455 by 980 feet within three minutes walk of Grant Field. Thoroughly developed and equipped with modern steel and concrete baseball stand, it provides space for two baseball fields and three football fields. To commemorate the victory over the University of California at Pasadena, New Year's Day, 1929, this field has been named "Rose Bowl Field."

THE NAVAL ARMORY

This building, financed by funds from the C. W. A., the Georgia Tech Athletic Association, and Mr. Ferd M. Kaufman, an alumnus of

the class of 1894, extends from the end of the East stands along Techwood Drive to Third Street. It houses the Georgia Tech R. O. T. C. Naval Unit, the Atlanta Naval Reserve Unit, and the offices of the Georgia Tech Athletic Association. The main hall, on the ground floor, 196 feet long by 60 feet wide, is used for athletic practice and naval drill. The remaining space is occupied by lockers and showers, a fully equipped naval machine shop, target room, boiler-room for marine boilers, a radio room, store-room for naval supplies, a complete ship's bridge, and nine offices. The second floor, at the north end, gives six rooms for class work. Entrance to the building is on Third Street.

The Naval Armory satisfies a long-felt need in athletic and naval equipment at Georgia Tech.

THE AUDITORIUM-GYMNASIUM

This new building, a combined auditorium-gymnasium-swimming pool, financed by funds from the P. W. A. and the Board of Regents, is located at the north end of Grant Field and gives the school a much needed assembly hall, suitable for commencement exercises, with a seating capacity of three thousand. It also affords a basketball court, 60 by 100 feet, and ample showers and locker rooms for an up-to-date swimming pool.

AMERICAN SOCIETY OF CIVIL ENGINEERS

The Student Chapter of this organization at Georgia Tech is known as the "Civil Crew." Its members are selected from the Senior and Junior classes in Civil Engineering, with especial emphasis on good scholastic standing. The activities of the Society include the establishing of personal contact with practicing engineers by means of luncheons and informal talks, the investigation of practical construction work, and the showing of films on engineering projects.

ARCHITECTURAL SOCIETY

Architectural students are elected from the three upper classes. The Society was organized to promote the interests of the Department and to bring about a closer relationship between students and faculty. It has been active in publishing illustrated bulletins of student work, arranging for special lectures and exhibits, and holding meetings to discuss subjects of professional interest.

MECHANICAL ENGINEERING SOCIETY

This society is the student branch of the American Society of Mechanical Engineers with membership optional to students of both regular and co-operative Mechanical Engineering courses. Students interested in Mechanical Engineering, but specializing in other branches of engineering, will be granted membership upon election by members of the branch. The society is conducted entirely by the students with the aid of an Honorary Chairman from the faculty of the Mechanical Engineering department, who is elected by the student members and approved by the president of the national society.

Weekly meetings of the society are conducted by the students, who either arrange programs from their own number or invite prominent engineers and business men of experience to address them. Special trips of inspection and an annual regional conference are features of the proceedings.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

This national organization has chartered a student branch of the parent society at The Georgia School of Technology. Bi-monthly meetings take the form of lectures, motion pictures or plant visits which are meant to give the student a better idea of the function of the chemical engineer in modern industry.

ALPHA CHI SIGMA

Alpha Chi Sigma is a professional chemical fraternity founded with the idea of creating an interest in chemistry and at the same time recognizing achievement in that scientific branch. Its membership is drawn from students of chemistry and chemical engineering who intend to make some phase of chemistry their life work. At Georgia Tech this organization presents industrial moving pictures, lectures, keeps up a chemical display, etc., in an effort to encourage those who are interested in chemical engineering.

ELECTRICAL ENGINEERING SOCIETY

This Society is a branch of the American Institute of Electrical Engineers.

Senior and Junior students in the Electrical Engineering Course are eligible for membership. Original papers are presented and articles from current electrical literature are abstracted and discussed. Lectures are given the Society by practicing engineers.

AMERICAN CERAMIC SOCIETY

The Student Branch functions under a charter of the national society. Subscriptions to the Journal of the Society; addresses from practicing engineers, faculty and students; plant visitations; the presentation of industrial motion pictures; and the planning and execution of Student Branch special events all aid in background building and enlarging the perspective of the students, faculty, and local industry.

PHI PSI

Theta Chapter is the Georgia Tech local of a national textile fraternity, Phi Psi. Its membership is drawn from the Senior and Junior classes, with good scholastic standing as a prerequisite. The object of the organization is the promotion of scholarship and of interest in technical matters connected with the textile industry. From time to time motion pictures are sponsored, and men prominent in the textile field are invited to address the society.

LOAN FUNDS AND SCHOLARSHIPS

THE LEWIS H. BECK FUND

THE LEWIS H. BECK SCHOLARSHIP FUND is a student loan fund created by the late Mr. Lewis H. Beck, of Atlanta, for the benefit of students who are residents of Georgia, attending Georgia School of Technology. It is administered by a special Board of Trustees. For information write to the office of the Lewis H. Beck Scholarships, 53½ Baker Street, N.W., Atlanta, Ga.

THE J. D. RHODES SCHOLARSHIPS

The late J. D. Rhodes left one-third of the income of the Rhodes Building, Atlanta, for the purpose of educating boys at the Georgia School of Technology. The amount of money available each year will vary, as it depends on the rentals of the Rhodes Building.

THE ADAIR AND OLDKNOW SCHOLARSHIPS

Alumni of the school have established two scholarships, to be known as the George W. Adair and William S. Oldknow Scholarships, in memory of these loyal Tech men, and on the same basis as the Rhodes Scholarships.

For information concerning the Rhodes, Adair and Oldknow Scholarships write Mr. G. C. Griffin, Assistant to the Dean of Men, Georgia School of Technology, Atlanta, Ga.

Generous friends of the institution have established funds of varying amounts, which are used for emergency loans.

Architects Loan Fund.....	\$ 200.00
J. Baldwin Loan Fund.....	50.00
Berry Loan Fund.....	2,400.00
S. F. Boykin Fund.....	100.00
J. B. Campbell Loan Fund.....	1,000.00
William B. Coleman Loan Fund.....	420.00
Holland Coleman, Jr., Loan Fund.....	480.00
S. C. Dobbs Loan Fund.....	75.00
Ga. Federation of Labor Loan Fund.....	800.00
The A. French Loan Fund.....	1,500.00
Mrs. A. V. Gude Loan Fund.....	200.00
Lyman Hall Loan Fund.....	1,400.00
J. M. High Loan Fund.....	850.00
Dr. and Mrs. T. P. Hinman Loan Fund.....	200.00
I. S. Hopkins Loan Fund.....	30.00
Louis Gholstin Johnson Loan Fund.....	400.00
Malta Lodge Loan Fund.....	800.00
Malta Lodge Fund, No. 2.....	250.00

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LOAN FUNDS AND SCHOLARSHIPS

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Lona Mansfield Loan Fund.....	750.00
E. P. McBurney Loan Fund.....	10,475.00
Gayle Nimmo's Memorial (Pi Kappa Phi).....	400.00
Scottish Rite Loan Fund.....	1,000.00
Sam W. Small Loan Fund.....	100.00
T. W. Smith Loan Fund.....	265.00
J. P. Stevens Loan Fund.....	5,000.00
Clark Thornton Memorial Fund.....	362.50
E. A. Turner Loan Fund.....	50.00
Mrs. Fannie B. Wright Loan Fund.....	925.00
Class of Dr. M. L. Brittain Loan Fund.....	500.00
Joseph M. Terrell Loan Fund.....	7,300.00
Geo. W. Adair Loan Fund.....	450.00
Thomas E. Mitchell Fund App. Annually.....	1,904.16
Student Emergency Loan Fund.....	3,500.00
Student Book and Supply Fund.....	1,800.00
Student Fee Loan Fund.....	10,000.00
Student Supply Loan Fund.....	32,000.00
Lewis H. Beck Fund—Int. on \$25,000 Annually.....	1,500.00
Lowry Loan Fund for North Ga. Students.....	3,000.00
Josiah Dana Cloudman Fund.....	10,000.00
Alice Spencer Coon Loan Fund for M. E. Students	4,000.00
Eugene O. Batson Scholarship Fund, Int. on.....	10,000.00
Accumulated Interest	2,759.80

Applicants for loans must qualify in scholarship and character, besides presenting evidence of bona fide need of financial assistance.

TEXTILE SCHOLARSHIP

The Cotton Manufacturers' Association of Georgia has given to Textile students a scholarship of \$120 for tuition and books, and a loan fund, not to exceed \$200 annually.

ENDOWMENT FUND

From Julius L. Brown.....	\$160,000.00
From Daniel Guggenheim.....	150,000.00
From Hon. Clark Howell and Atlanta Constitution, WGST	150,000.00
From Josephine L. Cloudman.....	60,000.00
From Floyd W. McRae.....	500.00
From George W. Forrester.....	863.57
From William S. Rankin, Class of 1903.....	439.75
From Louis Wellhouse Memorial Fund.....	2,500.00

MEDALS AND PRIZES

THE PRESIDENT'S SCHOLARSHIP PRIZE: GOLD "T"

Through the President of Georgia Tech, Gold "T's" are awarded each year to the members of the Junior class who, from the beginning of their courses have maintained the highest scholastic standing.

THE HONOR SOCIETY OF PHI KAPPA PHI

Among the prizes offered for scholarship by the Georgia School of Technology is membership in the honor society, Phi Kappa Phi, to which a limited number of seniors representing all departments are elected annually. Phi Kappa Phi is a national organization with chapters in many of the leading universities and colleges, and wherever it has been established it has proved a stimulus not only to scholarship but to all-round manhood.

The local chapter of Phi Kappa Phi awards annually a scholarship cup to that member of the senior class who, on the basis of all work taken in this institution, ranks scholastically as one of the first two students in the class.

TAU BETA PI

Tau Beta Pi is a national honorary engineering fraternity with chapters in most of the leading engineering schools of the country. The Alpha Chapter of Georgia offers membership to approximately twenty-five engineering students of each graduating class who can qualify according to standards of scholarship, character, loyalty, personality, leadership and school activities. The fact that Tau Beta Pi is the second oldest honorary fraternity in the country and numbers among its members many of our leading engineers, makes membership in the society a coveted honor.

The local chapter of Tau Beta Pi awards annually a scholarship cup to an outstanding engineering senior who ranks among the first five of his class, on the basis of all scholastic work taken in this institution. The selection is made by a committee composed of Tau Beta Pi faculty members, heads of the Engineering Departments, and a representative from the faculty Committee on Honors and Prizes.

KAPPA ETA KAPPA

Kappa Eta Kappa is a national professional electrical engineering fraternity. Membership in the Zeta chapter is offered to those junior and senior electrical engineering students possessing the requisite qualifications of scholarship, character, and leadership.

In order to encourage higher scholastic attainment among students

MEDALS AND PRIZES

of the profession, the local chapter annually presents the sophomore in electrical engineering who has the highest average, based on three terms, with an Electrical Engineering Handbook.

PHI ETA SIGMA

Phi Eta Sigma is a freshman honor society in which any student is eligible for membership who has made an average grade of at least 3.5 on the work of the first term of the freshman year. The society awards a scholarship cup to the freshman who makes the highest average for the first term.

TEXTILE SCHOLARSHIP MEDALS

A medal is awarded by the National Association of Cotton Manufacturers to the senior in the Textile Department who has the highest scholastic record from the beginning of the course.

The Cotton Manufacturers' Association of Georgia awards a medal annually to a member of the senior textile class, based on scholarship throughout his course, and for original effort in the work of the Textile Department during his senior year.

BRIAREAN SCHOLARSHIP CUP

The Briarean Society of the Georgia School of Technology presents annually a scholarship cup to a senior member of the society whose scholastic average for a period of four and one-half years entitles him to rank as one of the highest three members of the class.

FRATERNITY SCHOLARSHIP CUP

The Interfraternity Council awards annually a scholarship cup to the chapter of that organization which makes the highest scholastic average.

ARCHITECTURAL MEDAL AND PRIZE

The American Institute of Architects awards each year to a member of the graduating class a medal for excellence in architecture. The winner of this medal, who must have a general scholastic average of at least "B," is recommended to the Committee on Honors and Prizes by the Faculty of the Department of Architecture.

A set of books is offered each year to the senior in Architecture placing first in a special competition. This prize is given by the Alumni and members of the Georgia Chapter of the American Institute of Architects.

ALPHA CHI SIGMA PRIZE

The Professional Chemical Fraternity, Alpha Chi Sigma, presents annually a handbook to the junior who has made the best record in the Chemistry or Chemical Engineering course.

A. I. CH. E. AWARDS

The American Institute of Chemical Engineers awards a badge and certificate to that junior in Chemical Engineering who has made the highest record on the work of the first two years—for co-operative students the first three years.

The Student Branch of the A. I. Ch. E. presents annually a handbook to an outstanding junior Chemical Engineering student, selected by vote of the members of the student branch.

PI TAU SIGMA

Pi Tau Sigma, National Mechanical Engineering Fraternity, elects to membership outstanding mechanical engineering students in the junior and senior years.

Annual awards of two engineering handbooks are made to the highest ranking students in mechanical engineering as follows: One to a regular sophomore based on the work of three terms and one to a pre-junior (Co-op. Plan) based on the work of four terms.

SKULL AND KEY SCHOLARSHIP CUP

The Skull and Key Society offers a scholarship cup to the sophomore in the regular course who has made the highest average on the work of the first three terms.

AERONAUTICAL ENGINEERING MEDAL

The James Edward Oglethorpe Chapter of the Daughters of the American Colonists presents annually a medal to the member of the graduating class in Aeronautical Engineering who has made the highest scholastic average, based on the work of at least three complete semesters.

A. S. M. E. AWARD

Each year the American Society of Mechanical Engineers awards to the student delivering the best paper before the local student branch, a trip to the spring meeting of the student branches of the A. S. M. E. At this meeting the student has the opportunity of competing for a further award. In addition the local student branch awards as second prize a Mechanical Engineer's handbook.

CLASS HONOR ROLLS

Students who rank in the highest ten per cent of their respective classes or who make a term average of 3.5 or higher are placed on the Honor Roll, which is shown in the catalog by printing the names of such students in *italic type*.

MILITARY PRIZES AND TROPHIES

The A. B. Steele trophy, a handsome silver cup, the gift of Mrs. Ray Powers and Mr. A. B. Steele, as a memorial to those "Tech" men who made the supreme sacrifice during the World War, is awarded annually to the best drilled company in the regiment.

The Joseph Habersham Chapter of D. A. R. presents annually a medal to the member of the senior class who attains the highest rating in Military Science and Tactics.

The Georgia Society of Daughters of Colonial Wars presents annually a medal to the Cadet Officer who attains the highest rating for outstanding leadership.

The Reserve Officers' Association of Atlanta gives annually an officer's saber to the most outstanding student in Military Science and Tactics.

The U. S. Coast Artillery Association presents annually a medal to the member of the Junior Class who attains the highest rating for proficiency in scholarship and in Military Science and Tactics.

Two gold medals are given annually by the Army Ordnance Association, one to the member of the senior class and one to the member of the junior class of the Ordnance unit who attains the highest rating in Ordnance scholarship.

The Anak Society, Georgia Tech, presents annually three medals, one each to the Freshman in the Infantry, in the Coast Artillery, and in the Signal Corps who attains the highest rating for proficiency in Military Science and Tactics.

The Scabbard and Blade Military Fraternity gives annually a trophy to the captain of the company which wins the Steele trophy.

A medal is presented annually to each Army member of the Georgia Tech Rifle Team for proficiency in rifle marksmanship.

Gold, silver or bronze medals are awarded to students who achieve the highest individual rating for excellence in military drill.

NAVAL R.O.T.C. MEDALS

The Georgia State Society "United States Daughters of 1812" awards a gold medal each year to the senior in the Naval R. O. T. C. who achieves the highest rating in Naval Science and Tactics.

The "Descendants of the Pilgrims" awards a gold medal each year to the Naval R. O. T. C. student making the highest standing in Naval Science and Tactics during the Basic Course.

The Anak Society awards annually two medals: one to the junior in the Naval R. O. T. C. showing highest proficiency for the Course in Theoretical and Practical Navigation, the other to the freshman in the Naval R. O. T. C. showing highest proficiency in Naval Science during his freshman year.

DEGREES CONFERRED JUNE, 1939

GRADUATE DEGREES

MASTER OF SCIENCE IN AERONAUTICAL ENGINEERING
Alan Yates Pope

MASTER OF SCIENCE IN CHEMISTRY
John Francis Keating Lawrence Karn Yourtee

MASTER OF SCIENCE IN CHEMICAL ENGINEERING
John Robinson Coley Paul Vasser Seydel (1938)

MASTER OF SCIENCE IN CIVIL ENGINEERING
James Stephens Rimmer

MASTER OF SCIENCE IN MECHANICAL ENGINEERING
Melville Whitnel Beardsley Donald Brooks Wilcox

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
Thomas James Hughes (with honor)
Cornelius Francis O'Shea (with honor)
James Howard Pines (1938) (with honor)

William Howard Beers	George Arthur Martin
Robert Wesley Boyd	Eugene Kearfott Miller, Jr.
Vance Dodson Campbell	Raymond Elmo Moore
Marion Raymond Clark	Dillard Munford
Robert Leslie Cornell, Jr.	Paul Sylvester Nurko
John Thomson Cosby	Eugene Mason Philpot, Jr.
William George Coyle, Jr.	Earl Alexander Powell, Jr.
Harvey Wilburn Criswell, Jr.	Alfred Clare Reed, Jr.
Claude Leon Daughtry, Jr.	Alonzo Richardson
Richard Frank Donovan	Downes Lyle Russell, Jr.
Thomas Arthur Elliott	Herman Saminsky
Robert Mack Gibbs	Curran Jolly Schenck
John Rudolph Hammond, Jr.	John Edgar Shipp
Nathaniel Goodman Harrison, Jr.	William Joseph Shuman
Homer Gray Hutchinson, Jr.	Marion Kiser Smith
Harry Jeffcoat, Jr.	Jefferson Woodrow Speck
Joseph Adreon Keller, Jr.	Herbert Dean Spratlin
Harry Martin Lange	William Harry Tanner

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DEGREES CONFERRED

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Jacob McClelland Thomas	John Rowland Wyant
Robert Glynn Thomas	James Faust Wyatt
Henry Cannon Tilford, Jr.	Hugh Dudley McDonald, Jr.
George Renzo Vanden Heuvel	(1938)
George Lindsey Watt	Robert Ramsey Voorhees (1938)
Malcolm Hugh Westberry, Jr.	Rex Harry White, Jr. (1938)

CO-OPERATIVE PLAN

*Phillip Eugene Everett (with honor)	
*Nat Graves McLean (with honor)	
*Frederick Raymond Short (with honor)	
Emanuel Harold Smith (with honor)	
Thomas Frederick Brinson	*Lucius Loring Pitts
*Cecil Franklin Crumbley	*Madison Post
*John Francis Dillon, Jr.	John Tal Richardson, Jr.
*Ivey Oscar Drewry	Shelley Elmer Rule
*Roy Chappel Fordham	*John Albert Swint
*Benjamin Schoppaul Goodwin	Cornelius Bullard Thomas
William Walton Keith	Richard Sollar Turner
*John Nowlin McClain	Bernard Lilse Mathews (1938)

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Frank Garcia Lopez (with honor)	
William Merritt Pope, Jr. (with honor)	
William James Warnock (with honor)	
Fred Littleton Alexander	Thomas Jefferson Grogan, Jr.
James Aleck Alexander	Ernest George Gruters
Alfred Ameen	Joseph Wallace Henderson
Charles Francis Baker	Benajah Woodfin Hinton, Jr.
Milton Robert Binns	Harris Holt Hooker
Irving Stuart Bull, Jr.	Hugh Bennett Hutchins
Matthew James Burger	Henry Ives Jehan
Juan Antonio deCardenas	Donald McLeod Leslie
Leonard David Ecker	Hubert Gordon Morgan
Harold Julius Freedman	Orlando Andres Rodriguez-Jorge
William Franklin Gray	Armando Antonio Salcedo

*Official diploma is withheld until R.O.T.C. Camp is completed.

Rency Floyd Sewell, Jr.	Jefferson Woodrow Speck
William Scandrett	Frank Russell Strate
Joseph Samuel Slicer, Jr.	William Douglas Stroud
Sidney Rousseau Smith	John Curtis Thomson, Jr.
Sidney Taylor Smith	Jerry Bolton Tullis
Marvin Beutell Snipes	Raleigh Osborn Worrell
Sergio Antonio Sobredo	

CO-OPERATIVE PLAN

*John Clinton Abrams, Jr. (with honor)
 *Harold Jesse Crumly (with honor)
 *Edward Reid Flynt (with honor)
 Charles Stuart Perry, Jr. (with honor)

*Harold Winston Adams	*James Arthur Lasseter
*Robert Lee Adams	*Eugene Carr Manning
*Karl Alten Bevins	Clyde Edward Miller, Jr.
*Arthur Melvin Brown	*Howard Bernard Plummer
*Eugene Vincent Fontaine	*John Ryscuck
*Clarence W. Graves, Jr.	*William Roscoe Shook, Jr.
Pierce Hammond, Jr.	*Charles Clifton Smith, Jr.
William Francis Hunter	*Arthur Gordon Swan
Rufus Llewellyn Hutto	*Carl Harwell Williams
Dana Lucian Kilcrease	

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Lucian Jefferson Harris, Jr. (with honor)	
Ralph DeLoach Beall	Hugo Luis Muris
Charles Luther Belcher, Jr.	John Smith Pace, Jr.
James Leon Brooks, Jr.	Hiram Watson Rainey, Jr.
Arthur Wolfe Browning	Charles Rieff Shoemaker, III
Richard Louis Creamer	Frank James Skundale
Howard Keeling Faber	William Gay Thrash
Samuel Hall Fowler	Roy Julian White
Robert Frazier Head, Jr.	William Laws Calley (1938)
Milton Williams Howard, III	Manuel Margarito Cortes (1938)
Gerald Johnson, Jr.	John Uhl Nixon (1938)
John Howard McGrann	

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CO-OPERATIVE PLAN

Marvin George Mitchell (with honor)	
Lawrence Julian Gaissert	*Sidney Lanier McFarland
*Lucius Hannon, Jr.	George Elton McKinney
William Randolph Harris, Jr.	Glen Henry Peavy
Thomas William Kerby, Jr.	James Harold Walker
Davis Royall Luck	Charles Ralph Wolff, Jr.

BACHELOR OF SCIENCE IN TEXTILE ENGINEERING

Floyd Edward Busbee	William Beeks Sears
James Edward Craig	James Alford Stapleton
Preston Harley David	Leslie Rufus Woodworth
Henry Cary Dunson	Saul Yabrow
David Judea Goldstein	John Logan Chivington (1938)
Woodrow Gay Ingram	Homer Vernon Cook (1938)
William Beverly Johnson	Nathaniel Lee Hightower (1938)
William Green Lee, Jr.	Holcombe Mathurine Verdery, Jr.
William Noel McGibony	(1938)
Frederick Funston Phillips	Terrell Harrison Wilkinson, Jr.
Walter Jefferson Rountree, Jr.	(1938)

CO-OPERATIVE PLAN

Irvin Barnett	Wilbur Rush Otey, Jr.
*Richard Larkin Hearn	*Louis Harley Warlick, Jr.
King Dick Henry	Werner Fred Ziegler
Dan Moss	

BACHELOR OF SCIENCE IN CHEMISTRY

Alfred George Rossow (with honor)	
John William Dillard Harvey	Louis Silver
Harry Manny Marx	

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

William Jeffery Alfried, Jr.	Hedrick Cheverton, Jr.
John Arden Bretz, Jr.	James Elmo Corr
Robert Harding Byers	William Cecil Dabney, Jr.

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Cecil Bennett Estes, Jr.	Joseph Olai Stensland
Alberto Garcia-Tunon	Mirko Joshua Tuhy
John Clayton Jacobs	Albert Perdue Yundt
Darling Luther Johnston	James Edward Gilbert (1938)
William Calvert McConnell	William Denson Hughes, Jr. (1938)
Robert Osmalov	Francis Lee Shackelford, Jr. (1938)
William Richard Penn	George Nichols Spring, Jr. (1938)
Charles Christy Rippberger	

CO-OPERATIVE PLAN

*Paul Eugene Atwood (with honor)	
Davis Alexander Bragg, Jr. (with honor)	
*George Owens Haskell, Jr. (with honor)	
*Franklin Tillou Waltermire (with honor)	
John Augustus Greer, Jr.	Frank Stone Osborne, Jr.
Rufus Jefferson Herring	Pascal Moran Rapier
Benjamin Leightman	Milton Raymond Siegel
Ernest LeRoy McClintock, Jr.	William Ross Stevens, Jr.
Gerard Eareckson Murray	

BACHELOR OF ARCHITECTURE

Martin Amorous Goette, Jr.	Jesse Lee Morrison, Jr.
Allen Clark Hudson	John Charles Wheeler
Thomas Morgan Lewis	

BACHELOR OF SCIENCE

Lawton DeLany Geiger (with honor)	
James Bowden Addy	John Daniel Shafer
Max E. F. Borges-Recio	James Ward Simms
Mac Alfred Cason	Leonard Frend Thornton, Jr.
Howell Edward Cobb	John Linwood Walker, Jr.
Jesse Lee Morrison, Jr.	

BACHELOR OF SCIENCE IN CERAMIC ENGINEERING

Rufus Eldridge Camp	Paul Merrick Potter, Jr.
Holt Buff Grace	Jo Morgan Teague, Jr.
Dorrah Lee Nowell, Jr.	Robert Brewer Williams

BACHELOR OF SCIENCE IN AERONAUTICAL ENGINEERING

Ernest Lee Joiner, Jr. (with honor)	
Walter Herman Kleven (with honor)	
Woodrum Elliott Woolwine (with honor)	
Lamar Edgar Binion	David Sloan Lewis, Jr.
John William Curry	John Vincent Norton
Donald Roger Eastman, Jr.	Richard Earnhardt Roberts
Thomas Gardner Hill (B. of A.E.)	George Elliott Smith
Jerry Hoffer	Isaac Anderson Stanton, III
Frederic Charles Jones	Alfred Nash Williams
Robert Elwood Lee	Alan Milton Yopp

BACHELOR OF SCIENCE IN GENERAL ENGINEERING

Harmon Scott Tolbert	Robert Daniel Ballenger (1938)
William Johnson Underwood	Joseph Pitts Byrd, III (1938)
Jaime Alberto Vendrell	Benjamin Hill Spurlock, II (1938)

BACHELOR OF SCIENCE IN INDUSTRIAL MANAGEMENT

Joseph Edward McKinney (with honor)	
Edward Morris Vinson (with honor)	
Lester Fauver Anderson, Jr.	John Barber Gaston
Herman Bailey	Chester Gavin, Jr.
Raymond Gaston Behm	James William Greene
Oliver McNair Bell	James Augustus Haynes
Thomas Jacob Berry	Beryl Ricky Headrick
Royce Lee Brandon	Edward Burns Irwin
Ned Howell Brisendine	Dan Johnson
Mac Hazlehurst Burroughs, Jr.	Luther Reese Johnson
Henry Williams Bynum	Roy Theodore Johnson
Samuel John Carson	Thomas Richard Jones
Paul Francis Cosgrove, Jr.	William Clement Lee, Jr.
Dick Downing Elliott	Archie Robert Lewis
Edward Clark Fambrough	Carl Philip Lindsay
Jack Gleason Fleming	Charles Riggs Long
Collins Moore Flynt	Charles Raymond Lundy
Timothy McBride Furlow	Harold Lem McCommon

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Olivette Colby McLean, Jr.	Joel Franklin Stone
William Marion Miller	James Edward Teaford
William Weatherly Moore	William Ashley Verlander
Virgil Wesley Mourning	Calvin George Voorhis
John Richard Neves, Jr.	Frank Alvin Walker
Jason Thomas Pate	John Andrew Waltman
Jack Brewster Pearce	David Comfort Watkins
Eddie Hewlette Pitman	Archie Cowan Watson, Jr.
Walter Eugene Pritchard, Jr.	Robert Lee Watson
George Taliaferro Rickett	Grant Heard Weaver
Domer Frederick Ridings, Jr.	Edward Benjamin Welch, Jr.
Leon Joseph Rosenberg	Lewis Alfred Wolf
Raymond August Seifert	Oliver Amos Wright
Thomas Fletcher Sims, Jr.	Thomas Richard Allen (1938)
Eugene Branson Slaten	Pat Munroe (1938)
George Boone Smith, Jr.	Clement Hugh Renfroe (1938)
Ian Fraser Stalker	Smith Blythe Thomas (1938)

BACHELOR OF SCIENCE

Walter Seward Butler, Jr. (with honor)

SCHOLASTIC HONORS AND PRIZES, 1939

Phi Kappa Phi Senior Cup—A. G. Rossow.
Tau Beta Pi Senior Cup—F. T. Waltermire.
Briarean Society Senior Cup—F. T. Waltermire.
Amer. Inst. Architects, Medal—A. C. Hudson.
Natl. Assoc. of Cotton Manufacturers, Medal—W. G. Lee.
Cotton Manufacturers of Georgia, Medal—J. A. Stapleton.
Alpha Chi Sigma Award—W. C. G. Saeman.
Kappa Eta Kappa, Award—R. C. Check.
Pi Tau Sigma, Awards—W. L. Shipman, C. C. Davis.
Am. Inst. Chem. Eng'rs., Award—W. C. G. Saeman.
Am. Inst. Chem. Eng'rs., Student Branch, Award—J. H. LaRoche.
Phi Eta Sigma Freshman Cups—B. Masterton, W. M. Pardee.
J. E. Oglethorpe Chapter D. A. C., Award—E. L. Joiner.
Skull and Key Award—J. F. Cook.
Fraternity Scholarship Cup—Sigma Nu.

Elected to Phi Kappa Phi: J. C. Abrams, Jr., W. J. Alfriend, Jr., D. A. Bragg, Jr., M. M. Cortes, W. G. Coyle, Jr., H. W. Criswell, Jr., P. E. Everett, E. R. Flynt, A. Garcia-Tunon, L. D. Geiger, L. J. Harris, G. O. Haskell, Jr., T. J. Hughes, H. G. Hutchinson, Jr., J. C. Jacobs, F. G. Lopez, J. E. McKinney, N. G. McLean, M. G. Mitchell, C. F. O'Shea, C. S. Perry, Jr., W. M. Pope, A. G. Rossow, F. R. Short, G. E. Smith, E. M. Vinson, F. T. Waltermire, W. J. Warnock, Dr. D. H. Ballou, Dr. J. H. Howey, Dr. F. H. Steen, Dr. Paul Weber.

Elected to Tau Beta Pi: W. J. Alfriend, Jr., H. W. Bronson, G. B. Cauble, H. W. Criswell, Jr., W. C. Dabney, Jr., J. Drew, P. E. Everett, L. D. Geiger, H. B. Grace, R. M. Griffin, R. S. Haggart, L. J. Harris, G. O. Haskell, Jr., T. J. Hughes, H. G. Hutchinson, Jr., J. C. Jacobs, V. W. Johnson, E. L. Joiner, E. B. Kneisel, H. M. Lange, J. H. LaRoche, W. G. Lee, Jr., T. M. Manley, W. N. McGough, N. G. McLean, M. G. Mitchell, J. L. Nunes, C. F. O'Shea, C. S. Perry, C. E. Person, W. M. Pope, J. B. Press, A. G. Rossow, E. L. Scanling, G. E. Smith, W. D. Stroud, J. B. Stubbins, J. M. Teague, Jr., W. G. Thrash, F. T. Waltermire, D. B. Williams, S. Yabrow, A. P. Yundt, H. S. Bandy (June, 1940), W. F. Bennett (June, 1940).

Winners of Gold "T" 1939: W. F. Bennett, H. W. Bronson, Jr., J. Drew, C. D. Flanigen, III, F. B. Gailey, L. B. Gay, R. M. Griffin, Jr., R. S. Haggart, Jr., I. Hornstein, M. Klein, E. B. Kneisel, J. H. LaRoche, J. W. Lemon, R. B. Levin, F. G. Lopez, J. L. Nunes, W. C. G. Saeman, H. S. Saffir, E. L. Scanling, J. B. Stubbins.

ACCREDITED HIGH SCHOOLS, GEORGIA LIST, 1939

NOTE:—A star before the name of the school indicates that it has been placed on the Southern List of Accredited Schools as well as in Group I of the Georgia list. Group I represents the best schools in teaching staff, equipment of laboratory, library, and building. Group II represents those schools which do not meet all of the standards required for Group I.

Abbreviations: Ac., Academy; C., Consolidated; Co., County; Com., Commerce; H., High; In., Institute; Pr., Private; S., School; Sem., Seminary. The expression "High School" is understood where the name of the town only is given.

Schools for girls only are omitted from this list.

Abbeville, I	Augusta:	Braselton, I
Acworth, I	*Richmond Ac., I	Bremen, I
Adairsville, II	Austell, II	Bridgeboro, II
*Adel: Sparks-Adel, I	Avera, II	Brinson, II
Adrian, I	Avondale, I	Bronwood, I
Alamo: Wheeler Co., I		Brooklet, II
Alapaha, II	Baconton, II	Broxton, II
*Albany, I	*Bainbridge, I	Brunswick:
Alma, I	Mt. Pleasant, II	*Glynn Ac., I
Alpharetta, I	Pine Hill, II	Buchanan, II
Alvaton, II	Baldwin, I	Buena Vista, I
Ambrose, II	Barnesville:	*Buford, I
*Americus, I	*Gordon In., I	Butler, I
Anthony, I	Barney, II	Byromville, II
Appling: Leah, II	Bartow, I	Byron, I
*Arlington, I	Barwick, I	
Arnoldsville, II	Baxley, I	Cadwell, II
*Ashburn, I	*Blackshear, I	Cairo, I
*Athens, I	Blairsville, I	*Calhoun, I
Atlanta:	*Blakely, I	Sonoraville, II
*Boys H. S., I	Union H. S., II	*Camilla, I
Com. H. S., I	*Blue Ridge, I	Hopeful C. S., II
*Fulton H. S., I	Bluffton, II	*Canton, I
*Marist, Pr., I	*Blythe, I	*Carrollton, I
*N. Fulton, I	Bogart, II	*Cartersville, I
Peacock S., Pr., II	Bonaire, I	Carnesville:
*Tech H. S., I	Boston, I	Franklin Co., I
*Univ. S., Pr., I	Bostwick, II	Cassville, II
*W. Fulton, I	Bowdon, I	Cave Spring, I
Attapulugus, II	Bowman, I	*Cedartown, I

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ACCREDITED HIGH SCHOOLS

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*Chamblee, I	Dacula, II	Emory Univ.:
Chatsworth, I	Dahlonega, II	*Druid Hills, I
Chattanooga Valley, II	Dallas, I	Enigma, II
Chauncey, I	*Dalton, I	Epworth Sem., Pr., II
Chester, II	Valley Point, II	*Evans C. S., I
*Chickamauga, I	Damascus, II	Faceville, II
Chipley, I	Danburg, II	Fairburn:
Clarkston, II	Danielsville:	Campbell H. S., I
Clarksville, I	Madison Co., I	Fairmount, II
*Claxton, I	Danville, II	Fayetteville, I
Clayton:	Darien, II	*Fitzgerald, I
Rabun Co. H. S., I	Davisboro, II	Flowery Branch, I
Clermont: Chatta-	*Dawson, I	Folkston, I
hoochee Ac., Pr., I	Dawsonville, II	Forrest Park, II
Cleveland, I	Dearing, II	Forsyth, I
Climax, II	*Decatur, I	*Fort Gaines, I
Clyattville C. S., II	S. W. DeKalb, II	*Fort Valley, I
*Cochran, I	Demorest, II	Franklin:
Cohutta, II	Diffie:	Heard Co., II
Colbert, II	W. Bainbridge, II	Centralhatchee, II
College Park:	Dixie, I	Franklin Springs, II
*Ga. Mil. Ac., Pr., I	Doerun, I	
Richardson, II	Donaldsonville, II	*Gainesville, I
Collins, II	*Douglas, I	*Riverside Ac., Pr., I
*Colquitt, I	Douglasville, I	Airline, I
Columbus	*Dublin, I	Lyman Hall, I
*High School, I	Dudley, II	River Bend, II
Jordan H. S., I	Duluth, II	Garfield, II
Comer, I		Gay-Oakland, II
*Commerce, I	Eastonolle:	Georgetown, I
Concord, I	*Stephens Co., I	Gibson, I
*Conyers, I	Eastman, I	Gillsville, II
Coolidge, II	East Point:	Girard, I
*Cordele, I	*Russell H. S., I	Glenville, I
Cornelia, I	*Eatonton, I	Glenwood, II
*Covington, I	Edison, I	Good Hope, II
Livingston, II	*Elberton, I	Gordon, I
Crawford, II	Centerville, I	Gore, II
Crawfordville:	Nancy Hart S., II	Grantville, I
Stephens In., I	Rock Branch, II	Graves, I
Cumming, I	Ellaville, I	Gray, I
Cusseta, I	Ellijay: Gilmer Co., I	Grayson, II
*Cuthbert, I	Elmodel, II	*Greensboro, I

Greenville, I	Kingsland, II	*Metter, I
*Griffin, I	Kite, II	Midville, II
Spalding Co., I		Milan, II
Guyton, I	LaFayette, I	Milledgeville:
	*LaGrange, I	*Ga. Mil. Coll., I
Hahira, I	Rosemont, II	*Millen, I
Hamilton, I	Lakeland, Lanier Co., I	Milner, I
Mountain Hill, II	Lakemont, I	Molena, II
Hampton, I	Lake Park, II	*Monroe, I
Harlem, I	*Lavonia, I	N. Walton, I
*Hartwell, I	*Lawrenceville, I	*Montezuma, I
*Hawkinsville, I	Leesburg, I	*Monticello, I
Hazelhurst, I	Leslie: Union, I	Moreland, II
*Hepzibah, I	Lexington:	Morgan, I
Hiawassee:	Meson Ac., II	Morganton, I
Towns Co., I	Lincolnton, I	Morven, I
Hilltonia, II	Lithonia, I	*Moultrie, I
Hinesville:	Logansville, I	Mount Berry:
Bradwell In., II	*Louisville, I	*The Berry S., Pr., I
Hilton C. S., II	Ludowici, I	*Mount Vernon: Brew-
Hiram, I	Lula, II	ton Parker In., Pr., I
Hoboken, II	Lumber City, II	Mt. Zion Sem., Pr., I
*Hogansville, I	Lumpkin:	Mystic, II
Homer: Banks Co., II	Stewart Co., I	
Homerville, I	Lyerly H. S., II	Nahunta, II
	Lyons, I	Nashville, I
Ideal, II		Naylor, II
Ila, I	Macon:	Nelson, II
Irwinton:	*Lanier, I	Newington, II
Wilkinson Co., II	*Madison, I	*Newnan, I
	*Manchester, I	Newton, II
*Jackson, I	Manor, II	Nicholls, II
Jakin, II	Mansfield, I	Nicholson:
Jasper: Pickens Co., I	*Marietta, I	Benton, II
Jefferson:	R. L. Osborne, II	Norcross, I
Martin In., I	Marlow, I	*Norman Park In.,
Jeffersonville:	Marshallville, II	Pr., I
Twiggs Co., I	Maxeys, II	
Jersey, II	Mayesville, I	Oak Park, II
*Jesup: Wayne Co., I	McDonough, I	Oakwood, II
Jonesboro, I	McRae-Helena, I	Ochlochnee, I
	Workmore, II	Ocilla, I
Kibbe	Meigs, I	Odum, II
Montgomery Co., II	Menlo, II	*Oglethorpe, I

Omega, II	Pr., I	Sycamore, I
Oxford:	Model School, I	*Sylvania, I
*Emory Ac., Pr., I	Coosa, II	Jackson, II
Palmer-Stone, II	Roopville, II	Sylvester, I
	Rossville, I	
Parrott, I	Lakeview H. S., I	Talbotton, I
Patterson, II	Royston, I	*Tallapoosa, I
Pavo, II	Rutledge, II	*Tallulah Falls, I
Pearson, I		*Tate, I
*Pelham, I	Sale City, II	Taylorsville, II
Pembroke:	Sandersville, I	Temple, II
Bryan Co., I	Sardis, I	*Tennille, I
*Perry, I	Sasser, I	*Thomasville, I
Pinehurst, II	Sautee:	Thomaston:
Pineview, I	Nac. Valley, II	*R. E. Lee In., I
Pitts, I	*Savannah, I	*Thomson, I
Plains, I	*Benedictine, Pr., I	*Tifton, I
Portal, II	Screven, II	Tignall, I
Porterdale, II	Senoia, I	Toccoa Falls In., II
Powder Spgs., II	*Shellman, I	*Toccoa, I
John McEachern, II	Shiloh, II	Toombsboro, II
Preston, II	Smithville, I	Trenton: Dade Co., I
Pulaski, I	Smyrna, I	Trion, I
	Fitzhugh Lee, II	Tucker, II
*Quitman, I	Snellville, II	Turin: Starr, I
	Social Circle, I	
Rabun Gap:	Soperton, I	Unadilla, II
*Rabun Gap-Nac., I	Sparta, I	Union Point, I
Ray City, II	Springfield, I	
Rebecca, II	Stapleton, II	*Valdosta, I
Register, II	Statenville, II	*Vidalia, I
Reidsville, II	*Statesboro, I	Vidette, I
Rentz, II	Nevils, II	Vienna, I
Reynolds, I	Statham, II	Dooly Co. H. S., II
Rhine, II	Stilmore, I	Villa Rica, I
*Richland, I	Stilson, II	
Ringgold, II	Stone Mountain, I	Wadley, I
Roberta, I	Summertown, II	Waleska:
Rochelle, I	*Summerville, I	Reinhardt Ac.,
Rockmart, I	Summit:	Pr., II
Rockingham, II	Emanuel Co., I	Wareboro, II
Rocky Ford, II	Sumner, II	*Warrenton, I
*Rome, I	Surrency, II	Warwick, I
*Darlington Ac.,	*Swainsboro, I	*Washington, I

Watkinsville, I	White Oak:	Woodland, I
Waverly Hall, II	N. Camden, I	*Wrens, I
*Waycross, I	Whitesburg, II	Wrightsville, I
Wacona, I	Willacoochee, II	
*Waynesboro, I	*Winder, I	Yatesville, II
Ways C. S., I	Winterville, I	*Young Harris, Ac.,
Western, II	Woodbury:	Pr., I
West Green, II	*Meriwether Co., I	Zebulon, I
*West Point, I	Woodcliff:	
Whigham, II	Bay Branch H. S., II	

ALPHABETICAL ROLL — 1939-40

ABBREVIATIONS: A—Architecture; AE—Aeronautical Engineering; Ch—Chemistry; ChE—Chemical Engineering; CerE—Ceramic Engineering; CE—Civil Engineering; Co—Co-ops in Engineering; E—Electrical Engineering; En—Engineering unclassified; G—Graduate students; GE—General Engineering; IM—Industrial Management; M—Mechanical Engineering; PHE—Public Health Engineering; T—Textile Engineering; 5-AE—Fifth year Aeronautical Engineering; 5-A—Fifth year Architecture; Irr—Irrregular. The numeral preceding the abbreviation indicates the class year of the student.

Students whose names are printed in *Italic type* and starred rank in the highest ten per cent and constitute the *honor rolls* of their respective classes.

*Aarons, Leroy Albert	1 En	Savannah
*Abbey, Ted Harris	3 IM	Atlanta
Abelson, Herbert Marcus	2 IM	Atlanta
Abercrombie, Milton Bewley	2 M	Bristol, Tenn.
Abislaiman, Alberto Laura	3 E	Havana, Cuba
Adair, Glenn	2 IM	Atlanta
Adams, Alfred Bernard	2 ChECo	St. Petersburg, Fla.
Adams, Edward Bowie	1 En	Atlanta
Adams, John Phillips, Jr.	1 En	Columbia, S. C.
*Adams, Jack Wilhite	2 ChE	Tignall
Adams, James William	2 CE	Atlanta
Adams, Samuel Fred	2 E	Cedartown
Adams, Samuel John	2 IM	Columbus
Addison, William Porter, Jr.	5 TCo	Rossville
Addy, James Bowden	5 A	Decatur
*Aderhold, Robert	3 IM	East Point
Aebersold, Robert Charles	3 ChE	Atlanta
Aenchbacher, Arthur Eugene	2 GE	Atlanta
Aenchbacher, Hubert Elmore, Jr.	2 IM	Atlanta
Ahern, Lawrence Richard, Jr.	G-ChE	Bridgeport, Conn.
Aiken, George Arnold	3 M	Newborn
Aiken, Hobert Wilt	2 A	Asheville, N. C.
*Aizpuru, Joe	1 En	Tampa, Fla.
Albert, Joseph	4 CerE	Metter
Alderman, Robert Gordon	1 En	Atlanta
Aldred, Richard Frank	2 E	Statesboro
Aldrich, Clare Aaron	5 MCo	Oglethorpe University
Alford, George Jefferson, Jr.	1 En	Silver Creek
Algeo, Robert Franklin	3 IM	Henryetta, Okla.
Alhadeff, Charlie	1 En	Atlanta

Allcorn, Frank Walter.....	3	IM	Atlanta
*Allen, Arnold Benjamin.....	1	En	New York, N. Y.
*Allen, Albert Joseph.....	1	En	Atlanta
Allen, Carson Seymour.....	2	M	Atlanta
Allen, Dale Treadwell.....	2	M	Atlanta
Allen, Grover Cleveland.....	2	ChE	Biltmore, N. C.
Allen, George Jackson.....	4	ChE	Savannah
*Allen, James Roy.....	1	En	Ontario, Canada
Allen, Robert Lewis.....		G-M	Atlanta
Allen, Robert Stuart.....		Irr	Atlanta
*Allen, Samuel Doyle.....	1	En	Savannah
Allen, Thomas Bostwick.....	2	IM	Savannah
Allen, Thomas James, Jr.....	1	Co	Atlanta
*Allison, James Robert.....	2	GE	Atlanta
Allred, Larry Phillip.....	1	En	Bryson City, N. C.
Almand, Charles Frederick.....	2	A	Atlanta
Almand, Henry Grady, Jr.....	2	IM	Atlanta
Almand, Paul Edward.....	3	IM	Macon
Almand, Richard Henry, Jr.....	1	Co	Atlanta
Almon, Samuel Loring.....	2	ChECo	Birmingham, Ala.
Alonzo, Dominguez Bernardo.....	1	En	Atlanta
Alsobrook, Benjamin Russ.....	5	MCo	Tallahassee, Fla.
Altobellis, Julian Arthur.....	3	A	Atlanta
Altsheler, Joe.....	1	En	Hopkinsville, Ky.
Amiguet, Carlos.....	2	A	Havana, Cuba
Amiguet, Rene Louis.....	2	A	Havana, Cuba
Andel, Henry Leroy.....	1	IM	Lithonia
Anderson, Arnold McCord.....	4	CECo	Lewisburg, Tenn.
Anderson, Bert Cecil.....	2	M	Atlanta
Anderson, Crawford Sharpe, Jr.....	3	M	Decatur
Anderson, John Englebert, Jr.....	4	E	Tampa, Fla.
Anderson, Raymond Albert.....	2	GE	Woodstock, Conn.
Anderson, Richard Clement.....	4	M	Atlanta
Anderson, Thompson Gult.....	1	IM	Mount Hope, W. Va.
Andrews, Charles Fort.....	2	E	Macon
Andrews, James Thomas.....	2	IM	Atlanta
Anthony, James Thaddeus, Jr.....	1	IM	So. Orange, N. J.
*Apple, Lee Saylor.....	1	Co	Natchez, Miss.
Archer, Derrek Stuart.....	2	M	Rome
*Argo, Wesley Breeden.....	2	ChECo	Americus
Argudin, Bernardo Manuel.....	1	En	San Juan, Cuba
Arias, George Anthony.....	2	M	Camaguay, Cuba
Armistead, Walter Moore.....	1	IM	Atlanta
Armstrong, Arthur Morgan.....	2	IM	Atlanta

Armstrong, Hugh Humphrey.....	2	MCo	Savannah
Armstrong, James Hal.....	3	MCo	Atlanta
Armstrong, Law Lamar.....	1	En	Selma, Ala.
Armstrong, Morris Warren.....	1	En	Atlanta
Arnold, George Moore.....	1	En	Norfolk, Va.
Arnold, Julian, Jr.....	2	TCo	Douglasville
Arnold, Johnnie John Robert.....	2	E	Baldwyn, Miss.
Arnold, Lacy Hyman.....	1	En	Norwood
Arnold, Robert Earl.....	5	ECo	Norwood
Arnold, Roy Madison.....	3	IM	Norwood
Arrendale, Thomas Augustus, Jr.....	1	Co	Tiger
Arthur, Harry Baker.....	2	IM	Albany
Arthur, Harry Wallace.....	1	En	Salisbury, N. C.
Arthur, William Hayne, Jr.....	1	En	Asheville, N. C.
Ashbaugh, Bernard David.....	4	M	Clarkton, Mo.
Ashby, William Bacon.....	4	M	Miami, Fla.
Ashe, Henry Byron.....	1	En	Stone Mountain
*Athearn, Mitchell Lee.....	2	E	Atlanta
Attanas, John George.....	3	ChECo	Ulster Park, N. Y.
Atwell, Locke.....	1	En	Selma, Ala.
Augustine, David Carl.....	3	E	Jacksonville, Fla.
*Austin, William Raymond.....	1	En	Wallingford, Conn.
*Averett, Jack Monroe.....	3	E	Columbus
Avery, William Homer.....	1	En	Atlanta
*Awtrey, Robert King, Jr.....	1	En	Marietta
Aycock, Benjamin Jackson.....	1	IM	Atlanta
Aycock, William Lawrence.....	3	GE	Lincolnton, N. C.
Ayres, Marion Jordan.....	1	En	Decatur
Ayres, Noble Brawnson.....	3	E	Atlanta
Bachler, Dudley Francis.....	4	A	Atlanta
Badal, Michael Jonathan.....	1	En	Elizabeth, N. J.
Baggarly, Olin Joseph.....	2	M	Atlanta
*Bagwell, Charles Ernest.....	1	En	Toccoa
Bailey, Bruce Shaw.....	3	ChE	Houston, Texas
Bailey, Paul Baxter.....	3	MCo	Augusta
Bailey, Ray Eugene.....	3	T	Hixson, Tenn
Baird, Harry Sifton.....	2	M	Atlanta
Baker, William Lisman.....	2	M	Tallahassee, Fla.
Baldini, Gino Joseph.....	2	ChECo	Princeton, N. J.
Baldwin, Lee Guerry.....	2	E	Atlanta
Bales, Gerald Roach.....	2	M	Park City, Utah
*Ballard, Wiley Perry.....	3	ChE	Winder
Ballengee, Carl Benton.....	4	CECo	Huntington, W. Va.
Bandy, Elmer Griffin.....	4	ECo	Sanford, Fla.

Bannister, John Murfin.....	1 En	Atlanta
Baran, Victor Joseph Roman.....	3 ChECo	Stamford, Conn.
Barfield, Howard Pennington.....	2 M	Ft. Benning
Barfield, Marvin Daniel.....	2 ChECo	Louisville
Barge, Otis Alvin, Jr.....	3 A	Atlanta
Barker, Charles William.....	2 E	Columbia, S. C.
Barkovitz, Abraham Baruch.....	4 ChE	Hayti, Mo.
Barnard, Alfred.....	G-Ch	Skyland, N. C.
Barnard, Grandy Bernard, Jr.....	2 E	Clarksdale, Miss.
Barnes, Larry Benton.....	2 T	Chattanooga, Tenn.
Barnett, William Halbert.....	4 A	Petersburg, Tenn.
Barney, Guy Hiram, Jr.....	1 En	West Hartford, Conn.
Barouch, Robert.....	1 En	New York, N. Y.
Barrett, Pleasant Warren.....	1 Co	Atlanta
*Barrett, Robert Curtis.....	2 ChE	St. Petersburg, Fla.
Barrow, James Elliott.....	3 M	Matthews
Bartha, Steve.....	4 M	Sea Cliff, Long Island, N. Y.
Bartlett, Joseph Straley.....	3 IM	Asheville, N. C.
Barton, Hugh Hester.....	2 E	Williston, Fla.
Bassett, Lyman Earle.....	1 Co	Cedartown
Bastedo, Charles Wesley.....	1 En	West Orange, N. J.
Batchelor, Emory Nix.....	3 IM	Atlanta
Bates, Charles Holt, Jr.....	4 ECo	Nashville, Tenn.
Bates, Charles Richard.....	2 IM	St. Elmo, Tenn.
Batson, John Harry.....	4 CEC	Lumberton, Miss.
Batton, Richard Hardy.....	1 En	Macon
Bawer, Leon I.....	1 En	Miami Beach, Fla.
Bayer, Joseph Thomas, Jr.....	3 E	Nashville, Tenn.
Bayliss, Alfred Wettermark.....	3 M	Atlanta
Bazemore, William Sanders.....	1 En	Waycross
Beals, John Clarence.....	3 IM	St. Augustine, Fla.
Beals, John Thomas.....	3 IM	Jacksonville, Fla.
Beard, William Roane.....	4 IM	Atlanta
Beaumariage, George Nestor, Jr.....	3 ChECo	Bridgeville, Pa.
Beaumont, Walter Albert.....	3 IM	Atlanta
Becht, Robert Edward.....	2 M	Atlanta
Beck, William Elmo.....	3 ECo	Savannah
Becker, Harold Martin.....	1 En	Norwich, Conn.
*Bedinger, Walton Everett, Jr.....	3 CE	Savannah
Beers, Robert Earl.....	4 IM	Newnan
Beeson, Henry DeWitt.....	2 IM	Winston-Salem, N. C.
Behen, John Plank.....	2 M	Cloverport, Ky.
Belcher, Clarence Edward.....	2 CE	Atlanta
*Belcher, Charles Luther, Jr.....	Irr	Atlanta

Bell, Carl Hamilton.....	2 IM	Decatur
Bell, Harry Sanders, Jr.....	1 En	Elberton
Bell, James Franklin, Jr.....	1 En	East Point
Bell, John Oliver.....	2 IM	San Juan, Puerto Rico
Bell, J. Thomas, Jr.....	2 CE	Live Oak, Fla.
Bell, Warren Burke.....	4 E	Hephzibah
*Beller, William Sterne.....	3 M	Woodmere, L. I., N. Y.
Bellows, Rembert Pressley.....	1 Co	Decatur
*Benator, Josiah Victor.....	1 IM	Atlanta
Bennet, William Baker.....	3 ChECo	Cordele
Bennett, Charles Elias.....	2 E	Greensboro, N. C.
*Bennett, William Francis.....	4 M	Dothan, Ala.
Benton, William Addison III.....	2 M	Jacksonville, Fla.
Berg, Harold.....	G-CE	Decatur
Bergen, William Petty.....	1 A	Savannah
Bergstrom, Andrew Russell.....	2 GE	Atlanta
Bernard, William Bekker.....	G-E	Marietta
Bernardo, Everett.....	2 M	Tampa, Fla.
Bernstein, Bertram Philip.....	2 CE	Brooklyn, N. Y.
Berry, Charles Clymer.....	3 IM	Harriman, Tenn.
Berry, Charles Kinsel.....	2 E	Columbus
Berry, David Randolph.....	3 M	Rome
Berry, Gordon Chalmers.....	1 Co	Smyrna
Berry, Maynard Lee.....	4 E	Atlanta
Berry, Preston Etheredge.....	1 IM	Norfolk, Va.
Berry, Paul Trawick.....	1 En	Columbus
Berry, Ralph Marion.....	4 ChE	Atlanta
Berry, Reuben Mastin, Jr.....	1 En	Atlanta
Berry, Walter Lee.....	1 Co	Bessemer, Ala.
Bestor, George Clinton.....	4 IM	Clewiston, Fla.
Bethea, Charles Fuller.....	1 Co	Atlanta
*Bethune, John Lee, Jr.....	1 En	Atlanta
Bethune, Manning Kirk.....	5 MCo	Macon
Beutell, Joe Marion, Jr.....	3 IM	Thomasville
*Bier, John William.....	1 IM	Webster Grove, Mo.
Biggers, William Pease, Jr.....	2 IM	Decatur
Biggerstaff, Edward Daniel, Jr.....	5 MCo	Memphis, Tenn.
Billias, Mike George.....	3 ChECo	Daytona Beach, Fla.
Billups, James Otis.....	4 GE	Norfolk, Va.
Bindewald, William Joseph.....	1 En	Atlanta
Birch, Walter Ellis.....	1 Co	Macon
Bird, John Dexter.....	3 M	Metter
Bird, William Edward Stockton.....	1 A	Worcester, Mass.
Bird, William Wiley.....	1 En	Valdosta

Birdsall, John Wilbur.....	4 CE	Decatur
Birdsall, Paul Everett.....	3 M	Decatur
Birnn, Richard Roland.....	2 M	Maxwell Field, Ala.
Bissinnar, Robert Eugene.....	2 E	Atlanta
Bivans, Ernest Walter.....	2 ECo	Macon
Black, Donald Miller.....	2 Ch	Jacksonville, Fla.
Black, Eugene, Jr.....	3 E	New York, N. Y.
Black, Farish Cleveland.....	2 ChE	Atlanta
*Black, Henry Simon.....	4 ECo	Americus
Blackman, John Berkley.....	2 A	Darlington, S. C.
*Blackshear, Perry Lynnfield.....	1 En	Atlanta
Blackwell, Samuel Hoyte, Jr.....	1 En	Columbus
Blair, Floyd Franklin.....	2 E	Tifton
Blank, John Jackson.....	1 En	Silvertown
Blanton, Eugene Talmadge.....	2 E	Talbotton
Blanton, Leonard Lewis.....	G-Ch	LaFayette, Ala.
Blaylock, William (Billy) Henry.....	1 En	Dallas, Texas
Bliss, William Coghill.....	4 M	Fairfield, Ala.
Block, Daniel.....	1 En	Brooklyn, N. Y.
Blount, George Chisolm.....	1 En	Atlanta
*Blumberg, Marvin William.....	4 IM	Atlanta
Bobbitt, Russell Edwin.....	4 IM	Atlanta
Boccieri, Stephen Vincent.....	2 M	Brooklyn, N. Y.
Bodenheimer, Louis Charles.....	3 IM	Atlanta
Boeckman, Thomas Vaughan.....	1 Co	Augusta
Boggus, Jewell Hill.....	1 IM	Atlanta
Bohannon, Charles P.....	4 MCo	Moreland
Bohannon, Jack Hal.....	4 ECo	Atlanta
Bohannon, Sam Bailey.....	3 M	Atlanta
Bohannon, William Dooly, Jr.....	1 Co	Moreland
Boling, Harry Steel.....	4 IM	Atlanta
Bollinger, Everett Richard.....	2 ChE	Atlanta
Bolton, William Maddox.....	3 IM	Griffin
Boman, James Cleo.....	1 Co	Chula
Bonn, Robert Hallowell.....	4 A	Baltimore, Md.
*Booker, Forester.....	1 IM	Atlanta
Boor, Lloyd Lowe Schaffer.....	2 ChE	Cumberland, Md.
Boote, Robert Oscar.....	5 ChECo	Jacksonville, Fla.
Boroughs, Charles William.....	2 A	Atlanta
Bosch, Johnnie William.....	1 En	Atlanta
Boswell, Benjamin Clifford, Jr.....	2 ChECo	East Point
Both, Harold.....	4 MCo	Brooklyn, N. Y.
Bottenfield, Baird Funk.....	2 ChE	Fairfield, Ala.
Bounous, Edwin Philip.....	G-AE	Valdese, N. C.

Bowden, Hugh Woodruff.....	4 IM	Atlanta
*Bower, Harry Carlyle.....	4 ChE	Shellman
Bowles, Homer Reuben, Jr.....	1 Co	Gay
Bowles, Paul James.....	1 En	Richmond, Va.
Bowman, James Henry.....	2 M	Decatur
*Boyer, Floyd James.....	4 M	Billings, Mont.
Bozeman, John Woodrow.....	3 E	Cristobal, Canal Zone
Bracey, John Alston.....	1 A	Thomasville
Bracey, Richard Monsel.....	2 E	Thomasville
Braddy, Minton Venner.....	2 A	Atlanta
Bradford, Jack Charles.....	1 IM	Atlanta
Bradley, Joe Alexander.....	3 E	Buford
Bradley, William Thomas.....	1 Co	Aliquippa, Pa.
Branch, Bill Osley.....	1 IM	Atlanta
Branch, John.....	4 ChE	Sale City
Brandon, David Langley.....	2 M	Thomasville
Brannen, Francis Mather.....	4 ChECo	Savannah
Braun, Edwin Erich.....	1 En	Savannah
Bray, Robert Wells.....	2 M	Cheshire, Conn.
Brennan, William Johnson.....	G-Ch	Sumter, S. C.
Bretz, Richard Harris.....	4 ChE	College Park
Brewton, Joseph Cleveland.....	1 Co	Savannah
Brick, Meyer.....	3 E	Marion, Ark.
Bridges, Fred Thomas, Jr.....	2 IM	Atlanta
Bridges, Howard Leon, Jr.....	3 M	Atlanta
Bridges, Robert Berner.....	2 CerE	Albany
Bridges, Thomas Elisha.....	2 PhE	Anniston, Ala.
Brinkman, Richard Orme.....	3 IM	Jasper
Brinson, Robert Schley.....	3 ECo	Columbus
Bristol, Frank Milton.....	2 CerE	Atlanta
Broach, Raymond Adolph.....	1 En	Rome
*Broadwell, James Eugene.....	2 M	Atlanta
Brock, Jack Forrest.....	2 IM	Atlanta
*Bronson, Horace Williams, Jr.....	5 ChECo	Macon
Brooker, James Warren.....	1 Co	Tampa, Fla.
Brooks, Eugene Estes.....	4 IM	Atlanta
Brooks, Grady William, Jr.....	2 M	Atlanta
Brooks, Lawrence Cornelius.....	G-Ch	Washington, D. C.
Brooks, Thomas Price.....	4 IM	Macon
Broward, Hoyt Edward.....	5 MCo	Jacksonville, Fla.
Brown, Daniel Newton.....	1 En	Atlanta
Brown, Heckle Heyward.....	2 CE	Fitzgerald
Brown, Jesse Carlton.....	G-E	Atlanta
Brown, John Shillard.....	1 En	Orange, Texas

Brown, John Winston.....	1 En	Atlanta
Brown, Keith Stanley.....	5 ChECo	Blackfoot, Idaho
Brown, Lucius Lamar.....	2 M	Atlanta
Brown, Paul Woodman.....	1 En	St. Louis, Mo.
Brown, Thomas Haldane.....	1 IM	Atlanta
Brownell, Alfred Wishart.....	1 Co.....	Ft. Meade, Md.
Browning, Leonard Larkin.....	1 Co.....	Winston-Salem, N. C.
Bruce, James Crawford.....	1 Co	Atlanta
Bruce, James Yates, Jr.....	1 Co	Savannah
Bruce, Robert Newton.....	1 Co.....	Memphis, Tenn.
Bruda, Jack Guild.....	1 En.....	Pensacola, Fla.
Brumbelow, Lundy Brooks.....	1 En	Atlanta
Brumby, John Thomas.....	1 En	Marietta
*Brunson, Bob Curran, Jr.....	2 MCo	Miami, Fla.
*Bryan, Morris Marion.....	3 T	Jefferson
Bryant, Charles Weatherly, Jr.....	1 En	Atlanta
Bryson, Harry Sommers.....	4 ECo	Rome
Bryson, Rhett Bennett.....	2 GE	Dothan, Ala.
Buck, Robert Earl.....	2 CEC Co	Tampa, Fla.
Buckner, Howard Albert, Jr.....	2 M	Atlanta
Bulbin, Frederick Lewis.....	3 ChECo	Miami, Fla.
*Bull, Frank James.....	1 A.....	Chattanooga, Tenn.
Bullock, Richard Gould.....	4 MCo	Birmingham, Ala.
Bunger, John William.....	2 M	LaGrange
Bunn, Giles Featherston, Jr.....	4 E	Montezuma
Bunn, John Porter.....	2 MCo	Atlanta
Burbach, Charles Richard.....	2 M.....	Chicago, Ill.
*Burg, Gerald William.....	1 En.....	Passaic, N. J.
Burgess, Jack.....	4 GE	Atlanta
Burkhalter, George Bradley.....	3 E	Rome
Burnes, Hugh Sydnor.....	3 T	Rome
Burnet, Robin Grier.....	4 GE	Athens
Burnett, Edwin Moore.....	4 E.....	Ft. Oglethorpe
Burns, Harold Glen.....	4 MCo	Magnolia, Ark.
Burpo, Howard L.....	3 IM.....	Jenkins, Ky.
Burr, Edward Adrian.....	1 Co	Goulds, Fla.
*Burr, Richard K.....	4 ChE.....	Lincoln, Neb.
Burroughs, Charles Eugene.....	3 IM.....	Brandsville, Mo.
Burroughs, Ike L.....	2 CEC Co	Danielsville
Burroughs, Sidney Moise.....	1 IM	Atlanta
Burroughs, Swinton McIntosh.....	1 En	Brunswick
Burt, Frank McAllister.....	4 MCo.....	No. Birmingham, Ala.
Burton, Richard Garnett.....	2 M	Atlanta
Burton, Thomas Samuel.....	1 En	Smithville

Busbee, Greer Albert, Jr.....	3 CEC Co	Birmingham, Ala.
Bush, Robert Monroe.....	2 GE	Atlanta
Bussey, Carl Winton.....	1 En	Atlanta
Butler, Doyle Phillips.....	4 IM	Marietta
Butler, Frank Kennedy.....	2 CE	Savannah
Butler, John Byron.....	1 Co.....	Highland City, Fla.
Butts, David Thomas, Jr.....	3 IM	Milledgeville
Butts, Henry Harvey.....	1 En	Pickard
Byerley, Thomas Evans.....	3 M	Atlanta
Byrd, Cohen Buster.....	3 E	Stillmore
Cacciola, Angelo Walter.....	1 En.....	Long Island, N. Y.
*Caffey, Lochlin Willis.....	2 CE	Ft. Benning
Cahill, James David.....	3 IM	Albany
Cain, John Hardison.....	5 CEC Co	Savannah
Calderon, Frank John.....	1 En.....	New York, N. Y.
Caldwell, Earle Gillespie.....	2 IM	Atlanta
Caldwell, Lan Harrill.....	2 GE.....	Cramerton, N. C.
*Calhoun, George Milton.....	3 ChECo	Atlanta
Cameron, Byron Riggs.....	4 M.....	Cranford, N. J.
Camp, James Clell.....	2 CE	Ellijay
Camp, Sidney Lamar.....	2 M	Greenville
Camp, Walker Hiram.....	2 ChECo	Sylvester
Campa, Ferdinand Joseph.....	1 Co.....	Mineola, N. Y.
Campbell, George Bennett.....	1 Co	Decatur
Campbell, Ian Eugene, Jr.....	2 IM	Atlanta
Campbell, John Francis.....	1 En	Atlanta
Campbell, John Owen.....	3 E	Atlanta
Campbell, Stephen Campbell.....	2 E	Atlanta
Campen, Marvin Thomas.....	5 ChECo	Atlanta
Cann, James Ferris, Jr.....	3 IM	Savannah
Capehart, DeWitt Farris.....	2 ECo	Rocky Face
Capouya, Albert Isaac.....	3 ChE	Atlanta
Carden, William Thomas.....	1 IM.....	Chattanooga, Tenn.
Cargile, Archibald Macdonald.....	3 E.....	St. Augustine, Fla.
Carl, Robert Arthur.....	4 M	Springfield, Mo.
Carll, Don Kenneth.....	1 En.....	Quantico, Va.
*Carlson, Allen Carl.....	2 M.....	Montclair, N. J.
Carlton, Charles Cofer.....	1 Co	Ducktown, Tenn.
Carlyle, Julian Warner.....	1 Co	Buford
Carmichael, Ben Willingham.....	3 ChE	Atlanta
Carmichael, Robert Lyons.....	2 E	Jackson
Carnes, Charles William.....	4 ChE	Eastman
Carpenter, Albert Pinson.....	2 CerE	Atlanta
Carpenter, Clyde Pershing.....	2 ChECo	Milledgeville

Carpenter, Robert Edwin.....	4 M	Atlanta
Carran, John Alfred.....	G-AE	Atlanta
Carrigan, Theodore Stuart.....	2 CE	Augusta
*Carruthers, Joe Stutz, Jr.....	1 Co	Brunswick
Carson, Alfred Lamar.....	2 M	Smyrna
*Carter, Charles Faulkner, Jr.....	1 En	East Point
Carter, Edgar Vernon.....	3 T	Atlanta
Carter, William Joseph III.....	4 GE	Washington, D. C.
Cary, Norman Miller.....	3 M	Alexandria, Va.
Cash, Roy Lamar.....	2 M	East Point
*Cason, Mac Alfred.....	5 A	Atlanta
Cassell, James Robert.....	2 CE	Baltimore, Md.
Castagnetta, Harold Ignatius, Jr.....	1 En	New York, N. Y.
Cathey, Vance LeRoy.....	1 En	Atlanta
*Caulbe, Gordon B.....	5 MCo	Atlanta
Cavanaugh, David Eli.....	5 ECo	Atlanta
Cavette, Neil Mott.....	3 IM	Memphis, Tenn.
Caye, William Cassius.....	1 En	Atlanta
Cely, Tom Loyd, Jr.....	2 ChECo	Jacksonville, Fla.
Center, George Hagood, Jr.....	2 M	Atlanta
Centorbe, Joseph Kenneth.....	4 IM	Atlanta
Chalenski, Arthur Abdon.....	3 MCo	Jersey City, N. J.
Chambers, Douglas White.....	1 IM	Thomasville
Chambers, James Edwin.....	2 M	Atlanta
Chamlee, Charles King.....	2 CerE	Adairsville
Chambless, Henry Inman.....	2 PhE	Waycross
*Champion, Ernest Maxwell, Jr.....	1 IM	Brunswick
Chan, Robert Earl.....	5 ChECo	Savannah
Chandler, Harold Charles.....	2 IM	Atlanta
Chandler, William Raymond.....	1 En	Newnan
Chaplin, Benjamin Verner.....	2 ChE	Atlanta
Chapman, Donald John.....	3 MCo	Clifton, N. J.
Chapman, Ernest Wilbur.....	4 E	Conyers
Chapman, John Clayton.....	2 E	Atlanta
Chastain, Theron Zolly.....	2 CECo	Miami, Fla.
Cheek, John Sewell.....	3 E	Gainesville
*Cheek, Robert Chase.....	4 ECo	Savannah
Cheney, Alfred Montgomery, Jr.....	2 ChECo	San Juan, Puerto Rico
Cheney, Frank Colly.....	2 M	Atlanta
*Cheney, John William.....	4 E	Macon
Cherry, John Wesley.....	4 A	Atlanta
*Childers, George Henry.....	2 MCo	Miami Beach, Fla.
Chipley, Hunter Dixon.....	2 CE	Lynchburg, Va.
Chisholm, Tim Barnard.....	2 ChECo	Thomasville

Choquette, Roy Francis.....	3 MCo	Chicago, Ill.
Christian, Arthur Howard.....	3 ChECo	Columbus
Christian, Raymond Louis.....	1 En	Atlanta
Christian, Thomas Richard.....	5 ECo	Columbus
Chupp, Emmett Warren, Jr.....	1 En	Sparta
Clapp, Edgar Louis.....	1 IM	Atlanta
Clapp, Edwin Marcus, Jr.....	4 ChECo	Byron
Clapp, Tim.....	2 M	Atlanta
Clark, Arthur Henry.....	1 Co	Lakeland, Fla.
Clark, Colton Reynolds.....	2 A	Decatur
Clark, George Strickland.....	1 IM	Greenville
Clark, George William.....	1 Co	Perry, Fla.
Clark, Jack Campbell.....	G-AE	Atlanta
Clark, John Leonard.....	2 IM	Wilmington, Del.
Clark, John Williamson.....	2 GE	Waynesboro, Va.
Clark, Leon Lewis.....	2 CerE	Brunswick
Clark, Nelm Bayard.....	2 M	Washington, D. C.
Clark, Thomas Lansing.....	2 CE	Sunburst, Mont.
Clark, William Howard.....	4 ChE	Atlanta
Clarson, Reuben Ewald, Jr.....	4 CE	St. Petersburg, Fla.
Claussen, Henry Herman.....	3 CE	Augusta
Clay, Jim Price.....	3 IM	Atlanta
Cleary, Lawrence Douglas.....	3 MCo	Nutley, N. J.
Cleaveland, Pitman Boron.....	1 Co	LaGrange
Cleckley, John Treutlen.....	4 ECo	Augusta
Clegg, Edward Thomas.....	2 E	Belleville, N. J.
Clelland, James Robert.....	4 M	Atlanta
Clemens, Marion Alvin.....	2 M	Bradenton, Fla.
Clements, Richard Lucius.....	2 M	Troy, Ala.
Cleveland, Giles Patterson.....	2 T	Spartanburg, S. C.
Cliett, Robert Lee.....	3 IM	Atlanta
Clift, Jack Thomas.....	3 IM	Atlanta
Cline, Jack Lee, Jr.....	1 IM	Atlanta
Clinkscales, Robert Stewart.....	3 E	Atlanta
*Cobb, Columbus Asbury.....	3 TCo	Cedartown
Cobb, Howell Edward.....	5 A	Athens
*Cochran, Cleveland Ward.....	1 Co	Jacksonville, Fla.
Cochran, John Lamar.....	2 M	Atlanta
*Cochran, Robert Puette, Jr.....	3 T	Newton, N. C.
Codding, Leroy Emerson, Jr.....	1 En	Keene, N. H.
Coe, Albert Pellett, Jr.....	1 En	Chattanooga, Tenn.
Coe, William Grant.....	2 ECo	Orlando, Fla.
Cohen, Sidney.....	1 En	Philadelphia, Pa.
Cohn, Richard Gerald.....	4 ChECo	Savannah

Coit, Burton Carnot, Jr.	2 M	Washington, Pa.
Coke, John Dunlavy	2 E	Guthrie, Ky.
Cole, Ben Gaston	5 ChECo	Candler, N. C.
Cole, Madison Filmore	3 T	Macon
Coleman, Edward Clarke, Jr.	3 E	Coffeeville, Miss.
Coleman, James Edgar	4 IM	Ft. Gaines
*Coleman, William Albert	2 E	Orlando, Fla.
Collier, Henry Latimer	3 IM	Atlanta
*Collier, Jena Cuthbert II	4 IM	Barnesville
*Collier, Robert Edward	2 GE	Ft. Worth, Texas
Collins, Harry Floyd	2 ChECo	Birmingham, Ala.
Collins, James Estes	2 M	Fairburn
Collins, John Francis	1 En	Bradenton, Fla.
Collins, Joseph Jepson	2 IM	Jacksonville, Fla.
Collins, Jack Wolcott	2 IM	Doraville
Colvin, Walker Owens	4 IM	Lincolnton
Combs, Gordon	5 ChECo	Donelson, Tenn.
Comer, Frank Eugene	1 En	Atlanta
Commander, Jack Brown	2 M	Atlanta
Commins, Louis Shelly	3 IM	Atlanta
Commins, Terrell Drewry	1 En	Atlanta
*Condon, Jack George	4 ECo	Freeport, N. Y.
Coniglio, Tony	1 Co	Tampa, Fla.
Conley, James Owens	1 En	Newnan
Conley, Walter Robertson, Jr.	4 ChECo	Alamo, Tenn.
Conner, Eldred Allen	2 ChE	Bartow, Fla.
Connors, Joseph Ellis	2 E	Chattanooga, Tenn.
Conoly, James Reese	1 Co	Sylvester
Conway, Hobart McKinley, Jr.	4 GE	Atlanta
Cook, Earl Pope, Jr.	3 E	LaGrange
Cook, Edward Smith, Jr.	3 E	Atlanta
Cook, Henry Grady, Jr.	1 En	Atlanta
Cook, Harold Ray	1 En	Lyerly
Cook, Jack Fulton	3 IM	Atlanta
Cook, N. Winston	1 En	Porterdale
Cook, Oscar Emory	1 Co	West Point
Cook, Paul Peniston	1 En	Newnan
*Cooley, James Glass	3 IM	Lawrenceville
Coons, Hal, Jr.	1 Co	Jasper, Ala.
*Cooper, Albert Henry	4 TCo	Columbus
Cooper, Edward Paul	1 Co	East Point
Cooper, Robert James	1 IM	Chattanooga, Tenn.
Cooper, William Henry	2 M	Augusta
Cope, Claude Lewis	1 En	Tenafly, N. J.

Coppock, Johnstone Lewis	2 CE	Columbus
Corbitt, James Allen	3 T	Brunswick
*Cork, Spencer Maddox	1 Co	Macon
Corry, John	1 En	Tifton
*Corry, William Adair	4 T	Barnesville
Corser, John Fredric	2 E	Vienna, Austria
Cosgrove, Dan Brosnan	1 A	Atlanta
Cosper, William Roy, Jr.	4 M	Atlanta
Cothran, James Robeson	3 CE	Atlanta
Cotten, William Warren	3 ChE	Atlanta
Couch, Harold Kennan	3 M	Magnolia, Ark.
Coughlin, Edward James	1 Co	Pompano, Fla.
*Counts, William Edward	1 En	Atlanta
Coursen, Lewis Vincent	3 ChE	Pompton Plains, N. J.
Courter, Ray Dudley	1 En	Atlanta
Courtney, Chester Carroll, Jr.	3 IM	Jacksonville, Fla.
Couvillon, Richard Edward	1 En	Santa Ana, Calif.
Covey, Leland Sumner	1 Co	Daytona Beach, Fla.
Covington, Ernest	2 Ch	Atlanta
Covington, Wayne Rinehart	3 MCo	Longview, Texas
Cowan, Clement Heidt	1 En	Griffin
Cowan, Robert LeRoy, Jr.	1 En	Atlanta
*Coward, Frank P.	4 ECo	Columbus
*Cowles, Albon Chase, Jr.	3 M	Decatur
Cox, Charles Daniel	2 ChECo	Birmingham, Ala.
Cox, DeCarr Covington	2 E	Valdosta
Cox, Robert Marion	1 En	Ft. Gaines
Cox, William Boswell	3 GE	Miami, Fla.
Cox, William Skidmore, III	4 ChE	Atlanta
Coyne, Ernest Sylvester	2 MCo	Croton, N. Y.
Crane, Charles Albert	1 Co	Quantico, Va.
Crane, Hubert Hammond, II	2 A	Ft. Worth, Texas
Crang, John Ray, Jr.	1 En	Atlanta
Crankshaw, Lawrence	2 IM	Atlanta
Crasnow, Samuel Springer	1 En	Atlanta
Crawbuck, Robert Hulbert	1 En	Passaic, N. J.
Crawford, Julius Patterson	1 Co	Memphis, Tenn.
Crawford, William Bogan	1 En	Atlanta
*Crocker, Barton Blair	4 ChECo	Atlanta
Crockett, Stuart Howe	1 Co	Bradenton, Fla.
Cromartie, George Graham, Jr.	2 E	Maplewood, N. J.
Cromartie, William Douglas	2 CE	Jacksonville, Fla.
Cromer, William Collier	4 IM	Atlanta
Crook, James Park	1 IM	Pittsburgh, Pa.

Crosby, Caleb Pickens.....	3 IM	Chamblee
Crosby, David Arnold.....	1 IM	Albany
Crossfield, Robert Hanson.....	4 M	Griffin
Crosswell, Horace Alfred.....	3 IM	Atlanta
Crouch, George Edgar.....	2 CEC	Gay
*Crowder, George Anthony.....	4 CEC	Tampa, Fla.
Crowe, Dewey Edward.....	3 MCo	Johnson City, Tenn.
*Crowell, Chester Arthur.....	2 A	Cordele
Crowley, Thomas Spencer.....	3 E	Atlanta
Cruger, Robert Wight.....	1 En	Decatur
Crumley, Robert Morris.....	4 IM	Atlanta
*Crutchfield, Paul Washington.....	1 En	Decatur
*Cudlipp, Charles LaForrester.....	3 IM	Atlanta
Culpepper, Richard Lee.....	4 MCo	Savannah
Culter, William Pace.....	2 MCo	Louisville, Ky.
Curley, James Barron.....	3 T	West Point
Curry, Charles Birney.....	2 A	Atlanta
*Curry, Edwin Francis.....	2 ChEC	Orlando, Fla.
Curtis, Frank Mann.....	1 En	Ft. Lauderdale, Fla.
Cushing, Robert Glenn.....	4 M	Commerce
Czegledi, Charles.....	2 M	Paulsboro, N. J.
Daitch, Israel Isadore.....	4 T	Waynesboro
Dallas, Park Andrew, Jr.....	4 M	Atlanta
Dalton, John Bartlett.....	1 En	Atlanta
Dalton, Oscar Davis, Jr.....	1 IM	Valdosta
Dames, Ralph Joseph, Jr.....	4 M	Arlington, N. J.
*D'Amico, Edward Albert.....	3 MCo	Elberton
Danforth, Edward C. Bulloch, III.....	3 M	Augusta
Daniel, Benjamin Sewell.....	3 ChEC	Chipley
Daniel, James Fleming, III.....	1 A	Greenville, S. C.
Daniel, Robert John.....	G-M	Norfolk, Va.
Daniel, William Gray.....	2 IM	Atlanta
Daniel, Zack Fort.....	2 IM	Atlanta
Daniell, Enoch Lonzo.....	1 En	Atlanta
Daniell, Hampton Jack.....	4 E	Villa Rica
Daniels, Thomas Jefferson.....	G-ChE	Tatum, Tex.
Danna, Dominic.....	3 ChE	St. Louis, Mo.
Daragan, James C.....	2 CE	Danbury, Conn.
Darby, Jack Watson.....	3 IM	Jacksonville, Fla.
Darden, Wilson Partridge.....	1 En	Hogansville
Darrow, George Richard.....	1 Co	Florence, Ala.
Dasher, Benjamin Joseph, Jr.....	G-E	Macon
Daugherty, William Kenneth.....	Irr	Newbern, N. C.
Daughtry, George W. E.....	4 MCoE	Macon

Davenport, Merritt Brall.....	3 E	Atlanta
Davidson, George.....	3 PHE	Port Glasgow, Scotland
Davidson, Joe E., Jr.....	1 En	Ft. Valley
Davidson, Robert Eugene.....	5 AE	Point Pleasant, N. Y.
Davie, Jesse William.....	2 ChEC	West Blocton, Ala.
*Davie, Marshall C., Jr.....	2 ECo	West Blocton, Ala.
*Davis, Craig Carlton.....	3 M	Atlanta
Davis, Clayton Jay.....	3 E	Orlando, Fla.
Davis, Ellis Bostick.....	2 IM	Atlanta
Davis, Edwin Thorpe.....	3 M	Tampa, Fla.
Davis, Frank Cox.....	2 ChE	Columbus
Davis, Jack Bradshaw.....	1 IM	East Point
Davis, Joseph Edward.....	4 E	Summerton, S. C.
Davis, Joe Ollin.....	1 En	Savannah
Davis, Logan Douglas, Jr.....	3 MCo	Palm Beach, Fla.
Davis, Louis Elkin.....	4 M	Brooklyn, N. Y.
Davis, Robert Leslie.....	1 En	Atlanta
Davis, Sidney Leonard.....	2 M	Atlantic City, N. J.
*Day, Thurman Oscar.....	4 MCo	Norfolk, Va.
Deal, Wayman Ray.....	3 ECo	Sandersville
Deas, Alvin Rutherford.....	2 ChE	Atlanta
DeBardelaben, James Russell.....	2 GE	Atlanta
DeBorde, Herbert Douglas.....	1 Co	Savannah
deCastro, Jose Fernandez.....	4 ChE	Havana, Cuba
Decker, Paul Herman, Jr.....	4 IM	Laurel, Miss.
DeFriece, Frank William, Jr.....	1 En	Bristol, Tenn.
deGive, Louis Philippe.....	4 IM	Atlanta
*Deixler, Laszlo.....	4 M	Havana, Cuba
DeJon, Edward William.....	2 M	Short Beach, Conn.
DeLany, Judson William.....	2 IM	Atlanta
Dell, Robert Clifford, Jr.....	1 En	Decatur
Deméré, Edward Houstoun.....	1 En	Atlanta
deMontmollin, James Mellon.....	3 ECo	Clinton, S. C.
Dempster, Malcolm Roscoe.....	1 En	Atlanta
Dendy, Fred Henry, Jr.....	2 IM	Atlanta
Dennard, John Sanford.....	1 En	College Park
Denney, Riley Clyde.....	1 En	West Palm Beach, Fla.
Dennington, Frank William.....	1 En	Atlanta
Dennis, John Cobb, Jr.....	1 A	Macon
Denson, Lloyd Anson.....	1 En	Macon
*Denton, Frank Lester.....	3 ECo	Macon
Denton, James Grady.....	2 IM	Atlanta
DeShon, Ray Marvin.....	3 MCo	St. Joe, Mo.
Dewey, John Lyons.....	3 ChEC	St. Petersburg, Fla.

DeWitt, Philip Doddridge.....	4 M.....	Panama City, Fla.
Dickinson, William Lawrence.....	3 M.....	Gatun, Canal Zone
Dickson, Robert Russell.....	1 En.....	Huntsville, Ala.
Dieckman, Robert William.....	2 M.....	New York, N. Y.
Dillard, Robert Bascome.....	2 E.....	Decatur
Dillard, Samuel Harwell.....	1 En.....	Atlanta
Dillon, William Emory.....	1 En.....	Atlanta
Dinkins, Patrick Candler, Jr.....	2 E.....	Atlanta
Dinning, Leslie Fay.....	1 En.....	Atlanta
Divine, Cyrus George.....	2 MCo.....	Albany
Dixon, Lloyd Bonnell.....	1 En.....	Atlanta
Dodd, Richard Euclid, Jr.....	3 MCo.....	Lake Wales, Fla.
Dodd, Robert O., Jr.....	1 En.....	Hinton, W. Va.
Dodgen, James Edward.....	2 ChECo.....	Anniston, Ala.
Dodson, Boykin Robinson.....	4 IM.....	Atlanta
Donlan, John Edmund.....	1 En.....	Park Ridge, Ill.
Dooley, Ralph Edward.....	3 MCo.....	Macon
Doriot, Henri.....	1 Co.....	Bristol, Tenn.
*Dorsey, Sam Erwin.....	3 E.....	College Park
Doss, William Nevitt.....	1 En.....	Rome
Doster, Thomas Edwin.....	4 CE.....	Lancaster, S. C.
Dougherty, Jack DeLaney.....	2 IM.....	Atlanta
Doughty, David Winston.....	3 MCo.....	Atlanta
Doyle, Joseph Patrick, Jr.....	3 ECo.....	Savannah
Dozier, Thomas Calbeck.....	1 En.....	Atlanta
Drake, William Oscar.....	1 Co.....	Scotland Neck, N. C.
Draper, Norman Claflin.....	1 En.....	Knoxville, Tenn.
*Dressin, Samuel Aaron.....	1 En.....	Brooklyn, N. Y.
Drew, John.....	5 ChECo.....	Miami, Fla.
Driscoll, Sidney Porter, Jr.....	2 IM.....	Savannah
Drummond, Robert Rhodes.....	3 M.....	Stuttgart, Ark.
Ducoffe, Arnold Lionel.....	1 En.....	Montreal, Quebec
Duggan, John Tanner.....	4 ChE.....	Warthen
Dukes, Clifton Abraham.....	2 T.....	Decatur
Dukes, James Henderson.....	4 CerE.....	Decatur
Dumas, John Hicks.....	2 GE.....	Talladega, Ala.
Dunaway, Ben Ellis, Jr.....	2 ChECo.....	Orrville, Ala.
Duncan, Conrad Howard.....	5 ChECo.....	Valdosta
Dunn, Harry Wade.....	2 MCo.....	Fitzgerald
Dunn, Merrel Russell.....	1 IM.....	LaGrange
Dunson, Jarrell Ridley, Jr.....	4 T.....	LaGrange
Duran, Castro Luis Maria.....	3 T.....	Colombia, S. A.
Durden, Joseph Crump, Jr.....	4 ChECo.....	Columbus
Durkin, William Vincent.....	3 M.....	Savannah

*Dusenbury, Millard Reese.....	4 ChE.....	Brunswick
DuTeil, Claude Francis.....	2 CEC.....	Chattanooga, Tenn.
Dutton, Donnell Wayne.....	G-AE.....	Atlanta
Duus, Andreas, Jr.....	1 Co.....	Bogota, N. J.
Dye, Harold Anthony.....	4 CerE.....	Atlanta
Dye, William Mercer.....	1 A.....	Atlanta
Dyes, Alvin Berry.....	4 ChECo.....	Ft. Valley
Dyke, Henry Elmer, Jr.....	3 E.....	Selma, Ala.
Dykes, Aubert Cleveland, Jr.....	4 CE.....	Farmerville
Dykes, Osborne Jefferson.....	3 M.....	Shreveport, La.
Dzamba, John Robert.....	4 M.....	Bayonne, N. J.
Eads, Edward Lancelot.....	1 En.....	Chicago, Ill.
Eagar, Harry Douglas.....	2 ChECo.....	Chattanooga, Tenn.
Eager, George Bruce.....	2 M.....	Valdosta
*Eagleton, Godwin Arthur.....	5 CEC.....	Stroudsburg, Pa.
*Earnest, Joseph Hammond, Jr.....	1 En.....	Atlanta
Earnest, William Mark.....	1 En.....	Atlanta
Ebdon, William Lee.....	1 En.....	Gatun, Canal Zone
Eckis, Robert Wayne.....	4 E.....	Ft. Lauderdale, Fla.
Ector, Charles Lamar.....	1 Co.....	Leeds, Ala.
Ector, Hugh Haley.....	1 En.....	West Point
Ector, William Howard.....	4 IM.....	West Point
Edelblut, Carl Meyer.....	2 ChE.....	Augusta
Edelblut, Walter Joseph, Jr.....	1 En.....	Ft. Myers, Fla.
Edge, Halbert Lulan, Jr.....	1 En.....	Raleigh, N. C.
Edge, Philip Marcellus, Jr.....	2 M.....	Charlotte, N. C.
Edwards, Austin Southwick.....	3 M.....	Athens
Edwards, Dan Miller.....	1 En.....	Lake City, Fla.
Edwards, Emory Howel, Jr.....	2 A.....	Atlanta
*Edwards, Joe Ellison.....	2 CerE.....	Macon
Edwards, John Quincy, III.....	2 IM.....	Washington, D. C.
Edwards, Paul Stephens.....	2 ChE.....	Gadsden, Ala.
*Edwards, Ralph Leo.....	1 Co.....	Atlanta
*Eichhorn, Delmas Fairbanks.....	1 Co.....	Baltimore, Md.
Eidson, William Blanchard.....	3 CE.....	Atlanta
Eidson, William Bruce.....	1 En.....	Ways Station
*Einstein, Harry.....	2 M.....	New Brunswick, N. J.
*Eiseman, Fred Samuel, Jr.....	1 En.....	Atlanta
Elam, Stanleigh Friend.....	3 ChE.....	Ashland, Ky.
Elder, John Thomas.....	3 M.....	Scotland
Elfrink, William David Mayes.....	1 En.....	Atlanta
Ellington, John Edward.....	3 ECo.....	Edison
Ellington, J. Paul.....	1 En.....	Crawfordville
Elliott, James Carter.....	1 En.....	Mansfield

*Elliott, Marvel Artis.....	2	ECo	Zebulon
Elmore, Glenn VanNess.....		G-Ch	Topeka, Kansas
Ely, James Robertson.....	4	E	Decatur
Emery, Joseph Hill.....	4	IM	Savannah
Emmons, Morton Arnold, Jr.....	2	E	Kodak, Ky.
Endress, Richard Earl.....	1	En	Hamburg, N. Y.
Engel, Joseph Anthony.....	3	M	Savannah
Englehart, Francis Augustus, Jr.....	3	E	Atlanta
English, Robert Henry, Jr.....	1	En	Washington, D. C.
Engram, Robert Curtis.....	1	En	Lake Worth, Fla.
Ensign, Oliver Phelps, Jr.....	1	En	Forsyth
Epperson, George Barnum.....	1	Co	Tampa, Fla.
Epstein, Edward, Jr.....	3	CerE	Atlanta
*Epsten, Stephen Hexter.....	1	En	Atlanta
Erickson, Paul Herbert.....	1	Co	Garwood, N. J.
Espy, John Lee.....	1	Co	Cordele
Estes, Louis Collier.....	1	En	Decatur
Estes, William Barney.....	4	IM	Douglasville
Etheredge, Edwin Ball.....	1	En	Staten Island, N. Y.
Evans, Belton O'Neal.....	2	CE	Clayton
Evans, Fred Wilburn, Jr.....	2	PHE	Atlanta
Evans, Harry Gunn.....	3	CECo	San Antonio, Texas
Evans, James Duggan.....	3	ChECo	Clayton
Evins, William Hammock.....	3	A	Atlanta
Ewald, John Benton.....	2	GE	Washington, D. C.
Ewen, Douglas George.....	5	ChECo	Lyman, S. C.
Ewing, Curtis Thaxston.....	2	ChECo	Atlanta
Ezzard, Thomas Mixon.....	2	Ch	Roswell
Fain, Edgar McArthur.....	4	IM	Doerun
Falk, David Beauregard.....	4	ChECo	Savannah
Falks, Jack Bansley.....	s	A-G	Atlanta
Fambro, George William.....	4	MCo	Fitzgerald
Fannon, Marcy Barat.....	4	M	Atlanta
Farmer, James Gordon.....	2	MCo	Stellaville
Farmer, Quentin Boyles.....	2	M	Austell
Farris, James Christie.....	4	ECo	Columbus
Faulkner, Al Jerold.....	1	IM	Jacksonville, Fla.
Faustini, Albert John.....	1	Co	Miami Beach, Fla.
Faw, James Enoch, Jr.....	4	MCo	Westfield, N. J.
Feagin, James Wingfield.....	1	Co	Savannah
Feagle, James Albert, Jr.....	2	CE	Fitzgerald
Feagles, Robert West.....	2	MCo	Oklahoma City, Okla.
Featherston, Charles Nicholas.....	2	IM	Rome
Fein, Marvin James.....	2	E	New York, N. Y.

Fell, Charles Linwood.....	3	M	Westfield, N. J.
Felton, Andy Pearson.....	1	En	Miami, Fla.
Ferguson, Roy Washington.....	3	M	Atlanta
Fergusson, William Wallace.....	1	En	Hendersonville, Tenn.
Fernandez, Antonio Guillermo.....	1	En	Tampa, Fla.
Fernandez, Herbert Walter.....	1	En	Ozone Park, N. Y.
Fernebok, Joseph.....	1	En	Brooklyn, N. Y.
Ferrer, Federico Vicente.....	3	M	Santiago, Cuba
*Ferris, William Darius, Jr.....	3	IM	Decatur
Ferst, Alvin Meinhardt, Jr.....	2	M	Atlanta
Fey, George Frederick.....	3	E	Atlanta
Fields, Joseph James.....	2	M	Atlanta
Fields, Reuben Elbert.....	5	ECo	Society Hill, S. C.
Figg, Warren Stephen.....	2	ChECo	Savannah
Finkelstein, Robert Louis.....	2	E	New York, N. Y.
Finn, John Douglas.....	2	M	Atlanta
Fiori, Louis Anthony.....	2	T	Clifton, N. J.
*Fisher, Lloyd Josephus.....	2	M	Atlanta
Fitts, William Francis.....	3	CoE	Ridgewood, N. J.
Fitzgerald, Thomas Witt, Jr.....	2	M	Atlanta
Fitzpatrick, James Pruett.....	3	IM	Macon
Fitzpatrick, Wesley Harris, Jr.....	1	En	Austell
*Flanigen, Cameron Douglas.....	4	M	Athens
Fleming, Howard Hughes.....	2	M	Atlanta
Flemister, Harry Armstrong.....	4	E	Atlanta
*Fletcher, Delbert Van.....	5	ChECo	Tarpon Springs, Fla.
Fletcher, Henry Merritt.....	2	M	Jackson
Fletcher, Phillip David.....	3	IM	Appalachia, Va.
*Florence, Harold Neal.....	2	IM	Cedartown
Flowers, Gewin Walter.....	3	ChE	Norcross
Fogle, Jerome Wiggins.....	1	IM	Aurora, Mo.
Folger, Alvin Gray.....	2	M	Decatur
Foote, George Post.....	4	A	Atlanta
Ford, Aris Clarke.....	1	IM	Atlanta
Ford, George Pratt.....	4	Ch	Alma
Forker, Raymond Anthony.....	4	IM	Hempstead, L. I., N. Y.
Fornara, Johnnie Serafino.....	1	A	Atlanta
Forney, Adrian Kenneth.....		G-AE	Augusta
Forrer, John Jacob.....	3	M	Richmond, Va.
Forrest, Richard Eyre.....	3	T	Lansdowne, Pa.
Forsythe, William John.....	4	CE	Brooklyn, N. Y.
Fort, William G. S.....	5	ECo	Cornelia
Fortenberry, William Jackson.....	1	En	Clarkston
Foster, Franklin Marx.....		Irr	Nicholasville, Ky.

Foster, Joseph Hudson, Jr.	4 T	Roswell
Fowler, Carl Campbell, Jr.	1 Co	Decatur
Fowler, Carl Elwood, Jr.	2 ChECo	Brunswick
Fox, Carl Louis, Jr.	4 Ch	Atlanta
Francis, William Dayton	1 En	Atlanta
Francisco, Edward Elsworth, Jr.	1 En	Little Falls, N. J.
Frank, Herbert Jacob	5 CEC	Ridgewood, N. J.
Freeman, Carroll Newton, Jr.	3 IM	Atlanta
Frey, Ralph Darwin	4 M	Saxtons River, Vt.
Fricke, William Alexander	1 Co	Birmingham, Ala.
Friedsam, Alvin	1 En	Chicago, Ill.
Frisch, Samuel Joseph	1 En	Clementon, N. J.
*Fry, Robert Joseph	1 En	Lake Charles, La.
Frye, Robert Spencer	2 CerE	Atlanta
Fryer, James William, Jr.	4 IM	Nashville, Tenn.
Fullenlove, John Junius	3 IM	Atlanta
Fuller, Herbert Kaufman	4 TCo	West Point
Fuller, Joe Hunnicutt	1 IM	Atlanta
Fulmer, John Riley, Jr.	2 ECo	Augusta
Fulton, Wilbur Dull	3 ECo	Winston-Salem, N. C.
Fulton, William Luther, Jr.	4 GE	Savannah
Fultz, Bennett Marion	3 IM	Cloudland
Funderburk, Horace Boyce, Jr.	4 CEC	Bainbridge
Funderburk, Joe Carmichael	4 ChECo	Bainbridge
Funk, William Henry	2 ChECo	Tampa, Fla.
Furcron, Wycliffe Sharpe	2 M	The Plains, Va.
*Futrell, Taylor Morgan	2 ECo	Union City, Tenn.
Gahagan, Luther Howell	2 ChE	Savannah
*Gailey, Charles Malcolm	2 A	Dunwoody
*Gailey, Franklin Bryan	4 Ch	Dunwoody
Gaines, Henry Augustus	2 ChECo	Gainesville
Gaines, John Gregory	4 ChE	St. Louis, Mo.
Gaines, William Lawrence	2 MCo	Macon
Gale, Thomas Rogers	4 ECo	Waverly, Va.
Galindo, Gabriel	IrrCerE	Panama, Panama
Gammill, William Reed	3 M	Camden, Ark.
*Gardner, Frank Hugh, Jr.	4 ChECo	Hattiesburg, Miss.
Gardner, Jack A.	2 CE	Anderson, Ind.
Garland, Jack Courtney	2 CE	Columbus
*Garner, Howell Douglas	1 Co	Sanford, Fla.
Garner, Hugh Manson	3 ECo	College Park
Garner, Thomas Edwin	4 A	Decatur
Garrard, Oscar Julian	4 M	Miami Beach, Fla.
Garrison, William Ernest	3 MCo	Covington

Garst, Robert Ernest	3 MCo	Louisville, Ky.
Gaskins, Edwin Derring	2 M	Alapaha
Gattas, Jose	1 En	Jacksonville, Fla.
Gaubis, Leonard Louis	3 GE	Westfield, N. J.
Gay, Joseph Thomas	1 Co	Quitman
*Gay, Lewis Benjamin	4 E	Atlanta
Gayle, Sidney Alexander	2 T	High Point, N. C.
Gayler, Cecil Winston	G-Ch	So. Irondale, Ala.
Gaymon, Harold Tanner	3 MCo	Bartow, Fla.
Gegan, Ambrose Joseph, Jr.	4 M	Jersey City, N. J.
Geiger, Quenton Prevatt	3 ECo	Jacksonville, Fla.
Gelders, Morris Victor	5 ECo	Fitzgerald
Gennari, Jervis Joseph	3 ECo	West Stockbridge, Mass.
Gentry, Joe Mansfield	2 ECo	Atlanta
Genualdi, Benjamin Frederick	1 En	Summit, N. J.
George, Carroll Hitchcock	3 T	Vinings
George, Paul Eugene	2 M	Vinings
Gershen, Irvin Jack	2 PHE	Elizabeth, N. J.
Getchell, Carl Folsom, Jr.	1 IM	Auburn, Me.
Geyer, Leo Alvin	G-AE	Rochester, N. Y.
Gheesling, Henry Carlton, Jr.	4 IM	Atlanta
Gibbons, Harry Meikleham	5 TCo	Rome
Gibbs, Robert Irwin, Jr.	3 ChE	Atlanta
*Gibeling, Alfred Harding	2 MCo	East Point
Gibeling, Robert Walter	3 A	East Point
Gibian, Richard	3 IM	Montgomery, Ala.
Gibson, John Ramsay	4 MCo	St. Petersburg, Fla.
Gibson, William Carson	4 IM	Atlanta
Gibson, William Claude	3 T	Griffin
Gifford, William Oscar	1 En	College Park
Giges, Melvin Horace	4 PHE	New York, N. Y.
Gill, Roger Lowell	2 ChE	Greenville, S. C.
Gillenwater, Joe Barron	5 MCo	Bristol, Tenn.
Gilliland, John Robert	1 Co	College Park
Gillon, Elam Randolph, Jr.	2 M	East Point
Gilman, Julian Addison, Jr.	2 M	Richmond, Va.
Gilmer, Clarence Lee	4 IM	Atlanta
Gilmore, John	4 IM	Atlanta
Gilpin, Hugh McReynolds	2 ChE	Bluefield, W. Va.
*Ginsburg, Ambrose M.	2 M	Lewisburg, Tenn.
Glover, C. Van Cortlandt, Jr.	2 E	Atlanta
Goerlitz, Joseph Julius	3 M	St. Joseph, Mo.
Goforth, Roger Williams	1 En	Atlanta
Goldenberg, Myer Stoney	1 En	Mattapan, Mass.

Gonchar, Sol.....	2	GE	Savannah
*Gooch, Fred Peary.....	4	MCo	Pittsburgh, Pa.
Goodgame, James Hamilton.....	5	ChECo	Camden, Ark.
Goodloe, William Lester.....	1	IM	Valdosta
Goodman, Charles Mason.....	3	IM	Orlando, Fla.
Goodman, William Marcus.....	5	ChECo	Memphis, Tenn.
Goodroe, Ray.....	2	ECo	Columbus
Gordon, John Russell.....	3	IM	Winston-Salem, N. C.
*Goree, Churchill Pomeroy III.....	3	IM	Atlanta
Goree, Robert Wilson.....	1	IM	Atlanta
Gorman, Allan Ross.....	4	IM	Chicago, Ill.
Gostin, Sommers Jessup.....	1	Co	Macon
Gould, Vernon.....	1	En	East Point
Goza, John Virgil.....	2	E	Atlanta
Grabbe, John Christian.....	1	IM	Atlanta
*Grace, Walter Jasper III.....	2	M	Macon
Graf, Edward.....	3	M	Palisade, N. J.
Graham, Frank A.....	1	En	Atlanta
*Graham, George Henry, Jr.....	3	ChE	Atlanta
Graham, John Thomas.....	3	ECo	Tampa, Fla.
Granberry, Shorter Rankin.....	1	IM	Atlanta
Graves, Albert Dale.....	4	CoCE	Springfield, Mo.
Gray, Edward Darlington.....	2	ChECo	Wilmington, Del.
Gray, Frank Aird.....	3	M	Jacksonville, Fla.
Gray, John Lawrence.....	5	ChECo	Columbus
Gray, John William.....	1	En	Atlanta
Greaser, Robert Weber.....	1	En	Altoona, Pa.
Green, Elmer Lamar.....	5	MCo	Macon
Green, James Thomas.....	3	E	Jefferson City, Mo.
Green, Malcolm Johnson.....	1	En	Atlanta
Green, Theodore Eugene.....	4	IM	Atlanta
Greene, Charles Hamilton.....	1	Co	Cordele
Greene, Fred Herbert.....	4	MCo	Somerset, Ky.
*Greene, Kendall.....	1	Co	Miami, Fla.
Greene, Palmer Gibson.....	3	ECo	Cordele
*Greene, Terrell Everhart.....	1	En	Atlanta
*Greene, William Carl.....	3	ECo	Somerset, Ky.
Greer, Lovic Pierce, Jr.....	2	ECo	Valdosta
Greeson, Richard Orval.....	2	M	Cedartown
Gregory, Francis Allison.....	1	Co	Atlanta
Gregory, Joseph E.....	4	E	Pembroke, Ky.
*Gregory, Warren Collins.....	3	Ch	Atlanta
Gribble, James Thomas, Jr.....		Irr	Atlanta
Grier, William Winfield.....	2	IM	Charlotte, N. C.

*Griffeth, James Wiley.....	2	IM	Winder
Griffin, Clinton Furman.....	1	En	Atlanta
Griffin, Donald Baade.....	5	ChECo	Birmingham, Ala.
Griffin, Henry Clay.....	3	E	Montevallo, Ala.
Griffin, Joseph Frank, Jr.....	1	En	Savannah
Griffin, Louis, Jr.....	3	CECo	Augusta
Griffin, Raymond Marion, Jr.....	5	CECo	Savannah
Griffith, Richard Fisher.....	3	CECo	Kansas City, Mo.
Grill, Louis Franklin.....	2	MCo	Baltimore, Md.
*Grotsky, James Wilbur.....	1	En	Atlanta
Groom, Joe Martin.....	2	E	Atlanta
*Gross, Frederick Charles.....	2	CE	Atlanta
Grossman, Frank David.....	5	ChECo	Brunswick
Grubb, William Clay.....	4	M	Atlanta
Guerin, Richard Eugene.....	3	E	Atlanta
*Guffey, David Leon.....	1	Co	Climax
Guidi, Raymond John.....	1	En	Scarsdale, N. Y.
Guill, George Porter.....	3	ChECo	Union City, Tenn.
Guimares, Albert Fordham.....	1	Co	Atlanta
Guinn, James Cook, Jr.....	1	IM	LaGrange
Gunn, Fred Allyn.....	3	ECo	Genola
Gunn, Graham Lee.....	4	M	Crawfordville
Gunter, Robin Baum.....	1	En	Griffin
Gunther, Donald Harrison.....	4	T	Poughkeepsie, N. Y.
Guskind, Silvan Sidney.....	2	ChE	Jersey City, N. J.
Gwaltney, Eugene Cleveland, Jr.....	4	M	Macon
Hach, Charles.....	2	Ch	Tampa, Fla.
*Haeefe, Carl John.....	3	MCo	Staten Island, N. Y.
Haeger, John Ralph.....	4	IM	Avondale Estates
Hafley, Bruce Winston.....	2	A	Atlanta
Hagan, Crandall Hall.....	3	IM	Jacksonville, Fla.
Hagan, John Luther.....	3	ChE	Savannah
*Hagedorn, Arthur, Jr.....	4	E	West Point
*Hagedorn, Phillip.....	2	IM	West Point
Hageny, Mark Conwell.....	4	E	Atlanta
*Haggart, Robert Stevenson, Jr.....	4	CE	Norfolk, Va.
*Hagood, Nesbitt Ward, Jr.....	4	IM	Hartford, Conn.
Hague, Harold James, Jr.....	3	E	Atlanta
Haigler, William Cole.....	2	M	Miami, Fla.
*Hainlin, Albert Wellington.....	1	Co	Miami, Fla.
Hale, Franklin Grant.....	1	Co	McColl, S. C.
Hale, Stephen Cutler, Jr.....	4	M	Atlanta
Hall, Ben Harrison.....	3	IM	Atlanta
Hall, James Richard.....	1	Co	Clewiston, Fla.

Hall, Kenneth Raymond.....	3 M	Atlanta
Hall, Lum Chambliss.....	1 En	Atlanta
Hall, William Terrill.....	5-A	Nashville, Tenn.
Hamarat, Metin Recep.....	G-M	Istanbul, Turkey
Hamby, Walter Strauss.....	3 IM	Copperhill, Tenn.
Hames, Paul Berry.....	1 Co	Atlanta
Hames, William Charles.....	3 IM	Decatur
*Hamilton David Downing.....	3 T	Dalton
Hamilton, David Pierce.....	2 GE	Augusta
*Hamilton, Joseph Starke, Jr.....	4 A	Atlanta
Hamilton, Stuart Adams, Jr.....	2 M	Atlanta
*Hamlett, Frank Robertson.....	3 E	Tampa, Fla.
Hammer, Helmut Ernest.....	2 ChECo	Elizabethton, Tenn.
*Hammersla, William Edward, Jr.....	1 Co	Jacksonville, Fla.
Hammett, Charles Edgar.....	2 M	Atlanta
Hammett, Manley Huie.....	4 M	Atlanta
*Hammond, John Gullette.....	1 Co	Winter Park, Fla.
Hammond, James Withers.....	4 T	Rome
Hamrick, Joseph Thomas.....	1 Co	Carrollton
*Hanahan, James Ross.....	3 IM	Atlanta
Hancock, John Karow, Jr.....	1 En	Jacksonville, Fla.
Hand, Stanley Samuel.....	1 En	Arlington, N. J.
*Haneline, Carl Douglas.....	2 M	Clarksville, Tenn.
Hankinson, Thos. Wm. Edmund.....	1 Co	Portsmouth, Va.
Hanner, Rickford James.....	2 ChE	Charlotte, N. C.
Hannon, George Franklin.....	2 CE	Atco
Hansell, William Albert, Jr.....	2 CE	Atlanta
Hansen, Raymond Milton.....	3 MCo	Kenmore, Ky.
Hansen, Warren Paul.....	2 ChE	Brunswick
Hara, Edward Ewald.....	3 M	Drexel Hill, Pa.
Hard, John Stewart.....	3 IM	Atlanta
Hard, Straiton, Jr.....	1 En	Atlanta
Hardaway, Hugh Ernest.....	1 Co	Atlanta
Hardin, Walton.....	2 CerE	Washington
Hardison, John Wesley.....	3 MCo	Ft. Valley
Hargrett, Haines Hilsman.....	4 IM	Atlanta
Harman, Luther Hubert, Jr.....	1 Co	LaGrange
Harrell, Irving Jackson, Jr.....	4 MCo	Bainbridge
Harriman, Dean Emerson, Jr.....	5 ECo	Tampa, Fla.
Harris, Burton Roy.....	1 En	New York, N. Y.
Harris, Durward Gates.....	3 M	Syracuse, N. Y.
Harris, Gilliam Garret.....	1 En	Murfreesboro, Tenn.
*Harris, Henry Bullard.....	4 CE	Raleigh, N. C.
*Harris, James Lee.....	3 A	Richmond, Va.

Harris, John Wyatt.....	3 CEC	Windsor, Mo.
Harris, Lloyd Webb.....	1 En	Marietta
Harrison, Albert Edwin.....	5 ECo	Hartwell
Harrison, Charles Walston, Jr.....	1 En	New York, N. Y.
Harrison, Earnest Robert.....	G-M	Atlanta
Harrison, Hunter Craycroft.....	2 IM	Dallas, Texas
Harrison, Robert Edward.....	4 A	Martin, Tenn.
Harrison, Stanley Richmond.....	1 Co	Atlanta
Harriss, Hayden Hall.....	1 En	Atlanta
*Hart, David Anderson.....	4 M	Leonia, N. J.
Harter, Robert Jackson.....	4 MCo	Augusta
Hartlein, Roy Frederick, Jr.....	1 Co	Birmingham, Ala.
Harvey, Andrew Frank.....	1 En	Tupelo, Miss.
Harvey, Robert Glenwell.....	2 M	Atlanta
Harwell, Alfred Walter.....	3 M	Ensley, Ala.
Haskell, Blanton Winship.....	3 MCo	Macon
Hausmann, George Finley.....	1 En	Leonia, N. J.
Hawkins, Albert Taylor.....	4 ChECo	Waynesboro, Va.
Hawkins, Glenn John.....	1 Co	Forrest Hills, L. I. N. Y.
Hay, Paul Pitts.....	1 Co	Atlanta
Hayes, Edmund Anthony, Jr.....	4 CE	New Brunswick, N. J.
Hayes, Robert Steele, Jr.....	1 IM	Decatur
Haymans, Walter Harold.....	4 IM	Savannah
Haynes, Benjamin Carlisle, Jr.....	1 En	Short Hills, N. J.
Haynes, Charles Cannon.....	1 En	Columbia, Miss.
Hays, Glenn Bare.....	4 Ch	Etters, P. O. Pa.
Hays, William Walter, Jr.....	2 ECo	Trenton, Tenn.
Hearn, James Tolbert.....	1 IM	Atlanta
Heatherly, J. Edwin.....	3 CE	Akron, Ohio
Heatwole, James Walter.....	5 ChECo	Elizabethton, Tenn.
*Heckman, David Allen.....	3 M	Glen Gardner, N. J.
Heckman, Edward Corbette, Jr.....	1 IM	Atlanta
Hedrick, Harold Nelson.....	1 Co	Tulsa, Okla.
Heffernan, William Hughes.....	4 E	Augusta
Heidler, Charles Drew.....	3 M	Atlanta
Heinz, Henry Charles, Jr.....	3 IM	Atlanta
Heitzer, Paul Donald.....	1 Co	Coraopolis, Pa.
*Helin, Walter Engleberthe.....	3 MCo	Teaneck, N. J.
Helton, Bernard Lamar.....	2 CerE	Sandersville
Henderson, William Bennett.....	3 CEC	Memphis, Tenn.
Hendon, Roy Bailey.....	2 IM	Acworth
Henig, Seymour Izaak.....	4 M	Newark, N. J.
Henley, Richard Gregory.....	2 E	Smyrna
Hennigh, Clifford Emerson.....	3 T	Cedartown

Henry, Stanley Julian.....	1 En	Atlanta
Henslee, Lewis Wallace.....	1 Co	Atlanta
Hensler, Homer Henry, Jr.....	4 A	Ada, Okla.
*Herb, Jack Robert.....	1 En	Johnstown, Pa.
Hermes, Robert Peter.....	2 M	Bradford, Pa.
*Hermes, William Henry.....	2 IM	Bradford, Pa.
Heros, Reinaldo Cadrecha.....	1 En	Havana, Cuba
Herren, Cecil Earl.....	2 IM	Lanett, Ala.
Herring, Henry Henderson.....	G-Ch	Rockmart
Herron, Arthur Marvin.....	4 TCo	Duluth
Herzog, Richard Blum.....	3 IM	Atlanta
Hester, Robert Joseph.....	1 En	Atlanta
Heston, Charles Norman.....	1 Co	Jacksonville, Fla.
Heubeck, John.....	2 M	Baltimore, Md.
*Heycey, Stephen George.....	5 ECo	Bayonne, N. J.
Hibbard, Charles, Jr.....	2 Ch	Atlanta
Hicklin, William James, Jr.....	3 CE	Jacksonville, Fla.
Hicks, Gordon Crowl.....	2 ChE	Atlanta
Hicks, Hiram Marion.....	3 ECo	Lincoln, Ala.
Hiegel, James Anthony.....	3 A	Winter Park, Fla.
Higham, Harrison.....	2 GE	Maplewood, N. J.
Hightower, Robert Henry.....	2 IM	Dublin
Hilburn, John Presley.....	1 Co	Tampa, Fla.
Hill, Douglass Payton.....	1 En	Marietta
Hill, Henry Cooper.....	5 MCo	Winder
Hill, Thomas.....	2 ChE	Waynesville, N. C.
*Hiltz, Robert Grover.....	2 ECo	Chattanooga, Tenn.
Hinds, Boyd Walker.....	1 Co	Baltimore, Md.
Hinds, Joseph Edwin.....	1 En	Garden City, N. Y.
Hinton, Charles Vernon.....	3 MCo	Atlanta
Hirsch, William Irwin.....	3 A	Brooklyn, N. Y.
*Hite, John Preston.....	2 ChE	Jackson, Miss.
Hobbs, Charles Augustus.....	4 E	Atlanta
Hochmuth, Milton Samuel Von.....	1 Co	Augusta
Hock, Robert Carmody.....	2 MCo	Miami, Fla.
Hodge, Frank Charles.....	1 En	Jefferson City, Tenn.
Hodge, James Anderson.....	3 M	Dames Ferry
Hodges, Sam Norwood, Jr.....	1 En	Atlanta
Hoehl, William Sidney.....	3 CE	Coral Gables, Fla.
Hoffer, Jerry, Jr.....	G-AE	Camden, S. C.
Hogan, William Joseph III.....	4 IM	Atlanta
Hogg, James Vanderbilt.....	4 M	Amsterdam, N. Y.
Hogge, William Edward.....	1 En	Santiago, Cuba
Holder, Floyd Pierson.....	2 ECo	Macon

Hole, William Leonard.....	2 M	Honolulu, Hawaii
Holladay, George Hiram, Jr.....	4 ChE	Laurel, Miss.
Holland, Ralph Griffen.....	3 CE	Dallas
Holley, Robert Lynn.....	2 A	Atlanta
Holliday, Frank Richard.....	2 M	Bogart
*Holliman, Perry Bassett.....	3 ChE	Unadilla
*Hollis, Ardell O'Connor.....	1 Co	Macon
Hollis, Charles Burton.....	3 M	Macon
Holloman, Sam Wood.....	1 IM	Atlanta
Holloway, David Byers.....	1 IM	Atlanta
Holly, George James, Jr.....	2 IM	Elizabethton, Tenn.
Holmes, Fulton Elliott.....	1 Co	Sanford, Fla.
Holmes, John Graham.....	1 Co	Ensley, Ala.
Holmes, John Jacob.....	2 ChECo	Fairfield, Ala.
Holmes, John Parham.....	1 En	Macon
Holmes, William Henry.....	1 IM	Atlanta
Holston, Walter Eugene.....	2 ECo	Augusta
Holt, Edward Clarence.....	2 MCo	Byron
Holt, Riley Albert.....	2 T	Decatur
Holt, William Watson, Jr.....	3 M	Atlanta
Holz, Forrest Henry.....	4 IM	Atlanta
Honnell, Martial Alfred.....	G-M	Atlanta
Hood, Charles William.....	1 En	Atlanta
*Hook, William Thomas.....	5 M-Co	Mexico, Mo.
Hooker, Jeff Hart.....	4 M	Paducah, Ky.
Hooper, Chessley Flavil, Jr.....	2 E	Cedartown
Hooper, Maurice Fred.....	3 IM	Atlanta
Hope, Harold William.....	2 CEC	Atlanta
*Hopkin, Arthur McMurrin.....	3 ECo	Salt Lake City, Utah
Hopkins, John Martin.....	4 CE	Morristown, N. J.
Horn, Leonard Harold.....	1 Co	Atlanta
Horne, Gerard Fowler.....	2 CEC	Chattanooga, Tenn.
Horner, Howard Samuel.....	1 En	Bridgeton, N. J.
Horner, Leonard LeRoy, Jr.....	3 E	Atlanta
*Hornstein, Israel.....	5 ECo	Omaha, Neb.
*Hornstein, Joe S.....	3 ChECo	Omaha, Neb.
Hornibrook, Davis Cummins.....	1 En	Avondale Estates
Horton, John.....	3 ECo	North Logan, Utah
Horton, James Ulysses.....	2 E	Atlanta
Horton, Reese Hearn.....	1 Co	Americus
Horwood, Edgar Miller.....	2 M	Montreal, Quebec, Canada
Hoss, Eugene Lane.....	3 ECo	Atlanta
Hoss, Frank Vernon.....	1 Co	Atlanta
Houston, David Osman.....	3 E	Jacksonville, Fla.

*Howard, Anderson Lee, Jr.	1 Co	Cochran
*Howes, Leroy Knowlton	2 GE	Springfield, Mass.
Hoyle, Royce Augustine, Jr.	2 CE	Savannah
Huckabee, Walter England	3 IM	Thomaston
Hudson, Frank Parker	4 ChECo	Macon
Hudson, Richard Hall, Jr.	1 Co	Paris, Tenn.
Hudson, Robert Hartfield	4 ChECo	Waycross
Huff, Albert Burney	4 ChE	Rome
Huffman, Robert Wendell, Jr.	3 ChECo	Atlanta
Huggins, Harwell Steed	4 CE	Atlanta
Huggins, James Andrew	1 En	Atlanta
Hughes, James Warren	3 IM	Anderson, Ind.
Hughes, Marvin Lynn	3 A	Blytheville, Ark.
Huie, Edward Lynn	4 IM	Morrow
Hulbert, Donald Clark	4 CEC	San Diego, Calif.
Hume, Alfred Shepard	4 E	Miami, Fla.
Hume, Gilbert Edward	2 ChE	San Diego, Calif.
Humphrey, James Howard	3 A	Atlanta
Humphreys, William Charles	2 GE	Bradenton, Fla.
Hungerford, Hugh Dales	2 M	Augusta
Hunt, Harry Duff	2 GE	Atlanta
*Hunt, Homer Harris	5 MCo	Jacksonville, Fla.
Hunt, John Carver	2 CEC	Valdosta
Hunt, John Irby	1 En	Atlanta
Hunt, Willis Bennett	2 M	Blytheville, Ark.
Hurst, Sam Thomas, Jr.	3 A	Fort Valley
Huson, John William	2 E	Cristobal, Canal Zone
Huston, Myron Alfred	2 M	Macon
Hutcheson, John Duard	4 M	Douglasville
Hutchins, Samuel Fred	2 MCo	Coral Gables, Fla.
Hutchinson, James Atticus, Jr.	4 MCo	Moreland
Hutchinson, William Huber	4 M	Deep Water, N. J.
Huth, Herman Gay	4 M	Atlanta
Hutto, Clifton Elonzo	4 ECo	Savannah
Inestroza, Carlos Alberto	4 CE	San Pedro, Sula, Honduras, C. A.
*Ingram, Benjamin Mason	2 MCo	Florence, Ala.
Ingram, Dent Benjamin	1 En	Miami, Fla.
Ingram, Lewis Riviere	2 CEC	Bainbridge
Innes, Theodore John, Jr.	2 MCo	Raton, New Mexico
Inserni, Orlando Enrique	1 En	San Juan, Puerto Rico
Irwin, George Raney	1 IM	Atlanta
Iskrzak, Anthony John	3 MCo	Windsor Locks, Conn.
Ison, Robert Lindsey	4 IM	Atlanta

*Ivey, Henry Reese	2 GE	Tifton
Ivey, Ira Lew	2 IM	Stone Mountain
Ivey, John Randolph	4 M	Atlanta
Jachens, Richard Henry	1 Co	Savannah
Jackson, Bruce	3 ChE	Matewan, W. Va.
Jackson, Dallam Rivers, Jr.	1 En	Atlanta
Jackson, John Esra	3 T	Blackshear
Jackson, Royce Alfred	2 CE	Winder
Jackson, William Morgan	2 CEC	Jeffersonville
Jacob, Walter Joseph	4 IM	Trenton, N. J.
Jacobs, Ned Buron	1 En	Atlanta
Jacobson, Bernie Leonard	1 En	Winter Haven, Fla.
Jacobson, Herbert Reinhold	G-CE	Atlanta
Jaffe, Max	1 Co	Arverne, N. Y.
Jamison, Frank Dugger	3 IM	Atlanta
*Jamison, William Edward	4 IM	Atlanta
January, William McMurray	3 M	Trenton, Tenn.
Jarrell, Rembert Luff	2 Ch	Thomasville
Jarriel, John Henry	2 E	Collins
Jay, Philip Clayton, Jr.	1 En	Fitzgerald
Jeffcoat, Harry, Jr.	G-M	Augusta
Jefferies, Jimmie Stocker	1 En	Atlanta
Jeffers, Ulie Hamilton, Jr.	1 En	Ft. McPherson
Jemison, William Fishburn	1 Co	Lorane
Jenkins, Donald Carter	2 ECo	Mullins, S. C.
Jenkins, Harry Farmer	4 T	Rockmart
*Jenkins, Hugh Ingles	2 CE	Savannah
Jenkins, William Frederick	4 IM	Columbus
Jett, Shelby	1 En	San Antonio, Texas
Joe, Albert	1 En	Augusta
*Johns, Carol Norman	1 En	Atlanta
Johns, Quinton Roy	2 M	Miami, Fla.
Johns, Robert Henry	1 En	Brightwaters, N. Y.
*Johnson, Allan Barrett	2 CerE	Chicago, Ill.
Johnson, Charles Chichester	1 Co	Punta Gorda, Fla.
Johnson, Drew Liddell	4 IM	Atlanta
Johnson, David Robertson	1 En	Atlanta
Johnson, Edgar Dunson	4 ECo	LaGrange
Johnson, Mercer Harris	3 E	Siloam
Johnson, Raymond Arthur, Jr.	3 M	Macon
Johnson, Royster Heywood, Jr.	2 IM	St. Joseph, Mich.
Johnson, Robert Linder, Jr.	5 CEC	Rome
Johnson, Shelton Morris, Jr.	2 ChE	Atlanta
*Johnson, Verne Wesley	4 M	Bragg City, Mo.

Johnson, William Edward.....	1 Co.....	Pensacola, Fla.
Johnson, Will Osteen.....	2 ChE.....	Columbus
Johnston, David White.....	2 ChE.....	Atlanta
Johnston, Frederic Malcolm.....	1 En.....	Goggins
Johnston, John Edmon.....	3 ECo.....	Valdosta
Johnston, James Ray.....	3 A.....	Atlanta
Johnston, James Shuttleworth.....	2 M.....	Greenville, S. C.
Johnston, Robert Samuel.....	3 MCo.....	Atlanta
Johnston, William Marshall.....	4 E.....	Atlanta
Joiner, Henry Doherty.....	2 E.....	Athens
Joiner, William Rufus.....	2 M.....	Atlanta
Jolly, Herbert Henry, Jr.....	2 A.....	Atlanta
Jolly, Linton Daniel.....	2 IM.....	Decatur
Jolly, William Martin.....	1 IM.....	Atlanta
Jones, Alyn Richard.....	4 CE.....	Griffin
Jones, Bobby Jerome.....	1 En.....	Atlanta
Jones, Charles Merkle.....	Irr.....	Atlanta
Jones, Edward LeRoy.....	4 GE.....	Atlanta
Jones, George Gregory.....	1 Co.....	Atlanta
Jones, John Hardin, Jr.....	3 IM.....	Chattanooga, Tenn.
Jones, John Paul.....	1 En.....	Atlanta
Jones, J. Turner.....	4 T.....	Canton
Jones, Lary Gordon.....	1 En.....	Red Oak
Jones, Leslie Mangum.....	3 E.....	Farmville, Va.
Jones, Richard Elvin.....	2 MCo.....	North East, Md.
Jones, Robert West.....	3 PHE.....	Cedartown
Jones, Tom Moore.....	2 ECo.....	Macon
Jones, William Arch, Jr.....	1 Co.....	Sturgis, Ky.
Jones, William Charles.....	1 En.....	Norfolk, Va.
Jones, William Lee, Jr.....	4 E.....	Statesboro
Jones, Woodrow Nathaniel.....	1 Co.....	Bainbridge
Jonsson, Gustaf.....	3 IM.....	Rutherford, N. J.
Jordan, Carlisle Alwin.....	1 En.....	Atlanta
*Jordan, George Washington, Jr.....	1 Co.....	Savannah
Jordan, Henry Hunter.....	1 A.....	Atlanta
Jordan, Harry Sheppard, Jr.....	3 ChECo.....	Atlanta
Jordan, Joe William.....	3 Ch.....	Dublin
Jordan, Wex Wilbur, Jr.....	3 CE.....	Dublin
Joyner, Hugh Haralson.....	2 IM.....	Atlanta
Juhan, Quinley Dorsey.....	1 En.....	Stone Mountain
Justi, Charles Raine, Jr.....	2 CerE.....	Atlanta
Kahdy, George Assif.....	1 En.....	Macon
Kamack, Harry Joseph.....	4 ChE.....	Atlanta
Kane, John Brady.....	1 En.....	Atlanta

Kane, Vincent Allen.....	1 IM.....	Atlanta
Kaplan, A. N.....	2 T.....	Miami, Fla.
Karapin, Peter Paul.....	2 M.....	Fair Oak, Pa.
Karnes, Thomas Campbell.....	2 M.....	Covington, Va.
Kauffman, Sewell Thomas.....	3 IM.....	Webster Groves, Mo.
Kauffman, William Porter.....	4 IM.....	Webster Groves, Mo.
Keen, Lehman McGrath.....	1 En.....	Dublin
Kehr, George Steel.....	2 ChE.....	Cleveland Heights, Ohio
Keifer, Thomas Henry.....	1 En.....	Ashland, Ky.
Kell, Thomas Nance.....	3 IM.....	Decatur
*Keller, George Adam.....	1 En.....	Savannah
Kelley, Milton Eugene.....	3 IM.....	Atlanta
Kelly, John William.....	2 M.....	Orlando, Fla.
Kelly, Leo William.....	3 ChE.....	Atlanta
Kelly, Richard Joseph.....	1 En.....	Atlanta
Kelly, Taliaferro Bryan, Jr.....	1 Co.....	Asheville, N. C.
Kemp, William Marion.....	1 En.....	Atlanta
Kemper, Norman William.....	2 MCo.....	Atlanta
Kempton, Robert Stanley.....	2 ChE.....	Worcester, Mass.
Kendrick, Garland Lee.....	3 M.....	Arlington, Va.
Kendrick, Tom Franklin.....	2 ChE.....	Laurens, S. C.
Kenimer, Robert Lee.....	2 E.....	Cleveland
Kennedy, Walter Jamerson.....	1 En.....	Jacksonville, Fla.
Kennedy, William Redding.....	3 MCo.....	Augusta
Kenyon, Thomas Neal.....	2 ECo.....	Jacksonville, Fla.
Kerby, Wilford Dixon.....	4 E.....	Atlanta
Kernaghan, Sylvian Henry, Jr.....	3 ChECo.....	Hattiesburg, Miss.
Kerr, Thomas Alexander.....	2 ECo.....	Birmingham, Ala.
Kersey, Robert Noel, Jr.....	2 M.....	Largo, Fla.
Kesler, Stanley, Jr.....	3 M.....	Jefferson
Kessler, Roy Melvin.....	4 T.....	Atlanta
*Kestler, Emory Joseph.....	1 Co.....	St. Louis, Mo.
Ketchey, Charles Franklin.....	4 ECo.....	Winter Haven, Fla.
Keyserling, Monroe Phillip.....	1 En.....	Dale, S. C.
Kiel, Robert Whiteman.....	2 ChE.....	St. Petersburg, Fla.
Kilgore, Hoyt Eugene.....	1 IM.....	Chattanooga, Tenn.
Kilgore, William Huey.....	3 M.....	Villa Rica
Killiam, David Edwin.....	1 En.....	Tyler, Texas
Kilpatrick, Charles William.....	2 T.....	Atlanta
Kimbrough, Robert Landon.....	3 A.....	Guthrie, Ky.
Kinard, Lawrence Henry.....	2 GE.....	Atlanta
Kincaid, Carroll Wilson.....	1 Co.....	McKeesport, Pa.
King, Hal Foster.....	1 En.....	Cusseta
King, Joseph Henry.....	3 M.....	Anniston, Ala.

King, John Martin, Jr.	2 M	Lanett, Ala.
King, Jack Olmsted	2 IM	Atlanta
King, Norris Frampton	2 ECo	Decatur
*Kingsbury, Ralph Norman	1 En	Mattapan, Mass.
Kinnach, John Addy	1 En	Memphis, Tenn.
Kirkland, Jean Elmo, Jr.	2 GE	Atlanta
Kirstein, Alvin Ewald	3 E	Asheville, N. C.
Kitchens, Charles Dillon	4 CE	Warrenton
Klebold, Robert Samuel	2 A	Atlanta
Klein, Maurice	4 ChE	Augusta
*Kneisel, Edmund Bixby	4 T	Atlanta
Kneisel, John Frank	2 GE	Atlanta
*Koebley, Albert Victor, Jr.	3 MCo	Decatur
Kolakowski, Henry Ernest	3 M	Atlanta
Kolb, Ray Melin	3 M	Chicago, Ill.
Konowitch, Jerome	1 En	Wildwood, N. J.
Korten, Bruce Jack	1 En	Yonkers, N. Y.
Korycinski, Peter Francis	2 M	Schenectady, N. Y.
Kozlowski, Hillard	1 En	Thornhurst, Pa.
Krafka, Joseph Franklin III	2 M	Augusta
Krauss, Daniel Richard	4 IM	Brunswick
Krauss, Otto Edmund	2 M	St. Petersburg, Fla.
Kreitzer, William Rutherford	2 GE	Savannah Beach
Kresser, Donald Clarke	Irr	Boston, Mass.
*Krieger, Robert Lyman	1 En	Ft. Oglethorpe
Kuhn, James (Jim)	1 IM	East Bleckley, W. Va.
Kuniansky, Milton	2 IM	Atlanta
*Kuniansky, Raymond Louis	1 En	Atlanta
Kurrle, Christian	2 M	Baltimore, Md.
Kurtis, Alan Abraham	2 MCo	New York, N. Y.
Kutsche, Stuart Farnsworth	1 Co	Grand Rapids, Mich.
Kutsche, William F. Blake	1 En	Grand Rapids, Mich.
LaBoon, Joe Thaddeus	2 MCo	Newnan
LaBorie, George Ralph	2 M	Spencerport, N. Y.
Lacefield, William Randolph	5 ECo	Florence, Ala.
Lacerenza, Joseph Anthony	4 CE	Brooklyn, N. Y.
Lackey, Dalton Eston	4 IM	Barium Springs, N. C.
Lalor, Charles Kirwin	2 GE	Miami, Fla.
Lamas, Andrew Charles	2 T	Savannah
Lamas, Ted George	1 En	Savannah
Lamb, Hal William	2 IM	Chattanooga, Tenn.
Lamont, William Alexander	1 Co	Atlanta
*Lampert, Seymour	1 En	Dumont, N. J.
Lance, Robert Louis	3 Ch	Gainesville

Lane, George Luke, Jr.	1 Co	Aliquippa, Pa.
Lane, Norman Edward	4 CE	Chapel Hill, Tenn.
Lanford, Horace Whaley	2 CerE	Atlanta
Lang, Robert McDonald, Jr.	2 IM	Atlanta
Lange, Roy Harrison	2 M	San Antonio, Texas
*Langenwalter, Daniel Franklin	4 ECo	Twin Falls, Idaho
Langley, James Max	3 M	Memphis, Tenn.
Lankford, William Cotesworth	1 En	Tifton
Larew, John Jacob, Jr.	1 En	Mocksville, N. C.
Largen, Edward Hightower	2 T	College Park
*LaRoche, James Hughlett	4 ChE	Cocoa, Fla.
LaRoe, Edward Terhune	4 ChECo	Greensboro, N. C.
Laseter, Joel Brand	4 IM	Decatur
Lathem, George Wood	1 En	Atlanta
Latham, Louie Page	2 M	Atlanta
Laubly, Charles Safford	2 PHE	Atlanta
Lauen, James Eugene	2 MCo	Birmingham, Ala.
Laughton, Warren Preston	4 CE	No. Hampton, Mass.
Lauterbach, Adolph Edwin, Jr.	1 En	Bartonville, Ill.
Lawler, Henry Hilliard	1 En	Clarksdale, Miss.
Lawrence, Louis	4 M	Norfolk, Va.
Lawrence, Seaborn Evans	3 ECo	Ocilla
Lawrence, Tom Frank	2 M	Atlanta
Lazenby, James Milton	3 MCo	Decatur
League, Joseph Choate	1 A	Macon
LeBlanc, Alpheo Francis	2 M	Miami Beach, Fla.
Lebo, Julian Irvin	1 En	Memphis, Tenn.
Leckrone, Robert Elmer	3 IM	Canton, Ohio
LeClair, William Frank	1 En	Atlanta
LeCraw, Carter Buck	2 IM	Atlanta
LeCraw, Charles Stockard, Jr.	4 IM	Atlanta
*Ledbetter, Selman Alfonzo, Jr.	4 IM	Atlanta
Ledford, Gerald Edward	1 Co	Daytona Beach, Fla.
Ledusky, John Peter	3 M	New Haven, Conn.
*Lee, Asa Bell, Jr.	5 TCo	Great Falls, S. C.
*Lee, Ben Herman	3 IM	Atlanta
Lee, Carlton Levi	2 IM	Atlanta
Lee, Owen Clinton	2 M	Augusta
Lee, Robert Edward	3 IM	Rome
Lee, Sydney Smith, Jr.	4 E	Norfolk, Va.
Leedy, John Stratton	2 GE	Atlanta
LeFevre, Stanley Dart	1 En	Abington, Pa.
Legg, Milton Franklin	4 IM	Henderson, N. C.
Leitch, David Kirkwood, Jr.	1 En	Toccoa

*Lemon, John William	4	PHE	Atlanta
Lemon, William Lane	2	ECo	Smyrna
Lenhart, Albert Curtis	1	Co	Monongahela, Pa.
Lennard, William	3	CerE	Pelham
Lennox, David Alexander	2	M	Atlanta
*Lenz, Jose Carlos	3	M	Havana, Cuba
Leslie, Donald McLeod		G-E	Decatur
Leslie, James McQueen		Irr	Decatur
Lester, James Beaman	4	ECo	Conyers
Lester, Palmer Barefield	2	GE	Savannah
Letson, William Farmer	4	A	Norcross
Leudemann, John Alvin	2	M	St. Albans, N. Y.
*Lev, Milton	4	CECo	Youngstown, Ohio
Levi, Charles Isadore	2	GE	Anniston, Ala.
*Levin, Robert Bruce	4	IM	Miami, Fla.
Levine, Morton Leonard	1	A	Passaic, N. J.
Lewis, Clay Hogan	2	ChE	Clarksville, Tenn.
Lewis, David Gawley	1	En	Columbus
Lewis, Donald Macdonald	1	En	Daytona Beach, Fla.
*Lewis, Frank Davis	1	En	Tallahassee, Fla.
Lewis, James Carlton	2	IM	Columbus
Lewis, James Malcolm	1	En	Atlanta
Lewis, Jesse Mead	2	M	Ruston, La.
Lewis, Marion Thompson	2	IM	Columbus
Lewis, Oliver Kenneth, Jr.	1	En	Atlanta
Lewis, Robert Porcher	4	IM	Rockford, Ill.
Libbe, Herman Henry	4	E	Atlanta
Lightner, Thomas Hull		G-Ch	Maxwelton, W. Va.
Liipfert, James Crane	1	En	Ft. Valley
*Lilenthal, Walter Benjamin	1	En	Brunswick
Lim, Isabelo Pantangco	4	IM	Manila, P. I.
Lindgren, Edgar Florentin	3	IM	Atlanta
Lindgren, Ray William	1	Co	Miami, Fla.
Lindley, Sam Pierce, Jr.	3	M	Smyrna
Lindsay, Charles Sidney	2	A	Atlanta
Lindsay, Leroy Dewey	1	Co	Springfield, Ill.
Link, Chester Valentine	4	A	Chicago, Ill.
Linkous, Floyd Joseph	1	Co	Decatur
Lippincott, Harvey Holmes	2	M	Moorestown, N. J.
Lisenby, John Travis	1	Co	Norwood, N. C.
Littlefield, Robert Paul, Jr.	1	En	Atlanta
Livingston, Edward Ernest	4	CECo	Milledgeville
Lockery, James Edward	2	M	Central City, Ky.
Lockery, Lee David	3	M	Central City, Ky.

Lockhart, James Hamilton	3	E	Atlanta
Lockman, Chalmers David	3	IM	Hendersonville, N. C.
Lockman, William Stuart III	4	IM	Hendersonville, N. C.
Loder, Neill Jerome, Jr.	2	ECo	Chattanooga, Tenn.
Loftus, Kenneth Burr, Jr.	1	En	Daytona Beach, Fla.
Logan, Walter Wells	1	IM	Chattanooga, Tenn.
Lohlein, Frank	1	Co	Dumont, N. J.
Lohmann, Benjamin Harry	1	En	Fernandina, Fla.
Lokey, Ben Frank	4	ChECo	Georgetown
Lomax, Alfa	1	En	Atlanta
Lombana, Louis Adel	4	M	Havana, Cuba
Lombardo, Charles Thomas	4	M	Westerly, R. I.
Long, Eugene Robert, Jr.	2	ChE	Roanoke, Va.
Long, William Byron	1	En	Tupelo, Miss.
Long, William Francis	5	MCo	Camden, Ark.
Longino, Walter Bruce	3	IM	Atlanta
Lopez, Bennie Francis	4	ChE	Tampa, Fla.
Lord, Robert Charles	2	M	Pittsfield, Mass.
Loret de Mola, Melchor Alberto	3	E	Havana, Cuba
Lott, George Agnew	3	GE	New York City, N. Y.
Low, Avery Cobb, Jr.	2	M	Wilmington, N. C.
Lowe, William	3	M	Albany
Lowery, Andrew Armstrong	2	M	Manchester
Lowry, Benjamin Stanley, Jr.	4	ECo	Jackson, Miss.
Lowry, Herbert Land	3	M	Atlanta
Lugo-Vina Rafael Jose	1	En	Santa Clara, Cuba
Luis, Roberto Luis	2	CE	Pina Camaguey, Cuba
Lumsden, Walter Branham, Jr.	3	M	Nacoochee
Lynch, Charles Peter, Jr.	1	IM	Atlanta
Lynch, John DeYoung	1	En	Union, N. J.
Lynn, Arthur Wayne	2	T	Marietta
Lyons, Sam Augustus	1	IM	Atlanta
MacCullen, Allen, Jr.	1	En	Washington, D. C.
*MacDonald, Herron Martin, Jr.	4	IM	Charlotte, N. C.
MacDonell, Alexander Henry	4	M	St. Marys
MacGregor, Richard Vale	1	En	Tampa, Fla.
MacIntosh, Lawrence Hudson	4	A	Adel
MacIntyre, Daniel Irwin	4	IM	Atlanta
Mack, Francis Murray		Irr	Atlanta
*MacKenzie, George Nelson, Jr.	3	M	Chattanooga, Tenn.
Mackey, John Curtis	2	T	Ware Shoals, S. C.
Maclin, John Clare	1	Co	Shreveport, La.
MacManus, Ernest Duke	2	IM	Atlanta
MacMorland, Edward Elliott	3	M	Alexandria, Va.

MacNabb, Malcolm	1 A	Atlanta
Madden, John Fred	2 ECo	Columbia, Miss.
Maderra, James Thomas	1 Co	Thomaston
Maddux, Richard Henry	1 En	Macon
Magill, Francis William	2 CE	Thomasville
Mahoff, Andrew Alexander	4 GE	Santa Monica, Calif.
Mahoney, William Cone, Jr.	2 M	Atlanta
Majeski, Alexander John	1 A	Waterbury, Conn.
Makredis, John Damon	2 M	New York, N. Y.
Malone, George Hurst	1 En	Atlanta
Malone, James Comer	4 M	Atlanta
Malone, Ralph Glenn, Jr.	1 En	Havana, Cuba
Malone, William Thomas	1 En	Atlanta
Malvestuto, Frank Stephen	1 En	Coral Gables, Fla.
Manley, Bryan Sewall, Jr.	1 Co	Murfreesboro, Tenn.
Manley, Matthew Henry H.	4 ChECo	Griffin
*Manley, Theodore Manson	5 ECo	Griffin
Manry, William Fillmore III	3 IM	Atlanta
Manzanilla, Joseph Justo	3 M	Havana, Cuba
Marchbanks, Glenn Henry, Jr.	2 A	Atlanta
Marchman, Henry, Jr.	3 ChE	Camilla
Marcin, Walter Joseph	1 IM	Binghamton, N. Y.
Marquette, Julius William	5 MCo	Mexico, Mo.
Marshall, Daniel Victor, Jr.	1 En	Atlanta
Marshall, Jack Alexander, Jr.	1 En	Atlanta
Marshall, Wirt Edwin, Jr.	3 IM	Rome
Martin, Arthur Carwile	2 E	Atlanta
Martin, Charles Norris, Jr.	4 IM	East Point
Martin, David Bryce	1 En	Dallas, Texas
Martin, Hugh Wilson	3 IM	Thomaston
Martin, Ivan Hill, Jr.	2 MCo	Lynchburg, Va.
Martin, John Alston	1 En	Atlanta
*Martin, Laurence Freeman	4 ECo	Joplin, Mo.
Martin, Roy Allen	3 ECo	Cocoa, Fla.
Martin, Robert William	1 En	Sandusky, Ohio
Martinson, Raymond Arvid	4 MCo	Northport, L. I., N. Y.
Marvin, Harry Norton	1 En	Sarasota, Fla.
Marvin, Kenneth Tackabury	2 ChE	Sarasota, Fla.
Mason, James Fred	2 M	Atlanta
Mason, Robert Edwards	4 M	Laurelton, L. I., N. Y.
Massengale, Gordon Bonner	4 CerE	Atlanta
Massey, George Whatley	2 T	Atlanta
Massey, Irvin McDowell	4 IM	Atlanta
Massey, Joseph Tooke	2 M	Macon

Masterton, Bruce	2 ChE	Santa Cruz, Calif.
Mathews, Charlie Joe	4 E	Statesboro
Mathieu, Horace Joseph	2 M	New Bedford, Mass.
Matson, Albin Gustaf	1 En	Ware, Mass.
Matte, Paul Joseph	2 M	Knoxville, Tenn.
Mattox, William Leckie	1 En	Atlanta
Mauldin, Henry Walter, Jr.	1 En	Atlanta
Mauney, George Stevenson	3 E	Cleveland
Maxwell, Robert McAlpine	1 En	Norris, Tenn.
May, Roby deWitt	2 ChECo	Watauga Valley, Tenn.
Mayfield, Allen Douglass	4 ChE	San Antonio, Texas
Maynard, William Pinckney	4 MCo	Waycross
Mayo, Charles Norris	4 IM	Waycross
Mayo, Henry Gray	2 IM	Portsmouth, Va.
*Mayo, Joseph Britton	4 IM	Portsmouth, Va.
Mazzacca, Alfred John	1 En	Rutherford, N. J.
McAuley, Sheridan Forschler	1 En	Atlanta
McCaa, Edgar Allen	3 IM	Port Gibson, Miss.
McCaa, Nelson Eugene	3 E	Port Gibson, Miss.
McCabe, Sydney Walker	1 En	Washington, D. C.
McCallum, Robert Ernest	2 IM	Henderson, Tenn.
McCarty, Albert Francis	3 CEC	St. Albans, L. I., N. Y.
McCarty, John Ottley	1 En	Atlanta
McCarty, James Weldon	4 T	Lubbock, Texas
McCarty, LeRoy Pearce	1 En	Tupelo, Miss.
McClanahan, David Newton	3 ChE	Columbus, Miss.
*McClaren, Donald Lyles	5 MCo	Nashville, Tenn.
McCleskey, Walter Scott	2 CE	Waycross
McClure, Arthur Bruce	1 En	Canton, N. C.
McClure, Daniel Edward	1 Co	Harrisville, N. H.
McClure, Edward Wayne	1 A	Ft. Lauderdale, Fla.
McClure, Hoyt Lafayette	2 ECo	Atlanta
McClure, Milton Richard	4 IM	Atlanta
McComb, Henry Emerson	3 CE	Milledgeville
McCown, Marion Ryan	2 ECo	Charleston, S. C.
*McDaniel, Edwin Dale	5 ECo	New Smyrna Beach, Fla.
McDaniel, John Eugene, Jr.	2 CE	Memphis, Tenn.
McDonald, Alvin Arnold	1 IM	Atlanta
McDonough, John Wright	2 M	Dallas, Texas
McDuffie, Robert Iverson	1 En	Decatur
McFarlan, David Charles	2 A	Hendersonville, N. C.
McGarity, Henry Clay	3 MCo	Atlanta
McGaughey, Howell Mapp, Jr.	4 T	Dunwoody
McGaughey, Roy Dorsey, Jr.	2 CE	Atlanta

McGaw, Sidney Gray, Jr.	1 En	Atlanta
McGee, Edward Allen	1 A	Carrollton
McGinty, Robert Franklin	2 IM	Atlanta
*McGough, Wilson Newton	4 GE	Texarkana, Ark.
McGowan, John	2 ChE	Waynesboro, Pa.
McGraw, Charles Tyrous	2 CerE	Atlanta
McGuire, Edwin Ambrose	1 En	Atlanta
McGuire, Thomas Buchanan	2 M	Sebring, Fla.
*McGuire, William Patrick	3 M	Decatur
*McIntosh, Claude Howard	2 ChECo	Augusta
McKamy, Thomas Knox	3 MCo	Chattanooga, Tenn.
McKay, Edward Nixon	3 A	Rome
McKee, George Henry, Jr.	4 E	Atlanta
McKenzie, Frank Ellis	1 En	Atlanta
McKinney, Jack Lewis	1 IM	Atlanta
McKinney, Marion O'Dell, Jr.	2 GE	Chattanooga, Tenn.
*McKinnon, Charles Alexander	4 IM	Atlanta
McLain, Warren Clifford, Jr.	3 ChE	Decatur
McLain, William Richard	4 ChECo	Huntsville, Ala.
McLaney, George, Jr.	1 En	Rome
*McLarty, William Jackson	4 IM	Atlanta
McLendon, Samuel Cheney	1 En	Tignall
*McLeod, Charles Alexander	1 En	Savannah
McLeod, Charles Roderick	2 M	Pineview
*McMahon, Everette Keith	2 ChE	Wichita, Kansas
McNeill, Hector McAllister	2 T	Florence, S. C.
McNenney, Eugene	2 M	Tampa, Fla.
McNulty, Frank Martin	2 CE	Dawson
*McRae, Donald Murdoch	5 MCo	Douglas
McRae, Farquhar	2 CE	Savannah
McRae, Fred Hampton	1 En	Atlanta
McRae, Grady Malcolm	3 M	Augusta
McWhite, George Edwin	2 M	Atlanta
McWilliams, William Reese	3 M	Dalton
Meadow, Francis Jackson	1 Co	Danielsville
*Meagher, Arch W	1 Co	Whitwell, Tenn.
Meeks, Charles Edward	2 TCo	Blairsville
Meeks, Jack L.	4 ChECo	Blairsville
Mehaffey, Marshall James	4 T	Lanett, Ala.
Meier, George Henry	2 M	Smyrna
Merkey, Richard Edward	1 En	Miami, Fla.
Merrill, James Campbell, Jr.	4 IM	Jacksonville, Fla.
Merritt, Norman Arlie	2 ChECo	Ft. Worth, Texas
Merritt, Warren George	3 E	Greensboro

Merryman, Ralph E.	G-ChE	Gallatin, Tenn.
Metcalf, Harvey Marion	2 E	Albany
Metcalf, Raymond Oscar	4 Ch	Westminster, Vt.
Metzger, Donald MacKaye	1 En	Ft. McPherson
*Michalczewski, Frank Walter	2 M	Newark, N. J.
Milford, James Ralph	1 En	Atlanta
Millard, Maydwell Henderson	1 En	Atlanta
Miller, Frank Alexander, Jr.	3 ECo	Atlanta
Miller, Frank DeLaFontaine, Jr.	4 IM	Atlanta
*Miller, Fred Patterson	1 En	Columbus
Miller, George Ericson	3 CEC	Atlanta
Miller, Herbert	1 En	New York, N. Y.
Miller, Howard Ceif	1 Co	Avondale Estates
Miller, John Alexander	3 A	Atlanta
Miller, Sebastain Geisreiter	3 A	Atlanta
Miller, Samuel Lee	1 Co	Atlanta
Miller, William Jones	1 Co	Fairfax, S. C.
Milligan, Harry Chapman	2 IM	Atlanta
Milling, Roy Edison, Jr.	2 CerE	Atlanta
Mills, Ralph Evans, Jr.	2 CEC	Hilton
Mingledorff, Frank Crum	4 CEC	Douglas
Mitchell, Bryan Burdette	3 T	Decatur
Mitchell, Blake Earnest	2 M	Hampton
Mitchell, Edwin Thomas	2 CerE	Decatur
Mitchell, Floyd	1 IM	Tulahoma, Tenn.
Mitchell, George Senie	2 M	Atlanta
Mitchell, Ralph Waymon	1 En	Atlanta
Mitchell, William Wilson	4 IM	Macon
Mixon, George Edward	3 IM	Ocilla
Molnar, Atlas Huckabee	1 En	Cuthbert
Monaghan, Eric Julian, Jr.	2 M	Philadelphia, Pa.
Monck, John George	2 CerE	Brooklyn, N. Y.
Monsport, Eugene John	2 M	Bridgeport, Conn.
Montaldo, John Stanley	4 PhE	Ossining, N. Y.
Moody, James Epps	1 En	Atlanta
Moody, William Franklin	3 ECo	Little Rock, Ark.
Mooney, Jack Opal	4 CEC	Atlanta
Moore, Alton Edison	1 En	Atlanta
*Moore, Charles Binford	1 Co	Amory, Miss.
Moore, Carl Gordon	1 Co	West Newton, Pa.
Moore, Edward Alfred	2 MCo	Daytona Beach, Fla.
Moore, Gary Garner	1 En	Atlanta
Moore, Hugh Campbell	4 ECo	White Plains
Moore, Hugh McVay	2 ECo	Tifton

Moore, James Pleasants.....	4 M	Tahlequah, Okla.
Moore, Joe Riddell.....	3MCo	Atlanta
Moore, Oliver Pittman.....	3 IM	LaGrange
Moore, Robert Julian.....	1 Co	Covington
Moore, William Wallace.....	1 En	Barnesville
Mora, Raul Galvan, Jr.....	2 M	St. Petersburg, Fla.
Moreira, Renan.....	1 En	Camaguey, Cuba
*Morgan, Albert Rufus, Jr.....	5 CECo	Columbia, S. C.
Morgan, Forrest Adams.....	2 ECo	Atlanta
Morgan, Joseph Warner.....	4 A	Waycross
Morgan, Ted Harrison, Jr.....	2 ECo	Atlanta
Morgan, William Watts, Jr.....	2 M	Atlanta
Morris, Atticus James, Jr.....	1 En	College Park
Morris, Charles Mace.....	3 T	Marietta
Morris, George Wendell.....	1 En	Atlanta
Morris, John Blooming.....	3 M	Carlsbad, N. Mexico
Morris, Merritt Eugene.....	1 En	Sparta
Morris, Paul Mayes.....	2 ChECo	Marietta
Morrison, Clarence Rudisill.....	3 E	Hickory, N. C.
Morrison, Harold Gibson.....	1 En	Winter Haven, Fla.
*Morrison, Norman James, Jr.....	2 E	Chevy Chase, Md.
Morrison, Roy Clay, Jr.....	2 E	Atlanta
Morriss, Grover Wendell.....	5 TCo	Norcross
Morriss, Paul Vernon.....	1 En	Norcross
Morrow, Harry Kenneth.....	1 En	Dormont, Pa.
Morrow, Richard Daniel.....	1 En	Decatur
Morton, Paul Ammon.....	2 E	Atlanta
Moses, Jack.....	1 IM	Vidalia
Motlow, Jack Daniel, Jr.....	4 TCo	Lynchburg, Va.
Mott, Cyril Robert.....	2 CE	Memphis, Tenn.
Mount, Eldridge Milford, Jr.....	4 ECo	Statesboro
Mountcastle, William Randolph.....	1 En	Smyrna
Moyer, James Warren.....	1 En	Chicago, Ill.
Muerth, Albert Martin.....	2 IM	Chattanooga, Tenn.
Muir, Robert Campbell.....	1 En	Atlanta
Mulling, Eugene Gregory.....	2 M	Ft. Monroe, Va.
Mumma, Harlan Leslie, Jr.....	3 IM	Brooklyn, N. Y.
Mumma, John Rathbone.....	2 IM	Brooklyn, N. Y.
Mundy, Reuben Wallis.....	3 ChE	Jonesboro
Munn, Arthur Neil.....	2 IM	Atlanta
Munroe, Richard Clagette.....	2 IM	Quincy, Fla.
Munroe, William Donald.....	2 M	Quincy, Fla.
Munson, Lloyd Emery.....	3 M	Miami, Fla.
Murphey, Billy Burns.....	1 En	Newnan

Murphy, David Joseph.....	2 A	Atlanta
Murphy, Fred Michael, Jr.....	3 M	Atlanta
Murphy, James LeRoy, Jr.....	2 ChECo	Tifton
Murphy, Joseph Robert.....	1 En	Atlanta
Murphy, Newell Barnard.....	1 En	Trion
Murphy, Pascal Herman, Jr.....	2 E	Etowah, Tenn.
Murphy, Robert Wiley.....	4 IM	Jesup
Murphy, William Gregory.....	2 E	Atlanta
Murray, Charles Taber, Jr.....	3 ChECo	Columbia, S. C.
Murray, George Phillip, Jr.....	3 IM	Atlanta
*Murray, Harry Ernest.....	1 En	Crewe, Va.
*Murray, Ronald McGregor.....	3 E	Columbus
Murray, Thomas Monroe.....	2 IM	Atlanta
Murray, William Frank.....	1 Co	Bremen
Murrow, Samuel Joseph, Jr.....	5 ECo	Savannah
Musgrave, Forest Melvin.....	1 En	Tampa, Fla.
Musgrave, William Jackson.....	5 ECo	Lake Mary, Fla.
Myers, Charles Frederick.....	4 M	Rockledge, Fla.
Myers, Vance Askew.....	3 ChECo	Brownsville, Texas
Myrick, Robert Lee.....	3 M	Atlanta
Nadeau, Arthur Rhuben.....	1 En	Newark, N. J.
Nading, Alexander Montgomery.....	3 IM	Winston-Salem, N. C.
Naegeli, Charles A.....	3 GE	Maywood, N. J.
Nalley, Gordon, Jr.....	1 En	Atlanta
*Napier, Edward Dankey.....	2 ChE	Macon
Narkates, Howard Eugene.....	1 Co	Birmingham, Ala.
Neal, Charles Minchin, Jr.....	5 MCo	Columbus
Neas, Lucas McCaw.....	2 E	Johnson City, Tenn.
Neel, Howell Heard.....	2 M	Thomasville
Neely, Lester Marlin, Jr.....	3 E	Marion, Ala.
Neely, Lindsay Miner.....	4 E	College Park
Neidhardt, Carl Richard.....	1 A	Chattanooga, Tenn.
Neill, Robert Deaver.....	1 En	Seneca, S. C.
Neisius, William Vincent.....	5 ChECo	Atlanta
Nelson, Frank Harold, Jr.....	1 En	Charlotte, N. C.
Nelson, Harry Burton.....	4 IM	Atlanta
Nelson, Richard Marion.....	4 PHE	Atlanta
Nettles, Jack Edward.....	4 CE	Atlanta
Neuner, Cyrus Milton.....	2 M	Barnesville
Neves, Roy Foster.....	1 En	Ft. Gaines
Newborg, David Sidney.....	2 E	New York, N. Y.
Newby, David Henry.....	3 ECo	Birmingham, Ala.
Newell, Robert Olin.....	3 IM	Atlanta
Newman, Donald Robinson.....	1 En	Atlanta

Newman, Howard Harvey.....	1	En	Atlanta
Newman, Harold Leon.....		G-E	Sylvester
Newman, James Gardner.....	2	GE	LaGrange
Newsom, James Young.....	1	En	Union Point
Newton, Frank Edward.....	2	M	Atlanta
Newton, William George.....	2	ChECo	Chattanooga, Tenn.
Ney, Robert William.....	1	En	Atlanta
Nicholls, Augustus Hoke.....	2	ChE	Ithaca, N. Y.
Nichols, Daniel Shirley.....	1	Co	Harper's Ferry, W. Va.
Nickell, Donald Holt.....	3	E	Ft. Myers, Fla.
Nifnecker, Leonard David.....	2	GE	Ft. Worth, Texas
Nigro, James.....	3	M	Ft. Benning
Nisbet, John LaWall.....	3	T	Winston-Salem, N. C.
Nishikawa, George Reizo.....	2	A	New York, N. Y.
Nix, Roy Carl.....	3	ECo	Cleveland
Nixon, Freeman Walker.....	2	M	Savannah
Nolan, Hubert Lester.....	5	MCo	Rockmart
Norman, James Marshall, Jr.....	2	GE	Atlanta
Norman, Richard Marks.....	4	M	Columbus
North, Donald Christopher, Jr.....	4	CE	Clearwater, Fla.
Northup, William Hazard.....	3	M	Pensacola, Fla.
Notareschi, Don Joseph.....	1	En	McIntyre, Pa.
*Nunes, Joseph Leon.....	4	CerE	Atlanta
Nunnally, William Branch.....	1	En	Rome
Nunnelee, Walter Irby, Jr.....	4	ChE	Atlanta
Nutt, Thomas Add.....	1	Co	Jackson
O'Barr, Tom Bayard.....	1	Co	Chile, S. A.
O'Callaghan, Richard Hayes.....	2	IM	Atlanta
Odom, William Earl.....	1	En	Thomaston
Oglesby, Redding Garrett.....	3	ECo	Atlanta
Ohberg, Olof Ernst.....	1	En	New York, N. Y.
O'Keefe, Frank Lewis.....	2	A	Atlanta
Olcott, George Potts III.....	2	M	East Orange, N. J.
Olen, Steve.....	1	En	Somerville, N. J.
Olive, Dixon Raines.....	2	PHE	Talbotton
Oliver, Charles Thomas.....	1	En	Brooklyn, N. Y.
Oliver, Edward Purse.....	3	M	Decatur
Oliver, Ferdinand Daniel.....	1	Co	Chattanooga, Tenn.
Oliver, Gilbert George.....	1	A	Port-Au-Prince, Haiti
*O'Neal, Bruce.....	3	ECo	Huntsville, Ala.
Oquendo, Raul Augusto.....	4	M	Sta. Clara, Cuba
*Ormond, Alexander Clark.....	4	M	Savannah
Orr, George Edward.....	3	ChECo	Chattanooga, Tenn.
Orrin, Robert Carlton.....	4	CE	Palatka, Fla.

*Oster, Robert Howard.....	4	M	Swissvale, Pa.
Ostrom, Charles Theodore.....	2	GE	Garden City, N. Y.
O'Toole, Robert.....	4	E	Deland, Fla.
Ouzts, John Andrew.....	3	M	Augusta
*Overstreet, Edward Kinchley III.....	2	E	Sylvania
Overstreet, John Franklin.....	1	Co	Savannah
Overstreet, Robert Samuel.....	4	MCo	Savannah
Owen, Edward Powell.....	1	En	Miami, Fla.
Owen, Robert John.....	1	En	Portland, Me.
Owen, Steve Clements, Jr.....	3	MCo	Woodbury
Owen, William Russell.....	2	ChE	Verga, N. J.
Owens, William Bruckner.....	5	MCo	Decatur
Ozier, Richard Paul, Jr.....	2	M	Somerville, Tenn.
Pace, William Wilkinson III.....	4	IM	Albany
Padgett, Sam Finley.....	4	CE	Atlanta
Pafford, Jeff Wilcox.....	3	A	White River Junction, Vt.
Page, Paul Francis.....	1	IM	Laconia, N. H.
Pair, Robert Henry.....	2	PHE	Atlanta
Palmer, Byron Herbert, Jr.....	2	M	Atlanta
Palmer, Robert Brown.....	2	IM	Maplewood, N. J.
Palmer, Wallace Walter.....	2	E	Atlanta
Palmour, William Crenshaw.....		Irr	College Park
Pardue, Daniel Gibson.....	2	IM	Murfreesboro, Tenn.
*Parham, Troy Hilliard, Jr.....	4	ChECo	Asheville, N. C.
Paris, Walter Edwin.....	4	CE	Atlanta
Parker, Albert Sidney.....	3	IM	Millen
Parker, Eli Emanuel.....	2	ChECo	Sumter, S. C.
Parker, Fred Lee.....	4	CECo	Cedartown
Parker, William Shelley.....	2	GE	Norcross
*Parks, Edward Schley.....	3	IM	Atlanta
Parks, Lloyd Elwin.....		G-Ch	Lexington, N. C.
Parks, Oattis Elwyn.....	3	IM	Atlanta
*Parks, Richard Anthony.....	1	A	Atlanta
Parks, Tom Alvin.....	1	En	Atlanta
Parks, William Allen.....	3	ChE	Atlanta
Parmenter, Bruce William.....	1	En	Riverhead, N. Y.
Parnell, James Eugene.....	1	Co	McComb, Miss.
Parnelle, Francis Wallis.....	3	M	Savannah
Parr, John Marion.....	3	GE	Savannah
Paschal, Caraker Denham.....	2	A	Decatur
Paschal, Lloyd Etheridge, Jr.....	1	En	Atlanta
Paschal, William Avner.....	1	IM	Atlanta
Passarello, Nicholas John.....	1	En	Northvale, N. J.
Pate, Sam Gordon, Jr.....	3	M	Atlanta

Patten, Allen Judy.....	5	ECo.....	Newbern, N. C.
Patterson, Hubert.....	3	MCo.....	Birmingham, Ala.
Patton, Charles Otis, Jr.....	4	IM.....	Rock Hill, S. C.
Patton, Mitchele Albert Nevin, Jr.	Irr	Rome
Paulin, Basil George.....	1	Co.....	Atlanta
Paulk, John Henry.....	3	IM.....	Willacoochee
Paxton, Hugh Wallace.....	2	M.....	Houston, Pa.
Peace, Thomas Lee.....	1	Co.....	Atlanta
*Peacock, Cassius Lee.....	3	ChECe.....	Atlanta
Peacock, Glenn Fortson.....	3	ChECe.....	Columbus
Pearce, Henry Whitman, Jr.....	2	IM.....	Atlanta
Pearce, Thomas Jefferson.....	1	En.....	Gainesville
Pearman, Horace Capelle.....	2	GE.....	Syracuse, N. Y.
Pease, Harry Houston.....	2	TCo.....	Cohutta
Peck, Robert Calvin.....	2	IM.....	Roanoke, Va.
Peeples, John Randolph.....	3	CECo.....	Augusta
Pendleton, Charles Roberts.....	1	Co.....	Macon
Penn, Charles Orman.....	2	MCo.....	Douglas
Penney, Walter Marvin.....	2	M.....	Decatur, Ala.
Pérez, Juan Augustin.....	1	En.....	Pinar-del-Rio, Cuba
Perkerson, Louie Neil.....	3	IM.....	Atlanta
Perkins, Charles Louis.....	3	IM.....	Clarks, La.
Perritt, William Otho, Jr.....	3	GE.....	Florence, Ala.
Perry, Edward Vincent, Jr.....	1	En.....	East Orange, N. J.
Perry, George Robert.....	2	T.....	Maplewood, N. J.
*Perry, Howard Raymond.....	5	ECe.....	Arlington
*Person, Charles Edwin, Jr.....	5	MCo.....	Atlanta
Peterfreund, Lawrence.....	1	En.....	Bronx, N. Y.
Peters, Charles Kesmodel.....	1	Co.....	Biloxi, Miss.
Peterson, Lewis Elmer.....	1	En.....	Stone Harbor, N. J.
Peterson, Richard Joseph.....	2	M.....	Washington, D. C.
Petty, Charles Harold, Jr.....	1	En.....	Atlanta
Petway, William Ernest.....	3	M.....	Atlanta
Pfeifer, John Leo.....	3	ChE.....	Little Rock, Ark.
Pharr, Robert Heard.....	4	T.....	Washington
Phillips, Edward Lemoine.....	3	ChE.....	Corning, N. Y.
Phillips, George William.....	4	ChE.....	Woodward, Ala.
Phillips, James Lewis, Jr.....	2	M.....	Birmingham, Ala.
Phillips, Weller Abner.....	2	ChECe.....	Miami, Fla.
Philpot, John Arthur.....	1	En.....	Nashville, Tenn.
Piazza, John Peter.....	2	ChE.....	Bronx, N. Y.
Picco, John Francis, Jr.....	4	CE.....	Brooklyn, N. Y.
Picozzi, Gabriel James.....	2	M.....	Summit, N. J.
Pieper, Edward Miller.....	3	M.....	St. Louis, Mo.

Pieringer, Charles Francis.....	1	En.....	West Coxsackie, N. Y.
Pilch, Charles John.....	1	Co.....	Olyphant, Pa.
Piper, James Richard.....	2	M.....	Richmond, Va.
Piperas, Nicholas, Jr.....	2	M.....	New Haven, Conn.
Pippen, Macon Crawford.....	1	IM.....	Ensley, Ala.
Pippen, Tom Sykes.....	4	IM.....	Birmingham, Ala.
Pirog, Eugene Leonard.....	3	IM.....	Greenfield, Mass.
Pitman, Richard Dixon.....	1	En.....	Atlanta
Pittard, James McCurdy, Jr.....	2	MCo.....	Monticello
Plaster, Ralph Augustus.....	2	IM.....	Atlanta
Platter, Henry Van Every.....	1	En.....	Atlanta
Platzman, Paul Morton.....	1	En.....	Brooklyn, N. Y.
Plaxico, Monroe Livingston.....	3	GE.....	Atlanta
Pocius, Clarence F.....	Irr	Hapeville
Poer, George William.....	1	En.....	Atlanta
Pollard, Warren Randolph, Jr.....	1	En.....	Atlanta
Ponce, Sergio Pedro.....	2	IM.....	Miami, Fla.
Ponder, Charles Henderson.....	3	T.....	Griffin
Ponder, William Thomas.....	1	En.....	Canton
Pool, Victor Ray.....	3	ECe.....	Elk City, Okla.
Poole, James Parrott.....	2	ChE.....	Americus
Poolos, Nick.....	1	En.....	Atlanta
Poor, Albert Franklin, Jr.....	5	MCo.....	Woodstock
Porter, Howard Eugene.....	5	CECo.....	Chesterfield, S. C.
Porter, James Tinsley.....	1	En.....	Atlanta
Post, Ernest Richard.....	1	Co.....	Port Richey, Fla.
Potter, Wayne Frederick.....	2	ECe.....	Grays Lake, Ill.
Potts, Irwin Lawrence.....	1	En.....	Savannah
Powell, William Evans.....	4	E.....	Atlanta
Power, Charles Henry.....	3	ChECe.....	Decatur
Power, Dixon Douglas.....	1	A.....	Buford
Prator, John William.....	1	En.....	Atlanta
Prendergast, Earle Wynton.....	4	E.....	Atlanta
Presson, Lawrence Stewart.....	2	M.....	Monroe, N. C.
Preston, John Gray.....	G-E	Marietta
Price, Edmund Janes, Jr.....	2	CE.....	Ventnor, N. J.
Price, Hugh Kendall.....	1	En.....	Atlanta
Price, Hugh McNatt.....	1	En.....	Vidalia
Price, Oscar Monfort, Jr.....	4	ChE.....	Birmingham, Ala.
Price, William Alexander.....	2	IM.....	Atlanta
Pries, Ralph William.....	4	M.....	Atlanta
Prince, Richard Edward.....	2	M.....	Norfolk, Va.
Pritchard, Raymond Ralston.....	2	GE.....	Atlanta
Pritchett, James Hill.....	1	En.....	Atlanta

Prothro, Robert King.....	2	ChE	Griffin
Pryor, Luther McBride.....	1	Co	Douglas
Pryor, Robert McBride.....	2	CE	Moultrie
Pryor, Shepherd Green III.....	3	E	Fitzgerald
Puckett, Charles Cofer.....	1	En	Atlanta
Puckett, Preston Gregory.....	1	En	Atlanta
Puig, Rafael Antonio.....	4	M	Havana, Cuba
Pullen, Walter Hudson.....	2	IM	Atlanta
Pulliam, Charles Smith.....	2	ChECo	Hillsboro, Texas
Pundick, Boris.....	2	M	New York, N. Y.
Pupulidy, Alexander.....	2	CerE	Astoria, L. I., N. Y.
Purinton, Harold Garland.....	1	Co	West Bowdoin, Me.
Quandt, Adam George, Jr.....	1	En	Wethersfield, Conn.
Quarles, James Eugene.....	2	M	Smyrna
Quigg, Byard Gordon.....	2	IM	Rome
*Quillian, Hugarwyn.....	3	CECo	Daytona Beach, Fla.
Quillian, James Wylie, Jr.....	3	CECo	Daytona Beach, Fla.
*Quinn, William Gervaise, Jr.....	1	Co	Atlanta
Rabin, David.....	2	M	Rockaway Beach, L. I., N. Y.
Racey, Ralph Ernest.....	4	M	Atlanta
Raettig, Alvin Ernest, Jr.....	4	M	Decatur
Ragan, Alexander Timothy.....	1	Co	Augusta
Ragsdale, Harry Wilkerson.....	3	E	Atlanta
Raine, Thomas Willan.....	2	IM	Alderson, W. Va.
Rainey, Benajah LeRoy.....	3	T	Buena Vista
Rainey, Henry Frederick.....	2	CECo	Ellaville
Ralston, John Moore.....	2	ChECo	Savannah
Rambo, William Stanley.....	2	ChE	Atlanta
Ramirez, Joseph Guillermo.....	3	M	Havana, Cuba
Ramsaur, Stokes.....	2	T	Greenville, S. C.
Ramseur, Richard MacMillan.....	1	En	Greenville, S. C.
Randman, Myron.....	1	En	Atlanta
Rankine, Christopher Allen Nisbet	Irr		Rahway, N. J.
Ransom, Eugene Mayson, Jr.....	2	T	Atlanta
Raulerson, John Derieux, Jr.....	1	En	Bartow, Fla.
*Ravenel, Bruce Walker, Jr.....	4	EC	Columbia, S. C.
Raynes, Julian Jacob.....	3	PHE	Augusta
Rea, Lathan Walker.....	3	E	Charlotte, N. C.
Read, Chase Broadwater, Jr.....	3	MCo	Jacksonville, Fla.
*Rebeske, John Joseph.....	1	En	Ft. Screven
Redd, James Thomas.....		G-ChE	Beaverdam, Va.
Redmond, Vincent Gaylord.....		G-AE	Ogdensburg, N. Y.
Redwine, Bradley Lewis.....	2	M	Atlanta
Reed, Clifford Eugene, Jr.....	2	E	Swainsboro

Reed, Richard C.....	1	Co	North Tarrytown, N. Y.
Reeve, Charles Phillip, Jr.....	3	E	Calhoun
Reeves, William Henry, Jr.....	2	CE	Perry, Fla.
Regish, Michael Leo.....	1	Co	East Hampton, Mass.
Reid, Robert Morris.....	2	E	Roswell
Reid, Thomas John.....	1	En	Elizabeth, N. J.
Reisman, Carl.....	3	IM	Atlanta
Reisman, Robert Daniel.....	1	En	Atlanta
Renwick, Erle Bingham.....	1	Co	Kents Hill, Me.
Repilado, Francisco.....	1	En	San Diego, Cuba
Respass, James Leonadus, Jr.....	2	IM	Atlanta
*Reuel, Norman Charles.....	4	ChE	St. Albans, N. Y.
Rey, Andrew Nicholas.....	2	E	Atlanta
Reynolds, Robert Craver.....	2	E	Binghamton, N. Y.
Rhoad, Hal Jennings.....	1	En	Atlanta
Rhode, Robert Edwin.....	2	ChECo	Joplin, Mo.
Rhudy, Paul Archer.....	2	MCo	Elk Creek, Va.
Rhyne, Paul Conrad, Jr.....	4	A	Lincolnton, N. C.
Ribble, George William.....	3	MCo	Atlanta
Rice, Charles Crowley.....	1	IM	Atlanta
*Richards, Charles Philip.....	4	IM	Atlanta
Richards, Floyd Delma.....	2	ChECo	McCaysville
*Richards, John Francis.....	1	Co	Ocean Springs, Miss.
Richards, Stephen Malone.....	1	Co	Atlanta
Richardson, Edmond Thompson.....	2	A	Nashville, Tenn.
Richardson, Ned West.....	1	En	Atlanta
*Richmond, Gus, Jr.....	1	En	Atlanta
Richmond, James Frank.....	3	IM	Ft. McPherson
Richmond, James Kenneth.....	3	EC	Atlanta
Ricks, Thomas Jesse.....	4	EC	Guyton
Riddle, Cornelius Griffith.....	1	En	Atlanta
Ridley, Robert Lee.....	3	IM	Atlanta
Rigdon, James Wesley.....	2	E	Tifton
*Riley, Leo Alfred.....	1	En	Taunton, Mass.
Rinehart, Robert Lloyd.....	2	EC	Allport, Pa.
Rivers, William Jacocks.....	3	M	Albany
Roach, Alfred Ralph.....	4	IM	Atlanta
Roach, Charles Stowers.....	4	E	Atlanta
Roane, George Douglas.....	2	E	Atlanta
Robbins, Charles Marion.....	1	En	Savannah
Roberson, Robert Earl.....	1	Co	Birmingham, Ala.
Roberts, Fred Miller.....		G-Ch	St. Louis, Mo.
Roberts, Milton Emmette.....	1	Co	Savannah
Roberts, Ormond Joseph.....	2	T	Chattanooga, Tenn.

Roberts, Oscar Leland (Lee).....	1	Co	Tampa, Fla.
Robertson, Gay Auphrick, Jr.....	2	E	Atlanta
Robertson, Horace Luke.....	3	IM	Atlanta
Robeson, Carl Washington, Jr.....	4	M	Savannah
Robins, Alvin Gerald.....	1	En	Rockville Center, N. Y.
Robinson, Byron Oswald.....	1	En	Savannah
Rocamora, Leon David.....	3	M	Asheville, N. C.
Rodier, Martin William, Jr.....	3	T	Atlanta
Roeper, William Henry.....	1	Co	Atlanta
Roesel, Thomas Louis.....	1	En	Savannah
Roessler, Carl Adam.....	3	MCo	Atlanta
Rogers, John Theron, Jr.....	3	M	Eastman
Rogers, Robert Furman.....	1	En	Morrow
Rogers, William Bishop.....	1	En	Atlanta
Rogers, William Lee.....	3	IM	Gainesville
Rogge, John Friedrich.....	2	M	Binghamton, N. Y.
Roland, Robert Lee.....		Irr	Atlanta
Roper, Grady Wayne.....	2	CE	Albany
Rorden, Arthur William.....	1	En	Queens Village, N. Y.
Rose, William Douglas.....	1	En	Atlanta
Ross, Donald Strong.....	3	ChECo	Topeka, Kansas
Ross, Harry Grafton.....	1	En	Marmora, N. J.
Ross, Harry Jackson.....	2	CE	Tampa, Fla.
Ross, James Waters.....		G-Ch	Island Creek, Md.
Ross, Raymond William, Jr.....	4	M	Atlanta
Ross, William Clifford.....	2	MCo	Baltimore, Md.
Rowland, Charles Greenlee.....	2	M	Savannah
Roy, John Curtis.....	4	IM	Charleston, W. Va.
Ruback, Norman.....	1	Co	Omaha, Neb.
Rubin, Samuel Sanford.....	1	En	Yonkers, N. Y.
*Rucker, Egbert Darnell.....	1	Co	Dyersburg, Tenn.
Rudolph, Philip Burke.....	1	A	Atlanta
Ruman, Joseph.....	2	E	Mt. Holly, N. J.
Runyon, Norman Ernest.....	1	En	Audubon, N. J.
Ruppersburg, Finley.....	1	En	College Park
Russell, Robert Mahlon.....	2	CECo	Macon
Russo, Felix Ralph.....	1	En	Brooklyn, N. Y.
Rutherford, Rabun Frank.....	1	Co	Montgomery, Ala.
Ryan, Frederick Francis.....	2	MCo	Brooklyn, N. Y.
Ryan, Forrest Pat.....	4	A	Atlanta
*Rybert, Thomas Frederick, Jr.....	1	En	Atlanta
Ryckley, Alfred Edwin.....	1	IM	Atlanta
*Sadenovsky, Raymond Morris.....	1	En	Harrison, N. J.
*Saeman, Walter Carl George.....	5	ChECo	Norlina, N. C.

*Saffir, Herbert Seymour.....	4	CE	Brooklyn, N. Y.
*Saffold, Thomas Franklin.....	4	ECo	Atlanta
Sale, Stanley Alexander.....	1	En	Jacksonville, Fla.
Samoden, Edward Walter.....	5	ChECo	New Haven, Conn.
Sampson, James Nicholas.....	5	CECo	Atlanta
*Sams, William Taylor.....	4	ECo	Atlanta
Sanders, Charles Robert.....	2	IM	Birmingham, Ala.
Sanders, Donald William.....	4	ChE	Bessemer, Ala.
Sanders, Edwin Johnson, Jr.....	1	A	Miami, Fla.
Sanders, Robert Jackson.....	2	IM	Jacksonville, Fla.
*Sanderson, William Robert.....	3	CerE	St. Gabriel, La.
Sandhagen, William Bernard.....	1	Co	Peoria, Ill.
Sands, Jack Edwin.....	3	TCo	Columbus
Sargent, George Thomas.....	1	En	Atlanta
Saul, David.....	2	IM	Atlanta
Saums, John Merrell.....	2	CECo	Plainfield, N. J.
Saunders, Richard Robertson, Jr.....	2	ChE	Reidsville, N. C.
Savage, Harry Clifton.....	2	ChE	Atlanta
*Savage, Reuben Thornton.....	1	En	Atlanta
Savini, David Owen.....	1	A	Atlanta
Sawyer, Stephen Alexander.....	2	ChE	Anniston, Ala.
Scamell, Vincent Anthony.....	2	ChE	Nutley, N. J.
Scanlan, James Michael Taylor.....	1	En	Bellaire, N. Y.
*Scanling, Edward LeRoy.....	4	PHE	Atlanta
Scarborough, William Whitfield.....	2	IM	Thomasville
Schaefer, Regis Joseph.....	2	GE	Pittsburgh, Pa.
Schenck, Eugene Lewis, Jr.....	3	CECo	College Park
Schlesinger, Clyde Page, Jr.....	3	ChECo	Chattanooga, Tenn.
*Schmidt, Edward Jacob.....	1	En	Malvern, N. Y.
Schmitter, Bernard Milard.....	4	CECo	Fairview, N. J.
Schneider, Charles Robert.....	1	Co	Americus
Schneider, Winslow McCrummen.....	2	E	Montgomery, Ala.
*Schoonmaker, John Joseph.....	2	ChE	Kingston, N. Y.
Schotanus, William Mitchell.....	3	M	Atlanta
Scott, John Evans.....	1	En	Charlotte, N. C.
Schottler, George Henry.....	3	M	Baltimore, Md.
Schreeder, John Marvel.....	4	PHE	Atlanta
Schreeder, William Blauvelt.....	3	PHE	Atlanta
*Schreider, Ernest Jackson.....	1	En	Portland, Me.
Schrenell, Ralph Irwin.....	1	En	Newark, N. J.
Schroeder, Frederick Eugene.....	4	T	Greenville, S. C.
Schroeder, George Colton.....	1	Co	Daytona Beach, Fla.
Schuder, Rollie Melton, Jr.....	2	M	Atlanta
*Schulherr, Kurt Egon.....	2	Ch	Atlanta

*Schulze, Robert Allison	3	ChE	Atlanta
Schulze, Van Vliet	1	Co	Croton, N. Y.
*Schwahn, Frank James	1	En	Richmond Hill, N. Y.
Schwarcz, Richard Samuel	2	A	New York, N. Y.
Schwartz, Howard Kenneth	1	En	Miami, Fla.
Schwartz, Sidney	1	En	New Haven, Conn.
Sconyers, Junius Walbert	4	M	Malden, Mo.
*Scott, Edward Francis	2	A	Tampa, Fla.
Scott, John Earle, Jr.	3	T	Atlanta
Scott, James Franklin	3	M	Atlanta
Scott, Owen Oliver	4	T	Union Point
Scruggs, John Franklin	3	IM	Valdosta
Sculnick, Simon Herbert	1	En	New York, N. Y.
Seacord, Charles Lynn, Jr.	2	GE	Atlanta
Seale, William Bradley	4	PHE	Atlanta
Seay, Robert Leon	4	CE	Birmingham, Ala.
Seay, William Reynolds	2	E	Birmingham, Ala.
See, Samuel David	4	EC	Louisa, Ky.
*Segal, Saul	1	En	Roxbury, Mass.
Segall, Bernard E., Jr.	4	M	Shreveport, La.
Segrera, Pedro Enrique	4	ChE	Havana, Cuba
Seiferth, Ralph Werner	3	GE	West New York, N. J.
Sellers, Lamar, Jr.	1	A	Clarksdale, Miss.
Sena, John Michael	4	CE	Hartford, Conn.
Sessoms, Frank Sirmans	5	MCo	Cogdell
Sessoms, George William	1	En	St. Augustine, Fla.
Settle, Ezra Smith, Jr.	2	M	Jackson
Sewell, Daniel Evans	1	Co	Atlanta
*Sewell, William Richard	1	En	Atlanta
Sexton, Eugene Preston	1	En	Norfolk, Va.
*Shackelford, John Cooper	2	CE	Greenville, S. C.
Shamhart, Wilmer Harry, Jr.	4	ChE	Rockwood, Tenn.
Shannon, Henry Bascom, Jr.	2	IM	East Point
Sharshon, Walter Samuel	2	ChE	Flemington, N. J.
Shatzen, Maxwell Louis, Jr.	2	Ch	Atlanta
*Shaw, Edward Harrison	2	ChECo	Coral Gables, Fla.
Shaw, Gene	3	GE	Ft. Worth, Texas
Shawver, Paul Ross	1	Co	Huntington, W. Va.
Shearer, Charles Forrest	2	EC	Huntington, W. Va.
Shearouse, Lee Alan	4	CerE	Savannah
Sheetz, Francis Bond, Jr.	1	A	Jacksonville Beach, Fla.
Sheffield, Walter Harris	3	PHE	Cedar Springs
Sheldon, Brooks	3	IM	Atlanta
Sheldon, Robert Wilson	1	IM	Atlanta

Shenkan, Marshall Paul	2	ChECo	Coral Gables, Fla.
Sheppard, Joseph Davis	1	En	Savannah
Sheram, Frank Louis	3	MCo	College Park
Sherard, Robert Winburn	1	En	Atlanta
Sherertz, Herbert Jackson	4	IM	Roanoke, Va.
Sheridan, Thomas Emmett	4	M	Bessemer, Ala.
Sherman, Robert James	1	En	Atlanta
Shero, Sidney Soloman	1	En	Brooklyn, N. Y.
Sherrill, Jack	4	ChECo	Hattiesburg, Miss.
Sherrod, Charles Anthony	3	M	Covington, Tenn.
Shipley, Reed Edwin	3	Ch	Atlanta
Shipley, Vernon McCoy, Jr.	3	A	Savannah
Shipman, William Len	4	MCo	Dyersburg, Tenn.
Shirley, John William	1	En	Tupelo, Miss.
Shoemaker, Frank Ogle, Jr.	4	ChE	Berkeley, Calif.
Shonnard, Clarence Waldron	2	ChECo	Ridgewood, N. J.
Shoop, Robert Alan	3	IM	Birmingham, Ala.
Shuff, John Winfred, Jr.	3	M	Birmingham, Ala.
Sibley, Charles Fred	2	IM	Griffin
Sibley, Hubert Oscar	3	IM	Atlanta
Silver, Sidney	3	E	Atlanta
Silvis, Donald Gene	1	En	Massillon, Ohio
Simerly, Ozro Edward	1	Co	Hampton, Tenn.
Simmons, William Reed	1	Co	Halls, Tenn.
Simms, Arthur Benjamin	2	IM	Atlanta
Simms, James Ward	5	A	Atlanta
Simms, Richard Lee	2	IM	Atlanta
Simons, Taveau Mitchell, Jr.	4	CerE	Atlanta
Simpson, William McGee	2	A	Brunswick
Sims, William Howard	3	GE	St. Louis, Mo.
*Singer, Paris George	2	GE	Columbus
Sinica, John, Jr.	3	M	Red Bank, N. J.
Sisco, William E.		G-Ch	Sturgis, Ky.
Skalwold, Robert Norman	4	M-Co	Bound Brook, N. J.
Skelton, Parke	2	E	Hartwell
Slaght, Edgar Clive	2	ChECo	Brooklyn
Slikas, Charles Anthony	3	ChE	Brooklyn
Small, Artie Harcourt III	4	IM	Atlanta
Small, Millard Thomas	2	M	Atlanta
Smith, Alfred Quinton	2	IM	Atlanta
Smith, Anderson Quillian	3	CE	Barnesville
Smith, Bert	3	CE	Atlanta
Smith, Bert Winton	2	EC	Decatur
Smith, Charles Elry	1	IM	Atlanta

Smith, Eugene Alvan.....	3	ECo	East Point
Smith, Everand Dale.....	1	Co	Lawrenceville
Smith, Edward Rupert.....	2	IM	Atlanta
Smith, Edward Stanley.....	1	Co	Monson, Mass.
*Smith, Frederick Harvey, Jr.....	3	E	Cristobal, Canal Zone
Smith, Frank Wilson.....	2	ECo	Elberton
Smith, George William.....	1	En	Arlington, Mass.
Smith, Harry Clay.....	2	ChE	Ocean City, N. J.
Smith, Houston Dixon, Jr.....	4	IM	Columbus
Smith, Hilyer Seaborn.....	1	En	Atlanta
Smith, Joshua Daniel.....	G-Ch		Madison, Miss.
Smith, Jack Gillespie.....	4	E	Haynes City, Fla.
Smith, James Pendergrast.....	4	IM	Savannah
Smith, Jackson Stocks.....	2	E	Bronxville, N. Y.
Smith, John Strother.....	5	ChECo	Marietta
Smith, Kaswell King.....	1	En	Lebanon, Tenn.
Smith, Linton Harris, Jr.....	1	En	Covington
Smith, Monroe Jerome, Jr.....	3	T	Brookline, Mass.
Smith, Ned Nolan.....	1	En	Columbus
Smith, Paul H.....	1	Co	Haynes City, Fla.
Smith, Roy Fowler.....	4	CE	Talbotton
Smith, Richard Henry.....	1	En	Atlanta
Smith, Robert Lofton.....	1	IM	Atlanta
Smith, Richard Newton.....	1	Co	Macon
Smith, Robert Victor.....	1	A	Charleston, W. Va.
Smith, William Clair.....	3	IM	Newnan
Smith, William Gibbs, Jr.....	4	ChE	Lake Worth, Fla.
Smith, Wylie Howell.....	1	En	LaGrange
Smoot, James Reid.....	1	A	Woodbury
Snooks, Bartow Randolph.....	4	IM	Ailey
Snyder, John Franklin.....	2	Ch	Jacksonville, Fla.
Sobelson, Lester Leo.....	1	En	Newark, N. J.
Solakian, Aress Vahakan.....	1	En	Bronx, N. Y.
Solomon, Israel.....	4	ChECo	Camden, Ark.
Solomons, Philip.....	2	IM	Savannah
Sortore, Arthur Emerson.....	2	GE	Avondale Estates
Souther, George Luke, Jr.....	2	M	Macon
Souther, Joseph Maurice.....	1	En	Biltmore, N. C.
Spangler, Howard Edmund.....	5	ChECo	Bradenton, Fla.
Spangler, R. T.....	4	E	Clinton, Mo.
Sparks, R. Alton.....	2	A	Augusta
Speakes, Charles Cooke.....	1	En	Benoit, Miss.
Spears, John Wilson, Jr.....	1	En	Atlanta
Speed, Andrew Biset.....	2	E	Grosse Pointe, Mich.

Spell, Richard Evans.....	2	M	Charleston, S. C.
Spell, William Arthur, Jr.....	4	T	Atlanta
Spencer, John Edward.....	2	Co	Palatka, Fla.
Spencer, Robert Earl.....	1	Co	Palatka, Fla.
Spencer, William Arnold.....	2	M	Caroleen, N. C.
Spitko, John Edward.....	1	En	Bridgeport, Pa.
Sprayberry, James Paul.....	3	IM	Jacksonville, Ala.
Spreen, Russell William.....	2	M	Nutley, N. J.
Spurlock, A. D.....	3	M	Dawson
Spurway, Jesse Everitt.....	1	En	Galveston, Texas
Stafford, Robert McKinley.....	3	ChECo	Salisbury, N. C.
Stall, Robert Jennings, Jr.....	4	MCo	Savannah
Stapleton, Christian William.....	2	M	Glen Ridge, N. J.
Starnes, Thomas Lowe, Jr.....	2	M	Winter Haven, Fla.
Starr, Francis Joseph.....	1	En	Macon
Staton, Albert Hammond.....	3	ChE	Atlanta
Stauverman, Edward, Jr.....	4	ChE	Atlanta
Steed, Henry Callier.....	1	En	Atlanta
Steele, William Irvin, Jr.....	1	Co	Statesville, N. C.
Steeves, Roy Talmage.....	Irr		Wolfville, N. S., Canada
Stimer, Theodore George.....	3	CE	Elmhurst, N. Y.
Stein, Wilbur.....	1	IM	Elizabeth, N. J.
Stephens, Albert Thomas.....	3	IM	Atlanta
*Stephens, Henry Edward.....	2	MCo	Fairburn
Stephens, Lloyd Howard.....	3	ChECo	Lyman, S. C.
Stephenson, James Elmer.....	1	Co	Mt. Vernon
Stern, Lewis Friedman.....	1	En	New Orleans, La.
Steudel, Robert Warren.....	2	IM	Chicago, Ill.
Stevens, Charles Robert.....	1	En	Tucuman, Argentina, S. A.
Stevens, Henry Dana III.....	1	IM	Savannah
Stevens, Thomas Edmund, Jr.....	2	T	Savannah
Stevens, William Johnson.....	4	E	Yonges Island, S. C.
Stewart, Frank Marion III.....	2	M	Gray
*Stewart, George Howard.....	3	GE	Cedartown
Stewart, Hunter Williamson.....	3	IM	Atlanta
Stewart, Robert Bolling, Jr.....	1	En	Atlanta
Stewart, Ralph Stephens.....	3	PHE	Atlanta
Stiglets, John Alva, Jr.....	1	Co	Hattiesburg, Miss.
Stitt, James Edward.....	2	M	Smyrna
St. John, Milton Wilcox, Jr.....	1	En	Pittsburgh, Pa.
Stockbridge, Derry Lamar, Jr.....	1	Co	Atlanta
Stockdale, Walter Graham.....	4	ChE	Birmingham, Ala.
*Stoops, Robert Saunders.....	3	M	Philadelphia, Pa.
*Stopinski, Frank William, Jr.....	2	M	Middlesboro, Ky.

Storer, Stacy Steward.....	5	MCo	Douglasville
Stott, Ernest Eugene.....	2	CerE	Atlanta
*Stovall, Frank Akin.....	1	En	Atlanta
Stovall, James Frank.....	3	T	Madison
Stradtman, George Washington.....	2	IM	Atlanta
Stratton, Edward Earl.....	1	Co	Cordele
Stribling, George Tol.....	1	En	Point Pleasant, W. Va.
Strickland, Fred Eager.....	2	E	Griffin
Strickland, Glenn Geza.....	3	CE	Duluth
Strickland, Henry Richard.....	4	M	Concord
Strickland, Roy Evans, Jr.....	4	IM	Clearwater, Fla.
Strickland, Robert Mercier.....	1	En	Beacon, N. Y.
Strozier, George Clabourn.....	1	En	Newnan
Stuart, Willard Thomas.....	3	M	Groton, Conn.
Stubbins, Joseph Briggs.....	4	E	Birmingham, Ala.
Stuntz, Robert Paul.....	4	M	Bartlesville, Okla.
Sturgis, John Robert.....	3	ChE	Atlanta
Sturm, Frederick Wingate.....	2	M	Appalachia, Va.
Sturrock, James Parker.....	2	GE	West Palm Beach, Fla.
Sudderth, William Lewis.....	1	En	Norcross
Suddeth, James Allen.....	2	IM	Atlanta
*Sullivan, Wilbert Lawrence.....	4	EC	Atlanta
Sulzbacher, Joel, Jr.....	4	M	Rome
Suttles, Roland Cortez.....	1	IM	College Park
Sutton, George Mack, Jr.....	5	EC	Tifton
Sutton, Shelton Beverly.....	3	CE	Vidalia
Swarthout, Gerard, Jr.....	1	Co	Atlanta
Swint, James Millard.....	1	En	Orchard Hill
Taaffe, Gordon.....	1	En	Leesburg, Fla.
Tabachnick, Herman Solomon.....	3	ChE	Camden, N. J.
Talley, Thomas Pound.....	4	GE	Symrna
Tanner, Ralph Marshall.....	4	T	Atlanta
Tapp, William Roy, Jr.....	1	A	Powder Springs
Tarleton, Morris Edward.....	2	ChEC	Allen, Ala.
*Tate, Roscoe Charles.....	3	MCo	Broxton
Tatum, Harold Barnett.....	1	En	Tampa, Fla.
*Taylor, Alfred Boyce.....	3	E	Richmond, Va.
Taylor, Bayard Joseph.....	1	Co	Richardson Park, Del.
*Taylor, Charles Alvin.....	2	CECo	DeFuniak Springs, Fla.
Taylor, Evan Augustus, Jr.....	2	T	Adrian
Taylor, Frank Abe.....	2	M	Meridian, Miss.
Taylor, Grover Carlyle, Jr.....	3	EC	Rocky Mount, N. C.
Taylor, George Robert Ian.....	2	T	Cen. Mirando, Oriente, Cuba
Taylor, Joseph Hubert.....	2	EC	Waycross

Taylor, Wilbur Asher.....	2	M	Bridgeport, Conn.
Taylor, Walter Eugene.....	3	IM	Cuthbert
Taylor, Warren Watson.....	2	A	Tarboro, N. C.
Teague, William Benjamin.....	3	IM	Atlanta
Teat, James Ira.....	5	TCo	Athens
Tenenbaum, Henry Louis.....	2	ChEC	Savannah
Tennison, Jack Craig.....	2	IM	Texarkana, Ark.
*Tharpe, James Benjamin.....	1	En	Tallahassee, Fla.
Tharpe, William Mathews.....	1	En	Arlington
Thibadeau, Robert Murray.....	1	En	Atlanta
Thies, Austin Cole.....	1	En	Charlotte, N. C.
Thomas, Charles Lodge.....	1	IM	Atlanta
Thomas, Edward Hill.....	4	T	Nashville, Tenn.
Thomas, Francis Irvin.....	3	IM	Paris, Tenn.
Thomas, John Boyd.....	1	En	Atlanta
Thomas, James Tate.....	2	M	Dalton
Thomas, William Bernard.....	3	M	St. Petersburg, Fla.
Thompson, Auburn Edward.....	1	En	East Point
Thompson, David Hyatt.....	4	GE	Little Rock, Ark.
Thompson, Edward Alexander.....	2	E	Atlanta
Thompson, George Luther.....	1	En	Thomaston
*Thompson, John Fraser.....	2	Ch	Atlanta
Thompson, Joel William.....	2	M	Charleston, S. C.
*Thompson, Malcolm Francis.....	1	En	Atlanta
Thompson, Robert Maurice, Jr.....	3	CE	Clearwater, Fla.
Thompson, William Allen.....	2	E	Atlanta
Thomson, Quentin Robert.....	4	M	Lake Charles, La.
Thomson, William Conner.....	3	A	Decatur
*Thorington, Luke.....	1	En	Middlesboro, Ky.
Thornton, James Otis.....	2	GE	Atlanta
Thornton, Otis Brooks.....	1	En	Union Point
Threlkeld, Mercer Lane.....	1	En	Atlanta
*Thresher, Harold Hayward.....	3	IM	Miami Beach, Fla.
Tift, Amos Chapman, Jr.....	1	En	Tifton
Tighe, Harold Francis.....	1	Co	Martin's Ferry, Ohio
Tillman, Robert Franklin.....	3	T	Carrollton
Timoney, Edward Don.....	2	MCo	Long Island City, N. Y.
Tisdale, Thomas William.....	3	A	Nashville, Tenn.
Todd, Percy Ernest.....	4	M	Havana, Cuba
Tolve, Leon Alfred.....	5	AE	Atlanta
Topolnicki, Theodore Samuel.....	2	CECo	Baltimore, Md.
Toy, Rogers Bockover.....	4	CE	Atlanta
*Trammell, Richard Joseph.....	2	M	Atlanta
Trawick, James Frank.....	3	M	Miami, Fla.

Traylor, Lucius Henderson.....	3	MCo	LaGrange
Treadway, Joe Earl.....	4	IM	Columbus
*Trenholm, John Bohun.....	2	M	Savannah
Tretler, Erwin Richard, Jr.....	2	CE	Queens Village, N. Y.
Tribbett, Murray Clayton, Jr.....	2	M	Chillicothe, Ohio
Tribble, Joe Clarke.....	4	IM	Atlanta
Tribble, Joe James.....	3	M	Atlanta
Trigg, Locke Hickman.....	1	En	Scarsdale, N. Y.
Trimmer, Rea Hoffman.....	1	Co	Westfield, N. J.
Tripp, Jack Lyman.....	3	E	St. Petersburg, Fla.
Trobaugh, Eugene Rowe.....	3	GE	Tampa, Fla.
*Trombetta, Frank Joseph.....	2	CECo	Baltimore, Md.
Trombetta, Salvatore Joseph.....	2	CECo	Baltimore, Md.
Troutman, James Edward.....	5	ChECo	Mooreville, N. C.
Truan, Alfred Winstanley.....	1	En	Queens Village, N. Y.
Trussell, James Irwin.....	4	M	Atlanta
Tubb, James Richardson III.....	3	IM	Sparta, Tenn.
*Tucker, James Thomas.....	4	E	Decatur
Tumlin, James Willard.....	1	Co	Atlanta
Turnbull, Robert William.....	4	PHE	Canton, Ohio
Turner, Charles Edward.....	2	CE	Summerville
Turner, Clifton Perry, Jr.....	4	IM	Thomaston
Turner, Dennis Trippe.....	1	En	Milledgeville
Turner, Lawrence Guy.....	1	En	Smyrna
Turner, Ralph Augustus.....	2	ChE	South Pittsburgh, Tenn.
Turner, Russell Godwin, Jr.....	1	IM	Atlanta
Turner, William Bradley.....	1	En	Columbus
Tutt, William Swift.....	3	M	Elberton
Tutwiler, William Stanhope, Jr.....	1	En	Atlanta
Tyler, John William.....	4	MCo	New Rochelle, N. Y.
Tyler, Robert Christie.....	1	En	Miami, Fla.
Tyson, Wilson Jackson.....	2	E	Atlanta
Ugalde, Hermann Herrera.....	2	M	Costa Rica, C. A.
Underwood, Joel Curry.....	1	En	Atlanta
*Underwood, Perry Carroll.....	1	Co	Moultrie
*Underwood, William Johnson.....	5	AE	Kansas City, Mo.
Urquhart, William Leonidas.....	1	IM	Norfolk, Va.
VanArsdale, Harold Charles.....	3	CE	Plainfield, N. J.
VanBuren, Hiram H.....	4	A	Columbus, Ohio
VanBuskirk, Edwin Russell.....	3	GE	Fairhaven, N. J.
*Vanden-Heuvel, Theodore R.....	2	M	Staten Island, N. Y.
VanHook, Jack Kent.....	1	Co	St. George
VanHorne, Jack Dudley.....	3	E	Binghamton, N. Y.
*VanNess, Jerrold Earle.....	2	ECO	Miami, Fla.

VanNielen, Nicholas.....	2	GE	Palatine Bridge, N. Y.
VanNorde, Peter Jack.....	1	En	Maplewood, N. J.
VanValkenburgh, Franklin B.....	2	CE	Little Neck, L. I., N. Y.
VanValkenburgh, James F.....	2	ChECo	Asheville, N. C.
VanVoorhees, Edward Burnette.....	1	En	Nashville, Tenn.
Varagona, Joseph James.....	4	M	Birmingham, Ala.
*Varga, Steven Alexander.....	1	En	Pittsburgh, Pa.
Varner, John Edward.....	1	En	Hapeville
Vasilenko, Nicholas.....	1	En	Garfield, N. J.
Veal, John Worth.....	1	IM	Atlanta
Veatch, Raymond Wesley, Jr.....	3	Ch	Atlanta
Venable, James Jenkins.....	2	IM	Birmingham, Ala.
VerNooy, Burton.....	2	M	Poughkeepsie, N. Y.
Vest, Rushin Alexander.....	2	M	Mt. Pleasant, Tenn.
Villageliu, Alberto Emilio.....	4	E	Havana, Cuba
VonSon, Fred Adolf.....	1	En	Bis, Mexico, Mexico
Voorhies, Edwin Springer.....	3	MCo	Nashville, Tenn.
*Voyles, James Homer, Jr.....	3	GE	Morrow
Wachter, Howard Lee.....	1	En	Baltimore, Md.
Wachter, Robert Earl.....	1	A	Prairie du Chien, Wis.
Waddell, Guilford Thomas, Jr.....	2	CECo	Concord, N. C.
Wade, Arthur Lamar.....	2	M	Miami, Fla.
Wadsworth, John William.....	1	En	Atlanta
Wadsworth, Paul Kay.....	3	IM	Cleveland, Ohio
Wagner, Julian Francis.....	3	E	Atlanta
Wagner, Joseph Patton.....	2	M	McCaysville
Wagnon, Leo Albert.....	5	MCo	Quitman
Wait, Joseph William.....	1	Co	Atlanta
Waite, Charles Thomas, Jr.....	4	E	Gainesville
Waits, Richard Tillman, Jr.....	1	En	Clarkston
Waldrip, Jesse Howard.....	1	En	Atlanta
Walker, Cornelius Francis.....	3	M	Jacksonville, Fla.
Walker, Frederick LeVerne.....	2	CerE	Decatur
Walker, James Harold.....	3	E	Atlanta
Walker, John Howe.....	1	En	Atlanta
*Walker, John Moore.....	1	En	Atlanta
Walker, Joseph Paul.....	1	En	Birmingham, Ala.
Walker, John Wyeth.....	4	E	Cairo
Walker, Peter Gautier.....	1	En	Madison
Walker, Robert Enochs.....	2	ChE	Henderson, Ky.
Walker, Robert Stuart, Jr.....	1	En	Atlanta
Walker, Thomas Brooks.....	1	En	Crewe, Va.
Walker, Warren Allen.....	1	Co	Atlanta
Walker, Washington Edwin.....	3	ECO	Birmingham, Ala.

Wall, Robert Edwin.....	1 En.....	Avondale Estates
Wallace, Charles William.....	1 IM.....	Atlanta
Wallace, Robert Bridge, Jr.....	1 En.....	Clearfield, Pa.
Wallin, Sven Eric.....	1 En.....	Swissvale, Pa.
Wallis, Edward Bullock.....	2 M.....	Lexington, Ky.
Wallis, Jefferson Haygood.....	1 IM.....	College Park
Walters, William Gerald.....	2 ChE.....	Martin
Walthall, William Lee.....	1 Co.....	Moreland
Walton, Edmund Spencer.....	1 En.....	Montgomery, Ala.
Walton, Millard Ingram, Jr.....	2 MCo.....	Eatonton
Walton, Norman James.....	3 CE.....	Brandenburg, Ky.
Wanamaker, Walter George.....	2 M.....	Buffalo, N. Y.
Wansley, Joseph Shelvyn.....	1 En.....	Lincolnton
Ward, Henry Owen.....	2 M.....	Atlanta
Ward, William Cleveland, Jr.....	4 IM.....	Tryon, N. C.
Ward, William Hewitt.....	1 En.....	Lakeland, Fla.
*Ware, Joseph Lane.....	2 E.....	Fitzgerald
Ware, William Arthur, Jr.....	4 T.....	Tusculum, Ala.
Warner, Hugh Asbury.....	1 En.....	Chattanooga, Tenn.
Warnock, Parks R., Jr.....	2 M.....	Atlanta
Warnock, Robert Burdick.....	4 MCo.....	Atlanta
Warren, Thomas Nightingale.....	4 IM.....	Macon
*Warrick, James Edward.....	3 M.....	Blakely
Waterman, Ray Sidney.....	2 MCo.....	Peoria, Ill.
Waters, Herbert Lemar.....	2 IM.....	Cedartown
Watkins, Terrell Clark.....	1 Co.....	Eldorado, Ark.
*Watson, Fraughtman Lane.....	1 IM.....	Atlanta
Watson, Theodore Hoffman.....	2 M.....	Twenty-nine Palms, Calif.
Watt, William Augustin, Jr.....	2 M.....	Thomasville
Wear, John Francis.....	3 IM.....	Binghamton, N. Y.
Weatherford, Robert.....	3 IM.....	Munfordville, Ky.
Weaver, George Washington.....	5 CEC.....	Pulaski, Tenn.
Weaver, Henry Thomas.....	2 M.....	Sebring, Fla.
Weaver, Julian Holt.....	5 CEC.....	Decatur
Webb, George Irving.....	2 E.....	Llanerch, Pa.
Webb, Robert Crenshaw.....	4 ECo.....	Lakeland, Fla.
Weber, Theodor Frederik.....	1 A.....	North Adams, Mass.
Webster, James Warren.....	2 T.....	Atlanta
Weddington, Jim Ray.....	2 M.....	Birmingham, Ala.
Weeks, Felder Seigler.....	2 A.....	Perry, Fla.
Weibel, John George.....	3 IM.....	Atlanta
Weinrich, Stanley Irving.....	1 En.....	Jamaica, N. Y.
Weishaupt, Thomas John.....	3 CE.....	Kittanning, Pa.
Weiss, George William.....	1 En.....	Rocky River, Ohio

Weissenberger, Eric George.....	4 E.....	Berlin, Germany
Weissenberger, Walter George.....	2 ChE.....	Berlin, Germany
*Weissman, Clem.....	4 M.....	Newark, N. J.
Wengenroth, Edgar Roy.....	1 En.....	West Englewood, N. J.
Wenz, Louis Edward, Jr.....	1 En.....	Roselle Park, N. J.
Werbin, Jacob David.....	2 M.....	Atlanta
Werk, Jack Keith.....	1 En.....	Atlanta
West, John Edward.....	1 Co.....	Memphis, Tenn.
West, Robert Stokes.....	1 Co.....	Ripley, Tenn.
West, William Preston.....	1 IM.....	Atlanta
Westbrook, Cecil Leon.....	2 MCo.....	Gainesville
Westbrook, Robert William.....	3 M.....	Zanesville, Ohio
Weston, Thomas Isaac.....	1 En.....	Columbia, S. C.
Wharton, Thomas Jesse.....	3 ECo.....	Atlanta
Whatley, William.....	1 En.....	Atlanta
Wheby, Earl Melvin.....	4 IM.....	Princeton, W. Va.
Whelchel, Wade Hampton.....	1 En.....	Murrayville
Whiddon, Oslin David.....	2 TCo.....	Tifton
Whitaker, Frank Allen.....	3 ChE.....	Waycross
Whitaker, John Gregory.....	4 TCo.....	Atlanta
White, Maurice Hamilton, Jr.....	2 ChE.....	Olive Branch, Miss.
White, Rex Harry, Jr.....	G-M.....	Pensacola, Fla.
White, Wenham Cannon.....	4 MCo.....	Atlanta
White, William Forrest.....	2 ChE.....	Upper Darby, Pa.
*Whitehead, Fred William.....	2 IM.....	Miami, Fla.
Whitehill, Sam Milliken, Jr.....	3 ChE.....	Nowata, Okla.
Whiting, George Luther.....	1 Co.....	Martin
Whitlock, Ralph Winston.....	2 IM.....	Atlanta
Whitmer, Charles Fordsham.....	4 MCo.....	Oregon, Mo.
Whitmire, Charles Nathan, Jr.....	1 Co.....	Griffin
Whitney, Sheldon Maxwell.....	3 IM.....	Miami Beach, Fla.
*Widerquist, Vernon Roberts.....	1 En.....	Ft. Myers, Fla.
Wilcox, Allan LeRoy.....	4 M.....	Tyler, Texas
Wilcox, Kenneth Knight.....	3 M.....	Orlando, Fla.
Wild, John James.....	2 E.....	Lynbrook, N. Y.
Wilder, Charles Crisp, Jr.....	5 MCo.....	Hapeville
Wilder, Clarence Lee.....	2 ECo.....	Macon
Wilder, John Granville.....	2 GE.....	Memphis, Tenn.
*Wilhelm, Robert Oscar.....	1 Co.....	Baltimore, Md.
*Wilkins, Grover Cleveland, Jr.....	3 CE.....	Dallas, Texas
Wilkins, James Milligan.....	2 IM.....	Atlanta
Wilkins, Leonard.....	5 ChECo.....	Memphis, Tenn.
Wilkins, Roscoe Lee.....	3 IM.....	Alexandria, Ala.
Wilks, Ira Edwin.....	4 GE.....	LaGrange

Wiley, Leonard Taylor.....	2	MCo.....	St. Augustine, Fla.
Williams, Arte Dewey.....	1	Co.....	Savannah
Williams, Barclay Scott.....	3	M.....	Rhine
Williams, Daniel Binkley.....	4	M.....	Boonville, N. C.
Williams, Edwin Kyle.....	2	MCo.....	Henderson, Ky.
Williams, James Ambrose.....	3	CE.....	Newnan
Williams, John Anderson.....	2	ECo.....	Atlanta
Williams, John Paul.....	1	Co.....	Ocilla
Williams, John Thomas.....	1	En.....	West Point
Williams, Lewis Harper.....	2	E.....	Winder
Williams, Louis Owens.....	1	En.....	Atlanta
Williams, Meadow Seifert, Jr.....	3	T.....	West Point
Williams, Paul Callaway.....	1	Co.....	Rome
*Williams, Sidney Wheeler.....	2	E.....	Atlanta
Willien, Robert Martin.....	1	En.....	Indianapolis, Ind.
Willis, Albert Gambrille, Jr.....	3	M.....	Concord, N. C.
Willis, David Ellery.....	3	MCo.....	Tampa, Fla.
Willis, Henry David.....	3	E.....	Montgomery, Ala.
Willis, Jack.....	2	ECo.....	Ensley, Ala.
Willis, Ralph Holland.....	2	M.....	Atlanta
Willner, Lewis.....	3	IM.....	Atlanta
Wilmot, Charles Lee.....	3	E.....	Atlanta
Wilson, Albert Robert.....	1	A.....	Greensboro, N. C.
Wilson, Glen Arthur.....	1	En.....	Westfield, N. J.
Wilson, Joseph Butler.....	4	ChECe.....	Augusta
Wilson, Joseph Felton.....	4	E.....	Atlanta
Wilson, John Harrison, Jr.....	3	M.....	Atlanta
*Wilson, John Loyd, Jr.....	5	ECe.....	Liggett, Ky.
Wilson, Joe Mack.....	1	En.....	Marietta
Wilson, James Young, Jr.....	4	IM.....	Atlanta
Wilson, Mercer E.....	2	CECo.....	Atlanta
Wilson, Robert Elmer.....	3	GE.....	St. Petersburg, Fla.
Wilson, William Henry.....	3	M.....	Chattanooga, Tenn.
Wilson, Wilbe Radford, Jr.....	2	MCo.....	Charlotte, N. C.
Winchester, Thomas Harrison, Jr.....	1	Co.....	Macon
Winfree, Douglas Woodson.....	3	IM.....	Atlanta
Winkelman, Valentine.....	1	En.....	Atlanta
Winn, Edward Gartly.....	2	MCo.....	Memphis, Tenn.
Winne, Ward Irwin.....	3	ChECe.....	Arlington, N. J.
Winship, Herring, Jr.....	5	ChECe.....	Macon
Winslette, Clifford Brown.....	2	E.....	Eatonton
Winters, Richard Harrington.....	3	E.....	Austell
Winton, Melbourne Lee.....	3	E.....	Bushnell, Fla.
Wise, George Edward.....	1	En.....	Fayetteville

Wofford, William Russell.....	2	A.....	Atlanta
Wohlford, James Gordon.....	4	ECe.....	Dante, Va.
Wolcott, Ben Hall.....	1	En.....	Atlanta
Wolford, James Kenneth.....	5	MCo.....	Bristol, Tenn.
*Womack, James Milton.....	1	IM.....	Decatur
Wood, Burton Land.....	1	En.....	Washington, D. C.
Wood, Charles Rowe.....	4	IM.....	Raleigh, N. C.
Wood, Earnest Harwell.....	1	A.....	Cedar Bluff, Ala.
Wood, Howard Lee.....	1	En.....	Clarksville
Wood, Robert Everson.....	1	Irr.....	Marietta
Wood, Thomas Miller, Jr.....	2	M.....	Macon
Wood, William Brown.....	4	M.....	Jasper, Tenn.
Woodard, Kenneth Burton.....	1	En.....	So. Orange, N. J.
Woodard, William Kenneth.....	1	En.....	Atlanta
Wooddall, Robert Jerome, Jr.....	4	M.....	Fairburn
Woodruff, Paul.....	2	IM.....	Decatur
Woods, James Douglas, Jr.....	1	Co.....	Hattiesburg, Miss.
Woods, Wilder Wilson.....	4	IM.....	Savannah
Woolfolk, Albert Sidney.....	1	IM.....	Columbus
Worley, Conly W., Jr.....	1	Co.....	Ensley, Ala.
Wray, Charles Whitfield.....	1	En.....	Atlanta
Wright, Charles William.....	3	CECo.....	Watervliet, N. Y.
Wright, Felix Hardeman.....	3	ChE.....	Covington
Wright, George Albert.....	4	IM.....	Coral Gables, Fla.
*Wright, Hugh Emmett.....	3	Ch.....	Atlanta
Wright, Harry Ralph.....	3	ChE.....	Atlanta
Wright, James Earl.....	2	T.....	Lanett, Ala.
Wright, James Smith.....	1	En.....	E. Cleveland, Ohio
Wright, Malon Orrville.....	5	CECo.....	Winter Garden, Fla.
Wright, Theron Edwin.....	3	A.....	Decatur
Wright, Warren Kenneth.....	3	E.....	Saxtons River, Vt.
Wrigley, Clarence William.....	2	GE.....	Atlanta
Wrye, William Florin, Jr.....	2	E.....	Birmingham, Ala.
Wyckoff, Charles Franklin.....	1	En.....	Atlanta
Wylie, Joseph Clarence, Jr.....	1	Co.....	Spindale, N. C.
Wylly, Alexander.....	3	M.....	Englewood Cliffs, N. J.
Yancey, Richard Hunter.....	3	M.....	Atlanta
Yarbrough, Jack.....	1	En.....	Columbus
Yarn, David Homer.....	1	En.....	Atlanta
Yates, Presley Daniel, Jr.....	3	IM.....	Atlanta
Yon, Waymon Eugene.....	1	En.....	Decatur
Youmans, Tump Stephen.....	4	MCo.....	Tifton
Youmans, Tom Young.....	2	MCo.....	Tifton
Young, James Sterling.....	3	E.....	Winston-Salem, N. C.

Young, Oscar Lamar.....	4 IM	Atlanta
Zagarella, Anthony.....	1 En	Brooklyn, N. Y.
Zamborsky, Nicholas Alden.....	4 ChE	Clifton, N. J.
*Zeigler, George Edward, Jr.....	4 MCo	Thomasville
Zelinski, John Ward.....	1 En	Washington, D. C.
Zemek, Melville Mason.....	4 E	Nutley, N. J.
*Ziegler, Walter Herbert.....	5 MCo	College Park
*Ziegler, William Ralph.....	3 IM	College Park
Zimmerman, Charles L.....	G-Ch	Atlanta
Zimmerman, Donald Scheel, Jr.....	2 M	Atlanta

SUMMARY OF ENROLLMENT

By CLASSES		By MAJOR DEPARTMENTS	
Graduate Students	41	Aero Engineering	10
Seniors	424	Architecture	102
Juniors	489	Ceramic Engineering	29
Pre-Juniors	113	Civil Engineering	137
Sophomores	749	Chemical Engineering	194
Freshmen	840	Chemistry	35
Irregular	22	Electrical Engineering	253
Total College Day Courses.....		General Engineering	73
Evening School	1185	Industrial Management	372
Summer School	730	Mechanical Engineering	457
Total		Public Health Engineering.....	22
Less duplicates	785	Textile Engineering	80
Total Net Enrollment.....		Unclassified	914
		Total	2678

GRADUATES BY DEPARTMENTS AND BY YEARS

DEGREE	1890 1899	1900 1909	1910 1919	1920 1929	1930 1936	1937	1938	1939	Total
B.S. in Arc. *1911			43	117	131	8	4		303
B. Arch. 1936					1		3	5	9
B.S. in A.E. 1932					76	14	15	17	122
B.S. in Cer.E. 1927				13	24		1	6	44
B.S. in †Chem. 1909		1	13	1	10	1	7	4	37
B.S. in Ch.E. 1903		16	23	91	201	28	37	30	426
B.S. in C.E. 1902		26	80	341	258	20	29	30	784
B.S. in Com. 1919			2	337	330				669
B.S. in E.E. 1898	9	91	255	492	445	40	44	61	1437
B.S. in G.E. 1923				157	3	2	4	3	169
B.S. 1917			4	92	215	41	11	11	374
B.S. in I.E. 1922				3	3				6
B.S. in I.M. 1937						10	54	64	128
B.S. in M.E. 1890	94	101	216	344	362	46	63	65	1291
B.S. in T.E. 1901		62	47	147	104	20	34	22	436
TOTAL B.S.	103	297	683	2135	2163	230	306	318	6235
B.C.S. 1916			26	124	171				321
Master of Sci. 1925				18	64	3	13	7	105
Prof. Degrees 1914			5	17	10		3		35
TOTAL DEGREES									6696
Certificates		29	49	153	55				286

NOTES: The M.S. Degrees, Professional Degrees, and Certificates shown above are distributed among the departments as follows:

(1) M.S., in C.E., 24; in Chem., 15; in Ch.E., 15; in Com., 1; in E.E., 13; in M.E., 13; in T.E., 3; in A.E., 7; in I.E., 2. Not designated, 13.

(2) Professional Degrees: C.E., 14; Ch.E., 1; E.E., 8; M.E., 11; T.E., 1.

(3) Certificates: Arc., 43; C.S., 38; I.E., 1; M.T.C., 14; M.T., 1; T.E., 189.

ABBREVIATIONS: A.E.—Aeronautical; Cer.E.—Ceramic; Ch.E.—Chemical; C.E.—Civil; E.E.—Electrical; G.E.—General; M.E.—Mechanical; T.E.—Textile Engineering; Arc.—Architecture; Chem.—Chemistry; Com.—Commerce; B.C.S.—Commercial Science; G.S.—General Science; I.E.—Industrial Education; M.T.C.—Motor Transport; M.T.—Manual Training.

*Dates in this column show the year when the degree was first conferred.

†This degree was not given from 1929 to 1935.

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