Throop Institute Bulletin

SIXTEENTH ANNUAL CATALOGUE

NUMBER THIRTY-SIX

MAY, 1907

Published Quarterly By

Throop Polytechnic Institute

Pasadena, California

Entered May 22, 1905, at Pasadena, California, as second-class matter under Act of Congress of July 16, 1894.

CALENDAR

1907-8

Baccalaureate Sunday ..... June 9, 1907
Fitz E. Beach Prize Contest..... Monday evening, June 10, 1907
Graduating Exercises, Element'y School, Tues. morn'g, June 11, '07
Commencement..... Tuesday evening, June 17, 1907
Alumni Reunion..... Wednesday evening, June 12, 1907
Exhibition Days and Evenings. Thurs., June 13, and Friday, 14, '07
Quarterly Meeting Board of Trustees..... Tuesday, June 11, 1907
Annual Meeting Board of Trustees, Tuesday, September 10, 1907
Registration..... September 20, 21, 23, and 24, 1907
Fall Term begins..... Wednesday, September 25, 1907
Thanksgiving Vacation, Thursday and Friday, Nov. 28 and 29, 1907
Founder's Day..... Thursday, Dec. 12, 1907
Quarterly Meeting Board of Trustees..... Tuesday, Dec. 10, 1907
Fall Term ends..... Friday, Dec. 20, 1907

CHRISTMAS VACATION

Winter Term begins..... Monday, January 6, 1908
End of the first half-year..... Friday, February 7, 1908
Quarterly Meeting Board of Trustees.... Tuesday, March 11, 1908
Winter Term ends..... Friday, March 21, 1908

SPRING VACATION

Spring Term begins..... Monday, March 31, 1908
Memorial Day..... Friday, May 30, 1908
Baccalaureate Sunday..... June 8, 1908
Fitz E. Beach Prize Contest..... Monday evening, June 9, 1908
Graduating Exercises, Elementary School.....
Tuesday morning, June 10, 1908
Quarterly Meeting Board of Trustees..... Tuesday, June 10, 1908
Commencement..... Tuesday evening, June 10, 1908
Alumni Reunion..... Wednesday evening, June 11, 1908
Exhibition Days and Evenings.....
Thursday, June 12, and Friday, June 13, 1908

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All references in this catalogue to the Elementary School are made void by the separation of the school from Throop Institute and its establishment as an affiliated school with Throop under the management of a new corporation formed at the suggestion of Throop Institute.

For information regarding the school, write to the Secretary of the Polytechnic Elementary School, Pasadena.

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Throop Polytechnic Institute

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Entered May 22, 1905, at Pasadena, California, as second-class matter under Act of Congress of July 16, 1894.

FOUNDER

HON. AMOS G. THROOP

Born at De Ruyter, New York, July 22, 1811. Died at Pasadena, California, March 22, 1894.

BOARD OF TRUSTEES

(Arranged in the order of seniority of service)

		Term Expires
EVERETT L. CONGER, D. D.	Pasadena	1907
MRS. LOUISE T. W. CONGER	Pasadena	1907
E. E. SPALDING, A. M.	Pasadena	1910
NORMAN BRIDGE, A. M., M. D.	Pasadena	1909
JOHN WADSWORTH	Pasadena	1909
CHARLES D. DAGGETT	Pasadena	1908
WILLIAM STANTON	Pasadena	1911
MRS. CLARA B. BURDETTE	Pasadena	1910
HIRAM W. WADSWORTH, A. B.	Pasadena	1911
JAMES H. MCBRIDE, M. D.	Pasadena	1910
S. HAZARD HALSTED	Pasadena	1907
ARTHUR H. FLEMING	Pasadena	1909
MICHAEL CUDAHY	Pasadena	1908
C. J. WILLETT, A. M.	Pasadena	1908

OFFICERS OF THE BOARD

NORMAN BRIDGE, President — C. D. DAGGETT, Vice-President

JOHN WADSWORTH, Treasurer — E. E. SPALDING, Auditor

THEODORE COLEMAN, Sec'y and Business Agent
Residence, 149 South Madison Ave.

GRACE B. WRIGHT, Assistant Secretary
Residence, 306 Pleasant Street

C. J. WILLETT, Esq., Attorney

EXECUTIVE COMMITTEE OF THE BOARD

NORMAN BRIDGE, *Chairman ex-officio* — C. D. DAGGETT

JOHN WADSWORTH — A. H. FLEMING

C. J. WILLETT

FACULTY

1906-1907

(Arranged in groups in order of appointment)

WALTER ALISON EDWARDS, President

A. B., A. M. and LL. D., Knox College, Galesburg, Ill.; Instructor in Latin and Greek, High School, Peoria, Ill., 1883-6; student, Universities of Berlin and Tübingen, 1886-9; Principal High School, Decatur, Ill., 1889-90; Principal High School, Rockford, Ill., 1891-5; Instructor Latin and Greek, High School, Pasadena, Cal., 1895-6.

408 S. Orange Grove Ave.

ARTHUR HENRY CHAMBERLAIN, Dean

Professor of Education and Director of Normal School

B. S. and A. M., Columbia University; Master's Diploma, Teacher's College, N. Y.; graduated Cook County Normal School; Teacher in the Public Schools of Cook County, Ill., 1892-4; Principal W. Harvey Public Schools, 1893-4; graduated, Normal School, Throop Polytechnic Institute; diplomas Deutsche Lehrerbildungsanstalt für Knabenhandarbeit, Leipzig, Germany, and Slöjdlärareseminarium, Nääs, Sweden; Teachers' College Scholar, 1902-03; State Director National Educational Association; Author of Educative Hand Work Manuals, Bibliography of the Manual Arts, Technical Education in Germany.

377 N. Los Robles Ave.

HERBERT BOARDMAN PERKINS

*John Wadsworth Professor of Mathematics; Instructor in Mechanical Drawing

S. B., Massachusetts Institute of Technology, 1874; Professor of Mathematics and Astronomy, Lawrence University, 1878-80 and 1882-6; student, University and Polytechnikum, Munich, Germany, and University of Geneva, Switzerland, 1880-82; student, University of California, 1886-8; Professor of Modern Languages, University of Southern California, 1890-2.

45 S. Fair Oaks Ave.

WALLACE KENDALL GAYLORD

Professor of Chemistry; Registrar

S. B., Massachusetts Institute of Technology, 1893; Member American Chemical Society; Member Society of Chemical Industry.

75 N. Hudson Ave.

LUCIEN HOWARD GILMORE

Professor of Physics and Electrical Engineering; Editor of the Catalogue

A. B., Leland Stanford, Jr., University, 1894; Acting Assistant, Department of Physics, Leland Stanford, Jr., University, 1894-5; graduate student, University of Chicago, 1898-9.

649 Galena Ave.

MRS. JENNIE COLEMAN

Professor of English

Instructor in Latin and English, High School, Rochester, N. Y., 1867-8; Principal Grammar School, Lakeport, Cal., 1884-6; Member County Board of Education, Lake Co., Cal., 1883-7; Vice-Principal High School, Pasadena, Cal., 1888-96; Holder of California High School Life Diploma.

149 S. Madison Ave.

JOSEPH GRINNELL

Professor of Biology; Curator

A. B., Throop Polytechnic Institute, 1897; A. M., Leland Stanford, Jr., University, 1901; Assistant Instructor, Throop Polytechnic Institute, 1897-98; Assistant in Embryology, Hopkins Laboratory Leland Stanford, Jr., University, 1900; Instructor in Ornithology, Hopkins Laboratory, 1901-2; Instructor in Zoology and Botany, Palo Alto High School, 1901-03; graduate student, Leland Stanford, Jr., University, 1901-03; Fellow American Ornithologists' Union.

576 N. Marengo Ave.

*The founding of a Professorship is secured by the donation of $20,000.

BENJAMIN FRANKLIN STACEY

Professor of History and Economics; Librarian

A. B. and B. D., Lombard College, 1898; M. A., University of Arizona, 1903; Scholar, University of Chicago, 1898-1900; Fellow, ibid, 1900-1; Investigator of Institutions for the Chicago Bureau of Charities, 1899-1900; Supt. "Camp Goodwill," ibid, 1900; Instructor in Economics and Philosophy, University of Arizona, 1902-4.

640 Summit Ave.

MRS. GRACE DUTTON

Director of Domestic Science

Graduated Pennsylvania State Normal School 1885; Instructor in Public Schools of Twin Oaks, Pa., 1885-8; graduated Mrs. S. T. Rorer's Philadelphia School of Domestic Science 1897.

28 W. California St.

ROBERT EDGAR FORD

Director of Manual Training; Instructor in Machine Shop Practice and Pattern Making

B. E. E. and E. E. Engineering College University of Minnesota; with D. & D. Electric Manufacturing Co. Minneapolis, Minn., 1895; Consulting Steam and Electrical Engineer, Minneapolis, Minn., 1896-7; graduate student University of Minnesota, 1900.

137 S. Madison Ave.

NORVAL GIBSON FELKER

Director of Commercial School

Graduated Bryant & Stratton Business College, Louisville, Ky. Instructor in same, 1886-90; Vice-President, Woodbury Business College, Los Angeles, Cal., 1891-8; President same, 1898-1903.

755 E. Walnut St.

ERNEST ALLEN BATCHELDER

Director of Art

Director of the Handicraft Guild Summer Schools, Minneapolis, Minn.; graduated Massachusetts Normal Art School, 1899; Director of Art Education, Adams, Massachusetts, 1899-1901; Instructor in Theory of Design, Harvard University, Summer Session, 1901; studied in Europe, 1905-6; Author Principles of Design; member International Jury of Art, St. Louis Exposition.

467 Summit Ave.

PAUL BOEHNCKE

Associate Professor of German and Latin

A. B., Leland Stanford, Jr., University, 1905; Architectural Draughtsman and Superintendent of Construction, 1893-7; Teacher, Public School, Elizabeth Lake, California, 1898-1900.

Throop Boarding Hall.

HARRY CLARK VAN BUSKIRK

Associate Professor of Mathematics

Ph. B., Cornell University, 1897; special mention in Mathematics; Instructor in the University Preparatory School, Ithaca, N. Y., 1898-1904; Assistant Principal University Preparatory School, 1900-1904.

450 N. Fair Oaks Ave.

ADA JANE MILLER

Associate Professor of English

Graduated Cornell College, Iowa; Ph. B., University of Chicago; graduate student, University of Chicago, 1903-4; graduate student, Leland Stanford, Jr., University, 1904-5; Head of English Department, Marian, Iowa, High School, 1895-1901; Instructor in English, Iowa State College, 1901-3.

107 Ford Place.

PEARL BLANCHE FISHER

Instructor in French and Art Training

Student, Mary Institute, St. Louis, Mo.; student in Paris, France, and in Lacaze Institute, Lausanne, Switzerland; graduated Normal School Throop Polytechnic Institute, 1897.

1227 W. Seventh St., Los Angeles.

* HARRY DAVIS GAYLORD

Instructor in Mathematics and Wood Carving

Graduated Pasadena High School, 1893; student in Art, Throop Polytechnic Institute, 1894-6; Teacher Private Classes in Carving, 1896-9.

WALTER WILLIAM MARTIN

Instructor in Wood Working

Graduated Rockford High School, Rockford, Ill., 1898; graduated Normal School, Throop Polytechnic Institute, 1900.

973 Locust St.

CLARENCE MARTIN QUINN

Instructor in Forging

Graduate, Normal Department of the Stout Manual Training School, Menominee, Wis., 1897; Instructor in Shops and Mechanical Drawing, same, 1898-1899; Instructor in Manual Training, Minneapolis, Minn., 1900; Instructor in the Manual Training High School and Director of Manual Training in the grade schools of Eau Claire, Wis., 1901-1902.

515 N. Marengo Ave.

CHITA KRAFT

Instructor in Spanish

A. B., Leland Stanford, Jr., University, 1903.

376 N. Raymond Ave.

HARRY TRUMBULL CLIFTON

Instructor in Physics and Mechanical Drawing

Ph. B., Sheffield Scientific School, Yale University, 1895; graduate student, Yale University, 1895-6; with Traffic Department, New York Telephone Co., 1897-1900.

871 N. Lake Ave.

ELLA VICTORIA DOBBS

Instructor in Manual Arts

Graduated Manual Training, Normal School, Throop Polytechnic Institute, 1900; Supervisor Cardboard Construction, Los Angeles Public Schools, 1900-1; Instructor in Sloyd ibid, 1901-2; Acting Instructor Normal Manual Arts, Throop Polytechnic Institute, 1902-3; Supervisor Manual Training, Helena, Montana, Public Schools, 1903-4.

960 E. Colorado St.

MABEL COWDREY HIMROD

Instructor in Domestic Art

Student, High School, Brooklyn, N. Y.; graduated Normal Domestic Science, Pratt Institute, Brooklyn, N. Y., 1895; Director of Domestic Art, Y. W. C. A., Pittsburg, Pa., 1895-8; graduated Normal Domestic Art, Pratt Institute, 1899; Instructor in Sewing, Hampton Institute, Va., 1899-1900; Instructor in Dressmaking, Pratt Institute, 1900-1; Director Domestic Art and Instructor in Domestic Science, Berea College, Ky., 1901-3.

383 S. Catalina Ave.

VESTINA SCOBEY

Instructor in Music and English

Graduated High School, Chicago; pupil of Ella L. Krum in voice culture; pupil of William L. Tomlins in voice culture, expression and method, studied with Louise Robyn, harmony and piano; studied with Elizabeth Nash, physical culture; assistant to William L. Tomlins in Chicago Settlement, 1903; Instructor in Music and Elementary School Subjects, Stevan School, 1902-4.

153 N. Catalina Ave.

*Absent on leave, school year, 1906-7 studying at Harvard University.

NELLIE ALEXANDRA WARD

Instructor in Wood Carving

Graduated, Academy, Throop Polytechnic Institute, 1904.

53 Pepper St.

JAMES COLLINS MILLER

Instructor in Manual Arts

Graduated High School, Regina, Canada, 1898; graduated Territorial Normal School, Regina, Canada, 1899; teacher, Alberta Public School, 1899-1903; graduated MacDonald Manual Training School, Calgary, Alta, 1903; graduated Manual Training Normal School, Throop Polytechnic Institute, 1905; student, Summer School, University of California; student, College Throop Polytechnic Institute, 1905-7

377 N. Los Robles Ave.

MARIAN ELSIE CRAIG

Instructor in Mathematics and Commercial Studies

A. B. Pomona College, 1903; graduate student University of California, 1903-4.

509 E. Walnut St.

MAUD DAGGETT

Instructor in Art Training

Graduated Academy Throop Polytechnic Institute, 1901; student Art Institute, Chicago, 1904 and 1905.

Columbia Hill.

FREDERIC LEIGHTON BINDHAMMER

Instructor in Physical Culture

A. B. Northwestern University, 1905; Assistant Physical Director, Northwestern University, 1903.

293 Cypress Ave.

MARGARET JEANET STEWART

Instructor in Expression and Physical Culture

Special student Woman's College, Baltimore, Md.; graduated Cumnock School of Oratory, Northwestern University; Director of Reading and Physical Culture, Washington Academy, Washington, Ia., and Phoenix Union High School, Phoenix, Ariz.; graduate student Cumnock School of Expression, Los Angeles.

489 N. Marengo Ave.

IDA GRAY

Acting Instructor in English

Graduated San Jose Normal School; A. B., Leland Stanford Junior University.

410 N. Euclid Ave.

GEORGE HENCK

Assistant Instructor in Wood Working

Graduated Academy, Throop Polytechnic Institute 1906.

546 E. Jefferson St., Los Angeles.

LOUIE KOOSER WILLITS

Assistant in Domestic Art

Graduated Marshalltown, Iowa, High School, 1896.

137 S. Madison Ave.

ERNEST BRYANT HOAG

Lecturer in Biology

B. S., Northwestern University, 1892; A. B., Leland Stanford, Jr., University, 1894; A. M., Northwestern University, 1902; M. D., ibid, 1902; Instructor in Biology, Throop Polytechnic Institute, 1895-8; Instructor in Biology, Michigan State Normal School, 1899-1900; Instructor in Biology, Northwestern University, 1900-2.

101 N. Los Robles Ave.

EDWARD SPAULDING WARREN

Musical Director, Mandolin and Guitar Club

Pupil of Blakeslee, Cnicago; special instruction from Abt, Seigel, Weeks and others.

351 Congress St.

RUTH GAYLORD

Assistant Librarian

Graduated Academy Throop Polytechnic Institute, 1906.

146 Terrace Drive.

FACULTY COUNCIL

W. A. EDWARDS, Chairman

A. H. CHAMBERLAIN
MRS. JENNIE COLEMAN
R. E. FORD
W. K. GAYLORD
L. H. GILMORE
VIRGINIA PEASE

ELEMENTARY SCHOOL FACULTY

1906-1907

(Arranged in groups in order of appointment)

VIRGINIA PEASE

Director of Elementary School

Graduated Franklin Academy, Malone, N. Y.; Instructor in English, Annie Wright Seminary, Tacoma, Wash., 1890-2; Principal North Ontario Public School, 1892-6; Teacher Pasadena Public Schools, 1896-1904; Principal Garfield School, Pasadena, 1902-4.

Throop Boarding Hall.

ERNEST ALLEN BATCHELDER

Director of Art

Director of the Handicraft Guild Summer Schools, Minneapolis, Minn.; graduated Massachusetts Normal Art School, 1899; Director of Art Education, Adams, Massachusetts, 1899-1901; Instructor in Theory of Design, Harvard University, Summer Session, 1901; studied in Europe, 1905-6; Author Principles of Design; Member International Jury of Art, St. Louis Exposition.

467 Summit Ave.

CLARA JUDSON STILLMAN

Instructor in History and Geography

Graduate of Terry Kindergarten Institute, Bridgeport, Conn.; student Henniker, N. H., Academy; Inspector and Instructor, Public Schools, Arizona, Instructor, Public School, Coronado, California, 1895-9.

256 S. Madison Ave.

CLARA SOUTHWICK

Instructor in Primary School Subjects

Instructor Public Schools, Chicago, 1893-8; graduated Normal School, Throop Polytechnic Institute, 1899.

385 S. Euclid Ave.

ANNIE HOLMES

Instructor in Arithmetic

Instructor in San Diego County Schools; Student, University of California, 1898-9.

244 E. Orange Grove Ave.

ELLA VICTORIA DOBBS

Instructor in Manual Arts

Graduated Manual Training, Normal School, Throop Polytechnic Institute, 1900; Supervisor Cardboard Construction, Los Angeles Public School, 1900-1; Instructor in Sloyd ibid, 1901-2; Acting Instructor Normal Manual Arts, Throop Polytechnic Institute, 1902-3; Supervisor Manual Training, Helena, Montana, Public School, 1903-4.

960 E. Colorado St.

VESTINA SCOBEY

Instructor in Music and English

Graduated High School, Chicago; pupil of Ella L. Krum in voice culture; pupil of William L. Tomlins in voice culture, expression and method; studied with Louise Robyn, harmony and piano; studied with Elizabeth Nash, physical culture; assistant to William L. Tomlins in Chicago Settlement, 1903; Instructor in Music and Elementary School Subjects, Stevan School, 1902-4.

53 N. Catalina Ave.

HARRIET HUNT CONKLING

Instructor in Fifth Grade Subjects

Graduated Albany Academy, Albany, N. Y., instructor in private school, Castleton, N. Y; graduated Los Angeles Normal School, 1892; instructor in Los Angeles County Schools, 1892-1902; instructor in Pasadena Public Schools, 1902-5.

217 S. Orange Grove Ave.

BLANCHE WAKEHAM

Instructor in Sewing

Graduated Normal School, Throop Polytechnic Institute, 1903; student University of California, 1903-4.

149 Chestnut St.

GEORGIA HUTT MITCHELL

Instructor in Fourth Grade Subjects

Ph. B., Iowa State University, 1888; Instructor in Pasadena Public Schools, 1890-1906.

70 S. Madison Ave.

MAUD DAGGETT

Instructor in Drawing

Graduated Academy Throop Polytechnic Institute, 1901; student Art Institute, Chicago, 1904 and 1905.

Columbia Hill.

FREDERIC LEIGHTON BINDHAMMER

Instructor in Physical Culture

A. B., Northwestern University, 1905; Assistant Physical Director Northwestern University, 1903.

293 Cypress Ave.

MARGARET JEANET STEWART

Instructor in Expression and Physical Culture

Special Student Woman's College, Baltimore, Md.; graduated Cumnock School of Oratory, Northwestern University; Director of Reading and Physical Culture, Washington Academy, Washington, Iowa, and Phoenix Union High School, Phoenix, Ariz.; graduate student Cumnock School of Expression, Los Angeles.

489 N. Marengo Ave.

GRACE BREWSTER

Instructor in Primary School Subjects

A. B., University of Kansas, 1896; A. M., Cornell University, 1899; student at Sorbonne, Paris and College de France, Paris and Berlin, 1900-1; Instructor in French and German, Hiawatha High School, Hiawatha, Kas., 1896-7; Head of German Department, Helena High School, Helena, Mont., 1902-3.

716 Hull St.

SARAH McRAE

Assistant in Cooking

Graduate Elementary Course, New Whatcom Normal, Bellingham, Washington, 1900; teacher Everett, Washington, Public School, 1900-5; graduated Domestic Science Course, Throop Polytechnic Institute, 1907.

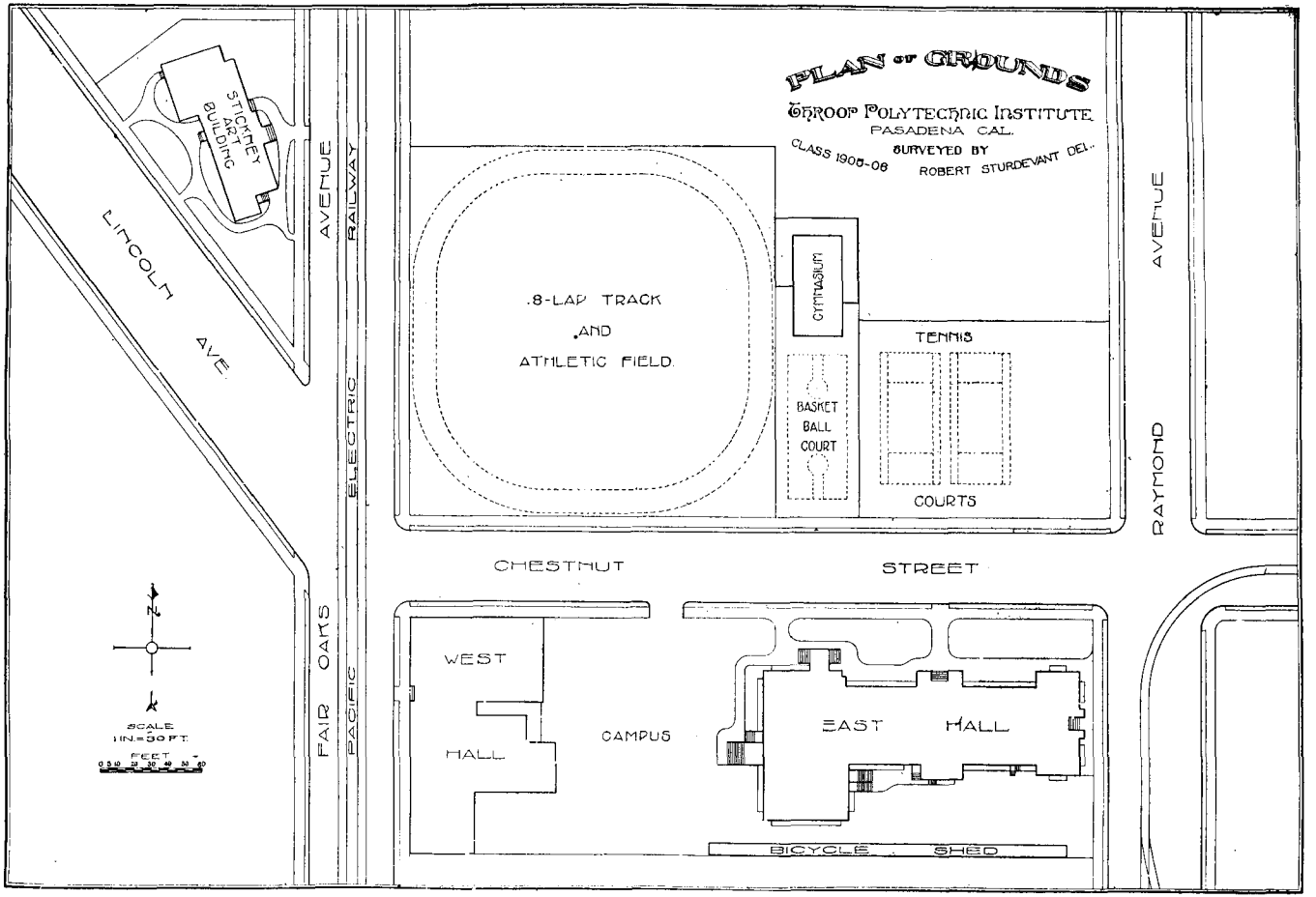
28 W. California St.

ELIZABETH GROENENDYKE

Assistant in Drawing

Graduated State Normal School, Los Angeles, 1902; teacher Toluca Public School, 1902-3; teacher Pasadena Public Schools, 1903-6.

70 S. Madison Ave.



PLOT OF GROUNDS BY STUDENT.

GENERAL INFORMATION

HISTORICAL

Throop Polytechnic Institute was founded by Hon. Amos G. Throop in 1891, and during the remainder of his life received his consecrated energy and hearty support, and at his death the greater part of the remaining accumulations of his life were bequeathed for its maintenance. Articles of incorporation were filed September 23d; the first Board of Trustees was organized October 2d. The doors of the Institute were opened to students November 2d. It was established to furnish the students of both sexes and of all religious opinions a liberal and practical education, which, while thoroughly Christian, should be absolutely non-sectarian in character. A clause of the charter provides that a majority of the Board of Trustees "shall not belong to any one religious denomination or sect, and the institution shall be maintained and administered as an undenominational and non-sectarian school."

Polytechnic Hall, containing shops and laboratories, was built in 1892; East Hall, containing offices, recitation rooms, laboratories, etc., was built in 1893. In 1900 a commercial school was added in response to a large demand, and in order to accommodate this school and to relieve the crowded condition of the other schools it became necessary to build another wing to East Hall. In 1904 further enlargement became necessary, and a two-story brick addition was made to Polytechnic Hall, while all the shops were overhauled and extensive improvements made. These changes were made possible by the generous action of citizens in subscribing a fund of about $1200 for the work. A little later a complete equipment of lockers was put in East Hall.

GYMNASIUM

An out-door gymnasium, the gift of John S. Cravens, with a fine equipment of apparatus, was added in the autumn of 1904.

STICKNEY MEMORIAL BUILDING

August 2, 1904, Miss Susan H. Stickney, of Pasadena, generously donated to Throop Institute the handsome structure at the junction of Fair Oaks and Lincoln Avenues known as the Stickney Memorial Building, with the sole condition that the property be occupied by the art department of the Institute and for no other purpose. The large-hearted gift was accepted with this under-

standing. The building is entirely devoted to the work of the Art Department, and is found to be admirably suited to the requirements of the school.

ELDRIDGE M. FOWLER TRUST FUND

The Eldridge M. Fowler Trust Fund of $50,000 is in the hands of a board of trustees created for the purpose of managing it in such manner that the income only shall be used for the maintenance of the Institute. This board is constituted from the members of the board of trustees of Throop Institute. The donors of the fund are the late Eldridge M. Fowler, Mr. William Morgan, Mrs. Clara B. Burdette, Mr. William Stanton, Dr. Norman Bridge, Mr. H. T. Kendall, Mr. J. S. Torrance, Mr. J. D. Thomson and the F. and W. Thum Company, all of Pasadena, and one other.

OLIVE CLEVELAND FUND

Upon the death of Miss Olive Cleveland, in 1903, an agreement made with her by the Institute became operative. It is to the effect that the income from a piece of property devised by her to this Corporation, and worth $20,000, shall be used in perpetuity to aid needy boys and girls in obtaining an education at Throop Institute. The particulars relating to this generous bequest may be learned upon application at the business office of the Institute.

JOHN WADSWORTH PROFESSORSHIP FUND

Mr. John Wadsworth, one of the oldest members of the Board of Trustees in point of service, gave to the Institute several years ago income-producing property now worth about $30,000, thus founding the John Wadsworth Professorship of Mathematics.

LOCATION

Pasadena is generally acknowledged to be one of the most beautiful residence cities in California. It is situated within ten miles of the city of Los Angeles, at the head of the San Gabriel Valley and at the base of the picturesque San Gabriel Mountains. In beauty and healthfulness, in the culture of its homes, and in its high social and moral tone, Pasadena has no superior on the Pacific Coast. It is reached by the Santa Fe, the Salt Lake, the Southern Pacific and the Pacific Electric railways. Students living along these lines are enabled to make the daily trips to and from the Institute in seasonable hours and at reasonable rates.

SCHOOLS

The Institute comprises five schools: the College, the Normal School, the Academy, the Commercial School and the Elementary School.

LIBRARIES

The books belonging to the Institute are located with reference to convenience of students, special libraries being placed in the various department rooms. A general assortment is found in the main library room, in East Hall. The library also receives regularly several periodicals, selected with special reference to the work of students.

The Pasadena Public Library, to which students have access, is situated near the Institute.

ACCREDITING

The State University and the Leland Stanford Jr. University accept the certificates of the Institute and similar privileges are accorded to its graduates by various eastern institutions.

ADMISSION

Applicants for admission to any School of the Institute will be required to furnish satisfactory evidence of good moral character and of honorable dismissal from the schools with which they were last connected. They are also urged to bring such statements from previous teachers concerning studies completed in other schools as will be helpful in determining their classification.

HOURS

The daily exercises begin at 9 o'clock in the morning and continue until 3:55 in the afternoon, with an intermission from 12:10 to 1:00. Chapel exercises occupy the time from 10:30 to 10:40, and all students are expected to attend regularly.

REPORTS

Reports of the progress of each student are sent to parents twice each term, and oftener if advisable because of unsatisfactory work.

DISCIPLINE

It is taken for granted that students enter the Institute with serious purposes and that they will cheerfully conform to such regulations as may be made by the Faculty. The moral tone of the school is exceptionally good, and cases requiring severe discipline seldom occur. Any conduct harmful to the moral standing of the school will render a student liable to dismissal. Parents may at any time be asked to withdraw from the Institute students whose work is unsatisfactory by reason of lack of diligence.

ATHLETICS

Encouragement is given to athletics, and very careful supervision is kept over the various branches. Students entering athletics are required to undergo a thorough medical examination. These examinations are given without charge to the students by the medical examiners of the Institute, Drs. E. B. Hoag and Edith J. Claypole.

Membership in any of the athletic teams is subject to forfeiture for failure in any regular line of school work.

The athletic grounds include a basket-ball court, two tennis courts, a field for baseball and football and an eight-lap running track.

An out-door gymnasium provided with a good equipment of apparatus is now in use.

ORGANIZATIONS

Several literary, debating and musical organizations are maintained by the students of the Institute with the co-operation of the Faculty, and are doing good work. They afford an opportunity for training in debating, essay writing, declamation, extempore speaking, parliamentary practice, etc.

ASSOCIATED STUDENTS

Students of all schools except the Elementary School form an association called the Associated Students. Its objects are to control all matters of general student concern and to deal with such matters of deportment and discipline as the Faculty may delegate to it. A fee of fifty cents per term for the use of the Association is levied upon all students except members of the Elementary School and is payable to the Business Manager of the Institute at the beginning of each term.

PUBLICATIONS

The Institute publishes quarterly the "Throop Institute Bulletin," one number containing the catalogue of the Institute, another the annual reports of its officers, and other miscellaneous information for the benefit of pupils, patrons and the public. Any of these may be obtained free of charge on application at the Secretary's office. "The Polytechnic," a monthly paper devoted to the interests of the Institute, is published by the students.

EXHIBITION DAYS

The last two days of the spring term, including evenings, are devoted to an exhibition of the work of the year in the different departments. Articles made in the shops and studios remain in the charge of the various instructors until the close of the exhibition, when they may be claimed by their respective owners.

SCHOLARSHIPS

Through the generosity of some of the citizens of Pasadena a number of free scholarships have been founded for the benefit of worthy and needy students. The trustees have, in addition to those who are now enjoying these scholarships, a list of worthy applicants, and any person desirous of extending the influence of the school in this way may obtain full information from the Secretary.

PRIZES

A first prize of fifteen dollars, and a second prize of ten dollars, offered by Mr. Fitz E. Beach, are awarded each year to the first and second best in a contest in declamation, held in commencement week, the contestants being selected from the students in the Academy and Commercial School. These prizes were won in 1906 by Arthur Dunning and Lura Cattell.

REGISTRATION

The last days of each vacation and the first day of the new term are set apart for registration of students. A special registration fee of one dollar is charged all who register later than the first day of each term.

TUITION

The tuition fee in the elementary school is $75 a school year, in all other departments $85 a year, payable in advance at the beginning of each term as follows:

	Elementary School.	All Others.
First Term	$30.00	$35.00
Second Term	30.00	35.00
Third Term (for full year students)	15.00	15.00

Students in attendance less than the school year pay as follows: In the elementary school $30, in all other departments $35, for each entire term, and a proportionate share of this amount plus 20 per cent for the fraction of any term, except that no reduction is made in the tuition of any student entering during the first three weeks of any term and no refund or reduction is made in the tuition of any student who may leave school after the middle of the term for which he has paid. No refund of tuition is made to any student who may be suspended or expelled.

Those taking but one period of study per day, pay $12.50 per term in the elementary school, $14 in all other departments; those taking but two periods per day are charged double these rates. The full tuition is paid by those taking more than two periods per day.

ASSOCIATED STUDENTS FEE

A fee of fifty cents per term is levied by the Associated Students and is payable to the Business Manager of the Institute at the beginning of each term.

SHOP AND LABORATORY FEES

Fees are required in the following work, payable at beginning of each term:

Biology	$1.00
Chemistry	5.00
Clay Modeling	1.25
Cooking, Academy	6.00
Cooking, Elementary School	3.50
Cooking, Normal	6.00
Electrical Engineering	1.25
Forging	4.00
Free-hand Drawing, Painting and Design	.50
Handicraft	.50
Manual Arts, Elementary Grades	1.50
Manual Arts, Normal	3.00
Pattern and Machine Shop	2.50
Physics	1.00
Sewing or Dressmaking, either or both	.50
Typewriter, Use of	1.00
Wood Carving, (1st year, 1st term)	.50
Wood Shop	1.50

In wood carving, drawing, painting, sewing and dressmaking, students will furnish their own materials, and in all other work where extra large or unusually costly articles are desired, the material for the same will be paid for by the student.

Breakage and damage done to buildings, books, furniture equipment, etc., or any tools lost, will be charged to the student responsible for the same.

LOCKER FEES

The Institute is provided with individual lockers for the safe keeping of books and other personal property, the use of which is compulsory for all students except those of the Elementary School. Gymnasium lockers are also in place. Locker fees are 40 cents per term, with 25 cents additional as a deposit for key, the latter to be repaid upon return of the key. Two pupils may use the same locker at 60 cents per term and 25 cents deposit for each key.

Term bills are payable strictly in advance, and students must submit the Secretary's receipt for the same to each instructor whose classes they may seek to enter.

DIPLOMA FEES

College	$5.00
Normal School	1.25
Commercial School	1.25
Academy	1.25

BOARDING HALL FOR BOYS

The Institute maintains a Boarding Hall for a limited number of boys and young men, where comfortable rooms, excellent table board and the careful supervision of a member of the Faculty living in the house, insure a good home for the occupants. The cost of these accommodations, including also all charges for tuition and fees except the fee levied by the Associated Students, ranges from $375 to $425 per school year, according to room chosen.

Two-fifths of the yearly rate is payable at the beginning of the first and the second term, one-fifth at the beginning of the third term. No reduction is made for absences from the hall of less than twelve consecutive days. Students remaining in the Hall during the Christmas vacation pay extra board at the rate of $8 per week.

BOARD

Good board elsewhere can be obtained at from $6 to $7 per week. Any change in boarding place must be immediately reported at the office.

The Institute does not maintain a boarding hall for girls, but during the past year a limited number of girls have found a pleasant home less than a block away with one of the teachers of the Institute. They have had careful supervision and the expenses are about the same as at the boys' boarding hall.

LUNCH ROOM

A conveniently arranged lunch room in the basement of East Hall is open daily for the accommodation of teachers and pupils, where well-cooked and wholesome dishes are served at noon at nearly cost prices. The benefit to health of providing pupils with hot and nourishing food is obvious.

TEXT-BOOKS

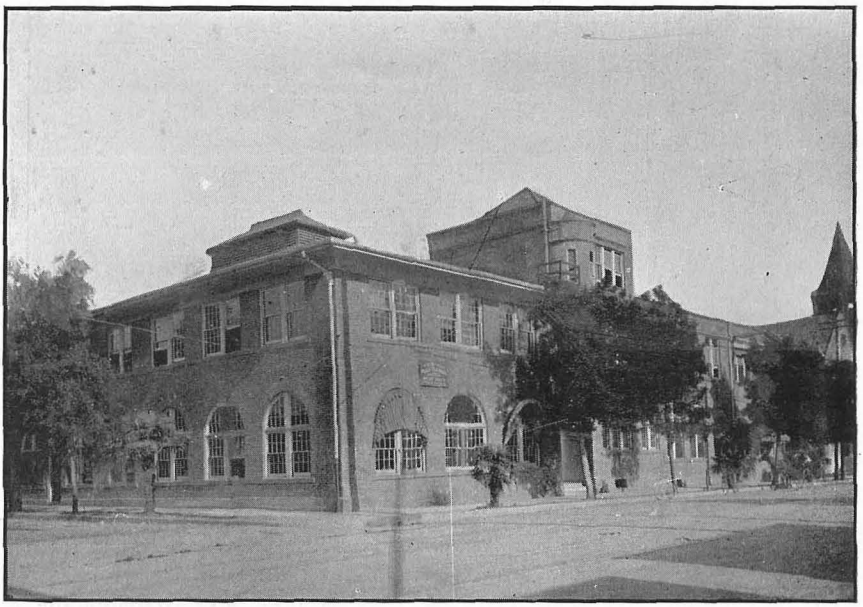
The text-books used in the classes of the Institute may be purchased at the Institute book store, on the second floor of East Hall, at less than the usual retail prices.

EVENING SCHOOL

During the fall and winter months evening classes are conducted, meeting Monday, Wednesday and Friday evenings. The

subjects taught include bookkeeping, stenography, arithmetic, typewriting, penmanship, English, mechanical and free-hand drawing, and other subjects as called for. The charge for tuition in the Evening School is five dollars for twelve lessons.

BUILDINGS



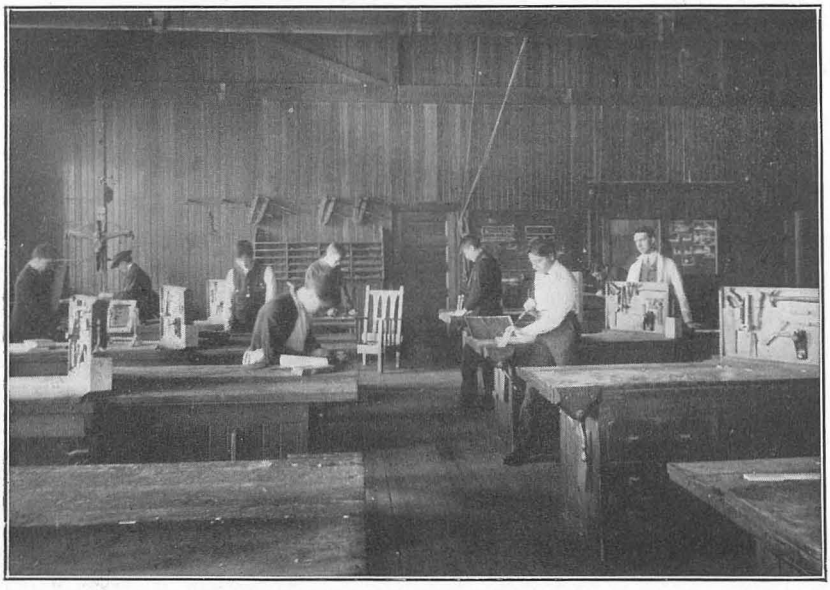
POLYTECHNIC HALL.

POLYTECHNIC HALL

Polytechnic Hall is a two-story brick building with a frontage of 140 feet on Fair Oaks Avenue and 80 feet on Chestnut street. Recently a complete overhauling and re-equipment of the shops and laboratories has been accomplished, and a new wing has been added to the building.

WOOD SHOP

The wood shop, located on the second floor, has recently been refitted and enlarged, and now contains twenty-nine benches with corresponding tool and locker equipment. A power jig-saw and grindstones are also in this room.



WOOD SHOP.

PATTERN SHOP

The pattern shop is equipped with fifteen benches with tools and lockers, together with an outfit of moulder's tools, flasks, etc., so that patterns may be tested in the sand.

LATHE ROOM

Adjoining both wood shop and pattern shop, and available for the use of either, is the lathe room with an equipment of thirty wood-turning lathes, also one large pattern-maker's lathe with double end head-stock.

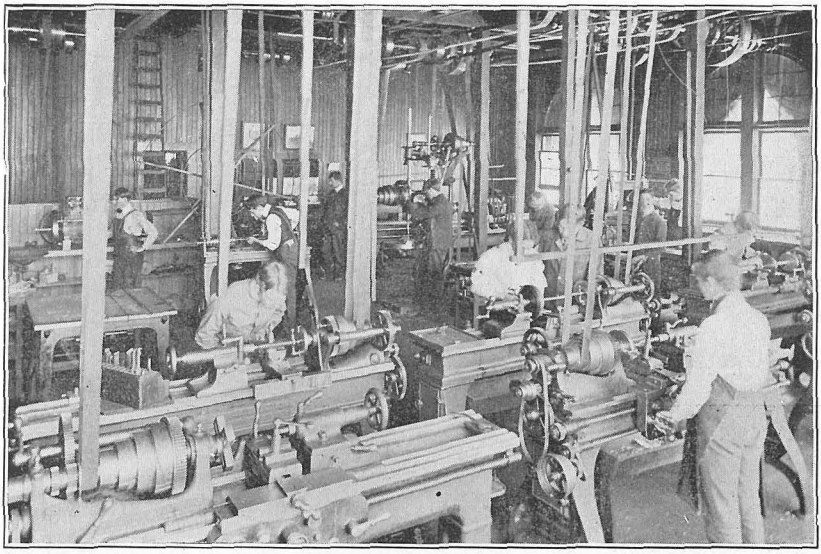
MACHINE SHOP

The machine shop is located in a large room on the first floor. The equipment for all classes of machine shop practice is ample, and of a high grade. The machines are, without exception, of the best and most substantial type, and include a planer, shaper, milling machine, drill presses, saw, fourteen lathes of various sizes, grinders, etc.

A twenty-horse power electric motor, furnishing power for the different shops, is located in this department.

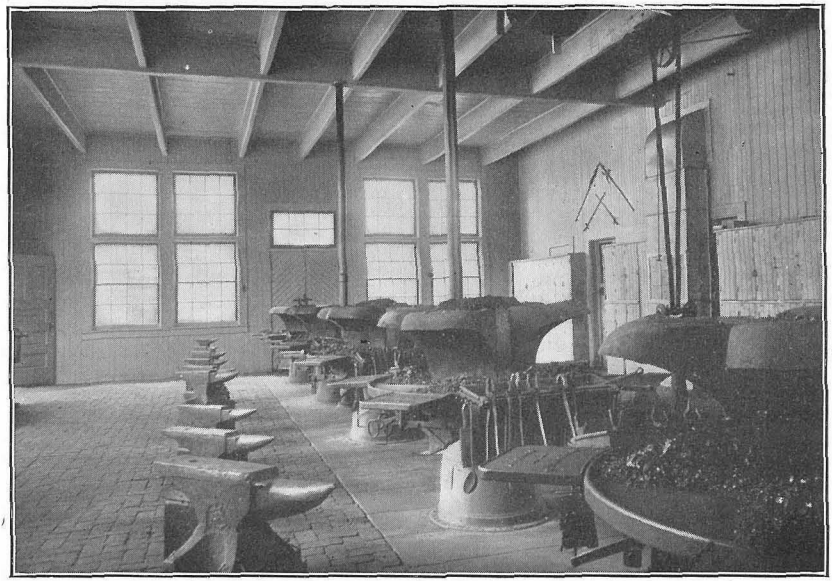
FORGING SHOP

The forging shop is equipped for twenty-one students. A complete re-equipment, with down draft forges, makes this shop remark-



MACHINE SHOP.

ably light and attractive. Five sets of Buffalo quadruple forges, with down draft hoods, one single forge with natural overhead draft together with anvils, drill presses, emery grinder and the usual outfit of small tools, comprise the equipment of this department.



FORGING SHOP.

TOOL ROOM

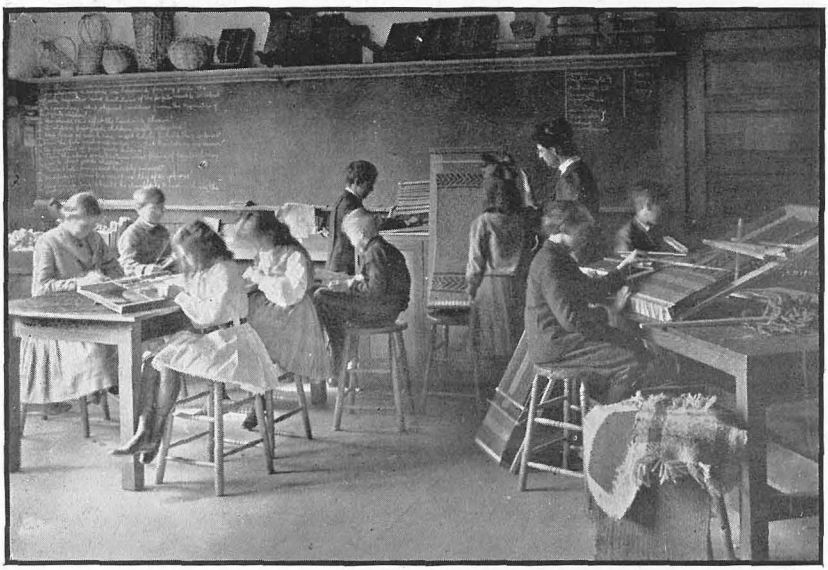
A stock and tool room adjacent to all shops, contains the small tools and supplies needed in the various departments. An attendant is constantly in charge.

MANUAL ARTS—ELEMENTARY GRADES

This department is accommodated in two rooms on the second floor of the new wing of Polytechnic Hall. One room has equipment for elementary work in cardboard, basketry, bookbinding, etc., while a larger room with locker room adjacent has an equipment of benches, tools, etc., suitable for work in wood.

MANUAL ARTS ROOM—NORMAL SCHOOL

The room used for normal sloyd and manual training work is



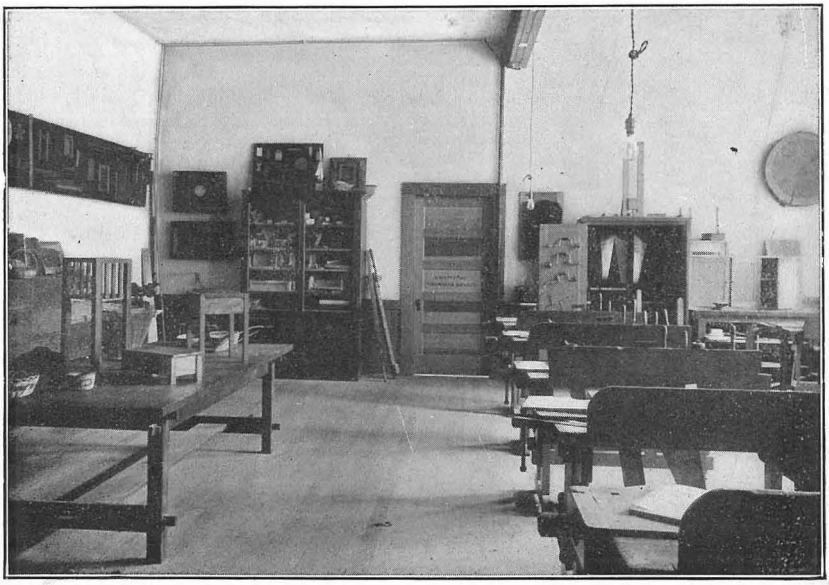
CLASS IN MANUAL ARTS—ELEMENTARY GRADES.

fitted with all necessary tools and equipment. Models, exercises and drawings of English, Swedish and German courses, and from American schools, as well, are supplied for comparative study.

The library of the department includes the best works on psychology, education and manual training subjects.

WOOD CARVING ROOM

The wood carving room is a well lighted room on the third floor and is furnished with tools, benches and lockers for the use of the students, and cases for the exhibition of work.



MANUAL ARTS ROOM—NORMAL SCHOOL.

A good selection of charts and casts of historic ornament is available in this and other art rooms of the Institute.

MECHANICAL AND ARCHITECTURAL DRAWING DEPARTMENT

This department occupies a suite of three rooms on the second floor of the south wing. A main drawing room with ample lighting arrangements, contains tables for twenty students, with lockers for each student's tools and materials. Adjoining is a drawing room for advanced classes, with like equipment, and a lecture or library room containing the mechanical library, models, drawings and casts, for use of students. Arrangements for blue printing are found in the advanced drawing room.

DEPARTMENT OF DOMESTIC ART

This department occupies two well-lighted rooms on the first floor, equipped with large tables, sewing machines, electric iron and pressing-boards, dress forms and tables containing drawers for the individual use of the students.

DEPARTMENT OF DOMESTIC SCIENCE

The cooking rooms are located on the first floor and are supplied with tables upon which are gas stoves. The drawers contain cooking utensils, mixing and measuring dishes, stirring-spoons, kitchen knives and forks, etc., while in cupboards beneath is a full assortment

SEWING ROOM.

COOKING ROOM.

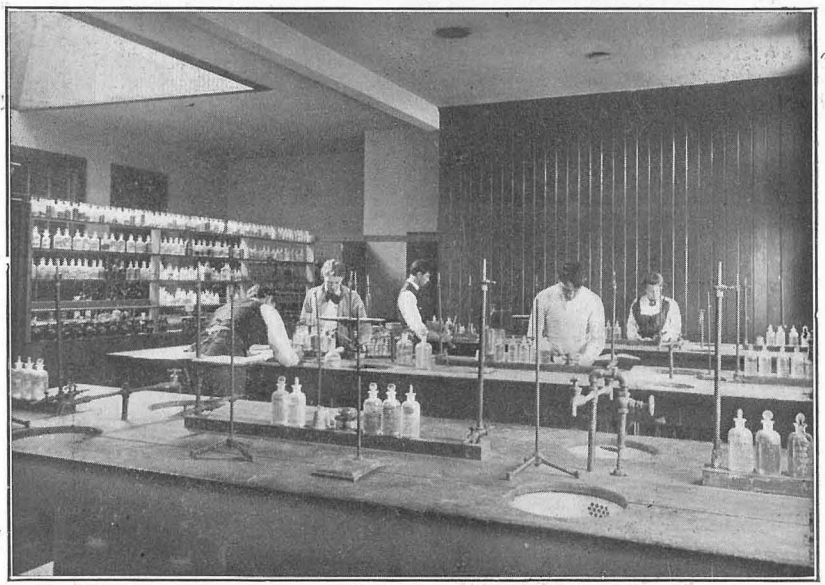
of stove and kitchen furnishings. Large dust-proof cupboards containing meal and flour bins, dish closets, etc., large water-heaters, gas ranges, refrigerators, and cupboards for furnishings are also provided.

The department also occupies an adjacent room both for lectures and recitations, and also for the luncheons and dinners which individual students are required to serve from time to time as evidence of their proficiency.

CHEMICAL LABORATORIES

The laboratory for general chemistry, 19x27, is found on the second floor of Polytechnic Hall. It is furnished with benches and lockers for 48 students and supplied with apparatus and chemicals for thorough work in experimental chemistry.

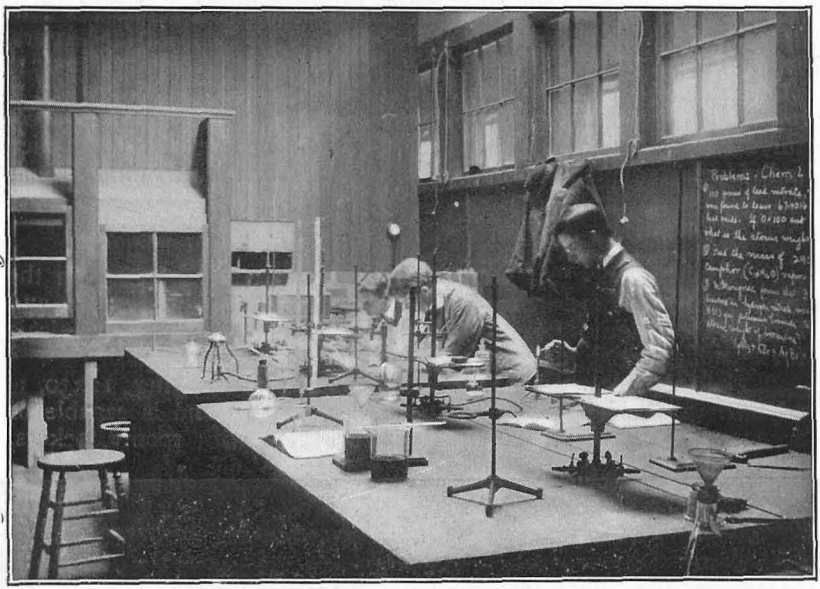
The laboratory of analytical chemistry and assaying, 12x30, is adjacent to the laboratory for general chemistry and is capable of accommodating 10 students. It is furnished with roomy lockers,



LABORATORY OF GENERAL CHEMISTRY.

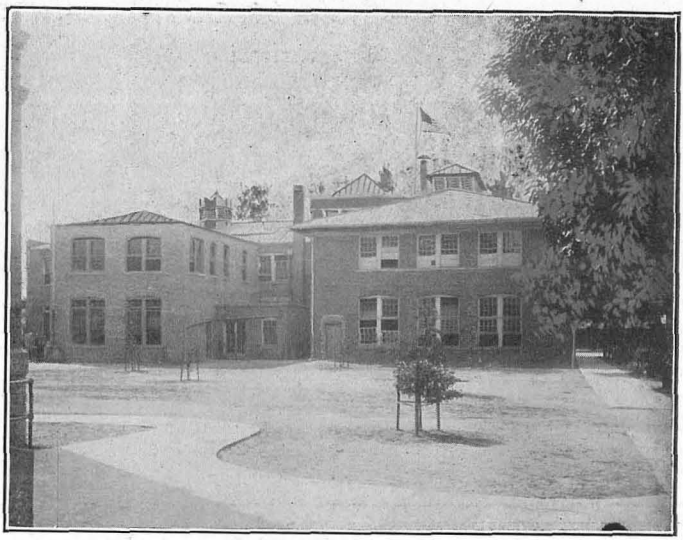
and a full supply of apparatus, chemicals, balances, furnaces, etc., for rapid and accurate work in chemical analysis and assaying.

The library of the department is kept in a room next to the laboratories, and contains about 85 valuable reference books, the number of which is being constantly increased. The Journal of the Society of Chemical Industry is regularly received by the department.

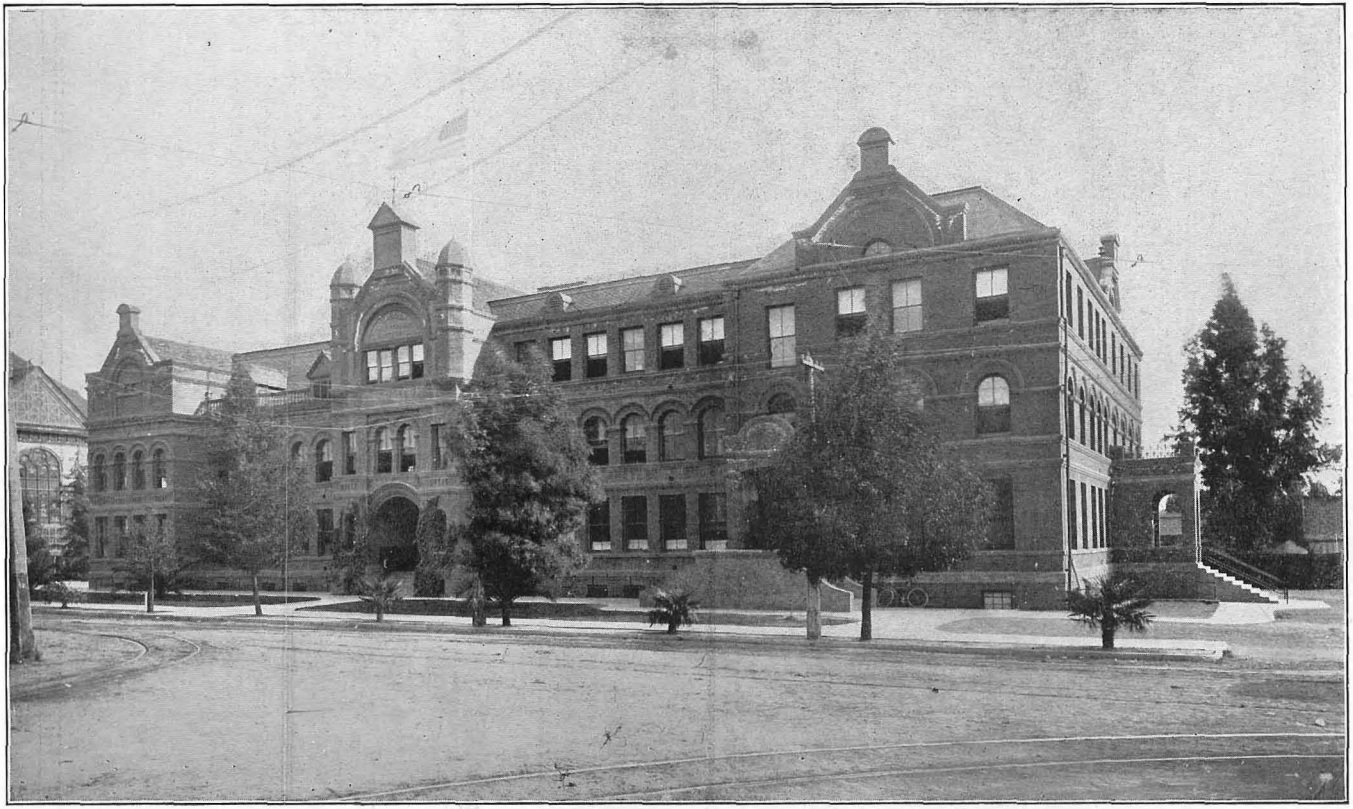


ANALYTICAL LABORATORY.

The library room contains a large working collection of minerals, furnishing much valuable material for the students in chemistry, mineralogy and assaying.



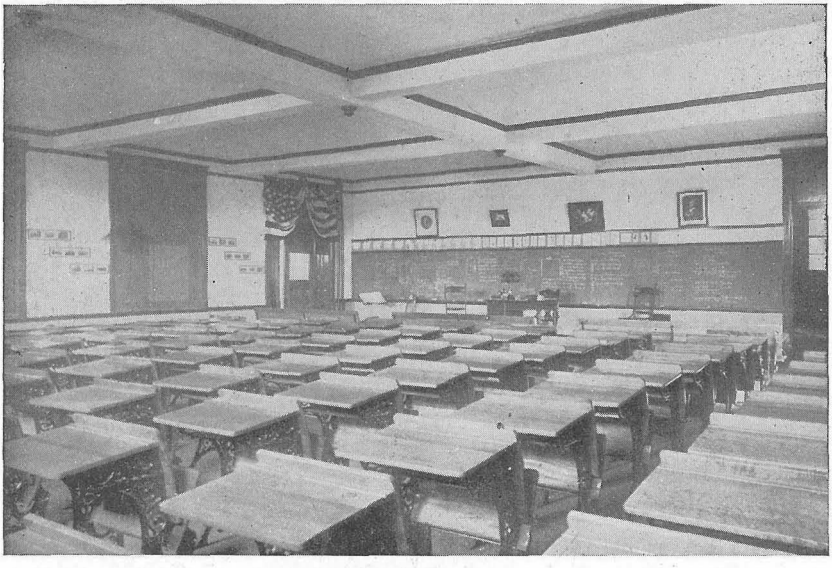
POLYTECHNIC HALL



EAST HALL.

EAST HALL

East Hall is a large three-story brick building on Chestnut street and Raymond avenue. In addition to the rooms described below, it contains a reception room, the offices of President, Business



ELEMENTARY SCHOOL.

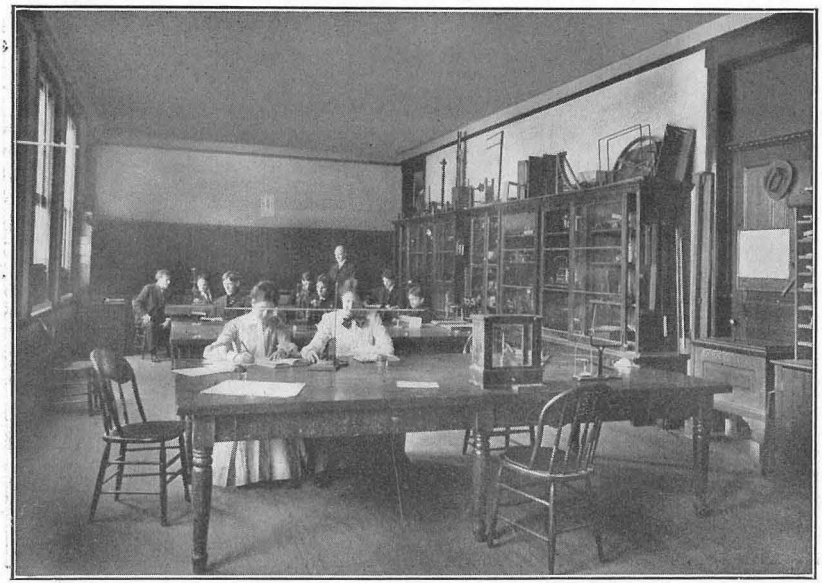
Manager and Dean, the general library, a large assembly room, various recitation rooms, etc.

ELEMENTARY SCHOOL

The entire lower floor of the west wing of East Hall is devoted to the Elementary School. On the south is a large, well-lighted assembly hall with a seating capacity of about one hundred; it connects with two recitation rooms on the north and with another on the east. All rooms are seated with desks and fully equipped with all necessary appointments. The pupils of this School are provided with cloak and lunch rooms in the well-lighted basement.

ELEMENTARY SCHOOL DRAWING ROOM

A large, well lighted room with equipment of lockers and drawing tables, in charge of a special teacher, is devoted to the Art work of the Elementary grades.



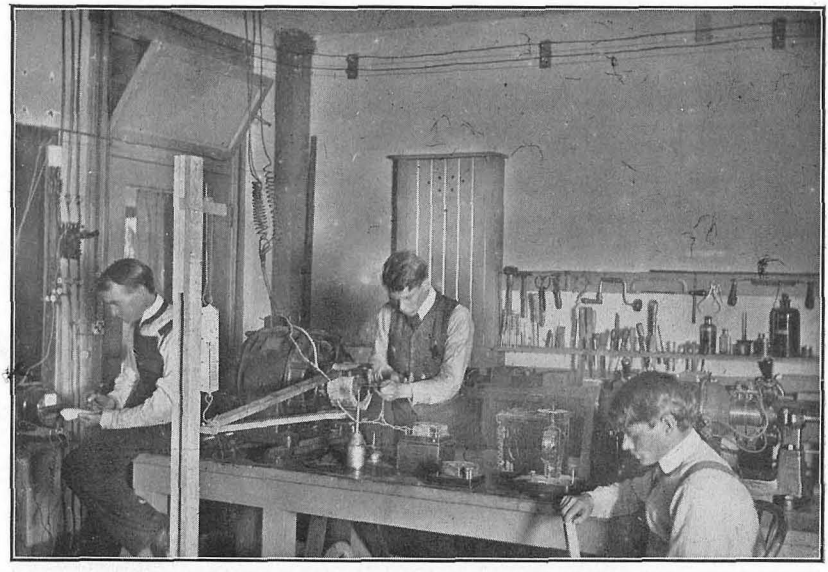
PHYSICAL LABORATORY.

PHYSICAL AND ELECTRICAL ENGINEERING LABORATORIES

The Physical Laboratory is a large, well-lighted room, fitted with gas and water pipes, electric wires, tables, lockers, cases, etc. This room is used for the elementary work in physics.

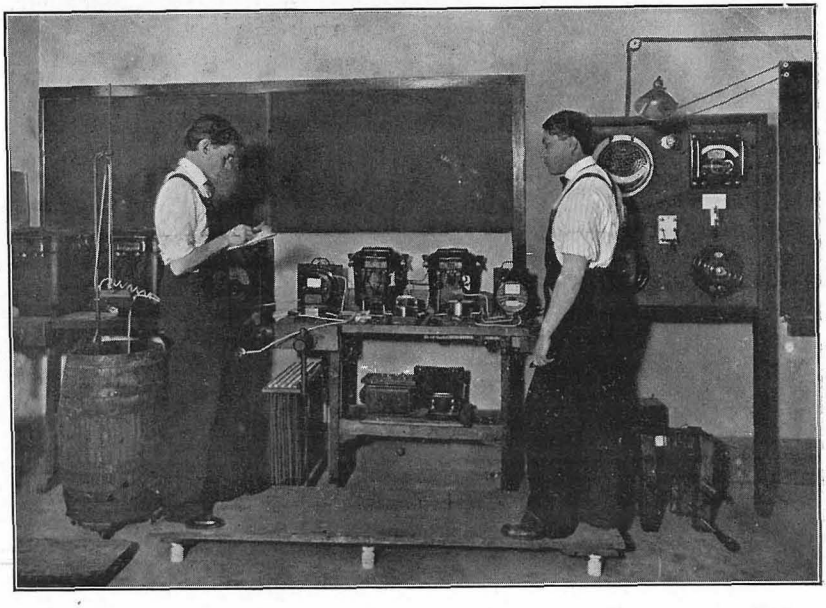
The Electrical Engineering Laboratory is a large room with cement floor, heavy piers of brick and cement, work-benches and cases. It is piped for gas and water and is wired for electric light and power. Here are found the facilities for precise work in advanced physics and electricity, in the solid foundations and freedom from outside disturbances.

In addition to much other apparatus in the two laboratories may be mentioned the following: Becker balance, micrometer calipers, aneroid and mercurial barometers, spectroscope, revolving mirror, compound microscope, Deprez-D'Arsonval mirror galvanometer with three coils of different resistances, Thompson tripod galvanometer, universal tangent galvanometer, scales and telescopes, resistance boxes, Queen portable testing set, quadrant electrometer, one-third microfarad condenser, adjustable condenser for alternating current work reading up to five microfarads, standard cells, slide-meter bridges, large induction coil, X-ray tube, Prony brakes, cradle dynamometer, steam engine indicator, Amsler planimeter, speed indicator, direct and alternating current voltmeters and ammeters, Siemens electro-dynamometers, wattmeters, direct and alternating current dynamos and motors including an experimental dynamo fitted



STUDENTS TESTING INDUCTION MOTOR IN ELECTRICAL ENGINEERING LABORATORY.

with commutator and collecting rings so that it may be used as a generator of direct and alternating currents as well as a synchronous



STUDENTS TESTING TRANSFORMERS IN ELECTRICAL ENGINEER'S LABORATORY

motor and a rotary converter, auto-transformer adjustable for various voltages, switch board, storage cells, Bunsen and Joly photometers, arc, incandescent and Nernst lamps. A large dark room for use in photometry adjoins the Electrical Engineering Laboratory.

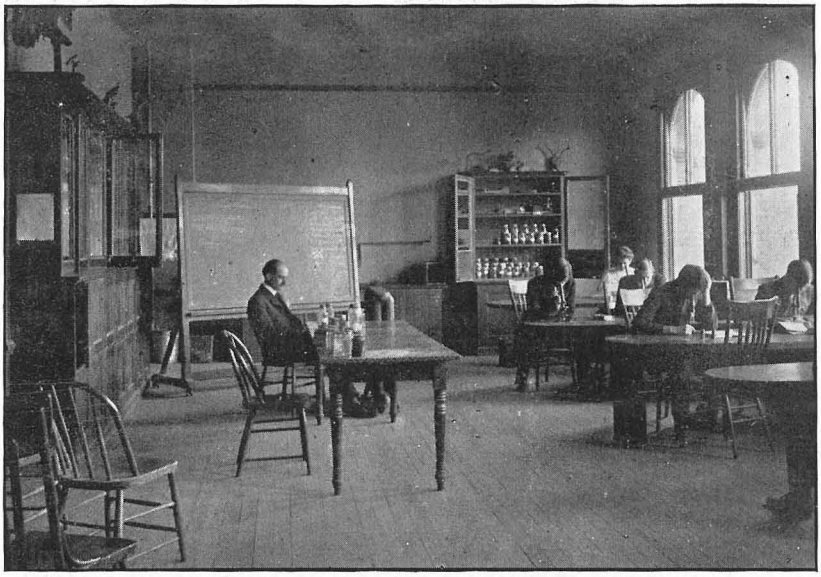
The library of this department is situated in the Physical Laboratory. Some of the leading periodicals are kept on file and frequent additions are made of the latest works on physics and electrical engineering.

COMMERCIAL SCHOOL

The Commercial School occupies the entire second floor of the west wing of East Hall, and contains all the furnishings, fittings and offices, including a bank, required by the best business and stenographic colleges.

BIOLOGICAL LABORATORY

The Biological Laboratory occupies two rooms on the second floor of East Hall, on the north side of the building. The seven large windows supply an abundance of the diffuse north light most



BIOLOGICAL LABORATORY.

favorable for microscopic work. Six flat-iron-shaped black-topped tables, with their narrow ends farthest from the windows, permit of several students working at one table without light interference.

There are lockers for each individual, re-agent shelves and gas-burners for each table, and a plentiful supply of petri-dishes,

flasks, test-tube racks, and the various other utensils used in the different lines of work. Sixteen compound microscopes, twenty dissecting microscopes, a microtome, camera lucida, steam and dry sterilizing ovens, two incubators, and five glass aquaria, contribute to an equipment such as is required in the higher grades of work.

The Department library contains an unusually large selection of reference books in all lines, and these are constantly added to by the Institute as new volumes appear. Twenty of the leading scientific journals are received regularly so that the ambitious college student may keep abreast of the times in whatever line he is working.

Very large collections of birds, mammals, reptiles, and plants are available for the use of students interested in those subjects. What is, perhaps, most to be appreciated is the wonderful variety of animal and plant life to be found in the immediate neighborhood of Pasadena. This affords material of every description ready to be drawn upon by the student at any season.

SOCIETY HALL

The various literary and art clubs of the Institute share in the use of a large hall on the third floor. This hall is attractively furnished with substantial and artistic furniture designed and built by members of the Gnome Club.

STICKNEY MEMORIAL BUILDING

The Stickney Memorial Building is devoted to the work of the Art Department. This ivy covered structure with its attractive garden and beautiful interior forms a fitting environment for the Art work.

FREE-HAND DRAWING, PAINTING AND DESIGNING ROOMS

Two large rooms on the lower floor are used by the classes in drawing and painting, and are well provided with all necessary equipment for this work as well as other appliances for lectures, recitals, etc., namely: lecture platform, screen for lantern slides, piano, curtains, rooms for costumes. A pantry and kitchen, with all facilities for social functions are at the disposal of the students.

CLAY MODELING ROOMS

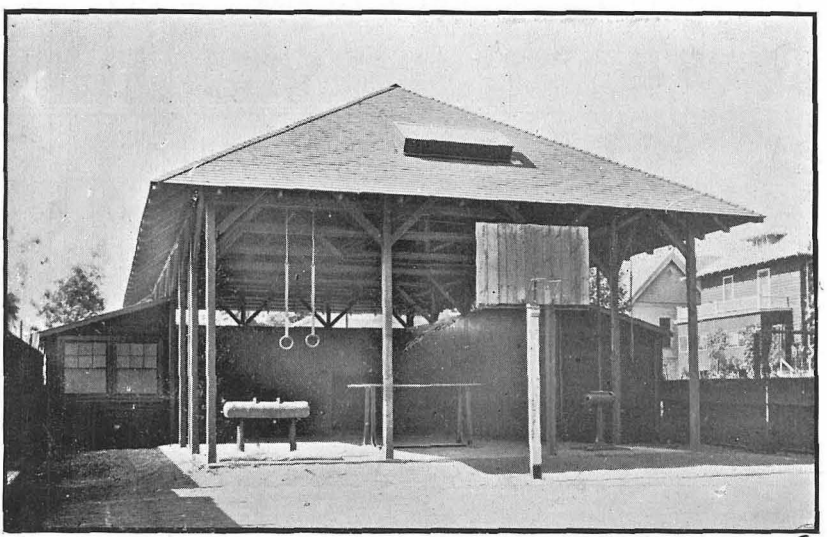
The various rooms on the second floor are occupied by the classes in clay modeling. These rooms contain numerous plaster casts, models, lockers, vats for clay, and revolving stands used in working from the living model.

PEN AND INK SKETCH OF STICKNEY MEMORIAL BUILDING BY FOURTH YEAR ACADEMY STUDENT.

GYMNASIUM

The gymnasium stands on the north side of Chestnut street, opposite East Hall, and is fitted up with such apparatus as dumb-bells, Indian clubs, wands, horizontal and vaulting bars, parallel bars, horse, buck, spring board, mattresses, traveling rings, Roman rings, climbing ropes and ladders, suitable for both light and heavy gymnastics.

In the east wing are the girls' quarters. Each girl has a private dressing room and shower bath, and the construction and equipment



GYMNASIUM.

are in every respect modern. On the boys' side are rubbing tables, shower baths, dressing rooms, etc., and in both wings are lockers of the best manufacture.

THROOP HALL

Throop Hall, where from forty to fifty boys and young men are afforded a comfortable home, is located at 289 North Los Robles avenue, which is within ten minutes' walk of the Institute. The property is owned by the Institute and comprises a main building of about thirty-five rooms and two adjoining cottages, situated in the midst of shrubbery and flowers on a tract of about

THROOP HALL.

one and a third acres. A tennis court and a play ground are included in the conveniences for the pupils living at the house. A billiard room, a grand piano, plenty of books, etc., add to the attractiveness of the hall.

A hospital separated from the main building is provided for cases of severe illness.

SCHOOLS

COLLEGE

REQUIREMENTS FOR ADMISSION

The requirements for admission to the college are as follows: (1) The completion of one of the Academy courses outlined on page 51; or (2) the completion of a course in an accredited high school or an approved preparatory school; or (3) passing an examination upon English 1, 2 and 3 and Mathematics 1 and 3 and any ten of the following subjects, as outlined on pages 52 to 58. Physical Geography, Botany, Zoology, Physics 1, Chemistry

1, Latin 1, Latin 2, Latin 3, Latin 4, German 1, German 2, French 1, French 2, History 1, History 2, History 4 and 5, Mathematics 2 and 4. Any applicant offering Latin, French, or German, must present at least two years of each.

COURSES OF STUDY IN THE COLLEGE

The following tables show the work required of students for the degree of B. S. in each department. To the subjects named below must be added elective work to make a total equivalent of 32 General credits. Three Manual credits are taken as the equivalent of 2 General credits and not more than 12 Manual credits may be offered toward graduation. The credits, General and Manual, earned by each subject are indicated in the tabulated statement on page 80.

Although courses in Mechanical, Civil and Mining Engineering are not outlined below, considerable work is given in these branches of engineering and their collateral subjects. It is also the purpose of the Institute to extend the work along these lines as demand for it arises.

Arabic numerals below refer to the subjects described on pages 35 to 41, and 52 to 58.

The Institute reserves the right not to organize classes in any given subject unless at least eight students elect said subject.

Students in Engineering who are graduates of high schools where manual training is not taught may complete required work in wood shop and forging in one year of ten periods per week.

	CHEMISTRY	ELECTRICAL ENGINEERING	BIOLOGY
FIRST YEAR	Chemistry 1 English 5 Mathematics 5, 6 French 1, or German 1	Physics 2 Mathematics 2, 4, 5 English 5 Drawing Shop-work 1, 2	Vertebrate Anatomy and Physiology Physics 1, or Chem. 1 French 1, or German 1 English 5
SECOND YEAR	Chemistry 2, 3 Physics 2 Mathematics 8 French 2, or German 2	Electrical Engineering 1, 2 Mathematics 8 Chemistry 2, 3 Drawing—Mechanical Shop-work 3, 4	Vertebrate Embryology Chemistry 2, 3 French 2, or German 2
THIRD YEAR	Chemistry 4, 5, 6, 7 Mathematics 9 Mineralogy	Electrical Engineering 3 Steam Engineering 1 Mathematics 9 Drawing—Mechanical	Systematic Vertebrates Entomology Mineralogy
FOURTH YEAR	Chemistry 8, 9, 10	Electrical Engineering 4, 5 Mathematics 13	Geology Ecology Ornithology Bacteriology

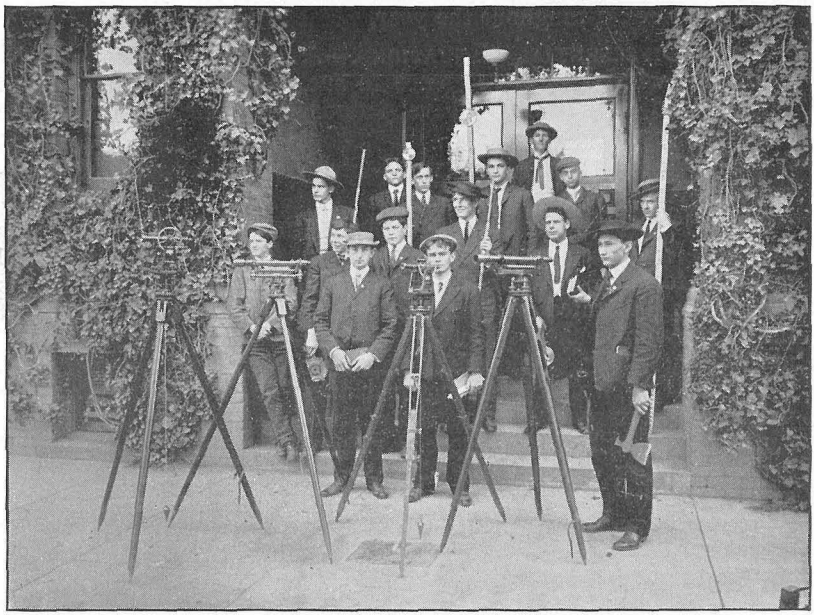
SUBJECTS AND METHODS OF INSTRUCTION

MATHEMATICS

In all the courses given below, stress will be laid on such parts of mathematics as are of special help in scientific work.

6. SURVEYING.—(a) PLANE SURVEYING. Surveying with chain alone; with compass and chain; leveling with "Y" level; making profiles of elevations and grades. Adjustment of transit and level. Plotting the field work, also field work done from plottings.

(b) HIGHER SURVEYING.—Trigonometrical Surveying. Running railroad preliminary lines; setting slope stakes; plotting cross-sections; calculating cut and fill, running grade lines for irrigating ditches or roads.



CLASS IN SURVEYING.

(c) FIELD ENGINEERING.—Theory and practice of laying out curves, sidetracks; economic principles of railway location and construction. Henck's and Searle's Field Books are used.

(d) LAND SURVEYING.—Plotting field work, using various methods of representing topography, calculation of areas by latitudes and departures, also by use of the planimeter. Henck's and Searle's Field Books are used.

Ten periods per week throughout the year.

7. HIGHER ALGEBRA.—Determinants, complex quantities (graphic method), inequalities, limits and indeterminate forms, convergency and divergency of series, indeterminate coefficients with applications to integral functions, partial fractions, expansion of functions and summation of series, continued fractions, permutations and combinations, the binomial theorem for any index, exponential and logarithmic series, theory of numbers, theory of equations, including the plotting of entire functions of one letter, Descartes' rule of signs, the solution of higher numerical equations, derived functions, etc. Five periods per week throughout the year.

8. ANALYTIC GEOMETRY.—Analytic Geometry of two dimensions, Analytic Geometry of three dimensions. Five periods per week throughout the year.

9. CALCULUS.—Differential and integral Calculus. Five periods per week throughout the year.

10. DIFFERENTIAL EQUATIONS.—A course in Differential Equations with especial reference to such applications as occur in Physics and Engineering. Five periods per week throughout the year.

12. DESCRIPTIVE GEOMETRY.—Five periods per week throughout the year.

13. THEORETICAL AND APPLIED MECHANICS.—This course is intended for all students in Engineering. Analytical and graphical methods for the study of the statics and dynamics of bodies as practically illustrated in beams of wood and iron under loads, of the stresses in framed structures, of the action and work done by machines, etc., are employed in connection with experimental tests. The study of work-measuring machines, or dynamometers, is a prominent feature of the course. There is also an elementary study of hydraulics, with special reference to both the disposal and disposition of water by drainage systems and its utilization as a source of power. Instruction is given by lectures and classroom work and experimental work in the laboratory. Preparation required: Mathematics 10. Ten periods per week throughout the year.

ENGLISH

5. DEVELOPMENT OF ENGLISH LITERATURE.—Written exercises throughout the course. Stopford A. Brooke's History of English Literature will be made the basis of study, with the reading of the following: Hall's Beowulf, Chaucer's Prologue, Book I, Spenser's Faery Queene, Bacon's Essays, Lodge's Rosalind and As You Like It, Pilgrim's Progress, Milton's Paradise Lost, Books I and II, Dryden's Absalom and Achitophel, Pope's Essay on Man, Goldsmith's She Stoops to Conquer, Swift's Tale of a Tub, Johnson's Rasselas, Sheridan's Rivals. Preparation required: English 4. Five periods per week throughout the year.

LATIN

1, 2, 3, and 4 as outlined on page 55.

GERMAN

1, 2, and 3 as outlined on pages 55 and 56.

FRENCH

1, 2, 3 and 4 as outlined on page 56.

EDUCATION

1, 2, and 3 as outlined on pages 42 and 43.

SOCIO-ECONOMICS

1. ELEMENTARY SOCIO-ECONOMICS.—A study of the characteristic concepts of sociological and economic thought, designed to acquaint the student with the vocabulary of the subject and the current theories of social and economic interpretation. The first part of the course will include a brief discussion of the elements of association underlying social relations and institutions; the result of race, group, and individual competition; the relation between the individual and society; and some of the conditions of social progress. The second part will include a summary of economic history and examination of the meaning and scope of economics, and a discussion of the production, distribution, exchange, and consumption of wealth; the wage question; labor organizations; cooperation and profit-sharing; panics and depressions, and socialism. A text will be used, supplemented by lectures, readings and reports. Open to first year college students, normal students, and such others as, in the judgment of the instructor may be able to do the work satisfactorily. Five periods per week throughout the year.

BIOLOGY

4. VERTEBRATE ANATOMY AND PHYSIOLOGY.—This course demands a detailed study, by dissection, of the anatomy of selected vertebrates, such as the shark, frog, pigeon and cat. Experiments are conducted to ascertain the functions of the various tissues and organs. Preparation required: Course 2, Physics 1. Ten periods per week throughout the year.

5. VERTEBRATE EMBRYOLOGY.—The development of the chick forms the main subject of this course, though some study is devoted to the shark, salamander and mammal. Special attention is paid to histological technique in the preparation of serial sections and surface views of embryos. Preparation required: Course 4, Chemistry 1. Ten periods per week throughout the year.

6. SYSTEMATIC STUDY OF VERTEBRATES.—The principles of classification are discussed and applied; methods of collecting and preserving specimens are tested in the field; and the life habits and means of artificial propagation of such commercially important ani-

mals as fishes are investigated. Preparation required: Course 2. Five periods per week throughout the year.

7. GENERAL ORNITHOLOGY.—The study of birds in its many phases is conducted with a view to its practical as well as scientific bearing. The important relation of birds to agriculture is investigated experimentally. Feather-structure, moult, migration, distribution, classification, habits, and preparation of study skins are treated of in the field, laboratory and lecture-room. Preparation required: Courses 2 and 3. Ten periods per week throughout the year.

8. ECONOMIC ENTOMOLOGY.—This course consists of the laboratory and field study of insects in general, but more especially of those which in California prove so injurious to the farmer and orchardist. Preparation required: Courses 2 and 3. Five peiods per week throughout the year.

9. PLANT AND ANIMAL ECOLOGY.—This is the study of the relation of living things to their surroundings. The effect of temperature and humidity (that is, climate) in determining the distribution of plants and animals is abundantly illustrated on our nearby mountains and plains. The practical bearing of this subject comes in the mapping of crop zones. Preparation required: Courses 1, 2 and 3. Five periods per week throughout the year.

10. BACTERIOLOGY.—A study of available forms of bacteria, their life-histories, disease-producing powers or uses, and their growth characters, including the technique of sterilization, preparation of culture-media and staining. Practical experiments are carried on with local milk and water supplies. Preparation required: Courses 1, 2, 3 and 9, Chemistry 1 and Physics 1. Ten periods per week throughout the year.

CHEMISTRY

1. Course outlined on page 58.

2. QUALITATIVE ANALYSIS.—Preliminary work, analysis of unknowns, including minerals and industrial products. Critical study of processes of analysis. Text-book: A. A. Noyes' Qualitative Chemical Analysis, Treadwell's Qualitative Analysis. Preparation required: Chemistry 1 and Physics 1. Nine periods per week for thirty-six weeks.

3. PRINCIPLES OF GENERAL CHEMISTRY.—A course in general descriptive and physical chemistry with special attention to its connection with chemical analysis. Given in connection with Course 2. Text-book: H. C. Jones' Principles of Inorganic Chemistry. One period per week for thirty-six weeks.

4. INORGANIC PREPARATIONS.—Methods of preparation and purification of organic chemicals, starting with raw materials. Tests

for impurities. Discussion of reactions. Preparation required: Chemistry 2 and 3. Text-book: Thorp's Inorganic Preparations. Six periods per week for twelve weeks.

5. ORGANIC CHEMISTRY.—Recitations on typical members and reactions of the various groups of carbon compounds. Laboratory work upon class reactions. Text-book: Remsen's Organic Chemistry. Preparation required: Chemistry 2, 3. Two periods per week throughout the year. Laboratory work eight periods per week for twenty-four weeks.

6. QUANTITATIVE ANALYSIS I.—Typical determinations in gravimetric and volumetric analysis. Discussion of methods and solution of stoichiometric problems. Text-book: Talbot's Quantitative Analysis. Preparation required: Chemistry 2, 3. Ten periods per week for twenty-four weeks.

7. ASSAYING.—Fire assay for gold, silver and lead. Volumetric assay for copper and silver. Preparation required: Chemistry 5. This course must be accompanied by mineralogy. Ten periods per week for twelve weeks.

8. QUANTITATIVE ANALYSIS II.—Advanced work, comprising analysis of industrial products, minerals, milk, water, foods, air, etc. Preparation required: Chemistry 6. Twenty periods per week for eighteen weeks.

9. INDUSTRIAL CHEMISTRY.—Lectures and readings on important chemical industries, inorganic and organic. Two periods per week for eighteen weeks.

10. HISTORY OF CHEMISTRY, and reading of French and German chemical literature. Preparation required: German 2, Chemistry 2. Two periods per week for eighteen weeks.

11. MINERALOGY.—This course offers a detailed study of the elements of mineral analysis, the first half of the year being devoted to the study of the type forms and the second to a more systematic study of the sub-groups of minerals. The work is largely practical, analysis of unknowns receiving an important place. Text-book: Crosby's Mineralogical Tables. Preparation required: Biology 1, Chemistry 1. Five periods per week throughout the year.

PHYSICS

2. GENERAL ADVANCED PHYSICS.—This course is intended for those who wish to continue their work in physics or pursue the work in electrical engineering. Recitations are accompanied by laboratory work, consisting of a series of physical measurements intended to supplement Physics 1.

General Physics, Hastings and Beach, and a Manual of Experiments in Physics by Ames and Bliss are used as texts. Preparation required: Physics 1 and Chemistry 1. Ten periods per week throughout the year.

ELECTRICAL ENGINEERING

1. ELECTRICITY AND MAGNETISM.—It is the purpose of this course to give a thorough grounding in the principles of electricity and magnetism to serve as a foundation for the following courses in electrical engineering. Instruction is given by study of the text with references to books in the library and by work in the laboratory comprising chiefly such experiments as determination of horizontal component of the earth's magnetism and galvanometer constants; measurement of resistance, current, electromotive force, capacity, self and mutual induction; study of the magnetic qualities of iron. Text-book: Electricity and Magnetism, Jackson. Preparation required: Physics 2. Ten periods per week first half year.

2. DIRECT CURRENTS.—Direct current generators and motors including theory, practical operation and tests; storage batteries; photometry; distribution and wiring; measuring instruments. Numerous problems are worked and considerable time is devoted to laboratory work. Text books: Elements of Electrical Engineering, Franklin and Esty. Testing of Electromagnetic Machinery and other Apparatus, Frankenfield and Swenson. Preparation required: Electrical Engineering 1. Ten periods per week second half year.

3. ALTERNATING CURRENTS.—Study of alternating currents by analytical and graphical methods accompanied by work in the laboratory. Among the subjects taken up are: measuring instruments; inductance and capacity; harmonic electromotive force and harmonic current; problems of the inductive circuit, resonance; problems of coils in series and in parallel; the use of complex quantity; single and polyphase alternators; single and polyphase systems; theory of the transformer, synchronous motor, induction motor, rotary converter and transmission lines. Numerous problems are worked and the theory is accompanied by much illustrative experimental work in the laboratory. Text-books: Alternating Currents, Franklin and Williamson. Preparation required: Electrical Engineering 2. Five periods recitation and ten periods laboratory work throughout the year.

4. ELECTRICAL DESIGN.—The theory and calculation of electromagnets are first reviewed and a brief study is made of the principles and types of dynamo electric machinery. As soon as may be some particular type of dynamo is selected to be designed and its design is carried along with the development of the various principles and formulas thus bringing about their immediate application. The design of a transformer is followed through in the same way. Preparation required: Electrical Engineering 3. Ten periods per week first half year.

5. ELECTRIC TRANSMISSION AND DISTRIBUTION OF POWER.—Consideration of steam engines, gas engines and water wheels for

power generating purposes; general conditions and principles of power transmission; transmission by direct and alternating currents; line and line construction; problems of distribution. In this course the usual methods of instruction are supplemented by visits to the various electrical plants in the vicinity and by talks from men engaged in commercial electrical work. Preparation required: Electrical Engineering 4. Ten periods per week last half year.

STEAM ENGINEERING

1. ELEMENTARY STEAM ENGINEERING.—This course deals with the principles governing the action of engines, chiefly the simple and compound steam engine but also air, gas and oil engines. A study is also made of the properties of gases and vapors with especial reference to the bearing of theory on practical results. The class makes a study of engines in actual operation in various manufacturing plants, and assists in designing and constructing various styles of engines in the Institute Pattern and Machine Shops. The text-book used is the Steam Engine and other Heat Engines, by J. A. Ewing. Five periods per week throughout the year.

NORMAL SCHOOL

REQUIREMENTS FOR ADMISSION

Admission to the Normal School can be gained by persons holding teachers' certificates, by graduates of High or Normal Schools or Colleges, and by others giving satisfactory evidence of attainments necessary to secure a teacher's certificate in this State.

COURSES OF STUDY IN THE NORMAL SCHOOL

Four courses are offered in the Normal School as follows: 1. Manual Training for Elementary Schools; 2. Manual Training for Secondary Schools; 3. Domestic Economy (Domestic Science and Domestic Art); 4. Fine Arts.

The time necessary to obtain a diploma in any department of the Normal School is two years. The recognition of the diploma is general and certificates to teach are granted to those holding diplomas.

Students properly qualified may, with the approval of the Faculty, omit certain book subjects, and select such other work as will gain the necessary number of credits for graduation.

Every opportunity is offered the student for complete and extended work in the several departments. In addition to the various class rooms and shops with their equipments, a conference and library room is at the disposal of Normal students, and

here may be found books dealing with the various phases of handiwork and magazines and periodicals on current literature in each subject.

While the school does not guarantee positions to its graduates, it assists them in every possible way. The demand for graduates of the Normal School, both East and West, far exceeds the supply. Already one hundred and seventeen graduates have gone out to teach and almost universal success has marked their careers.

		MANUAL TRAINING FOR ELEMENTARY SCHOOLS	MANUAL TRAINING FOR SECONDARY SCHOOLS	DOMESTIC ECONOMY	FINE ARTS
FIRST YEAR	First Half	Education 1 Fine Arts 22 Manual Training 2 Manual Training 3 Manual Training 8	Education 1 Fine Arts 22 Manual Training 3 Manual Training 8	Education 1 Manual Training 2 Education 6 Fine Arts 22 Domestic Science 3 Domestic Science 5 Domestic Art 5	Education 1 Fine Arts 22 Fine Arts 23 Fine Arts 25 Fine Arts 30 Manual Training 8
	Second Half	Education 1 Fine Arts 25 Manual Training 2 Manual Training 3 Manual Training 8	Education 1 Fine Arts 25 Manual Training 3 Manual Training 5 Manual Training 8	Education 1 Manual Training 2 Education 6 Fine Arts 25 Domestic Science 3 Domestic Science 5 Domestic Art 5	Education 1 Fine Arts 22 Fine Arts 26 Fine Arts 28 Fine Arts 30 Manual Training 8
SECOND YEAR	First Half	Education 2 Education 4 Fine Arts 30 Manual Training 3	Education 2 Education 4 Fine Arts 30 Manual Training 4 Manual Training 6 Manual Training 7 Manual Training 9	Education 2 Education 5 Domestic Science 4 Domestic Art 6 Domestic Art 7 Domestic Science 6	Education 2 Education 7 Fine Arts 27 Fine Arts 28 Fine Arts 29 Manual Training 7
	Second Half	Education 3 Education 4 Fine Arts 24 Manual Training 3	Education 3 Education 4 Fine Arts 24 Manual Training 4 Manual Training 6 Manual Training 9	Education 3 Education 6 Domestic Science 4 Domestic Art 6 Domestic Art 7 Domestic Science 6	Education 3 Education 7 Fine Arts 24 Fine Arts 27 Fine Arts 29

SUBJECTS AND METHODS OF INSTRUCTION IN THE NORMAL SCHOOL

EDUCATION

1. ELEMENTS OF PSYCHOLOGY.—This course aims to give a general introduction to psychology. A study of the laws of psychology will be taken up and the educational implications made. The relation of the work to school practices and the principles that determine successful teaching will be studied. Recitations and practical work. Five periods per week throughout the year.

2. PEDAGOGY.—This course aims at special investigation and research. Constant reference will be made to the educational phases of the subject, and topics most intimately related to teachers and school officers will be taken up. Methods of studying various school conditions, measurement of mental, moral and physical qualities, the curriculum, relative values of studies, examinations, experimentation and question in child-study and

treatment of statistics will come within the range of this course. Research work, recitations, reports, discussions and lectures. Five periods per week throughout the year.

3. HISTORY OF EDUCATION.—The history and principles of education, their relation to our present-day conditions. The educational epochs of the past will be taken up and their relation to social, industrial and educational evolution discussed. The fundamental principles will be traced out and their philosophic bases criticised. Practical work, assigned readings, reports and lectures.

4. ORGANIZATION AND METHODS IN MANUAL TRAINING.—A study is made of the development of the manual training idea, its significance in the schools of today and its relation to the various subjects of the curriculum; the organization, equipment, cost and management of departments; study of typical systems and methods of teaching.

Lectures, reports and practical work.

5. ORGANIZATION AND METHODS IN DOMESTIC SCIENCE.—A study of the significance of the various lines of domestic science and their place in the school program, planning, teaching and criticisms of lessons; organization of work and study of kind and cost of equipments; relation of cookery to biology and chemistry.

Lectures and assigned topics.

6. ORGANIZATION AND METHODS IN DOMESTIC ART.—This course will consider the theory and practice of teaching domestic art in the elementary and secondary schools, its legitimate place in the course of study, and its relation to the other branches and to life. Lessons will be observed and planned, classes taught, and organization of work and cost and planning of equipments considered.

Lectures and discussions.

7. ORGANIZATION AND METHODS IN THE FINE ARTS.—Lectures on the history of painting, sculpture, architecture, and the applied arts illustrated by photographs and lantern slides; talks on methods of instruction to be followed by discussions and papers on all lines studied and the actual test of the same in class room teaching will fall within the range of this course. A study of equipments and of administration of work will be carried on.

MANUAL TRAINING

1. See Education 4.

2. HANDWORK FOR THE PRIMARY GRADES.—The work of this course will be such as can be carried on in the specially equipped manual training room under a special teacher and in the grade room as well under the direction of the regular teacher. Attention will be given processes having an industrial and economic significance and constant reference will be made to the design and

art features and the thought sides along with a consideration of constructive phases. The course includes construction in paper and cardboard, bent iron, wood, weaving, sewing and textiles, basketry with raffia, reed and native materials, and in pottery.

Practical work and discussions.

3. HANDWORK FOR THE ELEMENTARY SCHOOLS.—Particular attention is given to wood work processes suitable for the upper grades. In addition to the making of certain typical objects, involving necessary technical skill and the principles of wood construction, a study will be made of timber,—its sources, growth, structure, and adaptability. Decorative work in leather and in metals will form a part of this course. Sheet metal, copper and brass, will be used in the construction of decorative and useful forms, boxes, bowls, vases, trays and the like.

Practical work and discussions.

4. WOODWORK FOR SECONDARY SCHOOLS.—A course dealing with woodwork processes adapted to high school pupils, involving a number of constructive problems and comprising advanced work in joinery, cabinet making, inlaying, veneering, decorating and finishing. Special attention is given to original work in designing and construction. Study of timber as noted under manual training 3.

5. WOOD TURNING.—Turning at the lathe in hard and soft woods, bringing in the various methods employed commercially, and involving center, face plate, chuck work and inside turning. This course is closely connected with manual training 4, the completion of certain projects comprising work in both courses.

6. FORGING AND METAL WORK.—This course deals with processes suitable for the high schools,—exercises, practical projects, tools, etc., and ornamental pieces. A study of the material of the forge, the care of tools, and instruction in typical and fundamental processes, bending, upsetting, welding, chipping, filing, tempering and the like is given.

7. WOOD CARVING.—Elementary work in exercises and small objects to be followed by more elaborate projects, aiming to give a thorough knowledge of the foundation principles and a comprehensive view of the purpose and practice of carving as applied in elementary schools. Course 6 in design will be applied in this work.

8. MECHANICAL DRAWING—INTRODUCTORY COURSE.—Principles of working drawings, plans, elevations, sections, scales; freehand and geometric lettering; drawing of models made in the shop; orthographic and isometric projections; domestic architecture; tracing and blue printing. The needs of the elementary school are kept in mind throughout this course.

9. MECHANICAL DRAWING.—Work suited to secondary conditions; cavalier projection; coloring and tinting; perspective; intersections; shadows, elements of architectural drawing.

DOMESTIC SCIENCE

2. See Education 5.

3. DOMESTIC SCIENCE TEACHING.—The purpose of this course is to present the methods of domestic science teaching in the grades and the high school, together with practical work in cooking. It includes a study of foods, history of food products, traces the raw materials through the various processes of manufacture, comparative food values, study of cooking apparatus and fuels, and a consideration of various cookery processes. Special work in cooking and in serving breakfasts, dinners and luncheons is a part of the course.

Theory, practical work and discussions.

4. ADVANCED COURSE IN FOODS AND COOKERY.—Chemical and physiological classification and cost, preservation and preparation of foods; dietaries; a study of national foods; relation of food to climate; invalid cookery; food adulterations; bills of fare; the dish and table decoration; home and public hygiene; evolution of the home.

Observation and teaching with practical work and discussions.

5. PHYSIOLOGY AND HYGIENE.—A thoroughly practical course covering—I. The essentials of physiology based on laboratory experiments. II. Hygiene and sanitary science, including such topics as (a) foods, (b) milk supplies, (c) water supplies, (d) contagious diseases, (e) accidents and emergencies, (f) household sanitation, (g) sanitation of public buildings.

6. CHEMISTRY.—The first half year is spent in study of the essentials of chemical theory and in general laboratory practice, followed by a brief consideration of the chemistry of the carbon compounds and a more extended study of the applications of chemistry in the household. Laboratory work forms an important part of the course and full discussions are given in the recitation room.

DOMESTIC ART

4. See Education 6.

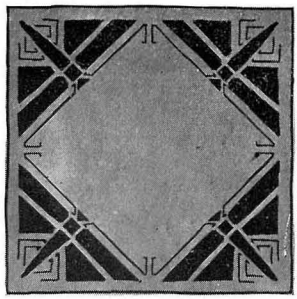
5. SEWING.—Thorough training is given in hand and machine sewing, including a knowledge of the various kinds of stitches and their special uses; the form and construction of garments based on the principles of drafting (by a simple system of measurements); cutting and fitting; sewing machine practice and the use of machine attachments, and a study of the production and manufacture of materials and implements,—their qualities and cost.

Reports and discussions.

6. DRESSMAKING.—A study of the fundamental principles of dressmaking is given covering the principles of drafting by a chart system; the cutting and fitting of lined waists and sleeves; the making of a woolen gown; the selection of textiles and design, and a study of color combinations.

7. MILLINERY.—The work in millinery covers the making and finishing of hat brims; the making of bows and trimming of hats; the designing, drafting and making of frames, and the covering and making of hats. The study of color, line, form and textures form a part of the course.

FINE ARTS



DESIGN, FINE ARTS

21. See Education 7.

22. DESIGN.—The principles of design, rhythm, balance, harmony, as applied to line, form and tone. This course treats of design as a space cutting and space filling art,—straight and curved line compositions, adaptation of insect, animal and plant form motifs, color balance and color harmony, application to practical problems.

23. COMPOSITION—The principles of composition applied to plant form, landscape and figure motifs. Composition is treated as a space breaking art, with a study of the distribution and relation of tones. Work is done in black and white, values and colors, and includes the making of wood block prints after the Japanese methods.

24. HANDICRAFT.—This course offers a practical correlation between design and crafts work. Problems are executed in wood construction, tooled leather, copper and enamel. This work is carried on under the direction of the Art Department.

LIFE CLASS

LIFE CLASS, TIME SKETCH

Special attention is given the metal crafts, including the construction of boxes, cups, bowls and simple articles of jewelry. The Department possesses a complete equipment for crafts work.

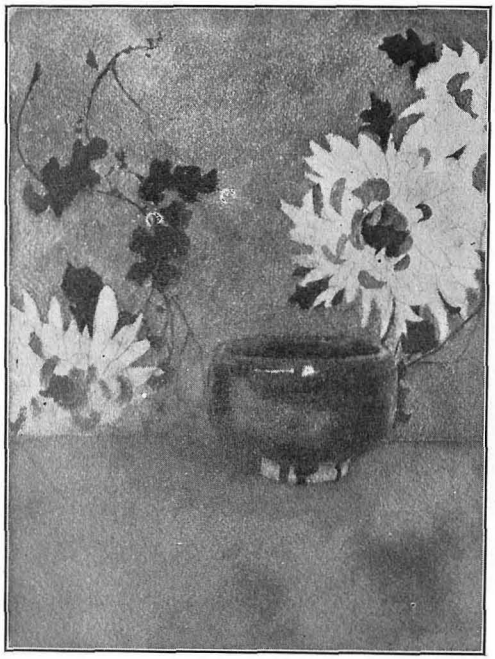
25. REPRESENTATION: THE PRINCIPLES OF PERSPECTIVE.—The aim of this course is to give students a thorough knowledge, in theory and practice, of the basic principles of drawing. It includes work from type solids, still life, and interior views, with pencil, pen and ink, and brush.

26. CHARCOAL.—Study of light and shade, and values, from still life groups, animal and figure poses. Cast drawing from heads and figures.

27. LIFE CLASS.—Study of the figure from the draped model, in charcoal and color. Decorative use of the figure in poster work and composition. During the past year this class executed a large decorative frieze for one of the rooms of the Stickney Building. A similar project is undertaken each year.

28. PEN AND INK rendering from photographs of figures, landscapes, buildings and street scenes. Studies of form and texture from flowers, leaves and still life groups. Out of door sketches in pen and ink.

COPOSITION, FINE ARTS



WATER COLOR

29. WATER COLOR STUDIES from flowers, vegetables, insects, still life groups, animals and figure poses. Out of door sketches in color. Sketching from live animals, birds and fowls is a feature of the work in this as well as in the other mediums of expression.

30. CLAY MODELING.—Work from casts of ornaments, fruits, flowers and vegetables, head and figures. Work from natural forms, time sketches from animals. Composition and simple problems in creative work.

31. ADVANCED CLAY MODELING.—For those who have completed the elementary work or its equivalent.

See Courses 5 to 13 inclusive in Normal School Bulletin.

PRELIMINARY COURSES FOR NURSES

Throop Polytechnic Institute offers during the fall and winter terms certain courses specially planned for those who contemplate entering a training school for nurses. The work in question occupies six months and includes the chemistry, cooking, house sanitation, bacteriology, etc., which constitute a most desirable, if not absolutely necessary preparation for the professional studies of the nurses' school. Students are permitted also to elect such other Institute courses as they have time for, subject to the approval of the Faculty. For this instruction a tuition charge of $25 is made to regularly enrolled students of the Pasadena Hospital School for Nurses, $12.50 payable at the beginning of the fall term, and $12.50 at the beginning of the winter term, to which must be added the laboratory fees amounting to $12 per term. The amount paid for tuition is refunded to the student by the Institute upon her graduation from the Pasadena Hospital School for Nurses. The

charge for this course to others than students in the Pasadena Hospital School for Nurses is $35 per term, plus fees for materials, $12. The Institute reserves the right to determine the preparation necessary for admission to these courses.

The following courses are offered:

BIOLOGY

(a) Hygiene of Milk: model dairies, sanitary dairies, bacteria of milk, how diseases are spread by milk, prevention of same.

(b) Water Supplies: bacteria of water, diseases spread by water, prevention of same, water filtration, chemical differences in water.

(c) Sewerage Systems: disease caused by sewage, prevention of same.

(d) Tuberculosis: how contracted, how prevented, how to care for patient at home, what everybody should know about the treatment of tuberculosis.

(e) Air: bacteria of air, air in the city and the country, air of the mountains and the ocean, ventilation, relation of ventilation to diseases.

(f) Foods: different classes of foods, laboratory experiments, physiology of foods, artificial digestion, adulteration, methods of preserving foods.

(g) Contagious Diseases: cause and prevention, personal and public hygiene in relation to contagious diseases.

Laboratory experiments are introduced whenever possible.

Six periods per week for two terms.

PHYSIOLOGY AND HISTOLOGY

This is a special course of lectures and demonstrations covering as much of these subjects as the time permits. Physiological processes are discussed and illustrative experiments performed. The minute structure of the body tissues is studied microscopically. Special attention is paid to the nervous, digestive and circulatory systems. Four periods per week for two terms.

CHEMISTRY

(a) Chemical and physical changes, elements and compounds, symbols, formulas and equations.

(b) Water: composition; methods of analysis and synthesis; water supplies and purification; action on metal pipes.

(c) Acids and alkalies, bases and salts; chlorine, bromine and iodine; disinfectants; ammonia and refrigeration.

(d) Metals, their oxides and salts; detection of metals.

(e) Carbon and its compounds; hydrocarbons, alcohols, acids,

and their derivatives, combustion, illuminating gas, gas stoves and ventilation; oils and fats, soap and candles; food constituents; alkaloids.

(f) Analysis of milk and other food products, detection of preservatives and adulterations.

(g) Urinalysis: Chemical and microscopical.

Laboratory work throughout the course.

Two periods daily first two terms.

COOKING

This course consists of a study of foods, their composition, digestion and nutritive value; also special diets for special diseases.

The preparation of food in the most wholesome and attractive manner.

Special attention will be given to the serving of meals to invalids.

The principles learned in the study of Dietetics will be applied in the practical cookery.

Other courses from which election may be made are: botany, zoology, physiography, physics, mathematics, modern languages, Latin, English literature, history, education, bookkeeping, commercial law, stenography, typewriting, gymnastics, sewing, millinery, drafting, art, etc.

Further information may be obtained by addressing the President of Throop Polytechnic Institute or the Superintendent of the Pasadena Hospital, Pasadena, California.

ACADEMY

REQUIREMENTS FOR ADMISSION

Students holding a certificate of graduation from a California grammar school, or any other school of equivalent grade, will be admitted without further examination. All other applicants will be subject to examination in arithmetic, grammar, English, geography and United States history.

In arithmetic the examination will be upon the following subjects: fundamental operations, factoring, greatest common divisor, least common multiple, fractions, denominate numbers, applications of percentage, involution, evolution, mensuration, and the metric system; in grammar and English, upon composition, spelling, punctuation, use of capital letters, elements of English grammar and the analysis of the sentence, Lady of the Lake and Evangeline.

COURSES OF STUDY IN THE ACADEMY

REQUIRED SUBJECTS

FIRST YEAR	Credits	SECOND YEAR	Credits	THIRD YEAR	Credits	FOURTH YEAR	Credits
English 1	2	English 2	2	English 3	2	American History	1.3
Elementary Algebra	2	Plane Geometry	2			Civics	.7

ELECTIVE GENERAL SUBJECTS

FIRST YEAR	Credits	SECOND YEAR	Credits	THIRD YEAR	Credits	FOURTH YEAR	Credits
Ancient History	2	Mediaeval & Modern History	2	English History	2	English 4	2
Expression	...	French 2	2	French 3	2	French 4	2
Voice Culture	...	German 2	2	German 3	2	Latin 4	2
French 1	2	Latin 2	2	Latin 3	2	Trigonometry	1
German 1	2	Spanish 2	2	Spanish 3	2		
Latin 1	2	Botany	2	Higher Algebra	1		
Spanish 1	2	Zoology	2	Solid Geometry	1		
Physiography	2			Chemistry 1	2		
				Physics 1	2		

ELECTIVE MANUAL TRAINING SUBJECTS

FIRST YEAR	Credits	SECOND YEAR	Credits	THIRD YEAR	Credits	FOURTH YEAR	Credits
Freehand Perspective	0.5	Constructive Design	0.5	Water Color	0.5	Advanced Handicraft	2
Mechanical Drawing 1	0.5	Pen and Ink	0.5	Art Training 8	1	Mechanical Drawing 4	1
Wood Work I	2	Printing and Illuminating	0.5	Handicraft	2	Pattern Making I	0.7
Elementary Wood Carving	2	Still Life	0.5	Mechanical Drawing 3	1	Machine Shop	1.3
Cooking	2	Advanced Wood Carving	2	Pattern Making I	0.7		
Sewing	2	Clay Modeling	2	Machine Shop I	1.3		
Physical Culture	1	Mechanical Drawing 2	2				
		Wood Work II	2				
		Forging	2				
		Dressmaking	1				
		Millinery	1				

The subjects given in the Academy and the credits earned by each are given in the above table. Arabic and Roman numerals refer to subjects outlined on pages 52 to 58.

For graduation from the Academy a student must take all the subjects under the heading Required Subjects, and in addition enough from the Elective General Subjects and the Elective Manual Subjects to earn a total of 24 general credits and 12 manual credits. General credits at the rate of 2 general credits for 3 manual credits may however be substituted for the 12 manual credits. To a limited extent subjects from the commercial course may be substituted for subjects named above. Credits earned by college subjects will not be accepted toward graduation from the Academy.

Subjects designated for certain years may in some cases be elected in other years. In such cases they are listed for the first regular year in which they may be taken.

In the first two years art training is taken five periods per week, either the first or second half of each year, and mechanical drawing five periods per week for the other half.

In the last two years the student may elect either art training or mechanical drawing, taking the one elected five periods per week throughout the year.

A subject selected may not be dropped after two weeks from the time of choice, and must, thereafter, be pursued until successfully completed. In special cases, for reasons satisfactory to the Faculty Council, this regulation may be set aside.

No one is permitted to take more than one manual training course (two periods daily) at a time, except in the case of an advanced student making up back work.

Credits will not be given for any language unless it is successfully carried for two years earning 4 credits.

SUBJECTS AND METHODS OF INSTRUCTION IN THE ACADEMY

MATHEMATICS

1. ELEMENTARY ALGEBRA.—Fundamental operations, simple equations, factors, factor theorem, fractions, simultaneous equations, involution, evolution, theory of indices, surds, simple quadratic equations, ratio, proportion. Text-book: Tanner's Elementary Algebra. Five periods per week throughout the year.

2. HIGHER ALGEBRA.—Theory of indices, surds, simultaneous quadratic equations, theory of quadratic equations, indeterminate equations of the first degree, inequalities, variation, arithmetical, geometrical, harmonical, and other simple series, the binomial

theorem for a positive integral exponent, logarithmic calculations. Text-book: Tanner's Elementary Algebra. Five periods per week first half year.

3. PLANE GEOMETRY.—Books I to V, inclusive, in Shutt's Plane and Solid Geometry. Five periods per week throughout the year.

4. SOLID GEOMETRY.—Course as given in Shutt's Plane and Solid Geometry. Five periods per week second half year.

In both Plane and Solid Geometry special attention is given to the demonstration of original theorems and to the solution of original exercises.

5. TRIGONOMETRY.—The course comprises plane and spherical trigonometry. Problems from text-books proven in the field, also solved by the class. Five periods per week first half year.

ENGLISH

All regular students are required to take instruction in English during three years of the Academic course. Frequent and varied written exercises are required. Special attention given to spelling, punctuation, paragraphing, and the forming of a plain natural style. Much care given to oral reading, especially in English 1 and 2. The following subjects are made the basis of study:

1. FIRST YEAR WORK.—Alhambra, Classic Myths, Horatius, Vision of Sir Launfal, Lockwood and Emerson's Composition to page 179, Chap. 8. Collection of material for theme. Five periods per week throughout the year.

2. SECOND YEAR WORK.—Merchant of Venice, Sir Roger de Coverley, Ancient Mariner, Tam O'Shanter, Deserted Village, American Scholar, Fortunes of the Republic, Lincoln's Gettysburg Speech, Second Inaugural Address, Lockwood and Emerson's Composition completed. Five periods per week throughout the year.

3. THIRD YEAR WORK.—Silas Marner, Vicar of Wakefield, Comus, Lycidas, Elegy, Eve of St. Agnes, the Odes, Keats, Shelley, Tintern Abbey, Rape of the Lock, My Last Duchess, Andrea del Sarto, Alexander's Feast. Five periods per week throughout the year.

4. FOURTH YEAR WORK.—Julius Caesar, Macbeth, Macaulay's Essay on Clive (for reading), Warren Hastings, Burke on Conciliation, Macaulay on Reform, Webster's Reply to Hayne, L'Allegro, Il Penseroso, Winter, Winter Morning Walk, Review Snow Bound, Carlyle on Burns, Burns' Poems, Byron's Chillon or Childe Harold, Tennyson's Passing of Arthur, Short History of English Literature. Five periods per week throughout the year.

EXPRESSION

Back of the art of oratory, the very basis of it in fact, is character. To develop the individuality to its greatest power; to

reinforce the natural gifts with ideal forms of beauty and truth from the best literature; to train the expressional faculties to record the inner life with truth and beauty, freedom and power —these are the aims with which expressional arts are concerned.

1. EXPRESSION.—A very practical course covering two years of either three or five periods per week is offered. The course of five periods per week includes two periods of Shakespeare reading per week. The Cumnock Reader is used in general class work.

2. VOICE CULTURE.—This work is given with the Reading Course and its aim is to improve the speaking voice; to make bad voices good and good voices better. The correct use of the vocal apparatus will impart flexibility, resonance, and carrying power to the voice and prevent fatigue of the throat.

PRIVATE LESSONS.

Private lessons in either Physical Culture, Voice Culture or Expression may be had. Credits are based upon amount of work done.

HISTORY AND CIVICS

The aim of the work in this department is to give the student a general idea of the essential unity of history, an insight in the development of various nations and peoples along social, economic, religious and political lines, and a training in clear thinking and broad and discriminate reading. There are five courses offered; courses 4 and 5 being required of all students before graduating.

1. ANCIENT HISTORY.—The Eastern nations, Greece and Rome, are studied with special reference to the character and development of their institutions, and their contributions to our modern civilization. Text-book: West's Ancient World, with assigned readings and reports. Five periods per week throughout the year.

2. MEDIAEVAL AND MODERN HISTORY.—Particular attention is given to the institutional and social life of the people; the rise of the many contemporaneous nations, and the varied forms of their progress from 800-1500, A. D.; and, since then, their marvelous expansion and interaction and development. Text-book: Schwill's General History of Europe, Thatcher and Robinson's Western Europe, with assigned readings and reports. Five periods per week throughout the year.

3. ENGLISH HISTORY AND CIVICS.—The object here is to give the student as clear an idea as possible of the origin and development of the English Nation; special attention being given both to the gradual growth of English institutions and the effect of these on those of other countries—especially those of the United States. Text-books: Cheyney, a Short History of England and Moran, the English Government; with assigned readings and reports. Five periods per week throughout the year.

4. AMERICAN HISTORY.—Attention is given here to the different ideas of colonization, the struggle of race elements for supremacy, the growth of national ideas and ideals, and the gradual development of social, religious, economic and political institutions. Text-book: Channing's Students' History of the United States, with assigned readings and reports. Five periods per week first two terms.

5. CIVICS.—The aim of this course is to give the student an idea of the structure and functions of our government, to familiarize him with the governmental affairs of the day, and to develop independent thought. Text-book: Ashley, American Government, with assigned readings and reports. Five periods per week last term.

LATIN

1. BEGINNING LATIN.—Special attention to forms and vocabularies; translation of the exercises from Latin into English and from English into Latin; structure of Latin sentence and comparison with English sentence—structure. Inglis and Prettyman's First Book in Latin, Cannon's Beginner's Caesar. Five periods per week throughout the year.

2. CAESAR.—With a generous amount of sight-reading; critical study of text, with translation into idiomatic English; prose composition; incidental study of history and geography throughout the year. Allen and Greenough's New Revised Grammar, Allen and Greenough's New Caesar, Pearson's Composition. Five periods per week throughout the year.

3. CICERO'S ORATIONS.—Textual study, as in Caesar, sight-reading and composition; historical allusions investigated; the system of Roman government; powers of officers; customs and occupations of the people; geography involved in the text is made an incidental topic of study. Allen and Greenough's Cicero; Orations and Letters. Five periods per week throughout the year.

4. VERGIL'S AENEID.—Structure of the poem, with the theory and practice of scansion; translation into idiomatic English; study of the superstitions and religious rites of antiquity, as well as the myths and legends; minute word study and analysis. Allen and Greenough's text. Five periods per week throughout the year.

GERMAN

1. FIRST YEAR WORK.—Careful attention to correct pronunciation; thorough drill in forms, and on the principles of syntax; practice in translation at sight and hearing, in conversation and memorizing. Text-books: Spanhoofd's Lehrbuch; Müller and Wenckebach's Glück Auf. Five periods per week throughout the year.

2. SECOND YEAR WORK.—Exercises throughout the year in conversation, translation and composition. Text-books: Bier-

wirth's Elements of German; Immensee, Storm; Deutsche Gedichte, Mueller; Kleine Geschichten, Volkmann; Germelshausen, Gerstäcker; Jugendliebe, Wilbrandt; Das Edle Blut, Wildenbruch; Fritz auf Ferien, Arnold.

3. THIRD YEAR WORK.—Reading of Modern German of literary value followed by some introduction to the classics, chiefly Schiller. Difficult passages only will be translated or paraphrased. Occasional work in translation. German used in class room. Composition based on texts read outside. Text-books: Leberecht Hühnchen, Seidel; Deutsche Gedichte, Mueller; Unter Vier Augen, Fulda; Der Prozess, Benedix; Das Lied von der Glocke, Schiller; Gustav Adolph in Deutschland, Schiller; Wilhelm Tell, Schiller; for composition, Gerstäcker's Irrfahrten and other modern prose. Five periods per week throughout the year.

FRENCH

1. FIRST YEAR WORK.—The reading of short French stories in order to acquire an accurate pronunciation and as a basis for conversation; a thorough drill in grammar and a study of the verbs; also frequent dictations and some memorizing. Text-books: Abridged French Grammar, Fraser and Squair; Guerber's Contes et Legendes. Five periods per week throughout the year.

2. SECOND YEAR WORK.—Special study of the syntax and idioms and exercises in composition; daily practice in French conversation, reading and translation. Text-books: French Syntax and Composition, Bouvet; Le Voyage de Monsieur Perrichon, Labiche and Martin; Le Comte de Monte Cristo, Dumas. Five periods per week throughout the year.

3. THIRD YEAR WORK.—Reading, composition and conversation. Text-books: French Syntax and Composition, Bouvet; Colomba, Prosper Mérimée; Le Bataille de Dames, Scribe et Legouvé; La Chute, Victor Hugo; selected short stories by modern French writers. Five periods per week throughout the year.

4. FOURTH YEAR WORK.—This consists of a study of representative French writers and poets and extracts from their best works; a short interesting history of France; and a careful study of a few classic plays. The recitation is conducted wholly in French. Text-books: Littérature Francaise by E. Aubert and other texts.

The texts mentioned for second and third year courses are illustrative and may be varied from year to year.

SPANISH

1. FIRST YEAR WORK.—Thorough drill in pronunciation and forms by means of much conversation; practice in translation at

sight and hearing, and in memorizing. Text-books: Introduction á la Lingua Castellana, Marion y Garennes, Ramsey's Reader. Five periods per week throughout the year.

2. SECOND YEAR WORK.—Exercises throughout the year in conversation; translation at hearing; essays; correspondence, reading of standard Spanish, both prose and poetry; review of forms; syntax. Text-books: Garner's Spanish Grammar; Ramsey and Lewis' Exercises in Spanish Composition, Part I; El Pajaro Verde, Valera; Zaragüeta, M. R. Carrión y Vital Aza; El Pajaro Verde, Alarcón. Five periods per week throughout the year.

3. THIRD YEAR WORK.—Continuation of study of Grammar. Study of Ramsey and Lewis' Exercises in Spanish Composition, Part II. Reading of La Familia de Alvareda, Caballero; Electra, Galdós; El Nino de la Bola, Alcarcón or Jose, Valdes. Special attention is also paid to rapid reading, conversation and advanced composition work, consisting of translation from English and the writing of original themes on topics suggested by the teacher or selected by the student. Five periods per week throughout the year.

In connection with the classes a Spanish Club has recently been organized to stimulate interest in Spanish conversation. The meetings of the club are chiefly of a social nature, but are conducted entirely in Spanish. Although the membership consists principally of students in the advanced classes, it is open to any in the first year classes who fulfill the requirement for admission, which is the ability to carry on a simple conversation in the Spanish language.

BIOLOGY

Carefully kept note and drawing books are called for in all courses. Reference and text-books are assigned as required.

1. PHYSICAL GEOGRAPHY.—An elementary course in general science dealing with the position of the earth in the solar system; the agents affecting the earth's surface, such as rivers, waves, tides and glaciers; climatic conditions and weather changes; geographical distribution of plants and animals, and the relation of these to their surroundings. The course includes laboratory work, and field trips to the mountains and sea shore. Text-book: Tarr's New Physical Geography. Five periods per week throughout the year.

2. ZOOLOGY.—The course in zoology consists of a careful study of several selected animals, such as the earth-worm, cray-fish, crane-fly, star-fish, squid, toad and rabbit. Their structure, physiology and life-histories are treated of in the laboratory and lecture-room. Occasional field excursions are undertaken in order that the habits and haunts of living animals may be observed. Ten periods per week throughout the year.

3. BOTANY.—The course in botany is intended to give a general idea of the structure and relationship of plants. Special studies

are made of certain selected types, from the one-celled forms to the flowering plants. Particular attention is paid to such groups as the algae and fungi, and to the higher plants which are of economic value. During the spring months some work is also done in naming and classifying our commonest native plants. Collecting trips therefore become a regular feature at that season. Ten periods per week throughout the year.

CHEMISTRY

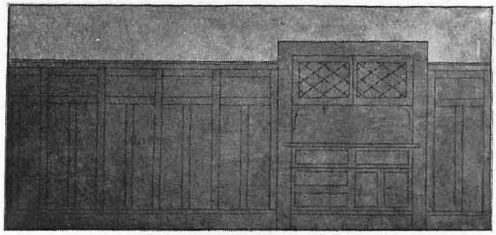
1. GENERAL CHEMISTRY.—The first half-year's work consists of the study of the non-metallic elements and the essentials of chemical theory. Its principal aim is to develop scientific methods of observation and thought, to which the acquirement of the mere facts of chemistry is considered of secondary importance. To this end experiments are selected which require considerable care in manipulation, and illustrate quantative relations of substances so far as possible. The time spent in laboratory work is seven periods per week. The experimental work is individual, and careful notes must be daily submitted to the instructor for examination. Accompanying the laboratory work there are three recitations per week. Considerable attention is paid to the solution of problems.

The metals are studied in the second half-year and the principles of qualitative analysis are taken up near the end of the year. Occasional lectures are given on the metallurgy and industrial chemistry of the principal elements.

Text-books: Hessler and Smith's Essentials of Chemistry and Laboratory Manual. Preparation required: Algebra, Plane Geometry, English 1. Students are strongly advised to defer beginning chemistry until the third year of their academy course.

PHYSICS

1. GENERAL PHYSICS.—Instruction is given by means of laboratory work with discussion of experiments performed and study of references to text and books in library. Experiments are performed by the student himself, and careful notes are required. Text-book: Elements of Physics, Sanford. Preparation required: Algebra and Plane Geometry. Ten periods per week throughout the year.

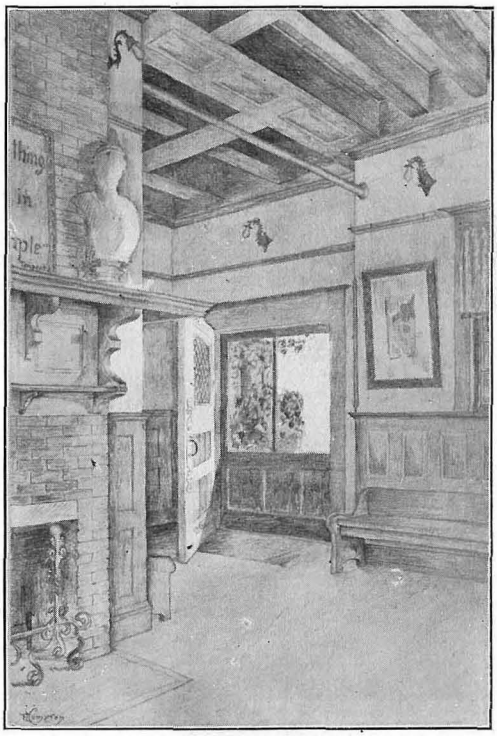


CONSTRUCTIVE DESIGN

ART TRAINING

1. FREEHAND PERSPECTIVE.—Principles of perspective as applied in the drawing of simple type forms, beginning with cube, sphere, cylinder, etc., followed by objects based on type solids; perspective drawings of wood and machine shop models. Relative proportion, and the study of values in light and shade are developed in the execution of drawings of still-life, corners of rooms, houses, etc. Five periods per week first or second half-year.

Pupils who have completed the elementary course outlined above may choose 2, 3, 4, 5, 7, for their second half year of work.



PERSPECTIVE, PENCIL

2. CONSTRUCTIVE DESIGN.—This course deals with constructive problems in wood and iron and aims to develop original work in these materials. Practical working designs with full size details are made for interiors of rooms, furniture, metal furnishings, etc. Careful consideration is given to questions of line, form and proportion with such ornamentation as is consistent with the material employed.

3. PEN AND INK.—Rendering from photographs and from objects, buildings, street scenes, trees, etc. Study of form and texture through various types of pen and ink work. Rendering of Architectural perspectives and details.

4. DECORATIVE PRINTING AND ILLUMINATING.—Principles of Roman and Mediaeval lettering with appropriate decorations and colors. Lettering for purposes of poster work, covers, announcements, etc.

5. STILL LIFE.—This course is a preliminary to the study of water color. It carries the elementary work through to a more care-

COMPOSITION

ful study of artistic rendering in pencil, charcoal, colored crayons and monochrome.

6. WATER COLOR.—See Fine Arts 29, page 48. This work presupposes an acceptable foundation of elementary instruction.

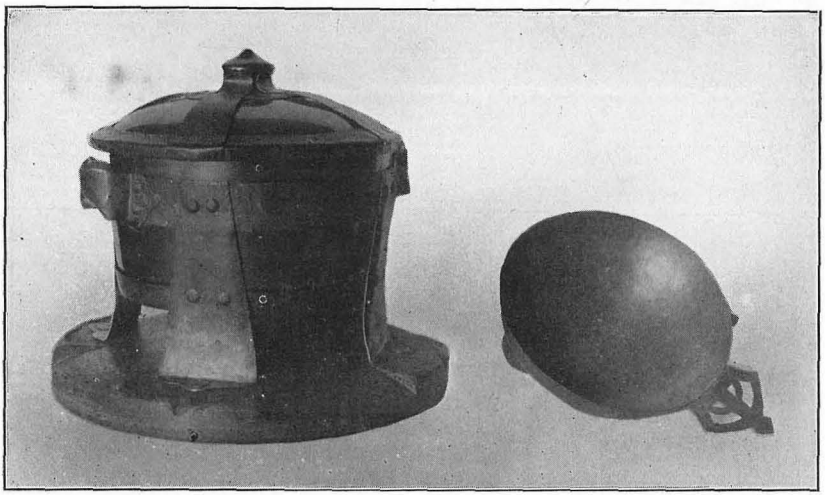
7. CLAY MODELING. — See Fine Arts 30, page 48.

8. THE WORK IN DESIGN, COMPOSITION AND LIFE CLASS.—See Fine Arts 22, 23, 27; is open to third and fourth year Academy pupils.

9. HANDICRAFT.—This course, under the direction of the Art Department, is open to both boys and girls of the third and fourth years Academy, although with the approval of the faculty others may be admitted. The course presupposes an elementary knowledge of free hand and mechanical drawing and it is desirable that the student be familiar with the tools of one or more shops. This shop is provided with a complete equipment for work in copper, silver, enameling and leather work. Special attention is given the metal crafts, including the construction of bowls, cups, boxes, simple articles of jewelry, etc. Instruction is given in raising, repoussé, chasing, etching, inlaying, champlevé enameling, etc. The course aims to develop individual work along the line of Artistic Handicraft.

10. HANDICRAFT.—The second year of handicraft aims to develop the technical skill acquired during the first year of work. More complex problems are undertaken employing combinations of wood, leather and metal caskets, Limoges enameling, and finer work in jewelry. Work in leaded glass may also be taken during this year if desired. Students following these courses are urged to take the work of Constructive Design, Art Training 2, or Design, Fine Arts 22, if possible.

HANDICRAFT

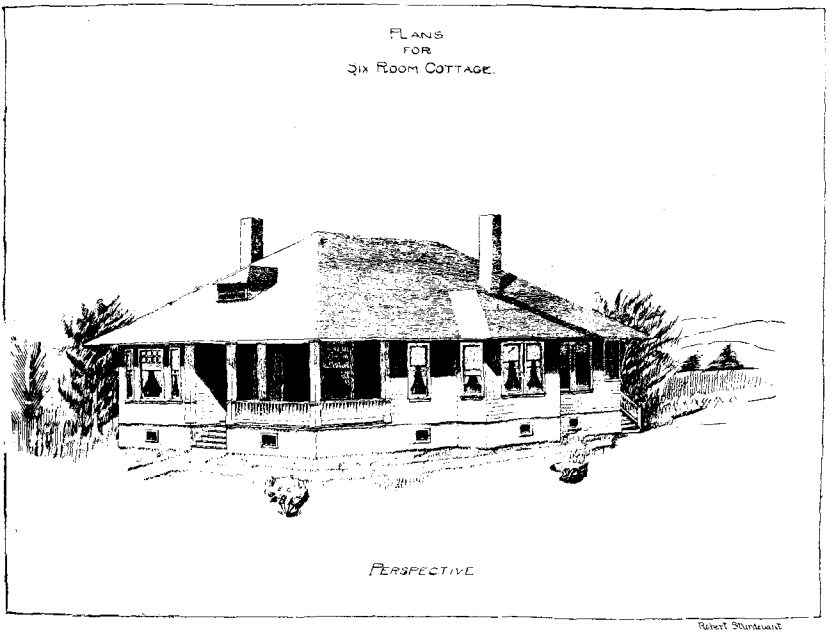


HANDICRAFT

MECHANICAL DRAWING

1. ELEMENTARY GEOMETRIC AND SHOP DRAWING.—Practice sheets of lines and circles; free-hand and geometric lettering; orthographic projections of simple models; elementary working drawings of wood-shop models drawn to scale; tracing and blue-printing; drawings of supplementary shop exercises. Five periods per week first or second half-year.

2. PROJECTION AND PERSPECTIVE.—Cavalier and isometric projections; methods of stretching paper and coloring drawings; orthographic projection of objects inclined to the plane of projection; patterns and developments; intersection of solids; fundamental principles of perspective; application of simple shadows. Five periods per week first or second half-year.

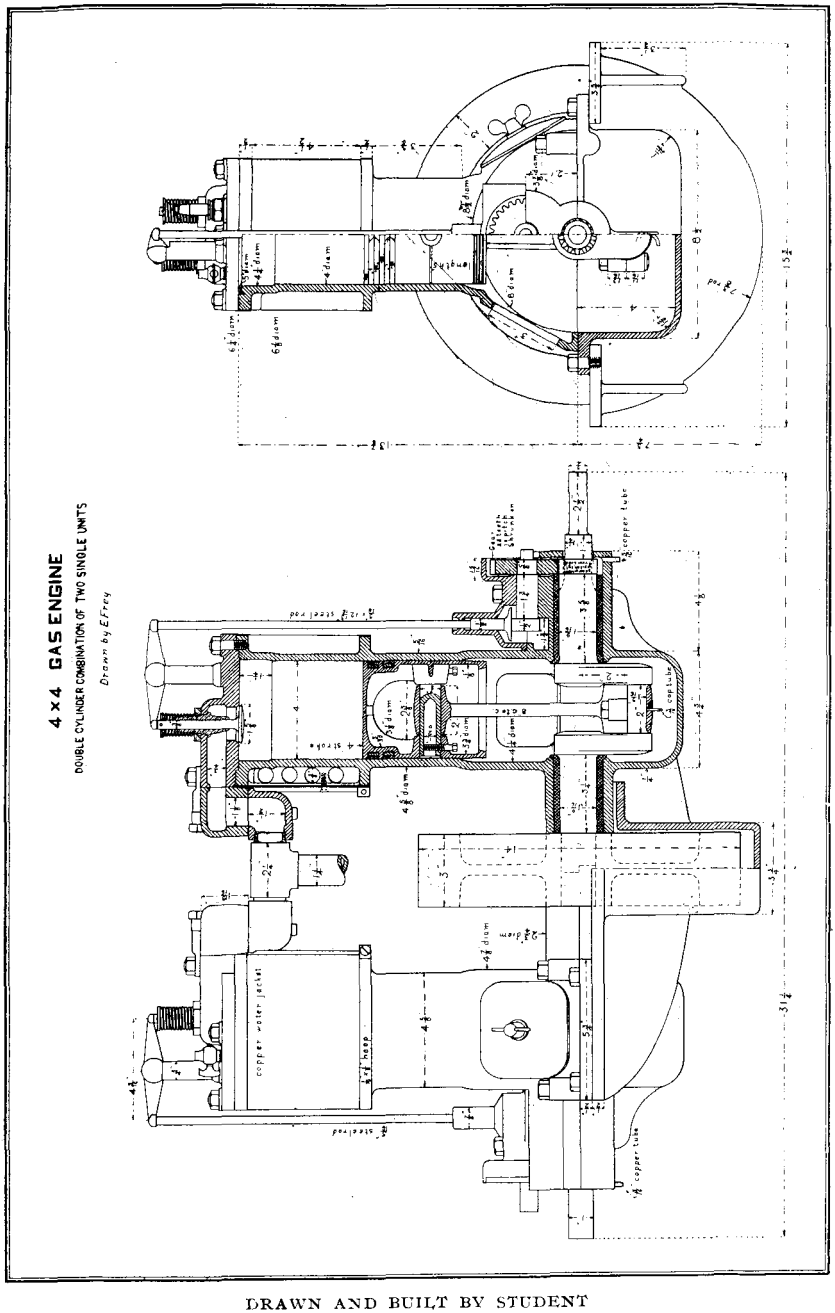


DRAWING BY STUDENT

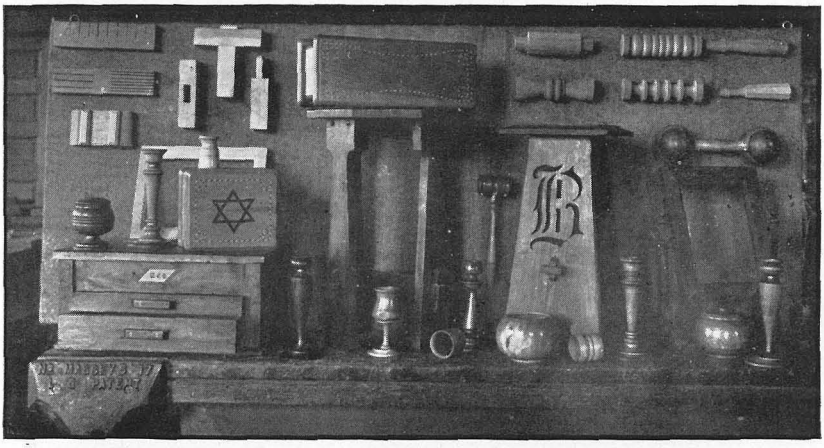
3. ARCHITECTURAL AND MACHINE DRAWING.—Complete set of plans of moderate priced cottage, perspective of house and of one room; projection of shadows; machine details, bolts, nuts, rivets, monkey wrench, machinist's vise with section details, sketches to be made first; details of machinery, lathe, drill, shaper, grinder or dynamo. Five periods per week throughout the year.

4. KINEMATICS.—Mechanical movements, external and internal epicycloidal and involute gears, spur gears, bevel gears, cams, eccentrics and useful geometric problems in connection therewith. Five periods per week throughout the year.

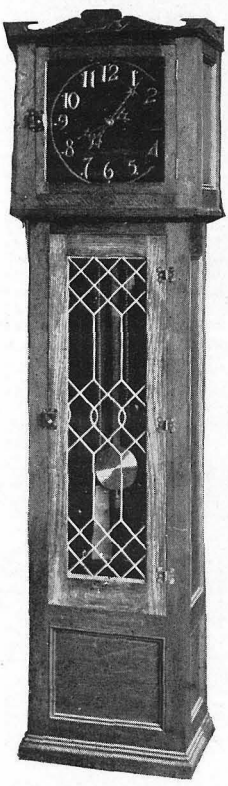
Special courses may be planned to meet the needs of advanced students.

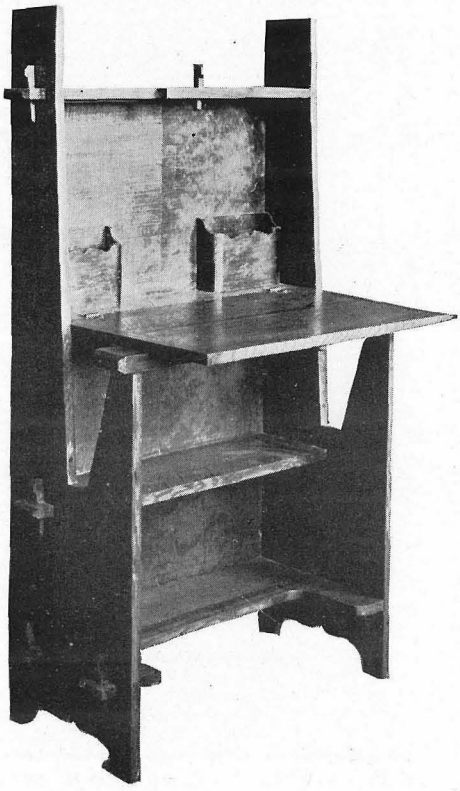


DRAWN AND BUILT BY STUDENT



TYPICAL EXERCISES IN WOOD WORKING

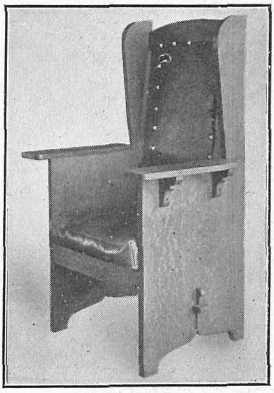




ORIGINAL WORK DONE IN WOOD SHOP

SHOP-WORK

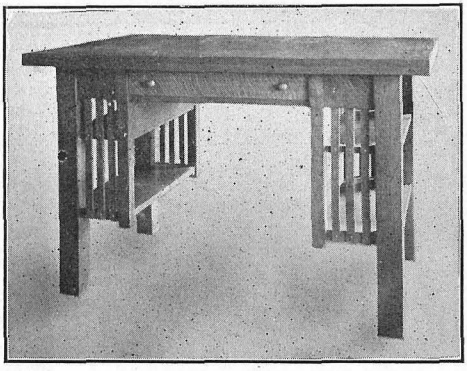
1. WOOD-WORK.—This course consists of work in joinery, turning and cabinet making. Each article is complete and useful in



ORIGINAL WORK DONE IN WOOD SHOP

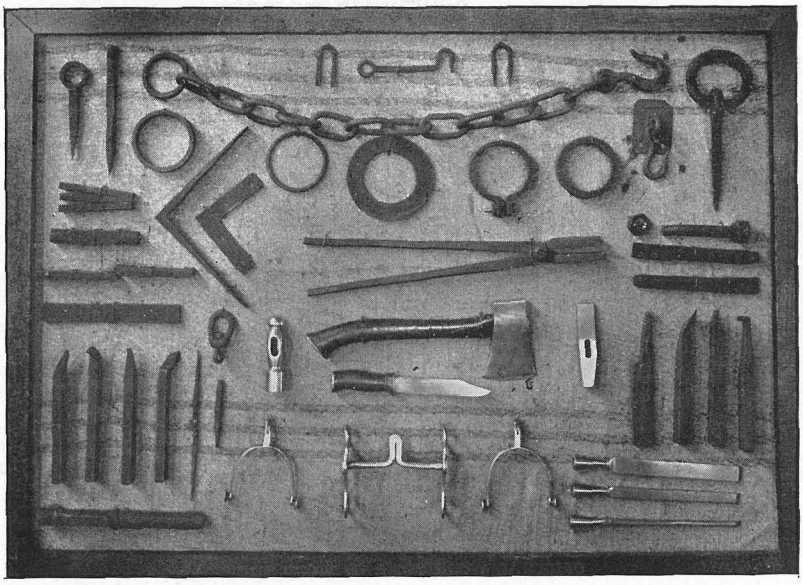
itself and has been designed to secure a gradual growth in the difficulty of construction and at the same time present practical, useful and aesthetic elements.

The course in turning consists of progressive exercises involving center, face-plate, chuck-work and inside turning.



ORIGINAL WORK DONE IN WOOD SHOP

Near the close of the year each student either designs and constructs an ornamental piece of cabinet work under the direction of the instructor, or he may take advanced work looking to greater skill and practice in joinery.



TYPICAL EXERCISES IN FORGING

A series of lectures on the growth of trees, the properties of wood, methods of lumbering, etc., are given during the fall term.

A short course is arranged for college students which enables them to finish in one-half year.

2. WOOD WORK II.—Consists entirely of cabinet work. The aim is to continue the work begun in Wood Work I. The student is expected to design, construct and finish at least three pieces. Preparation required: Wood Work I. Ten periods per week throughout the year.

3. FORGING.—(a) Forge. Mechanism and care of forge; preparation of forge for fire; building and managing fire.

(b) Tools. Instruction in the care and use of tools.

(c) Processes. The processes involved in the year's work are: Drawing, bending, upsetting, different kinds of welding, punching, drilling, fullering, swaging, cutting cold, clipping, cutting hot, splitting, twisting, filing, brazing, hardening, tempering, and ornamental iron work.

(d) Tempering. Hardening in water and oil, tempering and drawing, temperatures and colors used, and processes in tempering tools for wood and iron work.

(e) Ornamental iron work. Simple pieces of ornamental iron work are constructed during the year, preparatory to the more elaborate piece made at the close of the year. Preparation required: Wood Work I, Algebra. Ten periods per week throughout the year.

A short course is arranged for college students which enables them to finish in one-half year.

4. PATTERN-MAKING I.—This course comprises a series of exercises embodying the principles governing pattern construction, with lectures and illustration of molding and other foundry practice having direct bearing upon pattern work.

The allowance for draft, shrinkage and casting finish are kept prominently before the student throughout the course, and with each succeeding model additional principles are brought out, comprising split patterns, simple and complex core-work, rib-work, segment-work, filleting, etc. Patterns may be actually tested in the molding sand, as the pattern shop has, as an adjunct, properly furnished molding benches. Some work in molding is required of every student.

Preparation required: Algebra, Plane Geometry, Forging. Ten periods per week first term.

5. PATTERN-MAKING II.—A continuation of the work begun in Pattern-making I. See also Machine-shop Practice II. Preparation required: Pattern-making I. Ten periods per week first term.

6. MACHINE-SHOP PRACTICE I.—In bench and vice work the student takes up chipping, filing, scraping, polishing, laying out of work, etc.

As a preparation for work on machines, a careful investigation of each machine is required, to familiarize the student with its construction and various motions, the office of each bolt, nut, handle, gear wheel, etc., being determined, and the general design compared with other machines. The care of machines is considered at this point, and a systematic study is made of the needs of the machine for successful and rapid operation.

Machine work is begun with a series of exercises illustrating the principal processes, as plain turning, facing, thread-cutting, inside boring and threading, turning of tapers, hand tool and chuck work of all kinds. At different stages of the course work is given on the shaper, planer, drill-presses and milling machines. Text-books are not used. Students are expected to provide themselves with cali-

pers and scale. Preparation required: Pattern-making I. Ten periods per week last two terms.

7. MACHINE-SHOP PRACTICE II.—This course and Pattern-making II continue the work begun in previous courses, and embrace exercises illustrating more complicated processes and a large amount of practical work in actual construction of machines. During each year there are constructed various pieces of machinery, all of the work on which is done by the students. Preparation required: Machine-shop practice I. Ten periods per week last two terms.

MADE BY STUDENT IN WOOD SHOP

STUDENT'S WORK IN WOOD CARVING

WOOD-CARVING

This work aims to give practical application to the principles gained in drawing and modeling.

1. ELEMENTARY CARVING.—Instruction in the care and use of tools; exercises to illustrate the principles of carving; application of these principles in designing and ornamenting furniture, chip-carving, incising and low relief in historic arts.

Students are required to make the working drawings as well as the designs for the decoration of all work.

Lectures on the general structure of wood, its preparation for use, and the special qualities necessary to render it suitable for carving. Ten periods per week throughout the year.

2. ADVANCED CARVING.—Low and high relief in historic styles, introducing the additional feature of grotesque figures. Ten periods per week throughout the year.

DOMESTIC ART

This department provides a systematic course in plain sewing, dress-

making and millinery, covering a period of two years.

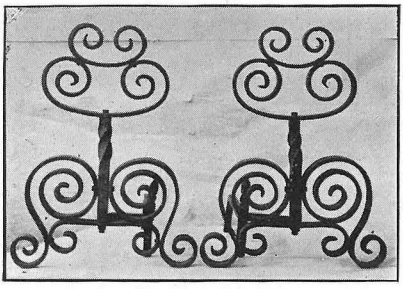
The course of work is carefully graded, not only to insure a thorough knowledge of the subject, but to develop habits of order, accuracy and self reliance. Each student furnishes the materials for her work, and is required to keep a note-book in which a description of the work is recorded.

PORTRAIT BUST, MODELED FROM LIFE BY THIRD YEAR ACADEMY STUDENT

1. SEWING. — Fundamental stitches in hand sewing, patching, darning, mending; talks on materials and tools used; practice in machine sewing; drafting, cutting, fitting and making undergarments, skirt, corset cover, and shirt waist, and unlined dress of washable material. Art Training I must be taken either previous to the course, or in the same year with it. Ten periods per week throughout the year.

2. DRESSMAKING.—Study of a chart system in drafting skirts and waists; basting and fitting waist and sleeves of practice material; cutting, fitting and making gown of woolen material. Study of color, line and form. Preparation required: Sewing. Ten periods per week first half year.

3. MILLINERY.—Renovating felt and straw hats, velvets, silks, and ribbons; binding and wiring hats; cutting and putting on facings, both plain and shirred; fold and bow making; practice trimming; making wire and buckram frames, sewing straw; making and trimming final hat. Preparation required: Sewing. Ten periods per week second half year.



DESIGNED AND MADE BY STUDENT IN FORGING

DOMESTIC SCIENCE

1 COOKING.— (a) The fundamental principles of cookery and practice in the preparation of vegetables, soups, meats, cereals, biscuits, eggs; cost of materials; care of kitchen; serving a simple dinner.

(b) Instruction in the preparation of more complicated dishes; bread, fish, oysters, poultry, etc.; setting and serving a table.

(c) Entrees, salads, desserts, pastry, cake and creams; jellies, canning of fruits and vegetables.

(d) Menus; marketing; giving of entire breakfasts, luncheons, and dinners.

Instruction is given on development of odors and flavors of foods; food for the sick; food adulterations; cheapest and most wholesome foods; physiology of digestion and a general plan of household work.

Throughout the year dietaries and nutrition will be kept constantly in mind, the object being as much to study the scientific principles of food as to prepare palatable viands.

Books required: Mrs. Rorer's Cook Book, blank books for chemistry notes. Ten periods per week throughout the year.

PHYSICAL CULTURE—BOYS' CLASSES

The course in Physical Culture is an original combination and development of the exercises of the U. S. Army drill, and also a system of calisthenics taught in the Chicago Public schools. The system leads up to and develops a liking for track and field sports. The elements of boxing, wrestling and fencing are taught successively through the year in addition to the varied exercises. Special attention is given to overcome self-consciousness, and to develop courage. Unconsciously the student develops stronger heart and lungs, a stronger arterial system, and above all, vitality.

The work, differing largely from the ordinary, eliminates all danger of injury. Every part of the regular exercises may be enjoyed by a normal child of ten.

Physical examination is given by Dr. E. B. Hoag, the medical examiner of the Institute.

Membership in the Throop Cadet Corps, an organization composed of students officered by trained drill-masters under the supervision of the Physical Director, is open to those who wish advanced instruction in army tactics.

PHYSICAL CULTURE—GIRLS' CLASSES

The aim of the training in this department is to secure correct poise and healthful habits in breathing together with grace and ease of movements.

The course covers two years' work and is based upon the Delsarte Philosophy of Expression and the Swedish and German systems of free movements and light gymnastics. The work is given in the open air. There is a thorough and most careful supervision to prevent any possible overstrain. Physical examination and measurements of each pupil are made. Where it is found that the regular work is not advisable corrective exercises are given.

COMMERCIAL SCHOOL

REQUIREMENTS FOR ADMISSION

Students having passed the studies of the eighth grade are admitted to the course in this school, but the Commercial student who has graduated in a high school, or even a college course of studies, will be greatly advantaged thereby, and may omit any subjects in the Commercial Course already covered by preparation.

Graduates of high schools can usually complete the course in one year.

COURSE OF STUDY IN THE COMMERCIAL SCHOOL

It requires two years to complete the regular course in the Commercial School and on its completion a diploma of graduation is granted. Should the student elect to take only a part of this course a certificate is given naming the work satisfactorily completed.

Students in the Commercial School have superior advantages for securing thorough drill in the English branches as well as the privilege of taking one or more periods of manual training, thus better fitting them to meet in an intelligent way the requirements of a business life. Typewriting, penmanship and commercial geography may be taken either in the first or second year of the course.

First Year
- Bookkeeping 1
- English and Spelling
- Arithmetic 1
- Penmanship 1
- Stenography 1

Second Year
- Bookkeeping 2
- Stenography 2
- Commercial History 1
- Commercial Geography 1
- Civil Government
- Commercial Law 1
- Finance 1
- Typewriting 1

SUBJECTS AND METHODS OF INSTRUCTION IN THE COMMERCIAL SCHOOL

BOOKKEEPING

1. GENERAL BOOKKEEPING.—(a) Class and personal instruction in the nature of transactions and accounts, journalizing, and recording transactions.

(b) Opening, conducting and closing accounts and books of accounts, use of the journal, cash-book, sales-book, invoice-book, ledger, special column books, and auxiliary books in retailing and wholesaling.

(c) Conducting a business with a cash capital, constructing passing, filing and disposition of business papers and vouchers.

Text-book: Sadler Rowe Co.'s Budget System, in which the student from beginning is inducted into and practices the duties of an office accountant.

Five periods per week throughout the year.

2. ADVANCED BOOKKEEPING.—(a) Finish budgets, practice single entry bookkeeping, change to double entry books. Commission house bookkeeping is given an important place in the course.

(b) Banking.—A full set of banking books, papers and vouchers illustrating a bank in its daily routine as presented in the modern illustrative bookkeeping. During the course the student devotes some time to the practical work of banking in the Banking Department, where an ideal set of bank books is used. The student is taught to balance pass books, and also receives instruction regarding the nature and work of a clearing house.

Ten periods per week throughout the year.

STENOGRAPHY

The range of work in stenography is carefully planned to meet the requirements of every line of business, office practice, legal forms, court proceedings, and to lay for the persevering student a foundation on which to build a successful future as a highgrade verbatim reporter.

The Benn Pitman System of Phonography is taught. "A system," according to the report of the Commissioner of Education, "which is more generally used than any other in this country, and may be called the American System."

1. ELEMENTARY STENOGRAPHY.—Instruction in the principles of shorthand writing, completion of the manual of phonography dictation including letters and selected matter and reading from notes, drills in the uses of simple phrases, etc. Text-book: The Phonographic Amanuensis, Pitman and Howard. Five periods per week throughout the year.

2. ADVANCED STENOGRAPHY.—General dictation and verbatim reporting, advanced phrasing, legal forms, business forms and correspondence, journalism. Speed drills in dictation and reading from notes. Five periods per week throughout the year.

TYPEWRITING

The principal object of the instruction of typewriting is to train the pupil to a correct and scientific method of fingering and to write by touch. This is the only proper method of operating the typewriter, and is easy to learn when one has proper instruction at the beginning. Various kinds of office practice work, commercial and business papers, attorneys' briefs and other legal papers, business letters, specifications, etc., manifolding and filing, letter press copying. Text-book, Fuller. Five periods per week throughout the year.

ARITHMETIC

1. BUSINESS ARITHMETIC.—(a) Special daily drill for accuracy and speed in the practice of the fundamental rules.

(b) Interest, percentage, commission, discounts, etc.

(c) Daily drill on practical problems applying to all features of commercial work. A short daily drill is also given in rapid calculations. The old, slow and routine methods are displaced by the new and practical business methods.

Text-book: Moore. Five periods per week throughout the year.

CIVIL GOVERNMENT

1. ELEMENTARY CIVIL GOVERNMENT.—Introduction to the study of commercial law. Bringing the student in touch with the laws by which we are governed as a nation. This subject is supplemented by study of current events.

Text-book: Fitch's New Civil Government. Five periods per week during the first term.

COMMERCIAL LAW

1. ELEMENTARY COMMERCIAL LAW.—The aim of this subject is to fit students for the exigencies of daily life. The attempt is not to make lawyers of the students, but to have them so understand the general law of business as to enable them to avoid legal complications. Text-book, Gano. Five periods per week during the second term.

FINANCE

1. FINANCE.—The teaching of finance is to awaken in the students an interest in public and private funds; to learn the nature and uses of money; to inquire (1) What funds are, (2) How funds are obtained, (3) The institutions and agencies employed in funding operations. Text-book: First Lessons in Finance, Cleveland. Five periods per week during the third term.

PENMANSHIP

1. PLAIN PENMANSHIP.—Students are taught a plain legible style of penmanship, which the business world demands. There is no other accomplishment that is of greater assistance to a young person in securing employment in a business office than a graceful, rapid handwriting. The students frequently engage in competitive drills in which speed and quality are made the chief aim.

Five periods per week throughout the year.

COMMERCIAL HISTORY

1. COMMERCIAL HISTORY.—Attention is given to the origin of Commerce, its gradual development in different countries, and the

relation between our present complex systems and the more simple ones of the past. Text-book, with readings and reports. Five periods per week during the first term.

COMMERCIAL GEOGRAPHY

2. ELEMENTARY COMMERCIAL GEOGRAPHY.—The purpose here is to bring the student in touch with, and give him a general knowledge of the commercial resources of the world, manufacturing centers, transportation routes, government revenues, and the more important products and wares. Text-book: Gannett, Garrison and Houston's Commercial Geography. Five periods per week, second and third terms.

ENGLISH AND SPELLING

1. COMMERCIAL ENGLISH.—A special course in English for commercial students. The object of the instruction is the immediate improvement of the student's written and spoken language. Spelling is made an important part of the course. Special attention is given to the subject of correspondence. Students are required to write a large number of letters upon a great variety of business subjects. Each letter is carefully corrected and returned with suggestions for improvement. Both the technical and literary features are criticised. Text-books: Seventy Lessons in Spelling, Williams and Rogers, Business Correspondence, Belding. Five periods per week throughout the year.

ELEMENTARY SCHOOL

COURSE OF STUDY

The regular course of the Elementary School covers a period of five years beginning with the Fourth Grade. Pupils are admitted to any grade upon the presentation of credentials from the schools they last attended, showing that the work of the previous grade has been satisfactorily completed.

ARITHMETIC

FOURTH GRADE.—Notation and numeration, combinations of numbers. Multiplication and division by numbers of two and three figures. Measures. Mental arithmetic. Fractional work continued. Walsh's Elementary Arithmetic completed.

FIFTH GRADE.—Common fractions completed; special attention given to analyzing and solving problems and to business fractions. Mental arithmetic. Smith's Grammar School Arithmetic.

SIXTH GRADE.—Decimal fractions and measurements involving their use; measurements correlated with manual arts, measurements with common business applications; checks; receipts; bills; percentage. Mental arithmetic. Smith's Arithmetic.

SEVENTH GRADE.—Measurements. Metric system. Percentage; interest; banking transactions. Ratio and proportion. Powers and roots. Smith's Arithmetic.

EIGHTH GRADE.—Partial payments; banking transactions; insurance; taxes; bonds; stocks. General review of arithmetic. The use of the algebraic equation and elementary geometry. Walsh's Higher Arithmetic.

ENGLISH

The course in English aims to cultivate: First, the power to communicate thought both orally and in writing; second, the power to read; third, the love of good literature. To this end, in addition to the school work, each pupil is required to read at least three books a year, and to memorize a few of the beautiful short poems and ballads in which he may become interested; making his selections from lists furnished by the teacher. The work in English, as outlined, includes that usually classified under the three heads: literature, reading and spelling, and is as far as possible closely related to the work of the other departments.

No technical grammar is taught below the Eighth Grade.

FOURTH GRADE.—Literature. Stories of ancient Rome, Bible stories, Jungle Book, King Arthur and His Court, selected poems. Language. Heath Reader, Book IV.

FIFTH GRADE.—Literature. Wonder Book, the Great Stone Face, Macaulay's Lays, selected poems. Heath Reader, Book V.

SIXTH GRADE.—Literature. Heroic Ballads, Bell of Atri, Ways of Wood Folk, selected poems, St. Francis of Assisi.

SEVENTH GRADE.—Literature. Stories of feudal period, City of Florence, guilds, Burroughs' Birds and Bees, Industries of Today, selected poems.

EIGHTH GRADE.—Literature. Lay of the Last Minstrel, selected poems, special study of certain American and English authors, Sketch Book, English Grammar.

GEOGRAPHY

In following this course as outlined, the pupils gains a comprehensive idea of the growth and progress of a country along the lines of agriculture, mining, manufacturing and commerce by a careful study of the climate, soil, minerals, position and peoples.

FOURTH GRADE.—Tarr and McMurray's Geography, Book I; sand modeling; map modeling of Los Angeles county; map drawing of Los Angeles county.

FIFTH GRADE.—North America; Special Study of the United States; Europe. Tarr & McMurray's Geography.

SIXTH GRADE.—Asia; South America; Africa; Australia; New Zealand. Tarr & McMurray.

SEVENTH GRADE.—Review of Continents; special attention to Europe and the United States as a preparation for United States History.

HISTORY

The foundation for United States history as taught in the eighth grade is laid in grades preceding. In the knowledge of famous characters as types of the peoples those characters represent, the students readily see causes whose influence is felt in early United States history.

FOURTH GRADE.—Stories of famous characters selected from ancient and medieval history.

FIFTH GRADE.—Continuation of fourth grade work; stories of the 16th century.

SIXTH GRADE.—History stories in connection with the geography of the United States.

EIGHTH GRADE.—Montgomery's American History; Ivanhoe Historical Note-book, Part I.

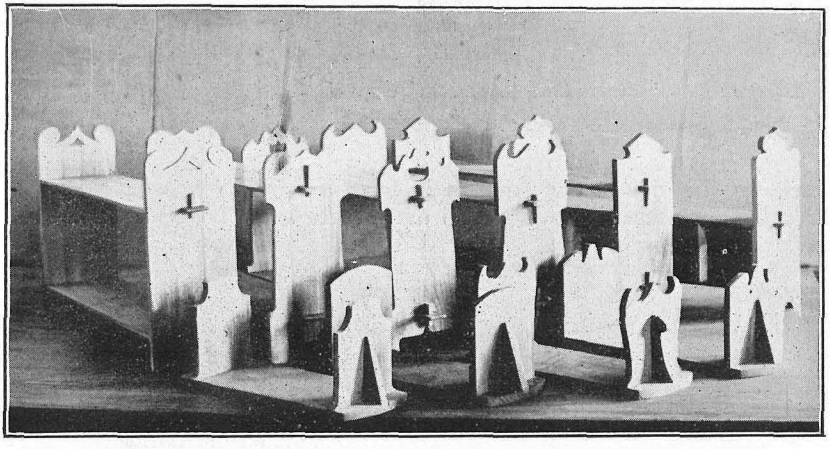
DRAWING

Drawing is given in each grade. Pupils are allowed to take but one period a day. The work may be divided into two parts—

Representation and Design. (a) Representation.—Free-hand work in pencil, ink and color from plants, animals, figures, objects, action studies, illustrative sketches, etc., to cultivate observation and freedom of expression. (b) Design.—Study of elementary principles of line and area composition, with more careful study of color and tone.

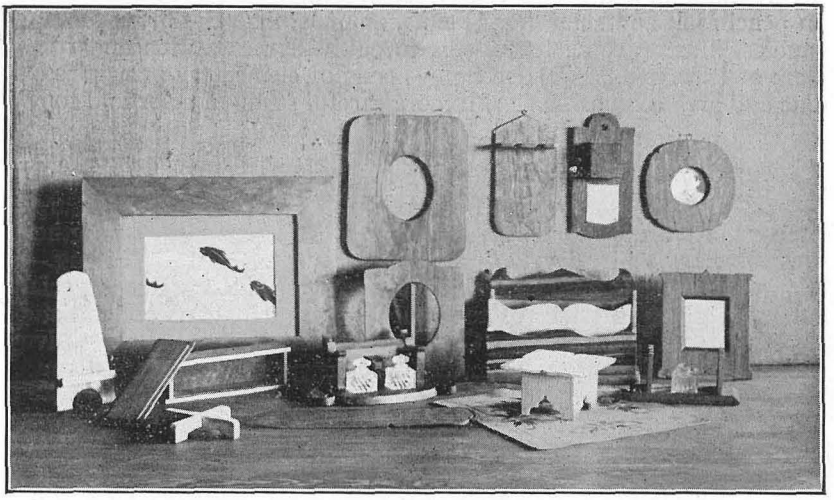
MANUAL ARTS

FOURTH AND FIFTH GRADES.—(a) Reed Basketry.—Large free movements to give control of the hands, strengthen the fingers and develop sense of form. (b) Weaving.—Various materials used in making mats, rugs, pillows, etc. Special attention given to study of textiles, color combinations and artistic design. (c) Paper and Cardboard Construction.—Progressive work in measurements, elements of construction, mechanical and freehand drawing.



ELEMENTARY MANUAL ARTS WORK FROM ORIGINAL DESIGN, SEVENTH GRADE

SIXTH, SEVENTH AND EIGHTH GRADES.—Bench Work.—A definite but elastic course is planned beginning with simple tool operations and leading to such problems as enter into the construction of plain furniture and other useful articles. Wood is the principal material used, combined when convenient, with leather, sheet metal, and other media. Pupils are required to make working drawings for all projects and individuality in design, decoration and finish is encouraged. Instruction is given in the care of tools, characteristics, preparation and finish of materials, their source of supply and commercial value. All handiwork is related as closely as possible to the work in the other departments, especially to drawing, arithmetic and geography.



EXAMPLES OF ELEMENTARY MANUAL ARTS WORK, FIFTH, SIXTH AND SEVENTH GRADES

DOMESTIC ECONOMY.—(a) Sewing.—The course in sewing includes the elementary stitches in hand sewing and their application in the making of simple and useful articles. (b) Cooking.—A course in this department is offered to students in the Eighth Grade.

MUSIC

FOURTH AND FIFTH GRADES.—Physical exercises; ear training; breathing; vocalizes and solfeggios; scale building; interval and scale drill from chart and dictation; two part music introduced.

SIXTH GRADE.—Review of previous work and continued study along same lines; vocalizes and solfeggios; two part songs.

SEVENTH GRADE.—Physical exercises; review of all keys; solfeggios and vocalizes; three part songs and exercises; introduction of bass clef.

EIGHTH GRADE.—Review of work in all previous grades, three and four part songs. Since the body as well as the voice should express harmony, and because harmonious bodily expression makes for freedom in vocal utterance, physical training is given in all grades in connection with the music work. This training is in the form of a series of exercises necessary to secure proper poise of the body, and control and flexibility in the use of its members, a result not attained from exercises given for strength only. A brief study of the lives of great musicians is begun in the Fourth and completed in the Eighth Grade. Special attention is given in all classes to song interpretation and rhythm.

MODERN LANGUAGES

Classes in French and German conversation are formed each year for the benefit of those students who wish to take advantage of such work.

PHYSICAL TRAINING

Students in the Elementary School are expected to take the work in Physical Training. Exercises are offered suited to individual needs, the classes for boys and girls being separate.

PEN AND INK, ART TRAINING

TABULAR ARRANGEMENT OF SUBJECTS

COLLEGE

M or G in "Credit" column indicates whether the subject earns Manual (M) or General (G) credits.

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Alternating Currents	Lab. Rec.	10 5	36	4. G	Direct Currents
Analytic Geometry	Rec.	5	36	2. G	Trigonometry
Assaying	Lab. Rec.	8 2	12	0.3 G	Quantitative Analysis 1
Bacteriology	Lab. Rec.	10	36	2. G	Biology 2,3,9, Chemistry 1, Physics 1
Calculus	Rec.	5	36	2. G	Analytical Geometry
Descriptive Geometry	Rec. Draw.	5	36	2. G	Solid Geometry
Differential Equations	Rec.	5	36	2. G	Calculus
Direct Currents	Lab. Rec.	3	18	1. G	Electricity and Magnetism
Economic Entomology	Lab. Rec.	5	36	2. G	Biology 2, 3
Electrical Design	Draw. Rec.	10	18	1. G	Alternating Currents
Electricity and Magnetism	Lab. Rec.	10	18	1. G	Physics 2
English 5	Rec.	5	36	2. G	English 4
General Chemistry	Read. Rec.	1	36	0.2 G	Qualitative Analysis
General Ornithology	Lab. Rec.	10	36	2. G	Biology 1, 2
Geology	Lab Rec.	5	36	2. G	Biology 1, 2, Chemistry 1, Physics 1
Higher Algebra	Rec.	5	36	2. G	Trigonometry
History of Chemistry	Read. Rec.	1	12	0 2 G	General Chemistry Organic Chemistry
Industrial Chemistry	Read. Rec.	5	18	1. G	Qualitative Analysis
Inorganic Preparations	Lab.	8	12	0.5 G	Qualitative Analysis
Kinematics	Draw.	5	36	1. M	Mechanical Drawing 3
Mechanics	Lab. Rec.	10	36	2. G	Calculus
Mineralogy	Lab. Rec.	5	36	2. G	Biology 1, Chemistry 1
Organic Chemistry	Lab. Rec.	8 2	24 36	1.5 G	General Chemistry
Physics 2	Lab. Rec.	7 3	36	2. G	Physics 1, Chemistry 1
Plant and Animal Ecology	Lab. Rec.	5	36	2. G	Biology 1, 2, 3
Qualitative Analysis	Lab Rec.	7 2	36	1.8 G	Elementary Chemistry Physics 1
Quantitative Analysis I.	Lab. Rec.	8 2	24	1.7 G	Qualitative Analysis
Quantitative Analysis II	Lab. Rec.	20 2	18	2. G	Quantitative Analysis 1
Socio-Economics	Rec.	5	36	2. G	
Surveying	Field Rec.	10	36	2. G	Trigonometry
Systematic Study of Vertebrates	Lab. Rec.	5	5€	2.	Biology 1, 2
Transmission and Distribution of Power	Lab. Rec.	10	18	1. G	Electrical Design
Vertebrate Anatomy and Physiology	Lab. Rec.	10	36	2. G	Biology 2, Physics 1
Vertebrate Embryology	Lab. Rec.	10	36	2. G	Biology 4, Chemistry 1

TABULAR ARRANGEMENT OF SUBJECTS

NORMAL SCHOOL

M or G in "Credit" column indicates whether the subject earns Manual (M) or General (G) credits.

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Chemistry	Rec. / Lab.	10	36	2	
Domestic Arts 5	Sew.	10	36	2	
Domestic Arts 6	Sew.	10	18	1	
Domestic Arts 7	Sew.	10	18	1	
Domestic Science 3	Cook.	10	36	2	
Domestic Science 4	Cook	10	36	2	
Domestic Science 12	Lab.	6	36	1	
Education 1	Rec.	3	36	2	English 3, History 4 and 5
Education 2	Rec.	2	18	1	Education 1
Education 3	Rec.	2	18	1	Education 2
Education 4	Rec.	5	36	2	Education 1, Manual Tr'g 2 or 3, Manual Train'g 8. Fine Arts 6
Education 5	Rec.	5	36	2	Educat'n 1, Dom. Science 3
Education 6	Rec.	5	36	2	Educat'n 1, Domest. Arts 5
Education 7	Rec.	5	36	2	Education 1, Fine Arts 23 and 8, Manual Train'g 8
Fine Arts 22	Studio	5	36	1	
Fine Arts 23	Studio	5	36	1	
Fine Arts 24	Shop	10	18	1	
Fine Arts 25	Studio	5	36	1	
Fine Arts 26	Studio	5	36	1	
Fine Arts 27	Studio	5	36	1	
Fine Arts 28	Studio	5	36	1	
Fine Arts 29	Studio	5	36	2	
Fine Arts 30	Studio	10	36	2	
Manual Training 2	Shop	5	36	1	
Manual Training 3	Shop	10	36	2	
Manual Training 4	Shop	10	36	2	
Manual Training 5	Shop	10	18	1	
Manual Training 6	Shop	10	36	2	
Manual Training 7	Shop	10	18	1	
Manual Training 8	Draw.	5	36	1	
Manual Training 9	Draw.	5	36	1	

COMMERCIAL SCHOOL

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Arithmetic	Rec.	5	36	2. G	
Bookkeeping 1	Rec. / Book.	10	36	2. G	
Bookkeeping 2	Rec. / Book.	10	36	2. G	Bookkeeping 1
Civil Government	Rec.	5	12	0.7 G	
Commercial Geography	Rec.	5	36	2. G	
Commercial Law	Rec.	5	12	0.7 G	
English	Rec.	5	36	2. G	
Finance	Rec.	5	12	0.7 G	
Penmanship	Writ.	5	36	0.5 M	
Stenography 1	Rec / Dict.	5	36	1. M	
Stenography 2	Rec. / Dict.	5	36	1. M	
Typewriting	Type.	5	36	0.5 M	Stenography 1

TABULAR ARRANGEMENT OF SUBJECTS

ACADEMY

M or G in "Credit" column indicates whether the subject earns Manual (M) or General (G) credits.

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Algebra	Rec.	5	36	2. G	
Art Training 1	Studio	5	18	0.5 M	
Art Training 2	Studio	5	18	0.5 M	Art Training 1
Art Training 3	Studio	5	18	0.5 M	Art Training 1
Art Training 4	Studio	5	18	0.5 M	Art Training 1
Art Training 5	Studio	5	18	0.5 M	Art Training 1
Art Training 6	Studio	5	18	0.5 M	Art Training 1, 5
Art Training 7	Studio	10	36	2. M	Art Training 1
Art Training 8	Studio	5	18	0.5 M	Art Training 2nd year
Art Training 9	Shop	10	36	2. M	Elementary Art and
Art Training 10	Shop	10	36	2. M	Manual Training
Botany	Lab. / Rec.	10	36	2. G	
Chemistry 1	Lab. / Rec.	7 / 3	36	G	Algebra and Geometry / English 2
Cooking	Shop	10	36	2. M	
Dressmaking	Shop	10	18	1. M	Plain Sewing
English 1	Rec.	5	36	2. G	
English 2	Rec.	5	36	2. G	English 1
English 3	Rec.	5	36	2. G	English 2
English 4	Rec.	5	30	2. G	English 3
Expression	Rec.				
Forging	Shop	10	36	2. M	Wood Work
French 1	Rec.	5	36	2. G	
French 2	Rec.	5	36	2. G	French 1
French 3	Rec.	5	36	2 G	French 2
French 4	Rec.	5	36	2. G	French 3
German 1	Rec.	5	36	2 G	
German 2	Rec.	5	36	2. G	German 1
German 3	Rec.	5	36	2. G	German 2
Higher Algebra	Rec.	5	18	1. G	Algebra
History 1	Rec.	5	36	2. G	
History 2	Rec.	5	36	2. G	
History 3	Rec.	5	36	2. G	
History 4	Rec.	5	24	1.3 G	English 3
History 5	Rec.	5	12	0.7 G	History 4
Latin 1	Rec.	5	36	2. G	
Latin 2	Rec.	5	36	2. G	Latin 1
Latin 3	Rec.	5	36	2. G	Latin 2
Machine shop Practice I	Shop	10	24	1.3 M	Pattern-shop Practice I
Machine-shop Practice II	Shop	10	24	1.3 M	Machine-shop Practice I
Mech. Drawing 1	Draw.	5	18	0.5 M	
Mech. Drawing 2	Draw.	5	18	0.5 M	Mechanical Drawing 1
Mech. Drawing 3	Draw.	5	36	1. M	Mechanical Drawing 2
Mech. Drawing 4	Draw.	5	36	1. M	Mechanical Drawing 3
Millinery	Shop	10	18	1. M	
Pattern-shop Practice I	Shop	10	12	0.7 M	Forging and Pl. Geometry
Pattern-shop Practice II	Shop	10	12	0.7 M	Pattern-shop Practice I
Physical Culture	Gym.	5	36	1. M	
Physical Geography	Rec.	5	36	2. G	
Physics 1	Lab. / Rec.	7 / 3	36	2. G	Algebra and Geometry / English 2
Plain Sewing	Shop	10	36	2. M	Art Training 1
Plane Geometry	Rec.	5	36	2. G	
Solid Geometry	Rec.	5	18	1. G	Plane Geometry
Spanish 1	Rec.	5	36	2. G	
Spanish 2	Rec.	5	36	2. G	Spanish 1
Trigonometry	Rec.	5	18	1 G	Algebra and Solid Geom'y
Wood Carving 1	Shop	10	36	2. M	
Wood Carving 2	Shop	10	36	2. M	Wood Carving 1
Wood Work I	Shop	10	36	2. M	
Wood Work II	Shop	10	36	2. M	Wood Work I
Zoology	Lab. / Rec.	10	36	2. G	

LIST OF STUDENTS

1906-1907

COLLEGE

Bettannier, Louis Eugene.....Pasadena
Bixby, Florence Lydia.....Pasadena
Blanchard, Thurston Leroy.....Covina
Cass, Phil.....Los Angeles
Daley, Albert Cowles.....Pasadena
Dickey, Ziska Mills.....Dinuba
Ferguson, Benjamin.....Pasadena
Giddings, Joe.....Pasadena
Guillou, Alfred Victor.....Pasadena
Guirado, Alonzo.....Los Angeles
Hall, Lillian Marie.....Boone, Ia.
Harker, Harry Finch.....Pomona
Harrison, Benjamin Demas.....Pasadena
Hillman, Will Hoffman.....Los Angeles
Hyde, George McDonnell.....Pasadena
Lewis, Stanley Morton.....Herbst, Ind.
Lucas, Harold Bradford.....Pasadena
Macdonald, Leroy Fischer.....Pasadena
McCreary, Charles.....Los Angeles
McDonald, Bert.....Alhambra
Mendenhall, Allen Fay.....El Modena
Miller, James Collins.....Regina, Can.
Moses, Ray Ivan.....Lancaster, Wis.
Okazaki, Kamajiro.....Los Angeles
Painter, Robert Alden.....Pasadena
Pimentel, Rafael.....Oaxaca City, Oaxaca, Mex.
Robinson, Charles John.....Los Angeles
Taylor, Walter Penn.....Pasadena
Ward, Royal Vincent.....Pasadena
Wright, Harry Earl.....Pasadena

NORMAL

Abbott, Anna Mackay.....Lordsburg
Acres, Olive.....Pasadena
Andrews, Harriet Louise.....Minneapolis, Minn.
Archibald, Bessie Mildred.....Colton
Bettannier, Lucie Adele.....Pasadena
Chrisman, Edna Gertrude.....Ventura
Crooks, Grace.....Boone, Ia.
Culbertson, Anne Scott.....Santee
Davenport, Ethel Vere.....Los Angeles
Fordyce, Grace.....Altadena
Gray, Lola.....Fairfield
Groenendyke, Elizabeth.....Pasadena
Hall, Susanne.....Boone, Ia.
Harnett, Anne Hutchinson.....England, Kent
Henry, Ada Bel.....Los Angeles
Hill, Ava Lou.....Pasadena
Hill, Viola Caroline.....Santa Ana
Judson, Helen.....Bostonia
Keith, Birdie May.....Sacramento
Killefer, Katherine.....Los Angeles
King, Della.....Whittier
Linendoll, Mildred.....Altadena

Macaulay, Clara Evelyn.....Los Angeles
Magee, Letitia Lane.....Los Angeles
Mason, John Henry.....Portland, Ore.
McRae, Sarah.....Everett, Wash.
Mott, Orra Anna Nathalie.....San Diego
Nickel, Nettie.....Waupaca, Wis.
Ocheltree, Margaret.....Berkeley
Palmer, May.....Alameda
Paulding, Christina Wood.....Pasadena
Pickering, Mary Emily.....Pasadena
Porter, Mary Luella.....Santa Barbara
Salyer, Althea.....Los Angeles
Scott, Virginia .....Artesia
Shaw, EllaM.....Berkeley
Tabor, Hattie S.....Alameda
Trailor, Frances B.....Rivera
Wakefield, Violet.....Oakland
West, Edna Florence.....Los Angeles
Wildgoose, Albert Victor.....London, England
Willits, Louie Kooser.....Pasadena
Wilson, Elizabeth.....Kokomo, Ind.

ACADEMY

Alcock, Ralph Melville.....Piru
Allin, Roy Merton.....Iowa City, Ia.
Anderson, Wesley.....Los Angeles
Andrews, Raymond Daniel.....Sierra Madre
Appleton, Harold Gilman.....Longmont, Colo.
Avakian, Carapet.....Caucasas, Russia
Bacon, Francis.....Los Angeles
Bacon, Smith Julian.....Los Angeles
Bailey, LeRoy Harrison.....Los Angeles
Baker, Harold Underwood.....Lakeview
Bard, Richard.....Hueneme
Barker, Huntington.....Pasadena
Barndollar, Gladys.....Long Beach
Batz, Marguerite Katherine.....Farmdale
Bean, Charles Everett.....Loraine, Ill.
Beck, Clarence.....Chino
Beecher, Sumner Howard.....Kingman, Ariz.
Beeson, Veva Odetta.....Los Angeles
Belford, Andrew Alexander.....Chicago, Ill.
Bixby, Allen Bigelow.....Pasadena
Benton, Irving Wright.....Pasadena
Bland, Serena Lois.....Pasadena
Blattner, Helen Harland.....South Pasadena
Bolles, Halbert Searles.....San Fernando
Boothe, Isaac Jay.....Los Angeles
Bowman, Eunice Wright.....Pasadena
Boyle, James Lee.....Los Angeles
Boynton, Ralph Henry.....Los Angeles
Brooke, Francis Marion.....Los Angeles
Brown, Cedric Earl.....Pasadena
Burger, Florence Eula.....South Pasadena
Burnham, William Henry, Jr.....Orange
Buxton, Jay Russell.....Rialto
Camp, Charles Lewis.....Sierra Madre
Camp, Paul Elden.....San Francisco
Carrington, Bertram Williamson.....Pasadena
Case, Carlos Cyrus.....Pasadena

Cass, Frank Tufts.....Los Angeles
Claberg, Clay.....Santa Paula
Clapp, Margaret Avice.....Los Angeles
Clark, Charles Laureston.....Sierra Madre
Compton, Fauntleroy Langstroth.....Glenwood, Mich.
Conant, Francis Heath.....Santa Barbara
Cook, Adolph Henry.....Chicago, Ill.
Cook, Inez Whiting.....Glendora
Coolidge, Rachel Abbie.....Pasadena
Coote, Frederick Norman.....Los Angeles
Cordiner, Alexander.....Los Angeles
Coulston, John Thomas.....Pasadena
Crandall, Bessie Palmer.....Pasadena
Criswell, Ralph Greene.....Sierra Madre
Culver, Lucile.....Pasadena
Cummings, Edwin Booth.....Pasadena
Davis, Charles Merritt.....Pasadena
Davis, Marguerite.....Rochester, N. Y.
Davis, Matilda Dorothy.....Pasadena
Dellinger, Frederick Otto.....Los Angeles
Dickinson, Grace.....Pasadena
Dickinson, Helen.....Pasadena
Dixon, Joseph.....Pasadena
Donnatin, George.....Los Angeles
Dougherty, John Frank.....San Diego
Dowdle, John William.....Douglas, Ariz.
Dunn, Margeurite Isis.....South Pasadena
Earley, Alice.....Pasadena
Earley, George Curtis.....Pasadena
Eaton, Burdick.....Pasadena
Edwards, Alfred Williams.....Puente
Edwards, Noel Condiff.....Prospect Park
Eliel, Paul.....Pasadena
Ellinwood, Cornelia.....Bisbee, Ariz.
Embree, Bessie Ellen.....Monrovia
Engelhardt, Carroll Clayton.....Glendora
English, Jay.....Pasadena
Farrell, William Matthew.....Pasadena
Ferguson, Richard.....Lincoln, Neb.
Fillmore, Hugh Hamilton.....Los Angeles
Ford, Jay Banbury.....Pasadena
Foster, George Fuller.....Bar Harbor, Me.
Fox, Jesse Butler.....Globe, Ariz.
French, John Bedford.....Buffalo, N. Y.
Frey, Elmer Ernest.....Pasadena
Gabriel, Arthur Corydon.....Pasadena
Gardiner, Everett Southworth.....Pasadena
Garland, Eldon Addison.....Nordhoff
Gates, Howard Elliot.....Anaheim
Geohegan, Joseph Anthony.....Pasadena
Gerberding, Thomas.....Hueneme
Gerckens, Henry.....Los Angeles
Gerhart, Ray.....Lordsburg
Glass, Dudley Richard.....Pasadena
Glasscock, Bernard Charles.....Pasadena
Gleason, Rutherford Erwin.....Los Angeles
Gosney, Henry Ross.....Fort Worth, Tex.
Grant, Lillian.....South Pasadena
Graves, Marcia Lee Howard.....Pasadena
Green, Percy Bartlett.....Colorado Springs, Colo.

Green, Thomas Edward ..... South Pasadena
Gregg, Gladys Louise ..... Pasadena
Grimm, Hattie Helen ..... Pasadena
Guillou, Rene ..... Pasadena
Guillou, Victor ..... Pasadena
Hacker, Harold Edward ..... Los Angeles
Hall, Virgil Clifford ..... Emporia, Kans.
Hamilton, Alice ..... Pasadena
Hamilton, Marian Manley ..... Pasadena
Hansen, Edwin Rudolph ..... Escondido
Harris, Leon Milton ..... Pasadena
Harris, Madelein Mary ..... Pasadena
Harris, Roy Witham ..... Pomona
Harville, Frank Russ ..... Ferndale
Haskett, Roscoe Conkling ..... Fort Smith, Ark.
Hayes, Ben ..... El Monte
Heller, Merrill J. ..... Long Beach
Henderson, Haines Theodore ..... Santa Paula
Hendrick, Everett Harry ..... Azusa
Hester, George Knight ..... Pasadena
Hollinger, Gemma Virginia ..... Altadena
Honey, Walter ..... Orange
Hook, Rufus Merritt ..... Perris
Horrell, William Amos ..... Pasadena
Hovey, Chester Raymond ..... South Pasadena
Hoyt, Edward Raymond ..... Redlands
Hunter, Paul Mallers ..... Pasadena
Hurley, Edwin Nash Keeley ..... Wheaton, Ill.
Husher, Edwin Neal ..... Alhambra
Jack, Ben Freeman ..... Los Angeles
Jacobs, Fred Herbert ..... Hermon
Johnson, Wilbur Wallace ..... Pasadena
Jones, Lawrence Mortimer ..... Joliet, Ill.
Jones, Louis Hollister ..... Iowa Falls, Ia.
Jones, Ralph ..... Pasadena
Judd, George Thomas ..... Pasadena
Judd, Harriet Stewart ..... Pasadena
Kellogg, Florence Ellen Scripps ..... Pasadena
Kendall, Ella Frances ..... Pasadena
Kiler, William Paulin ..... Mecca
Komoda, Henry Hanjero ..... Japan
Krafft, Earl Adolf ..... Sierra Madre
Kraft, Edward Louis ..... Pasadena
Lamont, Leighton M. ..... Los Angeles
Lange, Ernest Schroeder ..... Pasadena
Lee, Scott Mortimer ..... Los Angeles
Lewis, Henry ..... Camarillo
Lifur, Frances ..... Shorb
Linnard, LeRoy ..... Pasadena
Lisk, Anson ..... Pasadena
Livezey, John Barnes ..... Mexico City, Mex.
Lord, Edgar Allen ..... Pasadena
Lucas, Henry Laurence ..... Pasandena
Ludy, Clarence Chester ..... Pasadena
Macdonald, James Frederic ..... Seattle, Wash.
Mackey, Winifred Frances ..... Avalon, Santa Catalina
Magill, Mervyn Morris ..... Pasadena
Martin, Frank Lounes ..... Highland
McCament, Jessie Maude ..... Pasadena
McGrath, Anthony Russell ..... Pasadena

McKibben, Vinton Moore.....Chicago, Ill.
Meek, Blanche Frances.....Los Angeles
Merrifield, John Dodge.....Monango, N. D.
Miller, Lloyd.....Pasadena
Miller, Robert Bruce.....Redlands
Miller, Robert Ellsworth.....Pasadena
Moffatt, Howard.....Rialto
Monks, Howard Irvin.....Watertown, S. D.
Moody, Graham Blair.....Los Angeles
Moore, Florence Luana.....Willoughby, Ohio
Morris, Samuel Brooks.....Pasadena
Mosher, Frank Bartlett.....New Richmond, Wis.
Mulholland, William.....Los Angeles
Muller, Josephine Marie.....East San Gabriel
Murray, Hamilton.....San Gabriel
Murray, Virginia.....San Gabriel
Nash, Clara.....Nettleton, Ark.
Newton, Lyman Alman.....Globe, Ariz.
Nichols, George Page.....Pomona
Nichols, Ross Martin.....Pasadena
Nichols, Vera Rhoena.....Pasadena
Nieman, Georgia Lorrain.....Pasadena
de Normandie, Harold.....Los Angeles
Northrop, Lowell Edwin.....Los Angeles
O'Connor, William Charles.....Los Angeles
Oneal, Charles Herbert.....Pasadena
Owen, Harry S.....Los Angeles
Parker, Elizabeth.....Los Angeles
Parker, Pauline.....Los Angeles
Patten, Walter.....Pasadena
Patterson, Forrest Ashmond.....Los Angeles
Pelmear, Walter Ray.....Hollywood
Pickering, Herbert Edward.....Leavenworth, Kans.
Pierson, Alfreda Moss.....South Pasadena
Potter, Charles Guy.....Beaver, Pa.
Procter, James Machell.....Santa Monica
Reilley, Frank John.....Los Angeles
Riesen, Alvin.....Monrovia
Risdon, Edward Hamilton.....Pasadena
Rixon, Edgar.....Los Angeles
Roberts, Edward Burdette.....Pasadena
Roberts, Gordon Deane.....Alhambra
Roehn, Clara.....Berlin, Germany
Rose, Fargo Fenton.....Oxnard
van Rossem, Adriaan Joseph.....Pasadena
Seargeant, Elizabeth Cordelia.....Phoenix, Ariz.
Senour, Elsie.....Pasadena
Sharpe, Nathan.....Oak Park, Ill.
Shute, Sidney Ferguson.....San Gabriel
Shutt, Herbert Abrem.....Pasadena
Slavin, Matthew.....Pasadena
Slavin, Sara.....Pasadena
Smith, Allan Porter.....Pasadena
Smith, C. Warren.....Pasadena
Smith, J. Clark.....Pasadena
Smith, Lucy Marceline.....Pasadena
Smith, Mark Clay.....Pasadena
Spahr, John.....Pasadena
Sprague, Edgar Leon.....Woodstock, Ill.
Steinberger, James Milton.....Sierra Madre

Stewart, Colin.....Pasadena
Stokes, Frank.....Pasadena
Stokes, Herbert.....Alhambra
Stoney, George Allen.....Los Angeles
Sutton, Charles Look.....Pasadena
Svenson, Arthur Edward.....Philadelphia, Pa.
Sweeley, Frank Merriman.....Pasadena
Tantau, George Blake.....Pasadena
Taylor, Fletcher Brandon.....Pasadena
Taylor, John Meily.....Pasadena
Taylor, Marian Harriet.....Pasadena
Taylor, Raymond Wheeeler.....Pasadena
Taylor, William Henry.....Altadena
Thornburg, Charles Hix.....Sierra Madre
Tout, Carl Shippard.....Traver
Tufts, William Herbert.....Sierra Madre
Twohy, James Chandler.....Pasadena
Tyler, Sydney Williams.....Pasadena
Vail, William Banning.....Los Angeles
Van Scoyoc, Lloyd Wharton.....Los Angeles
Van Zandt, Elwyn Benjamin.....Pasadena
Van Zandt, John Parker.....Pasadena
Vatcher, Mary Elizabeth.....South Pasadena
Vinson, Thomas Newell.....Pasadena
Wadsworth, Joseph Hilton.....Pasadena
Waldron, Grace Winifred.....Pasadena
Warren, Charles Mavro.....Glendora
Warren, William Halford.....Glendora
Waterman, Robert Wood.....San Diego
Weik, Fred.....Pasadena
Weld, Romaine Borden.....Pasadena
White, Mary Hazel.....Olympia, Wash.
White, Natalie.....Pasadena
Whitney, Joseph Ware.....Pasadena
Williams, John Richard.....El Monte
Williams, Thomas Grover.....Wetmore, Kans.
Williamson, William Roy.....Los Angeles
Wilson, Lucian Hornbrook.....Pasadena
Wold, Paul.....Pasadena
Wood, Herbert Sydney.....Los Angeles
Wood, Willard Selwyn.....Glendora
Wood, William Stanley.....Brooklyn, N. Y.
Woodbury, Greenleaf Moores.....Pasadena
Wright, Harry Earl.....Pasadena
Wright, Howard Walter.....Pasadena
Wynkoop, George Henry.....Pasadena
Wynkoop, Jesse Coover.....Pasadena

COMMERCIAL

Asakawa, Hachisaku.....Pasadena
Baker, Barbara.....Pasadena
Banbury, William McAllister.....Pasadena
Bell, David Smith.....Pasadena
Brandt, Emil Charles.....Pasadena
Brown, Anna Emma.....Parkhurst, Quebec, Can.
Cadwallader, Jesse.....East Highland
Carlson, Amy Adelaide.....Seattle, Wash.
Carrothers, Winifred.....Pasadena
Clark, Mabel.....San Jacinto
Coalter, William Harrison.....Flagstaff, Ariz.

Crocker, Edith Frances ..... Pasadena
Decker, Mabel Agnes ..... Pasadena
Finch, Verena M. ..... San Diego
Frost, Hazel ..... Montrose, Colo.
Gantzer, Joseph Valentine ..... Pasadena
Gaylord, Mary Cordelia ..... Pasadena
Haddock, Ray Everett ..... Pasadena
Heck, Julia Louise ..... Pasadena
Henderson, Grace Perl ..... Pasadena
Hoge, Anna Katherine ..... Pasadena
Katow, E. I. ..... Yokohama, Japan
Kenyon, Myrtle Mae ..... Globe, Ariz.
King, Gertrude ..... Pasadena
Kirkham, Reuben ..... Tropico
Lehnherr, Rachel Margaret ..... Myrtle Point, Ore.
Lowe, Herbert Elmore ..... Pasadena
Lynch, Viva Elinda ..... Pasadena
Magnuson, Torsten Alexis ..... Pasadena
Nelson, Clarence Gay ..... Tempe, Ariz.
Nye, Grace Lillian ..... Pasadena
Osborne, Harry ..... Pasadena
Pomeroy, Elsie Mabel ..... Pasadena
Raab, Minnie Antonia ..... South Pasadena
Ramsay, Henrietta M. ..... San Luis Rey
Schaefer, Gustav Edmund ..... Honolulu
Sparkes, Archie Thomas ..... Pasadena
Sparkes, Pauline Victoria ..... Pasadena
Spencer, Alice Clare ..... Box Butte, Neb.
Swan, Virginia Christine ..... Pasadena
Taylor, Archie Allerton ..... Sully, Ia.
Tobey, Charles Pike ..... Salem, Mass.
Wakeham, Ernest Alfred ..... Santa Ana

ELEMENTARY

Alexander, Max H. ..... Pasadena
Allen, Millard Washington ..... Fresno
Anderegg, Grace Elizabeth ..... Pasadena
Anderegg, Mae Haase ..... Pasadena
Anderson, Hugh Paxton ..... Norton, Kans.
Armstrong, Alfred Warner ..... Altadena
Atterbury, Boudinot Bakewell ..... Pasadena
Baer, Mildred ..... Pasadena
Bailey, Clarence Allen ..... Hermon
Bailey, Clifford Sherwood ..... Pasadena
Barker, Justin Neall ..... Pasadena
Barry, Edmond Drinan ..... Pasadena
Barry, Eleanor ..... Galesburg, Ill.
Barry, Houston Auguston ..... Galesburg, Ill.
Bartlett, Constance ..... North Pasadena
Barton, Amelia Page ..... Chicago, Ill.
Bates, Alfred Bertolet ..... Pasadena
Bechhoefer, Jeannette ..... St. Paul, Minn.
Blow, Charlotte ..... Pasadena
Blow, Richard Tunstall ..... Pasadena
Boorman, Sherman ..... Pasadena
Borton, Edward William ..... Los Angeles
Bowles, Stanley Lloyd ..... Pasadena
Bowling, Charles Henry ..... Pasadena
Boynton, Eugene Louis ..... Pasadena
Brainard, Ralph Stoddart ..... Pasadena

Brown, Austin Gould ..... Pasadena
Brown, Marian ..... Pasadena
Butterworth, Harold Hunter ..... Altadena
Caldwell, Cholett ..... Battle Creek, Mich.
Callery, John Boyle ..... Pasadena
Cave, Lillian Lorena ..... Tempe, Ariz.
Chamberlain, Florence ..... Pasadena
Childs, Herbert Blake ..... Pasadena
Clapp, Elizabeth ..... Evanston, Ill.
Coffin, Owen ..... Santa Ana
Cook, Edward Thayer ..... South Pasadena
Coulston, George Seidel ..... Pasadena
Crumb, Rowell Hanford ..... Pasadena
Currier, LeRoy ..... North Pasadena
Curtis, William Worth ..... Sandusky, Ohio
Dexter, Constance Lucretia ..... Pasadena
Dimit, Lester ..... North Pasadena
Donnelly, Raymond Paul ..... South Pasadena
Drake, Carlos Corey ..... Lake Geneva, Wis.
Drew, Leon Wilson ..... Pasadena
Drummond, Harrison ..... Pasadena
Duarte, Pedro Enrique ..... Agana, Island of Guam
Dutton, Horace Myrton ..... Pasadena
Eadie, Robert Macgregor ..... Pasadena
Eaton, Dorothy Frances ..... Pasadena
Edwards, Marjorie Gwendoline ..... Pasadena
Eliel, Leon Theodore ..... Pasadena
Ellinwood, Ralph Everett ..... Bisbee, Ariz.
Elliott, Grace Susanah ..... Pasadena
Emmons, Bessie Marie ..... Pasadena
Engels, Basil Baird ..... Pasadena
Fleming, George Adair ..... Rhyolite, Nev.
Ford, Dorothy Yale ..... Pasadena
Forden, Marion Rickert ..... Los Angeles
Gammon, Bertie Grace ..... Pasadena
Gammon, Stella ..... Pasadena
Gartz, Adolph Frederic ..... Lake Geneva, Wis.
Gartz, Richard Crane ..... Lake Geneva, Wis.
Gates, Albert Peter ..... Pasadena
Gates, Artemus ..... Clinton, Ia.
Gates, Charles Clifford ..... Pasadena
Gates, Don Carlos ..... Pasadena
Gates, Gertrude Elizabeth ..... Pasadena
Gerberding, Christian Otto ..... Hueneme
Gerould, Irene ..... Pasadena
Gilman, Mossman David ..... Los Angeles
Godbe, Raymond ..... Los Angeles
Goodwin, Arthur Harrison ..... Pasadena
Gosney, Lois ..... Flagstaff, Ariz.
Gosney, Tyrene Gladys ..... Flagstaff, Ariz.
Gray, George Allison ..... Pasadena
Green, Allen Wilbur ..... Pasadena
Griffin, Frank Sumner ..... Altadena
Griffin, George ..... Altadena
Grimes, Zillah ..... Pasadena
Guillou, Carroll Brewster ..... Pasadena
Hart, Stadden Stimpson ..... Pasadena
Hawks, Howard Winchester ..... Pasadena
Hawks, Kenneth Neil ..... Pasadena
Hawley, Harold Clinton ..... South Pasadena

Hawley, Merwin Spencer ..... South Pasadena
Henderson, Harry Seymor ..... Pasadena
Henderson, James ..... Saltillo, Quali, Mex.
Henderson, Mary Senior ..... Pasadena
Herd, Clifton Bradford ..... Pasadena
Herlihy, Harold Walter ..... Pasadena
Heydenreich, Aimee Ramona ..... Pasadena
Holmes, William Henry ..... Coronado
Honey, Crawford ..... McPherson
Hopwood, Clyde ..... Pasadena
Hopwood, Glenn Norton ..... Pasadena
Horrell, John Abraham ..... Pasadena
Houston, Marshal David ..... El Monte
Howe, Marian Sprague ..... Los Angeles
Hunt, Charles ..... Pasadena
Hurley, Raymond J ..... Chicago, Ill.
Jardine, Catherine Bayliss ..... Pasadena
Jardine, John Earle ..... Pasadena
Johnson, Joseph Jerome ..... Pasadena
Johnson, Ruth Elizabeth ..... Pasadena
Jump, Eugene Williams ..... Pasadena
Jump, Robert Brodaway ..... Pasadena
Kane, Kenneth ..... Goldfield, Nev.
Karbach, Katherine ..... Pasadena
Keller, Henry Oliver ..... Hermon
Keller, Robert Lindsay ..... Pasadena
Kellogg, Dorothy Winifred ..... Altadena
Kellogg, William Scripps ..... Altadena
Kendall, Charles ..... Pasadena
Kinney, Sherwood ..... Venice
Kirk, Fredericka Victoria ..... Pasadena
Kirk, Grace Madeline ..... Pasadena
Kirk, John Balderstone ..... Pasadena
Kirk, Ysobel Georgina ..... Pasadena
Lavagnino, John Francis ..... Pasadena
Lazaer, Houston ..... Santa Barbara
Leitheade, Donald ..... Seattle, Wash.
Lewis, Guy C ..... Pasadena
Lillie, Albert Reed ..... Chicago, Ill.
Lillie, Catherine ..... Chicago, Ill.
Lillie, Ethan Aken ..... Chicago, Ill.
Lowther, Alexander Neal ..... Los Angeles
Lowther, George Chambliss ..... Los Angeles
Lummis, Turbese Dorothea ..... Los Angeles
McBride, Emily ..... Pasadena
McCurdy, Howard ..... Pasadena
McKinlock, Guillaume ..... Pasadena
Meek, Chester Irving ..... Los Angeles
Miller, Edgar Gail ..... Pasadena
Miller, John Borden ..... Pasadena
Morris, Benjamin West ..... Pasadena
Morris, Charles William ..... Pasadena
Morrison, Florence Catherine ..... Pasadena
Murphy, Allen Green ..... Pasadena
Neilson, Ariel ..... Garvanza
Nevin, La Verne ..... Rialto
Palmateer, Selden Dow ..... Pasadena
Palmer, Kyle Dulaney ..... Altadena
Palmer, Ruby Mary ..... Pasadena
Pedley, Eric ..... Pasadena

Pedley, Lionel ..... Pasadena
Porter, Herbert Hugh Knight ..... Pasadena
Ragsdale, Addie May ..... Sierra Madre
Raymond, Arthur Emmons ..... Pasadena
Rose, Gilbert Blackman ..... Oxnard
van Rossem, Walter John ..... Pasadena
Scott, Lester Fremont ..... Los Angeles
Scoville, Charles Burton ..... Pasadena
Senour, Roy Raymond ..... Pasadena
Sharpe, Allan ..... Chicago, Ill.
Shlaudeman, Harry ..... Pasadena
Shlaudeman, Karl Whitman ..... Pasadena
Shlaudeman, Robert ..... Pasadena
Shlaudeman, Mildred ..... Pasadena
Smith, Kirby Campbell ..... Daytona, Fla.
Smith, Robert Harvey ..... Pasadena
Smith, Worthington Charles ..... Pasadena
Stambach, George Mahlon ..... Pasadena
Stearns, Helen Lindsay ..... Pasadena
Stewart, Myrna ..... Cleveland, Ohio
Strahorn, Arthur Kellogg ..... Sierra Madre
Strieff, Roberta Florence ..... Pasadena
Sturdevant, Isabella Affie ..... Pasadena
Taylor, Edward Winslow ..... Germantown, Pa.
Taylor, Helen Halter ..... Altadena
Thralls, Ernest Orrie ..... Pasadena
Tirrill, Lillian Helen ..... Pasadena
Tompkins, De Ronde ..... Pasadena
Tower, Elizabeth ..... Pasadena
Traut, Robert Reuben ..... Pasadena
Wagner, Arline ..... Pasadena
Wagner, Harriet ..... Pasadena
Waller, Encil Bower ..... Pasadena
Wetherby, Henry Visscher ..... Pasadena
Wherrit, Revere Alfred ..... Pasadena
Wicker, Helen Eliza ..... Pasadena
Wild, William Edward ..... Pasadena
Winston, Ralph Pettus ..... Los Angeles
Wright, Catherine Louise ..... Pasadena
Wright, Edward Prescott ..... Pasadena
Wright, Ernest Neall ..... Pasadena
Young, Alice Maynard ..... North Pasadena
Young, George Beaumont ..... North Pasadena

SPECIAL

Albert, Ona N. ..... Pasadena
Armstrong, Margaret ..... Altadena
Atwood, Flora Mae ..... Pasadena
Barros, Eva Maria ..... Flatlauqui, Puebla, Mex.
Benson, Glenn R. ..... La Moille, Ill.
Bingham, Lillian Gertrude ..... Denver, Colo.
Broadhurst, Mary White ..... Oil City, Pa.
Cadwallader, Stella ..... East Highlands
Call, Frances M. ..... Springfield, Mass.
Champion, Clyde Walter ..... Alhambra
Chase, Walter S. ..... Pasadena
Clark, Beth ..... Ontario
Claypool, Carrie Agnes ..... Pasadena
Clayton, John Davis ..... Atlanta, Ga.
Cords, Louise ..... Pasadena

Davies, Arthur E. ..... Orillia, Ontario, Can.
Dow, Louise Campbell ..... Artesia
Dyas, Clyde Hope ..... St. Louis, Mo.
Ferguson, Robert Likes ..... Lincoln, Neb.
Fitzgerald, M. Helene ..... Pasadena
Gorrochotegui, Gabriel B. ..... Tuxpam, Mex.
Haase, Clara Louise ..... Oak Park, Ill.
Harbert, Corinne Boynton ..... Pasadena
Hayes, Mrs. Edith I. ..... Los Angeles
Hess, Venice H. ..... Pasadena
Hoyt, Jessie A. ..... Pasadena
Irvine, Lillian ..... Pasadena
Jones, Alma Blakeman ..... Sierra Madre
Kellogg, Mary Frances ..... Altadena
Lamson, Charles A. ..... Pasadena
Martin, Mrs. Edyth Glover ..... Anacortes, Wis.
Masten, Benjamin Franklin ..... Los Angeles
McCartney, Norma ..... Pasadena
McGrew, Evelyn ..... Pasadena
Melick, Mrs. Grace ..... Pasadena
Mersereau, Edith ..... Pasadena
Miller, June Estelle ..... Pasadena
Oliver, Mrs. Sarah T. ..... Pasadena
Roberts, Ernest Lewis ..... Poultney, Vt.
Rockwell, Vera ..... Hartford, Ct.
Rowley, Jeannette ..... Niles, Mich.
Shirpser, Edna ..... El Monte
Stehman, Genevieve ..... Pasadena
Swigart, Carrie Ross ..... Norwalk
Unger, Edith Cora ..... Chambersburg, Pa.
Warner, Mrs. Ellen M. ..... Pasadena
Whitney, Margaret Ware ..... Pasadena
Wilson, Mrs. John Miller ..... Pasadena
Wolfenstetter, Ethel J. ..... Pasadena
Wolfsohn, Mast ..... San Francisco
Wolfsohn, Rachel ..... San Francisco
Wright, Nita Jermayne ..... Pasadena
Young, Sarah Jane ..... Pasadena

SUMMARY

	Male.	Female.	Total.
College	28	2	30
Normal School	2	41	43
Academy	210	54	264
Commercial School	18	25	43
Elementary School	132	57	189
Special	11	42	53
	401	221	622
Duplicates	2	...	2
	399	221	620

GRADUATES

1895.

NORMAL SCHOOL.

Daniels, Esther C. (Mrs. Turner).....Teacher of Sloyd, Los Angeles
Gower, Hattie F.....Teacher of Sloyd, Los Angeles
Harris, Caroline E.....Teacher of Sloyd, Los Angeles
Miller, Charles M.....Teacher of Manual Training, Los Angeles
Simcoe, Benjamin F.....Teacher of Manual Training, San Francisco

ACADEMY

Allen, Robert S.....Deputy County Recorder, Pasadena
Carlton, Don W.....Banking, First National Bank, Los Angeles
Doty, George F. (A. B. T. P. I.,) Cashier Merchants National Bank Santa Monica
Ferguson, Clarence, Vice-President, Los Angeles Leather & Finding Co., L. A.

1896.

COLLEGE.

Haynes, Diantha M., A. B. (A. B., L. S. Jr. Univ.) Science Teacher.....Dixon Union High School
Doty, George F., A. B.....Cashier, Merchants' National Bank, Santa Monica

NORMAL SCHOOL.

Beckwith, Kate B. (Mrs. Thos. E. Everett).....Tulare
Burkhead, Ada H. (Mrs. Hale Weaver).....Los Angeles
Chamberlain, Arthur H. (B. S. and A. M.), Columbia Univ.) Dean and Professor of Education, T. P. I.....Pasadena
Johnson, Annette.....Teacher of Sloyd, Los Angeles
Keyes, Mrs. Helen B.....Hartford, Ct.
Matthews, Amanda.....Los Angeles
McLaren, Jennie.....Teacher, Alameda
Riggins, Ara, Teacher and Missionary in Colegio Palmore, Chihuahua, Mex.

ACADEMY

Arnold, Ralph, (Ph. D., L. S. Jr. Univ.) Geologist and Paleontologist U. S. Geologic Survey.....Washington, D. C.
Conger, Lulu N.....Pasadena
Gray, Roy W., Division Construction Foreman, Pacific States Telephone and Telegraph Company.....Portland, Oregon
Menner, Ivy (Mrs. John Taggart).....Pasadena
Morrison, Margaret L.....Compton
Snyder, Blanchard M., Assistant Sup't. British Columbia Copper Company.....Greenwood, B. C.
Winslow, Edward F.....Los Angeles

1897.

COLLEGE.

Grinnell, Joseph, A. B. (A. M., L. S. Jr. Univ.)...Prof. of Biology, T. P. I.

NORMAL SCHOOL.

Batchelder, Lizzie.....Teacher of Sloyd, Los Angeles
Blanchard, Ada F.....Teacher of Sloyd, Los Angeles
Cleveland, Ada C.....Teacher, Public Schools, Pasadena

Cook, Mary A.....Portland, Ore.
Coombs, Sara C.....Teacher, Visalia
Fisher, Pearl B.....Instructor in French and Drawing, T. P. I.
Holbrook, Lucy M.....Teacher, Worcester, Mass.
Mellish, Ida.....Rome, Italy
Smith, Mary M. (Mrs. Weld).....Pasadena
Wright, Charles H.....Architect, Boulder, Colo.

ACADEMY

Baker, Calvin.....Pasadena
Baker, Ruth Ellen.....Pasadena
Barker, James Edmund (S. B., Mass. Inst. of Technology) Gen. Supt. Ventura Water, Light and Power Co.....Ventura
Blick, Kate Fay,.....Real Estate, Pasadena
Conger, Lyda Drowne (Mrs. Richard A. Vose)....Oklahoma City, Oklahoma
Conger, Ray Everett, Insurance and Real Estate...Oklahoma City, Oklahoma
Farnsworth, John Arthur.....With Cal. Sash and Door Co., Los Angeles
Jewett, Frank Baldwin (Ph. D., Univ. of Chicago), with American Telephone & Telegraph Company.....Boston, Mass.
*Johnston, Blanche.
McQuilling, William.....Secretary, Pasadena Land & Water Co.
Polkinhorn, Edwin J.....In business, City of Mexico, Mex.
Reed, John O.....Machinist, Beet Sugar Factory, Los Alamitos
Russell, Emma (Mrs. Frank C. Heath).....Berkeley
Stimson, Charles W.....Lumber business, Seattle, Wash.
Vose, Richard A...Manufacturer of Cotton Seeds Products, Oklahoma City, Oklahoma

1898.

COLLEGE.

Blackman, Roy Beebe, A. B., Supt. of Schools, Mangaldan, Philippine Islands
Jewett, Frank Baldwin, A. B. (Ph. D., Univ. of Chicago) with American Telephone & Telegraph Company.....Boston, Mass.

NORMAL SCHOOL.

Elleau, Jeannete Marcelle (Mrs. Harold Simpson).....Los Angeles
Elleau, Pauline Margaret (Mrs. Frederick Rhoades).....Seattle, Wash.
Faithful, Claude A., Teacher of Drawing, Los Angeles Polytechnic High School
Hannah, Lillian.....Ontario
Hunt, Genie A.....Manual Training Teacher, Harvard School, Los Angeles
Jordan, Mabel (Mrs. Charles F. Denison).....Pasadena
*Olson, Albert L. (A. B., T. P. I.)
Russell, Emma (Mrs. Frank C. Heath).....Berkeley
Sanders, M. Frances.....Teacher of Sloyd, Los Angeles
Shields, Mrs. Alice.....Teacher of Sloyd, Los Angeles
Webber, Marie Bambrick.....Highgrove

ACADEMY

Beery, Mary Ellen.....South Pasadena
Folsom, Harry G. (S. B., Mass. Inst. of Technology) with Los Angeles Lime Co.....Los Angeles
Gaylord, Horace Amidon, (D. D. S., Baltimore Dental College)..... Dentist, Pasadena
Gaylord, Jas. Mason (B. S., T. P. I.).....Student Mass. Inst. of Technology
Menner, Lotie Ethel (Mrs. Jas. D. Sheckler).....Pasadena
Monroe, Grace Ellen (Mrs. John O. Reed).....Los Alamitos
*Olson, Albert L., (A. B., T. P. I.).

*Deceased.

Poindexter, Charles Lawrence.....Mining Engineer, Durango, Mex.
Sterrett, Roger Jordan, Head of Drawing Department, Los Angeles High School.....Los Angeles
Wright, Rachel Edna (Mrs. Delos Jones).....Rialto

1899.

NORMAL SCHOOL.

Barker, Katherine K.....Teacher of Domestic Science, Los Angeles
Blanford, May.....Teacher of Domestic Science, Los Angeles
Burnett, Grace (Mrs. Carl Raleigh).....Los Angeles
De Yoe, Mrs. Rose J.....Teacher of Domestic Science, San Francisco
Fordyce, Mabel.....Altadena
Haller, Dora.....Teacher Cumnock School, Los Angeles
Jordan, Mabel (Mrs. Chas. F. Denison).....Pasadena
Read, Archie L.....in business, San Francisco
Sabin, Jessie MacFarland.....Pasadena
Southwick, Clara.....Instructor in Elementary School, T. P. I.

ACADEMY

Bixby, William F. (C. E., Rensselaer Polytechnic Institute) Civil Engineer.....City Engineer's Office, Los Angeles
Clark, Adeline Orilla (Mrs. Lowrie B. Nevin).....Waialua, Oahu, H. I.
Davidson, Leonard (B. S., T. P. I.) Teacher of Manual Training, Public Schools.....San Francisco
Fordyce, Mabel.....Altadena
*Raleigh, Carl.
Wood, Clifford H. (M. D., U. S. C.) Physician.....Vallejo

1900.

COLLEGE.

Harris, Irving, A. B., Foreman of Machine Shop, Edison Electric Company.....Los Angeles
*Olson, Albert, A. B.

NORMAL SCHOOL.

Anderson, Lucy J.....Pasadena
Brooks, Ada M.....Teacher of Kindergarten, Pasadena
Davidson, Leonard E. (B. S., T. P. I.) Teacher of Manual Training Public School.....San Francisco
Dobbs, Ella V.....Instructor in Manual Arts, Elementary School, T. P. I.
Gower, Mary L.....Housekeeper, Los Angeles
Holton, Lola N., Special Teacher of Music and Drawing, Public Schools Long Beach
Lyde, Louise.
Martin, Walter W.....Instructor in Woodworking, T. P. I.
Metcalf, Stella (Mrs. H. S. Knapp).....Bertrand, Neb.
Moore, Nellie.....Teacher, Long Beach City Schools
Morgan, Mabel V.....Teacher of Domestic Science, Los Angeles
Peabody, Sallie.....Bookkeeper, Newport Beach
Pearce, Mrs. Susan.....Boston, Mass.
Toll, Mabel E. (Mrs. Earl Gates Heaton).....Baldwinsville, N. Y.
Van Hook, Kate.....Teacher of Sloyd, Hiawatha, Kan.

ACADEMY

Jerauld, Edwin W.....S. P. Machine Shops, Sparks, Nev.
Jewett, Pauline.....Pasadena

*Deceased.

Richards, Bessie E. (Mrs. V. Whitehead).....Artist, Pasadena
Strong, Robert M., (M. E., Columbia Univ.), Instructor in Mechanical Engineering, Columbia University.....New York City

1901.

COLLEGE.

Davidson, Leonard E., B. S., Teacher Manual Training, Public Schools, San Francisco

NORMAL SCHOOL.

Beckett, Alice M.....Teacher Public Schools, Imperial
Getchell, Mary E.....Tropico
Gibson, Annette M.....Teacher of Sloyd, Los Angeles
Glick, Naomi.....Los Angeles
Gooch, Mrs. Emma A.....Los Angeles
Hazzard, Mrs. Jessica C.....Teacher, State Normal School, Los Angeles
Johnson, Mrs. Carrie.....Teacher of Sloyd, Los Angeles
Little, Mrs. Lulu P.
Miller, Ada J.....Teacher of Sloyd, Los Angeles
Moore, Nellie.....Teacher, Long Beach City Schools
Nicholson, Maude L. (B. S., T. P. I).....Doctor of Osteopathy, Pasadena
Parsons, Ellen N.....Teacher, Bonsall
Ross, Donald A.....Supervisor of Manual Training, Pasadena Public Scools
Stevens, Elizabeth.....Lincoln Park

ACADEMY

Burtt, Dodge.....Student L. S. Jr. Univ.
Daggett, Maud.....Instructor in Drawing and Clay Modeling, T. P. I.
Eddy, Nathaniel N.....Advertising Manager, Berkeley "Independent"
Fassett, John G.....With N. Ontario Packing Co., Los Angeles
Holcomb, John Delaney (D. D. S., U. S. C.).....Dentist, Globe, Ariz.
Poage, Leland S.....Azusa
Wood, Helen Stuart.....Draughtsman, Pasadena

COMMERCIAL SCHOOL.

Erwin, Hattie B.....Los Angeles
Giddings, Joe.....Student, T. P. I., Pasadena
Giddings, Levi W.....Pasadena
Hartley, Ethel (Mrs. A. P. Smith).....Pasadena
Menner, Lottie (Mrs. Jas. D. Sheckler).....Pasadena
Pierce, Rollin W.....Bookkeeper, Wilcox, Ariz.
Richardson, Allen
Stonehouse, Nellie M.....Bookkeeper, Pasadena

1902.

COLLEGE.

Dyer, Kirk Worrell, B. S.....Student, Mass. Inst. of Technology
Gaylord, James Mason, B. S.....Student, Mass. Inst. of Technology
Nicholson, Maude Louise, B. S.....Doctor of Osteopathy, Pasadena

NORMAL SCHOOL.

Gooch, Mrs. Emma A.....Teacher of Sloyd, Los Angeles
Gould, Marie Augusta.....Pasadena
Holton, Lola N.....Teacher of Music and Drawing, Long Beach

Junkin, Mary.....Teacher of Sloyd, Los Angeles Public Schools
Richards, Bessie Everett (Mrs. V. Whitehead)
Ross, Donald A.....Supervisor of Manual Training, Pasadena Public Schools
Ross, Minnie Elizabeth
Seegmiller, Frances Caroline

ACADEMY

Braddock, Fred Blackman.....Druggist, Pasadena
Case, James Ovington, in Testing Department, Gen. Electric Co., Lynn, Mass.
*Erickson, John August.
Giddings, Lawson Henry.....Sup't. Mountain View Cemetery, Pasadena
Gould, Judson Porter.....Avalon, Catalina
Haskell, Beulah.....Pasadena
Hoose, James Harmon, Jr.
Jerauld, Rodman Ernest.....With Gaylord & Vore, Pasadena
Lescher, Royal William, Sup't. Eastern Concrete Steel Co., Buffalo, N. Y.
Linde, Eva (Mrs. Howard Thomas).....Los Angeles
Paul, Albert.....Student Univ. of Cal.
Phillips, Virginia.....Pasadena
Sidwell, Chester Clarence.....Monrovia
Tweedy, James Knox.....Downey
Webster, Mabel (Mrs. John Fassett).....Los Angeles
Wood, Hilda (Mrs. Joseph Grinnell).....Pasadena
Woodbury, Fred Ralls...Teacher Manual Training and Student Univ. of Cal.

COMMERCIAL SCHOOL.

Bonner, Ella Louise (Mrs. Schmuck).....Pasadena
Cole, Karl Jay.
Gammon, Harry Elder.....Poultry Raiser, Pasadena

1903.

COLLEGE.

Shoemaker, Richard Woolsey, B. S., Electrical Engineer for Federal Lead Company.....Flat River, Mo.

NORMAL SCHOOL.

Blanchard, Estelle (Mrs. Elmer D. Cowan).....Los Angeles
Colver, Gertrude (Mrs. L. O. Atwood).....Middleboroug,h Mass.
Fish, Carrie May.....Pasadena
Greening, Susie Amanda.....Teacher of Domestic Science, Los Angeles
Hahn, Ida.....Teacher of Domestic Science, Los Angeles
Heald, Oscar Leslie.....Student L. S. Jr. Univ.
Howard, Celia Eleanora.....Teacher, Long Beach
Wakeham, Blanche.....Assistant Instructor in Domestic Economy, T. P. I.

ACADEMY

Bandini, Ralph.....Student Leland Stanford Jr. Univ.
Bland, Rose Florence.....Pasadena
Blankenhorn, George Stevens.....With Allis Chalmers Co., Milwaukee
Blankenhorn, Louis McLaughlin....Brokerage and Investments, Los Angeles
Cartwright, Alexander Benjamin.....Alhambra
Chase, Arthur Lo, Manager Water, Light and Power Plants, Cleburne, Texas
Crane, Elliott Simeon....Ass't. Manager Fairbanks Morse Co., Seattle, Wash.
Davis, Paul McDonnell.....Student Leland Stanford Jr. Univ.
Doolittle, Harold Lukens (M. E. Cornell Univ.), with McCan Mechanical Works.....Los Angeles

*Deceased.

Fussell, Edwin Briggs.....Stenographer, Pasadena
Gaylord, John Clarence (B. S., T. P. I.) Student Mass. Inst. of Technology.....Boston, Mass.
Gosnell, Ira.....Coshocton, Ohio
Hampton, Charles Lawrence, Student Mass. Inst. of Technology, Boston, Mass.
Haskell, Edward Eben.....Student Leland Stanford Jr. Univ.
Heald, Oscar Leslie.....Student Leland Stanford Jr. Univ.
Hill, Roland Varian.....Civil Engineer, Winslow, Ariz.
Hornby, Ralph Walter, Student, Leland Stanford Jr., University, Palo Alto
Lacey, Clara Louise.....Ocean Park
Mosteller, Roy William.....Teller, American Bank and Trust Co., Pasadena
Mueller, Earl Walter.....Bank Clerk, Central Bank, Los Angeles
Niles, Porter Howe.....Surveyor, Pasadena
Price, Jacob Meday.....Student, Leland Stanford Jr. Univ.
Scudder, Jessie Ingram (Mrs. Arthur Lo Chase).....Cleburne, Tex.
Squire, Guy Oliver.....Bookkeeper Jenison and Strine, Downey
Squire, Roy Ellis, Bookkeeper and Stenographer, Los Angeles Ice and Cold Storage Company.....Los Angeles
Story, Henry Amos.....Burbank
Wyckoff, Ralph Fenton.....Student, Cornell Univ.

1904.

COLLEGE

*Beardslee, James Louis, B. S.
McCutchan, Henry Chester, B. S., with Holabird-Reynolds Electric Co.,.....Los Angeles

NORMAL SCHOOL.

Adams, Gertrude.....Los Angeles
Babcock, Martha Maud.....Assistant in Art and Manual Training, Pasadena
Guillou, Alfred.....Pasadena
Haskell, Beulah.....Pasadena
Nyce, Ida May.....Pasadena
Reed, D. C.....Supt. of Schools, Yaquima, Wash.
Parry, Geraldine.....Los Angeles
Simpkins, Mary Emily.....Teacher of Sloyd, Los Angeles

ACADEMY

Baker, Thomas Childrey.....Student, Leland Stanford Jr. Univ.
Belknap, Fred Roland.....Surveyor, Owens River Project
Brackett, Ross Dudley.....Student, Leland Stanford Jr. Univ.
Brackett, William Franklin.....Student, Leland Stanford Jr. Univ.
Breer, Carl.....Student, Leland Stanford Jr. Univ.
Brigden, Dwight.....Lamanda Park
Cline, George Thomas.....With Dyas Cline Co., Los Angeles
Daggett, Ethel Elizabeth.....Oak Park, Ill.
Dickey, Florence Ivah.....Teacher of Sloyd, Los Angeles
Fordyce, Grace.....Student T. P. I.
Hawley, Josephine.....Draughtsman, Los Angeles
Koontz, John Andrew.....Student, Leland Stanford Jr. Univ.
Leahy, Richard Armstrong.
MacNeil, Adela Robey.....Art Student Teacher's College, Columbia Univ.
Marshall, Hugh Gibson.....Student, Leland Stanford Jr. Univ.
Mason, Edgar Elwin.....With Auto Vehicle Co., Los Angeles
Maxwell, Guy Floyd.....Tropico
Morris, Charles Shoemaker.....Student, Leland Stanford Jr. Univ.

*Deceased.

Pearson, Leo Earl, Instructor Drawing and Forging, Calif. Polytechnic School
Root, Virginia Vannette.....Covina
Ryus, David Denslow, Jr.....Los Angeles
Saline, Clara Elizabeth.....Student, Normal School, San Francisco
Schrock, Charles Irvin,.....Optical Work, Solar Observatory, Pasadena
Sherman, Henry Lancey.....Student, Mass. Inst. of Technology
Stehman, John Miller.....Student Occidental College
Wakeham, Margaret.....Santa Ana
Ward, Nellie Alexandra.....Acting Instructor in Wood Carving, T. P. I.
Waterhouse, Melicent Eda.....Student Oberlin College
Wood, Helen Beulah.....Student Art Institute, Chicago

COMMERCIAL SCHOOL.

Boston, Flora Catherine.....Pasadena
Brown, Anna Thelma.....Union Savings Bank, Pasadena
Twinting, Bertha.....Pasadena

1905.

NORMAL SCHOOL

Diffenbacher, Lulu Arnold.....Los Angeles
Frost, Lillian.....Teacher of Sewing, Girls' Collegiate School, Los Angeles
Marsh, Mabel (Mrs. Chas. Wilson).....N. San Juan
Miler, James Collins.....Instructor in Manual Arts, T. P. I.
Moore, Laura Phebe.....Teacher of Sewing, Y. W. C. A., Los Angeles
Mosher, Mary Stratton.....Berkeley.
Nyce, Ida May.....Pasadena
Snell, Harry Murton.....Manual Instructor, Winnipeg, Manitoba, Canada
Story, Estelle Cornelia, Teaching Domestic Science, Whittier Union
High School.....Whittier

ACADEMY

Bettannier, Eugene.....Student, College, T. P. I.
Burnham, Roderick Deane.....Student, Univ. of Cal.
Clark, Dora Mabel.....Clerk, Diamond Realty Co., Pasadena
Coonradt, Arthur Chapin.....Student, Leland Stanford Jr. Univ.
Downing, Kathryn Leonora.....Pasadena
Frink, Clarence Harlow.....Banking, Santa Barbara
Goodspeed, Bessie May.....Pasadena
Hall, Mary Lou (Mrs. Wm. Chatters).....Pasadena
Hyde, George McDonnell.....Student, College, T. P. I
Marsh, Mabel (Mrs. Chas. Wilson).....N. San Juan
McDonald, Bert.....Student, College, T. P. I.
Painter, Robert Alden.....Student, T. P. I.
Phelps, Robert William.....Student, Univ. of Cal.
Sinclair, Arthur Wells.....Student, Cornell Univ.
Swerdfeger, Geneva Mae.....Calexico
Swigart, Laura Kathryn.....Frankfort-a-M., Germany

COMMERCIAL SCHOOL.

Ainsworth, Vivian Mabel
Beals, Delbert Samuel.....First National Bank, Pasadena
Crowley, Frank Langston
Frink, Clarence Harlow.....Banking, Santa Barbara
Gillmor, James Henry.....Edison Electric Co., Pomona
Goodspeed, Bessie May.....Bookkeeper, Minneapolis, Minn.
Morse, Anna Belle.....Pasadena
Nichols, Kittie Agnes.....With Ely Mfg. Co., Girard, Pa.
Ray, Birdie May.....Needles, Ariz.

Russell, Franklin Jason.....Student Univ. of Mich. Law School
Ward, Nellie Alexandra, Acting Instructor in Wood Carving, T. P. I.
Guirada, Neta.....Bookkeeper, Pasadena

1906.

COLLEGE

Gaylord, John Clarence, B. S.....Student Mass. Inst. of Technology
Maxson, Edgar Schuyler, B. S., In Testing Department of Edison Electric Co.....Los Angeles
Norton, Frank Edward, B. S.,.....Student, Pomona College
Wood, Hilda, B. S., (Mrs. Joseph Grinnell).....Pasadena

NORMAL SCHOOL

Brownson, Gladys.....Pasadena Public Library
Dickey, Florence Ivah.....Teacher of Sloyd, Los Angeles
Ellis, Bertha Alma.....Pasadena
Hawley, Josephine.....Teaching, Los Angeles
Howard, Grace Irene.....Pasadena
Junkin, Anne Maria.....Teacher of Domestic Science, Los Angeles
Lamb, Jennie.....Teacher Domestic Science, Pasadena
Moore, Nevada.....Teacher Manual Training, Flagstaff, Ariz.
Pearson, Leo Earl...Instructor in Drawing and Forg, Cal. Polytechnic School
Rice, Meta Cleora.....Teacher Sierra Madre
Woodbury, Fred Ralls, Teacher Manual Training Oakland and Student Univ. of Cal.

ACADEMY

Barker, Parrish.....Pasadena
Behr, Ernst Edward.....Student Univ. of Cal.
Bixby, Florence Lydia.....Student, College, T. P. I.
Brown, Leroy Gregg.....Los Angeles
Canterbury, Harry Horton.....Student Leland Stanford Jr. Univ.
Coman, William Meriam.....Pasadena
Crowley, William Lucas.....Student, Leland Stanford Jr. Univ.
Daley, Albert Cowles.....Student, College, T. P. I.
Dickey, Ziska Mills.....Student, College, T. P. I.
Dunning, Arche Muller.....With Edison Electric Co., Los Angeles
Dunning, Arthur Earl.....Reporter, Los Angeles "News"
Feuerborn, Ralph Daniel.....Automobile business, Los Angeles
Gaylord, Ruth Louise.....Assistant Librarian, T. P. I.
Gibson, Merrill Essington.....With Baker Iron Works, Los Angeles
Giddings, Blanche Elsie.....Bookkeeper, Pasadena
Harrison, Benjamin.....Student, College, T. P. I.
Henck, George Daniel.....Assistant in Wood Working, T. P. I.
Hunt, Leroy.....Student Univ. of Cal.
Leistikow, Fred William.....Grafton, N. D.
Lewis, Harriet.....Student, Kindergarten Institute, Chicago
Lisk, Anson.....With Pasadena Milling Co.
Macdonald, Leroy Fischer.....Student, College, T. P. I.
Macomber, Laurence.....Student, Leland Stanford Jr. Univ.
Macready, George Alexander.....Student, Leland Stanford Jr. Univ.
Manly, Harold Patterson.....Draughtsman, Pasadena
Moody, Wilbur Ladde.....Los Angeles
Nichols, Vernon Garrett.....Pasadena
Pittenger, Walter Ralph.....Manager "Hawaiian Star," Honolulu
Poindexter, Robert Wade.....Student Leland Stanford Jr. Univ.
Rice, Meta Cleora.....Teacher, Sierra Madre

Taylor, Walter Penn.....Student, College, T. P. I
Thompson, Lawrence Kimball.....Los Angeles
Twycross, Convers Lilly.....Sierra Madre
Warren, Herbert Clifton.....Student, Leland Stanford Jr. Univ.
Wilson, John Encell.....Pasadena
Wright, Adaline.....Student, Leland Stanford Jr. Univ.

COMMERCIAL SCHOOL.

Blakeslee, Laura Genevieve.....Upland
Burbaw, John Jr.....With American National Bank, Los Angeles
Cadieux, Mary Elma
Carrithers, Walter Adley
Dixon, James Benjamin.....With Monroe Hardware Co., Pasadena
Fitch, Florence Lina.....First National Bank, Pasadena
Giddings, Blanche Elsie.....Bookkeeper, Pasadena
Gooding, Ralph Holmes
Herard, Minnie.....In Bank, Elgin, Kan.
Kirkham, John Lee.....With Jas. H. Owen, Contractor, Los Angeles
Lieberg, Harvey
May, Ernest Crawford.....With Pasadena Savings and Trust Co., Pasadena
McIntire, Augustus Wilson.....With Simons & Co., Los Angeles
Tyler, Annie Jenella.....With Huggins and Hollander, Pasadena
Wynkoop, George Henry.....In First National Bank, Pasadena

OFFICERS OF THE ALUMNI ASSOCIATION

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