

There are also two associated Federal stations—one for the testing of building-materials, and the other for experiments in forestry; at the first there were carried out in 1904 no fewer than 42,324 tests, three-fourths of which were for immediate practical purposes, and the remainder for research or instruction. Further, connected with the school there are—workshops for modelling in plaster and clay, and for working in metals; experimental farms; a splendid library containing upwards of sixty thousand technical works in all languages; collections of drawings (portraits and landscapes), of engravings, of architectural plans, of building-models, and of tools, also collections to illustrate mechanical technology, geodesy, technological chemistry, pharmaceutical chemistry, astronomy, mineralogy, botany, zoology, entomology, forestry, agriculture; a special station for testing explosives; a botanical garden; a museum of plaster models illustrating the history and principles of sculpture; an archeological museum; and four other museums containing respectively engineering models, models of machinery and mechanism, geometrical and other mathematical models, and physical instruments. In short, whatever branch of engineering or applied science a student wishes to follow, he has access to everything in the way of laboratories, workshops, or museums that he can desire for his course of study.

Admission as a regular student may be obtained on presentation of a leaving certificate from a Swiss higher secondary school (*Mittelschule*) or from a foreign school of equal standing, or of a certificate of the completion of a University course. About three-fourths of the students are admitted in this way without examination; the remainder enter by passing an examination: 74 per cent. of those who take the examination are foreigners. The numbers of students in the six regular sections in 1905 are shown below, those of native and foreign birth being given separately:—

	Swiss.	Foreign.	Total.
I. School of Architecture	55	12	67
II. School of Civil Engineering	225	61	286
III. School of Mechanical Engineering	261	287	548
IV. School of Applied Chemistry—			
(a.) Technical Section	123	107	230
(b.) Pharmaceutical Section	5	3	8
V. { (a.) School of Forestry	30	..	30
(b.) School of Agriculture	40	11	51
(c.) School of Agricultural Engineering	18	7	25
VI. Normal School—			
(a.) Mathematics, Section of	18	3	21
(b.) Natural Sciences, Section of	23	4	27
	798	495	1,293

Besides the regular students there were in the same year 735 external students (*auditeurs*) who for the most part took one or other of the general courses (mathematics, physics, natural science, technology, philosophy, social sciences) belonging to Section VII; the total number of students in 1905 was therefore 2,028. Section VIII consists of courses in Military Science, which are open to students attending any other section.

The institution is especially good in Engineering and Technical Chemistry; the work in the latter and in Hydraulical Engineering (with special reference to the production of electrical power) appeared to me better than anything of the kind I saw elsewhere. The fees are low and living is cheap; so that a New Zealand student who wished to do advanced work in engineering or chemistry might do worse than take a course at Zürich. Many of the lectures are given both in French and German, and a student can attend which course he pleases. He would meet with many English-speaking students and professors, and would not feel himself to be so much an exile as he would at Charlottenburg. In this last respect, no doubt, an English higher technological college, or the Massachusetts School of Technology would be better still, but the fees and cost of living would amount to more than if he were at the Zürich Polytechnikum.

The programme of work in the several sections will be given in the Appendix.

GENERAL REMARKS.

As far as my observation went, methods in Switzerland seemed to be of the best. In all the schools, elementary, secondary, and professional schools (that is, schools with short courses leading up to technical or trade instruction), great stress is laid on the mother-tongue. Pupils are taught to express themselves clearly in continuous speech on subjects which have fallen under their observation, things which are connected with daily life or nature-study. These subjects are prevented from becoming hackneyed,