TWELFTH ANNUAL CATALOGUE

THROOP POLYTECHNIC INSTITUTE

PASADENA, CALIFORNIA, 1903-1904

CALENDAR

1903–1904

Annual Meeting Board of Trustees.....Tuesday, September 8, 1903
Registration.....Monday and Tuesday, September 21 and 22, 1903
Fall Term begins.....Wednesday, September 23, 1903
Thanksgiving Vacation..Thursday and Friday, Nov. 26 and 27, 1903
Quarterly Meeting Board of Trustees.....Tuesday, December 8, 1903
Founder's Day.....Thursday, December 10, 1903
Fall term ends.....Friday, December 18, 1903

CHRISTMAS VACATION

Winter Terms begins.....Monday, January 4, 1904
End of the first half-year.....Friday, February 12, 1904
Washington's Birthday.....Monday, February 22, 1904
Quarterly Meeting Board of Trustees.....Tuesday, March 8, 1904
W. A. Edwards Prize Debate.....Thursday evening, March 24, 1904
Winter Terms ends.....Friday, March 25, 1904

SPRING VACATION

Spring Terms begins.....Monday, April 4, 1904
Memorial Day.....Monday, May 30, 1904
Baccalaureate Sunday.....June 5, 1904
Geo. H. Coffin Prize Contest.....Monday evening, June 6, 1904
Graduating Exercises, Grammar School..Tues. morning, June 7, 1904
Alumni Reunion.....Tuesday evening, June 7, 1904
Commencement.....Thursday evening, June 9, 1904
Exhibition Day and End of Term.....Friday, June 10, 1904
Quarterly Meeting Board of Trustees.....Tuesday, June 14, 1904

TWELFTH ANNUAL CATALOGUE

OF

THROOP POLYTECHNIC INSTITUTE

PASADENA, CALIFORNIA

1903 1904

APRIL, 1903
PUBLISHED BY THE INSTITUTE

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 order of seniority of service.)

		Term Expires
*PERRY M. GREEN	Pasadena	1904
EVERETT L. CONGER, D. D	"	1907
MRS. LOUISE T. W. CONGER	"	1907
E. E. SPALDING, A. M	"	1905
NORMAN BRIDGE, M. D	"	1904
JOHN WADSWORTH	"	1904
CHARLES D. DAGGETT	"	1903
H. M. HAMILTON	"	1903
A. R. METCALFE	"	1903
WILLIAM STANTON	"	1906
MRS. CLARA B. BAKER BURDETTE	"	1905
HIRAM W. WADSWORTH, A. B	"	1906
JAMES H. MCBRIDE, M. D	"	1905
S. HAZARD HALSTED	"	1907
JOHN S. CRAVENS, A. B	"	1906

Officers of the Board

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

P. M. GREEN, Treasurer — S. HAZARD HALSTED, Auditor

THEODORE COLEMAN, Sec'y and Business Agent

Residence, 472 Benefit Court

Executive Committee of the Board

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

P. M. GREEN — A. R. METCALFE

H. W. WADSWORTH

*Died March 23, 1903.

FACULTY

1902–1903

(Arranged in groups in order of appointment)

WALTER ALISON EDWARDS, President

Professor of Ancient Languages

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.

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, 1880-2; student, University of California, 1886-8; Professor of Modern Languages, University of Southern California, 1890-2.

47 W. Colorado St.

WALLACE KENDALL GAYLORD

Professor of Chemistry; Registrar

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

184 N. Pasadena 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.

33 N. Euclid Ave.

*ARTHUR HENRY CHAMBERLAIN

Professor of Education and Principal of Normal School

Graduated Cook County Normal School, 1892; Teacher in the Public Schools of Cook County, Ill., 1892-4; Principal W. Harvey Public Schools, 1893-4; graduated, Normal School, Throop Polytechnic Institute, 1896; diplomas Deutsche Lehrerbildungsanstalt für Knabenhandarbeit, Leipzig, Germany, and Slöjdlärareseminarium, Nääs, Sweden, 1899; Member Deutscher Verein für Knabenhandarbeit; Member National Association of Manual Training Teachers, Great Britain; Member Sloyd Association of Great Britain and Ireland.

377 N. Los Robles Ave.

MRS. JENNIE COLEMAN

Professor of English and History; Librarian

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; Member of the Board of Education of Pasadena and of the Los Angeles County Board of Education.

472 Benefit Court.

AGNES MARY CLAYPOLE

Professor of Natural Science; Curator

Ph. B., Buchtel College, 1892; M. S., Cornell University, 1894; Ph. D., University of Chicago, 1896; Instructor in Zoology, Wellesley College, 1896-8; Assistant in Histology, Cornell University, 1898-1900.

55 S. Marengo Ave.

*Absent on leave studying at Teachers College, Columbia University.

HARRIET M. SCOTT

Acting Professor of Pedagogy

Graduated Indiana State Normal School; Principal of Detroit Normal Training School, 1886-91 and 1892-9.

22 W. California St.

BONNIE BUNNELLE

Principal of Grammar School

Graduated P. W. Search Normal Training School, Sidney, O., 1891; student in Pueblo Industrial School, Pueblo, Colo., 1892-4; Instructor Public School, Pueblo, Colo., 1891-4.

252 S. Madison Ave.

FRED CHARLES WEBER

Principal of Commercial School

B. S. and M. Accts., Dixon College, Dixon, Ill.; Principal Commercial Department Vincennes University, Vincennes, Ind., 1895-8; Principal Commercial Department, Marion Normal College, Marion, Ind., 1898-9; Supervisor of Penmanship and Instructor Commercial Department of High School, La Porte, Ind., 1899-1900; Principal Commercial Department High School, Santa Ana, Cal., 1900-1902.

75 Worcester Ave.

FRANCES STERRETT

Director of Art

Portrait Artist, Springfield, Ohio, 1886-91; student, Chicago Art Institute, 1891-2; graduated Normal Art Department, Pratt Institute, Brooklyn, N. Y., 1894; pupil of M. Injalbert, Sculptor, Académie Colarossi, Paris, France, 1900.

221 N. Euclid 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.

44 S. Madison Ave.

PEARL BLANCHE FISHER

Instructor in French and Assistant in Free-Hand Drawing

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

350 N. Raymond Ave.

GEORGE WALTER BRADEN

Instructor in Physical Culture

Student, High School, Cedar Rapids, Ia., 1893-6; student of Physical Culture and Heavy Gymnastics, Y. M. C. A. Gymnasium, Cedar Rapids, Iowa, 1892-6; Instructor Y. M.C.A. Physical Department 1899-; Member of American Physical Directors.

Cor. Belvidere and Moline.

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.

431 N. Fair Oaks Ave.

WALTER WILLIAM MARTIN

Instructor in Wood Working

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

CLARA JUDSON STILLMAN

Instructor in Grammar School Subjects

Graduate of Terry Kindergarten Institute, Bridgeport, Conn., 1878; student Henniker, N. H., Academy, 1878-9; Inspector and Instructor, Public Schools, Arizona, 1881-5; Instructor, Public School, Coronado, California, 1895-9.

256 S. Madison Ave.

PAUL BOEHNCKE

Instructor in German, Spanish and Latin

Student Friedrich Wilhelm Gymnasium, Stettin, Germany, 1878-80; student Omaha High School, 1885-8; student University of Southern California, 1889-90; Architectural Draughtsman and Superintendent of Construction, 1893-7; student Boynton Normal, Los Angeles, 1898; Teacher, Public School, Elizabeth Lake, California, 1898-1900.

431 N. Fair Oaks Ave.

CLARA SOUTHWICK

Instructor in Grammar School Subjects

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

385 S. Euclid Ave.

ENOS J. NORRISH

Instructor in Mathematics

Graduate and Medallist Collegiate Institute, St. Catherine's, Ontario, Canada, 1883; graduated Ottawa Normal School, 1884; Principal Rockwood Public Schools, 1885 6; Teacher High School, Brockville, Ontario, 1887; Teacher St. Catherine's Collegiate Institute, 1888-94; Teacher Santa Ana Grammar and High Schools, 1895-1900; Holder Life High School Diploma, Ontario, Canada.

400 Kensington Place.

CLARA FRANCENA RANDALL

Instructor in Elocution and English

Graduated Boston University, Boston, Mass.; Instructor in Elocution and English, Leland and Grey Seminary, Townshend, Vt., 1879; Instructor in Elocution, Vermont Female College and Conference Seminary, Montpelier, Vt., 1879-81; Instructor in Elocution and English Literature, High School, Peoria, Ill., 1881-89; Instructor in English Literature, High School, Rockford, Ill., 1889-1901.

223 N. Raymond Ave.

HENRY HERBERT KLAMROTH

Instructor in Singing

B. S. and L. L. B., University of the City of New York, 1888 and 90; pupil of Carl Prox in Voice Culture, Harmony, etc., 1887 93; Choirmaster All Saints' Protestant Episcopal Church, Pasadena, 1899—.

373 S. Euclid Ave.

ANNIE HOLMES

Instructor in Grammar School Subjects

Student-teacher, National School, Holyhead, Wales, 1885-6; student in Normal Training Department, San Diego Commercial College, 1893-5; student, University of California, 1898-9; Instructor in San Diego County Schools, 1895-8 and 1899-1902.

252 S. Madison Ave.

ERNEST ALLEN BATCHELDER

Instructor in Grammar School Drawing and Sloyd

Graduated Massachusetts Normal Art School, 1899; Director of Drawing, Public Schools, Adams, Mass., 1899-1901; Instructor in Theory of Design, Harvard University, Summer Session, 1901.

66 Worcester Ave.

HARRIET HOWELL

Instructor in Domestic Art

Graduated Decatur Ill., High School; student Pratt Institute, 1893-4; Superintendent Domestic Art, Mechanics Institute, Rochester, N. Y., 1894-6; Superintendent Domestic Art, Kansas State Agricultural College, 1897-1902.

376 N. Raymond Ave.

ELLA VICTORIA DOBBS

Acting Instructor in Sloyd

Graduated Normal School, Throop Polytechnic Institute, 1900 Teacher Pasadena City Schools, 1896-1900; Supervisor Cardboard Construction, Los Angeles City Schools, 1900-1; Instructor in Manual Training, Los Angeles City Schools, 1901-2.

66 S. Los Robles Ave.

*FREDERIC WILSON

Instructor in Forging and Mechanical Drawing

M. E., Cornell University, 1891

GEORGE WALLACE HANCE

Instructor in History

B. S, Olivet College, Olivet, Mich., 1896.

425 N. Fair Oaks Ave.

†MILTON ERASTUS CHURCHILL

Instructor in Latin

A. B., Knox College, 1877; A. M., 1880; B. D., Yale University, 1883; Litt. D., Knox College, 1890; Instructor in Latin and Greek, Knox College. 1878-80, and 1885-7; Principal Emerson Institute, Mobile, 1883-5; student, Leipsic, Germany, 1891; Professor of Greek and German, Illinois College, 1891-1901; Professor of Greek and Dean, Illinois College, 1901-2.

WILLIAM ALFRED BALDWIN

Instructor in Penmanship

Student, Ohio Wesleyan University, Delaware, Ohio, 1877-82; student, Ohio Commercial School, Delaware, Ohio, 1882; student, Zanerian Art School, Columbus, Ohio, 1895; Supervisor of Penmanship and Drawing, Public Schools, Medina, Ohio, 1895-1902.

135 S. Lake Ave.

‡LAWSON HENRY GIDDINGS

Instructor in Forging

Graduated Academy, Throop Polytechnic Institute, 1902.

Cor. Colorado St. and Holliston Ave.

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* Resigned October 24, 1902.

† Resigned March 27, 1903.

‡ Appointed October 24, 1902.

* HELEN LEMOYNE HOOSE

Instructor in Latin

Ph. B., University of Southern California, 1900; B. L., University of California, 1901; Instructor in History, Alhambra High School, 1901–2.

255 S. Euclid Ave.

BERTHA ALMA ELLIS

Assistant in Domestic Art

Student Throop Polytechnic Institute, 1892–5; graduated Mrs. Rorer's School of Domestic Science, 1900; teacher private classes in cooking, 1900–2; Teacher Domestic Science, Stimson Industrial School, Los Angeles, 1903.

115 E. Walnut St.

EDWARD SPAULDING WARREN

Musical Director Mandolin and Guitar Club

Pupil of Blakslee, Chicago; special instruction from Abt, Seigel, Weeks and others.

351 Congress St.

FACULTY COUNCIL

W. A. EDWARDS, Chairman

BONNIE BUNNELLE	R. E. FORD
A. H. CHAMBERLAIN	W. K. GAYLORD
MRS. JENNIE COLEMAN	L. H. GILMORE

* Appointed April 6, 1903.

EAST HALL

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 to 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 other schools it became necessary to build another wing to East Hall.

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 Fé, 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 Grammar School, the Academy, the Commercial School, the Normal School, and the College.

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 Institute is included in the list of schools accredited by the State University. The Leland Stanford Jr. University accepts 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 4:10 in the afternoon, with an intermission from 12:10 to 1:15. 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 every four weeks, 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 students from the Institute whose work is unsatisfactory by reason of lack of diligence.

ATHLETICS

Encouragement is given to athletics, and the athletic organizations are under the immediate care of a joint committee of students and Faculty. Membership in these organizations 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 foot ball and an eight-lap training track.

SOCIETIES

A literary society, the Gnome Club, is maintained by the students of the Institute with the cooperation of the Faculty, and is doing good work. It affords an opportunity for training in debating, essay writing, declamation, extempore speaking, parliamentary practice, etc.

A Camera Club and a Mandolin and Guitar Club find also a hearty support among the students of the Institute.

PUBLICATIONS

The Institute publishes each year a Catalogue, a Summer School Circular, and the Reports of the President of the Board of Trustees, the President of the Institute and the Secretary. Any of these may be obtained free of charge on application to the Secretary. The Polytechnic, a monthly paper devoted to the interests of the Institute, is published by the students.

EXHIBITION DAY

The last day of the spring term, including evening, is 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 Exhibition Day, 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 prize of ten dollars, offered by the President of the Institute, is awarded each year to the winner in a public debate at the end of the winter term, the contestants being chosen by the various literary clubs from among their own members. In 1902 this prize was won by Elliot Crane of the Gnome Club.

A first prize of ten dollars and a second prize of five dollars, offered by Mr. Geo. H. Coffin, are awarded each year to the first and the second best in a contest in declamation, held in commencement week, the contestants being selected from the students in the Academy. In 1902 the first prize was won by Atha Barker and the second by Lorraine Barnard.

TUITION

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

First term	$30
Second term	$30
Third term	$15

Students in attendance less than a school year pay as follows: $30 per term for each entire term, and a proportionate share of $30, 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 a term.

No refund is made in the tuition of any student who may leave school before the end of the term for which he has paid.

Those taking but one period of study per day pay $12.50 per term; those taking but two periods per day are charged $25 a term. Full rates are charged for those who take more than two periods per day.

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, Grammar School	3 50
Cooking, Normal	6 00
Electrical Engineering	1 25
Forging	4 00
Free-hand Drawing and Painting, either or both	50
Geology	1 00
Pattern and Machine Shop	2 50
Physics	1 00
Sewing and Dressmaking, either or both	50
Sloyd, Grammar Grades	1 50
Sloyd, Normal	3 00
Typewriter, Use of	1 00
Wood Shop	1 50
Wood Carving, (1st year, 1st term)	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.

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

DIPLOMA FEES

College	$5 00
Normal School	1 25
Commercial School	1 25
Academy	1 25

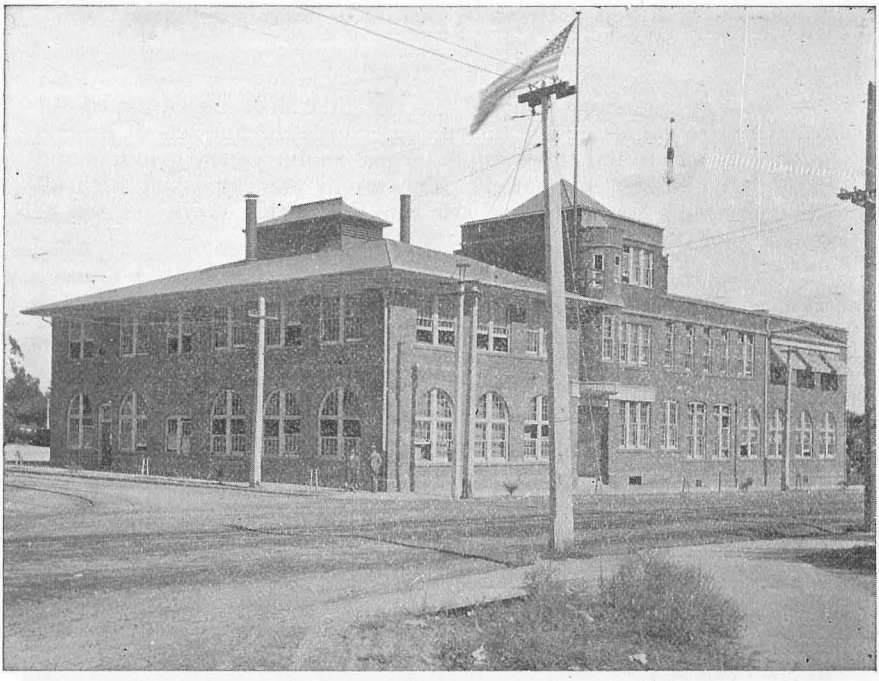
BOARD

Good board can be obtained at from $4.50 to $6 per week. Any change in boarding place must be immediately reported at the office.

At the request of parents the Institute will assume responsibility for the care and oversight of students who board in homes approved by the officers of the institute.

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.



POLYTECHNIC HALL

BUILDINGS

POLYTECHNIC HALL

Polytechnic Hall is a two-story brick building with a frontage of 148 feet on Fair Oaks avenue and 80 feet on Chestnut street. It contains the rooms described below:

WOOD SHOP

The wood shop, located on the second floor, is provided with twenty benches and turning lathes. The shop is also supplied with a large band saw, a fine jig-saw, a sand-papering machine for polishing surfaces, and a three-arbor circular saw built by the students in the several shops. Each bench has also a set of tools for general use.

Each student is provided with a locker, in which are kept the individual tools used in joinery and turning.

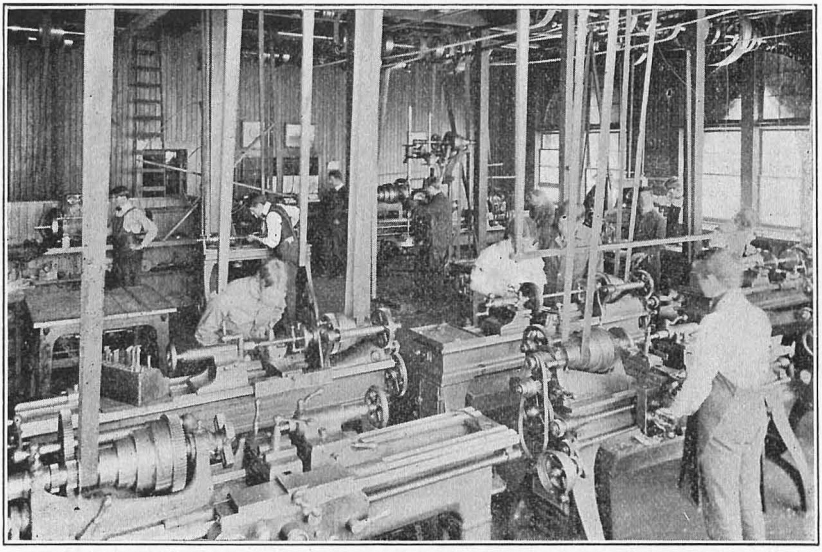
PATTERN SHOP

The pattern shop adjoins the wood shop, and has an equipment of lathes, etc., needed in making large and small patterns.

To increase the facilities of the pattern-shop a medium-sized brass furnace and a number of moulding benches are maintained, enabling students to test their patterns by casting in brass or softer metals.

FORGING SHOP

The forging shop, situated on the first floor, is equipped for twenty-three pupils. The furnishings consist of five sets of Buffalo quadruple forges and three single forges, double emery grinders and drills, all operated by power. The anvils are furnished with all necessary tools for individual use and in addition there are sets of special tools for general use and for vise work.



MACHINE SHOP

The machine shop is situated in a large room on the first floor and is finely equipped for elementary and advanced machine practice. It is fitted with the following machines of the latest style: planer, shaper, drills, milling machine, emery grinder and a large number of lathes of various sizes. The tool room has a large assortment of general tools.

The power to run the different shops is furnished by a twenty horse-power motor, located in this department.

SLOYD ROOM, GRAMMAR GRADES

The grammar grade pupils have a commodious room, fitted with eighteen benches and the necessary hand tools for woodwork.

SLOYD ROOM, NORMAL SCHOOL

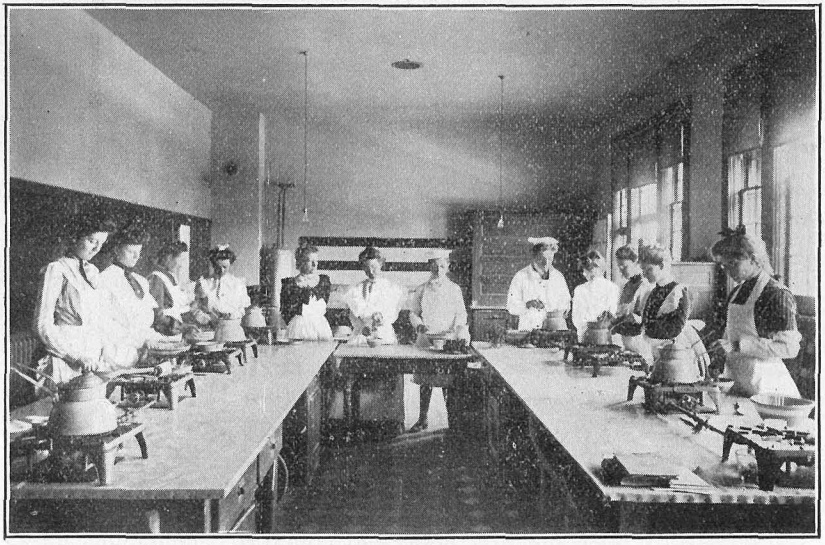
The room used for normal sloyd and manual training work is fitted with all necessary tools and equipment. Models, exercises and drawings of English, Swedish and German courses, and from American schools as well, are supplied for comparative study.

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 first floor and is furnished with tools, benches and lockers for the use of the students, and cases for the exhibition of work.

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



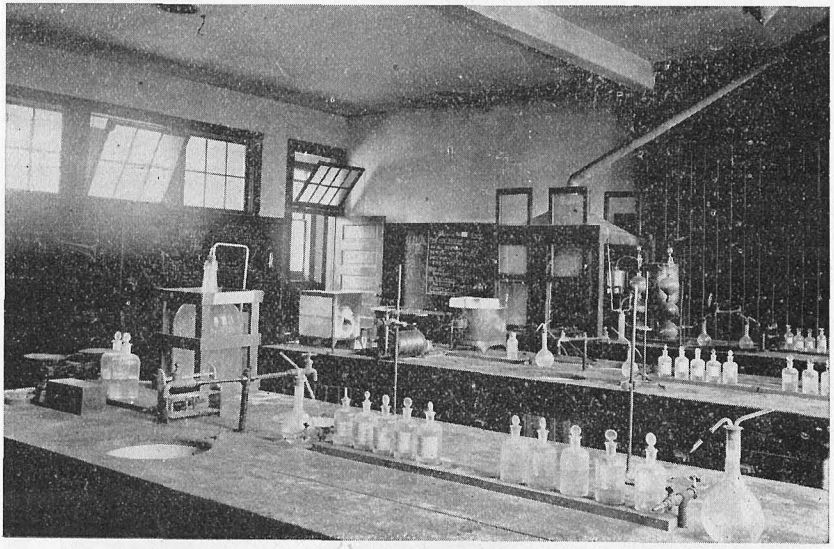
COOKING ROOM

The cooking room is located on the second floor and is supplied with tables upon which are gas stoves. Each table is provided with drawers for the caps, aprons, sleeve-protectors, notebooks, etc., of the two students assigned to work at that table. Other drawers contain cooking utensils, mixing and measuring dishes, stirring-spoons,

kitchen knives and forks, etc., while in cupboards beneath is a full assortment of stove and kitchen furnishings. At either end of the table towels, etc., are hung. A large dust-proof cupboard, containing meal and flour bins, dish closets, etc., a large water-heater, a gas range, a large refrigerator, and cupboards for furnishings are also provided.

MECHANICAL AND ARCHITECTURAL DRAWING ROOM

This is an east room, situated on the second floor, and is well lighted. It is furnished with tables, which have lockers for each student. The room is also provided with models and casts illustrating the five orders of architecture. A number of valuable imported models for work on machine design are in use.



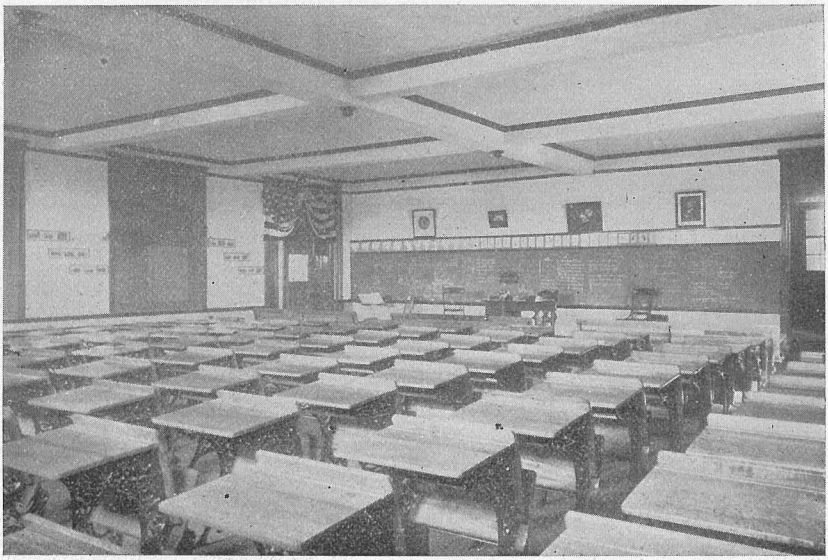
LABORATORY OF GENERAL CHEMISTRY

CHEMICAL LABORATORIES

The laboratory for general chemistry is situated on the second floor and is furnished with the usual desks, hood, etc. The analytical laboratory is on the first floor, and contains commodious desks for ten students, well arranged for convenient work in qualitative and quantitative analysis.

Both laboratories are supplied with a good assortment of apparatus and chemicals, which are loaned to the students without charge, payment being required for the cost of articles not returned in good condition.

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



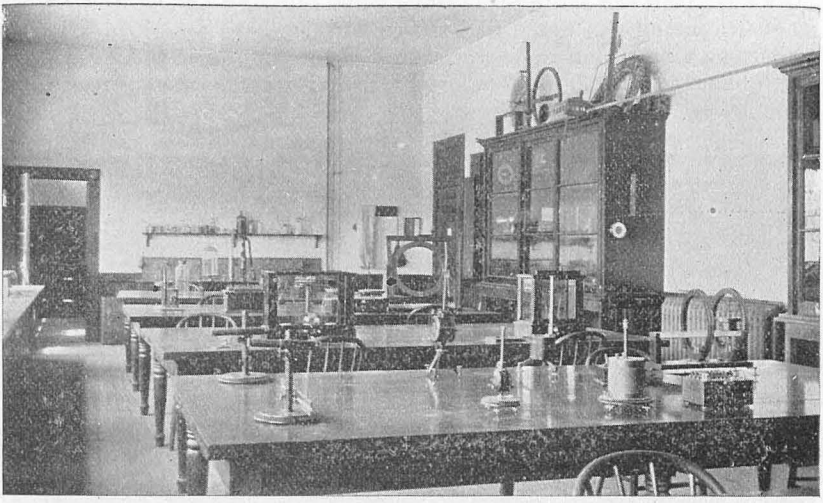
GRAMMAR SCHOOL

The entire lower floor of the west wing of East Hall is devoted to the Grammar 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.

PHYSICAL AND ELECTRICAL ENGINEERING LABORATORIES

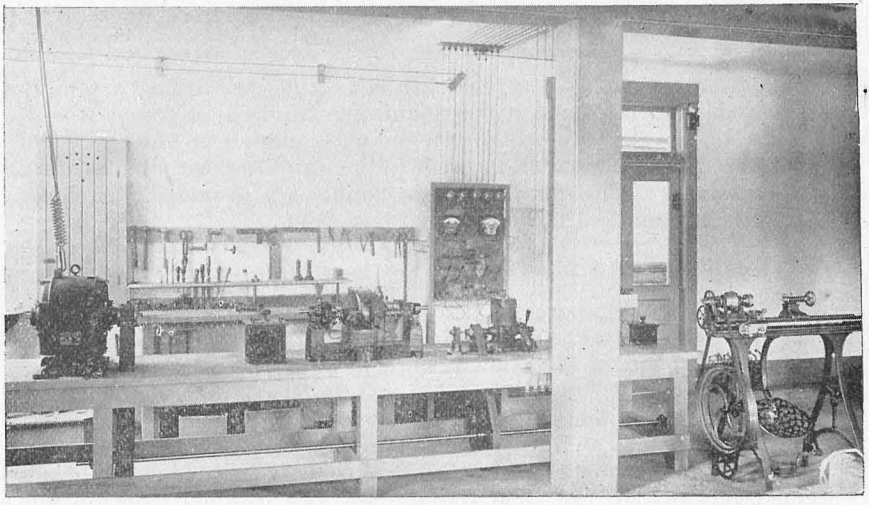
The Physical Laboratory is a large, well lighted room, fitted with gas and water pipes, electric wires, tables, lockers, cases, etc. This room is used for the elementary work in physics.

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.



PHYSICAL LABORATORY

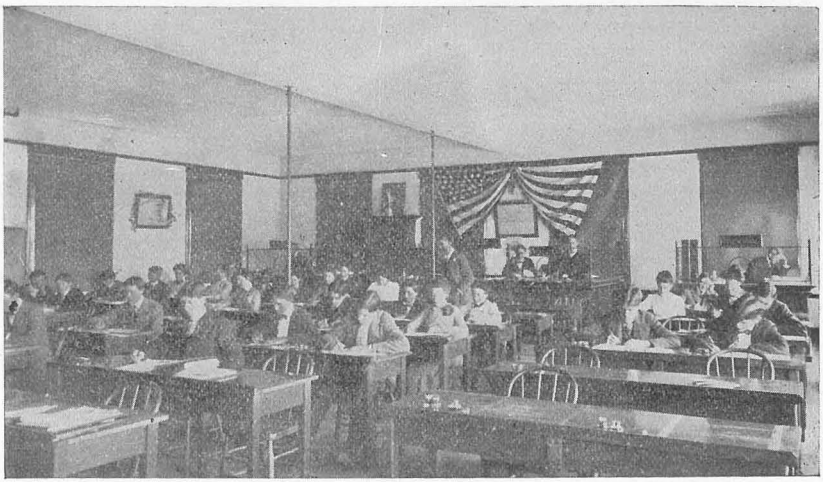
These laboratories are well supplied with apparatus for physical, electrical and power measurements. Direct and alternating currents of various voltages are available for experimental work. A large



A CORNER OF THE ELECTRICAL ENGINEERING LABORATORY

dark room for use in photometry adjoins the Electrical Engineering Laboratory.

The library for 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

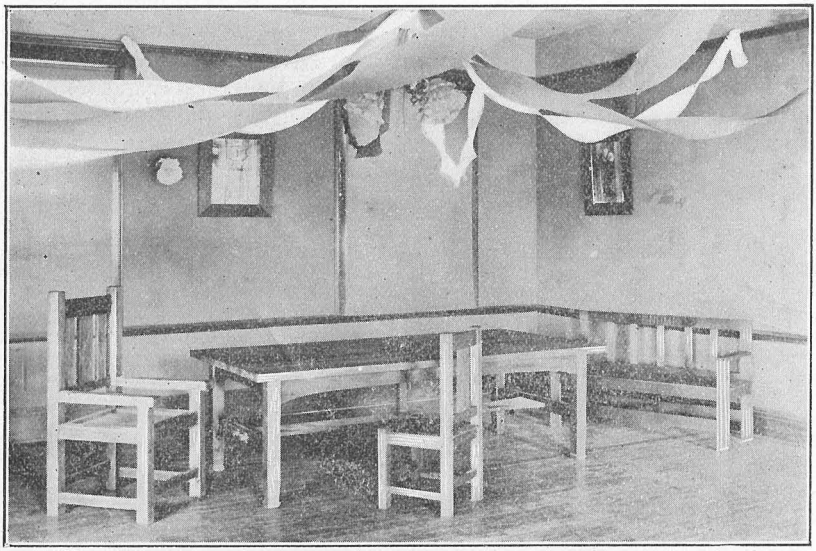
The Commercial School occupies the entire second floor of the west wing of East Hall, and contains all the furnishing, fittings and offices, including a bank, required by the best business and stenographic colleges.

BIOLOGICAL LABORATORY

The Biological Laboratory is on the second floor. It faces the north and is lighted by large windows. There are tables, lockers, an aquarium, book-cases and shelves, with other accommodations necessary for the use of students in the different fields of natural science. Each table is supplied with its own gas burner.

The laboratory is furnished with Bausch and Lomb compound microscopes, dissecting microscopes, a microtome, camera lucida, steam and sterilizing ovens, an incubator and other appliances required in the higher grades of work.

There are good collections in mineralogy, botany, zoology and archaeology, mostly adapted to practical use of students and available for comparison and study. A large increase has lately been made by the purchase of the collection of the late Dr. John Dickinson of Los Angeles. Many books and specimens of the late Dr. E. W. Claypole have been added to the collections, most of which are arranged for reference in special sets of cases and drawers.



FURNITURE DESIGNED AND BUILT BY STUDENTS

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 the members of the Gnome Club.

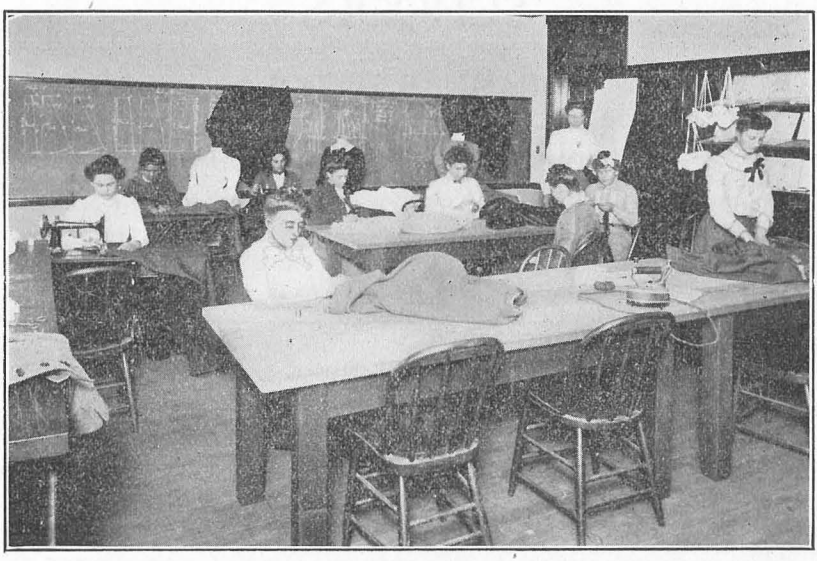
FREE-HAND DRAWING, PAINTING AND DESIGNING ROOMS

These rooms are fully equipped with all necessary appointments. The equipment is as follows: adjustable desks, which can be transformed into tables or easels, at any angle desired; a large table with water connection adapted for mounting designs and grinding colors; blackboards for class demonstrations of perspective principles; a full line of wooden models, type solids from which first lessons in perspective are given; a case of bric-a-brac and objects of still-life furnishing material for sketches; a complete set of charts used in study of historic ornament and design; plaster casts of historic ornament, natural leaf forms, masks, heads and full-length figures which serve as models in the rendering of light and shade in charcoal drawings.

CLAY MODELING ROOM

The modeling room, located opposite the drawing room, is well equipped with models, casts of fruit, ornament, heads and full length figures. Students are provided with revolving stands which are in-

dispensable in the building up of a statuette in the round. Lockers are also provided for the preservation of students' work in clay.



SEWING ROOM

The sewing and garment-making room is well lighted, and is equipped with large tables, sewing machines, electric iron and pressing-board. Along two sides of the room are tables containing drawers for the individual use of the students in this department.

GYMNASIUM

A large, well lighted room in the basement is occupied by the classes in physical culture. It is provided with dumb-bells, Indian clubs, horizontal bar and other gymnastic apparatus.

SCHOOLS

GRAMMAR SCHOOL

REQUIREMENTS FOR ADMISSION

Pupils are admitted to this School who have completed the usual third year of the public school. All pupils not bringing certificates from other schools are required to pass an examination before being classified. The work, as arranged, consists of two lines—the ordinary book work and the manual work.

SCHEDULE OF WORK

PREPARATORY

ARITHMETIC. Fundamental operations. Walsh's Elementary Arithmetic.

ENGLISH. Language lessons from The Mother Tongue, Book I, supplementary reading.

GEOGRAPHY AND HISTORY. Elementary work with modeling.

SCIENCE. Elementary work in natural science.

FREE-HAND DRAWING, CLAY MODELING AND DESIGNING.

WRITING. Vertical.

MANUAL WORK. Cardboard construction.

MUSIC. Vocal, theory and sight-reading.

FIFTH GRADE

ARITHMETIC. Review of fundamental operations, factoring, greatest common divisor, least common multiple, simple work in fractions. Wentworth's Practical Arithmetic.

ENGLISH. Language lessons in The Mother Tongue, Book I, Miss Harrison's In Story Land, supplementary reading, Rice's Speller.

GEOGRAPHY AND HISTORY. Tarr and McMurry's Geography, First Book, with map drawing and modeling; Montgomery's The Beginner's American History.

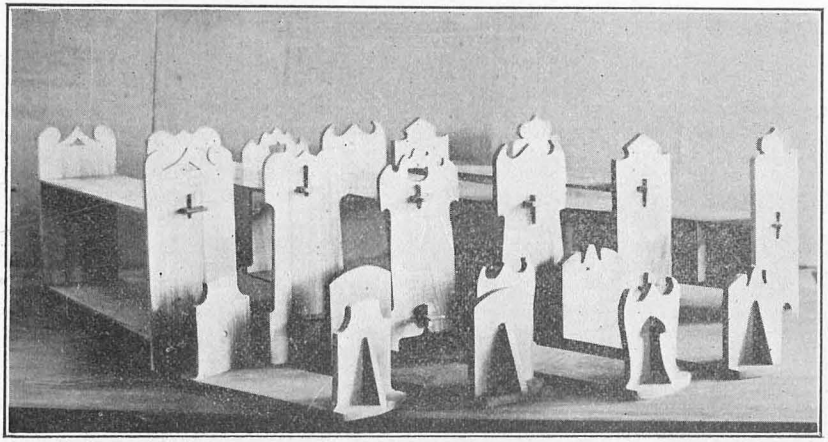
SCIENCE. Elementary work in natural science.

FREE-HAND DRAWING, CLAY MODELING AND DESIGNING.

WRITING. Vertical.

MUSIC. Vocal, theory and sight-reading.

MANUAL WORK. Cardboard construction, sloyd and mechanical drawing.



SLOYD WORK FROM ORIGINAL DESIGN, SEVENTH GRADE

SIXTH GRADE

ARITHMETIC. Fractions, denominate numbers completed. Wentworth's Practical Arithmetic.

ENGLISH. Language lessons in The Mother Tongue, Book II, The Song of Hiawatha, Frank Carpenter's Geographical Reader, Rice's Speller.

GEOGRAPHY AND HISTORY. Tarr and McMurry's Geography, Second Book, with map drawing and modeling; Montgomery's The Beginner's American History completed.

SCIENCE. Elementary work in natural science.

FREE-HAND DRAWING, CLAY MODELING AND DESIGNING.

WRITING. Vertical.

MUSIC. Vocal, theory and sight-reading.

MANUAL WORK. Sloyd and mechanical drawing, sewing.

SEVENTH GRADE

ARITHMETIC. Applications of percentage, proportion, powers and roots, using the algebraic equation. Wentworth's Practical Arithmetic completed.

ENGLISH. Language lessons in The Mother Tongue, Book II, Evangeline, Chas. Dudley Warner's A Hunting of the Deer, Rice's Speller.

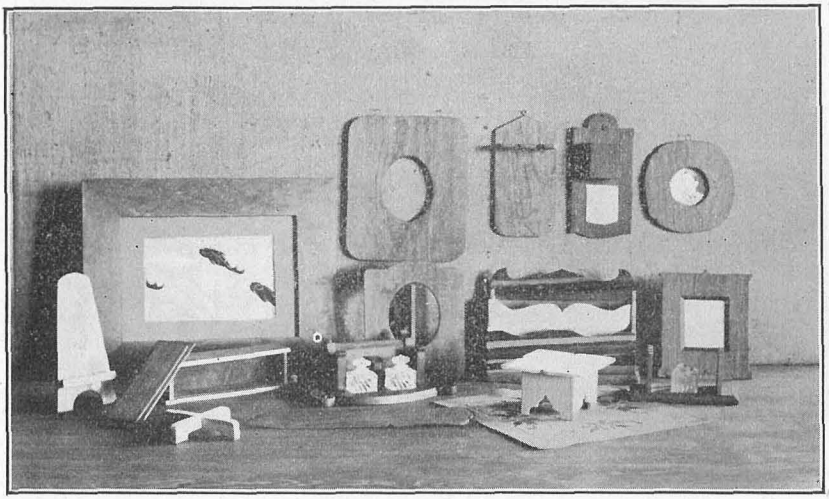
GEOGRAPHY. Geography completed with map drawing and modeling. Tarr and McMurry's Geography, Third Book.

SCIENCE. Elementary work in chemistry and physics.

FREE-HAND DRAWING, CLAY MODELING AND DESIGNING.

WRITING. Vertical.

MANUAL WORK. Sloyd and mechanical drawing, cooking, sewing, wood-carving.



A FEW EXAMPLES OF SLOYD WORK; FIFTH, SIXTH AND SEVENTH GRADES

EIGHTH GRADE

ARITHMETIC. Arithmetic reviewed, using the algebraic equation and introducing elementary geometry. Walsh's Higher Arithmetic.

ENGLISH. Elements of grammar and analysis. Reed and Kelloggs' Higher Lessons in English, Lady of the Lake, Six Selections from Sketch Book, Rice's Speller.

HISTORY. American history completed. Montgomery's The Leading Facts of American History.

SCIENCE. Elementary work in chemistry and physics.

FREE-HAND DRAWING AND DESIGNING.

WRITING. Vertical.

MANUAL WORK. Sloyd and mechanical drawing, cooking, sewing.

The course in English includes a thorough drill in reading, spelling and composition.

Instruction in French by the conversational method may be elected by pupils in the seventh and eighth grades.

Systematic work in physical culture is given; all girls are required to take the course unless excused for cause.

The pupils of the preparatory, fifth and sixth grades spend forty-five minutes daily in manual work, the seventh and eighth grades, ninety minutes.

Each pupil's supplies, including those for book, art and manual work, need not cost over five dollars; those for manual work will be useful later in the Academy.

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

The diploma of graduation is granted upon the completion of one of the following courses:

	CLASSICAL	LITERARY	SCIENTIFIC
FIRST YEAR	English 1 Algebra I Plane Geometry I Latin 1 { Drawing, Free-hand { and Mechanical Manual Training	English 1 Algebra I Plane Geometry I { German 1, French 1, { or Latin 1 { Drawing, Free-hand { and Mechanical Manual Training	English 1 Algebra I Plane Geometry I { Physiography and { Comparative { Anatomy { Drawing, Free-hand { and Mechanical Manual Training
SECOND YEAR	English 2 Algebra II Plane Geometry II Latin 2 { Drawing, Free-hand { and Mechanical Manual Training	English 2 Algebra II Plane Geometry II { German 2, French 2 { or Latin 2 { Drawing, Free-hand { and Mechanical Manual Training	English 2 Algebra II Plane Geometry II { Zoology and { Botany { Drawing, Free-hand { and Mechanical Manual Training
THIRD YEAR	English 3 History 1 Latin 3 Drawing Manual Training	English 3 History 2 { German 1, or { French 1 Drawing Manual Training	English 3 { German 1, or { French 1 Chemistry 1 Drawing Manual Training
FOURTH YEAR	History 3 and 4 { Zoology and Botany, { Chemistry 1, or { Physics 1 Latin 4 Drawing Manual Training	History 3 and 4 { Zoology and Botany, { Chemistry 1, or { Physics 1 { German 2, or { French 2 Drawing Manual Training	History 3 and 4 Mathematics 3 and 6 Physics 1 { German 2, or { French 2 Drawing

Arabic and Roman numerals in the above table refer to subjects outlined on pages 26 to 37.

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.

Work in physical culture is required of all girls and they are expected to provide themselves with suits for this purpose, which may be done at small expense.

If Latin, French or German be chosen it must be pursued for not less than two years to receive credits for the work. In the literary course two years of Spanish may be substituted for two years of Latin.

Considerable freedom of choice is allowed in the selection of manual training work indicated in table above. Boys, however, are recommended to select Shop-work 1, 2, 3, 4, 5, 6.

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

In the first two years free-hand and mechanical drawing are carried along together, the student taking free-hand two periods and mechanical three periods per week for the first half year and mechanical two periods and free-hand three periods per week the second half year, or vice versa. In the last two years the student may elect either free-hand or mechanical, taking the one elected five periods per week throughout the year.

In special cases courses may be arranged substituting book subjects for manual training work. A diploma of graduation certifying that fact will be granted to any student completing such a course.

To a limited extent subjects from the commercial course may be substituted for subjects named above and physical culture for other manual work.

SUBJECTS AND METHODS OF INSTRUCTION IN THE ACADEMY

MATHEMATICS

1. ALGEBRA I. Fundamental operations, simple equations, factors, fractions. Text-book: Hall and Knight's Algebra for Colleges and Schools. Three periods per week throughout the year.

2. ALGEBRA II. Simultaneous equations, involution, evolution, theory of indices, surds, quadratic equations. Text-book as above. Three periods per week throughout the year.

3. HIGHER ALGEBRA. Indeterminate equations of the first degree, inequalities, ratio, proportion, variation, arithmetical, geometrical and harmonical series, permutations and combinations, proof of binomial theorem for any index, logarithmic calculations, convergency and divergency of series, undetermined coefficients, continued fractions, summation of series, theory of equations with solution of

cubics and biquadraties having commensurable roots, determinants. Text-book: Hall and Knight's Elementary Algebra, edition 1900, or Algebra for Colleges and Schools. Five periods per week first half year.

4. PLANE GEOMETRY I. Books I and II in Beman and Smith's New Plane and Solid Geometry. Two periods per week throughout the year.

5. PLANE GEOMETRY II. Books III, IV and V of text given above. Two periods per week throughout the year.

6. SOLID GEOMETRY. Course as given in Beman and Smith's New Plane and Solid Geometry. Five periods per week second 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. Those marked (a) are to be critically studied. Those marked (b) are for general reading and the student will be expected to gain a knowledge of their subject-matter and the lives of their authors:

1. FIRST YEAR WORK. (a) Classic Myths, The Alhambra, Snow Bound, Cotter's Saturday Night.

(b) Horatius, Prisoner of Chillon, Sir Roger de Coverley.

Five periods per week throughout the year.

2. SECOND YEAR WORK. (a) Deserted Village, Tam O'Shanter, The Ancient Mariner, Merchant of Venice, Julius Cæsar, Warren Hastings, L'Allegro, Il Penseroso.

(b) Winter Morning Walk, Winter.

Five periods per week throughout the year.

3. THIRD YEAR WORK. (a) Comus, Lycidas, Milton's Sonnets, The Elegy, Eve of St. Agnes, The Cloud, The Nightingale, The Skylark, Tintern Abbey, Ode on Intimations of Immortality, Ode to Duty, Passing of Arthur, Vision of Sir Launfal.

Speeches: Burke, at Bristol; Webster, in Reply to Hayne; Macaulay, on Reform Bill.

(b) Alexander's Feast, The Rape of the Lock, Laodamia, Transcript from Euripides, Silas Marner, Vicar of Wakefield, The Bard.

Five periods per week throughout the year.

ELOCUTION

1. ELEMENTARY COURSE. The aim of this course is to instruct students how to remedy defective speech, to articulate distinctly, to see, to think, to understand, to feel; to appreciate noble literature; and to express thought and emotion by a natural and responsive use of voice and body.

HISTORY

Four courses in history are offered; courses 3 and 4 are required of all students before graduating.

1. ANCIENT HISTORY. Eastern Nations, Greece and Rome, with special reference to the development of the institutions, and the growth and influence of the arts and literature of each. Text-book: Botsford, with collateral assigned reading. Five periods per week throughout the year.

2. MEDIÆVAL AND MODERN HISTORY. Particular attention paid to institutional growth and social life of the people. Text-book: Adams' Mediæval and Modern History, with reading of Emerton's Introduction to the Middle Ages, and Seebohm's Era of the Protestant Reformation. Five periods per week throughout the year.

3. AMERICAN HISTORY. Special attention to development of the Constitution. Text-book: Montgomery's History of the United States. Five periods per week first two terms.

4. CIVICS. Text-book: John Fiske's Civil Government in the United States. 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. Collar and Daniell's First Latin Book. Five periods per week throughout the year.

2. INTRODUCTION TO ROMAN LITERATURE. The readings comprise selections from the Viri Romæ, Cornelius Nepos and Cæsar, 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 Grammar, Rolfe and Denison's Junior Latin Book, Dodge and Tuttle's Prose Composition. Five periods per week throughout the year.

3. CICERO'S ORATIONS. Textual study, as in Cæsar, 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 New Cicero. Five periods per week throughout the year.

4. VERGIL'S ÆNEID. Structure of the poem, with the theory and practise 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 in the principles of syntax; prac-

tice in translation at sight and hearing, in conversation and memorizing. Text-books: Spanhoofd's Lehrbuch der deutschen Sprache; Wenckebach's Glückauf. Five periods per week throughout the year.

2. SECOND YEAR WORK. Exercises throughout the year in conversation, translation and composition. Text-books: Joynes-Meissner's German Grammar. Reading of standard German literature. Five periods per week throughout the year.

FRENCH

1. FIRST YEAR WORK. The grammar and vocabulary, reading French in order to obtain the pronunciation, a study of the verbs, and frequent dictations. French conversation required in class. Text-books: Whitney's Practical French Grammar. Guerber's Contes et Légendes. La Tâche du Petit, Pierre Mairet. Five periods per week throughout the year.

2. SECOND YEAR WORK. Special study of the syntax and idioms and practice in French conversation. Text-books: French Syntax and Composition, Bouvet; Abbé Constantin, Ludovic Halévy; Le Voyage de Monsieur Perrichon, Labiche and Martin; Madame Thérèse, Erckmann-Chatrian. Five periods per week throughout the year.

3. THIRD YEAR WORK. Reading, composition and conversation. Text-books: French Syntax and Composition, Bouvet; Columba, Prosper Mérimée; La Bataille de Dames, Scribe and Legouvé; Pecheur d'Islande, Pierre Loti; Le Cid, Corneille; selected plays of Racine and Moliere. Five periods per week throughout the year.

SPANISH

1. FIRST YEAR WORK. Thorough drill in pronunciation and forms by means of of much conversation; practice in translation at sight and hearing, and in memorizing. Text-books: Garner's Spanish Grammar, Worman's Spanish Readers. Five periods per week throughout the year.

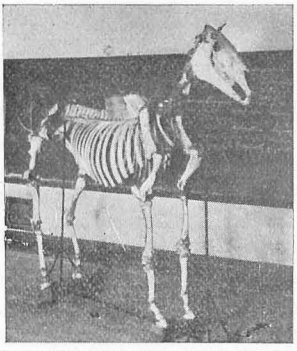
2. SECOND YEAR WORK. Exercises throughout the year in conversation; translation at hearing; essays; correspondence, reading of standard Spanish, both prose and poetry; review of forms; syntax. Text-books: Garner's Spanish Grammar; Ramsey and Lewis' Exercises in Spanish Composition. Five periods per week throughout the year.

NATURAL SCIENCE

1. PHYSIOGRAPHY. This subject occupies one period daily during the first half-year. It includes the relation of the Earth to the other bodies in the solar system, the agents affecting its surface, such as rivers, waves, tides, currents, glaciers, etc. The relation of the ani-

mal and plant worlds to their environments is also considered. Text book: Tarr's Elementary Physical Geography. Five periods per week first half-year.

2. PHYSIOLOGY AND COMPARATIVE ANATOMY. This subject is taken up during the second half of the year. It includes the comparative structure of the vertebrata and their adaptation to their conditions of life, their resemblances and differences in their organs. The bearing of these points on questions of health and sanitation is clearly shown. Text-book: Physiology, Experimental and Descriptive, Colton. Five periods per week second half year.



SKELETON PREPARED BY STUDENTS IN PHYSIOLOGY

3. ZOOLOGY. The purpose of this study is to afford an opportunity of examining the leading types of animal life, chiefly invertebrate, and also of becoming acquainted with some of the common living objects which are met in daily life. Man's relation to the rest of the organic creation, the advantages which he receives and the losses which he suffers from them, also receive attention. Text-book: Introduction to Zoology, Davenport. Ten periods per week first half-year.

4. PHÆNOGAMIC BOTANY. This subject includes the structure and functions of the organs of the phænogamic plants, studied both by the unaided eye and by the microscope. Systematic work is also done in naming and classifying the plants of Southern California. Text-book: The Foundations of Botany, Bergen. Ten periods per week second half 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 quantitative 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.

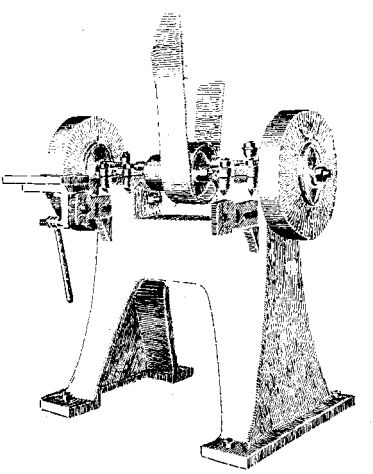
Text-books: Hessler and Smith's Essentials of Chemistry and Laboratory Manual. Preparation required: Algebra I, Plane Geometry I, English 1. Students are strongly advised to defer beginning chemistry until the third year of their academy course.

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 I and II, Plane Geometry I and II. Ten periods per week throughout the year.

FREE-HAND DRAWING

1. 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; perspectlve drawings of wood and iron-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. Two periods per week first half-year and three periods per week second half-year, or vice versa.



STUDENT'S WORK IN DRAWING

2. DESIGN AND LETTERING. Systematic drill in the execution of curves and scrolls as applied to ornamental design; original application of scrolls to iron and wood designs. These designs are practical, and are wrought in iron or carved in wood by the student-designer. Lettering, as applied to book covers, posters, menus, etc. Pen and ink rendering of the leading styles of ornament. Two periods per week first half-year and three periods per week second half-year, or vice versa.

3. CHARCOAL, PEN AND INK. Drawing in charcoal, groups of still-life and cast; flowers executed in pen and ink and water color; textile designing in color. Five periods per week throughout the year.

4. CHARCOAL, WATER COLOR, SKETCHING. Advanced work in charcoal from cast, full-length figure; sketching from life. Five periods per week throughout the year.

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

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. Two periods per week first half-year and three periods per week second half-year, or vice versa.

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 perspectives; application of simple shadows. Two periods per week first half-year and three periods per week second half-year, or vice versa.

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.

SHOP-WORK

1. WOOD WORK. This course consists of work in joinery, turning and cabinet-making. Each article is complete and useful in itself and has been designed to secure a gradual growth in the difficulty of construction, and at the same time present practical, useful and æsthetic elements.

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

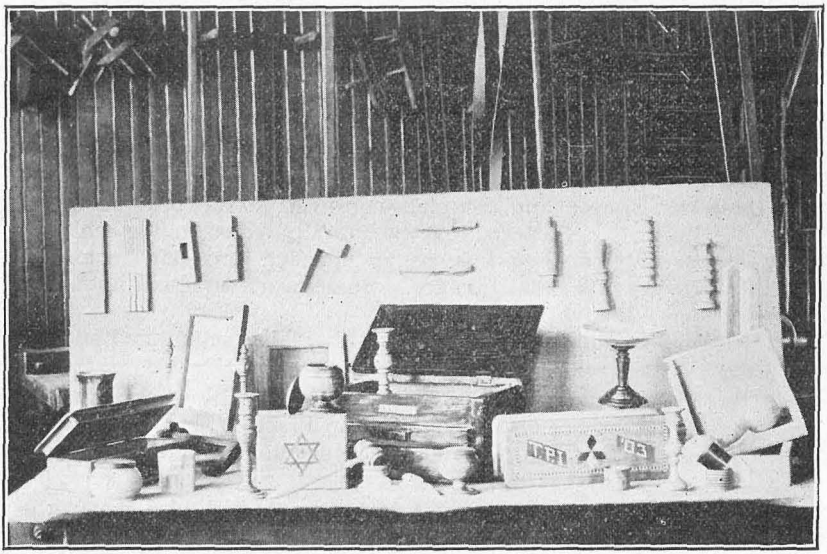
The course in turning consists of progressive exercises involving center, face-plate, chuck-work and inside turning. Ten periods per week throughout the year.

For students who have completed the sloyd course, a special course is offered, on the completion of which they will receive full wood-shop credit.

2. 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:

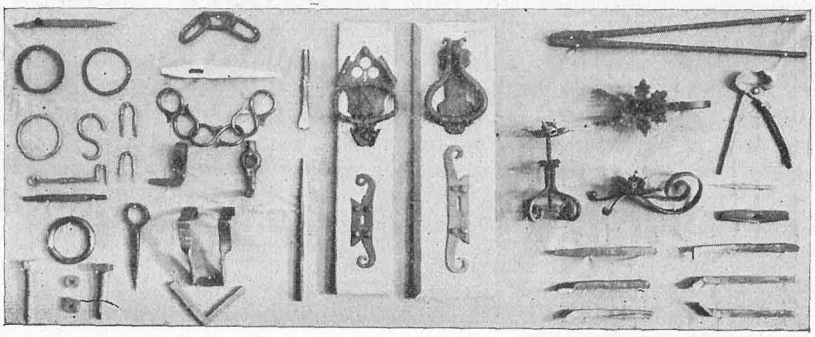


TYPICAL MODELS IN JOINERY AND TURNING

drawing, bending, upsetting, different kinds of welding, punching, drilling, fullering, swaging, cutting cold, chipping, cutting hot, splitting, twisting, filing, brazing, hardening, tempering, and ornamental iron work.

(d) Tempering. Hardening in water and oil, tempering or 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 brought into the course during the year, preparatory to the more elaborate piece made at the close of the year. Preparation required: Wood Work, Algebra I, and Plane Geometry I. Ten periods per week throughout the year.



TYPICAL EXERCISES IN FORGING

3. 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 allowances 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 and brass furnace. Some work in molding is required of every student.

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

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

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

As a preparation for work on the 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.

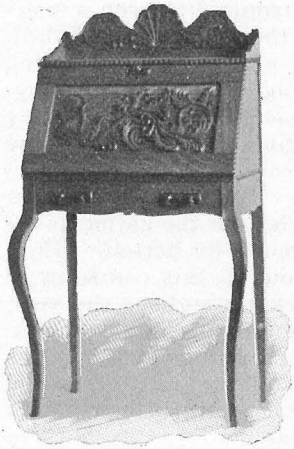
Machine work is begun with a series of exercises illustrating the principal processes, as plain turning, facing, thread-cutting, inside boring and threading, turning of tapers, hand tool and chuck work of all kinds. At different stages of the course work is given on the shaper, planer, drill-presses and milling machines. Text-books are not used. Students are expected to provide themselves with calipers and scale. Preparation required: Pattern-making I. Ten periods per week last two terms.

6. MACHINE-SHOP PRACTICE II. This course and Pattern-making II continue the work begun in the previous courses, and embrace exercises illustrating more complicated processes and a large amount of practical work on 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: Pattern-making II. Ten periods per week last two terms.

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, in chip-carving, incising and low relief in historic arts.



STUDENT'S WORK IN WOOD CARVING

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.

CLAY MODELING

This work is of great value in comprehending the facts of form; as drawing is but the representation of form, the student is made stronger in drawing by coming in contact with the realities of form, viz., length, breadth and thickness.

1. ELEMENTARY MODELING. Modeling of fruits, flowers and sprays of foliage from nature and cast; different styles of historic ornament from cast, and original designs; portrait relief from cast; mask and head from cast; animals, such as Barye's lions and panthers. Ten periods per week throughout the year.

2. ADVANCED MODELING. Modeling portrait busts from cast; full-length figure from cast; portrait busts from life; lectures on antique and modern sculpture. Ten periods per week throught the year.

STUDENT MODELING—DRAWN BY STUDENT

DOMESTIC ART

This department provides a systematic course in plain sewing, dressmaking, 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 develope habits of order, accuracy, and self-reliance. Each pupil is required to keep a notebook in which she records a description of the work accomplished.

1. PLAIN SEWING. The pupil makes a book of models, covering the full course in hand sewing and consisting of basting, hemming, gathering, darning, patching, machine practice, drafting, cutting and making underskirts and drawers; drafting, fitting and making dress without lining and shirt waist; cutting from paper patterns and making corset cover and night dress. The materials for the models are furnished by the school. Materials for the garments are furnished by the pupil, who makes the garments for herself. Free-hand Drawing 1 must be taken either previous to this course or in the same year with it. Ten periods per week throughout the year.

2. DRESSMAKING. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut, and make a woollen dress for herself. Preparation required: Plain Sewing. Free-hand Drawing 2 must be taken previous to Dressmaking or in the same year with it. Ten periods per week first half year.

3. MILLINERY. Renovating felt and straw hats, velvets, silks, and ribbon; trimming 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. Pupils will be expected to bring in two old hats, one felt and one straw, for practice work. Preparation required: Plain Sewing. Ten periods per week second half year.

DOMESTIC SCIENCE

3. COOKING I. (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.

(e) In connection with cookery, instruction will be given in the classification and composition of foods, the action of water upon starch and albumen; tea, coffee, and alcohol, their food values and effects upon the system; the yeast plant; fermentation—lactic, vinous and acetic; baking powders, soda, and cream of tartar.

Other subjects treated will be the development of odors and flavors of foods; food for the sick; food adulterations; the cheapest and most wholesome foods; physiology of digestion and a general plan of household work.

Special lectures on Chemistry of Cookery and on Bacteriology.

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

1. GENERAL COURSE. The course in physical culture aids students in maintaining a high standard of vitality, corrects bad postures, develops larger lungs, better control, greater strength. It consists of carefully graded exercises with wands, Indian clubs and dumb-bells, breathing gymnastics, instruction on horizontal and parallel bars, ground tumbling and general athletics. Most of this work is given in the open air.

There are separate classes for girls and for boys, and all girls are required to take the course unless excused for cause. Ample time is allowed for change of costume.

There is throughout the most careful supervision to prevent any possible overstrain.

COMMERCIAL SCHOOL

REQUIREMENTS FOR ADMISSION

Students having passed in the studies of the eighth grade are admitted to the courses of 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.

COURSE OF STUDY IN THE COMMERCIAL SCHOOL

FIRST YEAR	Bookkeeping 1	SECOND YEAR	Bookkeeping 2
	Spelling 1		Stenography 2
	English 1		Spanish 2
	Arithmetic 1		Commerce 1
	Penmanship 1		Commercial Law 1
	Spanish 1		Economics 1
	Stenography 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, and auxiliary books in retailing and wholesaling.

(c) Conducting 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 the beginning is inducted into and practices the duties of an office accountant. Five periods per week throughout the year.

2. SPECIAL BOOKKEEPING. (a) Single entry, retailing changed to double-entry books and continued in use of customer's ledger.

(b) Commission books, most modern form.

(c) Manufacturing books, voucher system.

(d) Banking, a full set of books, papers and vouchers illustrating a first-class national bank, in all its daily routine, with settlements with other banks through the clearing house. During the course the student devotes some time to the practical work of banking before taking up our ideal set of bank books.

(e) Wholesale merchandising illustrated by the books of the great house of Marshall Field & Co., Chicago.

Ten periods per week throughout the year.

STENOGRAPHY

1. AMANUENSIS STENOGRAPHY. (a) Class and private instruction in the principles of shorthand writing.

(b) Writing from dictation, and reading the notes.

Text-books: Beaver and Weber's Lessons in Eclectic Shorthand. Five periods per week throughout the year.

2. GENERAL STENOGRAPHY AND COURT REPORTING. (a) Writing from dictation and reading notes.

(b) Special speed drill, to acquire the ability to write rapidly and read readily.

(c) Drill in amanuensis work.

(d) Drill in court and general reporting.

Ten periods per week throughout the year.

TYPEWRITING

1. THEORETICAL AND PRACTICAL TYPEWRITING. (a) Thorough drill in the touch method.

(b) Drill in business and legal forms, manifolding, etc.

(c) Drill in doing the work of the various teachers of the Institute and the incidental work of the school.

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

COMMERCE

1. INTRODUCTION TO THE STUDY OF COMMERCE. Text-book: Clow. Five periods per week during the first term.

COMMERCIAL LAW

1. ELEMENTARY COMMERCIAL LAW. Text-book: Parkinson. Five periods per week during the second term.

ECONOMICS

1. ELEMENTARY ECONOMICS. Text-book: Bullock. Five periods per week during the third term.

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.

Text-book: Goodyear and Marshall. Five periods per week throughout the year.

PENMANSHIP

1. PLAIN PENMANSHIP. (a) Study of the science.

(b) Practice of plain penmanship, from blackboard illustrations and written copies, for ease, uniformity, legibility and speed.

(c) Writing from copies and from dictation, bills, invoices, etc.

Five periods per week throughout the year.

SPELLING

1. GENERAL AND COMMERCIAL TERMS. (a) General spelling and syllabication, both oral and written.

(b) Mercantile, financial, manufacturing, commission, banking, railroading, dry goods, drugs, hardware, and other special terms.

(c) Reading commercial reports and other commercial literature.

Text-book: Sadler-Rowe Co. Five periods per week throughout the year.

ENGLISH

See page 27.

SPANISH

See page 29.

NORMAL SCHOOL

REQUIREMENTS FOR ADMISSION

Admission to this 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.

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.

COURSES OF STUDY IN THE NORMAL SCHOOL

		MANUAL TRAINING	DOMESTIC ECONOMY	FREE-HAND DRAWING AND DESIGNING
FIRST YEAR	FIRST HALF	Psychology Free-hand Drawing 5 Mechanical Drawing 5 Manual Training 1 Physical Culture	Psychology Free-hand Drawing 5 Mechanical Drawing 5 Applied Biology Cooking II Sewing I Physical Culture	Psychology Free-hand Draw. 5 and 6 Mechanical Drawing 5 Clay Modeling 3 Physical Culture
	SECOND HALF	Psychology Free-hand Draw. 5 and 6 Mechanical Drawing 5 Manual Training 1 Physical Culture	Psychology Free-hand Drawing 5 Applied Biology Cooking II Sewing I Physical Culture	Psychology Free-hand Draw. 5 and 6 Mechanical Drawing 5 Clay Modeling 3 Physical Culture
SECOND YEAR	FIRST HALF	Pedagogy Manual Training 2 Clay Modeling 3 Theory and Methods Practice Teaching Physical Culture	Pedagogy Free-hand Drawing Cooking III Sewing II Theory and Methods Practice Teaching Physical Culture	Pedagogy Free-hand Drawing 7 Clay Modeling 4 Theory and Methods Practice Teaching Physical Culture
	SECOND HALF	History of Education Manual Training 2 Wood Carving 3 Theory and Methods Physical Culture Thesis	History of Education Free-hand Drawing 5 Cooking III Sewing II Theory and Methods Practice Teaching Physical Culture Thesis	History of Education Free-hand Drawing 8 Clay Modeling 4 Theory and Methods Practice Teaching Physical Culture Thesis

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, practical work, and lectures.

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.

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. THEORY AND METHODS. Methods of teaching and special subjects in the department in which the student is working. Organization, equipment and management of departments and schools, etc. Investigation of schools and methods.

5. PRACTICE TEACHING. Practice is given in teaching pupils of the various primary and grammar grades, under the supervision of the department directors and the principal of the Normal School. About sixty public-school pupils attend the Institute a part of the day and constitute the practice school.

FREE-HAND DRAWING

5. PRINCIPLES OF PERSPECTIVE. Drawings and sketches artistically rendered to illustrate the principles of cylindric, rectangular and oblique perspective; model and blackboard drawing; brush work; charcoal; designing; history of art; lectures on historic ornament, sculpture and painting.

DRAWN BY STUDENT

6. DESIGN AND COMPOSITION. The principles of design and composition as applied to straight and curved line designs; landscape composition; surface patterns; book covers; wood, metal and textile designs.

7. DRAWING IN CHARCOAL. Still-life and cast; head and full-length figure from cast; pose drawing, thirty-minute sketches from life.

8. WATER COLOR. Studies of flowers and still life, also applied design; history of art; lectures on the history of architecture, sculpture, painting and ornament.

MECHANICAL DRAWING

5. GENERAL COURSE. Principles of working drawings, plans, elevations, sections, scales; orthographic and isometric projections; perspective; architectural drawing; domestic architecture; tracing and blue-printing.

NATURAL SCIENCE

13. APPLIED BIOLOGY. This course is required of first-year students in Domestic Science and is planned to give a broad and thorough foundation for the special chemistry, physiology, and other sciences studied in connection with the advanced work.

The course is divided into three parts: Zoology, Botany, and Physiology, one term being devoted to each subject. In the Zoology it is wished to give a good knowledge of the fundamental structure of the animal body with its many different forms. Special consideration will be paid to the feeding and other habits of animals that fit or unfit them for food.

In the Botany there is a similar aim, and those phases of plant life are dealt with that will give an intelligent understanding of the special economic points to be considered later. Besides a brief consideration of fungi, the course will include a few weeks of practical Bacteriology, largely a study of the causes and conditions of fermentation and decomposition.

In the third term the details of structure learned will be applied to a study of the human body with special reference to its action as a most complex delicate machine, including experiments in digestion and nutrition. The work will occupy two periods a day for the year.

DOMESTIC SCIENCE

3. COOKING II.—Foods. History of food products, practical work in cooking and serving breakfast, dinner and luncheons. Applied Biology and Cooking II must be taken in the same year.

4. COOKING III. (a) Chemical and physiological classification of foods; evolution of the home; dietaries; a study of national foods; home and public hygiene.

(b) Bills of fare; the dish and table decoration; dietaries; food adulterations.

DOMESTIC ART

DRAWN BY STUDENT

4. PLAIN SEWING. The pupil makes a book of models covering the full course in hand sewing, and consisting of basting, hemming, gathering, darning, patching, machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and making dress without lining and shirt waist; cutting from paper patterns and making corset cover and night dress. The materials for the models are furnished by the school. Materials for the garments are furnished by the pupil, who makes the garment for herself. Free-hand Draw-

ing 1 must be taken either previous to this course or in the same year with it. Ten periods per week throughout the year.

5. DRESSMAKING. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut and make a woollen dress for herself. Preparation required: Plain Sewing. Ten periods per week first half year.

6. MILLINERY. Renovating felt and straw hats, velvets, silks and ribbon; trimming 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. Pupils will be expected to bring in two old hats, one felt and one straw, for practice work. Preparation required: Plain Sewing. Ten periods per week second half year.

MANUAL TRAINING

1. ELEMENTARY MANUAL TRAINING — Work suitable for the Primary Grades. Paper construction; weaving and textiles; basketry with raffia, reed, and native materials; wire work; thin wood processes. Constant reference will be made to the design and thought sides as well as to the constructive phases. The connection of the work with the problems of real life will be discussed.

2. WORK FOR GRAMMAR GRADES. This course deals mainly with the problem of bench work in wood. Cardboard work, bent iron work and decorative carving will be taken up. A number of suggested models are made, such as are suitable for the grammar grades, and in addition each student designs and constructs original models.

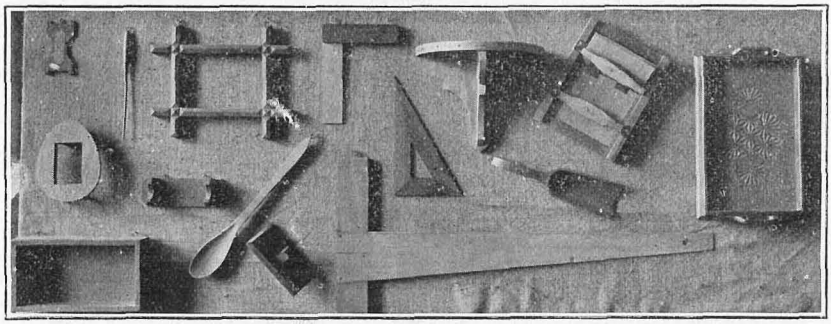
3. ADVANCED COURSE. This is a special course in secondary schoolwork, comprising advanced work in joinery and cabinet making, inlaying, veneering, wood turning, forging and finishing.

4. HISTORY, PHILOSOPHY, AND METHODS IN MANUAL TRAINING. This course will run parallel with the practical work taken up and will consider the object and place of manual training; relative value of the different phases and processes of hand work and their adaptability to the various grades of the elementary school; the organization, equipment, and supervision of departments and schools.

DRAWN BY STUDENT

WOOD CARVING

3. NORMAL COURSE. Elementary work in exercises and small articles aiming to give a thorough knowledge of the foundation principles and a comprehensive view of the purpose and practice of carving as applied to elementary schools.



TYPICAL MANUAL TRAINING MODELS—NORMAL SCHOOL

CLAY MODELING

3. NORMAL MODELING I. Modeling of fruits, flowers, etc., from nature and cast; ornament and plant forms; head from cast in relief and in the round.

4. NORMAL MODELING II. Modeling full-length figure from cast; portrait bust from life.

PHYSICAL CULTURE

2. PHYSIOLOGY OF EXERCISE AND WORK IN GYMNASIUM. Consideration of organs of work, local and general fatigue, breathlessness, muscle stiffness, overwork and its effects, power of resisting fatigue, effects of different kinds of exercise, office of brain and nervous system in muscle work, etc.

Practical talks will be given to students on class drill in calisthenics, remedial and corrective gymnastics, history of physical training, and classified exercises.

In addition to theory, students will also be given such practice as will enable them to do light work in teaching and the prescription of exercise.

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 25; 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 2, and any ten of the following subjects, as outlined on pages 26 to 31: Physiography, Botany and 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 3 and 4, Mathematics 3 and 6. 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 of 32 credits.

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.

	CHEMISTRY	ELECTRICAL ENGINEERING	NATURAL SCIENCE
FIRST YEAR	Chemistry 1 Mathematics 7, 8 English 4 French 1, or German 1	Physics 2 Mathematics 7, 13 English 4 Drawing—Mechanical Shop-work 1	Biology Physics 1, or Chemistry 1 French 1, or German 1 English 4
SECOND YEAR	Chemistry 2, 3, 4 Physics 2 Mathematics 9 French 2, or German 2	Electrical Engineering 1 Mathematics 9 Chemistry 2, 3, 4 Drawing—Mechanical Shop-work 2	Cryptogamic Botany, or Physiology of Plants Chemistry 2, 3, 4 French 2, or German 2
THIRD YEAR	Chemistry 5, 6, 7 Mathematics 10 Mineralogy	Electrical Engineering 3, 4 Mathematics 10 Drawing—Mechanical Shop-work 3, 4	Comparative Physiology and Morphology Comp. Anatomy and Advanced Physiology Mineralogy
FOURTH YEAR	Chemistry 8, 9, 10	Electrical Engineering 4, 5 Mathematics 14	Geology and Paleontology Bacteriology

Arabic numerals above refer to the subjects described below, pages 45 to 50.

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

SUBJECTS AND METHODS OF INSTRUCTION IN THE COLLEGE

MATHEMATICS

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

7. 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.

8. SURVEYING. (a) Plane Surveying. Survey 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.

(c) Field Engineering. Theory and practice of laying out curves, side-tracks; 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.

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

10. CALCULUS. Differential and Integral Calculus. Five periods per week throughout the year.

11. 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. ALTERNATING CURRENTS. Mathematical theory of alternating currents in electricity. Five periods per week throughout the year.

13. DESCRIPTIVE GEOMETRY. Five periods per week throughout the year.

14. 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

4. 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 II Spenser's

Faerie Queen, Bacon's Essays, Lodge's Rosalind, Thayer's Best Elizabethan Plays (except Duchess of Malfi), Pilgrim's Progress, Milton's Paradise Lost—Books I and II, Sheridan's Rivals. Preparation required: English 3. Five periods per week throughout the year.

LATIN

1, 2, 3 and 4, as outlined on page 28.

GERMAN

1 and 2, as outlined on pages 28 and 29.

FRENCH

1, 2 and 3, as outlined on page 29.

EDUCATION

1, 2 and 3, as outlined on pages 40 and 41.

NATURAL SCIENCE

5. BIOLOGY. This subject treats of the essential unity existing between plants and animals. The lower microscopic forms are studied for the purpose of demonstrating the fundamental structures of organized life and its variations. Preparation required: Elementary Botany and Zoology. Ten periods per week throughout the year.

6. CRYPTOGAMIC BOTANY. In this subject the more difficult forms of plant life are taken up—the ferns, mosses, lichens, fungi, etc. These studies prepare for an understanding of the early history of plant life on the globe and the antiquity of the cryptogamic type. Preparation required: Course 4. Ten periods per week throughout the year.

7. PHYSIOLOGY OF PLANTS. The chemistry and physics of plant life and the framework of plant tissue in which such changes as daily occur in plants take place are the essential topics of this course. Preparation required: Course 4, Chemistry 1, Physics 1. Ten periods per week throughout the year.

8. COMPARATIVE PHYSIOLOGY AND MORPHOLOGY. This course is designed to introduce the student to the study of the structure and function of selected animal forms, from the most simple to the most complex. A comprehension of the development of the more specialized from the generalized types is thus gained and an idea of the close kinship of all animal life. Preparation required: Courses 2, 4, 8. Text-book: Comparative Physiology and Morphology of Animals, Joseph Le Conte. Ten periods per week throughout the year.

9. COMPARATIVE ANATOMY AND ADVANCED PHYSIOLOGY. The study of the tissues or materials forming the animal body, of the variations in gross structure in different animals, of the development of the individual as shown by embryology, forms the subject matter of of this course. The making of histological preparations, sections, etc., is an important part of the work. The mechanics, physics and

chemistry of the body are especially considered. Preparation required: Courses 2, 5, 8. Ten periods per week throughout the year.

10. MINERALOGY. This course offers a detailed study of the elements of mineral analysis, the first half of the year being devoted to 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: Course 1, Chemistry 1. Five periods per week throughout the year.

11. GEOLOGY. The first half of the year is devoted to the surface features of the earth, especial consideration being given to the great agents of destruction and construction now at work. In the second half a study of the geological succession of rocks and the animal and plant life, paleontology, is undertaken. Text-books: Dana's Revised Text-book of Geology. Preparation required: Courses 1, 3, 4, 10, Chemistry 1, Physics 1, Principles of Mechanical Drawing. Five periods per week throughout the year.

12. BACTERIOLOGY. The elements of Bacteriology are mastered, a study of typical forms, their life histories, disease-producing powers or their uses and their peculiarities of growth. The principles of the technique of sterilization, preparation of culture media, staining, etc., form an important part of the work. Preparation required: Courses 2, 5, 7, 9. Ten periods per week throughout the year.

CHEMISTRY

1. Course outlined on page 30.

2. QUALITATIVE ANALYSIS. Qualitative analysis is reviewed and completed in the second year. The work consists of the analysis of unknowns of fairly complicated nature, including minerals and industrial products. The laboratory work is accompanied by critical study of the processes used. Text-book: A. A. Noyes' Qualitative Chemical Analysis. Students are also advised to procure Prescott and Johnson's Qualitative Analysis. Preparation required: Chemistry 1 and Physics 1. Ten periods per week for twenty-four weeks.

3. INORGANIC PREPARATIONS. Method of preparation and purification of inorganic chemicals, starting with raw materials. Tests for impurities. Discussion of reactions. Preparation required: Chemistry 2. Eight periods per week for twelve weeks.

4. THEORETICAL CHEMISTRY. Important points of the theories of chemistry. Text-book: Remsen's Theoretical Chemistry. Preparation required: Chemistry 2. Two periods per week for eighteen weeks.

5. ORGANIC CHEMISTRY. Recitations on typical members and reactions of the various groups of carbon compounds. Laboratory work upon class reactions. Text-books: Remsen's Organic Chemistry, Noyes and Mulliken's Class Reactions of Organic Compounds. Preparation required: Chemistry 2, 4. Two periods per week

throughout the year. Laboratory work eight periods per week for eighteen weeks.

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

7. ASSAYING. Fire assay for gold, silver and lead. Volumetric assay for copper and silver. Preparation required: Chemistry 6. 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.

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.

Theory of Physics by Ames, 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

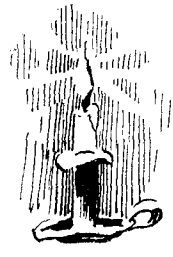
1. ELECTRICITY AND MAGNETISM. It is the purpose of this course to give a thorough grounding in the principles of electricity and magnetism to serve as a foundation for the following courses in electrical engineering. Instruction is given by study of the text with references to books in the library and 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, electro-motive force, capacity, self and mutual induction; study of the magnetic qualities of iron and characteristic curves of dynamos and motors. Text-book: Electricity and Magnetism, Jackson. Preparation required: Physics 2 and Mathematics 7. Ten periods per week throughout the year.

2. POWER MEASUREMENTS. Theory and use of steam engine indicator, cradle dynamometer and Prony brake; efficiency tests of dynamos and motors; photometry. Text-book: A Laboratory Manual of Physics and Applied Electricity, Nichols, Vol. II, Part I. Preparation required: Electrical Engineering 1. Ten periods per week first half year.

3. DYNAMO DESIGN: The derivation and practical application of the formulas used in the design of dynamos and motors. Text-book: Dynamo Electric Machines, Wiener. Preparation required, Electrical Engineering 1. Ten periods per week second half year.

4. ALTERNATING CURRENTS. Study of alternating currents by analytical and graphical methods accompanied by work in the laboratory. Text-books: Alternating Currents, Franklin and Williamson; A Laboratory Manual of Physics and Applied Electricity, Nichols, Vol. II, Part II. Preparation required: Calculus and Electrical Engineering 3. Ten periods per week first two terms.

5. ELECTRICAL TRANSMISSION AND DISTRIBUTION OF POWER. Text-book: Electric Power Transmission, Bell. 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 term.



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 I.	Rec.	3	36	1.3 G	
Algebra II	Rec.	3	36	1.3 G	Algebra I
Higher Algebra	Rec.	5	18	1. G	Algebra II
Plane Geometry I	Rec.	2	36	1. G	
Plane Geometry II	Rec.	2	36	0.7 G	Plane Geometry I
Solid Geometry	Rec.	5	18	0.7 G	Plane Geometry II
Trigonometry	Rec.	5	18	1. G	Alg. I and Solid Geom,
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
Elocution					
History 1	Rec.	5	36	2. G	
History 2	Rec.	5	36	2. G	
History 3	Rec.	5	24	1.3 G	English 3
History 4	Rec.	5	12	0.7 G	History 3
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
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
German 1.	Rec.	5	36	2. G	
German 2	Rec.	5	36	2. G	German 1
Spanish 1	Rec.	5	36	2. G	
Spanish 2	Rec.	5	36	2. G	Spanish 1
Physiography	Rec.	5	18	1. G	
Comp. Anatomy	Lab. / Rec.	5	18	1 G	
Zoology	Lab. / Rec.	10	18	1. G	Physiog. and Com. Anat.
Botany	Lab. / Rec.	10	18	1. G	Physiog. and Com. Anat.
Chemistry 1	Lab. / Rec.	7 / 3	36	2. G	Algebra I, II, Geom. I, II, English 2
Physics 1	Lab. / Rec.	7 / 3	36	2. G	Algebra I, II, Geom. I. II, English 2
F. H. Drawing 1	Draw.	3 or 2 / 2 or 3	18 / 18	0.5 M	
F. H. Drawing 2	Draw.	3 or 2 / 2 or 3	18 / 18	0.5 M	Freehand Drawing 1
F. H. Drawing 3	Draw.	5	36	1. M	Freehand Drawing 2
F. H. Drawing 4	Draw.	5	36	1. M	Freehand Drawing 3
Mech Drawing 1	Draw.	2 or 3 / 3 or 2	18 / 18	0.5 M	
Mech. Drawing 2	Draw.	2 or 3 / 3 or 2	18 / 18	0.5 M	Mech. Drawing 1
Mech. Drawing 3	Draw.	5	36	1. M	Mech. Drawing 2
Mech. Drawing 4	Draw.	5	36	1. M	Mech. Drawing 3
Wood Work	Shop	10	36	2. M	
Forging	Shop	10	36	2. M	Wood Work
Pattern-shop Practice I	Shop	10	18	1. M	Forging and Pl.Geom.II
Pattern-shop Practice II	Shop	10	18	1. M	Machine-shop Prac. I
Machine-shop Practice I.	Shop	10	18	1. M	Pattern-shop Prac. I
Machine-shop Practice II.	Shop	10	18	1. M	Pattern-shop Prac. II
Plain Sewing	Shop	10	36	2. M	Freehand Drawing 1
Dressmaking	Shop	10	18	1. M	Plain Sew., F. Draw. 2
Millinery	Shop	10	18	1. M	Freehand Drawing 1
Cooking	Shop	10	36	2. M	
Clay Modeling 1	Shop	10	36	2. M	
Clay Modeling 2	Shop	10	36	2. M	Clay Modeling 1
Wood Carving 1	Shop	10	36	2. M	
Wood Carving 2	Shop	10	36	2. M	Wood Carving 1
Physical Culture	Gym.	5	36	1. M	Required of all girls

COMMERCIAL SCHOOL

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Bookkeeping 1	Rec. Book.	5	36	1. G	
Bookkeeping 2	Rec. Book.	10	36	2. G	Bookkeeping 1
Stenography 1	Rec. Dict.	5	36	0.5 M	
Stenography 2	Rec. Dict.	10	36	1. M	Stenography 1
Typewriting	Type.	5	36	0 5 M	
Commerce	Rec.	5	12	0.7 G	
Commercial Law	Rec.	5	12	0 7 G	
Economics	Rec.	5	12	0 7 G	
Arithmetic	Rec.	5	36	1. G	
Penmanship	Writ.	5	36	0.5 M	
Spelling	Rec.	5	36	1. G	

NORMAL SCHOOL

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Psychology	Rec.	5	36	2. G	English 3, Hist. 3 and 4
Pedagogy	Rec.	5	18	1. G	Psychology
History of Education	Rec.	5	18	1. G	Pedagogy
Theory and Methods	Rec.	5	36	2. G	Psychology
Practice Teaching	Teach.	5	36	2. G	
Freehand Drawing 5	Draw.	10	36	2. M	
Freehand Drawing 6	Draw.	10	36	2. M	
Freehand Drawing 7	Draw.	15	18	1.5 M	
Freehand Drawing 8	Draw.	15	18	1.5 M	
Mechanical Drawing 5	Draw.	5	36	1. M	
Applied Biology	Lab. Rec.	10	36	2. G	
Cooking II	Rec. Cook.	13	36	2.6 M	
Cooking III	Rec. Cook.	8	36	1.6 M	
Sewing I	Sew.	10	36	2. M	
Sewing II	Sew.	10	36	2. M	
Manual Training 1	Shop	18	36		
Manual Training 2	Shop	15	36	3. M	
Manual Training 3	Shop				
Wood Carving 3	Shop	10	18	2. M	
Clay Modeling 3	Shop	8	36	1.6 M	
Clay Modeling 4	Shop	8	36	1.6 M	
Physical Culture 2	Rec. Gym.	2	36	0.5 M	

COLLEGE

	KIND OF WORK	PERIODS PER WEEK	NUMBER OF WEEKS	NUMBER OF CREDITS	PREPARATION REQUIRED
Surveying	Field Rec.	10	36	2. G	Trigonometry
Analytic Geometry	Rec.	5	36	2 G	Trigonometry
Calculus	Rec.	5	36	2. G	Analytical Geometry
Differential Equations	Rec.	5	36	2. G	Calculus
Descriptive Geometry	Rec. Draw.	5	36	2. G	Solid Geometry
Mechanics	Lab. Rec.	10	36	2. G	Calculus
English 4	Rec.	5	36	2. G	English 3
Biology	Lab. Rec.	10	36	2. G	Natural Science 3, 4
Cryptogamic Botany	Lab. Rec.	10	36	2. G	Natural Science 4
Physiology of Plants	Lab. Rec.	10	36	2. G	Nat. Science 4, Chemistry 1, Physics 1
Comparative Physiology and Morphology	Lab. Rec	10	36	2. G	Natural Science, 2, 4, 8
Comparative Anatomy and Advanced Physiology	Lab. Rec.	10	36	2. G	Natural Science, 2, 5, 8
Mineralology	Lab. Rec.	5	36	2. G	Nat. Science 1, Chemistry 1
Geology	Lab. Rec.	5	36	2. G	Nat. Science, 1, 3, 4, 10
Bacteriology	Lab. Rec.	10	36	2. G	Nat. Science, 2, 5, 7, 9
Qualitative Analysis	Lab. Rec.	8 2	24	1 3 G	Gen. Chemistry, Physics 1
Inorganic Preparations	Lab.	8	12	0.5 G	Qualitative Analysis
Theoretical Chemistry	Lect. Rec.	2	12	0.2 G	Qualitative Analysis
Organic Chemistry	Lab. Rec.	6 2	18 36	2. G	Theoretical Chemistry
Quantitative Analysis I	Lab. Rec.	8 2	18	1. G	Qualitative Analysis
Assaying	Lab. Rec.	8 2	12	0.3 G	Quantitative Analysis I
Quantitative Analysis II	Lab. Rec.	20 2	18	2. G	Quantitative Analysis I
Industrial Chemistry	Read. Rec.	5	18	1. G	Qualitative Analysis
History of Chemistry	Read. Rec.	1	12	0.2 G	Theoretical Chemistry Organic Chemistry
Physics 2	Lab. Rec.	7 3	36	2. G	Physics 1, Chemistry 1
Electricity and Magnetism	Lab. Rec.	10	36	2. G	Physics 2, Math. 7
Power Measurements	Lab. Rec.	10	18	1. G	Electricity and Magnetism
Dynamo Design	Draw. Rec.	10	18	1. G	Electricity and Magnetism
Alternating Currents	Lab. Rec.	10	24	1.7 G	Mathematics 10, Dynamo Design
Trans. and Dist. of Power	Lab. Rec.	10	12	0.3 G	Alternating Currents

LIST OF STUDENTS

1902-1903

COLLEGE

Beardslee, David Arthur ..... Azusa
Beardslee, James Louis ..... Azusa
Bennett, James Henry ..... Pasadena
Giddings, Lawson Henry ..... Pasadena
Grinnell, Elizabeth ..... Pasadena
Loveland, Inez Louisa ..... Riverside
McCutchan, Henry Chester ..... Long Beach
McManaman, Wilson ..... Monrovia
Nicholson, Maude Louise ..... Pasadena
Norton, Frank Edward ..... Pomona
Shoemaker, Richard Woolsey ..... Pasadena
Swigart, Carrie Ross ..... Las Casitas
Webster, Mabel ..... Pasadena
Wood, Helen ..... Glendora

NORMAL SCHOOL

Adams, Gertrude ..... Tustin
Bailey, Ada Macomb ..... Pasadena
Blanchard, Estelle ..... Pasadena
Dorland, Marian Cosette ..... Los Angeles
Ellis, Bertha Alma ..... Pasadena
Fish, Carrie May ..... Pasadena
Frost, Lillian G. ..... Los Angeles
Greening, Susie Amanda ..... Los Angeles
Guillou, Alfred ..... Hueneme
Hahn, Ida ..... Pasadena
Haskell, Beulah ..... Pasadena
Heald, Oscar Leslie ..... Pasadena
Howard, Celia Eleanora ..... Pasadena
Mapel, Mrs. Carrie ..... Pasadena
Martin, Mrs. Maude Fellows ..... Los Angeles
Parry, Geraldine ..... Los Angeles
Wakeman, Blanche ..... Santa Ana
Walton, Sarah Geneve ..... Pasadena

ACADEMY

Allen, Lois ..... Los Angeles
Anderson, John ..... Pasadena
Ashdown, Dottie May ..... Lamanda
Bagnard, Lionel L ..... Altadena
Ball, Katharine Fairchild ..... Pasadena
Ballou, Edward Allen ..... Pasadena
Bandini, Ralph ..... Pasadena
Barker, Atha ..... Los Angeles
Barker, Parrish ..... Pasadena
Barnard, Junius Lorraine ..... Pasadena
Bassett, Archie Merry ..... Pasadena
Bassett, Nellie May ..... Pasadena
Bauer, William Henry ..... Pasadena

Beckwith, Harriet Chase ..... Kankakee, Ill.
Beecher, Sumner ..... Kingman, Ariz.
Behr, Elsa ..... Pasadena
Benton, Irving Wright ..... Pasadena
Bixby, Edward Hillard ..... Lordsburg
Bland, Rose Florence ..... Pasadena
Blankenhorn, George Stevens ..... Pasadena
Blankenhorn, Louis McLaughlin ..... Pasadena
Boston, Frank Alvan ..... Pasadena
Boyd, Lily ..... Highland
Brackett, Ross Dudley ..... Pasadena
Bridgen, William Franklin ..... Lamanda
Brigden, Timothy Dwight ..... Lamanda Park
Brown, Arad Beach ..... Pasadena
Brown, Leroy Gregg ..... Los Angeles
Brown Paul ..... Pasadena
Calkins, Frederic Simpson ..... Los Angeles
Campbell, Earl ..... Los Angeles
Cannell, Thos. Arthur ..... Los Angeles
Cartwright, Duff ..... Alhambra
Chase, Arthur Lo ..... Cleburne, Texas
Clapp, Charles ..... Azusa
Chase, Gladys Frances ..... Los Angeles
Clapp, Margaret Avice ..... Los Angeles
Clark, Dora Mabel ..... Pasadena
Cline, George Thomas ..... Los Angeles
Cline, William Henry ..... Los Angeles
Coberly, William Bayley ..... Tustin
Coffin, George Holman ..... Pasadena
Coman, Mary Caroline ..... No. Pasadena
Coman, William Meriam ..... No. Pasadena
Comer, Fred Jabez ..... Los Angeles
Crane, Elliot Simeon ..... Tacoma, Wash.
Crowe, Malcolm ..... Los Angeles
Crowley, Frank Langston ..... Newbury Park
Crowley, William Lucas ..... St. Louis, Mo.
Cummings, Frank Jr. ..... Los Angeles
Daggett, Ethel Elizabeth ..... Pasadena
Dake, Benjamin Frank ..... Pasadena
Daley, Albert Coles ..... Altadena
Darch, Florence ..... Los Angeles
Davies, Hugh ..... Pasadena
Davis, Paul McDonnell ..... Banning
Dawson, Lura Marie ..... Los Angeles
Dickey, Florence Ivah ..... Pasadena
Dodson, Harvey ..... Selma, Ariz.
Doolittle, Harold Lukens ..... Pasadena
Duff, Hugh ..... Los Angeles
Dunn, Warren Kellogg ..... Duluth, Minn.
Dunning, Archie Muller ..... Chicago, Ill.
Dunning, Arthur Earl ..... Chicago, Ill.
Edmond, Elizabeth C. ..... Santa Monica
Elliott, Charles Alfred Lee ..... Los Angeles
Elliott, Karl ..... Pasadena
Emery, Fred Raymond ..... Pasadena
Feuerborn, Ralph Daniel ..... Los Angeles
Ford, Tod, Jr. ..... Pasadena
Fordyce, Grace ..... Pasadena
Frampton, Guy Earnest ..... Pasadena

Fullerton, Emmons Peter ..... Pasadena
Furrow, Doña Juanita ..... Avalon
Fussell, Edwin Briggs ..... Pasadena
Gaylord, John Clarence ..... Pasadena
Gaylord, Ruth Louise ..... Pasadena
Gibbs, Karl Kenneth ..... Los Angeles
Gibson, Merrill Essington ..... Sespe
Giddings, Blanche Elsie ..... Pasadena
Giddings, Joe ..... Pasadena
Giddings, Warren Levi ..... Pasadena
Gilbert, William Phillip ..... Los Angeles
Gilmour, Guy Burns ..... Pasadena
Ginther, Charles Frank ..... Los Angeles
Gosnell Ira ..... Ventura
Gould, Howard Arthur ..... Pasadena
Graettinger, Darwin George ..... Ontario
Greening, Walter ..... Los Angeles
Guillou, Alfred Victor ..... Hueneme
Hall, Mary Lou ..... Pasadena
Hall, Myrtle ..... Pasadena
Hammel, Seth Gage ..... Los Angeles
Hampton, Jack Ellis ..... Hollywood
Hampton, Lawrence Charles ..... Hollywood
Hanson Lloyd Chester ..... Pasadena
Harrington, Hazel M. ..... Delavan, Ill.
Harrison, Benjamin D. ..... Pasadena
Hartson, John Louis ..... Los Angeles
Haskell, Edward Eben ..... Pasadena
Haskell, Verna Gene ..... Los Angeles
Hawley, Josephine ..... Pasadena
Hay, Francis Leander Haynes ..... Los Angeles
Healy, Earl Thompson ..... Pasadena
Henck, George Daniel ..... Los Angeles
Henderson, Leona ..... Pasadena
Heydenreich, Clara ..... Pasadena
Hill, Roland Varian ..... Pasadena
Hill, Walter Ormsby ..... St. Louis, Mo.
Holmes, John Dewing ..... Pasadena
Hornby, Ralph Walter ..... Pasadena
Houghton, Roy James ..... Norwalk
Hughes, William Ashton ..... Los Angeles
Hunt, Le Roy ..... Santa Barbara
Hutton, William Bryan ..... Los Angeles
Irvine, Ruby May ..... Pasadena
Jaskson, Wayne Bassett ..... Hollywood
Johnson, James ..... Los Angeles
Johnston, Frederick ..... Los Angeles
Judson, Alice Philena ..... Whittier
Kennedy, Dean Madison ..... Madison, So. Dakota
Kerfoot, Arthur Leigh ..... Upland
Kerfoot, Winifred Helen ..... Upland
Knox, Edward Rice ..... Los Angeles
Koontz, John Andrew ..... Aztec, New Mex.
Kysor, Charles H. ..... Los Angeles
Lacey, Clara Louise ..... Los Angeles
Larralde, John Alfred ..... Los Angeles
Leahy, Richard Armstrong ..... Ontario
Lisk, Anson ..... Pasadena
Lockwood, Jack Alvin ..... Payson, Ariz.

Lockwood, Richard Crooks ..... Beloit, Kansas
Lowe, Harry Leo ..... Pasadena
MacNeil, Adela Robey ..... Pasadena
MacNeill, Etta Belle ..... Santa Ana
Macomber, Lawrence Osgood ..... Somerville, Mass.
Marshall, Hugh Gibson ..... Monrovia
Mason, Edgar Elwin ..... Los Angeles
Maxwell, Guy Floyd ..... Tropico
McCutcheon, Wilfred Arthur ..... Riverside
McDonald, Bert ..... Alhambra
McLachlan, Donald James ..... Pasadena
McLean, Jennie Elnora ..... Pasadena
McVean, John Palmer ..... Grand Rapids, Mich.
Mears, Nathan ..... Pasadena
Moody, Wilbur Ladde ..... Los Angeles
Moreno, José Fidel ..... Torreon, Coahuila, Mex.
Morris, Charles Shoemaker ..... Pasadena
Morris, Richard Woods ..... Carpenteria
Morrison, McKee Dunn ..... Detroit, Mich.
Moss, Roscoe ..... Rivera
Mosteller Roy William ..... Pasadena
Mueller, Earl Walter ..... Los Angeles
Mumford, Annie Meday ..... Pasadena
Mumper, William Gamaliel ..... Highgrove
Nance, Willis ..... Los Angeles
Niles, Foster Howe ..... Pasadena
Olsen, Andrew M. ..... Sierra Madre
Painter, Robert A. ..... Pasadena
Parker, Henry Butler ..... Long Beach
Patterson, Robert ..... Burnett
Pearce, Ronald Hoyt ..... Los Angeles
Pearson, Leo Earl ..... San Gabriel
Phelps, Robert William ..... Los Angeles
Pirie, Robert Edward ..... Nordhoff
Pittenger, Walter Ralph ..... Fallbrook
Porter, Florence Spalding ..... Pasadena
Price, Christine ..... Lincoln Park
Price, Jacob Meday ..... Lincoln Park
Prince, William Earl ..... New York
Reed, Allen ..... Los Angeles
Reilley, John Franklin ..... Los Angeles
Reznor, George Foster ..... Mercer, Penn.
Rice, Hazel Marguerite ..... Sierra Madre
Rice, Meta Cleora ..... Sierra Madre
Root, Virginia Vannette ..... Covina
Ross, Stella Gwendolyn ..... Etiwanda
Ryus, David Denslow ..... Los Angeles
Saline, Clara ..... Pasadena
Sandeman, George Faraday ..... Pasadena
Schrock, Charles Irvin ..... Pasadena
Schoeller, Henry Paul ..... New Wilmington, Pa.
Scofield, Francis Ned ..... Los Angeles
Scudder, Ethel Wilton ..... Pasadena
Scudder, Jessie Ingram ..... Pasadena
Seargeant, Elizabeth Diehl ..... Phoenix, Ariz.
Shadel, Leon Clyde ..... Orange
Sharpe, Nathan ..... Pasadena
Sherman, Henry Lancey ..... Pasadena
Sherwood, Guy Cedric ..... Los Angeles

Shrader, Robert ..... Los Angeles
Shumway, Amos Wight ..... Los Angeles
Sinclair, Arthur Wells ..... Pasadena
Smith, Allan Porter ..... Pasadena
Smith, Clyde James ..... Los Angeles
Smith, Stanley Quay ..... Los Angeles
Smith, Ward Spencer ..... Los Angeles
Squire, Guy Oliver ..... Downey
Squire, Roy Ellis ..... Downey
Stehman, John Miller ..... Pasadena
Stewart, James Fitch ..... Los Angeles
Stoney, George Allen ..... Los Angeles
Stooksberry, Dakota Charley ..... Los Angeles
Story, Henry Amos ..... Burbank
Swerdfeger, Geneva Mae ..... Lordsburg
Swigart, Theresa Louise ..... Las Casitas
Taylor, Walter Penn ..... Pasadena
Tomb, Howard Lowry ..... Pittsburg, Pa.
Tucker, James ..... No. Pasadena
Turner, Charles Flavel ..... Los Angeles
Twinting, Bertha ..... Pasadena
Twycross, Convers Lilly ..... Sierra Madre
Underwood, Paul ..... Pasadena
Urquhart, Dan Ross ..... Duluth, Minn.
Vail, Nathan Russell ..... Los Angeles
Vail, Walter Lennox ..... Los Angeles
Vedder, Marguerite ..... Pasadena
Wadleigh, Fred Henry ..... Newbury Park
Wadsworth, Katharine ..... Pasa dena
Wakeham Margaret ..... Santa Ana
Wakeham, William ..... Santa Ana
Warren, Herbert Clifton ..... Glendora
Waterhouse, Gerald ..... Pasadena
Waterhouse, Melicent Eda ..... Pasadena
Watts, Dan Pike ..... Compton
White, Max ..... Garvalia
Wiley, Wade Robert ..... Los Angeles
Williamson, William Roy ..... Los Angeles
Wilson, John Encell ..... Cucamonga
Wolfskill, John Christian ..... Redondo
Wood, Helen Beulah ..... Pasadena
Woodbury, Greenleaf Moores ..... Pasadena
Wright, Adaline ..... Pasadena
Wyckoff, Ralph Fenton ..... So. Pasadena
Yoakum, Donald ..... Highland Park

COMMERCIAL SCHOOL

Adair, Jodie Rae ..... Pasadena
Boggs, Lee Roy ..... Riverside
Boston, Katharine Flora ..... Pasadena
Powers, Elmer Leo ..... Santa Ana
Brown, Anna Thelma ..... Pasadena
Buszek, Marion Alfred ..... Orange
Caruthers, Bessie ..... Gila Bend, Ariz.
Clark, Burt ..... San Jacinto
Hosp, Franz Philip ..... Riverside
Las Spada, Joseph Louis ..... Pasadena
Lynch, Maisie Helen ..... Newburgh, New York

Maxwell, Will ..... Pasadena
Miller, Florence M. ..... Pasadena
Palmateer, Ada ..... Pasadena
Proctor, Venetia ..... Mt. Pleasant, Utah
Ross, Fred Cleland ..... Des Moines, Iowa
Sutton, Edith Florence ..... Pasadena
Thurmond, William James ..... Carpinteria
Traylor, John ..... Pasadena
Ward, Nellie Alexandra ..... Pasadena
White, Charles Joshua ..... Pasadena
Wishart, Ethel ..... Pasadena

GRAMMAR SCHOOL

Allcutt, Alice Pratt ..... Pasadena
Anderson, Ruth ..... Tacoma, Wash.
Armstrong, Margaret ..... Altadena
Bagby, Robert Lee ..... Los Angeles
Baldwin, Eugene Irving ..... Pasadena
Banbury, William Mohr ..... Pasadena
Bannister, Alfred Edward ..... South Pasadena
Barker, Huntington ..... Pasadena
Barker, Justin Neail ..... Pasadena
Barnwell, Edwin Odin ..... Alhambra
Beesemyer, Arthur William ..... Hollywood
Beeson, Veva Odetta ..... Los Angeles
Behr, Ernst Edward ..... Pasadena.
Bixby, Allen Bigelow ..... Pasadena
Blair, Wolcott ..... Chicago, Ill.
Blake, Ruth Angeline ..... Pasadena
Bland, Serena Lois ..... Pasadena
Bloser, Bennie John ..... Los Angeles
Brainerd, Edward Rankin ..... Los Angeles
Brown, Frederick Walton ..... Pasadena
Buck, Clinton Arthur ..... Glendora
Burkholder, Henry Howard ..... Los Angeles
Cawston, Arthur Hamilton ..... South Pasadena
Champion, Clyde Walter ..... Alhambra
Churchill, George Milton ..... Jacksonville, Del.
Collins, Charles ..... Pasadena
Colton, George Raymond ..... Los Angeles
Cook, Ernest Sylvester ..... Edina, Mo.
Cook, Mary Lucile ..... Edina, Mo.
Cruickshank, James Irwin ..... Pasadena
Culver, Lucile ..... Pasadena
Currier, Le Roy Sanborn Becker ..... Pasadena
Curwen, James Dana ..... North Andover, Mass.
Dancaster, Dunstan ..... Los Angeles
Daniels, Donald Potter ..... Pasadena
Daniels, George Henry ..... Pasadena
Davis, Charles Merritt ..... Pasadena
Dickinson, Helen ..... Pasadena
Donnatin, George Emmett ..... Los Angeles
Doolittle, Florence Letitia ..... Pasadena
Earley, George Curtis ..... Pasadena
Elliot, Hazel Jean ..... Pasadena
Evans, Emogene ..... Pasadena
Forbes, Alma May ..... Pasadena
Forbes, Cecelia Ethel ..... Pasadena
Ford, Henry Morton ..... Pasadena

Frohman, Philip Hubert.....Pasadena
Fulton, Austin Wilford.....Pomona
Gally, Howard Davison.....Nordhoff
Grant, Lillian Hoagland.....Los Angeles
Greene, Roger Williams.....Pasadena
Gregg, Gladys Louise.....Los Angeles
Guillou, Rene .....Hueneme
Hayden, Leslie .....Los Angeles
Hayes, Marshall Crane.....Lamanda
Hayes, Oliver Bliss .....Lamanda
Herlihy, Harold Walter.....Pasadena
Hertel, Anita Marion.....Pasadena
Hiney, William Dodson.....Pasadena
Horner, Charles Frank.....Los Angeles
House, Frank Edwin .....Duluth, Minn.
Hunt, Arthur Lewis.....Pasadena
Hutchings, Walter Sidney.....Los Angeles
Johnson, Harold Ingham.....Pasadena
Kidson, Ida Angelina Winifred.....Pasadena
King, John Andrews.....Chicago, Ill.
Kinsey, Eugenia Viola Margaret.....Los Angeles
Lewis, Marion Chester.....Riverside
Marsh, Victor William.....Pasadena
McAulay, Calvin .....Los Angeles
McAuslan, Arthur Ashley.....Pasadena
McCamant, Edward Earl.....Spokane, Wash.
McCollough, Addie.....Pasadena
McCoy, Ernest Royal.....Pasadena
Mears, Margaret .....Pasadena
Merriam, Robert Clizbe.....Springfield, Mass.
Moody, Graham Blair.....Los Angeles
Mumford, Henry Hume.....Pasadena
Murphy, Allen Green.....St. Paul, Minn.
Norrish, Ernest Springwood.....Pasadena
Otto, Oscar Eugene.....Pasadena
Peabody, Dora Mildred.....Pasadena
Pedley, Lionel .....Riverside
Pierson, Theresa .....Pasadena
Porchas, Nicolas .....San Javier, Mexico
Potts, William George.....Los Angeles
Price, Ruth .....Pasadena
Richards, Waldo Gavit.....Pasadena
Riggins, Mary Haynes.....Los Angeles
Rudel, Edward .....San Gabriel
Scattergood, Margery .....Philadelphia, Penn.
Scott, Sadie Elizabeth.....Pasadena
Sharp, George Garfield.....Pasadena
Short, Zadia Grace.....Pasadena
Simons, Seward Churchyard.....Buffalo, N. Y.
Smith, Charles Warren.....Pasadena
Smith, John Stanley.....Pasadena
Smith, Joshua Clark.....Pasadena
Smith, Kate .....Pasadena
Smith, Lucy Marceline.....Pasadena
Spears, Rachel .....Los Angeles
Tantau, George Blake.....Pasadena
Thompson, Laurence Kimball.....Los Angeles
Tompkins, De Ronde.....Pasadena
Wadsworth, Mary Manter.....Pasadena

Waldron, Grace Winnifred ..... Pasadena
Whiting, Dwight Anson ..... Los Angeles
Wilson, Lucian Hornbrook ..... Pasadena
Winch, Simeon Reed ..... Portland, Or.
Winsor, Charles Travis ..... Pasadena
Winsor, Samuel Wiley ..... Pasadena
Wold, Paul ..... Rock Rapids, Iowa
Wotkyns, Margaret Prudentia ..... Pasadena
Wright, Austin Charles ..... Los Angeles
Wright, Edward Prescott ..... Pasadena

SPECIAL

Booth, Avis ..... Andover, Mass.
Buckminister, Lucy May ..... Pasadena
Cauldwell, Helen Russell ..... Morristown, N. J.
Chapin, Grace June ..... Pasadena
Cooksey, Dorothy ..... Stanford University
Crew, Alice ..... Marion, Iowa
Dickinson, Grace ..... Pasadena
Evans, Mary Camille ..... Pasadena
Gaylord, Mrs. May ..... Pasadena
Goodridge, Elizabeth Davidson ..... Pasadena
Gordon, Mabel Adelaide ..... Pasadena
Gould, Marie Augusta ..... Pasadena
Hayes, Edward Arthur ..... El Monte
Holmes, Martha ..... Pasadena
Hoose, James Harmon ..... Pasadena
Hyde, Lillian Seraphine ..... Los Angeles
Kincaid, Margaret E. ..... Santa Barbara
Longfellow, Susan ..... Pasadena
Martin, Harold Huxtable ..... Pasadena
McIntosh, Una Eliza ..... Kamloops, B. C.
Moore, Mrs. F. L. ..... Los Angeles
Patterson, Theresa Homet ..... Pasadena
Perkins, Laura ..... Pasadena
Rice, Alta Lucile ..... Sierra Madre
Smith, Emma Conley ..... Los Angeles
Stimson, Cordelia ..... Pasadena
Vedder, Grace ..... Pasadena
Voltz, Katie ..... Chicago, Ill.
Whitehead, Mary Brewster ..... Chicago, Ill.
Wolfenstetter, Estelle Esther ..... Chicago, Ill.
Wright, Howard Walter ..... Pasadena

SUMMARY

	Male.	Female.	Total.
College	8	6	14
Normal School	2	16	18
Academy	179	56	235
Commercial School	11	11	22
Grammar School	81	34	115
Special	4	27	31
Totals (no duplicates)	285	150	435

GRADUATES

1895

NORMAL SCHOOL

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

ACADEMY

Allen, Robert S.....Proprietor Electric Supply and Fixture Co., Pasadena
Carlton, Don W.....Receiving Teller, First National Bank, Pasadena
Doty, George F. (A. B., T. P. I.) ..... Bank Clerk, Pasadena
Ferguson, Clarence.....Oil Business, Los Angeles

1896

COLLEGE

Haynes, Diantha M., A. B. .....Student, L. S. Jr. University
Doty, George F., A. B.....Bank Clerk, Pasadena

NORMAL SCHOOL

Beckwith, Kate B.....Teacher of Sloyd, Tulare
Burkhead, Ada H. (Mrs. Hale Weaver).....Grand Rapids, Mich.
Chamberlain, Arthur H.....Prof. 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.....Student, University of California, Berkeley
Riggins, Ara

ACADEMY

Arnold, Ralph (Ph. D., L. S. Jr. Univ.) Assistant in Geology, L. S. Jr. Univ.
Conger, Lulu N.....Pasadena
Gray, Roy W.....With Sunset Telephone and Telegraph Co., Los Angeles
Menner, Ivy .....Bookkeeper, Pasadena
Morrison, Margaret L.....Compton
Snyder, Blanchard M.....Head Chemist, British Columbia Copper Co.
Greenwood, B. C.
Winslow, Edward F..Train Dispatcher, B. C. R. & N. Ry., Cedar Rapids, Ia.

1897

COLLEGE

Grinnell, Joseph, A. B.....Student, L. S. Jr. University

NORMAL SCHOOL

Batchelder, Lizzie.....Teacher of Sloyd, Los Angeles
Blanchard, Ada F.....Teacher of Sloyd, Los Angeles
Cleveland, Ada C.....Teacher, Pasadena
Cook, Mary A.....Pasadena
Combs, Sara C.....Teacher, Visalia
Fisher, Pearl B.....Instructor in French and Drawing, T. P. I., Pasadena

Holbrook, Lucy M.....Bookkeeper, Worcester, Mass.
Mellish, Ida M.....Student of Art, Europe
Smith, Mary M.....Teacher of Drawing, State Normal School, Los Angeles
Wright, Charles H.....Architect, Boulder, Colo.

ACADEMY

Baker, Calvin .....Pasadena
Baker, Ruth Ellen.....Pasadena
Barker, James Edmund (S. B., Mass. Inst. of Technology). .....
.....With Pacific Electric Railway Co., Los Angeles
Blick, Kate Fay.....Pasadena
Conger, Lyda Drowne (Mrs. Richard A. Vose).....Clinton, Ia.
Conger, Ray Everett.....Pasadena
Farnsworth, John Arthur.....Bookkeeper, Los Angeles
Jewett, Frank Baldwin, (Ph. D., Univ. of Chicago).....
.....Graduate Student, Mass. Inst. of Technology
*Johnston, Blanche.
McQuilling, William.....Clerk, Pasadena Land & Water Co.
Polkinhorn, Edwin J.....In business, City of Mexico, Mex.
Reed, John O.....Sugar Boiler, Beet Sugar Factory, Los Alamitos
Russell, Emma .....Pasadena
Stimson, Charles W.....Lumber business, Seattle, Wash.
Vose, Richard A.....Secretary Alden Lime Co., Clinton, Ia.

1898

COLLEGE

Blackman, Roy Beebe, A. B..Supt. of Schools, Mangaldan, Philippine Islands
Jewett, Frank Baldwin, A. B. (Ph. D., Univ. of Chicago).....
.....Graduate Student, Mass. Inst. of Technology

NORMAL SCHOOL

Elleau, Jeannete Marcelle (Mrs. Harold Simpson).....Los Angeles
Elleau, Pauline Margaret.....County Recorder's Office, Los Angeles
Faithful, Claude A.....Teacher of Sloyd, Los Angeles
Hannah, Lillian.....Ontario
Hunt, Genie A....Sloyd and Drawing Teacher, Harvard School, Los Angeles
Jordan, Mabel (Mrs. Charles F. Denison).....Pasadena
*Olson, Albert L. (A. B., T. P. I.).
Russell, Emma .....Pasadena
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).....
.....Electrical Engineer with C. D. & P. Telegraph Co., Pittsburg, Pa.
Gaylord, Horace Amidon, (D. D. S., Baltimore Dental College).....
.....Dentist, Pasadena
Gaylord, Jas. Mason (B. S., T. P. I.)..With Edison Electric Co., Craftonville
Menner, Lottie Ethel.....Bookkeeper, Pasadena
Monroe, Grace Ellen (Mrs. John O. Reed).....Los Alamitos
*Olson, Albert L. (A. B., T. P. I.).
Poindexter, Charles Lawrence.....Mining Engineer, Wickemburg, Ariz.
Sterrett, Roger Jordan.....Student, L. S. Jr. Univ.
Wright, Rachel Edna .....Cashier, Newberry & Nash, Pasadena

*Deceased.

1899

NORMAL SCHOOL

Barker, Katherine K.....Teacher of Domestic Science, Los Angeles
Blanford, Mav .....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 .....Pasadena
Haller, Dora .....Kindergarten Teacher, Los Angeles
Jordan, Mabel (Mrs. Chas. F. Denison).....Pasadena
Read, Archie L.....Denver, Colo.
Sabin, Jessie MacFarland.....Pasadena
Southwick, Clara.....Instructor in Grammar School, T. P. I., Pasadena

ACADEMY

Bixby, William F. .....Architectural Draftsman, Los Angeles
Clark, Adeline Orilla.....Honolulu, H. I.
Davidson, Leonard (B. S., T. P. I.) .....Teacher of Sloyd, San Francisco
Fordyce, Mabel .....Pasadena
Raleigh, Carl .....Los Angeles
Wood, Clifford H.....Student, Los Angeles Medical College

1900.

COLLEGE

Harris, Irving, A. B.....
.....Chief Engineer Pasadena Electric Light & Power Co., Pasadena
*Olson, Albert, A. B.

NORMAL SCHOOL

Anderson, Lucy J...Teacher of Domestic Science, State Normal, Los Angeles
Brooks, Ada M.....Teacher of Kindergarten, Pasadena
Davidson, Leonard E. (B. S., T. P. I.).....Teacher of Sloyd, San Francisco
Dobbs, Ella V.....Acting Instructor in Sloyd, T. P. I., Pasadena
Gower, Mary L.....Teacher of Domestic Economy, Los Angeles
Holton, Lola N.....Whittier
Lyde, Louise.....Teacher of Domestic Science, Oakland
Martin, Walter W.....Instructor in Woodworking, T. P. I., Pasadena
Metcalf, Stella.....Pasadena
Moore, Nellie.....Student, State Normal School, Los Angeles
Morgan, Mabel V.....Teacher of Domestic Science, Los Angeles
Peabody, Sallie .....Teacher, Newport Beach
Pearce, Mrs. Susan.....Teacher of Domestic Economy, Los Angeles
Toll, Mabel E.....Baldwinsville, N. Y.
Van Hook, Kate.....Teacher of Sloyd, Hiawatha, Kan.

ACADEMY

Jerauld, Edwin W.....Machinist, Union Iron Works, San Francisco
Jewett, Pauline.....Pasadena
Richards Bessie E. .....Artist, Pasadena
Strong, Robert M.....Student, New York University, New York City

*Deceased.

1901

COLLEGE

Davidson, Leonard E., B. S. ..... Teacher of Sloyd, San Francisco

NORMAL SCHOOL

Beckett, Alice M. ..... Anaheim
Getchell, Mary E. ..... Pasadena
Gibson, Annette M. ..... Teacher of Sloyd, Los Angeles
Glick, Naomi ..... Terre Haute, Ind.
Gooch, Mrs. Emma A. ..... Sebastopol
Hazzard, Mrs. Jessica C. ..... Teacher, State Normal School, Los Angeles
Johnson, Mrs. Carrie ..... Pasadena
Little, Mrs. Lulu P. ..... Los Angeles
Miller, Ada J. ..... Teacher of Sloyd, Los Angeles
Moore, Nellie ..... Student, State Normal School, Los Angeles
Nicholson, Maude L. (B. S., T. P. I.) .. Student, College, T. P. I., Pasadena
Parsons, Ellen N. ..... Los Angeles
Ross, Donald A. ..... Supervisor of Sloyd, Bakersfield
Stevens, Elizabeth ..... Pasadena

ACADEMY

Burtt, Dodge ..... Surveyor, Placerville
Daggett, Maud ..... Pasadena
Eddy, Nathaniel N. ..... Student, University of California, Berkeley
Fassett, John G. ..... In business, Los Angeles
Holcomb, John Delaney .. Student, Dental College, Univ. S. Cal., Los Angeles
Poage, Leland S. ..... Azusa
Wood, Helen ..... Student, College, T. P. I., Pasadena

COMMERCIAL SCHOOL

Erwin, Hattie B. ..... Los Angeles
Giddings, Joe ..... Student, T. P. I., Pasadena
Giddings, Levi W. ..... Student, T. P. I., Pasadena
Hartley, Ethel ..... Bookkeeper, Pasadena
Menner, Lottie ..... Bookkeeper, Pasadena
Pierce, Rollin W. ..... Bookeeper, Wilcox, Ariz.
Richardson, Allen.
Stonehouse, Nellie M. ..... Bookkeeper, Pasadena

1902

COLLEGE

Dyer, Kirk Worrell, B. S. ..... Pasadena
Gaylord, James Mason, B. S. ..... With Edison Electric Co., Craftonville
Nicholson, Maude Louise, B. S. ..... Graduate Student, T. P. I., Pasadena

NORMAL SCHOOL

Gooch, Mrs. Emma A. ..... Sebastopol
Gould, Marie Augusta ..... Student, T. P. I., Pasadena
Holton, Lola N. ..... Whittier
Richards, Bessie Everett ..... Artist, Pasadena
Ross, Donald A. ..... Supervisor of Sloyd, Bakersfield
Ross, Minnie Elizabeth.
Seegmiller, Frances Caroline ..... Teacher, Whittier

ACADEMY

Braddock, Fred Blackman.....Drug Clerk, Pasadena
Case, James Ovington.....Printer, Pasadena
Erickson, John August.....In business, Los Angeles
Giddings, Lawson Henry.....Instructor in Forging, T. P. I., Pasadena
Gould, Judson Porter.....Student, Hastings Law School, San Francisco
Haskell, Beulah.....Student, Normal School, T. P. I., Pasadena
Hoose, James Harmon, Jr.....Student, College, T. P. I., Pasadena
Jerauld, Rodman Ernest .....With Pacific Electric Co.
Lescher, Royal William.....Surveyor, Pacific Electric Ry. Co., Los Angeles
Linde, Eva .....Los Angeles
Paul, Albert.....With Los Angeles Farming & Milling Co., Los Angeles
Phillips, Virginia..... .....Pasadena
Sidwell, Chester Clarence.
Tweedy, James Knox.....Rancher, Downey
Webster, Mabel.....Student, College, T. P. I., Pasadena
Wood, Hilda..... ....Glendora
Woodbury, Fred Ralls ..... With Pasadena Novelty Co.

COMMERCIAL SCHOOL

Bonner, Ella Louise.....Pasadena
Cole, Karl Jay.
Gammon, Harry Elder.....Pasadena

OFFICERS OF THE ALUMNI ASSOCIATION

President, James Hoose — Vice-President, Fred Braddock.
Treasurer, George Doty. — Historian, Hilda Wood.
Secretary, Augusta Gould.

HEADING FOR "POLYTECHNIC" DESIGNED BY STUDENT

SUMMER SCHOOL OF MANUAL TRAINING

The fourth annual session of the Summer School of Art and Manual Training of Throop Polytechnic Institute will open on July 6, 1903, and close on August 1. The school will be in session five and one-half days each week—from Monday morning until Saturday noon.

The work done will be credited by the Institute for the benefit of those who may hereafter be candidates for a normal diploma, and will be of such a nature as to meet the needs of teachers in the public and private schools. Advanced work will be offered for those who have had experience in any line.

The following courses will be given:

ELEMENTARY WOOD-WORKING, CLAY MODELING AND WOOD CARVING—Harry D. Gaylord, Instructor in Sloyd and Wood Carving, T. P. I.

PAPER AND CARDBOARD, WEAVING AND BASKETRY—Ella V. Dobbs, formerly Supervisor of Cardboard Construction, Los Angeles Public Schools, Instructor in Sloyd, T. P. I.

FREEHAND DRAWING—Ada M. Laughlin, Director of Art, State Normal School, Los Angeles.

SEWING AND COOKING—Mary L. Gower, Graduate of Normal School, T. P. I., and Teachers' College, Instructor in Sewing and Cooking, Public Schools, Los Angeles.

ELOCUTION—Clara F. Randall, Instructor in English and Elocution, T. P. I.

The Summer School will be, as heretofore, under the direction of Arthur H. Chamberlain, Professor of Education, T. P. I., who is expected to return from Columbia University in the course of the session.

The Announcement of the Summer School giving detailed information as to courses, terms, lodgings, etc., will be sent on application to

HARRY D. GAYLORD,
Secretary of the Summer School.

Throop Polytechnic Institute. Pasadena, Cal.

STUDENTS IN SUMMER SCHOOL OF MANUAL TRAINING

1902.

Bagby, Madison ..... Mojave City, Ariz.
Beckwith, Kate B. ..... Tulare
Bennette, Mrs .Minnie M. ..... Redlands
Bigley, Alpha ..... Pasadena
Bigley, Mrs. H. R. ..... Redlands
Blake, Catherine F. ..... Visalia
Brainard, Howard ..... Los Angeles
Brown, Walton. ..... Pasadena
Butts, Emma ..... Pasadena
Chamberlain, Florence. ..... Pasadena
Chamberlain, Lucy E. ..... Pasadena
Combs, Sarah B. ..... Visalia
Corson, Anna ..... Pasadena
Davies, Hugh ..... Long Beach
Ewart, Irving D. ..... Pasadena
Gooch, Mrs. Emma A. ..... Sebastopol
Hamilton, Miss. ..... Pasadena
Horton, Fanny ..... Pasadena
Jackson, Bessie ..... Pasadena
McNair, M. J. ..... Pasadena
McAnelly, Ernest ..... Devine, Texas
Patten, Herbert ..... Claremont
Rapson, Frederick. ..... Parker, Ariz.
Seegmiller, Frances. ..... Lamanda
Waller, Ehrnman. ..... Pasadena
Walton, Sarah G. ..... Pasadena
Williamson, R. Roy. ..... Los Angeles
White, Mrs. Emily F. ..... Los Angeles

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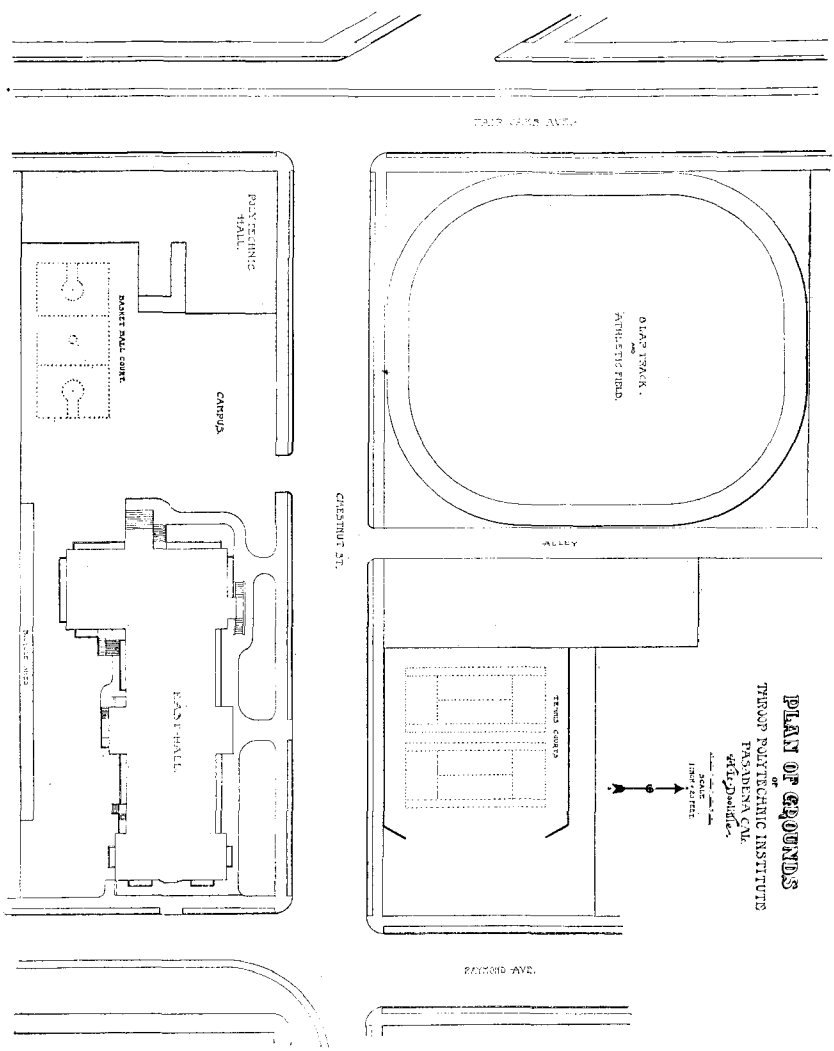

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