

ARCHITECTURAL EDUCATION IN GERMANY.

The usual requirements for admission to a German technical high school is a certificate showing that the student has completed his course in a "gymnasium" and has passed the graduating examination. This admits the holder to any university in the country. Foreigners are admitted if they can show that they have pursued a course of study in their own country approximately equivalent to that of a "gymnasium," but they are not allowed to take the Government examinations.

Anyone who wishes to take up some course or separate subject at the Hochschule, but is not able to fulfil the requirements for admission as a student, may be admitted as a Hospitant, or guest, simply attending the lectures, but not receiving any diploma at the end of his course.

The course occupies four years, and leads, for those who wish to enter the Government service, to the title of Bauführer, or "Director of Building," and, since October, 1899, also to the degree of "Doctor of Engineering." Those who do not enter the service of the Government, but have successfully completed their four years' course, receive a diploma to that effect.

The first two years are devoted almost entirely to theoretical subjects, or, at any rate, to subjects which do not pertain directly to architecture, but which it is well for an architect to know something about.

The subjects taught during each term are as follows:—

Winter Term: First Year.—This the first term of the first year (from the middle of October to the middle of April):—

DIFFERENTIAL AND INTEGRAL CALCULUS.—(5 hours' lecture: 1 hour's recitation.)

ANALYTICAL GEOMETRY.—(2 hours' lecture.)

DESCRIPTIVE GEOMETRY.—(3 hours' lecture: 6 hours' drawing.)

MECHANICS.—(3½ hours' lecture: ½ hours, recitation.)

CONSTRUCTION (MASONRY AND CARPENTRY).—(3 hours' lecture: 4 hours drawing.)

ARCHITECTURAL DRAWING.—(3 hours.) Instruction here consists of copying architectural subjects in different mediums—pencil, charcoal, pen and brush, so as to become familiar with the handling of different materials.

ELEMENTS OF MINERALOGY.—(2 hours' lecture: 1 hour's recitation.)

EXPERIMENTAL PHYSICS.—Mechanics, heat, acoustics and optics. (4 hours' lecture.)

The Summer Term is shorter than the first, lasting from the middle of April to the end of July. During this time, in the first year, the following curriculum is prescribed:—

DIFFERENTIAL AND INTEGRAL CALCULUS.—(3 hours' lecture: 1 hour's recitation.)

DESCRIPTIVE GEOMETRY.—(3 hours' lecture: 6 hours' drawing.)

MECHANICS.—(7 hours' lecture: 1 hour's recitation.)

CONSTRUCTION.—Foundations; walls and supports of wood, stone and iron; stairs and elevators of stone, wood and iron. (2 hours' lecture: 4 hours' drawing.)

ARCHITECTURAL DRAWING.—(6 hours.) Devoted to the same subjects as during the winter term.

ELEMENTS OF GEOLOGY.—(4 hours' lecture.)

ELEMENTS OF CHEMISTRY.—(6 hours' lecture.)

There is no summer work prescribed, and, therefore, none done. The drawing rooms are left open for the convenience of the students who have back-work to make up. There are usually plenty of them.

During the Easter and Whitsuntide vacations, excursions (headed by some of the professors) are undertaken, places of special architectural interest being selected. These expeditions usually last about ten days.

The winter's work in the second year consists of 51 hours a week: 26 devoted to lectures and the other 25 to recitations and drawing. During this year the student gets to know a little more about architecture itself, but most of the subjects are still very theoretical and rather auxiliaries of architecture than architecture itself.

Here is the list of subjects taught during second year.

MECHANICS OF ELASTICITY.—(5 hours' lecture; 1 hour's recitation.)

GRAPHICAL STATICS.—(1 hour's lecture.)

STUDY OF THE FORMS AND HISTORY OF ANCIENT ARCHITECTURE.—(3 hours' lecture: 6 hours' drawing.) This course also includes a careful and detailed study of the Orders, the copying of the best examples of ancient architecture, and one large and carefully executed design in either the Greek or Roman style.

ANCIENT ORNAMENT.—(2 hours' lecture: 2 hours' drawing.)

HISTORY OF ANCIENT ART.—(3 hours' lecture.)

CONSTRUCTION.—(2 hours' lecture: 4 hours' drawing.)

ARCHITECTURAL BUILDING.—(1 hour's lecture.)

MODELLING.—(4 hours.)

FIGURE-DRAWING FROM CASTS.—(6 hours.)

ELEMENTS OF CIVIL ENGINEERING.—(3 hours' lecture.)

ELEMENTS OF SURVEYING.—(2 hours' lecture.)

TECHNOLOGY OF BUILDING.—(3 hours' lecture.) By this is meant instruction in the manufacture of bricks, plate-glass, mining, casting of metals, and so on, the lecture being illustrated by the inspection of factories and plants in operation.

The summer term has 49 hours a week, of which 25 are taken up by lectures and 24 by exercises. The subjects are almost identical with those of the winter session. The lectures on the "History of Ancient Architecture" are replaced by others on "Romanesque Architecture"; likewise those on "Ancient Art" by others on the "Art of the Middle Ages." However, the drawing and designing of the course in ancient architecture is kept up. With the third year the real architectural work begins. All the preparatory work is accomplished, and now the students are first acquainted with the various styles of architecture and with the principles of design.

A few large problems are very carefully worked out, with a couple of smaller ones interspersed. The styles in which these designs are to be carried out are usually prescribed, the idea being to make the student thoroughly familiar with the forms and ornaments of all the historic styles. Having thus become conversant with the historical development of each style, and having tested its applicability to practical design, he may then accept, modify or ignore them in his later work, as he may see fit.