

SCHOOL
TRAINING
IN
ARCHITECTURE.

A STATEMENT EXPLANATORY OF THE
COURSE OF INSTRUCTION IN THE
SCHOOL OF ARCHITECTURE,
UNIVERSITY OF PENNSYLVANIA,
PHILADELPHIA.

ILLUSTRATED.



• M D C C C X C I I •

POPULAR INTEREST IN ARCHITECTURE.

Architecture, both as an art and a profession, has awakened a considerable interest during the past generation.

Owing to various causes a general desire for better architecture has arisen; the profession has been stimulated; and the public taste and judgment greatly improved. Extraordinary as the industrial and commercial progress of the nation has been during the past twenty years, the advance in architecture has been even more remarkable. This is largely the result of an educational movement in the profession that has shown itself in various ways. Foreign travel and study have been encouraged by the demand for better work and by the establishment of numerous travelling scholarships. A large number of young architects have in consequence gone abroad to travel and to study in the best schools of Europe. Draftsman's organizations have been formed in all parts of the country for purposes of study, and the work done by them under the stimulus of prizes and exhibitions has materially advanced the standard of draftsmanship. Architectural schools have been established and have flourished, as shown by the annual increase in the number of students and a steady advance in popular esteem.

As a result our best architects are scholarly men, trained in our own schools and those of Europe, and familiarized by travel with all that is best in Architecture. They are men of education, of cultivated taste and of masterly ability in their art. With such leaders the profession is becoming recognized as a distinguished one, and a steadily increasing number of young men are entering it in preference to the other professions.

THE NEED OF SCHOOL TRAINING.

School training is an absolute necessity to those who would enter the profession of Architecture. Office training, no matter with what intelligence and industry it may be pursued, is not sufficient. The student in architecture must have a broader preparation than it is possible for him to receive in the routine of office work alone. That the routine of office

work as a draftsman must be a part of the training of every architect goes without saying, but it is equally true that the man who has no further preparation than this is seldom able to make the most of his talents.

The highest professional standards require that the architect should be an educated man ; that he should have a knowledge of the æsthetic and scientific principles upon which his art is based, in addition to the technical knowledge to be gained only in actual practice. In a word, he must know more than the usual local methods of building a house, which involve little more than substantial structure in accord with certain popular conceptions of correctness of form. The demands made upon the profession require vastly more than this, and to meet them the architect must be a man of broad culture. He must know the physical properties of building materials and the scientific principles upon which they are put together ; and he must have an acquaintance with all that is best in his art through a knowledge of its history and of its traditional forms. For it is only by the combination of the scientific and æsthetic factors of his art that the true architect can be equipped. To this end schools of architecture are established ; for it is impossible that a thorough and scholarly training in these fundamentals should be obtained in the routine of office work. In these schools the subject of Architecture is taught historically, æsthetically and scientifically, in order that the student may be able the better to cope with the problems of his after career and solve them to the credit of himself and his profession.

PRACTICAL RESULTS OF SUCH TRAINING.

In stating the need for school training its benefits have been suggested. The graduate of the school of architecture cannot begin the active practice of his profession at once ; a period of practical works lies before him, under the direction of an experienced practitioner, before he can become competent to assume the responsibilities of practice. But in this apprenticeship as well as throughout his subsequent professional career the substantial benefits of his school training may be confidently maintained.

After entering an office and learning its routine, with the restrictions and conditions imposed by the exigencies of practice, the graduate finds himself not only more capable but better equipped mentally than his fellow draftsmen. His habits of study enable him more clearly to understand, consider, and solve the problem given him, while his knowledge of the forms of architecture and his training in design give him a power to offer a solution of the problem at once simple, scholarly and architectural. This advantage is still greater when he becomes an architect, as his education enables him the better to understand the wishes of his educated clients; the qualities that made him superior as a draftsman make him strong as an architect, because his practical experience will have underlying it a knowledge of those principles which must govern all good architecture.

THE SCHOOL OF ARCHITECTURE.

The School of Architecture provides this training, as it offers instruction in the various phases of architectural study: Æsthetic, Historic, Constructive and Practical. It further provides a course of liberal study that tends to broaden and cultivate the student. The aim is to cultivate in its men a thoughtful and earnest method of dealing with architectural problems. While inculcating this habit of study, it seeks to familiarize the student with that which is good in architectural form and true in principle, to the end that he may be able to take up the problems of actual practice and solve them in a direct, simple and scholarly manner. In thus training its students it best serves their future, for the strongest architect is he who, appreciating the good in his art, knows also how to produce it.

The School educates architects, not draftsmen. Its aim is not to produce architects' assistants but so to educate its men that they may become architects of high grade. But the training is such that the graduates are better draftsmen, better architects' assistants, for having had it. The best school for training draftsmen is the architect's office; but the School of Architecture, while giving an education impossible to acquire

in an office and indispensable to the fully developed architect, also gives its students such practical instruction and drill that, on entering an office, they can take up its routine work with readiness and skill.

The course of study is thorough and comprehensive. As before intimated, it is not confined to mere architectural drawing, but embraces the whole range of subjects in which the architect must be grounded. It may be considered on three lines—Liberal, Scientific and Æsthetic; the first to broaden and cultivate the student, the second to ground him in the principles of good architectural construction, and the third to teach him the Art of Architecture.

Reference to the schedule of studies following will give an idea of the comprehensiveness with which these subjects are presented.

Forming part of the general College Faculty of the University, the School has a large Corps of Instruction exclusively for its own service. This comprises Professors of Architecture and Art, Instructors in Architecture, Freehand Drawing, Modelling and Pen and Ink and Lecturers on the History of Architecture, Ornament, Theory of Design and Construction.

SCHEDULE
AND
DESCRIPTION OF COURSES
IN THE
SCHOOL OF ARCHITECTURE.

SCHEDULE OF STUDIES.

FRESHMAN YEAR.

FIRST TERM.		SECOND TERM.	
	Hours per week.		Hours per week.
Freehand Drawing	4	Freehand Drawing	4
Linear Drawing	} 3	Isometric Projection . . .	} 3
Geometrical Drawing . . .		Brushwork	
Projection		Elementary Design	
Elements of Architecture,	3	History of Architecture . .	1
History of Architecture . .	1	Readings.	
Readings.			
<hr/>		<hr/>	
Rhetoric	3	Rhetoric	3
French or German	5	French or German	5
Algebra	2	Algebra	2
Geometry	3	Trigonometry	3
Chemistry	3	Chemistry	3
Hygiene	1	Hygiene	1
Gymnasium	2	Gymnasium	

SUMMER WORK.

Sketching, }
Office Work, } Alternative.

See description on
opposite page.

ARRANGEMENT OF COURSES
IN THE SCHOOL OF ARCHITECTURE.

Two main considerations underlie the arrangement of courses and selection of studies in the School of Architecture, (a) a thorough and competent knowledge of Architecture and allied studies from a scientific, æsthetic and practical point of view, and (b) a reasonable pursuance of general culture studies during Freshman and Sophomore year, so correlated with the technical studies of the department as to serve the student as a valuable aid in his later work and in his subsequent professional career. For this latter purpose Rhetoric, English Composition and English Literature, French and German, Mathematics and Chemistry are pursued. The practical advantage of such studies, whether for purposes of general education or for the future of the young architect, can be doubted by none. In English Composition and Literature he will obtain that drill in writing and that acquaintance with the best models, through which alone he can learn the correct use of his mother tongue; a reading knowledge of French and German will open to him the wide field of the untranslated literature of architecture; whilst the admirable mental drill of the Mathematics and the study of Chemistry and Physics as pure sciences with their innumerable applications to the nature and strength of building materials form the best possible adjuncts to the more purely technical sciences of the department. These technical courses, together with those on drawing and the history and æsthetics of Architecture will receive separate attention in the detailed description of courses below.

FRESHMAN YEAR.

The student begins technical studies on entering the school. Drawing, to which a considerable portion of his time is devoted, is taught from the first with a view to the understanding of form and the use of hand and eye in unison, and an acquisition of the architectural manner in representing it. To this end, while thoroughly drilled in correct methods of Freehand, Brush Work and Instrumental Drawing the application of each to Architecture is kept constantly in

SCHEDULE OF STUDIES.

SOPHOMORE YEAR.

FIRST TERM.		SECOND TERM.	
	Hours per week.		Hours per week.
Freehand Drawing	4	Freehand Drawing	4
Shades and Shadows	} 3	Sketch Design	2
Perspective		Design	18
The Orders of Architecture	6	Working Drawings	2
Working Drawings	3	Construction	1
History of Architecture . .	2	History of Architecture . .	2
—		—	
English Literature	2	English Literature	2
French or German	3	French or German	3
Analytic Geometry	3	Descriptive Geometry . .	2
Physics	2	Physics	2
Gymnasium	2	Gymnasium	2

SUMMER WORK.

Sketching, }
Office Work, } Alternative.

See description on
opposite page.

view, in the redrawing from copy and rendering of various architectural features, or "Elements of Architecture;" and in the work in Elementary Design. Instrumental drawing is pursued through Linear and Geometric drawing, Projection and Developments, thus leading to Isometric drawing, and studies in Shades, Shadows and Perspective pursued in Sophomore year. The ground work of the student's after course is also carefully laid in reading, supplemented by recitations on the History of Architecture.

The general culture studies of the Freshman year include a careful drill in Rhetoric and English Composition, the study of French or German, Mathematics, including Algebra, Geometry and Trigonometry, and Chemistry taught as a pure science. Lectures on Hygiene too form a part of the required course, accompanied by gymnasium exercise under the Instructor in charge.

In order to insure a continuance of purely architectural work the student is required to spend a certain portion of all his vacations in an Architect's office, or if he prefer, may substitute for this a certain amount of sketching.

SOPHOMORE YEAR.

Throughout the Sophomore year constant practice in Freehand Drawing is continued. Shades and Shadows, and Perspective form the additional work of the First Term, whilst in the second are introduced Design and Working Drawings. The general character of the work in drawing now involves a closer attention to detail; Freehand Drawing passes from elementary and natural forms into Historic Ornament and drawing from the solid, and from casts, whilst drawing from photographs receives a proper share of attention. Shades, Shadows and Perspective are taught by lectures, by illustration in diagram and by numerous exercises. The subject of Architectural Design for which the studies of Freshman year have already prepared the student is fairly introduced by the study of the Orders of Architecture, which is supplemented on its completion by Design proper.

SCHEDULE OF STUDIES.

JUNIOR YEAR.

FIRST TERM.		SECOND TERM.	
	Hours per week.		Hours per week.
Freehand Drawing	5	Freehand Drawing	5
Pen and Ink	2	Pen and Ink	2
Water Color	3	Water Color	3
*Modelling	3	*Modelling	3
*Measured Drawing	3	*Sketching	3
Design	10	Design	10
History of Architecture	2	*Theory of Design	1
Egyptian, Assyrian, etc.		History of Architecture	2
Greek and Roman.		Early Christian, Roman- esque and Byzantine, Gothic.	
Lecture Drawing	1	History of Ornament	2
Construction	1	Lecture Drawing	1
Lectures.		Construction	1
		Sanitary Science	1
		Plumbing and House Drainage.	
Geology	1		
Mechanics of Materials	2	Geology	1
Graphical Statics	2	Mechanics of Materials	2
*Surveying	3	*Surveying	3

SUMMER WORK.

Sketching, }
Office Work, } Alternative.

*Do not cover full term.

See description on
opposite page.

The History of Architecture is continued by means of lectures, recitations and readings as in Freshman year. The practical phases of architectural practice receive especial attention in lectures on construction which involve instruction in the best methods of ordinary Building Construction ; masonry, brickwork, carpenter work, etc., each considered in detail with reference to materials and methods of construction and the various processes followed in completing a building. The general culture studies of the Sophomore year include a continued drill in English Composition, Lectures on English Literature with theme work, French or German of a more advanced character, Analytic and Descriptive Geometry and Physics. Gymnasium work continues to be required of the student as in Freshman year.

JUNIOR AND SENIOR YEARS.

In these years the studies of the course assume almost a wholly technical character, only those studies which bear directly upon the subject in hand being pursued in other departments of the University.

Freehand drawing continues to demand increasing attention and assumes the form of more difficult drawings from the cast, from photographs, from still life and from nature. Architectural subjects are generally chosen for this exercise, and of such a character that good form, historically and artistically, may become familiar to the eye and thought of the student, while his hand is becoming skilled. The student is taught the use of other mediums besides the pencil ; Pen and Ink Rendering with Gregg's work on Pen and Ink as basis of exercises, and Water Color Drawing from still life and later from nature both receive the attention due to subjects of such prime importance to the architect in the rendering of his problems in design. Modelling in clay in Junior year is regarded as a valuable means of teaching appreciation of form, the student learning to interpret a drawing by making the actual form from its representation on the flat, reversing the process of drawing from the cast. It may be added that this work is confined chiefly to actual models of architectural ornament.

SCHEDULE OF STUDIES.

SENIOR YEAR.

FIRST TERM.		SECOND TERM.	
	Hours per week.		Hours per week.
Freehand Drawing	5	Freehand Drawing	5
Pen and Ink	2	Pen and Ink	2
Water Color	3	Water Color	3
*Sketching	3	Advanced Design and The- sis	15
Advanced Design	12	*Theory of Design	1
*Theory of Design	1	History of Architecture	2
History of Architecture	2	History of Architecture	2
Renaissance and Modern.		Renaissance and Modern.	
Lecture Drawing	1	Construction	2
Construction	2	Lectures on Advanced Problems.	
Lectures on Advanced Problems.		Professional Practice	
Specifications, Estimates, Contracts, etc	1		
Acoustics	1		
Sanitary Science	1		
Heating and Ventilation.			
—			
Graphical Statics	2	Graphical Statics	2

*Covers part of term only.

See description on
opposite page.

The subject of Design assumes with the Junior year a greater degree of importance and is pursued with a corresponding increase of time. The student now enters upon a careful study of the principles of planning and composition based upon a recognition of the fact that Architecture is distinctly an Art. He is grounded in the principles which underlie true architectural design, from an acquaintance with what is best in the Architecture of the past and a knowledge of the reasons of such excellence, and above all it is sought to train in him an ability to bring his knowledge to bear practically on modern architectural problems. Study of the problems in Design is accompanied by the criticism and oversight of the professor in charge and by lectures on the Theory of Design and methods of rendering the finished drawings. "Measured drawing" requires that the class shall measure and afterwards draw to scale buildings already executed.

The history of Architecture is now pursued with increasing attention to the evolution of national types, such as the Egyptian, Assyrian, Greek and Roman, the Early Christian, Romanesque, Byzantine, Gothic and Renaissance. The lectures are illustrated by lantern slides and otherwise and supplemented by readings and recitations. The History of Ornament is pursued in like manner.

The lectures on Construction, which involve an exposition of the methods employed in construction of large buildings, are supplemented by visits by the classes to buildings in actual process of erection and to technical establishments. Sanitary Science in its relation to building is fully treated along the lines of Heating, Ventilation, Plumbing, and House Drainage.

The Scientific studies of these two years, Mechanics of Materials, Graphical Statics, Construction, etc., cover the principles of scientific construction, thus rounding out and completing the course. In Geology the qualities and locations of building stones are taught, while Surveying is carried to the point of using transit and level, as required in ordinary architectural practice.

THE CORPS OF INSTRUCTION
IN ARCHITECTURE.

The Corps of Instruction in those branches pertaining specially to Architecture is made up as follows :

- Warren P. Laird Professor of Architecture.
In charge of the School of Architecture;
Design; History of Architecture; the Orders;
Construction.
- Charles E. Dana Professor of Art.
Water Color.
- Julian Millard Instructor in Architecture.
Instrumental Drawing, Elements, Shades, Shadows,
Perspective, and Elementary Design.
- Edmund A. Stewardson Instructor in Modelling.
Modelling in Clay; Junior Class.
- Wilson Eyre, Jr. Instructor in Pen and Ink.
Pen and Ink Drawing; Junior and Senior Classes.
- Herbert E. Everett Instructor in Drawing.
Freehand Drawing; all classes.



LECTURERS ON ARCHITECTURE.

- *Theophilus P. Chandler, Jr Architect.
- Walter Cope Architect.
History of Gothic Architecture.
- Frank Miles Day, B. S. Architect.
History of Greek and Roman Architecture.
History of Renaissance Architecture.
- Wilson Eyre, Jr. Architect.
Theory of Design.

*Subjects unassigned at date.

- *Barr Ferree New York.
History of Architecture.
- *Frank Furness Architect.
Addison Hutton Architect.
Building Construction.
- John Stewardson Architect.
History of Ornament.
- Joseph M. Wilson Architect and Civil Engineer.
Building Construction.



LECTURERS BY APPOINTMENT.

1891-92.

- George C. Mason, Jr. Architect.
History of Early Christian, Romanesque and
Byzantine Architecture.
- Austin W. Lord Architect.
Rendering of Architectural Drawings.



LECTURERS ON SANITARY SCIENCE.

- John S. Billings, M. D., LL. D., Director of the University
Hospital and Lecturer on Sanitary Engineering.
- A. C. Abbott, M. D., First Assistant Lecturer on Sanitary
Engineering.

*Subjects unassigned at date.

THE UNIVERSITY OF PENNSYLVANIA.

The University, founded in 1755, ranks fourth in point of attendance among the universities of this country. Its grounds occupy forty acres in West Philadelphia, a beautiful suburban city separated from Philadelphia proper by the Schuylkill and accessible in twenty minutes by several car lines. Living expenses, to students, are moderate and many advantages, aside from those offered by the University, are to be found in the city.

REQUIREMENTS FOR ADMISSION TO THE FOUR YEARS COURSE.

Candidates for the Freshman class are admitted to the school either on certificate or by examination.

Blank certificates are issued every year to such principals of recognized preparatory schools and to such private teachers as may be named for the privilege. The Faculty reserves the right, however, to withdraw from any school or teacher the privilege of sending pupils into college on certificate.

Entrance examinations are held June 15th and September 21st. Circulars stating the days and the subjects of examination for each day can be had on application to the Dean.

The subjects of examination are :

ENGLISH.—Grammar (as in Abbott's *How to Parse*, or Murray's *Advanced Lessons in English Composition, Analysis and Grammar*), together with the correction of specimens of English bad in grammar (as in Strang's *Exercises in English*).

Etymology (as in McElroy's *Essential Lessons in English Etymology, Composition and Reading*). (1) A short essay, correct in spelling, punctuation, grammar, division by paragraphs and expression, on one of several subjects to be announced at the time of examination, and to be taken from the last named of the following books, all of which (or the last named and equivalents for the first three) must have been read by each candidate, viz. : Scott's *Quentin Durward*, Goldsmith's *Deserted Village* and Irving's *Bracebridge Hall*. (2) Questions on the subject-matter of a passage to be taken from the same book as the subjects of composition are taken from.

(3) The correction of English bad in expression, with a brief statement of the principles on which the correction is made (as in Williams' *Composition and Rhetoric by Practice*).

In 1892, the books to be read by each candidate will be Shakespeare's *Merchant of Venice*, Irving's *Bracebridge Hall*, Addison's *Sir Roger de Coverly Papers*, and Scott's *Talisman*.

FRENCH.—French grammar as much as indicated by the first forty-five practical exercises appended to Harrison's *French Syntax*. French Reading. Passages for translation into English will be chosen from the first three books of *Télémaque*.

HISTORY.—History of the United States. (Scudder or Johnston is suggested.) Ancient History; Freeman's *General Sketch of History*, Chapters 1-6.

MATHEMATICS.—Arithmetic (including Vulgar and Decimal Fractions, the Decimal System of Weights and Measures, Proportion, Percentage and the Extraction of the Square and Cube Root.)

Algebra to the end of Quadratic Equations (including Factoring, Fractions, Common Factors and Multiples, and Simple Equations with one, two or several Unknowns, Ratio Proportion, Arithmetical and Geometrical Progression, the Binomial Theorem, Surds and Imaginaries.)

Plane Geometry (as in the first five books of Chauvenet's or Wentworth's *Geometry*).

Candidates for admission must show ability to sketch some ordinary object in a satisfactory manner. They must also produce drawings indicating familiarity with the use of mathematical instruments.

THE SPECIAL COURSE IN ARCHITECTURE.

This course covers two years and is specially designed for those who desire a school training in architecture, but who are unable to devote four years to it. The course comprises all of the advanced studies of the full course and will be found adapted to those who wish to add to office experience a training in many branches impossible to acquire in an office.

The Special Course offers the following studies:

FIRST YEAR.

Shades and Shadows.	Design.
Perspective.	Pen and Ink.
The Orders.	Water Color.
Construction.	Modelling.
History of Architecture.	Sketching.
Freehand Drawing.	

SECOND YEAR.

Freehand Drawing.	Graphical Statistics.
Design.	Mechanics of Materials.
Theory of Design.	Surveying.
History of Architecture.	Construction.
History of Ornament.	Sanitary Science.
Pen and Ink.	Acoustics.
Water Color,	

Candidates for admission to this course must satisfy the Professor in charge of their ability to take up and pursue the studies prescribed by presenting evidence of a certain experience in drawing or by having had at least one full year's work in an architect's office. Office experience will be found the best preparation for taking up the work of the course. Continuance in the course or the awarding of the Certificate of Proficiency on its completion will depend on a high average standing on the part of the student.

Partial students (noted below) may enter the full Special Course at any time by fulfilling its conditions.

ADMISSION OF PARTIAL STUDENTS.

Students may be admitted to a partial course, embracing one or more of the subjects taught in this school. Their admission will be conditioned upon their satisfying the instructors concerned, by examination or otherwise, of their ability to pursue successfully the studies selected. Upon the completion of such a course a certificate will be given covering the studies pursued. A partial student may become a full student and candidate for the degree by fulfilling at any time the requirements of a regular course.

ARRANGEMENT OF SESSIONS.

The college year is divided into two terms of about eighteen weeks each. The first term will begin in 1892, on October 3d, at 10 o'clock A. M., and end on February 1st, at 5 o'clock P. M.

EXAMINATIONS.

Examinations are held at the end of each term. Students who attain a high standing are classed as "Distinguished;" those whose term standings show them to be deficient in any of their studies are conditionally attached to their class until the deficiency has been fully made up. For persistent neglect of study, irregularity of attendance, or inability to keep up with the class, students are dropped from the rolls.

DEGREES.

Students who complete the four years' course in Architecture will receive the degree of Bachelor of Science, to be followed, upon evidence of practical work in subsequent years, by a professional degree.

Students who complete the Special Course are given Certificates of Proficiency in the subjects included in that course.

FEEs.

The Tuition Fee for all classes is one hundred and fifty-five (\$155) dollars a year.

A deposit of ten (\$10) dollars to cover damages to the apparatus is required of all students. Any balance is returned.

The Annual Tuition Fees are payable to the Treasurer of the University in two instalments, on October 1st and February 1st.

A Graduation Fee of twenty dollars is charged to each candidate for the Baccalaureate Degree. The fee for Certificates for Special or Partial Courses is ten dollars.

For further information address,

DR. HORACE JAYNE, *Dean,*
School of Architecture,
University of Pennsylvania.

ILLUSTRATIONS.

THE COLLEGE BUILDING.

PLAN OF THE

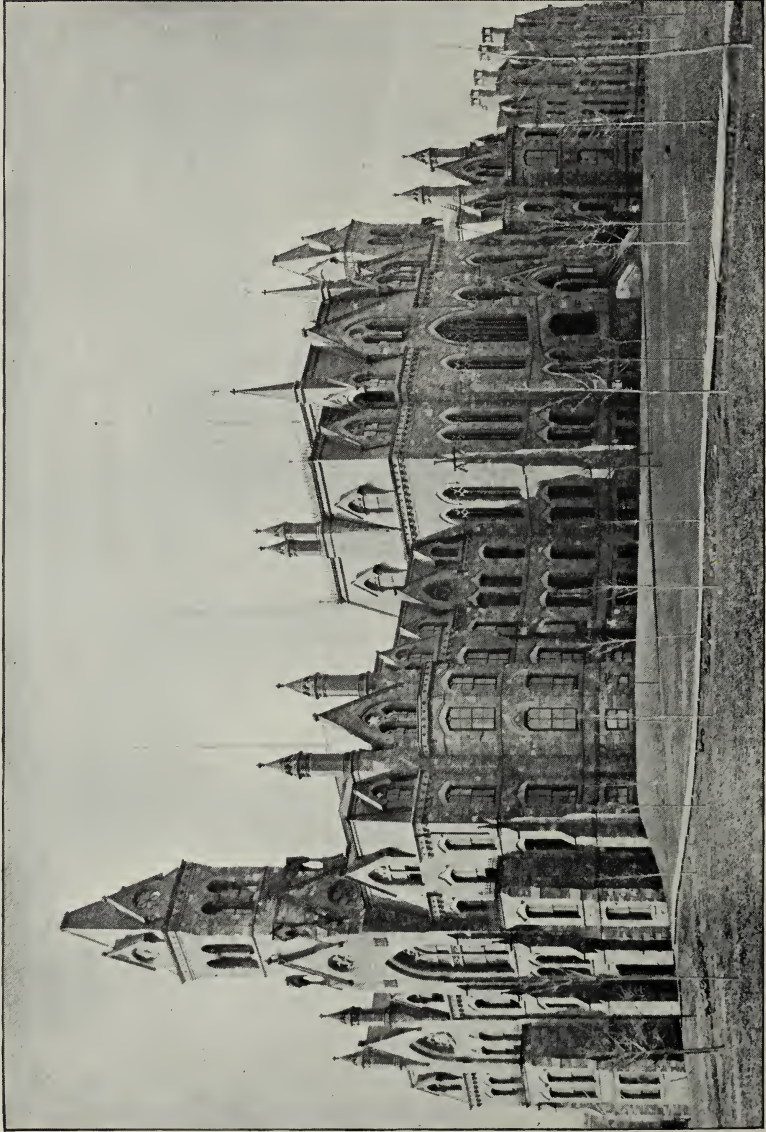
DEPARTMENT.

WORK OF THE STUDENTS

— IN —

DESIGN, WATER COLOR, PEN AND INK,
INSTRUMENTAL DRAWING, MODELLING,
ETC., ETC.

Pages 26 to 41 inclusive.



THE COLLEGE BUILDING.
ONE OF THE GROUP OF UNIVERSITY BUILDINGS. SEAT OF THE SCHOOL OF ARCHITECTURE.

PLAN OF THE
DEPARTMENT
AS PROPOSED
FOR
1892-93.





PLATE-V.

H. L. DUNNING.



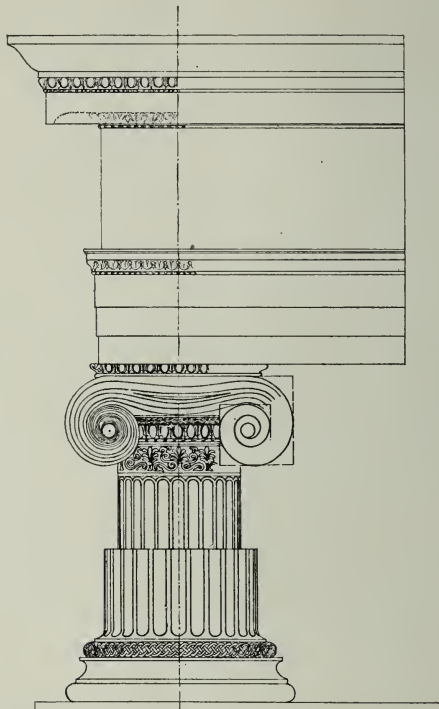
PLATE-VI.

H. L. DUNNING.

ELEMENTARY DESIGN,
FRESHMAN YEAR.



SHADES AND SHADOWS,
SOPHOMORE YEAR.



◦ CREEK ◦ IONIC ◦ ORDER ◦

◦ FROM THE TEMPLE ◦

◦ OF ◦

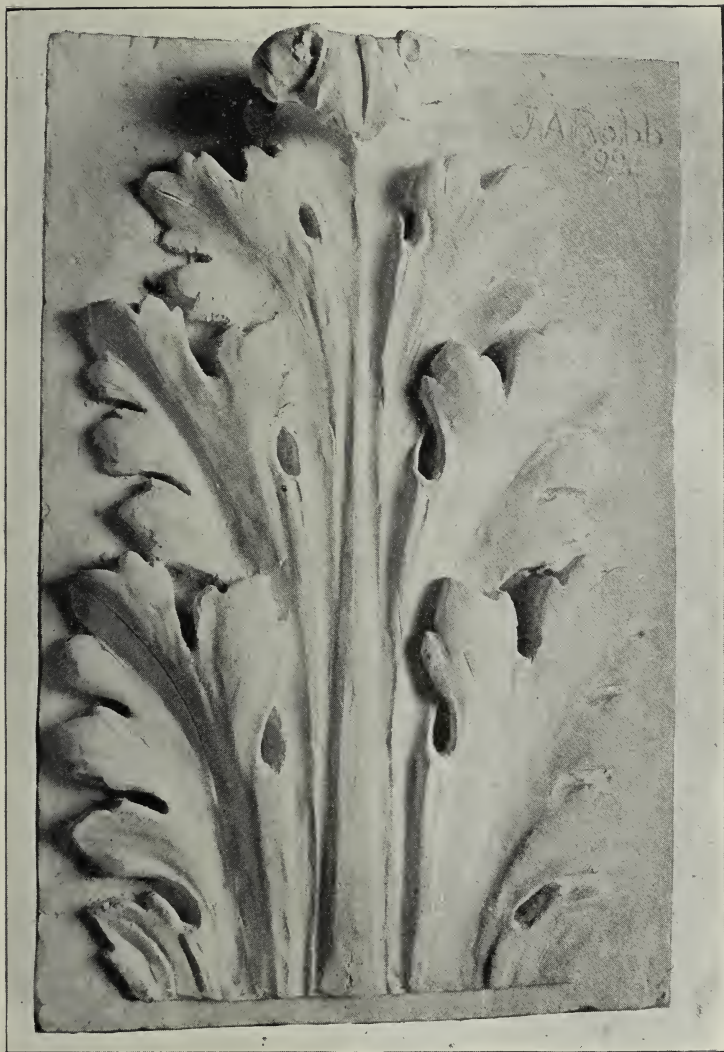
◦ MINERVA POLIAS ◦

◦ SCALE = 1 DIAM = 2 IN ◦

◦ PAUL A DAVIS 3RD ◦

◦ JAN 5 1892 ◦

THE ORDERS,
SOPHOMORE YEAR.



MODELLING,
JUNIOR YEAR.

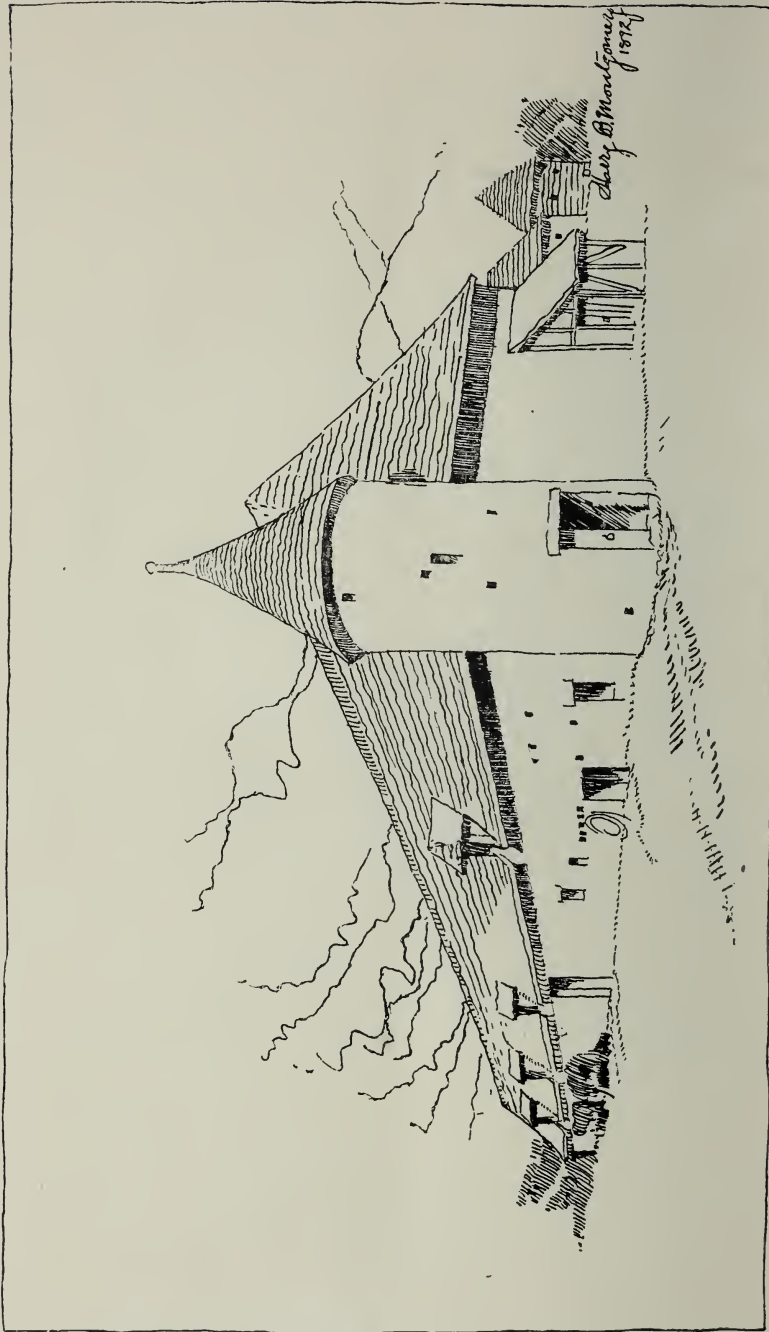


C. A. Walcott.
1892.

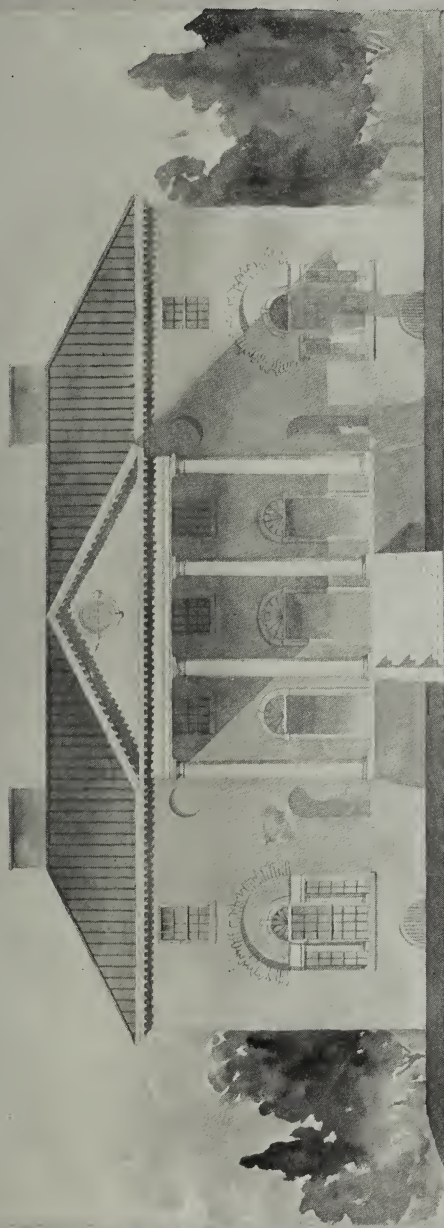
PEN AND INK RENDERING,
JUNIOR YEAR.



PEN AND INK RENDERING,
JUNIOR YEAR.



PEN AND INK RENDERING,
JUNIOR YEAR.



MEASURED AND DRAWN
BY
WILLIAM C. HAYS
SCALE 1/8" = 1'

THE OLD HAMILTON MANSION
IN "THE WOOD LANDS" OF PHILA.

SCHOOL OF ARCHITECTURE
UNIVERSITY OF PENNSYLVANIA
MARCH 1892.

MEASURED DRAWING,
JUNIOR YEAR.



WATER COLOR DRAWING,
JUNIOR YEAR.



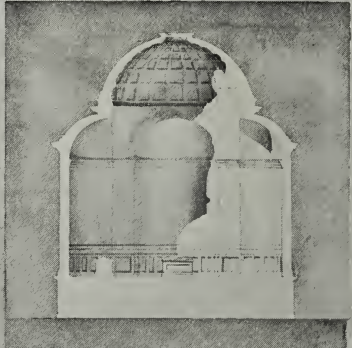
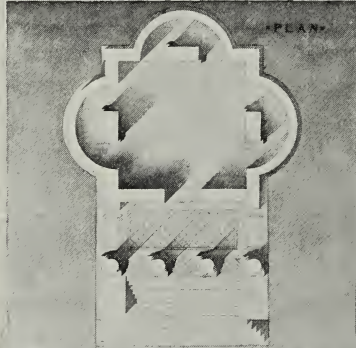
WATER COLOR DRAWING,
JUNIOR YEAR.



SCHOOL OF ARCHITECTURE
UNIVERSITY OF PA.

A MAUSOLEUM
FOR THREE TOMBS

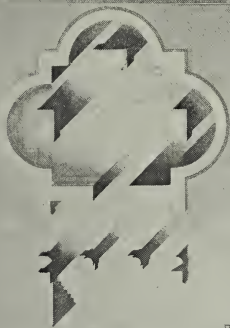
WILLIAM CHARLES HAYS
MARCH 29TH 92



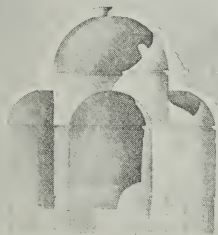
DESIGN,
JUNIOR YEAR.



FRONT ELEVATION



PLAN



SECTION

UNIVERSITY OF PENNSYLVANIA
SCHOOL OF ARCHITECTURE
EXERCISE NO. 4

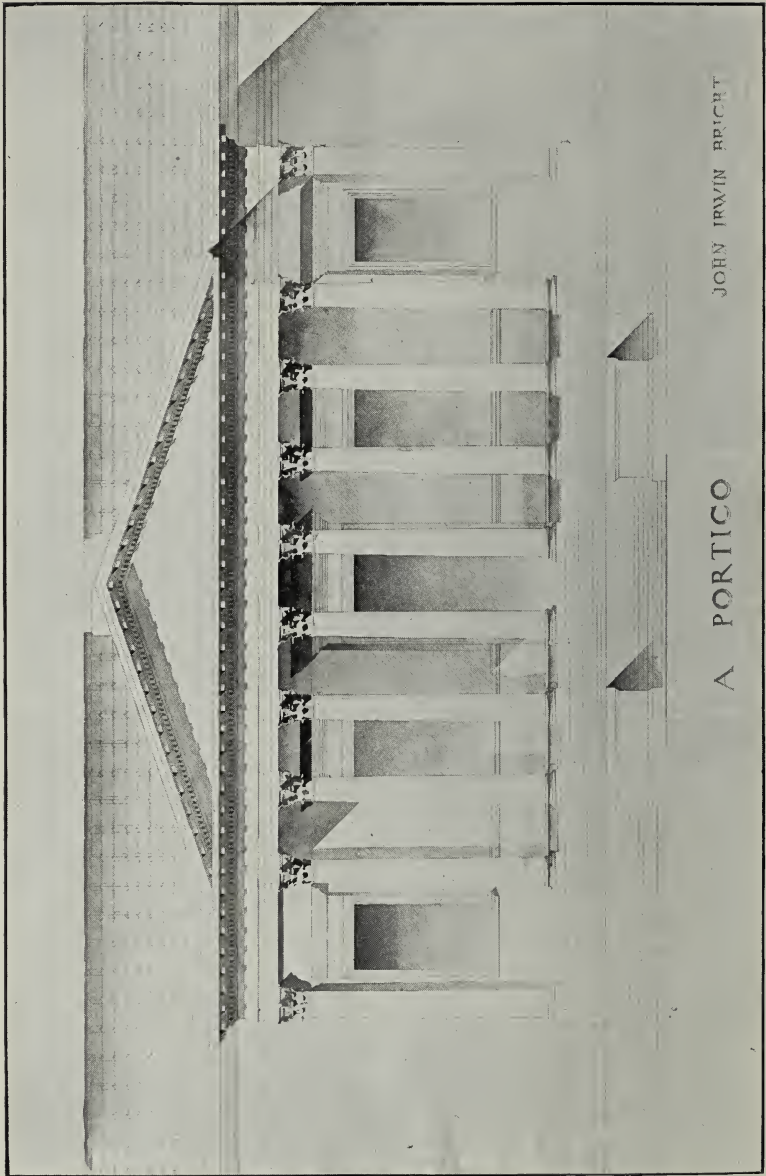
A MAUSOLEUM FOR THREE TOMBS

SCALE: TWENTY-ONE FEET
H.B. MONTGOMERY
MARCH 1914.



SIDE ELEVATION

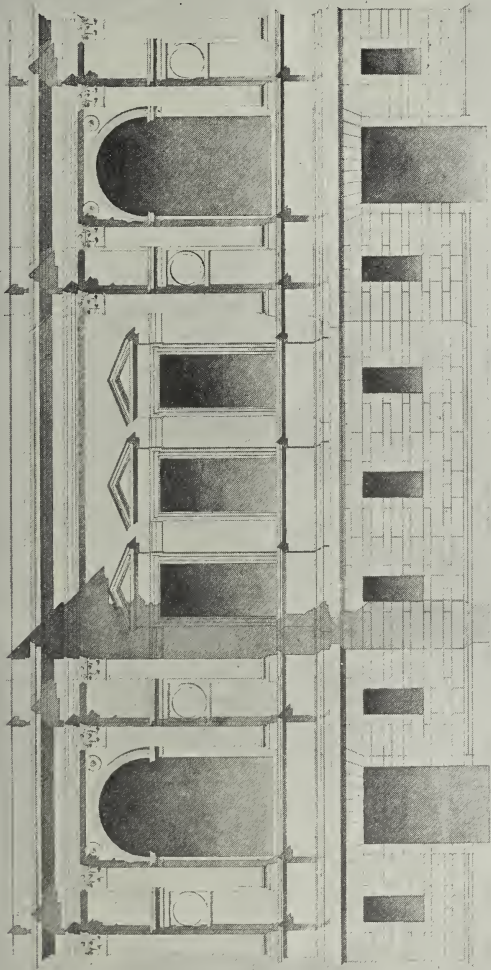
DESIGN,
JUNIOR YEAR.



JOHN IRWIN BRIGHT

A PORTICO

DESIGN,
JUNIOR YEAR.



SIDE ELEVATION FOR A PUBLIC BUILDING

JOHN IRWIN BRICHT

SCALE 1/4" = 1'-0"

DESIGN,
JUNIOR YEAR.







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