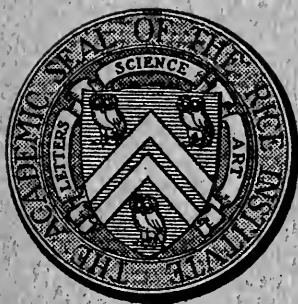
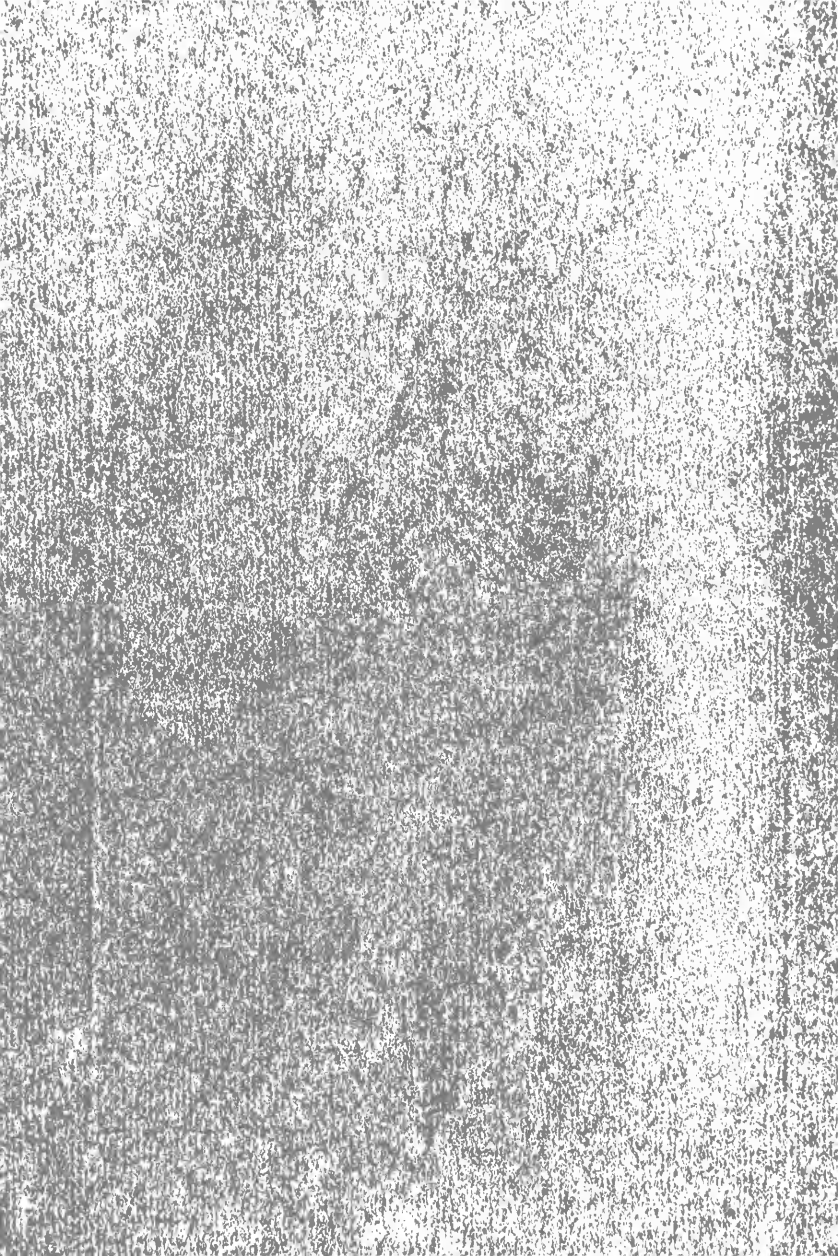


Symposium

THE
RICE INSTITUTE
HOUSTON, TEXAS



ANNOUNCEMENTS FOR THE ACADEMIC
YEAR BEGINNING SEPTEMBER FOUR-
TEENTH NINETEEN HUNDRED AND
TWENTY-FIVE

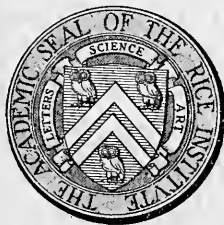


THE RICE INSTITUTE

A UNIVERSITY OF
LIBERAL AND TECHNICAL
LEARNING

FOUNDED IN THE CITY OF HOUSTON TEXAS
BY WILLIAM MARSH RICE
AND DEDICATED BY HIM TO THE
ADVANCEMENT OF LETTERS
SCIENCE AND ART

OPENED FOR THE RECEPTION OF
STUDENTS IN THE AUTUMN OF
NINETEEN HUNDRED
AND TWELVE



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CALENDAR

—
1925

- September 14-17 . Entrance Examinations
September 17 . . Registration of new students
September 18 . . Registration of old students
September 21 . . Opening of courses
September 23 . . Matriculation address
November 26 . . Thanksgiving Day
December 16-22 . Preliminary Examinations for
Freshmen and students on
probation
December 23 . . Beginning of Christmas holi-
days

1926

- January 4 . . . Resumption of courses
February 5-11 . . February Examinations
February 22 . . . Washington's Birthday
March 2 . . . Texas Independence Day
April 21 . . . San Jacinto Day
May 17-22 . . . Entrance Examinations
May 27-June 4 . . Final Examinations
June 5-7 . . . Eleventh Annual Commence-
ment

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THE RICE INSTITUTE

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EDGAR ODELL LOVETT, PH.D., LL.D.,

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SAMUEL GLENN McCANN, M.A.,

Registrar

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Bursar

THE RICE INSTITUTE

THE NAME

THE new institution bears the name of the founder, the late William Marsh Rice. It aspires to university standing of the highest grade. Dedicated to the advancement of literature, science, and art, the educational programme of liberal and technical learning now being developed may justify the designation "Institute" as representing the functions of a teaching university and, at least in some of its departments, those of the more recent research institutions established in this country and abroad.

BRIEF HISTORICAL SKETCH

IT is now rather more than thirty years since several public-spirited citizens of the community asked Mr. Rice to bear the expense of building a new public high school for the city of Houston. This direct gift to the city's welfare Mr. Rice was unwilling to make, but a few months later, taking into his confidence a half-dozen friends, he made known to them his desire to found a much larger educational enterprise for the permanent benefit of the city and State of his adoption. These gen-

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tlemen were organized into a Board of Trustees for the new foundation, which was incorporated in 1891 under a broad charter granting the trustees large freedom in the future organization of a non-political and non-sectarian institution to be dedicated to the advancement of letters, science, and art. As a nucleus for an endowment fund, Mr. Rice at this time made over an interest-bearing note of two hundred thousand dollars to the original Board of Trustees, consisting of himself, Mr. James A. Baker, and the late Messrs. J. E. McAshan, E. Raphael, F. A. Rice, A. S. Richardson, and C. Lombardi. Under the terms of the charter, the board is a self-perpetuating body of seven members elected for life: vacancies since its organization have been filled by the election of Messrs. William Marsh Rice, Jr., Benjamin Botts Rice, Edgar Odell Lovett, John Thaddeus Scott, Alexander Sessums Cleveland, and Edward Andrew Peden.

It was the unalterable will of the founder that the development of the work which he had conceived should progress no further during his lifetime. However, in the remaining days of his life he increased the endowment fund from time to time by transferring to the trustees the titles to certain of his properties, and in the end made the new foundation his residuary legatee. Upon the termination of the long years of litigation which followed Mr. Rice's death in 1900, the Board of Trustees found the Institute in possession of an estate whose present value is conservatively estimated at approximately ten million dollars, divided by the provisions of the founder's will into almost equal parts available for equipment and endowment respectively. It may be remarked in passing

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that it is the determined policy of the trustees to build and maintain the institution out of the income, thus preserving intact the principal not only of the endowment fund but also that of the equipment fund. While proceeding to convert the non-productive properties of the estate into income-bearing investments, the trustees called Mr. Edgar Odell Lovett, a professor in Princeton University, to assist them in developing the founder's far-reaching plans. Before taking up his residence in Houston, the future president visited the leading educational and scientific establishments of the world, returning in the summer of 1909 from a year's journey of study that extended from England to Japan. About this time negotiations were completed by which the Institute secured a campus of three hundred acres situated on the extension of Houston's main thoroughfare, three miles from the center of the city—a tract of ground universally regarded as the most appropriate within the vicinity of the city.

Another early decision of the trustees of the Institute was the determination that the new university should be housed in noble architecture worthy of the founder's high aims; and upon this idea they entered with no lower ambition than to establish on the campus of the Institute a group of buildings conspicuous alike for their beauty and for their utility, which should stand not only as a worthy monument to the founder's philanthropy, but also as a distinct contribution to the architecture of our country. With this end in view they determined to commit to Messrs. Cram, Goodhue, and Ferguson, of Boston and New York, the task of designing a general architectural plan to embody in the course of future years the realiza-

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tion of the educational programme which had been adopted for the Institute. Such a general plan, the work of Mr. Ralph Adams Cram, L.H.D., exhibiting in itself many attractive elements of the architecture of Italy, France, and Spain, was accepted by the board in the spring of 1910. Immediately thereafter plans and specifications for an administration building were prepared, and in the following July the contract for its construction was awarded; three months later the erection of a mechanical laboratory and power-house was begun, and by the next autumn the construction of two wings of the first residential hall for men was well under way. In the preparation of preliminary plans for its initial building operations the Institute enjoyed the coöperation of an advisory committee consisting of Professor Ames, director of the physical laboratory of Johns Hopkins University; Professor Conklin, director of the biological laboratory of Princeton University; Professor Richards, chairman of the department of chemistry, Harvard University; and Professor Stratton, director of the National Bureau of Standards. In 1911, on the seventy-fifth anniversary of Texas Independence, the corner-stone of the administration building was laid by the trustees. This building, the mechanical laboratory of the engineering quadrangle, the power-house, and the first two wings of the first residential hall for men were ready for occupancy at the beginning of the first academic year in the fall of 1912. The third wing of this residential hall, begun in 1913, was occupied by the students in the autumn of 1914; while the construction of the physics laboratories and lecture amphitheater, begun also in 1913, was completed in the summer

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of 1914 from plans prepared by Messrs. Cram and Ferguson under the direction of Mr. H. A. Wilson, D.Sc., F.R.S., resident professor of physics in the Institute. In January, 1916, ground was broken for the first wing of the second residential group for men; the construction of this wing was completed by September, 1916. Further building operations were suspended during the war. In the meantime the Athletic Field House and other structures of the exhibition field were completed, in 1920. The building schedule for the nearer future includes special laboratories for instruction and investigation in chemistry and biology, and in the application of these sciences to the arts of industry and commerce. At the commencement exercises of 1923 ground was broken for the new laboratory for chemistry, the plans for which were prepared by Messrs. Cram and Ferguson and Mr. W. W. Watkin, associate architects, under the direction of Mr. H. B. Weiser, Ph.D., resident professor of chemistry in the Institute. The construction of this laboratory was completed during the academic year 1924-25.

The actual work of instruction of the first academic year began on the 23d day of September, 1912, the anniversary of the death of the founder. In the presence of the trustees of the Institute, members of the teaching staff, and representative citizens of the community, the first class of students was received in the faculty chamber of the administration building with appropriate ceremonies on September 26th. The scholastic work of the first academic year was limited to a single class of freshmen of a standard of preparation as high as the best public and private high schools were capable of attaining.

THE RICE INSTITUTE

In the early autumn of 1912 an academic festival in observance of the formal opening of the Institute was held under most favorable conditions of weather, most generous coöperation of the community and commonwealth, and the heartening encouragement of several hundred scholars and scientists who came to Houston to assist in the launching of the new university. Chief among these distinguished representatives of life and learning were the twelve foreign savants who had consented to participate in the inaugural programme by preparing series of lectures in the liberal humanities of philosophy, history, letters, and arts, and in the fundamental sciences of mathematics, physics, chemistry, and biology. A complete account of the proceedings of the four days devoted to this celebration has been embodied in publications issued in commemoration of that occasion. In the latter appear in full the inaugural lectures of Professor Rafael Altamira y Crevea, of Madrid, Spain; Professor Emile Borel, of Paris, France; Senator Benedetto Croce, of Naples, Italy; Professor Hugo de Vries, of Amsterdam, Holland; the late Professor Sir Henry Jones, of Glasgow, Scotland; the late Privy Councillor Baron Dairoku Kikuchi, of Tokyo, Japan; Professor John William Mackail, of London, England; Privy Councillor Professor Wilhelm Ostwald, of Gross-Bothen, Germany; the late Professor Henri Poincaré, of Paris, France; the late Professor Sir William Ramsay, of London, England; Professor Senator Vito Volterra, of Rome, Italy; Professor Carl Størmer, of Christiania, Norway. In these commemorative volumes there appear also reproductions of responses from American and foreign

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universities and scientific societies to the invitation of the Institute; the addresses of Governor Colquitt, Chief Justice Brown of Texas, Bishop Gailor of Tennessee, the inaugural poem of Dr. Henry van Dyke of Princeton, and the dedicatory sermon by Dr. Charles F. Aked of San Francisco; together with the addresses delivered by the presidents or other official representatives of Amsterdam, Glasgow, London, Oviedo, Paris, Rome, Baylor, Chicago, Columbia, Lehigh, Princeton, Texas, Vanderbilt, and Virginia universities; and a variety of other literary and artistic performances which are not easily classified in a brief résumé. More recently a special volume has appeared embodying the lectures and conferences delivered at the Institute on the occasion of visits to the Rice Institute from the British Educational Mission and the Official Mission of French Scholars to the Universities of the United States. In similar publications have appeared the lectures of the late Professor Sir Henry Jones, inaugurating the public lectureship on the Sharp Foundation; those of the Honorable William Howard Taft, Chief Justice of the United States, and the Right Honorable Sir Auckland Geddes, British Ambassador to the United States, on the Godwin Lectureship in Public Affairs; those of Mr. John Powell, the American composer and pianist, inaugurating the recently endowed lectureship on music for which a friend of the Institute has anonymously made provision; the Plymouth Tercentenary Lecture by Sir Arthur Shipley, of the University of Cambridge; a course of lectures by resident members of the Institute in observance of the six hundredth anniversary of the death of Dante; lectures on mathematics by Senator

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Vito Voltera, of the University of Rome, and by Professor Jacques Hadamard, of the College de France; on biology by Professor Edwin Grant Conklin, of Princeton University; on astronomy by Professor Henry Norris Russell, of Princeton University; and addresses by President-emeritus Charles William Eliot, of Harvard University; by Dean Frank Thilly, of Cornell University; and by President John Grier Hibben, of Princeton University.

In subsequent publications will appear lectures on mathematics by Professor Ch-J de la Vallee Poussin, of the University of Louvain; on physics by Professor Robert Andrews Millikan, of the California Institute of Technology; on biology by Professor Julian Huxley, of Oxford University; on chemistry by Professor Edward C. C. Baly, of the University of Liverpool; on philosophy and education by Professor John Dewey, of Columbia University; and on music by Mlle. Nadia Boulanger, of Paris.

THE FACULTY¹

Edgar Altenburg, Ph.D (Columbia), formerly Assistant in Biology at Columbia University; later Instructor in Biology at the Rice Institute; Assistant Professor of Biology.

Montgomery Drummond Anderson, B.S. and M.S. (Washington University), Ph.D. (Robert Brookings Graduate School of Economics and Government), formerly Fellow in Economics at the Institute of Economics, Washington, D. C.; Instructor in Economics.

William Orus Andrews, B.S. in C.E. (Illinois), formerly

¹ Arranged in alphabetical order, with last address and appointment before receiving academic appointment at this institution.

ANNOUNCEMENTS

Instructor in Rational and Technical Mechanics at Rensselaer Polytechnic Institute; Instructor in Civil Engineering.

Charles Flinn Arrowood, B.A. (Davidson College), B.D. (Union Theological Seminary), B.A. and M.A. (Rice), Ph.D. (Chicago), formerly Fellow in Education at the Rice Institute; later Professor of Philosophy and Psychology at Southwestern Presbyterian University; Instructor in Education.

Franklin Durham Ashcraft, B.A. (Greenville), formerly Director of Physical Education at Sam Houston State Teachers' College; Instructor in Physical Education.

Eugene Stanley Ault, B.E. (Johns Hopkins), M.M.E. (Cornell), formerly Instructor in Machine Design at Cornell University; Instructor in Mechanical Engineering.

Stockton Axson, M.A. (Wesleyan), Litt.D. (Pittsburgh), L.H.D. (Wesleyan), LL.D (Knox), formerly of the University of Vermont and of Adelphi College; later Professor of English Literature in Princeton University; Professor of English Literature.

Victor Andrés Belaunde, Doctor en Letras y Jurisprudencia (Lima), formerly Professor of International Law and Political Science at the University of San Marcos, Lima, Peru; later Instructor at Williams College; Lecturer in Spanish and Spanish-American History.

Paul Edward Boucher, B.A. (Colorado College), M.A. (Rice), formerly Instructor in Physics at Colorado College; Assistant in Physics at Dartmouth College; Fellow in Physics at the Rice Institute; later Assistant Professor of Physics at Colorado College; Instructor in Physics.

Hubert Evelyn Bray, B.A. (Tufts), M.A. (Harvard),

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Ph.D. (Rice), formerly Instructor in Mathematics at Tufts College and at Lafayette College; Fellow in Mathematics and later Instructor in Mathematics at the Rice Institute; Assistant Professor of Mathematics.

Charles Lowman Browne, B.S. (Kenyon), B.Arch. (Cornell); Instructor in Architectural Construction.

Andrew Bonnell Bryan, Ph.D. (Rice), formerly Fellow in Physics at the Rice Institute; Instructor in Physics.

Robert Granville Caldwell, B.A. (Wooster), Ph.D. (Princeton), formerly Fellow of Princeton University; Professor of Economics in the College of Wooster; later Assistant Professor of History at the Rice Institute; Professor of American History and Dean of the Institute.

Louis Cazamian, Agrégé de l'Université de France, Litt.D. (Paris and St. Andrews), Professor of the English Language and Literature in the Faculty of Letters of the University of Paris; Visiting Professor.

James Chillman, Jr., M.S. in Arch. (Pennsylvania), F.A.A.R., M.A.I.A., formerly Alumni Fellow in Architecture at the University of Pennsylvania; Instructor in Freehand Drawing at the University of Pennsylvania; Instructor in Architecture at the Rice Institute; later Burnham Fellow in Architecture at the American Academy in Rome; Assistant Professor of Architecture.

Arthur Herbert Copeland, B.A. (Amherst), formerly Assistant in Mathematics at Harvard University; Instructor in Mathematics.

William Moore Craig, M.A. (Southwestern), M.A. (Texas), formerly Associate Professor of Science at Hendrix College; later University Scholar in Chemistry at Harvard University; Instructor in Analytical Chemistry.

ANNOUNCEMENTS

Robert R. Crookston, B.S. in M.E. (Carnegie Inst. of Tech.), formerly with the Westinghouse Airbrake Company of Pittsburgh; Instructor in Mechanical Engineering.

Erwin Escher, M.A. (Chicago), D.Sc. Tech. (Vienna), formerly Professor of Romance Languages at Illinois College; Instructor in Romance Languages.

Griffith Conrad Evans, Ph.D. (Harvard), formerly Instructor in Mathematics at Harvard University; Sheldon Fellow of Harvard University at the University of Rome; later Assistant Professor of Pure Mathematics at the Rice Institute; Professor of Pure Mathematics.

Lester R. Ford, B.A. (Missouri), Ph.D. (Harvard), formerly Lecturer in Mathematics at the University of Edinburgh; Sheldon Fellow of Harvard University at the University of Paris; later Instructor in Mathematics at Harvard University and Instructor in Life Insurance in the Graduate School of Business Administration of Harvard University; Assistant Professor of Mathematics.

Max Freund, Ph.D. (Leipscic), formerly Assistant Lecturer in the German Language and Literature at Liverpool University College; Royal Professor of German and Teutonic Philology in Queen's University of Belfast, Ireland, and Examiner in the Royal University of Ireland; later Professorial Lecturer in Modern English at the University of Marburg, Germany; Professor of German.

Allen Darnaby Garrison, Ph.D. (Rice), formerly Fellow in Chemistry at the Rice Institute under appointment of the National Research Council; Instructor in Physical Chemistry.

Philip Babcock Gove, B.A. (Dartmouth), M.A. (Harvard); Instructor in English.

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Waldemar William Groth, B.A. (Northwestern); formerly Assistant Instructor of German in the University of Wisconsin; Instructor in German.

Richard P. Hall, B.A. (Henderson-Brown), M.A. and Ph.D. (California), formerly Instructor in Biology at Emory University; later Teaching Fellow and Assistant in Zoölogy at the University of California; Instructor in Biology.

Richard Fairfax Hamill, B.A. (Francis Davis-Elkins); Instructor in English.

Arthur J. Hartsook, M.S. (Mass. Inst. Tech.), formerly Instructor in Chemistry at the University of Nebraska; Instructor in Industrial Chemistry.

Claude William Heaps, B.S. (Northwestern), Ph.D. (Princeton), formerly Class of 1860 Experimental Science Fellow of Princeton University; Instructor in Physics at the University of Missouri; later Instructor in Physics at the Rice Institute; Assistant Professor of Physics.

John William Heisman, LL.B. (Pennsylvania), formerly of the Department of Athletics at Georgia School of Technology, the University of Pennsylvania, and Washington and Jefferson College; Director of Athletics.

Herbert Kay Humphrey, B.S. in E.E. (Illinois), M.S. in E.E. (Union), E.E. (Illinois), formerly Assistant Consulting Engineer of the General Electric Company; later Instructor in Electrical Engineering at the Rice Institute; Assistant Professor of Electrical Engineering.

Walter Raymond Kirner, B. S. and M.S. (Illinois), Ph.D. (Harvard), formerly Assistant in Organic Chemistry at Harvard University; later Associate Professor of Organic Chemistry at Middlebury College; Instructor in Organic Chemistry.

ANNOUNCEMENTS

Floyd Seyward Lear, B.A. (Rochester), M.A. and Ph.D. (Harvard), formerly Instructor in History at Harvard University; Instructor in History.

Edgar Odell Lovett, Ph.D. (Virginia and Leipsic), LL.D. (Drake, Tulane, and Baylor), formerly Professor of Mathematics in Princeton University, and later Head of the Department of Astronomy in the same institution; Professor of Mathematics and President of the Institute.

Samuel Glenn McCann, Ph.B. (Wooster), M.A. (Rice), formerly Fellow in History at the Rice Institute; Instructor in Jurisprudence and Registrar of the Institute.

John Thomas McCants, M.A. (Virginia and Yale), formerly Scholar at the University of Virginia, and University Fellow at Yale University; later Instructor in English at the Rice Institute; Instructor in Business Administration and Bursar of the Institute.

Alan Dugald McKillop, Ph.D. (Harvard), formerly Instructor in English at the University of Illinois; later Instructor in English at the Rice Institute; Assistant Professor of English.

Edward Roy Cecil Miles, B.S. (Georgia Inst. of Tech.), M.A. (Harvard), formerly Instructor in Mathematics at Georgia Institute of Technology, at the University of Georgia, at the United States Naval Academy, and at Harvard University; Instructor in Mathematics.

John Marshall Miller, B.S. in E.E. (Kansas State Agricultural College), formerly with the Western Electric Company, Chicago, and later with the Southern California Edison Electric Company, Los Angeles; Instructor in Engineering Drawing.

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Sebastiano Emanuele Moncada, D. Sc. (Genoa), M. A. (Columbia); Instructor in Spanish.

Francisco Montau, B.A. (Chile), formerly Acting Instructor in Spanish at the University of Illinois; later Assistant in Spanish at the Rice Institute; Instructor in Spanish.

Marcel Moraud, Agrégé de l'Université de France, formerly Instructor in French at the University of Minnesota and at Princeton University; later Associate Professor of French at the University of Toronto; Professor of French.

Charles William Morris, Jr., B.S. (Northwestern), Ph.D. (Chicago), formerly Assistant in Philosophy at the University of Chicago; Instructor in Philosophy.

Henry Oscar Nicholas, B.A. (Oberlin), Ph.D. (Yale), formerly Fellow and Assistant in Chemistry at Yale University; later Instructor in Analytical Chemistry at the Rice Institute; Instructor in Chemistry.

Eugene Jean Oberlé, M.A. (Stanford), formerly Instructor in Romanic Languages at the Leland Stanford Junior University; Instructor in French.

Joseph Horace Pound, B.S. in M.E. and M.E. (Missouri), formerly Instructor in the School of the Westinghouse Machine Company; later Instructor in Mechanical Engineering at the Rice Institute; Assistant Professor of Mechanical Engineering.

Lewis Babcock Ryon, Jr., C.E. (Lehigh); Instructor in Civil Engineering.

John Willis Slaughter, B.A. (Lombard), Ph.D. (Michigan), formerly Lecturer on Sociology in the School of Economics of the University of London; Lecturer in Civics and Philanthropy.

ANNOUNCEMENTS

DeWitt Talmage Starnes, Ph.D. (Chicago), formerly Instructor in English at the University of Texas; Instructor in English.

Adolph Benjamin Swanson, B.A. (Augustana), M.A. (Iowa), formerly Professor of German at Ellsworth College; Instructor in French at the Rice Institute; later Fellow in Romance Languages at the University of Chicago; Instructor in French.

John Clark Tidden, formerly Fellow and Traveling Scholar of the Pennsylvania Academy of Fine Arts; Instructor in Architectural Drawing and Painting.

Radoslav Andrea Tsanoff, B.A. (Oberlin), Ph.D. (Cornell), formerly Sage Fellow of Cornell University; Instructor in Philosophy at Clark University; later Assistant Professor of Philosophy at the Rice Institute; Professor of Philosophy.

Patrick Henry Underwood, M.A. (Rice), formerly with the General Electric Company, Schenectady, New York; Instructor in Engineering.

Howell Hubert Vines, B.A. (Alabama), M.A. (Harvard); Instructor in English.

Curtis Howe Walker, Ph.D. (Yale), formerly Assistant Professor of History at the University of Chicago; Lecturer in European History.

James Stephen Waters, B.S. (Rice); Instructor in Engineering.

William Ward Watkin, B.S. in Arch. (Pennsylvania), M.A.I.A., formerly Scholar in Architecture in the University of Pennsylvania; Associate Architect with Messrs. Cram and Ferguson, the supervising architects of the Institute; Instructor in Architecture, and later Assistant

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Professor of Architecture, at the Rice Institute; Professor of Architecture.

Harry Boyer Weiser, M.A. (Ohio State), Ph.D. (Cornell), formerly Assistant Instructor in Chemistry at Cornell University; Assistant Professor of Chemistry in the University of Tennessee; Instructor in Chemistry, and later Assistant Professor of Chemistry, at the Rice Institute; Professor of Chemistry.

Harold Albert Wilson, F.R.S., M.A. (Cambridge), M.Sc. (Victoria), D.Sc. (London), formerly 1851 Exhibition Scholar of Leeds University; Allen Scholar and Clerk Maxwell Student of Cambridge University; Scholar in Physics of London University; Fellow of Trinity College, Cambridge University; Professor of Physics in King's College, London; Professor of Physics in McGill University; Professor of Physics at the Rice Institute; later Professor of Natural Philosophy in the University of Glasgow; Professor of Physics.

ASSISTANTS AND FELLOWS

Geoffrey Everett Cunningham, B.S. and M.S. (Tulane), formerly Instructor in Chemistry in Tulane University; Fellow in Chemistry.

Alice Crowell Dean, M.A. (Rice); Fellow in Mathematics.

Sam S. Emison, B.S. (Rice); Graduate Assistant in Chemistry.

Julius Lyman Edward Erickson, B.A. (Rice); Graduate Assistant in Chemistry.

Augusto Eyquem, Bachelor of Humanities (Chile), formerly Assistant in Spanish at Princeton University; Assistant in Spanish.

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Joseph Stephen Gallegly, Jr., B.A. (Rice); Assistant in English.

Joseph Calvin Henderson, B.A. (Rice); Fellow in Biology.

Rudolph Stokes Nelson, B.S. and M.S. (Illinois), formerly Austin Teaching Fellow at Harvard University; Professor of Chemistry at Tennessee College; Fellow in Chemistry.

William Nottingham Powell, B.A. (Rice); Graduate Assistant in Biology.

Robert Stanley Radcliffe, B. S. (Lafayette), formerly Assistant in Chemistry at Middlebury College; Acting Professor of Chemistry at Maryville College; Fellow in Chemistry.

Charles Frederick Roos, B.A. and M.A. (Rice); Fellow in Mathematics.

Isaac Christopher Sanders, B.A. (Rice), formerly Assistant Professor of Physics at the Agricultural and Mechanical College of Texas; Fellow in Physics.

Isador Mitchell Sheffer, B.S. (Harvard), M.A. (Rice); Fellow in Mathematics.

Allan Henry Stevenson, B.A. (Rice); Assistant in English.

James Silas Watt, B.A. and M.A. (Rice); Fellow in Physics.

George Guion Williams, B.A. and M.A. (Rice); Assistant in English.

SCHOLARSHIPS

WHILE seeking to develop its students in character, in culture, and in citizenship, the Rice Institute will reserve for scholarship its highest rewards and in particular for evidences of creative capacity in productive scholarship.

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To encourage this devotion to learning there have been devised through the donations of friends of the Institute a number of undergraduate scholarships to be awarded preferably to those students who have been in residence at the Institute for at least one year. Moreover, honorary scholarships without stipend may be granted to students whose scholastic standing shows marked ability.

THE GRAHAM BAKER STUDENTSHIP

The first of these undergraduate scholarships to be established at the Institute is the Graham Baker Studentship, founded by Captain and Mrs. James A. Baker, of Houston, in memory of their eldest son, the late Frank Graham Baker. This studentship is awarded annually to students of the Rice Institute upon the basis of highest standing in scholarship, and the holder is known as the Graham Baker Student for the year. The award is announced at the commencement convocation in June, and the annual stipend is \$300.

THE HOHENTHAL SCHOLARSHIPS

The Hohenthal Scholarship Fund is a gift to the Rice Institute made through the good offices of Mr. William M. Rice, Jr., from the estate of the late Lionel Hohenthal, of Houston, who in his last will and testament instructed his executor, Mr. Rice, to devote the residue of his estate to the founding of a permanent memorial to Mr. Hohenthal's mother, father, and brother. The scholarships provided by this fund are known as the Hohenthal Scholarships, and the holders as the Hohenthal Scholars of the

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Institute. These scholarships are awarded annually to students who are earning a substantial part of their college expenses on a basis of high standing in scholarship. Each of the six now available carries with it an annual stipend of \$200.

SCHOLARSHIPS IN CIVICS AND PHILANTHROPY

With the Sharp Lectureship in Civics and Philanthropy founded by Mrs. Estelle B. Sharp, of Houston, there are associated four scholarships in civics and philanthropy. For the last academic year the scholarships were provided by Messrs. William L. Clayton, Will C. Hogg, Ed Prather, and Harry C. Wiess, of Houston. These scholarships bear an annual stipend of \$250 and are awarded preferably to graduates of high standing intending to prepare for work in social service.

THE D.A.R. SCHOLARSHIP

The John McKnitt Alexander Chapter of the Daughters of the American Revolution has provided an endowed undergraduate scholarship at the Rice Institute. Under the present conditions of this scholarship it is awarded to a young woman student on admission to the Institute and carries with it an annual stipend of \$250. The first award was made for the academic year 1919-20.

THE ELLEN AXSON WILSON SCHOLARSHIP

The Axson Club, an organization of Houston women in the interests of literary pursuits, recently concluded a successful campaign for the endowment of a permanent

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scholarship at the Rice Institute in memory of Ellen Axson Wilson (the late Mrs. Woodrow Wilson), the scholarship to be awarded from year to year to a young woman student of the Institute. The annual stipend of the Ellen Axson Wilson Scholarship is \$600, and the first award of the scholarship was made for the academic year 1922-23.

THE LADY GEDDES PRIZE IN WRITING

The Right Honorable Sir Auckland Geddes, British Ambassador to the United States, Godwin Lecturer of the Rice Institute in 1921, has endowed at Rice a prize in writing, which is to bear the name of Lady Geddes. This prize is to be awarded annually from the income of the endowment of one thousand dollars.

The first award of the Lady Geddes Prize in Writing was made at the end of the academic year 1922-23, the competition of this award being open to members of the freshman and sophomore classes of the Rice Institute, and the subjects assigned pertaining to the relations between Great Britain and the United States.

FELLOWSHIPS

THE Rice Institute would interpret in a large way its dedication to the advancement of letters, science, and art. It would not only look to the employment of these disciplines in the development of the life of the individual and in that of the race, but it would also play its part in the progress and enlargement of human knowledge by contributions of its own resident professors and scholars. Accordingly there should always be associated with the

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staff of the Institute a group of advanced students in training for careers both as teachers and researchers: with this end in view, graduate fellowships will be awarded from time to time to degree-bearing students of the Institute, or other educational foundations of similar standing.

OPPORTUNITIES FOR SELF-HELP

IN addition to the stipends of fellowships and endowed scholarships, there are, on the campus and in the city, opportunities in considerable variety for worthy and deserving students to earn a part of their living expenses while attending the Institute. Information concerning such openings may be obtained from the Bursar. Thanks also to the generosity of a number of citizens of Houston, there are available several student loan funds. Inquiries concerning the administration of these funds should be addressed to the Bursar.

GENERAL REQUIREMENTS FOR ADMISSION

ALL candidates for admission to the Institute are required to present satisfactory testimonials as to their character, and either to pass examinations in the entrance subjects, or, in lieu thereof, to present certificate of graduation from an approved public or private high school. The standard requirements for matriculation are determined by the system of units given below. A unit represents a course of study pursued five hours a week for an academic year. Appropriate application forms may be secured from the Registrar.

Fifteen units are required for entrance in full standing to the freshman class of the Institute. No candidate for

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admission will be accepted with fewer than fifteen units. And towards this total of fifteen units, every candidate will be required to present, from the list of subjects printed below, at least three units in English, three units in mathematics,¹ two in algebra and one in plane geometry, two units in history, and three units in one foreign language or two units in each of two foreign languages. Variation in the distribution of units may be considered in individual cases.

METHOD OF PROCEDURE FOR ADMISSION TO THE FRESHMAN CLASS

I. *General Policy of Competitive Admission of Students*

With the rapid growth in population of Houston and the Southwest, accompanied by an even more rapid increase in the demand for college training, the Rice Institute is brought face to face with the problem of maintaining high standards of instruction without shutting the door of opportunity to properly qualified students. It is therefore proposed, for the immediate future, to meet this problem by a plan of admission to the Freshman Class based on the following principles:

1. The maintenance, as in the past, of standards for entrance on a high plane.
2. The adoption in advance for each academic year or group of years of a specific number of new students to be admitted on a competitive basis. This

¹Students expecting to enter the Institute are advised to elect mathematics during their fourth year. If possible, this course should include training in algebra and trigonometry.

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number should be slightly smaller than the demand but not so far below that demand as to cause injustice to well qualified students.

3. The division of students into still smaller groups in the classes in elementary subjects. The adoption of this principle makes necessary the acceptance of a smaller total number, but means that a larger number will receive careful and adequate instruction.

II. *Specific Plan for the Admission of Four Hundred Freshmen in the Autumn of 1925*

The Rice Institute will accept four hundred Freshmen direct from high school in September, 1925. The total student body will thus consist of about eleven hundred members, which was approximately the enrollment in September, 1924.

In selecting the members of this Freshman Class the Committee will be guided by such principles as the following:

1. As at present, no candidate to be accepted with fewer than fifteen units.
2. Preference to be given to candidates who present the maximum number of units in English, Mathematics, Foreign Languages, Science, and History.
3. Preference to be given to candidates who show special promise and capacity for leadership, especially those in the upper half of their high school class.

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4. Of candidates not in one of the above preferential groups, special preference to be given to those who prove fitness by taking entrance examinations in one or more subjects.
5. Preference to be given to candidates whose applications are received early.
6. Candidates, once chosen, are received without conditions.

LIST OF SUBJECTS WITH VALUES IN UNITS

BOTANY 1; Chemistry 1; Civics ($\frac{1}{2}$ or 1); English (3 or 4); French (Elementary 2, Intermediate 1, Advanced 1); German (Elementary 2, Intermediate 1); Greek (Grammar and Elementary Prose Composition 1, Xenophon 1, Homer—*Iliad*, Books I—III 1); History (Ancient 1, Mediæval and Modern 1, English 1, American 1); Latin (Grammar, Elementary Prose Composition and Cæsar 2, Cicero 1, Virgil 1); Mathematics (Algebra 2, Plane Geometry 1, Solid Geometry $\frac{1}{2}$, Trigonometry $\frac{1}{2}$); Spanish (Elementary 2, Intermediate 1, Advanced 1); Physics 1; Physical Geography $\frac{1}{2}$; Physiology $\frac{1}{2}$; Zoölogy 1. Substitutes for certain of these subjects may be considered in individual cases.

Entrance examinations will be held at the Institute beginning September 14, 1925, and again during the week beginning May 17, 1926. Applications for the privilege of taking these examinations must be received at the Registrar's Office three weeks in advance of the beginning of the examinations. Such applications must be accompanied by statements and records from schools

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attended by candidates. Appropriate forms for such applications and records may be obtained from the Registrar's Office of the Rice Institute on request.

The terms of admission to the Institute are based on the recommendations of the Carnegie Foundation for the Advancement of Teaching as expressed in the Documents of the College Entrance Examination Board. Complete information with respect to further details of these requirements will be forwarded by the Institute to any candidate upon receipt of a request addressed to the Registrar of the Institute.

Advanced credit will be granted to students coming from other recognized colleges and universities only when the work presented is equivalent in content and quality to a full year course at the Institute. Such prospective students should make early application to the Registrar and submit official statements of their preparatory and college work, together with catalogues of the institutions attended.

EXPENSES

THE opportunities for study and research offered by the Rice Institute are open without tuition both to young men and to young women. Students, of course, are expected to meet all expenses incurred in the purchase of text books, drafting instruments, note books, registration and examination papers, certificates and diplomas, and the materials actually used up in the experimental courses in pure and applied science. A contingent deposit of ten dollars, payable at matriculation, must be maintained by each student. In addition to this general contingent

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deposit, laboratory deposits also payable at matriculation must be maintained at the Office of the Bursar as follows: a deposit of twenty-five dollars for each course taken in biology and chemistry, and a deposit of ten dollars for each course taken in physics. These deposits, contingent and laboratory, will ordinarily cover the charges against the student for materials, et cetera, but in event these charges against any particular deposit should approach the amount of that deposit, the student will be required to make such additional payment as will bring his deposit to the original amount: this is what is meant by maintaining a deposit. Any balances on these deposits are returned in July following the academic year. For delayed registration a penalty is required. See pages 76 and 77 for nominal expenses in connection with physical training.

No student in arrears in his bills to the Institute will be admitted to any of the examinations.

At the time of registration a fee of fifteen dollars is assessed each student by the Students' Association to meet the expenses of the Students' Association, the Honor Council, and the student publications. This assessment is made with the approval of the Faculty and the Board of Trustees, but the payment of the fee is not compulsory. However, students who thus become members of the Students' Association are entitled to admission to all athletic contests of Rice Institute teams held in Houston, and they receive the weekly paper and the college annual.

Rooms in the residential halls for men, completely furnished exclusive of linen, may be had at prices ranging from eighty to one hundred twenty dollars per year, five-eighths of the rental being paid when the lease is signed

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and the remainder paid in February. As the charge for table board will be listed at actual cost, the monthly price, payable in advance, will probably vary during the year. Until October first, a blanket charge of one dollar and five cents per day will be made.

These residential halls are of absolutely fireproof construction, heated by steam, lighted by electricity, cleaned by vacuum apparatus, and equipped with the most approved form of sanitary plumbing, providing adequate bathing facilities on every floor. The rooms will be let in the order of applications received. Inasmuch as each year the accommodations now adequate to house some three hundred and fifty men have all been engaged before the opening of the session, reservations should be made early. Diagrams showing the floor plans will be sent to any one who may be interested on application to the Office of the Bursar.

Accommodations for the residence of young women on the university grounds are not available at present. However, while attending to their duties on the campus the young women of the university have access to adequate rest rooms, tennis courts, and other forms of recreation under the constant supervision of Mrs. Sara Stratford, Adviser to Women. Information concerning desirable places of residence for young women students may be had at the Office of the Bursar.

COURSES OF INSTRUCTION FOR DEGREES

ALTHOUGH it is the policy of the new institution to develop its university programme rather more seriously

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from the science end, there are also being provided facilities for elementary and advanced courses in the so-called humanities, thereby enabling the Institute to offer both the advantages of a liberal general education and those of special and professional training. Extensive general courses in the various domains of scientific knowledge will be available, but in the main the programme consists of subjects carefully coördinated and calling for considerable concentration of study. These programmes have been so arranged as to offer a variety of courses in arts, in science, in letters, and in their applications to the several fields of engineering, architecture, and other regions of applied science, leading after four years of undergraduate work to the degree of Bachelor of Arts. Degrees will also be offered in architecture and in chemical, civil, electrical, and mechanical engineering. Furthermore, for the degrees of Master of Arts, Doctor of Philosophy, and Doctor of Engineering, every facility will be afforded properly qualified graduate students to undertake lines of study and research under the direction of the Institute's resident and visiting professors.

The academic programmes of study leading to the degree of Bachelor of Arts after four years of study are of a common type for the first two years, but for the third and fourth years are differentiated into two forms: first, general courses leading to the degree of Bachelor of Arts, either with some grade of distinction or without special mention, and, second, honors courses leading to the degree with honors in certain subjects. These two types will be referred to in the sequel as general courses and honors courses respectively.

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The general course leading to the degree of B.A. has been arranged to give thorough training to those students who are seeking university instruction in literary and scientific subjects either as a part of a liberal education or as preliminary to entering upon a business or professional career. The general course therefore involves the study of several subjects up to a high university standard but does not include a highly detailed specialized study of any one subject such as is necessary before research work or university teaching can be profitably undertaken. Students wishing to specialize with a view to research work and university teaching may either complete an honors B.A. course and then proceed by graduate study to the degrees of M.A. and Ph.D., or they may first take a general B.A. course and after completing it proceed by graduate study to the higher degrees.

The attention of students intending to enter the profession of engineering or architecture is called to the great advantages in first taking a general or honors academic course before beginning special study in engineering or architecture. At present the Institute is not offering courses leading to degrees in law and medicine, but students looking forward to such careers will find in the earlier years of the B.A. course all the requirements for admission to many medical and law schools, provided suitable subjects are chosen. However, attention is called to the fact that several professional schools of law and medicine now require bachelor degrees for admission.

As has already been intimated, the course for the degree of B.A. extends over four years. During the first two years a considerable part of the work is prescribed,

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while during the last two years each student is allowed, within certain restrictions, to select the subject he studies. In the majority of the courses the formal instruction offered consists of three lectures a week together with laboratory work in certain subjects. Preliminary examinations for Freshmen and students on probation are held in December, examinations for all students are given in February and final examinations for all are held in June. Other examinations are given from time to time at periods determined by the instructors.

These examinations are conducted under a student honor system. In determining the standing of a student in each class both his work during the term and the record of his examinations are taken into account.

Of subjects included in the B.A. courses the following are now available:

GROUP A

1. English
2. French
3. German
4. Italian
5. Latin
6. Spanish
7. Economics
8. Education
9. History
10. Philosophy
11. Architecture

GROUP B

1. Pure Mathematics
2. Applied Mathematics
3. Physics
4. Chemistry
5. Biology
6. Chemical Engineering
7. Civil Engineering
8. Electrical Engineering
9. Mechanical Engineering

Candidates for the degree of Bachelor of Arts of the Rice Institute will be required to select studies from

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the preceding groups according to the yearly programmes exhibited below.

At the beginning of each year of his residence at the Institute, each student is assigned to some member of the faculty who will act as the student's personal adviser in the selection of his studies and courses and in other matters pertaining to life at the Institute.

First Year

- (1) Pure mathematics
- (2) English
- (3) A modern language
- (4) A science
- (5) One other subject

Second Year

- (1) Pure mathematics or a science
- (2) English
- (3) A modern language¹
- (4-5) Two other subjects

At the beginning of the third year students may elect to take either a general course or an honors course.

Third Year General B.A. Course

Four subjects, of which two must have been taken in the second year and one in both first and second. At least one subject from each of the groups A and B must be

¹Students who enter with credit in two modern languages may substitute another subject for (3) in the second year; on the other hand, students must take at least one second year language course for graduation.

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taken. Students will receive advice in the selection of their subjects.

Fourth Year General B.A. Course

Four subjects, two of which must have been taken in the third year and one in both second and third or in first and third. At least one subject from each of the groups A and B must be taken. However, students will be allowed to specialize in their senior year, provided they substitute an advanced course for the required group A or group B subject.

A student who wishes to become a candidate for a general B.A. degree should report his candidacy in writing at the beginning of the year in which he expects to take his degree.

To students who have completed a general four years' course the B.A. degree will be awarded either with some grade of distinction or without special mention.

The third and fourth year honors courses are intended for students who wish to specialize in particular branches of knowledge with a view to research work or teaching or later professional studies.

In view of these special objects the requirements in such courses will be more severe than in the general courses in the same subjects. For this reason it is recommended that students exercise due caution and seek advice before electing to take an honors course. Only those students who have shown in their first and second years that they are especially well qualified will be permitted to take an honors course. A student proposing to take an honors course must satisfy the department concerned that

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he is qualified to proceed with the study of that subject. He will be required to take the lectures and practical work provided for honors students in that subject during each of the two years and in addition certain courses in allied subjects.

In 1925-26 honors courses will be available as follows:

- (1) Pure and applied mathematics
- (2) Theoretical and experimental physics
- (3) Modern languages and literatures
- (4) Biology
- (5) Chemistry
- (6) Economics and mathematics
- (7) English

The following programme in honors courses in physics may be taken as typical of such courses:

Third year, four subjects: (1) mathematics, (2) physics 300, (3) physics 310 or 420, (4) one other subject.

Fourth year, four subjects: (1) mathematics, (2) physics 420 or 310, (3) physics 500, (4) one other subject.

A student who wishes to become a candidate for a degree with honors should report his candidacy at the beginning of his Junior year and renew his application at the beginning of his Senior year.

The degree of B.A. with honors will be awarded at the end of the fourth year to students who have completed an honors course. Candidates for honors who fail may be excused such part of a general course as may be equivalent to the work they have done. Candidates for honors who are not making satisfactory progress may be required to discontinue their honors course and may be excused

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such part of a general course as may be equivalent to the work they have done.

For courses leading to the degree of Bachelor of Science, see pages 77 and 91.

A student who has completed a general or an honors course for the B.A. degree may obtain the Master of Arts degree after the successful completion of one year of graduate work.

A candidate for the M.A. degree must elect a principal subject, and submit his schedule in writing when he reports his candidacy. Such schedule must represent the equivalent of four advanced courses to be passed with high credit. The work shall consist of (a) personal investigation, the results of which must be submitted as a thesis, and (b) at least two advanced courses of lectures, one of which must be a graduate course in the principal subject.

For courses leading to the degree of Master of Science, see page 77.

A student who has completed a course for the B.A. degree may be admitted as a candidate for the degree of Doctor of Philosophy. In addition to high attainment, preparation for the Ph.D. degree involves usually at least three years of graduate work. Candidates for the degree must submit a thesis and pass a public examination. The thesis must present a distinctly original contribution to the subject. It must be published in an accredited journal or series, and fifty printed copies must be deposited in the Institute Library.

Candidates who successfully complete the first four years of the engineering course will receive the degree of

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Bachelor of Science. The B.S. degree with distinction will be awarded to students whose work is of a high standard. Candidates who successfully complete a five-year engineering course will receive the M.S. degree in a specified branch of engineering, under requirements conforming to those for the M.A. degree, namely, very high standing and a thesis.

Candidates who successfully complete the five-year course in architecture will be awarded the degree of Bachelor of Science in Architecture. Students in architecture who satisfy all the requirements for the degree of M.A. may elect to take that degree if they prefer.

STANDING IN SCHOLARSHIP OF UNDER-GRADUATE STUDENTS

SCHEDULE of Undergraduate Students.—The regular schedule of undergraduate students is five courses in the Freshman year, five courses in the Sophomore year, four courses in the Junior year, and four courses in the Senior year. The regular schedules for students of Engineering and Architecture may be found in these Announcements beginning on pages 77 and 91 respectively. Admission to less than the regular schedule is rarely granted, and then only in the most exceptional circumstances. One extra course may be taken in the second year and one in the third year by students who are not on probation. Deficiencies of the first two years must be removed before the year in which a student is a candidate for a degree, and may not be removed by extra courses in that year.¹

¹This regulation applies to students who entered in September, 1921, and later.

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An excess schedule must be reduced if a student fails to attain a grade of III or better in three courses, or if he fails to pass any course without at the same time doing work of exceptional quality in his other courses. No credit is given toward graduation for less than a full year's course in any subject, but a course which has been dropped by permission after the February examinations and in which a student's standing is satisfactory may be carried to completion in a succeeding year. Summer school courses will be accepted to remove not more than one Freshman or Sophomore deficiency. To remove a college deficiency no credit will be given for a course unless it is the equivalent in content and quality of a full year course at the Institute.

Examinations.—All courses at the Rice Institute are year courses. Preliminary examinations are given to Freshmen and students on probation in December. Regular written examinations are given to all students in February and at the close of the academic year in June. In Junior and Senior courses (listed as 300 or 400 courses) the June examinations cover the work of the whole year. In elementary courses (listed as 100 or 200 courses) examinations cover the work done from the time of the preceding examination.

Dropping of Students for Deficiencies in Scholarship.—A student will be required to withdraw from the Institute if he fails in as much as one half of the work of his schedule. He may also be dropped for failure to improve while on probation, or for poor scholarship due to absences from the exercises of his schedule. Any student who withdraws from the Institute during the last five weeks of any term on account of failure in his courses will be

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regarded as dropped from the Institute. A student dropped during the year will not be readmitted before the beginning of the following academic year, and then only to the standing attained at the beginning of the academic year in which the student was dropped. A student dropped from the Institute at the end of the academic year for (a) failure in as much as half of the work of his schedule, or (b) failure to improve while on probation, may re-enter the Institute at the beginning of the following year but without any credit for the past year except in courses in which his grade for the year is III or better.¹ Students who have been dropped are not permitted to return unless acceptable evidence is supplied of further study or of satisfactory work in necessary employment. Dropped students, when allowed to return, are received only on probation. Students who have been dropped twice are not entitled to readmission.

Probation.—A student who is carrying five courses will be placed on probation if among his grades for the term there are two V's or no grade better than IV. A student who is carrying four courses will be placed on probation if he has one V and one other grade below III, or has failed to obtain a grade of III or better in at least one course. A student with fewer than four courses will be placed on probation if he has one V, or if he does not obtain at least two grades of III or better. To be removed from probation a student with five courses is required to secure at least two grades of III or better; one with four courses is required to secure at least three III's or two

¹ The symbols have the following meanings: I Very high standing, II High standing, III Medium standing, IV Low standing, V Failure.

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III's and no V's; one with fewer than four courses is required to secure at least three grades of III or better. Probation is a period of scholastic trial, and during that period the student on probation is not permitted to represent the Institute in any capacity. Probation is terminated only at the regular examination periods.

Promotion.—To attain Sophomore standing, a student must have obtained in four of the five courses of the Freshman year, passing grades of which two must have been III or better. To attain Junior standing, a student must have obtained in at least nine of the ten courses of the Freshman and Sophomore years, passing grades of which four must have been III or better. To attain Senior standing, a student must have obtained passing grades, of which six must have been III or better, in at least thirteen courses of the five courses of the Freshman year, the five courses of the Sophomore year, and the four courses of the Junior year, required for full Senior standing. To obtain the degree of Bachelor of Arts, a student must have obtained passing grades, of which eight must have been III or better, in five Freshman courses, five Sophomore courses, four Junior courses, and four Senior courses, required for the first degree. Attention is called to the fact that this four years' course is built up by years. Accordingly four courses of the Freshman and Sophomore years respectively will not be credited as the equivalent of four courses of the Junior and Senior years respectively, a higher standard and wider range of collateral work being required of Juniors and Seniors who elect in either of those years an elementary subject of the Freshman and Sophomore years.

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No student shall attain Sophomore, Junior, or Senior standing in Engineering and Architecture who lacks more than one course of the standard schedule required for full standing in those years.

SUBJECTS OF INSTRUCTION FOR 1925-26

OF the courses to be offered during the scholastic year 1925-26 it is possible to announce those described below. The numbers designating the courses have the following signification: courses whose numbers begin with 1 are open to all students of the Institute; courses whose numbers commence with 2 are open to Sophomores, Juniors, and Seniors; those beginning with 3 are open to Juniors and Seniors; those beginning with 4 are Senior courses. Unless otherwise indicated, all courses consist of at least three exercises a week.

For each course the days of the week and the hours have been indicated. The Roman numerals refer to the group in the examination schedule. In general, subjects which fall in the same group may not be taken in the same year. Any possible exceptions to this rule must be arranged through the Registrar's Office at or before the time of registration.

ENGLISH 100. The theory and practice of English composition, and the study of fundamental literary forms. Required of Freshmen. M W F 8:30, 9:30 or 10:30; or
T Th S 8:30 or 10:30 I

ENGLISH 200. Outlines of the history of English Literature, with collateral reading of authors representative of the various periods. M W F 11:30 XI

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ENGLISH 300. A study of the English Drama, exclusive of Shakespeare, from its beginnings in the Middle Ages to the time of Goldsmith and Sheridan.

T Th S 11:30 IV

ENGLISH 320. Exposition and Argumentation. The study of contemporary problems in society and government, and, somewhat later, of the principles of argument and debate, the collection and weighing of evidence, fallacies, refutations. Themes and briefs. Conferences.

T Th S 8:30 III

ENGLISH 340. The English Novel, with especial reference to the chief novelists of the nineteenth century.

M W F 10:30 VII

ENGLISH 360. Tudor Prose and Poetry. A study of the historical backgrounds and critical and cultural ideals of the sixteenth century, of mediæval traditions, humanistic influences, and new types introduced in the literature from Caxton to Spenser. (Alternates with English 370. Not offered in 1925-26.)

ENGLISH 370. Spenser and Milton. A systematic study of the works of Spenser and Milton. (Alternates with English 360.)

T Th S 8:30 III

ENGLISH 400. Shakespeare and Modern Drama. A systematic study of Shakespeare with especial emphasis on the tragedies, followed by a rapid survey of modern drama. Open only to Seniors.

M W F 9:30 XI

ENGLISH 410. Eighteenth-century Prose and Victorian Literature. (Alternates with English 420. Not offered in 1925-26.)

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ENGLISH 420. Eighteenth-century Poetry, and Nineteenth-century Literature, from the publication of the *Lyrical Ballads*, 1798, to Queen Victoria's accession, 1837. (Alternates with English 410.) M W F 11:30 IX

ENGLISH 430. An introductory course in Old English, followed by a careful reading of Beowulf. (Alternates with English 440.) Hours to be arranged.

ENGLISH 440. An introductory study of Chaucer and other Middle English authors, with a brief sketch of Middle English literature. (Alternates with English 430. Not offered in 1925-26.)

ENGLISH 460. Seminar in American Literature. A study of the principal authors from the Colonial Period of Modern Times, with especial emphasis on the development of American culture and ideals. T 2:00-5:00

FRENCH 100. Elementary French. Phonetic dictation, grammar, composition, conversation, translation of simple French. Sketch of French History. M W F 8:30 or T Th S 8:30, 10:30 VI

FRENCH 200. Second Year French. A continuation of French 100. A considerable amount of outside reading will be assigned besides translation in the class. Review of grammar, composition, dictation. Outlines of French Literature. M W F 9:30 or T Th S 9:30 VI

FRENCH 310. Third Year French. Advanced Composition. Open to students who have passed French 200 with a grade of III or better. Study of pronunciation and the teaching of it by the phonetic method. Practice

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in reading and speaking. Causeries sur la France. Review of grammar. Themes. M W F 9:30 III

FRENCH 320. A survey of the entire History of French Literature, with its social background. Open to students who have passed French 200. The course is intended for students of English and History as well as for those who desire to specialize in French. Lectures in English. Practice in literary translation from the French. Extensive reading of representative texts in French.

T Th S 9:30 V

FRENCH 410. Fourth Year French. Cours de Style. Open to students who have passed French 310 with a grade of III or better. Themes and translations into French. Analysis of style of French writers from the seventeenth century to the twentieth. French versification. Sketch of Historical Grammar. Opportunity will be offered to practice elementary teaching under the supervision of the instructor.

T Th S 8:30 III

FRENCH 420. French Literature. Open to students who have passed French 310 with a grade of III or better, and who can understand spoken French. Students must also have passed French 320 with a grade of III or better, or else take French 320 at the same time as French 420. A representative writer will be studied in each of the three terms. Lectures, collateral readings, reports and essays, all in French.

T Th S 9:30 IV

FRENCH 430. Entirely similar in requirements, purpose, and method with French 420, except that, instead of a representative writer, a special branch of literature

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will be taken up each term. (Alternates with French 420. Not offered in 1925-26.)

Requirements for Honors Course in French, and for recommendation as teacher of French: Courses 310, 320, 410, 420, and 430, passed with high credit (grades of I or II).

GERMAN 100. Elementary German. Grammar, reading, translation, composition, conversation.

M W F 11:30 or T Th S 11:30 IV

GERMAN 200. Second Year German. Historical, descriptive and narrative prose. Grammar review, increased conversation. Composition based on the reading matter. Collateral and outside reading. History of German literature.

T Th S 10:30 XII

GERMAN 300. Survey of German Eighteenth and Nineteenth Century Classic Literature. Reading and interpretation of selected German dramatists, novelists and poets. Lectures, collateral reading, discussion, themes. (Alternates with German 310.)

T Th S 9:30

GERMAN 310. Goethe's Life and Works. Lectures, reading of selected dramas, poetry and prose of Goethe, collateral reading, discussion, themes. (Alternates with German 300.)

GERMAN 320. Scientific German. For students specializing in science. Reading and translation of German scientific prose, with special emphasis on the study of technical vocabulary and idiom leading to a ready reading ability. Scientific discussion and conversation in German. (Not offered in 1925-26.)

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ITALIAN 300. Elementary Italian. Open to students who have had at least two years of French, Spanish, or Latin. Grammar and composition. A large amount of reading will be required. M W F 10:30

SPANISH 100. First Year Spanish. Grammar, composition, and selections for reading from modern Spanish authors. Emphasis is laid on accurate pronunciation, on the essentials of grammar, and on careful study of simple Spanish prose. Oral exercises and composition.

M W F 8:30, 10:30 or 11:30 or T Th S 8:30 II

SPANISH 200. Second Year Spanish. Review of grammar, composition and dictation. Translation of representative works of modern novelists. Collateral readings, with occasional reports and essays in Spanish.

M W F 8:30 or 10:30 or T Th S 11:30 II

SPANISH 210. Commercial Spanish. Open to students who have passed Spanish 200, or Spanish 100 with a grade of III or better. Spanish correspondence. Business forms and vocabulary. Rapid survey of the geography and history of the Latin American countries.

T Th S 10:30 II

SPANISH 300. Third Year Spanish. Open to all students who have completed Spanish 200 or 210 or their equivalent. Recommended to new students entering with advanced credit in Spanish from other schools. Grammar and composition. Reading of short stories as a basis for conversation. Collateral reading of modern prose; reports in Spanish.

M W F 8:30 II

SPANISH 320. Survey of Spanish History and Spanish

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Literature. Open to Juniors and Seniors who have passed Spanish 200, 210, 300 or 330 with a grade of III or better, and to Sophomores upon special recommendation. Not open to Freshmen. Reading of Spanish plays and lyrics in class. Lectures, collateral readings and reports. Conducted in Spanish. M W F 9:30

SPANISH 330. Advanced Commercial Spanish. Open to students who have passed Spanish 200, 210, and 300 with a grade of III or better. Review of Commercial Spanish 210, physical geography and historical background of Latin American countries. Economic development and trade conditions in Latin America. Conducted in Spanish. M W F 8:30

SPANISH 410. History of Hispano-American Civilization. Open to students who have passed Spanish 210, 300, 320 or 330 with a grade of III or better. Lectures, readings, reports and discussions. Conducted in Spanish. M W F 11:30 II

SPANISH 420. Types of Spanish Literature. Open to students who have passed Spanish 320 with a grade of III or better. Study of some of the earlier monuments of Spanish literature and of the Siglo de Oro. Sketch of historical grammar. Readings and reports. Conducted in Spanish. M W F 9:30

Requirements for Honors Course in Spanish and for recommendation as teacher of Spanish: Spanish 300, 320, 330, 410 and 420, with high credit (I or II).

LATIN 100. Selections from Nepos, Sallust, Livy, Cicero, and Ovid. Latin grammar, composition and

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essays. Roman literature. Collateral reading, lectures. Hours to be arranged.

LATIN 200. Selections from Cicero, Livy, Horace, and Tacitus. Roman literature. Latin composition and essays. Collateral reading, lectures. Hours to be arranged.

LATIN 300. Extensive reading in Horace, Juvenal, Cicero, Livy, Tacitus, Plautus, and Terence. Essays and advanced composition. Versification, Roman literature. Chapters in J. E. Sandys' *Companion to Latin Studies* on epigraphy, palæography, art, and textual criticism. Hours to be arranged.

GREEK 300. Introduction to Greek Literature. Reading of Homer, Plato, and the Bible. (Not offered in 1925-26.)

MATHEMATICS 100. Elementary Analysis. The elementary functions, algebraic, trigonometric and exponential; their differentiation and integration. Emphasis is placed upon applications to science and geometry. The course, constituting the required Freshman course in mathematics, forms a general introduction to work in mathematics and science, pure and applied.

During the year a special section is formed for students who have considerable facility in mathematical reasoning.

MATHEMATICS 200. Differential and Integral Calculus. Elements of differential equations, differentials, definite integrals, infinite series and their applications.

This course continues the work of Mathematics 100 in Calculus and Analytic Geometry. Students who have

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considerable facility in mathematical reasoning should take Mathematics 210. T Th S 8:30 or 9:30

MATHEMATICS 210. Differential and Integral Calculus. This course covers the ground of Course 200, but is more complete and goes further. It is intended for students who have considerable facility in mathematical reasoning. It is a sufficient introduction to Mathematics 310, and is open to students who obtain high grades in Mathematics 100 or otherwise satisfy the instructor of their fitness to take the course. T Th S 8:30 X

MATHEMATICS 300. Advanced Calculus and Differential Equations. Differentiation and integration of functions of several variables; multiple integrals; introduction to the theory of differential equations; Fourier series. This course or Mathematics 310 should be taken by students whose major interest lies in physics or engineering; it is open to those who pass successfully in Course 200 or 210 in mathematics. M W F 8:30 XII

MATHEMATICS 310. Advanced Calculus and Differential Equations. Applications to Mechanics and Thermodynamics. This course is intended for students with special ability in mathematics who have had Mathematics 210. Mathematics 340 is also a desirable preparation. M W F 8:30 XII

MATHEMATICS 340. Analytic Geometry and the Nature of Space. General algebraic methods applied to geometry. This course, besides giving an introduction to higher algebra and the projective theory of conic sections, investigates the fundamental problem of the application of

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mathematics to space. The text books are Dickson, Elementary Theory of Equations, and Veblen and Young, Projective Geometry, vol. I.

This course should interest Sophomores, Juniors and Seniors who have special facility for mathematical reasoning, even if their fundamental interests are more closely connected with science or philosophy, than mathematics.

M W F 8:30 IX

MATHEMATICS 400. Theory of functions, real and complex variable. The important functions of analysis and modern general methods. Hours to be arranged.

MATHEMATICS 500. Theory of functions of a complex variable. The algebraic functions and their integrals, functions of two or more complex variables, and differential equations. (Not offered in 1925-26.)

MATHEMATICS 510. Theory of functions of a real variable. Summable functions, Lebesgue and Stieltjes integrals, general integrals, and integral equations; Fourier series. (Not offered in 1925-26.)

MATHEMATICS 520. Differential and Integral Equations. Boundary value problems. Groups in finite and in function space. Hours to be arranged.

MATHEMATICS 530. Contemporary Mathematics. A seminar course on research being carried out by contemporary mathematicians, especially in America. The work of a dozen representative mathematicians will be presented in such a way as to make their publications accessible to students. Hours to be arranged.

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APPLIED MATHEMATICS 200. Mechanics. A study of the fundamental principles, with applications to machines and structures. It includes elementary statics, dynamics, and hydraulics. This course is ordinarily prescribed as part of the engineering course, but students who have demonstrated special mathematical ability may take Mathematics 340 instead and follow it in the Junior year with Mathematics 310 instead of Mathematics 300.

M W F 11:30 VI

APPLIED MATHEMATICS 300. Advanced Mechanics. This course does not presuppose Applied Mathematics 200, but does assume good training in mathematics. It should be taken with or after Mathematics 310. Hours to be arranged.

APPLIED MATHEMATICS 310. Finance, statistics and economics. Mathematical theory of investment, analysis of statistics as applied to economics and biology, theory of probability, economic principles and theory.

M W F 11:30

APPLIED MATHEMATICS 500. Theories of Radiation, Motion of Electrons, Gravitation. A study of some of the more modern hypotheses in theoretical physics. (Not offered in 1925-26.)

APPLIED MATHEMATICS 510. Relativity. This course assumes some knowledge of differential geometry, and gives the theory of Einstein and Weyl, based on the absolute calculus of Ricci and Levi-Civita. Hours to be arranged.

APPLIED MATHEMATICS 520. Celestial Mechanics and

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Cosmogony. Planetary motion, forms of equilibrium of rotating and radiating masses, and the evolution of stellar systems. (Not offered in 1925-26.)

Besides these courses as listed above, to be given during the academic year 1925-26, others may be given to suit the needs of students. Reading courses are also offered in analysis, geometry, and applied mathematics in connection with research in those fields.

PHYSICS 100. A course of three lectures and three hours of practical work per week on experimental dynamics, heat, sound, light, magnetism, and electricity. This course is intended for those who wish to obtain some general knowledge of the principles of natural philosophy on which the modern applications of science to human activities are based. The scientific method of dealing with facts and theories is explained and made familiar by numerous experimental demonstrations and laboratory exercises. For the practical work thirty complete sets of apparatus are available for simple experiments in heat, light, sound, mechanics, magnetism, and electricity.

T Th S 9:30 Laboratory T W or Th 1:30-4:30 V

PHYSICS 200. A course of three lectures and three hours of practical work per week on electricity and magnetism. This course with Physics 100 makes up a complete course on the principles of physics which is required of all engineering students and should be taken by students intending to specialize in physics, chemistry, medicine, law, biology or mathematics. In this course the fundamental principles of electrical theory are explained and illustrated, including the elementary theory of direct and alternating currents,

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electric transmission of power, wireless telegraphy, Roentgen rays, the electrical properties of gases, and other modern developments. In the Laboratory the students are taught how to make measurements of all the important electrical quantities such as current, resistance, potential, capacity, magnetic intensity, magnetic properties of iron and steel and electrochemical equivalents, etc. Twenty-five complete sets of apparatus are available for this work. Students taking Physics 200 must have completed Mathematics 100 and must take Mathematics 200 or 210 at the same time as Physics 200.

M W F 9:30 Laboratory M or F 10:30-12:30 VIII

PHYSICS 300. A course of three lectures and three hours of practical work per week on properties of matter, heat and thermodynamics, theory of vibrations, sound and geometrical optics. This course and Physics 310 together make up a more advanced course on physics supplementing the elementary work done in Physics 100 and 200. The laboratory work includes exact measurements of such quantities as elastic properties of metals, surface tension of liquids, viscosity of liquids, mechanical equivalent of heat, conductivity for heat of solids and liquids, vapor pressure of liquids, temperatures with resistance thermometers, thermocouples and radiation pyrometers, optical constants of lens systems, etc. Students taking this course must have completed Mathematics 200 or 210.

M W F 9:30 Laboratory F 1:30-4:30 III

PHYSICS 310. A course of three lectures and three hours of practical work per week on electricity and magnetism and physical optics. This course includes a study

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of the electrical properties of gases, including cathode rays, Roentgen rays, electrons and radioactivity. Also electric oscillations and electric waves and applications to wireless telegraphy and telephony. The last third of the course is devoted to the study of physical optics, including spectroscopy, interference, diffraction and polarization of light. Students taking this course must have completed Mathematics 200 or 210.

M W F 10:30 Laboratory F 1:30-4:30 VII

PHYSICS 400. Physics Colloquium. One meeting a week at which present-day researches in physics will be discussed. T 4:30

PHYSICS 420. Chemical Physics. Three lectures per week on kinetic theory, thermodynamics, and quantum theory. Students taking this course must have completed Mathematics 200 or 210. Hours to be arranged.

PHYSICS 430. About ten lessons on glass blowing of one hour each. Limited to twelve students. This course will be given from time to time as required. No credit is given for this course.

PHYSICS 500. A course consisting of three lectures a week on the discharge of electricity through gases, Roentgen rays, photoelectricity, electrical properties of flames and hot bodies, quantum theory of radiation, and advanced thermodynamics. T Th S 11:30 IV

PHYSICS 510. A course consisting of three lectures a week on general electromagnetic theory, the electron theory of insulators and conductors, modern theories

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of the atom, the mathematical theory of heat conduction, the special theory of relativity. T Th S 10:30

PHYSICS 520. Research work in physics.

Attention is invited to the fact that many opportunities exist at the present time for persons possessing adequate training in physics and mathematics to engage in industrial research. A large number of industrial corporations now maintain research laboratories for the carrying on of such work. Among these may be mentioned the General Electric Company, the Western Electric Company, the Eastman Kodak Company, the Bureau of Standards, and others. Students desiring to qualify for positions in such establishments should take the Honors course in physics and then, if possible, take a graduate course in physics leading to the M.A. or the Ph.D. degree. However, positions in research laboratories and at the Bureau of Standards are open to men who have taken the B.A. degree with honors in physics. The Honors course in physics may be taken up by students who have completed the first two years of an engineering course as well as by academic students. Two fellowships in physics are available at the Institute to enable students to take graduate work in physics.

CHEMISTRY 100. Introductory Chemistry. Two lectures, one recitation and six hours' laboratory work weekly. A general introductory course dealing with the fundamental phenomena and principles of the science. During the first half-year the laboratory exercises are arranged to verify and illustrate the principles and facts which are discussed in the lectures. During the last half-year

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the laboratory work deals with the general principles and methods of qualitative analysis.

M W F 10:30 Laboratory M and Th or W and F
1:30-4:30 VII

CHEMISTRY 200. Advanced General Chemistry. Three lectures and three hours' laboratory work weekly. A second-year course in chemistry arranged primarily for academic students and for engineers other than chemical engineers. The course includes a general survey of inorganic, analytical, organic, biological and colloidal chemistry with particular reference to the applications to daily life and to the more important chemical industries.

Since this course does not fulfill the requirements in organic chemistry for pre-medical students, the latter will take Chemistry 300. Chemical engineers and academic students specializing in chemistry will take Chemistry 210. Prerequisite: Chemistry 100.

T Th S 11:30 Laboratory T 1:30-4:30 II

CHEMISTRY 210. General and Analytical Chemistry. Two lectures and six hours' laboratory work weekly. The lectures give a survey of the fundamental principles of chemistry and their applications to analytical processes. The first half-year is devoted to volumetric analysis and the second half-year to qualitative analysis.

The course in volumetric analysis includes calibration of volumetric apparatus and representative determinations involving the use of acids and alkalies and such oxidizing agents as potassium dichromate, potassium permanganate, and iodine. The course in qualitative analysis

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is a continuation of the work begun in Chemistry 100. It consists of the separation and detection of the more important bases and inorganic acids and the consideration of the scientific principles upon which these methods are based. Special emphasis is placed on chemical mathematics and stoichiometry. Prerequisite: Chemistry 100.

M W 10:30 Laboratory M W 1:30-4:30 II

Chemistry 220. Gravimetric Analysis. Two lectures and six hours' laboratory work weekly. This course with the volumetric analysis offered in Chemistry 210 constitutes the introductory course in quantitative analysis. It comprises a study of representative gravimetric determinations of the common metals. Consideration is also given to the application of these principles to problems other than those undertaken by the student in the laboratory. Particular stress is laid on the care and accuracy necessary for successful quantitative work. Electroanalysis is included in the course. Prerequisite: Chemistry 210 or taking Chemistry 210. Students who have completed the work in Chemistry 200 with a grade of II or better may be admitted to this course, upon the approval of the instructor, without previously taking Chemistry 210.

T Th S 10:30 Laboratory T Th 1:30-4:30 I

Chemistry 300. Elementary Organic Chemistry. Three hours' lecture and recitation, and six hours' laboratory work weekly. The course is designed to cover the introductory chemistry of the principal classes of organic compounds, and to present the more important theories relating to their structure and reactions. Prerequisite:

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Chemistry 210. Students who have completed the work in Chemistry 100 with a grade of II or better may be admitted to this course, upon the advice of the instructor, without previously taking Chemistry 210.

M W F 9:30 Laboratory M Th 1:30-4:30 VII

CHEMISTRY 310. Physical Chemistry. Two lectures, one recitation and six hours' laboratory work weekly. A systematic presentation of modern chemical theories and their applications. Prerequisites: Chemistry 220, Physics 200 or taking Physics 200.

M W F 8:30 Laboratory F 1:30-4:30 and
S 9:30-12:30 V

CHEMISTRY 320A. Industrial Geology and Blow Pipe Analysis. Two lectures and three hours' laboratory work weekly. This course is arranged especially to meet the requirements of the Chemical Engineer. It consists of (1) a brief survey of historical geology that attempts to explain the origin of formations on the earth, (2) a detailed examination of the economic rocks, minerals and other natural resources, and (3) a comprehensive study of the surface features of the earth, with emphasis on the forces and agents which have produced and are producing these results.

The laboratory work consists of the qualitative and quantitative analysis of minerals and rocks together with their identification and classification. Prerequisite: Chemistry 220. Students who have completed the work in Chemistry 200 or Chemistry 210 may be admitted to this course with the permission of the instructor.

T Th 9:30 Laboratory W 1:30-4:30 III

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CHEMISTRY 320B. Industrial Geology and Blow Pipe Analysis. A course for academic students. Similar to Chemistry 320A except for six hours' laboratory work weekly. T Th 9:30 Laboratory W F 1:30-4:30 III

CHEMISTRY 410A. Colloid Chemistry. A course for Chemical Engineers. Two lectures and three hours' laboratory work weekly. The course treats of the theories of colloid chemistry and their applications in biology and the arts. Prerequisite: Chemistry 310.

W F 11:30 Laboratory W 1:30-4:30 VI

CHEMISTRY 410B. Colloid Chemistry. A course for Academic Students. Similar to Chemistry 410A except six hours' laboratory work weekly.

W F 11:30 Laboratory M W 1:30-4:30 VI

CHEMISTRY 420A. Electrochemistry. A course for Chemical Engineers. Two lectures and three hours' laboratory work weekly. The course consists of a thorough development of the theories of the subject and the application of these theories to industrial processes. The laboratory work includes practice in measurement of electrical constants; conditions affecting electrolytic reactions; determination of current and energy efficiencies in electrolytic and electrothermal work; electroplating and electrorefining; test of storage batteries; electrolytic and electrothermal preparations. Prerequisite: Chemistry 310.

T Th S 11:30 Laboratory F 1:30-4:30 I

CHEMISTRY 420B. Electrochemistry. A course for Academic Students. Similar to Chemistry 420A except six hours' laboratory work weekly.

T Th S 11:30 Laboratory T F 1:30-4:30 I

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CHEMISTRY 430. Chemical Engineering. Three lectures and six hours' laboratory work weekly. In this course are considered the principles upon which the mechanical operations involved in the chemical manufacturing industries depend, together with a study of the types of equipment available for such operations and the kind of work for which each is best adapted. The application of the principles is illustrated both by discussion in the class-room and by the solution of typical problems. Among the subjects considered are applied stoichiometry, furnaces and combustion, the flow of heat, crushing and grinding, the separation of solids, extraction, filtration, distillation, evaporation, the flow of fluids, humidification, and air drying. The laboratory course involves experiments in commercial analysis, in instrument calibration, in measurement of flow of liquids and gases, in evaporation, filtration and drying, and in electric furnace work. Prerequisite: Chemistry 310.

M W F 8:30 Laboratory M and Th 1:30-4:30 III

CHEMISTRY 440A. Organic Analysis. One hour of conference and nine hours of laboratory work weekly. Two-thirds of the year's work is in Qualitative Organic Analysis. A systematic procedure, based on the principles of homology, for the separation and identification of pure organic compounds. During the latter part of the year each student is assigned an actual problem in experimental research whereby he may apply the principles learned in the preceding terms to the accomplishment of some definite objective. The entire course aims at two results: (1) to review by actual laboratory contact the

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important reactions of the chief series of organic compounds; and (2) to develop in the student such spirit of confidence and initiative in the use and application of his knowledge as is usually lacking in one who attempts organic research work with but a year's preparation in elementary organic chemistry. Prerequisites: Chemistry 300, Chemistry 310 or taking 310. (Not offered in 1925-26.)

CHEMISTRY 440B. Advanced Organic Chemistry. Two lectures and one conference per week with or without laboratory. A seminar course dealing with a more advanced study of the mechanism, applications and limitations of organic reactions. The course also includes the consideration of such special fields as tautomerism, geometric and optical isomerism, divalent and trivalent carbon and the recent chapters on the chemistry of the carbohydrates. Prerequisite: Chemistry 300 or 310. (Offered in 1925-26 and in alternate years thereafter.) Hours to be arranged.

CHEMISTRY 450. Advanced Quantitative Analysis. Two lectures and nine hours' laboratory work weekly. The exact determination of a number of constituents in complex and difficultly soluble minerals and practice in the uses of the more refined procedure and instruments in volumetric, gravimetric, and gasometric analyses. Prerequisite: Chemistry 220.

CHEMISTRY 470. Experimental Problems. Chemical engineers and students who are specializing in chemistry may elect in their Senior year at least nine hours a week in experimental problems under the direction of some member of the staff of instruction.

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CHEMISTRY 480. Chemistry Seminar. One hour each week. Participation in the seminar is required of all chemical engineers and students specializing in chemistry after the completion of their third year. Attendance is open to all members of the Institute. Discussions of general topics or of recent advances in the progress or the applications of chemistry.

CHEMISTRY 500. Chemical Research. Chemical engineers or students who are specializing in chemistry are expected in their fifth year to elect at least nine hours a week in research under the direction of some member of the staff of instruction.

Students who desire to take their major work in chemistry should select their courses according to the following arrangement: First year, Chemistry 100; Second year, Chemistry 210 and Chemistry 220; Third year, Chemistry 300 and Chemistry 310; Fourth year, Chemistry 420 and one or more elective courses in chemistry. The related courses in mathematics and physics should also be taken during the first two years if possible.

BIOLOGY 100. About half the year is given to the study of human physiology in connection with the study of structure, both gross and microscopic. A brief survey of the general principles of infection and immunity is included. The other half of the year is given to a study of morphology, ecology, embryology, and physiology, both animal and plant. The evolutionary point of view is presented at the very start; and, wherever feasible, is made the basis for the presentation, or of the interpre-

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tation, of the subject-matter at hand. Emphasis is placed on such topics as are of human interest or application. Three lectures and one three-hour laboratory period per week.
T Th S 11:30 Laboratory W Th or F 1:30-5:30 IV

BIOLOGY 110. Same as Biology 100, but with additional laboratory work to meet the needs of pre-medical students.

T Th S 11:30 Laboratory W Th or F 1:30-5:30 IV

BIOLOGY 200. A continuation of Biology 100. The study of behavior, including that of the lower animals and of man, is approached from an evolutionary point of view and leads finally to a brief consideration of some of the general principles of psychology. The science of heredity is considered next. Wherever practicable, cases of human inheritance are referred to and used in illustrating or in leading to the general principles. Applications are made to evolution, both past and present. Further topics discussed and interpreted from the view-point of the principles of genetics are twinning, regeneration, morphogenesis, asexual and sexual reproduction, and fertilization. There follows next a study of cosmic and geological evolution, the succession of animal and plant forms in time, including man's place in this process and his present and possible future evolution. Three lectures and one three-hour laboratory period per week. Prerequisite: Biology 100.

T Th S 9:30 Laboratory M or T 1:30-4:30

BIOLOGY 220. The first part of the year is devoted to a study of the relation of the insects and their allies to

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disease, including the role of insects in the transmission of disease, the examination of important disease-transmitting species, and the investigation of their life histories and methods of control. Following this, the animal parasites of man—including trematodes, cestodes, nematodes, protozoa and spirochetes—are taken up, special attention being given to methods of infection and prevention of infection. The work of the last part of the year consists of a general introduction to bacteriology, with discussion of the principles of immunity and the prevention of disease by personal care and community effort. Prerequisite: Biology 100.

M W F 8:30 Laboratory T 1:30-4:30

BIOLOGY 350. Vertebrate Embryology. A general course in vertebrate embryology, preceded by a brief introduction to the principles of animal cytology. Amphioxus, the frog, the chick and the pig are studied in the laboratory. Enrollment is open to pre-medical Sophomores who have secured the instructor's permission. Prerequisite: Biology 100.

M W F 10:30 Laboratory M 1:30-4:30

BIOLOGY 360. The major portion of the year is devoted to a study of the classification, geographical distribution, phylogeny and comparative anatomy of invertebrate and vertebrate animals. A brief study of the evolution of the lower vertebrates and man, and of the general principles of animal geography is undertaken in the latter part of the session. The laboratory work involves classification and dissection of representatives of the various groups

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of invertebrates and vertebrates. Prerequisite: Biology 100. (Not offered in 1925-26.)

BIOLOGY 370. Bacteriology. An advanced course for students intending to enter public health work or to specialize in parasitology. Extensive reading, frequent conferences, and nine or ten hours of laboratory work a week are required. Time of conferences and laboratory work to be arranged. Enrollment limited to Seniors, or Juniors who have obtained the instructor's permission. Hours to be arranged.

BIOLOGY 420. Cellular Biology. This course is very general in scope, including a study of all the important features of cell structure and activities, such as the constitution of protoplasm; its nutrition, metabolism, and mode of motion; irritability and the properties of nerve cells; the mechanism of development; youth and old age; and the physical basis of reproduction and heredity. Recent lines of experimental work in general physiology, embryology, and cytology will receive special attention. In the laboratory students will have an opportunity to study living and prepared specimens illustrating the course, and to become acquainted with some of the methods of modern biological experiment and technique. A knowledge of physics and of theoretical and organic chemistry is necessary. Three lectures and four to six hours of laboratory a week. (Not offered in 1925-26.)

BIOLOGY 510. General Problems of Biology. Reading, themes, and seminar work on advanced general topics of biology. Graduate course.

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BIOLOGY 520. Special work in Biology. This course will consist of advanced work in some special field of biology and will be adapted to the needs of the particular student.

ECONOMICS 200. Elements of Economics. An introduction to the fundamental theories of economics and to their applications, with special reference to the problems of money, banking, transportation, international trade, labor problems and business organizations.

T Th S 8:30 or 11:30 III

ECONOMICS 400. Statistics and the Business Cycle. The analysis, interpretation and exposition of significantly related quantitative data. Attributive, temporal and spatial series. Graphic and tabular methods of presentation. The use of averages. Measures of dispersion and skewness. The theory of correlation. Seasonal and cyclical fluctuation of time series. The making of index numbers. The development of statistical principles to be followed in the latter part of the year by an extended application of them in the study of business cycles.

M W F 10:30

SOCIOLOGY 300. An Introduction to Sociology. The course includes an analysis of the geographical and biological factors in social evolution, social psychology, and a study of the functions of citizenship. There is added a rapid survey of modern social problems such as those of poverty, industry, immigration, public health and delinquency. Students expecting to take this course are advised to take Biology 100, History 100, and Economics 200.

M W F 11:30 IX

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SOCIOLOGY 400. The problems of industrial society. A study of the effects upon human relationships of modern economic organization. (Not offered in 1925-26.)

BUSINESS ADMINISTRATION 200. Business Management. The promotion and organization of business enterprises and the administration of such enterprises in operation. The course considers in particular marketing, financing, personnel management, risk-bearing, community and state relationships, accounting, and the interpretation of financial reports. T Th S 9:30 V

BUSINESS ADMINISTRATION 300. Money and Banking. History of the currency. Organization and regulation of commercial and investment banks. The Federal Reserve System. Credit and instruments of credit, corporate securities, capitalization, reorganization, depreciation and reserves. Open to students who have completed Business Administration 200 or Economics 200.

T Th S 8:30 X

EDUCATION 200. History of Education. A comprehensive survey of the development of educational theory and practice, including the reading of educational classics. Prerequisite: One year of college history.

T Th S 10:30 I

EDUCATION 210. Introduction to High-School Teaching. The first term's work is a study of the psychological principles of school method, that of the second and third terms, a study of high-school administration and the methods of teaching high-school subjects.

M W F 9:30 VIII

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The Department of Education of the State of Texas will grant, under the Certificate Law of 1921, the following certificates to students of the Institute:

1. Four-year Elementary Certificate. An elementary certificate valid for four years will be granted to students who have satisfactorily completed five full courses, one of which must be in Education and bear on elementary teaching, another of which must be in English, and of which not more than two courses are in the same subject.

2. Six-year Elementary Certificate. An elementary certificate valid for six years will be granted to those who have satisfactorily completed two full years of college work, including two full courses in Education.

3. Permanent Elementary Certificate. A permanent elementary certificate will be granted to the holders of the six-year certificates after five years of successful teaching or after four years of successful teaching and one year of college work taken after the issuance of the certificate.

4. Two-year High-School Certificate. A high-school certificate valid for two years (valid only in the elementary grades and in third-class and unclassified high schools) will be granted to any student who has completed five full college courses, one of which is in Education, another of which is in English, and not more than two of which are in any one subject.

5. Four-year High-School Certificate. A high-school certificate valid for four years will be granted to any student who completes two years of college work, including two courses in Education, one of which bears on high-school teaching.

6. Permanent High-School Certificate. A permanent

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high-school certificate will be granted to those who have a B.A. degree (or any equivalent Bachelor's degree or higher academic degree) and have had two full courses in Education, one of which bears on high-school teaching, and who has completed three years (27 months) of successful teaching subsequent to taking the degree.

It should be noted that high-school certificates are valid for the elementary grades and the holder of an elementary certificate, based on two years of college work, can teach in third-class and unclassified high-schools.

HISTORY 100. European History. A general survey of the intellectual, social, and political development of Europe from the fourth century through the nineteenth. Lectures and required reading. T Th S 8:30 or 9:30 X

HISTORY 110. Ancient History and Civilization from the earliest times to about 400. This course will deal with the origin and development of early cultures and states in the Mediterranean area. The steps in the formation of a Mediterranean state will be traced from the beginnings under Egypt and Assyria-Babylonia through the colonizing activities of the Phoenicians and Greeks, the unifying work of Alexander the Great, down to the culmination of the process under the Romans. Economic developments will be emphasized as well as the developments in the field of learning and art. T Th S 8:30 or 10:30 X

HISTORY 220. English History. The political, constitutional, social and economic history of England and the British Empire. (Alternates with History 230. Not offered in 1925-26.)

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HISTORY 230. Modern European History. A study of social, political, and economic history of Europe since the beginning of the French Revolution. (Alternates with History 220.) T Th S 9:30 I

HISTORY 300. American History. The historical development of the United States, with special reference to the period since the adoption of the Constitution. T Th S 10:30 I

HISTORY 310. Constitutional Government. The origins and operation of constitutional government, the formation of public policy, and the conduct of public business in England, France and the United States. To alternate with Jurisprudence 300. M W F 8:30 XII

HISTORY 410. Aspects of English Civilization: Early and Mediæval Times. Geographic factors. Formation of the national stock, the national language, and the national church. Characteristics of mediæval Christianity; monastic life and organization; social importance of the Church and clergy as a whole. Evolution and characteristics of political institutions; family and tribe; kingship; feudalism. Economic organization and life; the manor; commerce and industry; growth of towns and the merchant class. Social life in village, town, castle, and court. Educational institutions and practices. Learning and literature. Architecture, military, ecclesiastical, and domestic. Growth of patriotism. Lectures and papers. Open to Seniors, also to Juniors with standing of II or better. T Th S 11:30

JURISPRUDENCE 300. A course planned to give the

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student a knowledge of the history of the development and of the philosophy of law, together with a knowledge of the essentials of selected divisions of modern law, including Criminal Law, Torts, Contracts, Agency, Partnership, Negotiable Instruments, and Private Corporations. (Alternates with History 310. Not offered in 1925-26.)

PHILOSOPHY 210. Logic and Ethics. First half-year: a study of the process of thinking, the laws of inductive and deductive reasoning, and the nature of truth. Second half-year: an examination of the development of moral ideas, the essentials of the main ethical theories and the problem of morality at the present time.

T Th S 10:30 I

PHILOSOPHY 300. History of Philosophy. An historical survey of the essential features and main currents of philosophical thought, ancient, mediæval, and modern.

T Th S 9:30 V

PHILOSOPHY 410. Philosophy of Religion. An introduction to the historical-philosophical study of religion, dealing with the main facts in the evolution of religion and the more fundamental problems of the religious consciousness.

T Th S 11:30 VI

PHILOSOPHY 420. Theory of Knowledge. An intensive critical study is made of selected portions of the writings of the classical epistemologists.

M W F 10:30 II

PHILOSOPHY 500. Seminar. Hours to be arranged.

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PHILANTHROPY 500. A course designed to train the student for professional social work. It includes the history of public and private relief, the functions of the more important social agencies, and the technique of social diagnosis and treatment. Theoretical instruction in the case method will be accompanied by field work under the direction of experts connected with the social agencies of the city of Houston. This course is limited to advanced students who are expecting to undertake professional social work.

M W F 9:30 III

PHILANTHROPY 510. Social Problems. An intensive treatment of the following topics: Child Welfare, Immigration, Recreation, Delinquency and Crime, Public Health, and Housing. This course aims to equip the student of social activities as well as the prospective social worker with a knowledge of important types of social maladjustment. It is open to qualified seniors who wish to pursue advanced work in social science. Prerequisites: History 100, Economics 200, Sociology 300.

M W F 10:30 VII

PHYSICAL TRAINING

THE athletic Field House, completed in the fall of 1920, with its ample locker and shower facilities, and with its gymnasium floor and modern athletic apparatus, not only meets the needs of the university athletic teams but also furnishes ample opportunity for systematic physical training on the part of all members of the institution. A charge of two dollars per academic year is made for the use of a locker.

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One period of physical training each week is required of all men of the Freshman class, and voluntary classes are formed for the benefit of all other members of the Institute. The classes are organized in such divisions as to eliminate direct competition between the physically weaker and the physically stronger among the students. The classes take up regular gymnastic work including boxing, wrestling, athletic dancing, basket-ball, indoor and outdoor base-ball, track work and the like. Appropriate emblems are awarded to students showing various degrees of efficiency. Numerous intramural games and contests are arranged between classes and other organizations to utilize the competitive spirit in the development of athletic and gymnastic proficiency. The certificate of medical examination submitted by a student on admission determines in a large measure the character of work that the individual student is permitted to take. In certain cases special physical examinations by the Medical Adviser to the Committee on Outdoor Sports will be required, for which a fee will be charged. Lectures are given on personal hygiene and the principles of health.

COURSES IN ENGINEERING

COURSES are offered in chemical, civil, electrical, and mechanical engineering. A complete course in any one of these branches extends over five years. A student who has successfully completed the first four years of a course is awarded a bachelor's degree, and after successfully completing the remaining year of his course he is awarded a master's degree. It is intended in the engineering courses to pay special attention to the theoretical

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side, because experience has shown that theoretical knowledge is difficult to obtain after leaving the university, and without it a rapid rise in the profession of engineering is almost impossible. It is recommended that students obtain employment in engineering work during the summer vacations, for it should be remembered that no amount of university work can take the place of practical experience in engineering establishments and in the field. The courses in engineering are not intended to take the place of learning by practical experience, but are designed to supply a knowledge of the fundamental principles and scientific methods on which the practice of engineering is based and without which it is difficult, if not impossible, to succeed in the practice of the profession. The work of the first year is alike for all branches, in order that students may defer choice of a particular engineering course as long as possible. It is necessary for chemical engineers to make this choice at the beginning of the second year, civil engineers at the beginning of the third year, and electrical and mechanical engineers at the beginning of the fourth year.

The work of the first two years consists chiefly of courses in pure and applied mathematics, physics, chemistry, and other subjects, an adequate knowledge of which is absolutely necessary before the more technical courses can be pursued with advantage. Technical work is begun in the third year with courses of a general character in mechanical engineering, civil engineering, and electrical engineering, all three of these branches to be taken by all engineering students, with a slight change in schedule for those in chemical engineering. In the third year instruc-

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tion of students in mechanical and electrical engineering is begun in shopwork. The classes in shopwork are intended to give familiarity with workshop methods. The object of these classes is not primarily to train students to become skilled mechanics, but to provide such knowledge of shop methods as is desirable for those who may be expected as engineers to design machinery, to employ mechanics, and to superintend manufacturing processes.

Students who can afford the time are recommended to devote three or four years to preliminary work instead of two, taking the B.A. at the end of four years and an engineering degree at the end of six or seven years. Students proposing to do this are advised to take a course devoted largely to mathematics, physics, and chemistry, or an honors course in either mathematics, physics, or chemistry. The subjects taken during the years of preparatory work must include those of the first two years in the general engineering course, which may be substituted for options in the academic course. The honors course in physics is strongly recommended for those who wish to become either electrical or mechanical engineers. Typical schedules permitting such combination courses will be furnished by the Registrar on request.

The following are the schedules for the five-year course leading to a bachelor's degree in four years and an engineering degree in five years:

First Year

- (1) Mathematics 100
- (2) Physics 100

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- (3) English 100
- (4) Chemistry 100
- (5) Engineering 110

Second Year

- (1) Mathematics 200 or 210
- (2) Applied Mathematics 200¹
- (3) Physics 200
- (4) French or Spanish²
- (5) Engineering 210³

Third Year

MECHANICAL ENGINEERING AND ELECTRICAL ENGINEERING

- (1) Mathematics 300
- (2) Mechanical Engineering 300
- (3) Electrical Engineering 300
- (4) Civil Engineering 300
- (5) Mechanical Engineering 310

CIVIL ENGINEERING

- (1) Mathematics 300
- (2) Mechanical Engineering 300
- (3) Electrical Engineering 300
- (4) Civil Engineering 300
- (5) Civil Engineering 310

¹ Chemical Engineers take Chemistry 210.

² Chemical Engineers take German 100, other Engineers may substitute Chemistry 200.

³ Chemical Engineers take Chemistry 220.

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CHEMICAL ENGINEERING

- (1) Chemistry 300. Organic Chemistry
- (2) Chemistry 310. Physical Chemistry
- (3) Chemistry 320A. Industrial Geology and Blow Pipe Analysis
- (4) Mechanical Engineering 300
- (5) Electrical Engineering 300

Fourth Year

MECHANICAL ENGINEERING

- (1) Mechanical Engineering Laboratory (M.E. 400)
- (2) Machine Design (M.E. 410)
- (3) Heat Engine (M.E. 420)
- (4) Industrial Management (M.E. 430) or an approved Elective
- (5) Internal Combustion Engines and Fuels (M.E. 440)
- (6) Economics 200
- (7) Seminar (Engineering 400)

ELECTRICAL ENGINEERING

- (1) Alternating Currents (E.E. 400)
- (2) Electrical Engineering Laboratory (E.E. 410)
- (3) Electrical Design (E.E. 420)
- (4) Industrial Management (M.E. 430) or an approved Elective
- (5) Economics 200
- (6) Seminar (Engineering 400)

CIVIL ENGINEERING

- (1) Municipal Engineering (C.E. 420)
- (2) Masonry Construction (C.E. 440)

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- (3) Graphic Statics and Structural Design (C.E. 450)
- (4) An approved Elective
- (5) Economics 200
- (6) Seminar (Engineering 400)

CHEMICAL ENGINEERING

- (1) Chemistry 410A. Colloid Chemistry
- (2) Chemistry 420A. Electrochemistry
- (3) Chemistry 430. Chemical Engineering
- (4) Chemistry 480. Chemistry Seminar
- (5) Civil Engineering 300
- (6) Economics 200

Fifth Year

MECHANICAL ENGINEERING

- (1) Advanced Machine Design (M.E. 500)
- (2) Mechanical Plants and Processes (M.E. 510)
- (3) Thesis (M.E. 530)
- (4) Seminar (Engineering 400)
- (5) Elective (M.E. 520, or an advanced C.E., E.E., or science course)

ELECTRICAL ENGINEERING

- (1) Advanced Alternating Currents (E.E. 500)
- (2) Thesis (E.E. 510)
- (3) Heat Engines (M.E. 420)
- (4) Seminar (Engineering 400)
- (5) Elective

CIVIL ENGINEERING

- (1) Structural Design (C.E. 500)
- (2) Hydraulic and Sanitary Engineering (C.E. 510)

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- (3) Railway Engineering (C.E. 520)
- (4) Elective (Must be approved)
- (5) Thesis (C.E. 530)

CHEMICAL ENGINEERING

- (1) Chemistry 500
- (2) Chemistry Elective
- (3) Chemistry Elective
- (4) Engineering Elective
- (5) Chemistry 480
- (6) Engineering 400 (Seminar)

ENGINEERING 110. Mechanical Drawing and Descriptive Geometry. Mechanical Drawing: the use of drafting instruments; lettering; drawing figures in isometric, cabinet, and orthographic projection; intersections and developments. Descriptive Geometry: orthographic projections of points, lines, planes, warped surfaces, etc., in the four angles of projection.

Section 1

W and F 11:30 and 1:30-4:30

Section 2

T and Th 11:30 M and T 1:30-4:30

ENGINEERING 210. Kinematics of Machines, and Plane Surveying.

KINEMATICS. The study of relative motion of parts of machines, instant centers, velocities, gearing and wrapping connectors.

M W F 8:30 W Th 1:30-4:30 (First half-year)

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PLANE SURVEYING. The study of the uses and adjustments of surveying instruments and of office methods. Problems are given in field work to familiarize the student with chain, compass, level, and transit. Plotting and compilations from field notes. Prerequisites: Engineering 110 and Mathematics 100.

M W F 8:30 W Th 1:30-4:30 (Last half-year)

ENGINEERING 400. Seminar. A weekly meeting conducted by the fourth year engineering students for the discussion of current topics from the technical periodicals, and of scientific and technical papers of general engineering interest. This course must be taken during the year in which the student receives the B.S. degree.

F 1:30-4:30

MECHANICAL ENGINEERING 300. Prime Movers. A general course of lectures, recitations from text, and laboratory covering the characteristics, fields of usefulness, operation, and tests of fuels, steam engines and turbines, boilers, pumps, condensers, and auxiliaries; properties of steam; valve gears; simple internal combustion engines and accessories. Numerous problems illustrate the theory discussed. Prerequisites: Physics and Chemistry 100, Mathematics 200 or 210. Laboratory fortnightly.

M W F 10:30 M or T 1:30-4:30 VII

MECHANICAL ENGINEERING 310. Engineering Shop. Text-book and lectures dealing with metallurgy, general forge, foundry, and machine-shop practice, and their effects on machine design and manufacturing. Practice with a variety of bench and machine tools, carefully selected for their fitness in illustrating the principles

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studied, for affording actual contact with machine work, and for developing a certain degree of skill and resourcefulness in the student.

Recitations, all sections, T Th 9:30

Shop Section A W Th 1:30-3:30 F 1:30-4:30 V

Shop Section B T Th 10:30-12:30 S 9:30-12:30

MECHANICAL ENGINEERING 400. Senior Mechanical Laboratory. An advanced course in general steam, air, oil, water, and power-transmission machinery operation and testing. Recitations from text, reports, and laboratory. Prerequisite: Mechanical Engineering 300. Must be accompanied with or preceded by Mechanical Engineering 420. T W 1:30-4:30 IX

MECHANICAL ENGINEERING 410. Machine Design. Recitations from text and references, also calculations and drafting involved in the design of machine parts, considering both the theory and its modifications due to shop practice and financial limitations. Design of several complete machines, such as punch presses and hoisting machines. Prerequisites: Engineering 210, Mechanical Engineering 310, Civil Engineering 300. M W F 8:30-11:30 XII

MECHANICAL ENGINEERING 420. Heat Engines. General thermodynamics; applications of thermodynamics to the design and operation of air compressors, steam engines, and steam turbines; commercial forms of such machines, with special emphasis on steam turbines; elementary steam plant design; elementary refrigeration. Prerequisite: Mechanical Engineering 300. Lectures, text, and problems. T Th S 10:30 I

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MECHANICAL ENGINEERING 430. Industrial Management. A study of the principles and practice in the management of manufacturing plants; location and layout of works; organization of administration, sales, cost and production departments; selection of machinery, materials, and labor; wage systems; cost analysis; welfare work; a short survey of the law of sales and contracts. Two recitations a week. Senior elective.

M W 11:30 II

MECHANICAL ENGINEERING 440. Internal Combustion Engines and Fuels. A study of the theory, design, and operation of internal combustion engines and gas producers. About one-third of the year is spent on engine design problems. Must be accompanied with or preceded by Mechanical Engineering 420.

T Th S 11:30 VII

MECHANICAL ENGINEERING 500. Advanced Machine Design. The investigation of elaborate complete machines; original design of complete machines, especially automatic machinery; design of mill-building trusses, floors, and structural details.

MECHANICAL ENGINEERING 510. Mechanical Plants and Processes. A general course dealing with special plants and processes, such as oil production, transportation, and refining, textiles, metal products, material handling, etc., not covered thoroughly in other courses. Details of design and operation of special power and heating plants. Prerequisite: Mechanical Engineering 420.

MECHANICAL ENGINEERING 520. Advanced Heat Engines. The design and operation of heating, ventilating,

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and refrigerating equipment and plants; design of standard types of steam turbines, engines, and boilers. Elective.

MECHANICAL ENGINEERING 530. Thesis. The investigation, under the Mechanical Engineering staff, of some undeveloped engineering problem, either through experiment, design, or compilation of available information. The time required will be at least that necessary for a standard advanced course. Two copies of the accepted report will be required for deposit in the Institute libraries.

ELECTRICAL ENGINEERING 300. The fundamental principles of dynamo machinery, both direct and alternating current. The course includes laboratory work, which as far as possible parallels the class-room work. Prerequisite: Physics 200 and Mathematics 200 or 210. Laboratory fortnightly.

M W F 9:30 M or T 1:30-4:30 X

ELECTRICAL ENGINEERING 400. Alternating Currents. A mathematical treatment of the theory of alternating current phenomena, using Steinmetz's symbolic method. The various types of alternating current generators and motors; their characteristics and operation. Transformers. Synchronous converters. Prerequisite: Electrical Engineering 300. M W F 10:30 VIII

ELECTRICAL ENGINEERING 410. Electrical Engineering Laboratory. A laboratory study of alternating current circuits, instruments, and machines. Standard testing of direct and alternating current machinery. Prerequisite: Registration in Electrical Engineering 400.

W Th 1:30-4:30 VI

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ELECTRICAL ENGINEERING 420. Electrical Design. Design of machinery for direct and alternating current. Calculation of characteristics. Prerequisite: Electrical Engineering 300. T Th S 9:30 X

ELECTRICAL ENGINEERING 500. A continuation of Electrical Engineering 400. Advanced alternating currents. Transients. Attention will be given to special branches such as high voltage installations, high frequency, illumination, telephony, wireless telegraphy, etc. Three lectures and one laboratory period per week.

ELECTRICAL ENGINEERING 510. Thesis. A thorough report on an engineering investigation selected and carried out by the individual student. It is expected that a great deal of time will be given to thesis work. The course is considered the equivalent of a three-hour course.

CIVIL ENGINEERING 300. Strength of Materials and Hydraulics. Strength of Materials: a course given primarily for the study of the theory of beams, columns, and shafts. In the theory are considered stresses and deformations due to tensile, compressive, and shearing forces; the distribution of shear, bending moments, deflections, combined stresses, and torsional stresses. Physical tests of steel, wrought iron, cast iron, cement, and concrete are made in the laboratory. Hydraulics: a course devoted to the principles of hydrostatic and hydrodynamic pressures; the flow of water through orifices, pipes, nozzles, open channels, and over weirs. Prerequisites: Physics 100 and Mathematics 200. Laboratory fortnightly. T Th S 8:30 M or T 1:30-4:30 VI

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CIVIL ENGINEERING 310. Topographic, Geodetic, and Railroad Surveying. In this course are given the theory and practice of base line and triangulation measurements, determination of meridian, traversing with transit and stadia and with a plane-table, and mapping. Simple, compound, reversed, vertical, and spiral easement railroad curves. Computation of earth work. Prerequisite: Engineering 210. T Th 9:30 W Th 1:30-4:30 IV

CIVIL ENGINEERING 420. Municipal Engineering. The course is divided into three parts. Highways: Design, construction and maintenance of earth, sand-clay, macadam, bituminous macadam, asphaltic concrete, brick, wood-block, stone-block, and cement concrete roads. Soil analysis, materials, inspection, municipal, state, and federal highway legislation, methods of financing. Water Supply Engineering: A study of rainfall, evaporation, yield, water-bearing strata, etc. Theory of the rain cycle, water analysis, methods of determining pollution, water power and irrigation methods. Design, construction, operation, and maintenance of purification systems, storage facilities, etc. Sewerage: A study of storm flow, modern methods of sanitation, disease epidemics, etc. Water-carriage system, separate and combined. Design, construction, maintenance of sewer elements and sewage disposal plants. Prerequisite: Civil Engineering 300.

T Th S 8:30 T 1:30-4:30 VII

CIVIL ENGINEERING 440. Masonry Construction. A study of the geology of common rocks and clays, the physical properties of common building stones, bricks, concrete, and concrete aggregates. A study of founda-

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tions. Theory and investigation of masonry retaining walls, dams, and arches. Theory of reinforced concrete beams, slabs, and columns. Prerequisite: Civil Engineering 300. T Th S 10:30 M 1:30-4:30 VI

CIVIL ENGINEERING 450. Graphic Statics and Structural Design. Algebraic and Graphic Statics. Theory and design of simple roof trusses, bridge trusses, and plate girders. Detailed drawings and estimates of cost and weight. Prerequisite: Civil Engineering 300.

M W F 9:30 M W 10:30-12:30 VIII

CIVIL ENGINEERING 500. Structural Design. Design of steel office and mill buildings. Analysis of stresses in statically indeterminate structures such as swing, cantilever, arch, and suspension bridges. A study of secondary stresses. Two lectures and one design period a week. Prerequisite: Civil Engineering 450 or its equivalent.

CIVIL ENGINEERING 510. Hydraulic and Sanitary Engineering. Investigation and development of water power. Design of dams and irrigating systems. Hydraulic turbines and pumps. Preliminary design for a water supply and sewerage system for a small city. Study of general sanitary problems including: garbage disposal, public health, street cleaning, etc. Three lectures and one design period a week. Prerequisite: Civil Engineering 420 or its equivalent.

CIVIL ENGINEERING 520. Railway Engineering. A study of the principles of economic location and construction, railway maintenance, railway structures. Design of

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terminals and signalling systems. Railway organization and valuation. Three lectures and one design period a week. Prerequisite: Civil Engineering 310 or its equivalent.

CIVIL ENGINEERING 530. Thesis. This will consist of an original investigation along some approved line of civil engineering work, an original design, or a critical review of existing work. In every case a complete typewritten or printed report will be required, and this will become the property of the Institute and be deposited in the general or departmental library.

COURSES IN ARCHITECTURE

To students of architecture the Institute offers a full course extending over five years, leading to a bachelor's degree at the end of the fourth year and to an architectural degree at the end of the fifth year. It is the purpose of the course in architecture to lead students during their residence to a comprehensive understanding of the art of building; to acquaint them with the history of architecture from early civilization to the present age; and to develop within them an understanding and appreciation of those conceptions of beauty and utility which are fundamental to the cultivation of ability in the art of design.

In arranging the courses which follow it will be observed that there are included certain indispensable elements of a liberal education and also such engineering and technical subjects as are becoming more and more necessary to the general education of a practising architect.

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Of the more strictly architectural subjects, design is given by far the largest place. As a matter of fact, the courses in history and design and those in freehand drawing, in water color, in drawing from life, and in historic ornament have all a double object: to create in the student an appreciation of architectural refinement and dignity, and to increase constantly his ability to express conceptions of architectural form. Accordingly, the training of the student is not limited to training in draftsmanship alone, but all courses conspire to the cultivation of creative and constructive ability in expression and design. With a view to keeping the student in touch with the progress of his profession and with the daily routine and detail of its practice, it is strongly recommended that he spend a portion of each of his summer vacations in the office of some practicing architect.

The following are the schedules for the five-year course leading to a bachelor's degree in four years and a degree in architecture in five years:

First Year

- (1) Mathematics 100
- (2) English 100
- (3) French or Spanish
- (4) Physics 100
- (5) Architecture 100: consisting of
 - (a) Elements of Architecture
 - (b) Freehand Drawing

Second Year

- (1) Pure Mathematics
- (2) English

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- (3) French or Spanish¹
- (4) A science
- (5) Architecture 200: consisting of
 - (a) Design
 - (b) Freehand
 - (c) History of Architecture

Third Year

- (1) English
- (2) Applied Mathematics 200
- (3) Architecture 300—Design
- (4) Architecture 310: consisting of
 - (a) Freehand Drawing
 - (b) Water Color
 - (c) History of Architecture

Fourth Year

- (1) English or History
- (2) Architecture 400—Design
- (3) Architecture 410: consisting of
 - (a) History of Architecture
 - (b) Freehand
- (4) Architecture 430: consisting of
 - (a) Construction
- (5) Architecture 440: consisting of
 - (a) Historic Ornament
 - (b) Water Color

Fifth Year

- (1) Architecture 500: Thesis Design
- (2) Architecture 510: History of Painting and Sculpture

¹ Students in second year shall continue the language chosen in first year course.

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(3) Architecture 520: Life Drawing and Water Color

(4) Architecture 530: consisting of

(a) Construction

(b) Special Lectures

ARCHITECTURE 100.

(a) Elements of Architecture. Elementary training in drawing of order plates, wash drawings, lettering, with a series of lectures on descriptive geometry, shades and shadows, and perspective. Six hours a week.

M F 1:30-4:30 VIII

(b) Freehand Drawing. Elementary drawing in pencil and charcoal of single simple objects and block groups and casts. Four hours a week.

T S 10:30-12:30

ARCHITECTURE 200.

(a) Design. Rendered drawings embracing the design of simple elements of buildings, together with advanced work in the use of the orders and in composition. Six hours a week.

T Th 1:30-4:30

(b) Freehand. Drawing in charcoal from simple casts of classical ornament. Four hours a week.

T Th 10:30-12:30

(c) History of Architecture. Two lectures a week on the history of ancient architecture, illustrated by lantern slides, and two hours a week of research and tracing of historic buildings. Four hours a week.

W F 3:30-4:30 II

ARCHITECTURE 300.

Design. The design of small buildings. The problems average five weeks in duration with twenty-four hours

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for the sketch problems at the end of major problems.
Nine hours a week. M W F 1:30-4:30 II

ARCHITECTURE 310.

(a) Freehand Drawing. Drawing from casts of antique sculpture. Four hours a week. M F 8:30-10:30

(b) Water Color. Elementary training in color drawing and simple groups of still life. Two hours a week.
W 8:30-10:30

(c) History of Architecture. Two lectures a week in the history of mediæval architecture, illustrated by lantern slides, and two hours a week of research in the study of historic buildings. Four hours a week.

T Th 2:30-4:30 III

ARCHITECTURE 400.

Design. The design of public buildings and groups of buildings. The problems average six weeks in duration, alternating with twelve-hour sketch problems. Twelve hours a week. M 1:30-5:30 T W Th F 3:30-5:30 II

ARCHITECTURE 410. (Given in 1922-23 and in alternate years thereafter.)

(a) History of Architecture. Two lectures a week on the History of Modern Architecture.

T Th 2:30-3:30 VIII

(b) Freehand. Drawing from casts of full figure and group, antique sculpture. Four hours a week.

M F 9:30-11:30

ARCHITECTURE 430.

Methods of Construction. Three lectures a week on materials and construction, with one plate a week.

M W F 2:30-3:30

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ARCHITECTURE 440.

(a) Historic Ornament. The study of the history of ornament, with a series of design plates in ornament from historic periods of architecture. Six hours a week.

T Th S 8:30-10:30 VI

(b) Water Color. Water-color drawing and sketching in color, work advanced, subjects varied. Two hours a week.

W 9:30-11:30

ARCHITECTURE 500.

Thesis Design. The problem of a thesis may consist of a single building or group of buildings, and must include large-scale studies as well as general drawings. The student may select his own problem, but his entire programme is subject to the approval of the instructors in design. Sixteen hours a week.

T Th S 8:30-12:30 M F 1:30-3:30

ARCHITECTURE 510.

History of Painting and Sculpture. Three lectures a week on history of painting and sculpture. A critical survey of historic schools of painting and sculpture. Open to Juniors and Seniors taking the academic course.

T Th S 10:30 VIII

ARCHITECTURE 520.

Life Drawing and Water Color. Rendered architectural details and measured drawings in color. Two hours.

F 10:30-12:30

ARCHITECTURE 530.

(a) Construction. Two lectures a week on mechanics of construction, with one construction plate a week.

(b) Special Lectures. Lectures on the professional

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practice of architecture, including the business relations of architect with client and contractor. One lecture a week.

Included in the work of design of the second, third, and fourth years with a special study of the theory of design.

UNIVERSITY EXTENSION LECTURES

To bring the people of the city and community into more intimate touch with the academic life of the university, and to carry the influence of that life directly to many homes not represented on the rolls of its undergraduate or postgraduate students, regular series of public lectures, in the form of university extension lectures, are offered without matriculation fee or other form of admission requirement. These performances are authoritative in character, but as non-technical and popular in treatment as their subjects will permit. From domains of literature, history, science, art, philosophy, and politics subjects of current interest as well as those of assured and permanent value are chosen. The original plan for these university extension lectures consisted in giving each academic year two regular series of thirty-six lectures each on Mondays, Wednesdays, and Fridays, from the middle of November to the middle of February, the second series running similarly from the middle of February to the middle of May; all these lectures are delivered in the lecture halls and amphitheatres of the Institute, each afternoon lecture beginning promptly at 4:30 and closing not later than 5:30. The Rice Institute Pamphlet for January, 1918, contains a detailed record of the univer-

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sity extension lectures delivered at the Institute during the academic years 1913-14 to 1917-18, inclusive. These performances were partially interrupted during the war, but have been resumed under some modifications of the original plan as to time and place.

ENDOWED PUBLIC LECTURESHIPS

THREE endowed public lectureships have been founded at the Rice Institute. The first of these, established in 1918 by Mrs. Estelle B. Sharp, of Houston, has to do primarily with topics in the social sciences; the second, founded in 1919 by Herbert Godwin, Esq., of Houston, is to be devoted initially to subjects of public concern during the period of reconstruction; while the third, founded anonymously in 1922 by a citizen of Houston, is dedicated to the promotion of interest in music both in the university and in the community. The Sharp Lectureship was inaugurated in the autumn of 1918 by a course of lectures on "The Obligations and Privileges of Citizenship—a plea for the study of social science," by the late Sir Henry Jones, F.B.A., professor in the University of Glasgow. The Sharp lectures for the academic year 1919-20 were delivered by Professor Andrew Cunningham McLaughlin, of the University of Chicago. The Godwin Lectureship was inaugurated in the spring of 1920 by lectures on "The Conservation of the Institutions of the Republic," and "World-wide Coöperation among the Nations," by the Hon. William Howard Taft, twenty-seventh President of the United States of America. The Godwin Lectures for the year 1921 were delivered by Sir Auckland Geddes, the British Ambassador to the

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United States, and for the year 1922 by President A. Lawrence Lowell, of Harvard University. The Lectureship in Music was inaugurated in the spring of 1923 by a course of lectures on music in the life of the community and of the nation, delivered by Mr. John Powell, the American composer and pianist.

RICE INSTITUTE PUBLICATIONS

AMONG the publications of the Rice Institute are at present included the Announcements, the Descriptive Brochure, the Programmes of University Extension Lectures, and the Rice Institute Pamphlet. The first three of these have appeared at intervals and in several editions; the Pamphlet, now in its eleventh volume, is published quarterly in January, April, July, and October, with a view to giving wider publicity in permanent form to inaugural and other lectures in letters, science, and art by resident and visiting lecturers and professors to the University. In this connection the reader may wish to turn to the paragraph of this Announcement concerning the formal opening of the Institute.

LIBRARY

QUARTERS for the Library of the Institute have been provided in the Administration Building. The affairs of the Library are administered by a committee of the Faculty and Miss Alice C. Dean, M.A., as Acting Librarian. In providing the initial equipment of the Library the policy is being followed of supplying such books as are necessary to supplement the courses of instruction and to support the independent investigations of members of the

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Faculty and advanced students. In this manner a high degree of efficiency becomes possible at the very beginning of the Library's existence. Moreover, for work of general and more popular interest the shelves of the Carnegie Library of Houston are accessible to all members of the Institute.

Besides several hundred current literary and scientific journals, the Library of the Institute contains at present about fifteen thousand volumes in back files of serial publications; among these may be mentioned complete files of the following: L'Academie des Sciences de Paris—Comptes Rendus, Acta Mathematica, American Academy of Political Science—Annals, American Anthropologist (New Series), American Electro-Chemical Society—Transactions, American Chemical Society—Journal, American Historical Association—Annual Reports, American Historical Review, American Institute of Chemical Engineers—Transactions, American Institute of Electrical Engineers—Transactions, American Journal of Education, American Journal of International Law, American Journal of Mathematics, American Journal of Philology, American Journal of Science, American Machinist, American Mathematical Society—Transactions and Bulletins, American Naturalist, American Political Science Review, American Review of Reviews, American Society for Testing Materials—Proceedings, American Society of Civil Engineers—Transactions, American Society of Mechanical Engineers—Transactions, Anglia, Annalen der Chemie, Annalen der Physik, Annals of Mathematics, L'Anée Psychologique, Annual Register, Architectural Record, Archiv für Entwicklungsmechanik der Organismen, Archiv

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für Geschichte der Philosophie, Archiv für Protistenkunde, Archiv für Zellforschung, Aristotelian Society—Proceedings, Arts and Decoration, Astrophysical Journal, Atlantic Monthly, Bookman, British Association for the Advancement of Science,—Reports, California University—Publications in Zoölogy, Camden Society Publications, Carnegie Institution of Washington—Publications, Centralblatt für Bakteriologie, Chemical Abstracts, Chemical News, Circolo Matematico di Palermo—Rendiconti, Classical Philology, La Critica, Current History Magazine, Deutschen Chemischen Gesellschaft—Berichte, L'École Normale Supérieure—Annales Scientifiques, Educational Administration and Supervision, Educational Review, Electric Journal, Electrical World, Electrician, Engineering Index Annual, Engineering News-Record, L'Enseignement Mathématique, Ergebnisse der Anatomie und Entwicklungsgeschichte, Filosofia delle Scuole Italiane, Fortschritte der Mathematik, Forum, Gentleman's Magazine, Great Britain Royal Commission Historical Manuscripts, Green Bag, Harper's Monthly Magazine, Harvard Studies and Notes in Philology and Literature, Harvard Law Review, Harvard Theological Review, Harvard University—Contributions from the Jefferson Physical Laboratory, Hibbert Journal, Institution of Electrical Engineers—Journal, L'Intermédiaire des Mathématiciens, International Journal of Ethics, International Studio, Jahrbuch der Radio-aktivität und Elektronik, Jahrbuch über die Fortschritte der Mathematik, Journal de Mathématiques, Journal de Chimie Physique, Journal de Physique, Journal of American Folklore, Journal of Animal Behavior, Journal of Economic Entomology, Journal of

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Experimental Medicine, Journal of Industrial and Engineering Chemistry, Journal of Parasitology, Journal of Philology, Journal of Philosophy, Psychology, and Scientific Methods, Journal of Physical Chemistry, Journal of Speculative Philosophy, Journal of the Society of Chemical Engineers, Koninklijke Akademie (Amsterdam—)Proceedings, Larousse Mensuel, Das Literarische Echo, London Mathematical Society—Proceedings, La Lumière Électrique (and L'Eclairage Électrique), Mathematische Annalen, Mathematische Zeitschrift, Metallurgical and Chemical Engineering, Millard's Review, Mind, Mississippi Valley Historical Association—Proceedings and Reviews, Modern Language Review, Modern Philology, Monist, Nation, National Electric Light Association Bulletin (New Series), National Municipal Review, National Society for the Study of Education—Yearbooks, Nature, New Republic, New York Times Index, Niles' Weekly Register, Nineteenth Century, Notes and Queries, Nuovo Cimento, Ohio Archæological and Historical Publications, Outing, Palaestra, Percy Society Publications, Philosophical Magazine and Journal of Science, Philosophical Review, Philosophie Positive, Philosophische Monatshefte, Physical Review, Physiological Abstracts, Physikalische Zeitschrift, Political Science Quarterly, Power, Print Collectors' Quarterly, Punch, Quarterly Journal of Microscopical Science, Quarterly Review, Reale Accademia dei Lincei—Rendiconti, Review of Applied Entomology, Series B, Revue de Philosophie, Revue de Synthèse Historique, Revue des Deux Mondes, Revue General de l'Electricité, Revue Historique, Revue Occidentale Philosophique Sociale et Politique, Revue Philo-

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sophique de la France et de l'Étranger, Revue Politique et Parlementaire, Revue Semestrielle des Publications Mathématiques, Romanic Review, Royal Historical Society—Transactions, Royal Society of London—Philosophical Transactions and Proceedings, School and Society, Science Abstracts, Scientific Monthly, Scottish Text Society—Publications, Société Mathématique de France—Bulletin, Société Chimique de France—Bulletin, Social Hygiene, Society for the Promotion of Engineering Education—Proceedings, Society of Chemical Industry—Journal, Southwestern Historical Quarterly, Studien zur vergleichenden Litteraturgeschichte, Texas Supreme Court Reports, The Times Weekly (London), United States Supreme Court Reports, Unpopular Review, Vierteljahresschrift fuer Wissenschaftliche Philosophie und Soziologie, World's Work, Yale Review (New Series), Zeitschrift für Analytische Chemie, Zeitschrift für Angewandte Chemie, Zeitschrift für Anorganische Chemie, Zeitschrift für Elektrochemie, Zeitschrift für Mathematik und Physik (complete from 1882 to date), Zeitschrift für Physikalische Chemie, Zoologischer Anzeiger Zoologische Jahresberichte.

LABORATORY INSTALLATION

THE physics laboratories are located on the north side of the academic court, adjoining the administration building, and are connected with the latter by a continuation of the original cloister. The buildings are constructed of brick and marble, corresponding in design to the style as defined in the administration building, but of a simpler character expressing their purpose as laboratories. The

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physics laboratory proper is a two-story building 275 x 56 feet, connected with a large lecture amphitheater 121 x 72 feet. The main building contains four large students' laboratories, two lecture rooms equipped for giving illustrated lectures, two class rooms, two dark rooms, a library, and administrative offices. The principal room of the amphitheater wing is a large lecture hall with seating capacity for about four hundred auditors. The room is fully equipped for giving illustrated lectures and is arranged with seats properly elevated to command a 28-foot lecture table which is supplied with gas, hot and cold water, compressed air, vacuum, and direct and alternating electric currents. In this wing also are six rooms fitted for research work in physics, a battery room in which a battery of 60 Edison storage cells of 300 ampere-hours' capacity has been installed with space provided for another equal battery, a switchboard room where the wires from the battery can be connected in any desired manner for use in the laboratories, motor generators for charging the batteries and supplying direct current to the lecture rooms and laboratories, a vacuum pump, liquid air plant, constant temperature rooms, a preparation room, a large dark room, and a fully equipped workshop. The floor of the workshop is supported free from contact with the surrounding walls so that vibration from the machines does not affect the building. Elevators for moving heavy apparatus are provided, and all laboratories, lecture rooms, and research rooms are equipped with individual service, for the students, of gas, water, steam, compressed air, vacuum, and both direct and alternating currents of electricity. The laboratory

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now contains a fine collection of modern apparatus suitable for teaching and research work in all branches of physics. This collection includes about seventy ammeters and voltmeters of all types, including a Kelvin gauge reading up to 30,000 volts and standard Weston instruments. About forty resistance boxes of all kinds are also provided, and numerous galvanometers, electrometers, and electroscopes of various types. High potential batteries and generators are available for research work. A large Weiss electromagnet, a Leeds and Northrup potentiometer, and complete equipment for the accurate measurement of the conductivity of solutions, a precision electric wave meter and precision air condenser, may be specially mentioned among the other electrical instruments. The optical instruments include a Hilger's wave length spectrometer, monochromatic illuminator, spectrophotometer, and quartz spectrograph; also a set of interferometers of various types. For work in heat, electrical furnaces, various types of radiation pyrometers, resistance thermometers, and standard thermocouples are available. The apparatus for general work includes several Gaede and diffusion pumps; also standards of weight, length, etc. The collection of apparatus for illustrating lectures is exceptionally complete. An instrument maker and a glass blower are employed in the construction of special apparatus for research work.

The laboratories for chemistry are housed in a three-story building of maximum rectangular dimensions of 307 and 181 feet, with ample attic and basement accommodations, built around several open courts, facing

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the South. Of brick and stone, steel and concrete construction, the building embodies the prevailing architectural beauty and simplicity of technical plan exhibited in the earlier science laboratories of Rice. Provision is made for adequately equipped, separate laboratories both for research and instruction in the half dozen major branches of chemistry, with an even larger number of smaller laboratories for corresponding work in the more highly specialized subjects of the science. In all the laboratories there will be an abundance of natural light, while an elaborate system of artificial ventilation promises to remove all fumes through a central draft tower, so designed as to constitute of itself one of the architectural features of the building. Careful consideration has been given both to the anticipated growth of the institution and the normal development of the department. The plans thus studiously prepared may bear comparison with those of extensive establishments erected recently at other universities and scientific centres of the country. The department is well equipped with modern apparatus and materials for research and for lecture room and laboratory work in inorganic, organic, analytical, physical, electro-, and industrial chemistry. Each laboratory room is equipped with the necessary conveniences, such as water, gas, alternating and direct current, air blast, hoods, suction pumps, etc. The lecture rooms are suitably arranged for the illustration of lectures by experiment and lantern projection. In the department library will be found the more important journals, works of reference, and standard text-books on the different branches of chemistry. These books and periodicals are accessible to all students.

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The department of biology is for the present situated in the west end of the main wing of the physics laboratories. It has laboratories capable of seating one hundred and fifty students; lecture rooms with lantern for microscopic and other forms of projection; research rooms, preparators' room, store rooms, etc. The undergraduate courses are cultural in their aim. Laboratory work is given in all; microscopes of the most modern type are provided for the students. The department is equipped with an extensive series of specimens, casts, and charts for the study of zoölogy. Binocular microscopes, microtomes of various kinds, thermostats, embedding baths, and considerable accessory equipment, including physiological apparatus, are available for research work. Most of the important current zoölogical periodicals are to be found in the library.

The department of architecture is located on the second floor of the chemistry laboratory, and is equipped with large general drafting rooms modern in all their appointments, and a large studio for freehand drawing and water color. A working library of architecture adjoins the drafting room and is equipped with the standard architectural publications; current files of architectural periodicals; plates, photographs, and lantern slides. The freehand studio is well equipped with plaster casts from the antique, and of historic ornament. The department also possesses models for elementary instruction in the orders, and models for the teaching of construction.

The drafting rooms for instruction in engineering drawing are located in the mechanical laboratory building. These

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rooms are equipped with drawing tables, lockers, and racks in such number that all students may work independently. Special equipment includes blue printing machines, universal drafting machines, parrallel attachments, folding and rolling parallel rules, ellipsographs, beam compasses, section liners, and an elaborate set of Olivier models including the war mast, hyperbolic paraboloid, elliptical, and conchoidal hyperboloid, conoid, groined, and cloistered arch, intersecting cylinders, rac-cording warped surface and corne de vache.

The civil engineering laboratory is fully equipped with the usual surveying instruments, transits, levels, compasses, traverse tables and plane-tables, all of standard American makes. These include C. L. Berger and Sons, Buff and Buff, W. and L. E. Gurley, Bausch and Lomb, Keuffel and Esser, Eugene Dietzgen and Company, William Ainsworth and Sons. There is also a large assortment of the necessary auxiliary equipment such as tapes, rods, range poles, etc. The drafting room is fully equipped with instruments not required by each individual student, such as planimeters, protractors, special slide rules, military sketching boards, railroad curves and irregular curves consisting of splines and weights. The materials testing laboratory of this department is equipped with one 50,000 pound Riehle universal machine; one 100,000 pound Olsen machine; and one 60,000 inch-pound Riehle torsion machine; also a Fairbanks 2000 pound cement testing machine and the necessary auxiliary apparatus for making the usual tests. All these machines except the cement testing machine are operated by 220 volt,

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3 phase, 60 cycle motors, directly connected so as to avoid all shafting and belting. It is planned to have a road materials testing laboratory and also a sanitary engineering laboratory for advanced students and research.

The electrical engineering laboratory is on the first floor of the engineering building. The laboratory power supply, arranged to be independent of the general Institute lighting and power system by running from a separate generator in the power house, is 220 and 110 volts, 3 phase, 60 cycles. From a central switchboard, the distribution of power is accomplished by open overhead busses to small switchboards conveniently located about the laboratory. The circuit breakers on these distribution boards are of varied make, representing the practice of the chief manufacturers of this class of apparatus. The laboratory equipment is ample for a thorough study of both direct and alternating current circuits and machinery. Direct current for laboratory use is obtained from a General Electric three wire generator, of 35 kilowatts capacity, 125 and 250 volts, driven from the alternating current source by a direct connected induction motor. The direct current equipment includes a 50 kilowatt 250 volt General Electric generator; two similar 5 kilowatt 125 volt Western Electric generators with commutating poles, either flat or over-compounded, for parallel operation; a 5 kilowatt 110 volt Commercial shunt generator; a 3½ kilowatt 125 volt Westinghouse flat compounded generator; a 1 kilowatt 500 volt Commercial generator; a 4½ kilowatt Westinghouse generator with interpoles flat compounded for 125 volts; a 5 kilowatt 110 volt

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Commercial shunt generator; a 5 horse-power 500 volt Crocker-Wheeler generator; and a 6 volt General Electric generator with Tirrill voltage regulator capable of delivering 500 amperes, driven by a direct connected induction motor; a $1\frac{1}{2}$ kilowatt generator, 2000/1200/800 volts, of the Electric Manufacturing Company, driven by a direct connected induction motor; a Holtzer-Cabot set consisting of three direct connected machines, 90/150 volts direct current, 20/25 volts direct current, 90/110 volts alternating current, three phase, 170/250 cycles; a $7\frac{1}{2}$ horse-power Western Electric motor and a 2 horse-power Roth motor, both shunt wound for 220 volts; a 3 horse-power 230 volt General Electric variable speed shunt motor with commutating poles; a 10 horse-power Robbins and Myers motor, and two similar 13 horse-power Crocker-Wheeler motors, all three shunt wound for 230 volts; and a 4 horse-power 220 volt Sprague series motor. The equipment of alternating current machinery includes: two similar $7\frac{1}{2}$ kilowatt 220 volt General Electric 1-2-3-6 phase synchronous generators which may be direct connected as a frequency-changer set, or, by means of shifting stators, as a phase-displacement set, or used without mechanical connection for parallel and other operation; a 5 kilowatt 220 volt General Electric 3 phase synchronous generator with distributed field (round rotor); a $7\frac{1}{2}$ horse-power 220 volt Fairbanks-Morse 3 phase squirrel cage induction motor; a 5 horse-power 220 volt Westinghouse 3 phase slip-ring induction motor; a 10 horse-power 220 volt General Electric 3 phase induction motor with internal starting resistance; a $7\frac{1}{2}$ horse-power 220 volt Wagner unity power factor single-

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phase motor. Among the rather special alternating current machines may be mentioned, a dynamotor which when operating from a 110 volt direct current supply line is capable of delivering up to 18 amperes at 110 volts at a frequency of 500 cycles; an 8 kilowatt 110 volt General Electric 2-3-6 phase synchronous converter of the split or regulating pole type which may be driven by the direct current winding or by belt from an external source; a set consisting of two direct connected Lincoln induction motors, one 10 horse-power, 1200 r.p.m., wound rotor, the other 5/10 horse-power, 600/1200 r. p. n., squirrel cage, for cascade operation at several speeds; and a 10 kilovolt-ampere General Electric 220 volt 3 phase induction regulator for raising or lowering voltage 100%. Other equipment includes: three 2 kilovolt-ampere Kuhlman 110/220: 110/220 volt transformers; three 5 kilovolt-ampere General Electric transformers with taps for Scott and other connections; six 3 kilovolt-ampere Western Electric 110/220: 110/220 volt transformers, reactances, both air and iron core; condensers; rheostats; and starting devices. Loads for testing purposes may be obtained by lamp banks, rheostats, or by three large iron water-boxes. The supply of meters consists of voltmeters (a.-c. and d.-c.), ammeters (a.-c. and d.-c.), wattmeters (single phase and polyphase), current and voltage transformers, power-factor meters, frequency meters, watt-hour meters, tachometers, synchronoscope. For checking and calibrating these instruments, there is a complete assortment of precision instruments, including a potentiometer and laboratory standards. An oscillograph is completely equipped for taking and developing both

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rectangular and circular records. Through a gift of the late Mr. Howard E. Hughes, of Houston, Texas, to the Institute, the electrical engineering department has a completely equipped radio communicating set. The gift of this apparatus promptly stimulated the organization, on the initiative of students of this department, of an inter-collegiate radio association for the dissemination of news among the several colleges of this section. To the original set numerous additions have been made, the most recent of which is a 200-watt radio telephone and telegraph set.

The mechanical engineering laboratory equipment falls into six general classes: steam, internal combustion, hydraulic, air, refrigeration, fuel and lubricants testing machinery. The first class contains an 8×18 Murray-Corliss engine equipped with rope brake; a 7×7 vertical Wachs slide-valve engine with Stephenson reversing gear, and a 7×10 horizontal slide-valve engine, both with Prony brakes; a $6 \times 4 \times 6$ duplex boiler feed pump; a 20 kilowatt direct current De Laval turbo-generator set, nozzled for condensing and non-condensing operation and fitted with a brake-pulley which may be substituted for the generator; a 16 horse-power Lee impulse turbine driving a centrifugal pump; a steam turbine nozzle arranged for experimental work; a similar equipment for calibration of steam orifices; a Westinghouse locomotive type air-compressor arranged for economy test; a demonstration set-up of standard air-brake equipment; an air-lift pump model; a 205 cubic foot Ingersoll-Rand 2 stage steam driven air compressor; and a $6 \times 10 \times 6$ vertical compound Sturtevant engine. The machines are piped to

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exhaust either into the power-house stack or into three Wheeler surface condensers served by circulating and wet vacuum pumps. Internal combustion engines are represented by a 20 horse-power fuel oil engine (Chicago Pneumatic Tool Co.); a 15 horse-power Foos oil engine equipped with two types of governors giving opportunity for engine tests using either kerosene or gasoline as fuel; a 3 horse-power Mietz and Weiss two-stroke cycle unit; a 100 horse-power Hall-Scott aeroplane engine; Maxwell and Willys-Knight automobile engines; and a Ford automobile engine with water-brake load. High-speed automobile and aeroplane engines are tested with a 100 horse-power Sprague cradle dynamometer equipped with slotted bed-plate, gasoline metering device, and adjustable engine supports. A Hopkinson optical indicator with photographic attachment is also provided. The refrigerating equipment includes a motor-driven 3-ton York compression machine with double-tube condenser, shell brine-cooler, brine-heater, and brine-pump. The hydraulic machinery consists of a 3-inch centrifugal pump and a 4 X 6 triplex pump, both driven by variable speed D. C. motor; an Evinrude centrifugal pump direct-connected to a gasoline engine; a steam turbine driven 200 g.p.m. centrifugal boiler-feed pump; a calibrated overhead tank; a concrete storage cistern; four Venturi meters; a single tube manometer; a steam pulsometer; a hydraulic ram; two weir boxes and notches; a Pelton-Doble water wheel with plate glass sides; orifices, water meters, weighing tanks and scales, gauges, and the usual small accessories. In a separate fuel laboratory room is the equipment for testing fuels and oils. It includes complete Atwater and Parr

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coal-calorimeter outfits; analytical balances; two types of Orsat flue-gas apparatus; Scott and Saybolt viscosimeters; a Thurston coefficient of friction machine; Bureau of Mines flashpoint tester; hydrometers and specific gravity apparatus; a Junker type gas calorimeter; platinum ware, drying oven, ball mill, etc. Boiler tests are made on a 20 horse-power vertical fire-tube boiler equipped with the necessary pumps and weighing equipment. Tests of heat-treated steel may be made with the aid of the electric and gas furnaces, pyrometers of electric, expansion, optical, and gas pressure types, scleroscope, and Brinell ball machine. In addition, the laboratories contain a Sirocco blower driven by calibrated motor, a plate blower, Pitot tubes, air Venturi meter, large and small gas meters, anemometer, injectors, dead weight pressure gauge tester, thermometer calibration apparatus, hoists, tachometers, steam calorimeters, the most popular gas and steam engine indicators, planimeters, standard gauges and thermometers. For class-room demonstrations, a Cussons valve-setting model, an automobile engine, several dozen sectioned models of intricate machines, and a collection of lantern slides, blue-prints, and curves are available.

A standard moving picture machine permits the exhibition of the many films now loaned by manufacturers of engineering equipment.

The machine shop contains machine tools of quite varied character, each selected for its peculiar fitness to illustrate the principles and common details of modern shop tools and methods. The lathe equipment consists of

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eleven machines: one 14 × 8 Le Blond cone-head lathe with taper attachment and double back gears; one 14 × 6 Hendey cone-head quick-change lathe; one 14 × 8 standard lathe; one 14 × 7 Prentice geared head quick-change lathe; one Prentice motor-driven 15 × 6 lathe; one Flather motor-driven 14 × 5 lathe; one 14 × 6 geared head quick-change Lodge and Shipley lathe; one 14 × 6 motor-driven Lodge and Shipley selective head lathe; a Rivett bench lathe; and two individual drive 14 × 6 American high duty geared head engine lathes, one of these with turret attachment. The planer type of machine is represented by a 16 inch back-geared Rockford shaper with compound head, and a 22 × 22 × 8 foot Gray planer. All kinds of plane surfaces can also be cut upon two Kempsmith and one Cincinnati universal milling machines, which are fitted with dividing heads for gear cutting, differential indexing, spiral grooving, etc., as well as a good variety of cutters. A No. 12 Brown and Sharp motor-driven cutter and universal grinder serves as a practical example of a high-class precision machine tool. A graphical wattmeter permits tests of tool shapes and machinery conditions. A tilting brass-furnace, moulders' benches, wood lathes, band saw, jointer, and the necessary small tools provide for simple pattern and foundry work. In addition to the metallurgical equipment listed with the mechanical laboratory apparatus, the shop contains a microscope with camera, specimen grinder, and the necessary accessories. For miscellaneous work, a double-disc motor-driven disc grinder, a power oil-stone, work benches and vises, two hand-tool grinders, a power hack-saw, down-draft forges, a 20-inch drillpress, a sensitive drill, an

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arbor press, an air hammer, air and electric drills, portable electric grinders, and two complete oxyacetylene welding outfits are available. A sufficient supply of small hand and machine tools, lathe sets, reference standards and precision measuring instruments is issued on checks from a separate tool-room. About half the machine tools have individual motor drive. The others are grouped about a line-shaft and a 15 horse-power motor.

STUDENT ORGANIZATIONS

IN the residential halls for men, students and instructors are already living in a common society a common life under conditions the most democratic. They sit at a common table; they lounge in common club-rooms; they frequent the same cloisters; in games they meet again upon the same playing fields. The quadrangle is self-governed, with no other machinery of government than is necessary to conduct a gentleman's club. To the quadrangle, as to the college, the only possible passports are intellect and character. In the quadrangle, as on the campus, the business of life is regulated by no other code than the common understanding by which gentle folk determine their conduct of life, constantly under the good taste, the good manners, the enduring patience of gentle minds, among strong men who believe that he lives most who works most, labors longest, worries least.

From the very opening days of the new institution the students of the Rice Institute, irrevocably committed to canons of clean sport, have participated in the several forms of intercollegiate athletic contests. The first society of students to be organized at the new University

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was the Young Men's Christian Association. This step on the part of the young men was speedily followed by a similar step on the part of the young women in the organization of their branch of the college Young Women's Christian Association. The founding of these religious societies, both of which have contributed to the social life and the religious spirit of the new University, has been followed in the course of the early years by the forming of some four or five literary societies: two by the young women, the older society bearing the name of Elizabeth Baldwin, wife of the founder of the Institute, and a later organization known as the "Pallas Athene Literary Society," and three by the young men, known respectively as "The Owl Literary Society" and the "Riceonian Literary and Debating Society," and a later organization, "The Congressional Club," organized after the order of the House of Representatives and considering in debate the leading public issues as they arise before Congress. Under the auspices of the first societies mentioned was formed the first of the undergraduate periodical publications, namely, "The Thresher," which appeared fortnightly from its initial number in January, 1916, to June, 1918, since which time it has been published weekly. Previous to the organization of the staff of "The Thresher," the Class of 1916 made arrangements for the publication of the first class annual of the Institute, "The Campanile," which appeared in the spring of 1916. The second and third volumes were issued by the classes of 1917 and 1918 respectively, and subsequent annual editions have been published by the representatives of the student body as a whole. In addition to the student organizations

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mentioned above, various departmental clubs and scientific societies have been contributing to the intellectual life of the Institute. The student body is organized into a Student Association which includes all students of the Institute and serves as the official organ for the expression of their views and for the promotion of student enterprises. In particular the undergraduate periodicals are now maintained under the auspices of this association. A Students' Council, elected by the Association, provides leadership in the Association. The President of the Students' Council is also President of the Association.

The extra-curriculum academic and athletic activities of the Rice students have been stimulated by several prizes donated by friends of the Institute; namely, the Lechenger silver cup, the gift of Mr. L. Lechenger, for the winning debating team in the annual commencement contest of the literary societies; the Shotwell and Harris gold medal, the gift of Messrs. W. I. Shotwell and I. Harris, for the winner of the annual oratorical contest of the literary societies; the Wilson silver cup, the gift of Mrs. H. A. Wilson, for the winning team of the annual class debate of the young women's literary society; the Kalb basketball memorial silver cup, the gift of Mr. E. F. Kalb; and the Sweeney silver cup, the gift of the J. J. Sweeney Company, to be contested for annually in class track athletics. Mr. William M. Rice, Jr., has provided a cabinet for the preservation and exhibition of these and similar gifts and trophies of Rice local and intercollegiate contests. This elaborate cabinet, designed by Mr. R. A.

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Cram, supervising architect of the Institute, is a most beautiful example of wood carving.

Through the generosity of Mrs. James L. Autry and as a memorial to her husband, the late James L. Autry, of Houston, the Diocese of Texas of the Protestant Episcopal Church is maintaining in the immediate vicinity of the Rice Institute, Autry House, as a social and religious center. All the opportunities of this establishment are available to the students of the Rice Institute irrespective of religious affiliation. Other religious bodies have intimated that they are considering future provision for similar undertakings in the neighborhood of the Rice Institute.



NINTH
ANNUAL COMMENCEMENT

NINTH
ANNUAL COMMENCEMENT
DEGREES IN COURSE CONFERRED
JUNE 9, 1924

At the ninth annual commencement convocation of the Rice Institute held at the conclusion of the twelfth academic session the baccalaureate sermon was preached by the Reverend William States Jacobs, Pastor of the First Presbyterian Church, Houston, Texas, and the commencement address was delivered by Dr. Charles William Dabney, of Houston, Texas, formerly President of the University of Cincinnati, Cincinnati, Ohio. On recommendation of the Faculty and by authority of the Trustees, the President of the Rice Institute, at the final ceremonies in the Academic Court on the morning of June 9, 1924, conferred the following degrees respectively:

BACHELOR OF ARTS

Fisher Dunham Adams	Ann Bridgwater—with distinction
Bertha Weiss Ander	Arthur Lee Brown
Johnson Payton Barnes	Reuben Alec Brown
Lindsey Blayney, Jr.	James Ira Campbell
James Polk Boatner	

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Morgan Steele Carson	Harry Leslie Klotz
Edward Faucett Chavanne	Jim C. Locke
Audrey Merle Colley	William Henry McCarthy, Jr.—with distinction
John Scurlock Cook	Graves Alphus McGee (as of the Class of 1923)
Paul Caswell Creekmore	Beulah Gertrude McKaug- han
Marie Longino Davis—with distinction	Anna Gertrude McKean— with distinction
Myra Weldon Davis	Ruby Pearl McNulty—with distinction
Mary Antoinette DelBarto	Alva Madsen
Sybilmarie Medora Dennis- ton	Mildred Alleen Mathews
Alfred Dippel	Cora Hunton Maury
Benjamin Hardy Duggan	Henry Palmer Melton
Allen Keton Dunkerley	Guinevere Miller
Anna Marie duPerier—with distinction	Benjamin Hickman Mitchell
Charles Emmett Elliott, Jr.	Harold Moore
Mary Eliot Fall	Henry Bennett Penix
Alex Frosch	Evelyn Louise Pollard
Lottie Anna Gray	Robert Craig Reed
Frances Louise Harford	John Bryan Rushing—with honors in biology
Rotzien Harlan	Rayward Powell St. John
Arthur Field Heard	Dewitt Arthur Sanders
Doris Heisig—with distinc- tion	Margarete Charlotte Scha- ler—with honors in chem- istry
Joseph Calvin Henderson	David Walter Sewell
Victoria Elizabeth Holt	Alice Gray Sears
Robert Judson James	
Lillie Elien Jaschke	
Luddye Charlotte Kennerly	
Allen Dupree King	

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Ryburn Cass Shaner	Lonnie Thomas
Marian Ewing Smith	Wilmer Thurmond Tidwell
Robert Wilbur Smith	Joseph Judd Upchurch
Jean Acheson Sproule	Joseph Sidney Werlin
Allan Henry Stevenson— with distinction	Winifred Louise Werner
Elizabeth Strobel	Noel Charles Willis
Leola Eileen Studdert	Margaret Elizabeth Wilson
Charles Yancey Swartz	Marion Lucile Wolf
Lillian Sidney Swett	Ruth Gladys Young
	Max Zuber

BACHELOR OF SCIENCE

Marcus Alexander Acheson	Joseph Kathalo Kelsey
William Thomas Alexander, Jr.	Daniel Clarence Lawrence
Emmett Alpha, Jr.	Teddy Fred Lighthouse
Clarence Baker	James Percival McKean
Sam Leon Bishkin	Harry Warner Merritt— with distinction
Beverly Smith Darnall	Jeff Ervin Montgomery
George Carl Francisco, Jr.	Thomas William Long
Charles Middleton Hickey	Moore
Ruben Cumby Johnson	Ray Lynch Rountree—with distinction
Gus Kaufman—with dis- tinction	Robert Harold Waterman

BACHELOR OF SCIENCE IN ARCHITECTURE

Ernest Leonard Shult

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MASTER OF ARTS

Hans Fredrich Ander
Edward Eric Dunlay
Charles Frederick Roos
Kenneth Thorpe Rowe
Isador Mitchell Sheffer
James Silas Watt

DOCTOR OF PHILOSOPHY

Aristotle Michal

SCHOLARSHIPS AWARDED FOR 1924-25

THE GRAHAM BAKER STUDENTS

(Alphabetical)

Deborah May Hickey, Class 1926, of Houston, Texas
Flora McIver Streetman, Class 1926, of Houston, Texas

THE HOHENTHAL SCHOLARS

(Alphabetical)

James Robert Ayers, Class 1926, of Yoakum, Texas
Eugene Henry Banta, Class 1927, of Electra, Texas
Maurice William Ewing, Class 1926, of Lockney, Texas
Jack Carnohan Griffin, Class 1926, of Dallas, Texas
Joe Harlan Kinser, Class 1925, of Dallas, Texas
Herbert Stevenson McConnell, Class 1927, of Dallas, Texas

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THE SHARP SCHOLARS IN CIVICS AND PHILANTHROPY

(Alphabetical)

Ruth Elizabeth Cathcart, Class 1925, of Fort Worth, Texas

Mary-Louise Ford, Class 1925, of McAllen, Texas

Doris Heisig, Class 1924, of Houston, Texas

Donald Vines Henderson, Class 1925, of Houston, Texas

THE SCHOLAR OF THE JOHN MCKNITT ALEXANDER CHAPTER, DAUGHTERS OF THE AMERICAN REVOLUTION

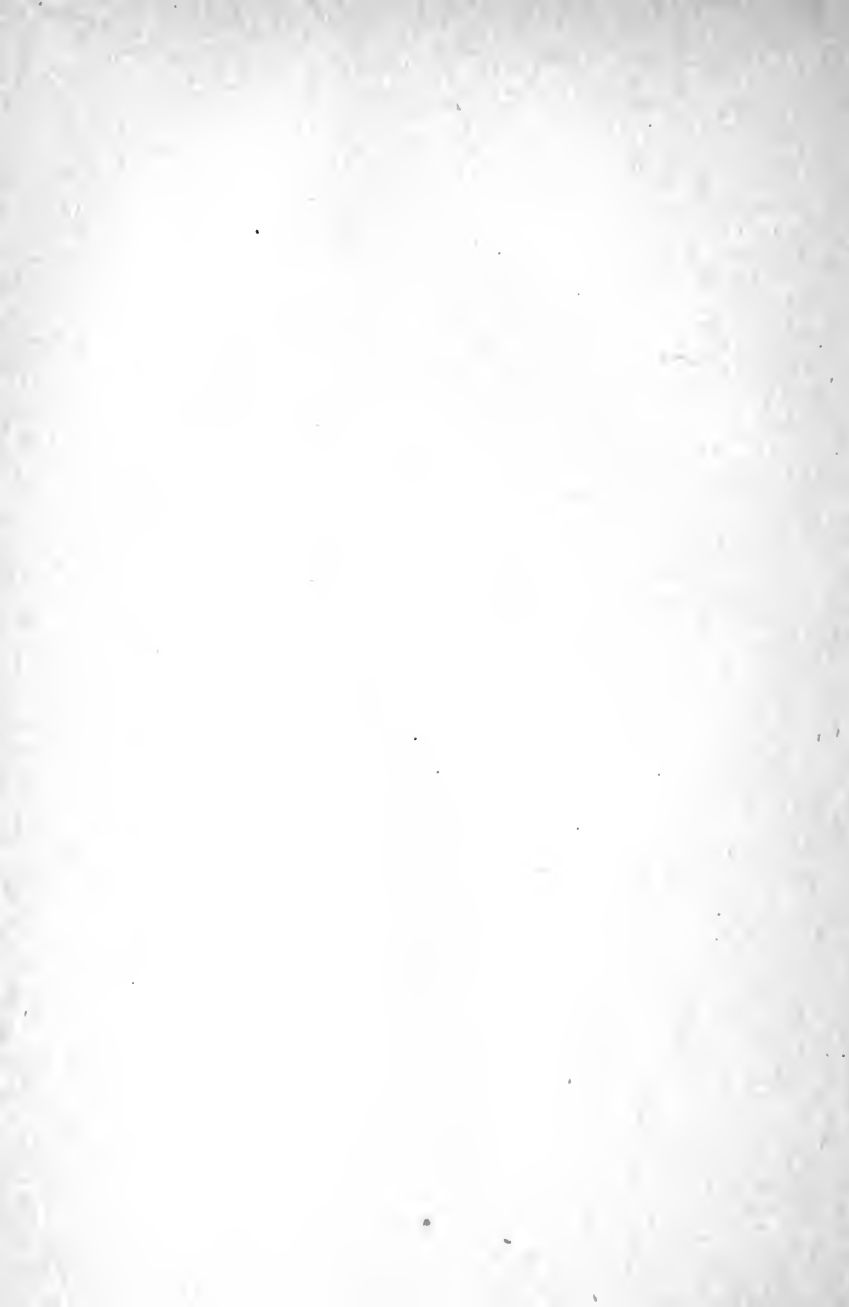
Fanny Bess Emery, Class 1926, of Houston, Texas

THE ELLEN AXSON WILSON SCHOLAR

Martha Frances Hill, Class 1926, of Houston, Texas

THE LADY GEDDES PRIZE IN WRITING

Julian Rhodes Muench, Class 1926, of San Antonio, Texas.



LIST OF STUDENTS

1924-1925

LIST OF STUDENTS

GRADUATE STUDENTS

- Ander, Hans Fredrich *Houston, Texas*
B.A., Rice, 1923
M.A., Rice, 1924
- Bishkin, Sam Leon *Houston, Texas*
B.S., Rice, 1924
- Campbell, James Ira *Houston, Texas*
B.A., Rice, 1924
- Coombs, Josephine Meyler . . . *Houston, Texas*
B.A., Randolph-Macon, 1918
- Erickson, Julius Lyman Edward* *Lake Charles, Louisiana*
B.A., Rice, 1923
- Goodman, Inez *Houston, Texas*
B.A., Rice, 1921
- Hathorn, William Edward . . . *Houston, Texas*
Ph.B., Mississippi College, 1903
- Hay, Gessner Lane *Houston, Texas*
B.A., Rice, 1922
- Heisig, Doris *Houston, Texas*
B.A., Rice, 1924
- Henderson, Joseph Calvin . . . *Houston, Texas*
B.A., Rice, 1924
- Hirsch, Marvyn Lister *Houston, Texas*
B.A., Rice, 1922

* Candidacy for advanced degree approved

THE RICE INSTITUTE

- Ingraham, E. Blaine *Mount Grove, Missouri*
B.A., Polytechnic, 1911
M.A., University of Texas, 1912
- Johnson, Gaylord* *Houston, Texas*
B.A., Rice, 1921
M.A., Rice, 1923
- Jones, Anita Edgar *Houston, Texas*
B.A., University of Texas, 1921
- Landolt, George Liford *Somerville, Texas*
B.A., Austin College, 1923
- McCarthy, William Henry, Jr. . . *Houston, Texas*
B.A., Rice, 1924
- Maria, Alfred Joseph* *Norfolk, Virginia*
B.S., Massachusetts Institute of
Technology, 1922
M.A., Rice, 1923
- Merritt, Harry Warner *Houston, Texas*
B.S., Rice, 1924
- Miller, Guinevere *Houston, Texas*
B.A., Rice, 1924
- Plunkett, Frank Willis *Houston, Texas*
B.S., University of Missouri, 1906
B.A., University of Missouri, 1907
- Roos, Charles Frederick* *Houston, Texas*
B.A., Rice, 1921
M.A., Rice, 1924
- Sanders, Isaac C. *Houston, Texas*
B.A., Rice, 1917
- Sheffer, Isador Mitchell *Boston, Massachusetts*
B.S., Harvard, 1923
M.A., Rice, 1924

* Candidacy for advanced degree approved

ANNOUNCEMENTS

- Smith, Robert Wilbur *Houston, Texas*
B.A., Rice, 1924
- Stevenson, Allan Henry *Alvin, Texas*
B.A., Rice, 1924
- Stricker, Katyruth *Houston, Texas*
B.A., Rice, 1923
- Ulmer, Ernest *Houston, Texas*
B.A., Polytechnic, 1914
- Vaughn, William Scott* *Nashville, Tennessee*
B.A., Vanderbilt, 1923
- Watt, James Silas* *El Campo, Texas*
B.A., Rice, 1923
M.A., Rice, 1924
- Wells, Nicholas Weekes* *Galveston, Texas*
B.S., Rice, 1923
- Williams, George Guion* *Bellaire, Texas*
B.A., Rice, 1923
- Yeatts, Ernest Bailey *Houston, Texas*
B.A., Simmons, 1924

SENIORS†

- Allen, Janet Garner *Houston, Texas*
- Anderson, Myrtle McLemore *Beaumont, Texas*
- Armstrong, Gladys Phylena *Houston, Texas*
- Arnold, E. Oren *Henderson, Texas*
- Arrants, Edward Bowers *Dallas, Texas*
- Autrey, Mamie Boyd *Houston, Texas*
- Autry, Allie May *Houston, Texas*
- Bailey, Avis Albert *Houston, Texas*

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† As classified October 1st, 1924

THE RICE INSTITUTE

Bailey, Ouida Izelle	<i>Houston, Texas</i>
Beall, Gordon Roy	<i>Trinity, Texas</i>
Bemus, Norma Leone	<i>Houston, Texas</i>
Berry, Louie Lee	<i>Houston, Texas</i>
Binyon, Mary Semmes	<i>Houston, Texas</i>
Bloxsom, Dan Edgar	<i>Houston, Texas</i>
Brown, DeLa Motta	<i>Houston, Texas</i>
Brown, George Wesley	<i>Houston, Texas</i>
Brown, Hart	<i>Houston, Texas</i>
Buck, Mary Davidge	<i>Bluff Dale, Texas</i>
Buhler, Elizabeth	<i>Victoria, Texas</i>
Cathcart, Ruth Elizabeth	<i>Fort Worth, Texas</i>
Chambers, Roy Edward	<i>Port Arthur, Texas</i>
Chapman, Edwin Marion	<i>New Orleans, Louisiana</i>
Cohen, Ike	<i>Houston, Texas</i>
Dennie, Dorothy Cannaday	<i>Houston, Texas</i>
Dodge, Charles Morse	<i>San Antonio, Texas</i>
Dryden, John Allison	<i>Fort Worth, Texas</i>
Earthman, James Bradshaw	<i>Houston, Texas</i>
Edwards, Thomas Cook, Jr.	<i>Alvin, Texas</i>
Emison, Sam S.	<i>Houston, Texas</i>
Falligant, Andrée Clotilde	<i>Houston, Texas</i>
Fay, Bernard Francis	<i>Dallas, Texas</i>
Fisher, Lewis Dallam	<i>Houston, Texas</i>
Fitch, Samuel Ashe	<i>Houston, Texas</i>
Flaxman, Marcellus Theodore	<i>Houston, Texas</i>
Franklin, John Leslie	<i>Bastrop, Louisiana</i>
Freeman, Mary Martha	<i>Houston, Texas</i>
Gallegly, Joseph Stephen, Jr.	<i>San Antonio, Texas</i>
Gibbon, Harry Aydelotte	<i>Ardmore, Oklahoma</i>
Glenn, Jack	<i>Houston, Texas</i>

ANNOUNCEMENTS

- Godley, Edgar Barlett *Cleveland, Ohio*
Gray, Sarah Gagne *Houston, Texas*
Griffin, Virgil Monroe *Stockton, California*
Grossman, Abe *Houston, Texas*
Hairston, Charles L. *Bartlett, Texas*
Hale, William Lindsay, Jr. *Mayfield, Kentucky*
Hamburger, Mary Louise *Houston, Texas*
Hamilton, Kathryn Dorothea *Houston, Texas*
Hannon, Robert Hal, Jr. *Texarkana, Texas*
Harding, William Gibson *Houston, Texas*
Harris, Nell Hester *Houston, Texas*
Henderson, Donald Vines *Onalaska, Texas*
Howze, Mary Louise *Houston, Texas*
Hutts, Jesse Boone *Houston, Texas*
Jackson, Lawrence Wood *Brownwood, Texas*
Jackson, Mollie *Houston, Texas*
Janes, Rosa Lenore *Houston, Texas*
Jensen, Esther Frederikke *Houston, Texas*
Joekel, Harriett Marie *Houston, Texas*
Johnson, Clarence Alfred *El Campo, Texas*
Johnson, William Allister *Navasota, Texas*
Jones, Esmá Miriam *Houston, Texas*
Jones, Thelma Elizabeth *Palestine, Texas*
Keller, Theodore Felix *Houston, Texas*
Kendall, James Madison *Dallas Texas*
Kinser, Joe Harlan *Dallas, Texas*
Kirk, Julia Martha *Houston, Texas*
Lane, Edward Arnim *Houston, Texas*
Levy, Bernard Francis *Lake Charles, Louisiana*
Logsdon, Robert Vaden *Port Arthur, Texas*
Long, Thelma *Beaumont, Texas*

THE RICE INSTITUTE

McCorquodale, Malcolm Scott	<i>Houston, Texas</i>
McIntire, Clarice	<i>Houston, Texas</i>
McLean, Sadie Rosetta	<i>Houston, Texas</i>
MacKenzie, Ethel	<i>Houston, Texas</i>
Melton, Benjamin Starr	<i>Houston, Texas</i>
Miller, Joe Wright	<i>Sherman, Texas</i>
Mills, Coy Walter	<i>Houston, Texas</i>
Moore, Dimple	<i>Edna, Texas</i>
Morris, Robert Townes, Jr.	<i>Houston, Texas</i>
Morris, Wilminor	<i>Houston, Texas</i>
Morrison, Leona	<i>Timpson, Texas</i>
Murray, Hugh Saint-George Mac-	
Donald	<i>Schuylerville, New York</i>
Nash, Paul Edward	<i>Dallas, Texas</i>
Newberry, Eugenia May	<i>Houston, Texas</i>
Oliver, Eunice Wilkins	<i>Houston, Texas</i>
Osburn, Charles Thomas	<i>McKinney, Texas</i>
Pace, Charles Albert	<i>Beaumont, Texas</i>
Patrick, Homer Glover	<i>Weatherford, Texas</i>
Perkins, Myrtle	<i>Houston, Texas</i>
Peters, Roland Otto	<i>Galveston, Texas</i>
Phillips, Rolland Winfield	<i>Houston, Texas</i>
Pollard, Jack Critz	<i>Houston, Texas</i>
Powell, William Nottingham	<i>Smithville, Texas</i>
Quillen, John Lee	<i>Temple, Texas</i>
Quinby, Lloyd Byrd	<i>Houston, Texas</i>
Ransom, King Rhodes	<i>Port Arthur, Texas</i>
Ransom, Samuel Houston	<i>Port Arthur, Texas</i>
Ray, Robert Hillyer	<i>Houston, Texas</i>
Red, George Plunkett	<i>Houston, Texas</i>
Roensch, Max Moss	<i>Houston, Texas</i>

ANNOUNCEMENTS

- Rogers, Eleanor Rachel *Houston, Texas*
Romero, Mercedes Emma *Houston, Texas*
Scamman, Charles Wesley *Houston, Texas*
Scharnberg, Stella Vivian *Houston, Texas*
Schmidt, Jeremiah *New Braunfels, Texas*
Schmidt, Rodney Albert *Houston, Texas*
Schweikart, Mildred Sophie *Houston, Texas*
Shaffer, Harry Austine *Houston, Texas*
Shepherd, Edwin Dale, Jr. *Houston, Texas*
Shult, Walter Rudolph *El Campo, Texas*
Sigler, Innis Burford *Weimar, Texas*
Simpson, Elizabeth Cosby *Houston, Texas*
Smith, Harvey William *Temple, Texas*
Sorrells, Dorothy Catherine *Houston, Texas*
Stancliff, Fred Jacob *El Campo, Texas*
Steen, Arthur Benjamin, Jr. *Houston, Texas*
Steen, James Brooks *Houston, Texas*
Stevens, Jessie Cecelia *Houston, Texas*
Stewart, Chauncey Walter *Houston, Texas*
Stoner, Charles Irvin *Altoona, Pennsylvania*
Stopford, Margaret Muir *Houston, Texas*
Sullivan, Robert Sherrill *Nacogdoches, Texas*
Summers, Elmer Lee *Houston, Texas*
Tabor, Corma Roberta *Sullivan, Illinois*
Tadlock, Charles Pattillo *Stamford, Texas*
Taylor, Jeff Kendall *Ennis, Texas*
Turner, Claude Gary *Houston, Texas*
Vaughan, Frank Wesley *Houston, Texas*
Warden, William Andrew *Houston, Texas*
Wilford, I. Marion *Mayfield, Kentucky*
Williams, Samuel John, Jr. *Galveston, Texas*

THE RICE INSTITUTE

Williamson, Eric Felen	<i>Goldthwaite, Texas</i>
Williamson, Zaleme	<i>Goldthwaite, Texas</i>
Wilson, Florence May	<i>Houston, Texas</i>
Withinton, William Doris	<i>Houston, Texas</i>
Witt, Fred Louis	<i>Houston, Texas</i>
Wolf, Vivian Merlin	<i>Houston, Texas</i>
Wood, Doris Pearl	<i>Houston, Texas</i>
Wood, Katherine Elizabeth	<i>Houston, Texas</i>
Wright, William Quinton	<i>Cleveland, Texas</i>
York, John Barry	<i>Houston, Texas</i>
Zucht, Rosalyn Stern	<i>San Antonio, Texas</i>

JUNIORS*

Arnim, Sumter Smith	<i>Houston, Texas</i>
Austin, Edward Hebert	<i>San Antonio, Texas</i>
Ayers, James Robert	<i>Yoakum, Texas</i>
Ayers, Dorothy Virginia	<i>Houston, Texas</i>
Becker, Clara Julia	<i>Houston, Texas</i>
Benton, Fred Fox	<i>Pine Bluff, Arkansas</i>
Blair, Lyman Curtis	<i>Clarksville, Texas</i>
Blondeau, Ernest Eugene	<i>Houston, Texas</i>
Bobb, Clara Gladys	<i>Houston, Texas</i>
Bobb, Ruth Marjorie	<i>Houston, Texas</i>
Boyd, Margaret Harrison	<i>Houston, Texas</i>
Brown, Everard Hobson	<i>Freeport, Texas</i>
Brown, Roger Milton	<i>Houston, Texas</i>
Bulbrook, Mary Elizabeth	<i>Fort Worth, Texas</i>
Bull, Clyde Ferguson	<i>Houston, Texas</i>
Burchfield, Bertram Charles	<i>Houston, Texas</i>
Burdick, Rolla Frank	<i>Houston, Texas</i>

* As classified October 1st, 1924

ANNOUNCEMENTS

- Byers, Jean LeNoir *Houston, Texas*
Calhoun, Calvin Alsworth . . . *Houston, Texas*
Calvin, Travis Houston *Houston, Texas*
Cannan, Hazel Bell *Houston, Texas*
Canon, Myron Hendrix *Jacksonville, Texas*
Carter, Louian Clarkson *Marlin, Texas*
Cashion, Martin Henry Lyle . . *Texarkana, Texas*
Castellanos, Leopoldo John, Jr.. *Beaumont, Texas*
Chairez, Frank Puente *Houston, Texas*
Chambers, Bertie Mary *Houston, Texas*
Clark, Charles D. *San Antonio, Texas*
Clark, Nolan J. *League City, Texas*
Clarke, Corinne Muldrow *Houston, Texas*
Cobb, Candler *Grove Hill, Alabama*
Cooper, Della Margaret *Houston, Texas*
Cornelius, Gerald Roy *Weatherford, Texas*
Cottingham, Robert Herbert . . *Houston, Texas*
Cowles, Grant *San Antonio, Texas*
Creekmore, Joseph Howard . . . *Houston, Texas*
Crofton, Margaret Elizabeth . . *Memphis, Tennessee*
Cunningham, Margaret *Houston, Texas*
DaCamara, Harry Shirley *Laredo, Texas*
Davenport, William Roland . . . *Houston, Texas*
Davis, Franklyn Kenneth *Houston, Texas*
Davis, Murray Hendrix, Jr. . . . *Houston, Texas*
Davis, Nelda Mae *Houston, Texas*
Earl, Richard Hunt *Houston, Texas*
Eiser, Howard William *San Antonio, Texas*
Ellis, Samuel Darwin, Jr. *Houston, Texas*
Ellis, Thomas Edward *Houston, Texas*
Ellis, William Francis *Houston, Texas*

THE RICE INSTITUTE

Emery, Fannie Bess	<i>Houston, Texas</i>
Ewing, William Maurice	<i>Lockney, Texas</i>
Exline, Aldeane Bostick	<i>Houston, Texas</i>
Fitzgerald, Geraldine Marguerite .	<i>Houston, Texas</i>
Flint, Donald Barnard	<i>Redding, California</i>
Freeman, Ida	<i>Houston, Texas</i>
Garfield, Lewis E.	<i>Pasadena, Texas</i>
Garrison, Willie Mae	<i>Houston, Texas</i>
Goodrich, Emmette Knepp, Jr. .	<i>Brownsville, Texas</i>
Griffin, Jack Carnohan	<i>Arlington, Texas</i>
Grossman, DeWitt Herman	<i>Houston, Texas</i>
Hall, Lottie Elizabeth	<i>Houston, Texas</i>
Harless, Charles Malcolm	<i>Gulfport, Mississippi</i>
Harris, William Randolph	<i>Henderson, Texas</i>
Harrison, Beatrice Yvonne	<i>Houston, Texas</i>
Hartsfield, James Monroe	<i>Dallas, Texas</i>
Hawkins, Leonora Sherrill	<i>Houston, Texas</i>
Haynes, Robert Briley	<i>Houston, Texas</i>
Heflin, William Cecil	<i>Temple, Texas</i>
Helmle, Edward Carl	<i>Dallas, Texas</i>
Hertzberg, Hans Theodore Edward	<i>San Antonio, Texas</i>
Heyck, Joseph Giraud	<i>Houston, Texas</i>
Hickey, Deborah May	<i>Houston, Texas</i>
Hickey, Ruth Mary	<i>Houston, Texas</i>
Hickey, Thomas Earl	<i>Houston, Texas</i>
Hill, Martha Frances	<i>Houston, Texas</i>
Hillyer, Ray Hauton	<i>Rosenberg, Texas</i>
Hitson, Wesley Herbert	<i>Carlsbad, New Mexico</i>
Hodges, Mose Dean	<i>Hull, Texas</i>
Hoенcke, Will Powars	<i>Houston, Texas</i>
Hollins, Fred Gassie	<i>Lake Charles, Louisiana</i>

ANNOUNCEMENTS

Hopkins, Jack Metcalf	<i>Galveston, Texas</i>
Ilfrey, Marjorie Evelyn	<i>Houston, Texas</i>
Ingram, Mercer Thomas	<i>Mart, Texas</i>
Jantzen, Kathryn	<i>Houston, Texas</i>
Jennings, Geraldine	<i>Houston, Texas</i>
Johnson, Thomas Joseph	<i>Dallas, Texas</i>
Kalb, Theodore William	<i>Houston, Texas</i>
Kelly, Edward Arthur	<i>League City, Texas</i>
Kirschke, John Alvin	<i>Houston, Texas</i>
Krause, Clarence Graebe	<i>San Antonio, Texas</i>
Kreamer, Karl K.	<i>Lake Charles, Louisiana</i>
Kruse, Lois Bowers	<i>Houston, Texas</i>
Lane, Charles William	<i>Shreveport, Louisiana</i>
Lee, Irma Hilldredth	<i>Houston, Texas</i>
Lester, Margaret Montgomery	<i>Houston, Texas</i>
Levinson, Rosalie	<i>Houston, Texas</i>
Lichte, Herman Jeffery	<i>San Antonio, Texas</i>
Lindeman, Theodore Walter	<i>Houston, Texas</i>
Logan, Marie Louise	<i>Houston, Texas</i>
Lyttleton, Margaret	<i>Houston, Texas</i>
McConnell, Ethel Farrington	<i>Athens, Alabama</i>
McConnell, Virginia Lee	<i>Houston, Texas</i>
McCullough, Helen Louise	<i>Houston, Texas</i>
McDougal, Meredith Vernon	<i>Houston, Texas</i>
McGregor, Mildred Lucille	<i>Houston, Texas</i>
McWhorter, Lawrence Stancel	<i>Palestine, Texas</i>
Maddux, Lillis Anita	<i>Houston, Texas</i>
May, Mira Donna	<i>Galveston, Texas</i>
Merritt, Lillian	<i>Houston, Texas</i>
Metzler, Dorothy Jean	<i>Houston, Texas</i>
Metzler, Jacob William, Jr.	<i>Houston, Texas</i>

THE RICE INSTITUTE

Michaux, Alice Woodson	<i>Houston, Texas</i>
Miller, Herman Hughes	<i>Kempner, Texas</i>
Miller, Robert Floyd	<i>Kempner, Texas</i>
Morgan, George Oliver, Jr. . . .	<i>Denison, Texas</i>
Mortimer, Harold Edward	<i>Smithville, Texas</i>
Nino, Primitivo Leija	<i>Houston, Texas</i>
Northrup, Mary Elizabeth	<i>Houston, Texas</i>
Oliver, Helen Mortimer	<i>Houston, Texas</i>
Pasternack, Joe G.	<i>Houston, Texas</i>
Patterson, Eloise Dale	<i>Houston, Texas</i>
Payne, Frank Hamilton	<i>Mineral Wells, Texas</i>
Plenn, Hymen	<i>Brownsville, Texas</i>
Prather, Eva Temple	<i>Texarkana, Texas</i>
Qualtrough, Walter Frank	<i>Houston, Texas</i>
Radoff, Freda	<i>Houston, Texas</i>
Ramsey, Roy Richard	<i>Mercedes, Texas</i>
Rawson, William Branton	<i>Houston, Texas</i>
Rechel, Ernest Robert	<i>San Antonio, Texas</i>
Richter, George Holmes	<i>Dallas, Texas</i>
Riemann, Wentworth Arnold . . .	<i>Houston, Texas</i>
Riess, Malcolm	<i>Mercedes, Texas</i>
Robertson, John Snell	<i>Houston, Texas</i>
Robinson, Edith Harlan	<i>Houston, Texas</i>
Roensch, Adele	<i>Houston, Texas</i>
Roensch, Edward Burns	<i>Houston, Texas</i>
Russell, James Ashley, Jr.	<i>Brownsville, Texas</i>
Salter, Madeline Hazel	<i>Houston, Texas</i>
Sander, Harry Allen	<i>Bellville, Texas</i>
Sanders, Homer Leroy	<i>Rockdale, Texas</i>
Schwartz, Moses	<i>Houston, Texas</i>
Schwedler, William Max	<i>Dallas, Texas</i>

ANNOUNCEMENTS

- Scott, Martha Campbell *Houston, Texas*
Seaman, Dorothy Ethel *Houston, Texas*
Simpson, Irene Punkin *Houston, Texas*
Smith, Fleda Ray *Houston, Texas*
Smith, Flossie May *Houston, Texas*
Spampinato, Michael *Mart, Texas*
Speer, Howard James *Houston, Texas*
Spencer, Emory Maurice *San Antonio, Texas*
Spencer, Thomas Clay *Houston, Texas*
Stones, Frank Wannall *Houston, Texas*
Streetman, Flora McIver *Houston, Texas*
Stubbs, Theodore Baytop *Galveston, Texas*
Tanner, Hazel Edith *Hubbard, Texas*
Thompson, Tany *Houston, Texas*
Tierney, John Taylor, Jr. *Beaumont, Texas*
Tobin, Jack Melba *Houston, Texas*
Trammell, Mary Jane *Houston, Texas*
Turrentine, Robert Emmett, Jr. *Houston, Texas*
Ulrich, Camille *Crosby, Texas*
Waddell, Maurine Florence *Houston, Texas*
Waller, Allene Frances *Hubbard, Texas*
Waltrip, Jack *Mart, Texas*
Waterman, Logan Carpenter *El Paso, Texas*
Watson, Cecil Jewel *Granger, Texas*
Watson, Ernest Stevens *Mexia, Texas*
Webb, Roy Limuel *Texarkana, Texas*
West, Dorothy Eleanor *Columbus, Texas*
Westerfield, George Sumner, Jr. *Houston, Texas*
Whistler, Dorothy *Houston, Texas*
Wilson, Etta Barrett *Houston, Texas*
Winston, Oliver Cooper *Smithville, Texas*

THE RICE INSTITUTE

Womack, Jack, Jr.	<i>Mexia, Texas</i>
Wood, Eva Mae Elizabeth . . .	<i>Houston, Texas</i>
Wright, Mary Katherine	<i>Houston, Texas</i>

SOPHOMORES*

Abercrombie, Lovett Anderson .	<i>Houston, Texas</i>
Alexander, Eleanora Cecilia . . .	<i>Houston, Texas</i>
Alexander, Joe Barkley	<i>Pine Bluff, Arkansas</i>
Andrew, Victor Barringer, Jr. . .	<i>Houston, Texas</i>
Armstrong, Alvis Edwin	<i>Houston, Texas</i>
Arrington, Whitfield	<i>Houston, Texas</i>
Babcock, Darrow Sublett	<i>Houston, Texas</i>
Baggett, Charles Carl	<i>Houston, Texas</i>
Baines, Alberta Mae	<i>Houston, Texas</i>
Banta, Henry Eugene	<i>Electra, Texas</i>
Barber, Philip Ernest	<i>Houston, Texas</i>
Barker, Bernice	<i>Houston, Texas</i>
Barker, Doris Antionette	<i>Houston, Texas</i>
Barr, Harold Vilas	<i>Palacios, Texas</i>
Barrick, Madge Deering	<i>Houston, Texas</i>
Barron, Joseph Mason	<i>Port Arthur, Texas</i>
Bateman, Dupuy, Jr.	<i>Henderson, Texas</i>
Bates, Maurine Marie	<i>El Campo, Texas</i>
Beasley, Sue	<i>Alamogordo, New Mexico</i>
Bell, Ralph	<i>Edmond, Oklahoma</i>
Bellows, Benjamin Frederick . . .	<i>San Antonio, Texas</i>
Denbury, Thomas, Jr.	<i>Houston, Texas</i>
Berleth, Nelson Bagby	<i>Houston, Texas</i>
Binford, James Robert	<i>Dallas, Texas</i>
Black, William Franklin	<i>San Antonio, Texas</i>

* As classified October 1st, 1924

ANNOUNCEMENTS

Bloxsom, George Graham	<i>Houston, Texas</i>
Bodet, Edward	<i>Galveston, Texas</i>
Borne, Herman G.	<i>Houston, Texas</i>
Boswell, James Leo	<i>Houston, Texas</i>
Brady, Randle James	<i>Houston, Texas</i>
Branard, James House	<i>Houston, Texas</i>
Brewer, Benjamin Eddins	<i>Kenedy, Texas</i>
Bridges, Hugh Frank, Jr.	<i>McComb, Mississippi</i>
Bridgwater, John Chambers, Jr. .	<i>Houston, Texas</i>
Britton, Mary Louise	<i>Houston, Texas</i>
Buhler, Charles Michael	<i>Victoria, Texas</i>
Butcher, John Henry	<i>Dallas, Texas</i>
Byrne, Carrie Lillian	<i>Houston, Texas</i>
Byrnes, Forrest Edward	<i>Houston, Texas</i>
Cantrell, Troy Lee	<i>McKinney, Texas</i>
Carlisle, Natalie Alston	<i>Houston, Texas</i>
Carll, Edgar Houston	<i>Belton, Texas</i>
Chastain, Perry Littleton, Jr. . .	<i>Denison, Texas</i>
Chatham, Lee Randolph	<i>Houston, Texas</i>
Clapp, James Alston, Jr.	<i>Houston, Texas</i>
Clark, Hollis Windman	<i>Houston, Texas</i>
Clark, Jerry Bryant	<i>Houston, Texas</i>
Cochran, Josephine Pearl	<i>Rosenberg, Texas</i>
Cocke, Myrtle Inez	<i>Liberty, Texas</i>
Coffman, Annie Mae Louise	<i>Houston, Texas</i>
Cook, Mildred Sallie	<i>Houston, Texas</i>
Cooke, Edward Fenton, Jr.	<i>Houston, Texas</i>
Copeland, Bernice	<i>Houston, Texas</i>
Copeland, William Glen	<i>DeQuincy, Louisiana</i>
Cox, John William	<i>Houston, Texas</i>
Cox, Zelda Onesia	<i>Houston, Texas</i>

THE RICE INSTITUTE

Crain, Robert Levan	<i>Houston, Texas</i>
Crain, Wilbert Oscar	<i>Houston, Texas</i>
Daniels, William Edwin, Jr.	<i>Houston, Texas</i>
Danner, Edward Chilton	<i>Fort Worth, Texas</i>
Daugherty, Paul Evan	<i>Dallas, Texas</i>
Davidson, Irene Brewster	<i>Houston, Texas</i>
Davidson, Julius Ralston	<i>Houston, Texas</i>
Davies, Ilott Joseph	<i>Houston, Texas</i>
Davis, Winnie Eileen	<i>Taylor, Texas</i>
deMankowski, Marguerite	<i>Houston, Texas</i>
Desel, Frances Cluett	<i>Houston, Texas</i>
Dies, Lady Jack	<i>Houston, Texas</i>
Dixon, Thomas Kenney, Jr.	<i>Houston, Texas</i>
Dodson, James Walker	<i>Texarkana, Texas</i>
Drouet, Abbie Dell	<i>Houston, Texas</i>
Duggan, Edmund Buchwalter	<i>Belton, Texas</i>
Duhig, William Gordon	<i>Lake Charles, Louisiana</i>
Elam, Robert Earle, Jr.	<i>Houston, Texas</i>
Ellis, Locoste George	<i>Houston, Texas</i>
Embry, Mary Louise	<i>Houston, Texas</i>
Evans, Iva Clyde	<i>Nocona, Texas</i>
Eversberg, Florence Bernice	<i>Brenham, Texas</i>
Falligant, Norine Anita	<i>Houston, Texas</i>
Farrington, Curtis Leon	<i>Houston, Texas</i>
Fischer, Otis Rose	<i>Houston, Texas</i>
Fitch, Mary Louise	<i>Houston, Texas</i>
Fleming, Pinckney French	<i>Houston, Texas</i>
Flynn, William Howard	<i>Oklahoma City, Okla.</i>
Fondren, Susie Ella	<i>Houston, Texas</i>
Fox, William Edward	<i>Houston, Texas</i>
Frazee, Lawrence Hiles	<i>Houston, Texas</i>

ANNOUNCEMENTS

Fulton, Mildred King	<i>Houston, Texas</i>
Fuqua, Claude Taylor, Jr.	<i>Houston, Texas</i>
Gallaher, Tom Moore	<i>Marlin, Texas</i>
Garrison, Ranald Macdonald	<i>Corpus Christi, Texas</i>
Gemmer, Ralph Wilmer	<i>Houston, Texas</i>
Geoppinger, Dora Elizabeth	<i>Columbus, Texas</i>
Gibson, Kathleen Louise	<i>Houston, Texas</i>
Girardey, Harriett Rodgers	<i>Houston, Texas</i>
Godsey, Frank Waldman, Jr.	<i>Beaumont, Texas</i>
Goldofsky, Rachel	<i>Houston, Texas</i>
Gomperts, Elizabeth Dana	<i>Houston, Texas</i>
Goodwin, Hazel	<i>Houston Texas</i>
Grace, William Jefferies.	<i>Dallas, Texas</i>
Green, Hazel Catherine	<i>Houston, Texas</i>
Greenwood, Jim	<i>Houston, Texas</i>
Hanrick, Ripley Edward	<i>Waco, Texas</i>
Haralson, Marguerite	<i>Bastrop, Texas</i>
Harbeck, Catherine Caroline	<i>Dayton, Texas</i>
Harbeck, Clara Malinda	<i>Dayton, Texas</i>
Harris, Alton B.	<i>Houston, Texas</i>
Haynes, Laura Ellen	<i>Houston, Texas</i>
Heard, Ethel Lyon	<i>Houston, Texas</i>
Henderson, Frances Emma	<i>Houston, Texas</i>
Henderson, John Blythe Halton	<i>Galveston, Texas</i>
Hill, Edwin Bruce	<i>Houston, Texas</i>
Hill, James Edwin	<i>Houston, Texas</i>
Hochuli, Paul Louis	<i>Houston, Texas</i>
Hoffman, Henry S.	<i>Houston, Texas</i>
Holden, Brian	<i>Mexico City, Mexico</i>
Holloway, Lum Radburn	<i>Harrisburg, Texas</i>
Hooker, Pearl	<i>Houston, Texas</i>

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Hooton, Claude Edgar	<i>Houston, Texas</i>
Hoppe, Robert Cottman	<i>Abilene, Texas</i>
Horn, John Wendell	<i>Beaumont, Texas</i>
Hunt, Dorothy Warden	<i>Houston, Texas</i>
Hutson, Emily	<i>Houston, Texas</i>
Ivy, Ailene Del	<i>Houston, Texas</i>
Jackson, Susie	<i>Houston, Texas</i>
Jahn, Theodore Louis	<i>Houston, Texas</i>
Jarrett, Joe Sherrill	<i>Houston, Texas</i>
Jones, Celeste Bedell	<i>Houston, Texas</i>
Jones, James Kenneth	<i>Sugar Land, Texas</i>
Joseph, Walter Banard	<i>Houston, Texas</i>
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Keilin, Ida Gwen	<i>Houston, Texas</i>
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Kelly, Mildred May	<i>Houston, Texas</i>
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Kilburn, Marilee Ingram	<i>Houston, Texas</i>
Killough, James Douglas	<i>Edna, Texas</i>
Kinard, Virginia Louise	<i>Houston, Texas</i>
King, Arthur George	<i>Corsicana, Texas</i>
Koch, Anna Helen	<i>Houston, Texas</i>
Kubela, Ray Walter	<i>El Campo, Texas</i>
Lamberson, Louise	<i>Houston, Texas</i>
Lane, Leroy Eliphalet	<i>Houston, Texas</i>
Lawrence, Virgil Ottis	<i>Edna, Texas</i>
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Lillard, Eugene Patterson	<i>Kaufman, Texas</i>

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Loock, Frances Mary	<i>Houston, Texas</i>
Loughridge, Walter Eugene . . .	<i>San Antonio, Texas</i>
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Love, Charlie L.	<i>Corsicana, Texas</i>
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Lurie, Elizabeth	<i>Houston, Texas</i>
Lyon, Gurdon Taft	<i>Houston, Texas</i>
McAshan, Lucille	<i>Houston, Texas</i>
McConnell, Herbert Stevenson .	<i>Dallas, Texas</i>
McGilvray, Ella Lois	<i>Houston, Texas</i>
McGinty, Milton Bowles	<i>Houston, Texas</i>
McKamey, Glenn E.	<i>Port Lavaca, Texas</i>
McKean, Edith Evelyn	<i>Houston, Texas</i>
McKellar, Marion Sloan	<i>Elizabeth, Louisiana</i>
McVey, William Mozart	<i>Cleveland, Ohio</i>
Madden, Jesse Albert	<i>El Campo, Texas</i>
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Maniscalco, Anthony Joseph . .	<i>Houston, Texas</i>
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Martin, Morgan	<i>Abilene, Texas</i>
Mathews, Dallas Jefferson, Jr. .	<i>Houston, Texas</i>
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Miller, Eleanor	<i>Bellville, Texas</i>
Miller, I. J.	<i>Kempner, Texas</i>
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Morgan, Virginia Livingston . .	<i>Houston, Texas</i>
Morgan, Miller Byron	<i>Houston, Texas</i>

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Muench, Julian Rhodes	<i>San Antonio, Texas</i>
Murdock, Albert Ayers, Jr.	<i>Newvitas, Cuba</i>
Murdock, Lloyd Hugh	<i>Houston, Texas</i>
Murphy, Frankie Maud	<i>Houston, Texas</i>
Neuhaus, Max Werner	<i>Houston, Texas</i>
Newton, Ewing Jessup	<i>Houston, Texas</i>
Norman, Christine Anita	<i>Houston, Texas</i>
Oberholtzer, Esther Myrtle	<i>Houston, Texas</i>
O'Brien, Tommy John	<i>Houston, Texas</i>
Oliver, Henry, Jr.	<i>Houston, Texas</i>
Peabody, Irving Leroy	<i>Houston, Texas</i>
Perry, Paul Gordon	<i>Dallas, Texas</i>
Polk, Ruth	<i>Houston, Texas</i>
Pomerantz, Rosa Helen	<i>Houston, Texas</i>
Powars, Florence May	<i>Houston, Texas</i>
Powars, Mary Augusta	<i>Houston, Texas</i>
Prafka, Joe Evans	<i>Port Arthur, Texas</i>
Prager, Molly	<i>Houston, Texas</i>
Pye, Herman Walter	<i>Houston, Texas</i>
Pye, Hortense Selene	<i>Houston, Texas</i>
Redwine, Harry Page	<i>El Campo, Texas</i>
Reed, Arthur Burroughs	<i>Houston, Texas</i>
Reinhart, Philip Wingate	<i>Houston, Texas</i>
Reynolds, Frank Fisher	<i>Houston, Texas</i>
Rhodes, Gene May	<i>Houston, Texas</i>
Rice, Albert Marsh, Jr.	<i>Dallas, Texas</i>
Rich, George Clinton	<i>El Campo, Texas</i>

ANNOUNCEMENTS

Ringer, Vivian P.	<i>Corsicana, Texas</i>
Robertson, Andrew Sug	<i>Slaton, Texas</i>
Robinett, James Bradley, Jr.	<i>Houston, Texas</i>
Roosa, Pauline Ellen	<i>Rock Port, Illinois</i>
Royer, Dorothy Grace	<i>Houston, Texas</i>
Rugeley, Rowland Boyd	<i>Montague, Texas</i>
Russell, John Lynn	<i>Pine Bluff, Arkansas</i>
Rutherford, Homer Morgan	<i>Corbin, Kentucky</i>
Sanders, Margaret Isabel	<i>Houston, Texas</i>
Sauer, Albert Christian	<i>Houston, Texas</i>
Scharnberg, Leola Arabella	<i>Houston, Texas</i>
Scott, Leyla B.	<i>Lufkin, Texas</i>
Seeger, Carrie W.	<i>Houston, Texas</i>
Sell, Ruth Belle	<i>Houston, Texas</i>
Shapiro, Julian Lee	<i>Houston, Texas</i>
Sharpley, Merne Lewis	<i>Houston, Texas</i>
Shaw, Jo Edward	<i>Houston, Texas</i>
Shaw, Zue Belle	<i>Houston, Texas</i>
Shoquist, Robert George	<i>Houston, Texas</i>
Simons, Bryan Elmo	<i>Bay City, Texas</i>
Simpson, Albert Dee, Jr.	<i>Houston, Texas</i>
Slaughter, Sol Robert	<i>Stephenville, Texas</i>
Sloan, Clarence Herbert	<i>Houston, Texas</i>
Slocum, Joseph Hoyt	<i>Dallas, Texas</i>
Smiley, William Gilmore	<i>Houston, Texas</i>
Smith, Annie Jo	<i>Houston, Texas</i>
Smith, Carey Olinthus	<i>Bay City, Texas</i>
Smith, Lois Moore	<i>Houston, Texas</i>
Smith, Lucile Melville	<i>Houston, Texas</i>
Smith, Mary Josephine	<i>El Campo, Texas</i>
Smith, Thomas Ligon	<i>Houston, Texas</i>

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Stockton, Rankin James	<i>San Benito, Texas</i>
Stoneham, Robert Lee	<i>Stoneham, Texas</i>
Street, Mary Virginia	<i>Houston, Texas</i>
Stuart, Russell Edward	<i>Houston, Texas</i>
Suttles, James Elmer	<i>Houston, Texas</i>
Sutton, John Wise	<i>Tulsa, Oklahoma</i>
Swindler, Thomas Duane	<i>Tulsa, Oklahoma</i>
Taylor, Benjamin Gilder	<i>Houston, Texas</i>
Thompson, Margaret Christina	<i>El Campo, Texas</i>
Thompson, Thomas A.	<i>Galveston, Texas</i>
Tips, Kern	<i>Houston, Texas</i>
Titterington, George Alfred	<i>Dallas, Texas</i>
Tryon, Alice Adele	<i>Houston, Texas</i>
Tucker, Jay Wilfred	<i>Houston, Texas</i>
Tully, Edward Aubrey, Jr.	<i>Cuero, Texas</i>
Underwood, Wash	<i>Honey Grove, Texas</i>
Van Cleave, Thomas Winlock	<i>Gibbsland, Louisiana</i>
Waller, Alwyn Pye	<i>Hawkinsville, Georgia</i>
Wallis, Robert Clinton, Jr.	<i>Denison, Texas</i>
Ward, Irene Alice	<i>Houston, Texas</i>
Weil, Sol B. Jr.	<i>Houston, Texas</i>
Werlin, Eugene	<i>Houston, Texas</i>
White, Addlean Estella	<i>Ennis, Texas</i>
White, Alfred T.	<i>Houston, Texas</i>
Whiteley, Rachel Sabra	<i>Hillsboro, Texas</i>
Wilbanks, Richard Thompson	<i>Houston, Texas</i>
Wilkinson, Ben Francis	<i>Houston, Texas</i>
Wilkinson, Edward	<i>London, England</i>
Wilson, Ralph A.	<i>Houston, Texas</i>
Witte, James Durward	<i>San Gabriel, Texas</i>

ANNOUNCEMENTS

Wuntch, Julius *Tyler, Texas*
Zax, Emile *Houston, Texas*
Zucht, Arthur Darling *San Antonio, Texas*

FRESHMEN*

Abell, Muriel Elizabeth *Houston, Texas*
Ables, Robert Lee *Texarkana, Texas*
Abrahams, Alonzo Tooker William *Houston, Texas*
Acton, Jack Raymond *Abilene, Texas*
Adams, Dorothy Semanes *Houston, Texas*
Adams, Gayle Scott *Houston, Texas*
Adams, Keeling Henry *Houston, Texas*
Adams, Willard Strong *Henderson, Texas*
Aguilar, Raimundo *San Antonio, Texas*
Alderson, James Baxter *Houston, Texas*
Aleo, Charles Joseph, Jr. *Houston, Texas*
Alexander, Roberta *Texline, Texas*
Allen, Benjamin Hogan *Houston, Texas*
Allen, Donald Hancock *Houston, Texas*
Allen, Frank Torence *Brenham, Texas*
Allen, Herbert *Farmerville, Louisiana*
Allen, Rudolph Weldon *Athens, Texas*
Allen, Walter Hamilton *Marlin, Texas*
Allin, Thomas Hagan *Houston, Texas*
Allnoch, Martha Agnes *Houston, Texas*
Alpha, Calvin *Houston, Texas*
Alpha, Genevieve *Houston, Texas*
Anderson, Martha Josephine *Houston, Texas*
Appling, George Jefferies *El Campo, Texas*
Armstrong, Baker White *Houston, Texas*

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Arnold, George, Jr.	<i>Sulphur Springs, Texas</i>
Arnold, William French	<i>Henderson, Texas</i>
Ashworth, Robert William	<i>Houston, Texas</i>
Austin, Henry Alton	<i>Houston, Texas</i>
Avnet, Isadore	<i>Houston, Texas</i>
Badger, Elizabeth Miriam	<i>Houston, Texas</i>
Baehr, John Fain	<i>Houston, Texas</i>
Bailey, Margaret Elizabeth	<i>Houston, Texas</i>
Barbour, Frieda Ellen	<i>Houston, Texas</i>
Barnes, Dorothy Ruth	<i>Houston, Texas</i>
Barnes, Paul Clifton	<i>Arlington, Texas</i>
Barnes, Roy Trimble	<i>Fort Worth, Texas</i>
Barr, Tom William	<i>Dallas, Texas</i>
Barron, Horrace Chilton	<i>Tyler, Texas</i>
Barthelme, Donald	<i>Galveston, Texas</i>
Beatty, Hazel Inez	<i>Houston, Texas</i>
Beavens, Richard Risley	<i>Houston, Texas</i>
Beckenbach, Edwin Ford	<i>Dallas, Texas</i>
Bell, Charles Harrison	<i>Waco, Texas</i>
Bell, Garlen Oscar	<i>Rogers, Texas</i>
Bell, Walter G.	<i>Edmond, Oklahoma</i>
Bemus, Felicia	<i>Houston, Texas</i>
Bennett, John Forster	<i>Mart, Texas</i>
Berglund, Clifford Lawrence	<i>El Campo, Texas</i>
Bering, Florence Catherine	<i>Houston, Texas</i>
Berleth, William Hancock	<i>Houston, Texas</i>
Berthelot, Paul Pierre	<i>Stamford, Texas</i>
Billups, J. T., Jr.	<i>Winters, Texas</i>
Binyon, Lucy Agatha	<i>Houston, Texas</i>
Black, Audrey Ross	<i>Houston, Texas</i>
Blackwell, Ruth Adelaide	<i>LaPorte, Texas</i>

ANNOUNCEMENTS

Blaine, John Leon	<i>Sherman, Texas</i>
Blair, George Truman	<i>Houston, Texas</i>
Blair, Janet	<i>Clarksville, Texas</i>
Blazek, Gladys Eileen	<i>Houston, Texas</i>
Bobbitt, James	<i>Houston, Texas</i>
Boelsche, Leslie	<i>Industry, Texas</i>
Bogardus, William Isreal	<i>Dallas, Texas</i>
Boone, Walter Goodrich	<i>Navasota, Texas</i>
Borschow, Reuben	<i>Houston, Texas</i>
Bourdon, Lynn Louis	<i>Houston, Texas</i>
Bourgeois, Jasper Lesley	<i>Welsh, Louisiana</i>
Bourland, Joseph Wilbur, Jr.	<i>Dallas, Texas</i>
Bower, James Benjamine	<i>Houston, Texas</i>
Bowser, Helen Louise	<i>Houston, Texas</i>
Boyd, John Edwin	<i>Hillsboro, Texas</i>
Boynton, George Robert	<i>Bellville, Texas</i>
Braswell, Elton Theodore	<i>Wharton, Texas</i>
Bridgwater, William Richard	<i>Houston, Texas</i>
Briggs, David Todd	<i>Lampasas, Texas</i>
Bright, Mamie	<i>Houston, Texas</i>
Brisbine, Evelyn Josephine	<i>Houston, Texas</i>
Brison, William	<i>Houston, Texas</i>
Brochstein, Samuel Joseph	<i>Houston, Texas</i>
Brogniez, Fernand Jules	<i>El Paso, Texas</i>
Brooks, Catherine Marguerite	<i>Houston, Texas</i>
Brunson, Emmett Evander	<i>Houston, Texas</i>
Bryan, Madolyn Cartier	<i>Houston, Texas</i>
Buchholz, Douglas Alden	<i>La Porte, Texas</i>
Bunge, Oscar Andrew	<i>Eagle Lake, Texas</i>
Burns, Alice Katherine	<i>Freeport, Texas</i>
Burns, Tom Nick	<i>Houston, Texas</i>

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Bushnell, Ralph Winslow	<i>Freeport, Texas</i>
Buttelmann, Henry William	<i>Houston, Texas</i>
Byrne, Anne Claire	<i>Houston, Texas</i>
Cabaniss, Weldon Burk	<i>Lockhart, Texas</i>
Cade, Broughton Bernice	<i>Chandler, Texas</i>
Cairns, Adrian Bennett	<i>Houston, Texas</i>
Calhoun, Imogene Gladys	<i>Yorktown, Texas</i>
Calhoun, Roberta Georgia	<i>Yorktown, Texas</i>
Canterberry, Clarence Wesley	<i>Longview, Texas</i>
Carter, George Hardeman, Jr.	<i>Marlin, Texas</i>
Cashion, William Richard	<i>Texarkana, Texas</i>
Castle, Theodore Clark	<i>Houston, Texas</i>
Caton, Ruby Iva	<i>Lufkin, Texas</i>
Chitwood, Benjamin G.	<i>Sweetwater, Texas</i>
Clark, John Hogan	<i>Houston, Texas</i>
Clarke, Helen Cartland	<i>Houston, Texas</i>
Cloar, John Tom	<i>Houston, Texas</i>
Cobb, Cecile Estelle	<i>Houston, Texas</i>
Cockburn, Harold Lee	<i>Comanche, Oklahoma</i>
Cole, Mildred Elizabeth	<i>Houston, Texas</i>
Coleman, Catherine Elizabeth	<i>Houston, Texas</i>
Colgin, Norman Taylor	<i>New Iberia, Louisiana</i>
Comiskey, Harold William	<i>Houston, Texas</i>
Comstock, Ralph Merle	<i>El Campo, Texas</i>
Conant, Fred Clifford	<i>Texas City, Texas</i>
Cook, Clara Frances	<i>Houston, Texas</i>
Cooper, William Durward	<i>Houston, Texas</i>
Cornelius, Adrian Cowden	<i>Houston, Texas</i>
Cornelius, Ross Ned	<i>Weatherford, Texas</i>
Crenshaw, Marvin Ancel	<i>Genoa, Texas</i>
Crews, Tom Bert	<i>Dallas, Texas</i>

ANNOUNCEMENTS

- Croley, Joseph Marvin *Houston, Texas*
Cronin, Thomas Dillon *Houston, Texas*
Crossland, Earl *Dallas, Texas*
Cruikshank, Louis James *Lake Charles, Louisiana*
Cull, Herbert Graham *Houston, Texas*
Cullen, Frank Joseph *Del Rio, Texas*
Cumming, Charles Edward *Houston, Texas*
Currie, Robert William *Big Spring, Texas*
Curry, Nell Ethel *Breckenridge, Texas*
Curry, Thelma Mae *Breckenridge, Texas*
DaCamara, Randolph Lawrence *Laredo, Texas*
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Davies, Thomas Francis *Granite City, Illinois*
Davis, James Lawrence *Houston, Texas*
Davis, Ralph Carmen *Houston, Texas*
Dawson, Frank Matthews *Houston, Texas*
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DeLange, Frank Warner *Houston, Texas*
Denman, Arthur Bryan *Houston, Texas*
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Discher, Erwin Rudolph *Shiner, Texas*
Dolan, Adreon Robert *Houston, Texas*
Dorman, Charles Harry *Houston, Texas*
Duff, Lura Hannah *Houston, Texas*
Duffie, Ed Barrett *Hull, Texas*
Duller, Charles Ethan, Jr. *Blessing, Texas*
Dunlap, Hazelle Vinita *Houston, Texas*
Dunnam, S. E., Jr. *Quinlan, Texas*
Dunning, Alan *Mexico City, Mexico*
Dwigans, Forrest Payne *Houston, Texas*

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Dye, David Wade	<i>Dallas, Texas</i>
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Feather, William Russell	<i>Houston, Texas</i>
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Ferguson, Charles Edmond	<i>Kingsville, Texas</i>
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Filteau, Charles Henry	<i>Houston, Texas</i>
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Flower, Theodore Robert	<i>Houston, Texas</i>
Flukinger, Stanley Paul	<i>Houston, Texas</i>
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Fondren, Walter William, Jr.	<i>Houston, Texas</i>
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Fuqua, Lawrence Franklin	<i>Houston, Texas</i>

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Furman, Herbert	<i>Houston, Texas</i>
Gammill, Murry Jesse	<i>Houston, Texas</i>
Gammill, Oscar Elbridge, Jr.	<i>Shreveport, Louisiana</i>
Gammon, Evelyn Catherine	<i>Houston, Texas</i>
Gardner, James Basdall	<i>Kopperl, Texas</i>
Garner, Juanita Dolores	<i>Bonham, Texas</i>
Gehret, Marguerite Marie Louise	<i>Galveston, Texas</i>
Gerson, Morris William	<i>Houston, Texas</i>
Gill, Atherton Leslie	<i>Houston, Texas</i>
Gilliam, Charles Robert	<i>Fort Worth, Texas</i>
Godbold, Norma Elizabeth	<i>Houston, Texas</i>
Godsey, John Wilkerson	<i>Beaumont, Texas</i>
Goforth, Madiline Elba Dell	<i>Houston, Texas</i>
Gohlman, Mary Armistead	<i>Houston, Texas</i>
Golden, Alice Elizabeth	<i>Houston, Texas</i>
Goodman, Virginia Frances	<i>Houston, Texas</i>
Goodrich, Frank Hale	<i>Brownsville, Texas</i>
Gordon, Frank Edmond	<i>Houston, Texas</i>
Gragg, Homan Henderson	<i>Dallas, Texas</i>
Grant, Henry	<i>Houston, Texas</i>
Grant, Richard Stephen	<i>Pascagoula, Mississippi</i>
Green, Ola Mae	<i>Houston, Texas</i>
Griffing, Henry Scherer	<i>Dallas, Texas</i>
Grosse, Jack	<i>Houston, Texas</i>
Guiteras, George Gustavo	<i>Galveston, Texas</i>
Gunter, Tom Bragg	<i>Alice, Texas</i>
Haggart, Margaret Jennie	<i>Houston, Texas</i>
Hall, Walter Gardner	<i>League City, Texas</i>
Hambleton, Howard Francis	<i>Dallas, Texas</i>
Hamilton, Charles Whiteley	<i>Houston, Texas</i>
Hamilton, Mary Bernardine	<i>Houston, Texas</i>

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Harris, Wallace Eugene	<i>Conroe, Texas</i>
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Hart, Gaylord Anthony	<i>Dallas, Texas</i>
Hart, Moses Austin	<i>Houston, Texas</i>
Hayes, Archer William	<i>Nevasota, Texas</i>
Hayward, Albert King	<i>York, Pennsylvania</i>
Healey, James Henry, Jr.	<i>Houston, Texas</i>
Heard, Marshall James	<i>DeQuincy, Louisiana</i>
Helm, Shirley Maxwell	<i>Houston, Texas</i>
Henry, John Boyd	<i>Galveston, Texas</i>
Herring, Elmer	<i>Yoakum, Texas</i>
Herting, Edward William, Jr.	<i>Hartford, Connecticut</i>
Herzik, Stella Cora	<i>Houston, Texas</i>
Hibbler, Mary Helen	<i>Houston, Texas</i>
Hickey, Ernest Pleasanton	<i>Houston, Texas</i>
Hickey, Maude Isabel	<i>Houston, Texas</i>
Hildenbrand, Avarilla Grace	<i>Houston, Texas</i>
Hill, Eulalie Helen	<i>Houston, Texas</i>
Hill, J. B.	<i>Waelder, Texas</i>
Hill, Lloyd Lester	<i>Slaton, Texas</i>
Hillsman, Joseph Winston	<i>Houston, Texas</i>
Hodges, Jeddie Guy	<i>LaPorte, Texas</i>
Holt, Helen Mary	<i>Houston, Texas</i>
Holt, Percy Rosson	<i>Kilgore, Texas</i>
Hood, Matilda Dale	<i>Birmingham, Alabama</i>
Hopkins, Robert Ladd	<i>Houston, Texas</i>
Howard, Dora Alice	<i>Houston, Texas</i>
Howard, Gerald Marsh	<i>Dallas, Texas</i>

ANNOUNCEMENTS

- Howerton, Bert Paul *Corpus Christi, Texas*
Hubbell, Marion *Houston, Texas*
Hudson, Will Hawley *San Angelo, Texas*
Hughes, Edward Howell *Sherman, Texas*
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