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OPPORTUNITIES FOR FOREIGN STUDENTS AT COLLEGES AND UNIVERSITIES IN THE UNITED STATES

By SAMUEL PAUL CAPEN

SPECIALIST IN HIGHER EDUCATION
BUREAU OF EDUCATION

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, July 26, 1915.

SIR: It is of special importance at this time that students in foreign countries who may be seeking educational opportunities in the United States should have accurate information as to what institutions in this country have to offer. For this reason I requested Dr. Samuel Paul Capen, specialist in higher education in the Bureau of Education, to prepare for publication a document which should show the organization of American education with special reference to universities, colleges, and professional schools; state and explain admission requirements with special reference to the needs of foreign students; and outline the general and specific opportunities to be found at American institutions of higher education. The manuscript transmitted herewith gives information on these points and on many others of value, not only to the prospective student from foreign countries, but to all who may be interested in the present facilities for higher education in the United States. I recommend that it be published as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

THE SECRETARY OF THE INTERIOR.

OPPORTUNITIES FOR FOREIGN STUDENTS AT COLLEGES AND UNIVERSITIES IN THE UNITED STATES.

SECTION I.

CHAPTER I.

ORGANIZATION OF EDUCATION IN THE UNITED STATES.

STATE SYSTEMS.

The United States is a federation of 48 self-governing Commonwealths, each of which exercises independently all powers not specifically conferred upon the Federal Congress by the Constitution or derived by implication therefrom. Since the Constitution does not provide for the control of education by the Federal Government, there is no national system; but the United States contains within its area 49 [1] separate systems of education.

No two of the State systems are exactly similar, yet they possess certain common factors. For example, all States provide by law [2] for elementary education [3] at public expense. The usual length of the public elementary school course is eight years. Children commonly enter at the age of 6 or 7 and finish at the age of 14 or 15. In all but three States, school attendance during a part or all of this period is compulsory.[4] Public secondary schools, called high schools,[5] offering a course generally four years in length, are also maintained in every State. The high-school course [6] is based on the elementary school course and is open to graduates of elementary schools or others of equivalent preparation.

The high school serves three main purposes. To the great mass of students who frequent it it offers four years of cultural and informa-

[1] Including the District of Columbia, which is the seat of the Federal Government.

[2] The raising of the necessary money by taxation for the support of the schools and the administration of them are generally left to local communities—counties, towns, or districts. But local funds are often supplemented by State funds.

[3] For a statement of the scope and content of elementary education, see Sec. III, p. 94.

[4] The age of compulsory attendance is generally from 7 or 8 to 14 or 15. A few States require attendance up to 16 years.

[5] Not to be confused with the German Hochschule, an institution of university grade. The high school corresponds more nearly with the middle portion of the course in a German Gymnasium or Oberrealschule.

[6] For typical high-school curricula, see Sec. III, p. 94, and following.

tional study designed to equip them for more intelligent and resourceful lives as citizens of a democracy. Its second purpose is to prepare students for various higher institutions. In the third place, and quite recently, a few specialized public high schools have sought to fit young people for wage earning in trades and industries. In general, it may be said that the high school has tended more and more to adapt itself to the needs of the local community by introducing studies of a practical and vocational nature and by allowing its students increasing latitude in the choice of courses to be pursued.

Most States maintain normal schools for the training of teachers, or a more or less well-developed State university, or both. The normal schools and certain departments of the State universities articulate with the public high school in ways later to be described.

Alongside the public institutions various groups and individuals have founded elementary schools, high schools, academies,[1] normal schools, and colleges. The most extensive system of private schools is that under the control of the Roman Catholic Church. The total enrollment of the Catholic parochial schools was 1,429,859 in 1914. Other religious sects have also established institutions to provide education under denominational auspices. Both the religious schools and the private schools under denominational control parallel rather closely the amount and character of the training afforded by the public institutions of the same grade. These nonpublic institutions and systems are allowed perfect freedom of development under the laws of the country.

The foreign observer, noting chiefly the dissimilarities of the State systems, is at first inclined to think that a hopeless confusion of standards and organization must characterize American education. But the differences are after all superficial rather than fundamental. The same general types of institutions are to be found in every State, whether they all belong officially to the State system or not. Their interrelations are also essentially the same. There are still certain inequalities of educational standards, especially among higher institutions; but these are not so great nor so widespread as is often believed.

STANDARDS.

The principal reasons for the variation in the standards of higher education are perhaps already apparent, yet they should be briefly summarized because of their bearing on the whole plan and method of American education. The State educational systems have grown up independently of one another. If one takes account of the provisions for educati[illegible] made by a few of the colonial governments

[1] The term "academy" is generally applied to a school of secondary grade.

before the founding of the United States, the dates of establishment of the 49 systems of education have covered a period of something like two centuries and a half. In that time the social philosophy of the Nation has changed. The common conception of the part the State should play in fostering and controlling education has changed with it. According to a widely prevailing theory [1] all grades of education, from the kindergarten to the university, should be supported and managed by the State or local government. In the relatively newer States of the West and Middle West this condition is realized. Higher and secondary institutions not under public control are either rare or nonexistent. The educational policy of the older States, on the other hand, had crystallized before the general acceptance of this theory. Here the responsibility for providing elementary and a certain amount of secondary education is felt to rest properly on the State, but higher education is left, for the most part, to independent institutions, founded under various auspices, principally religious, and subject to little or no public supervision.

Inevitable differences of standards sprang from these differences in methods of control. Moreover, a few of the States, particularly those of more recent origin and of sparse population and those impoverished by the Civil War of 1860–1865, have thus far found difficulty in providing adequate equipment for thorough university education and in enforcing the most severe scholastic requirements. In this latter group of States, also, the development of universities and colleges of the highest grade has been still further retarded by the inferiority of the lower schools which prepare students for advanced education.

There are, however, several counter influences at work tending to reduce these inequalities. Chief among them is the action of numerous national and sectional associations of school and university officers. For a number of years these associations have been engaged in defining standards of school and professional training and determining the appropriate scholastic requirements for degrees. In the sections of the country where education is best organized the recommendations of these associations are regarded as authoritative and are put into operation as speedily as possible. The educationally less favored sections are also striving to conform to the standards proposed by such bodies and are making increasingly rapid progress in this direction.

In elevating the standards of various types of institutions, principally in the fields of rural education and higher education, the recommendations of the United States Bureau of Education have also had wide influence.

[1] Members of certain of the denominational bodies already referred to, who believe that education should be under religious auspices, do not, of course, concur in this theory.

Whether American education ever shall achieve complete uniformity in standards and methods of management is open to doubt. Uniformity is contrary to the genius of the Nation. The Americans are an individualistic people. Their educational systems and institutions have reflected this quality. These have maintained the right to expand as they chose and to adapt their courses to local needs, free from hampering restrictions. Their freedom is, in fact, one of the sources of their strength. Nevertheless, it may safely be said that there is now a national consensus of opinion as to what the standards of admission to and graduation from the principal types of institutions should be, that the standards agreed upon coincide in the main with those in force in the corresponding institutions of other leading nations, and that they are already maintained by the best institutions of the United States. Indeed, students from abroad will find in those educational centers to which they will probably be attracted unsurpassed facilities for advanced academic and professional training. The brief outline of the opportunities for university study in the United States presented in this pamphlet deals principally with conditions existing in these more prominent educational centers.

EVOLUTION OF THE UNIVERSITY.

THE COLLEGE.

An explanation of the prevailing organization of higher education in the United States properly begins with a description of the American college, an institution which has no exact counterpart in any other country.

Historically, the college is the oldest of American institutions. The first one, Harvard College, was founded in 1636 by the early English settlers in Massachusetts. Cambridge and Oxford furnished its prototypes. Following the example of these institutions, Harvard College was designed to give training in the liberal arts, principally Latin, Greek, philosophy, and mathematics. Most of its earlier graduates entered the Christian ministry. In fact, to supply properly trained young men for this profession was one of the chief objects sought in the foundation of Harvard and of the other colleges established during the first century of colonial life in the United States. Gradually, however, the purpose and character of the college changed. The more elementary stages of the subjects taught were given over to lower schools. New subjects were added to the curriculum. The college lost its theological bent, without becoming a training school for other professions. It still offered courses in the liberal arts, leavened more and more by the introduction of the sciences,

and bestowed upon those who completed these courses the degree of A. B.

Three very significant changes in the relation of the college to the scheme of higher education occurred during the nineteenth century. The first of these was the founding of the professional schools of theology, law, and medicine. Although students were, and to some extent still are, admitted to these schools without a previous college education, the tendency has been constantly growing to demand a college degree or at least a period of collegiate study as a prerequisite for entrance. The college has thus become in certain measure a preparatory school for those who contemplate a course of professional training.

The second change to which reference has been made was the development within the college of departments of pure and applied science. By the middle of the nineteenth century the degree of B. S., granted for work done largely in the sciences, began to occupy a position of parity with the older degree of A. B.[1] Gradually also these courses in science ramified further into courses in engineering. The engineering schools or departments thus became coordinate parts of many colleges of liberal arts.

The third and most momentous change in the status of the college was brought about by the establishment in connection with certain colleges of graduate schools on the model of the faculties of philosophy of German universities. The graduate schools have grown up principally in the last 45 years; indeed, the movement received its first strong impetus with the founding of Johns Hopkins University, incorporated in 1867 and opened for instruction in 1876. (See Sec. VI, p. 157.) The graduate schools offer to college graduates courses leading to the degrees of A. M. and Ph. D. and degrees of corresponding grade in the technical branches. They provide opportunities for advanced study in the arts and sciences and for research similar to those provided by the leading European universities.

From the origin of colleges until the foundation of the graduate schools the college curriculum, aside from the development of separate courses in science and engineering, had undergone but slight changes. A few new subjects had been added to it from time to time. Options between certain studies, as, for instance, between a modern and an ancient language or between two elementary sciences, were slowly introduced. In general, however, the college program of studies was fixed and definite, centering about a core of Latin, Greek, and mathematics. With the growth of the graduate school and the

[1] A number of other baccalaureate degrees have also been conferred, such as Ph. B., B. Ped., etc., but the present tendency is toward the two older degrees of A. B. and B. S., according as the subjects forming the basis of the curriculum are humanistic or scientific.

changed social and educational ideals has come the introduction of many new branches of study. Columbia University, for example, now offers to candidates for the bachelor's degree instruction in 45 different subjects.[1] Its offerings are almost paralleled by a number of other institutions.

The prescribed course of study for the bachelor's degree has broken down, and there is now a general tendency to confine required work to but two or three subjects and to allow the student much freedom of choice with respect to the rest of his program; or to offer various groups of studies organized to correlate with a single central subject and to permit the student to choose one of these groups. Even those colleges which have not extended upward into graduate schools, which still grant no degrees higher than the baccalaureate, have felt and have responded to this tendency.

THE UNIVERSITY PROPER.

The college is the nucleus from which all higher institutions of learning have sprung. Before the nineteenth century there were no universities in the modern sense of the word. With the rise of professional schools of theology, law, and medicine, most of which were outgrowths of colleges already established, American institutions began to approach university organization. The name "university" came also into common use to designate an institution composed of a college and one or more professional schools each under the control of a separate faculty. German influence has been the dominant force in American higher education during the past 50 years and the universities of the United States have been deliberately molded to the German type. The establishment of the graduate schools marked the final step in this evolution, the four traditional faculties of the German university, theology, law, medicine, and philosophy, being thus represented.

But the modern American university is more complex in organization than its Germanic prototype. It has added other schools or departments.[2] Schools of dentistry, of various branches of engineering, of agriculture, of veterinary medicine, etc., are now frequently included in a single university.[3] The University of California, for instance, has 14 such schools or departments; the University of Chicago, also 14; the University of Illinois, 12; the University of Michigan, 8. As each new profession develops, a special school designed to give the training requisite for it is added to the university.

[1] Compare p. 14.

[2] In some institutions the various departments are also called colleges, as, for example, college of medicine, college of education, etc.

[3] Thus, for instance, the type of institutions known as the Technische Hochschule in Germany, or the École Polytechnique in France, is in the United States commonly a school or department of the university.

In this manner, schools of commerce, of business administration, of domestic science, of ceramics, and of journalism have recently been established at a number of the larger universities. The process will undoubtedly continue with the further multiplication of the professions.

The term "university," however, has as yet no fixed connotation. The laws of the several States governing the incorporation of higher institutions vary greatly. Some require substantial assurance that an institution applying for charter will conform to the accepted standards of the designation which it seeks. In some States, on the other hand, it is possible to secure a university charter on the strength of prospects and good intentions alone. Even before the evolution of true universities, it was common for colleges offering nothing but a single course leading to the bachelor's degree to be chartered as universities. The name, therefore, antedated the thing. Many of these colleges still retain the name without having developed into universities. In certain sections of the country and in the minds of certain persons the college and the university are thus very naturally confused. No distinction is made between the two institutions. This confusion is the more readily understood if one recalls the fact that practically all the larger, thoroughly organized universities maintain a college department. A student who attends the college of arts and sciences of Cornell or the college of letters of the University of California is a member of the university and by tacit consent is allowed to call himself a "university student;" but his educational status is exactly the same as that of a student of Amherst College or Hamilton College, neither of which has any professional departments. Yet the student of the isolated college, like the two just mentioned, calls himself a "college student."

In the references made to universities throughout this pamphlet the term will be used in its strictest sense, i. e., to designate institutions maintaining professional departments and conferring advanced degrees. Of these, there are already several score in the United States.

A comparative view of the best American universities would show an organization of schools and departments substantially as recorded below. Not all the departments mentioned are represented in every one of the strongest universities. This summary is intended rather to show the scope of university education than to describe conditions actually existing in any particular university. Detailed accounts of the organization and requirements of certain institutions selected to illustrate the best developments of American higher education appear in Section VI.

CHAPTER II.

ORGANIZATION OF THE TYPICAL UNIVERSITY.

THE COLLEGE OR SCHOOL OF ARTS AND SCIENCES.

The core of every university, except one,[1] is the college, variously called the college of arts and sciences, the college of letters, the department of arts and sciences, the undergraduate department, etc. Whatever its name, its scope and character are everywhere approximately the same. It offers to graduates of secondary schools [2] a four-year course of study, leading usually to the degree of bachelor of arts or bachelor of science, or some other baccalaureate degree.[3] Generally the work is in part prescribed according to one of two methods. Certain subjects, such as English, one or more modern languages, Latin, a science, history, and mathematics are required of all students; or the courses are arranged in groups centering about a single subject, and each student may choose the group which best suits his individual tastes and purposes. In either case, a considerable portion of his course is elective; i. e., he may select at will from the subjects offered by the college enough to make up the number of courses required for graduation.

The undergraduate department of Harvard University, called Harvard College, gives instruction in the following subjects:

Anthropology, astronomy, botany, Celtic, chemistry, classical philology, comparative literature, comparative philology, economics, education, Egyptology, engineering sciences, English, fine arts, French, geology and geography, German, government, Greek, history, history of religions, history of science, Indic philology, Italian, Latin, mathematics, mineralogy and petrography, music, Netherlandish, palaeontology, philosophy, physics, physiology, public speaking, Romance languages and literatures, Romance philology, Scandinavian, Semitic languages and history, Slavic languages, social ethics, Spanish, zoology. This list will indicate the possible range of undergraduate study in the best American universities.

Collegiate instruction is carried on by means of lectures, recitations, discussions, laboratory practice, and various kinds of written exercises. In the work of the first two years and in the elementary courses in all subjects, it has a tendency to be somewhat formal.

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[1] Clark University.

[2] In addition to the public high schools (see above), there are many private secondary schools which offer four or five year courses and which maintain approximately the same standards as the public high schools. The curriculum of the secondary school is discussed below (see p. 94). Students from other countries may enter American universities upon presenting evidence of preparation equivalent to that demanded of American students. The colleges of arts and sciences of most universities give entrance examinations to candidates for admission whose scholastic preparation has been secured in a school the standing of which is unknown to the university officers. (See also p. 59 and following.)

[3] There is still a wide variation in the standards of collegiate institutions, and consequently in the value of degrees. For further discussion of this condition, see note 1, p. 24.

The instructors assign definite tasks at each meeting of the class: A certain portion of the subject is to be mastered, a prescribed laboratory experiment is to be performed, a theme written on a specified subject, or a fixed number of pages read. At a subsequent meeting, students are tested on the assignment. In the later years of the course there is less formal prescription, and the student is thrown as far as possible on his own resources. His knowledge is tested by periodic examinations.

Because of the long period devoted to elementary and secondary training, American college students are generally older than students of other countries who have reached the same stage of academic advancement. The average age of entrance to American colleges is between 18 and 19 years, the average age of graduation between 22 and 23. A few colleges, however, allow students to complete the course in three years by taking extra work.

THE COLLEGE OR SCHOOL[1] OF ENGINEERING.

Coordinate with the undergraduate department of arts and sciences is the school of applied science or engineering. This offers to graduates of secondary schools a four-year course leading to the degree of B. S. in some division of engineering, e. g., civil, mechanical, mining, metallurgical, electrical, hydraulic, architectural, chemical, and sanitary engineering.[2] In some institutions work in these various branches is organized in separate schools, e. g., school of mining engineering, school of civil engineering. The first part of the courses in engineering is devoted particularly to a thorough grounding in mathematics, physics, and chemistry, the fundamental sciences upon which all engineering work rests. The course of study for the first year is frequently uniform for students in all branches of engineering; indeed, the present tendency is toward a still greater measure of uniformity in the early years, followed by specialization in the last year or the last two years.

The school or college of engineering, with its various divisions, is in the scheme of American education an undergraduate department coordinate with the college of liberal arts, admitting students with the same preparation and giving its graduates the bachelor's degree.[3] It is, nevertheless, in spirit and tendency a professional school, fitting young men for the immediate practice of their professions as a means

[1] The word "school" is perhaps the most common of the designations of the separate divisions of a university, e. g., medical school, law school, school of commerce. Many universities, however, employ the terms "department" or "college" instead. (See above.)

[2] The degree given on the completion of one of these courses is not always B. S. Cornell, for example, gives the degree of M. E. to those who have completed courses in mechanical, electrical, or mining engineering.

[3] A few institutions, e. g., Columbia and Harvard, have made the school of engineering or applied science a graduate department. (See Sec. VI, and p. 159.)

of livelihood. This fact affects the department of engineering in two ways. In the first place, its efficiency as a training school is constantly tested by the success of its graduates in actual professional work. It suffers the consequences without delay if its standards are not kept high. The college of liberal arts, whose purpose is to give general culture, is subjected to no such test.

Secondly, and as a result of its professional obligations, the work of the engineering school is for the most part more concrete and practical than that of the college of liberal arts. Not only in the extensive well-equipped laboratories and machine shops of the university itself, but in shops and factories of industrial organizations and in the field, the engineer in training is given an opportunity to perform those operations by which he may later earn his living.

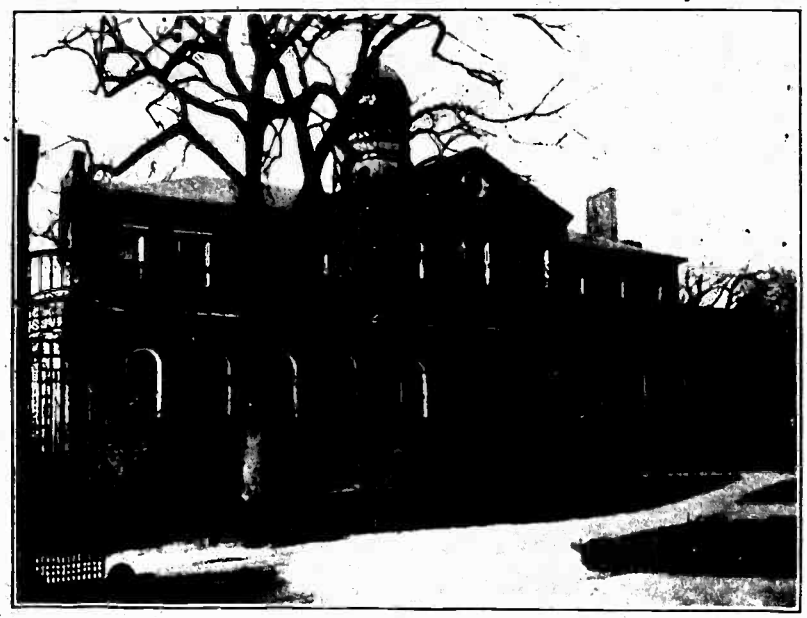
The course of study of the engineering department is determined by the requirements of the profession. Most of it, therefore, is prescribed. Choice from among the various branches of engineering represented furnishes the principal opportunity for election.

Recently a tendency to lengthen the period of preparation for the profession of engineering has manifested itself. Several leading universities now offer five and six-year courses in the various engineering branches. Five-year courses, which are the commoner, include either a considerable amount of work in the department of arts and sciences designed to broaden the student's cultural training or a more extended specialization in the branch of engineering which the student has chosen. The degrees of E. E., M. E., C. E., A. E., and Arch. are generally awarded at the end of these more highly specialized courses. Such degrees rank higher than the degree of B. S.

Postgraduate work leading to the degrees of M. S., Ph. D., and Sc. D. in the engineering sciences is now given also at several of the foremost universities. The conditions of study for these degrees, whether in the engineering sciences or in pure science and the arts, are similar. They will be discussed under the caption "The Graduate School." (See below.) The increasing facilities for advanced study and research in the various lines of engineering represented by the five-year courses and the graduate courses just referred to indicate a tendency to prolong the period of general and special training of the engineer until it occupies as many years of the course as the training for the older professions.

THE COLLEGE OR SCHOOL OF AGRICULTURE.

In 1862 the United States Congress, under the Morrill Act, made to each State grants of public lands, the proceeds from the sale of which were to form a fund for the maintenance of colleges of agri-



A. HARVARD HALL, ONE OF THE OLDER COLLEGE BUILDINGS, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

B. HARVARD COLLEGE "YARD," HARVARD UNIVERSITY, CAMBRIDGE, MASS.

culture and the mechanic arts.[1] Later acts provided for annual appropriations by the Federal Government for the support of these institutions and for the promotion of agricultural research and demonstration.[2] In the 53 years since the passage of the original act, these so-called land-grant colleges have become among the most important agencies for training in the technical professions. In a number of States the land grant made possible the foundation of a State university, and the State university of 20 States is now legally designated a land-grant college.[3] Several of these institutions, for instance, the University of Wisconsin, the University of Illinois, the University of Minnesota, and the University of California are among the largest and best-equipped State universities in the country. The State governments have also made increasingly liberal appropriations for the support of these departments of the State institutions. Consequently, agriculture and the mechanic arts occupy an especially favored position among professional studies.

The engineering branches, which were discussed briefly in the preceding section, are taught at many other institutions than land-grant colleges; in fact, nearly every full-fledged university, public or private, maintains an engineering department and there are numerous special schools of engineering as well. But the land-grant colleges have a practical monopoly of professional instruction in agriculture. In describing a college or department of agriculture as an integral part of a typical American university, attention is therefore called to the fact that these departments are, with few exceptions, to be found only in connection with the 20 State universities which are land-grant institutions.

The typical college or department of agriculture, then, offers to graduates of a secondary school a four-year course in agriculture leading to the degree of B. S. Like the departments of engineering, the departments of agriculture are often subdivided, schools or departments of forestry and home economics being the commonest of these subdivisions. The work of each course combines instruction in the general sciences, languages, and mathematics, with technical instruction in agriculture and actual practice in the laboratories, dairies, barns, and on the farms connected with the university.

Special agricultural schools of secondary grade are also maintained in connection with a few State institutions, e. g., the University of

[1] Mechanic arts are interpreted to mean chiefly the various branches of engineering.

[2] In 1914 Congress provided for an annual appropriation of $10,000 to each State for extension instruction in agriculture and home economics. This sum is further supplemented by increasing annual appropriations for the same purpose, beginning in 1915–16, and eventually reaching the total of $4,100,000, to be distributed among the States in proportion to the rural population in each.

[3] In 20 other States the land-grant college is a separate foundation, independent of the State university, and often rivaling it in student enrollment and in the excellence of its undergraduate courses, especially in pure and applied science.

Minnesota, Colorado Agricultural College, Clemson Agricultural College (South Carolina).

The college of agriculture is a professional school. Its first purpose is to train students for the intelligent practice of their profession. This is the principal object of the four-year course just mentioned. But as a State institution, largely supported by State funds, the college or department of agriculture has obligations toward the State. It can serve the State materially by disseminating agricultural information among the farmers of the State who have not had a chance for professional training. Many colleges of agriculture are now attempting to do this. Short courses ranging from 1 to 14 weeks have been established for farmers. The university also sends lecturers and demonstrators among rural communities to give practical instruction on the farms themselves.

A third important function of the colleges of agriculture is to extend the science of agriculture by means of experiments and investigations. In this work also the Federal Government has lent assistance. Under an act of 1887 agricultural experiment stations were established in every State, and an annual appropriation of $15,000 was set aside for their support. This annual appropriation has since been increased to $30,000. In most States where the land-grant college and the State university are united, the experiment station is attached to the university. It furnishes unsurpassed facilities for agricultural research.

THE COLLEGE OR SCHOOL OF VETERINARY MEDICINE.

Several prominent universities and colleges of agriculture and mechanic arts now maintain schools of veterinary medicine, which provide instruction in the causes and treatment of animal diseases and in the principles of sanitary science as applied to live stock. The large proportion of the Nation's wealth invested in live stock, the dependence of agriculture upon it, and the influence of certain animal diseases, notably tuberculosis, upon the health of the community give special importance to the profession of veterinary medicine.

The typical college of veterinary medicine offers to graduates of a secondary school a three-year course leading to the degree of D. V. M. or V. M. D. The course itself is closely prescribed. It combines instruction in the fundamental medical sciences—chemistry, anatomy, and physiology—with such special branches as animal pathology, surgery, and veterinary medicine. Clinical instruction is given in the veterinary hospitals connected with the school. There is generally provision also for graduate work in special branches of veterinary science.[1]

[1] New York State Veterinary College, at Cornell, offers an optional four-year course in veterinary medicine.

THE COLLEGE OR SCHOOL OF COMMERCE.

Among the more recent additions to American universities are the schools or colleges of commerce or business administration. The typical college of commerce offers to graduates of secondary schools a four-year course leading to the degree of B. S. or A. B. The first part of the course is largely devoted to such foundational subjects as mathematics, English, natural sciences, modern foreign languages, history, and economics. These are followed in the last two years by the broader technical subjects designed to give general preparation for business life, such as various phases of business administration, commercial law, and advanced economics.

THE COLLEGE OR SCHOOL OF JOURNALISM.

Schools of journalism are also among the newer developments at several universities. These offer to graduates of secondary schools a four-year course leading to the bachelor's degree (A. B., B. Litt., B. J.). The foundation of the work in the schools of journalism is largely composed of courses in the social sciences and English which are designed to familiarize the student with present economic and social conditions and to develop his power of written expression. These courses cover about two years and are followed by technical instruction in the methods of modern journalism. This includes actual practice in reporting, interviewing, and newspaper editing. The aim of all these schools is voiced in the official announcement of the school of journalism of Columbia University. It is "to make better journalists, who will make better newspapers, which will better serve the public."

THE COLLEGE OR SCHOOL OF PHARMACY.

The schools of pharmacy, which are now included in most of the larger universities, usually offer courses leading to three different degrees—Ph. G., Ph. C., and B. S. in Pharmacy or Phar. B. The entrance requirements are substantially the same as for those schools and departments already described. The degree of Ph. G. (graduate in pharmacy) is conferred at the end of a two-year course, consisting chiefly of instruction in botany, analytical chemistry, and pharmacy. Several States demand as a prerequisite for a license to practice the profession of pharmacist either a certain amount of practical experience in a place where drugs and medicines are compounded or dispensed or a course of instruction in a school of pharmacy. Courses in pharmacy are adjusted to meet these requirements.

The course leading to the degree of Ph. C. (pharmaceutical chemist) is three years in length. It is "designed more especially for those who wish to enter the commercial field of pharmaceutical chemistry

or food and drug analysis." [1] More advanced instruction in pharmacy is given, together with such general studies as sciences and foreign languages.

The four-year course leading to the degree of B. S. in Pharmacy includes a combination of cultural studies and the advanced work in pharmacy taken by the candidates for the degree of Ph. C.

Opportunities for specialized graduate study and research in some department of pharmacy are frequently offered in the graduate schools of leading universities. The aims and methods of graduate study are essentially the same whatever the department. They are described below. (See under "Graduate School.") The degrees of A. M., M. S., Ph. D., Sc. D., and occasionally Phar. D., are conferred upon graduate students in pharmacy.

THE COLLEGE OR SCHOOL OF DENTISTRY.

The organization of 29 American universities and colleges now includes a school of dentistry, which offers to graduates of secondary schools a three-year course leading to the degree of D. D. S. or D. M. D. The curriculum provides first for a study of those elementary scientific subjects which form the groundwork of training in medicine: Anatomy, chemistry, bacteriology, physiology, and pathology. Instruction accompanied by extended clinical and laboratory practice in operative and prosthetic dentistry follows. The clinics of the best American dental schools furnish each student ample opportunity for practice in all branches of dentistry.

Although dentistry is a separate profession, and although training for it is quite fittingly carried on in a special professional school, nevertheless there is growing recognition of the fact that it is a branch of medical science. There has arisen in consequence a tendency to emphasize the affiliation of dental and medical education. Seven dental schools are now departments of medical schools. One State has already passed a law requiring that hereafter all practitioners of dentistry shall hold a medical degree. While there seems to be no immediate prospect that other States will take the same radical action, there is a very decided trend of opinion in the direction of lengthening the course in dentistry from three to four years. A number of dental schools are meeting this demand for further scientific training by offering postgraduate courses open to holders of degrees in dentistry and to others who have had practical experience.

It is appropriate to call attention to the excellence of American dental schools and clinics. The conspicuous success of American practitioners of dentistry is without doubt largely due to the splendid facilities for training in the profession that have been developed in the United States.

[1] Quoted from the catalogue of the University of Wisconsin.

THE COLLEGE OR SCHOOL OF EDUCATION.

Among the important contributions which the United States has made to professional training may be counted the creation of special schools of education. Normal schools, organized principally for the training of elementary school teachers, have existed for a long time. They owe their origin to European experiments in the same direction.[1] But the schools of education, whose aim is to prepare prospective high-school teachers, school principals, supervisors, and superintendents of city school systems, are relatively new and distinctly American institutions. Their establishment has come about because of the evident need of trained teachers and directing officers to carry on the work of public secondary education and the administration of school systems. With a few exceptions they have attained most vigorous growth in the States where the State university occupies a position of educational leadership. (But see especially the accounts of the organization of Columbia University, University of Chicago, and University of Missouri, Section VI, pp. 142–144, 171–172, 177–180.)

The typical school of education offers to graduates of secondary schools a four-year course leading to the bachelor's degree.[2] The course usually combines three distinct elements: General training in the arts and sciences, specialization in one or two subjects which the candidate proposes to teach later, and instruction in the theory and practice of teaching.

Among the strictly professional subjects emphasis is laid on educational psychology, the history and philosophy of education, and the organization and management of schools. The best-equipped schools of education now provide opportunities also for students to observe skillful teaching and for practice teaching under supervision.

There is a marked tendency toward extending the scholastic range of schools of education, and consequently increasing the amount of professional training demanded of secondary-school teachers. The addition of a fifth year to the course in education is a manifestation of this tendency. At the completion of the longer course, the degree of A. M. is conferred. In this way the school of education is gradually merging into the graduate school. It will probably not be long before the general cultural and informational subjects will be relegated to the college of letters, and the school of education will advance to the rank of a graduate school offering purely professional

[1] A discussion of normal-school education lies without the scope of this bulletin. In general, it may be said that the entrance requirements of the best normal schools are similar to those of the colleges of arts and sciences. For high-school graduates the course is usually two or three years, with emphasis on the theory and practice of pedagogy. It often leads to a special degree. Any foreign student who is interested in normal-school training is urged to apply to the Bureau of Education for full information.

[2] A great variety of bachelor's degrees are granted for work in education, e. g., B. Ped., B. Litt., A. B., B. S. in Education, and so on.

instruction to college graduates. Graduate courses in education leading to the degree of doctor of philosophy are now commonly offered by the graduate departments of the best universities.

THE OLDER PROFESSIONS.

The group of schools just described furnish training for those professions which are of comparatively recent origin or which have but lately risen to the dignity of special professional preparation. The professional beginnings of theology, law, and medicine, on the other hand, run back to the founding of the European universities. A certain superior prestige has attached to these older callings, even in a democracy like the United States. This has been reflected in the effort of the schools of theology, law, and medicine to enforce a higher standard of attainment for admission and for graduation than has yet been adopted by the other departments. They therefore may be said to form a second and more advanced order of professional institutes inside the general organization of the university.

THE COLLEGE OR SCHOOL OF THEOLOGY, OR THE DIVINITY SCHOOL.

The oldest of all professional schools in the United States is the school of theology or the divinity school. Indeed, the college itself, as has been explained, was established to train an enlightened ministry for the Christian (Protestant) Church. Theological instruction has therefore always been a part of the curriculum of the oldest universities. They were themselves theological schools until they consigned theology to a special department, which has happened generally within the last century.

The modern theological school is either frankly a sectarian school, or else it has become what the uncompromising fathers of the Nation would have deemed impossible—a nonsectarian school of theology attempting to study "all matters connected with theology * * * in a spirit as free as that in which philosophy, history, and the classical literature are studied in our colleges."[1] In mentioning the requirements and scope of the typical school of theology, it is understood that these schools are almost exclusively connected with denominational universities or else are entirely independent institutions.

The stronger schools of Protestant theology offer to graduates of a college of recognized standing, or to others who can show equivalent preparation, a three-year course leading to the degree of B. D. or S. T. B. The course is almost entirely professional, varying as to theological bias with the denomination which maintains the school.

The entrance requirements for Catholic schools of theology are somewhat higher. (See Section VI, pp. 135–137, Catholic University of America.)

[1] Quoted from the announcement of the Harvard Divinity School.

THE COLLEGE OR SCHOOL OF LAW.

English and American legal systems differ radically from those of most other nations. Because of this fact, foreign students will probably not be attracted in any large numbers to American law schools for the purpose of fitting themselves for the immediate practice of their profession at home. Nevertheless, there is a growing conviction among lawyers and jurists that a knowledge both of English common law and the code systems of continental Europe and Latin America is very valuable to the legal practitioner of any country. The spirit and motives of a country are reflected in its laws. An acquaintance with the latter tends to broaden international sympathies. It is for this reason, as well as to complete the account of the component parts of the American university, that the law school is mentioned here. Attention is called especially to the excellent courses in jurisprudence, international law, and diplomacy offered by the following institutions: Columbia University, Yale University, George Washington University, Harvard University, and the Law School of the Tulane University of Louisiana. The legal system of the State of Louisiana is based on the Spanish system, and is therefore closely related to the systems of the Latin-American countries. Detailed accounts of the offerings of these institutions may be found on pages 133–135, 137, 138, 155, 156, 159–161, 177–180.

The best American law schools now offer to students who have had at least two years of collegiate training a three-year course in common and statute law, leading to the degree of LL. B.

THE SCHOOL OF MEDICINE.

No other professional schools connected with American universities have made such noteworthy and gratifying advances within recent years as the schools of medicine. There have been three conspicuous lines of progress: The growth of laboratory equipment through liberal State appropriations and private benefactions, the increase in hospital facilities, and the raising of standards of admission. As a result of these developments the best medical schools of the United States are now unsurpassed in physical equipment, and demand as thorough preparation for entrance and graduation as do those of other leading nations.

The high standards recommended by the American Medical Association and put into practice by the more progressive schools of medicine have been rendered permanent by the subsequent action of numerous State licensing boards which fix the educational preparation to be required of practitioners of medicine in their respective States.

Medical education [1] has therefore attained a status consonant with the antiquity and importance of the profession.

As a department of the university, the medical school now ranks with the schools devoted to training for the other traditional callings.

The typical medical departments of the best universities require for entrance a four-year high-school course, including two years of Latin; and two years of college work, which must include at least a year each of physics, chemistry, and biology, and sufficient German and French to insure a reading knowledge of those languages. To such students the medical school offers a four-year course, consisting of laboratory, didactic, and clinical instruction in the theory and practice of medicine, and leading to the degree of M. D. Associated with all high-grade medical schools are hospitals, in which medical students study at first hand diseases and their treatment and in which they serve as internes.

Included in the "ideal standard" set up by the American Medical Association is the recommendation that a fifth year be added to the medical course, in which the student shall act as interne in a hospital. This recommendation has already been adopted by several of the leading medical schools of the country. Others, while not including the year's interneship in the medical course, provide ample facilities for their graduates to secure this privilege.

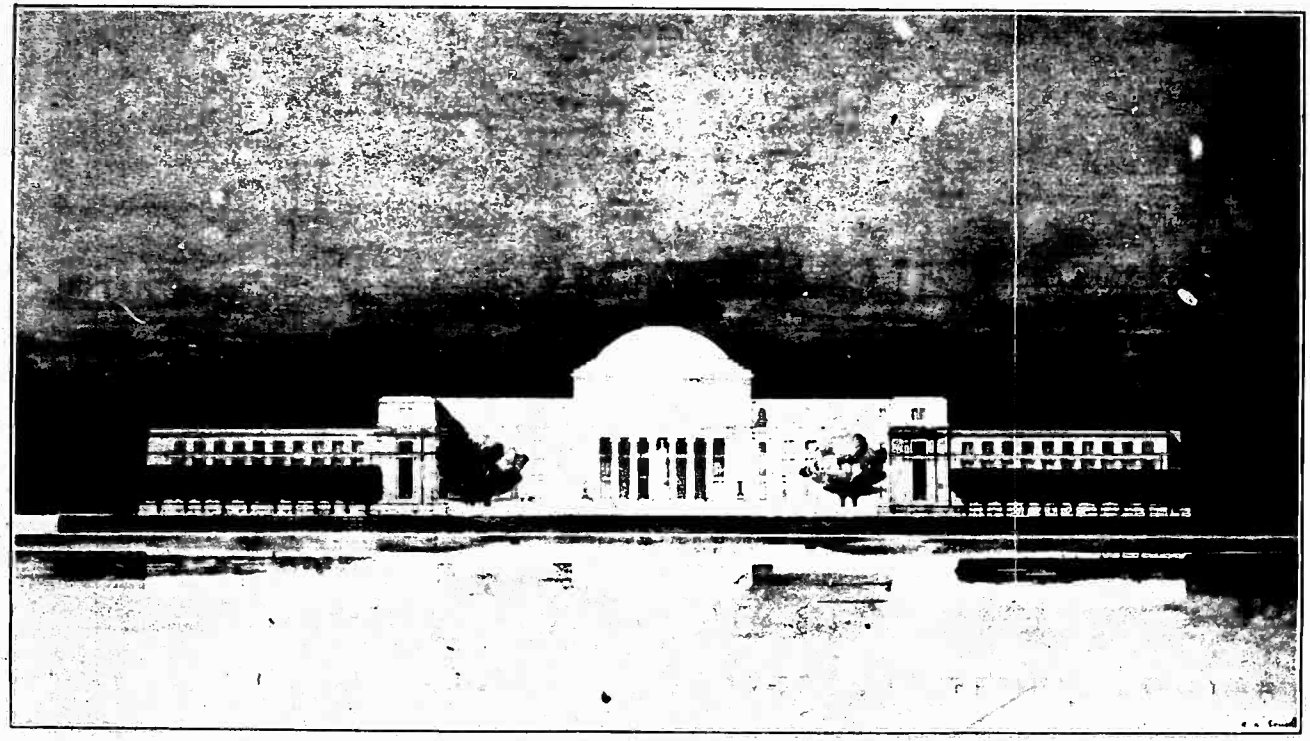
A recent development in medical education has been the establishment of postgraduate courses in medicine devoted chiefly to advanced study and research. As yet there has been no general organization of these courses into curricula leading to higher medical degrees. Attention should be called, however, to one higher medical degree which has already gained recognition. This is doctor of public health. The degree is conferred upon holders of the degree

[1] Students from other countries who are unfamiliar with American educational conditions should remember that there are many medical schools of low standing and proprietary institutions which exploit this or that therapeutic revelation. One of the results of State autonomy in education is the irregularity of State requirements for professional practice, not only in medicine, but in law, pharmacy, and other professions. Licensing regulations in many States are still lax. Moreover, as has been noted, there is no uniform legislation governing the incorporation of degree-giving institutions. The fact that a man bears the title of doctor, therefore, or holds the degree of A. B. or LL. B. gives no assurance that his education has been either prolonged or specialized. Unscrupulous persons and well-meaning but ignorant persons have taken advantage of these conditions to establish in many States institutions purporting to give collegiate or professional training, but which lack both the physical equipment and the teachers needed to make such training effective. A reliable guide to the standing of schools of medicine is the classified list of the American Medical Association. (See pp. 212, 213.)

Students seeking other kinds of training, general or professional, may safely attend any of the institutions described in this bulletin. They are also invited to correspond with the United States Bureau of Education, which will furnish full and impartial information regarding the standing and offerings of any institution, whether included in this publication or not.

In spite of these inequalities among the schools of medicine, it is quite just to emphasize the high standards of medical education. The standards are set by the leading institutions. There are already 67 recognized as of highest grade by the American Medical Association. (See pp. 212, 213.)

The very potent influence of this publicity in bringing about the improvements which the association has recommended illustrates strikingly the power of a voluntary educational association to affect the policy of institutions over which it has no official control. (See p. 9)



NEW BUILDINGS OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

A. AN ALCOVE IN THE LOWELL ELECTRICAL LABORATORY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

B. INTERIOR CARNEGIE LABORATORY, STEVENS INSTITUTE, HOBOKEN, N. J.

of M. D. after one or two years of postgraduate study devoted to problems of sanitation and community diseases and to special research.

Most large universities now provide for a six or seven-year course, combining work in the department of arts and sciences with the course in medicine and leading to the two degrees A. B. (or B. S.) and M. D.

Students from tropical countries will be especially interested in the very excellent courses in tropical medicine offered by the medical schools of the Tulane University of Louisiana and Harvard University.

THE GRADUATE SCHOOL.

The capstone of the American university is the graduate school of arts and sciences. Originally planned to correspond to the faculty of philosophy of the German university and offering instruction merely in pure science and the humanities, the graduate school has far outgrown the first conception of its function. The grsdute school of the large American university now usually organizes into one administrative unit [1] all the advanced teaching and all the facilities for original research provided by the university in any of its departments. Under this arrangement holders of the bachelor's degree who desire to specialize, for example, in engineering, in medical science, or in pharmacy, as well as in pure science and the humanities, enter the graduate school.

The American graduate school has a double aim. Chronologically, the first is to teach to properly prepared students the most advanced and specialized phases of the subjects offered by the university. More important, however, if second in point of development, is its obligation to increase the sum of human knowledge. Research is the life blood of the graduate school. The graduate school is differentiated from the ordinary professional schools by being devoted to the principle of research. As a rule, schools of medicine and engineering, for instance, aim primarily to pass on to the student a body of knowledge which is already organized and of accepted professional value, and so to train practitioners of already standardized professions. The graduate school places first emphasis upon the advancement of learning. Its teachers are expected to be actively engaged in extending the boundaries of knowledge and to direct students in the conduct of investigations. The vitality of

[1] This consolidation is not effected everywhere; for example, Columbia University maintains a faculty of philosophy, a faculty of political science, and a faculty of pure science; Harvard University has a graduate school of applied science, a graduate school of arts and sciences, a graduate school of business administration, and a graduate school of medicine. The general description of the functions and facilities of the graduate school applies equally, however, to these and to other institutions which have not combined graduate departments into a single unit.

the graduate school is properly judged by the amount and quality of its creative output.

Training for productive scholarship is still young in the United States. In view of its aims the graduate school is less susceptible to standardization than the schools already described. Its excellence will always depend in large measure on the fertility and originality of its teachers. No two schools however skillfully administered can be equal or equally strong throughout; nor, on the other hand, is a single school ever likely to have a monopoly of teaching and investigating talent in all lines. One will perhaps be preeminent in psychology, another in economics, another in chemistry. This variation inheres in graduate study. It has always characterized the research departments of European universities, which have had a considerably longer history.

Granting these inevitable inequalities, it is worthy of note that the great independent institutions of the East and the best-developed State universities of the West and Middle West have taken the steps needed to secure a high general level of graduate instruction. They have invested enormous sums in library and laboratory equipment and have vied with one another in seeking as teachers the most distinguished scholars wherever they might be found. As a result of these efforts, no better material facilities for advanced study and research now exist anywhere. Certain American professors also rank with the leaders in their respective branches and have won international recognition. In fact, no other department of American higher education except the medical school has experienced so rapid and substantial a development. Most graduate schools have been established within 20 years. National appreciation of the value of research, which has made this last expansion of the university possible, is hardly 10 years old; yet the enrollment in graduate courses in the United States has increased from 4,340 in 1893 to 7,911 in 1903, and to 13,094 in 1914. A correspondingly increased volume of scientific monographs has issued from the universities.

It is therefore safe to say that students from abroad will now find in the graduate schools of the foremost American universities opportunities for special training and for research broadly equivalent to those provided by the faculties of philosophy and the scientific institutes of the universities of Europe. Such students will naturally seek those institutions which offer the best facilities and which possess the most eminent teachers in the particular lines in which they are interested.

A subordinate function of the graduate school has been the training of teachers for higher institutions. Indeed it is now customary for appointing authorities to demand of candidates for higher teaching positions a more or less extended period of graduate study. Nevertheless there has been as yet no general adaptation of graduate

courses to the professional needs of the prospective teacher. American graduate schools, like the universities of Europe, have in this matter proceeded on the assumption that the most important thing for the teacher of mature pupils is to know his subject. The method of its presentation may then safely be left to his individual judgment.

The typical American graduate school admits as students only those who hold a bachelor's degree from a college or university of recognized standing. It confers two orders of degrees, the master's degrees [1] and the doctor's degrees.[2]

To secure a master's degree one year of postgraduate study, devoted as a rule to not more than three subjects, one of which, called the major subject, receives the bulk of the student's attention, is usually required.[3] Many universities also demand a thesis embodying the results of a small piece of research.

The minimum period of postgraduate study for a doctor's degree is usually three years. The time spent and the number of courses taken, however, are of secondary importance. To receive the degree it is necessary that the candidate not only demonstrate in examination his mastery of his special field but also by means of a dissertation or thesis make an original contribution to knowledge in that field. Most universities require the dissertation to be published. The examinations are both written and oral. In fact, the requirements for the American degree of doctor of philosophy parallel closely those proposed by the German universities for the same degree. American universities have recently attempted to demand of candidates for the degree a somewhat longer scholarly preparation and a more substantial thesis.

THE SUMMER SCHOOL.

The academic year is as a rule approximately nine months long. It usually extends from the middle of September to the middle of June. Many universities and colleges now either maintain a special summer school during about six weeks of the vacation period or carry on a summer session lasting throughout the summer months. Summer schools, which generally are confined to the undergraduate and graduate departments of arts and sciences, serve two main purposes. They enable teachers in elementary and secondary schools to pursue special courses of study for professional advancement. They offer opportunities to college or university students who have failed to complete all the work required in the regular term to make good these deficiencies. In addition, summer schools are to some extent patronized by other classes of persons. While in the majority of summer

[1] A. M., M. Com. Sci., M. F., M. L., M. Ped., M. S., M. S. in Agr., Cer. Eng., Chem. Eng., C. E., E. E., E. Min., Mech. E., Met. E.

[2] Ph. D., Sc. D., Phar. D.

[3] Two years of postgraduate study are required for the master's degree at Yale and Johns Hopkins Universities. (See Section VI, pp. 135-135, 157, 158.)

schools the courses are planned with special reference to the needs of teachers, nevertheless the student whose interests are not pedagogical generally finds summer courses in most of the subjects ordinarily offered by the institution during the regular winter terms. The more advanced courses usually are not given in summer.

Summer schools present special attractions to the foreign student. If he happens to arrive in the United States in June or early July he may profitably use his time and prepare himself for his later regular matriculation by enrolling in a good summer school. Opportunities for the study of English are commonly offered. After he has begun his collegiate or professional course he may shorten the period of study and also learn something of different universities by frequenting summer schools. It is possible to complete from a sixth to a quarter of a year's work during a summer course.

EQUIPMENT.

Such is the organization of a typical American university, but no account of these institutions, however brief, would be accurate unless it mentioned the astounding array of material appliances possessed by almost every one. In no other country has education been the recipient of such large and numerous benefactions from philanthropic men and women. The greatest of these have gone to American universities. Furthermore, the prosperous Commonwealths have contributed huge sums for the equipment of their State institutions. Certain of the richer universities are provided with almost everything they can possibly need to make their work effective.[1] A description of a single great university plant would occupy too much space to be included in such a brief survey as this, but a citizen of another country who has never seen an American institution may form some idea of the magnitude of these establishments by the subjoined statements of the value of grounds and buildings of leading universities as reported to the United States Government: University of Illinois, $3,895,970; University of Michigan, $4,627,347; University of Wisconsin, $6,444,626; Cornell University, $7,627,347; University of California, $9,865,492; Harvard University, $11,000,000; University of Chicago, $11,698,223.

SPECIAL RESEARCH FOUNDATIONS.

American higher education has recently been reinforced by a group of special foundations established to further scientific and sociological research. Most of these owe their origin to the generosity of a single individual of large means. While not educational institutions, these foundations have made possible numerous investigations which have not only affected educational thought and prac-

[1] For statements of laboratory and library facilities, see Section VI. Special attention is called to the immense and rapidly growing libraries of the higher institutions.

tice, but have also raised the prestige of science throughout the United States. They should therefore be reckoned among the scientific resources of the Nation. Prominent among these institutions are the Russell Sage Foundation, the Carnegie Institution, the General Education Board, the Carnegie Foundation for the Advancement of Teaching, and the Rockefeller Institute for Medical Research.

CHAPTER III.

INDEPENDENT TECHNICAL AND PROFESSIONAL SCHOOLS.

In addition to the great universities giving instruction in practically all the departments of knowledge and including in their organization all types of higher professional schools, there are numerous other institutions of less complex organization. In fact, as has already been stated, the university is a comparatively recent creation. Many of these other schools, colleges, and institutes antedate the origin of universities. It is also true that many kinds of professional training can be quite as successfully and often as economically carried on in separate institutions established for that purpose alone. Some of the foremost training schools for engineering, medicine, dentistry, law, theology, and other callings are independent institutions not connected with any university.

The Massachusetts Institute of Technology,[1] for example, offers courses in the various branches of engineering and applied science. Rensselaer Polytechnic Institute[2] is devoted chiefly to civil, electrical, mechanical, and chemical engineering. Stevens Institute of Technology[3] gives only courses in mechanical engineering. The College of Physicians and Surgeons in Baltimore and Jefferson Medical School of Philadelphia are not affiliated with universities. Among theological schools the majority are independent institutions, as, for example, the Newton Theological Institution (Baptist), the Theological Seminary of the General Synod of the Evangelical Lutheran Church in the United States, and nearly all Catholic theological seminaries. Several States have established from the proceeds of the land grants[4] special colleges of agriculture and mechanic arts separate from the State university, as, for example, the Michigan Agricultural College, the Iowa State College of Agriculture and Mechanic Arts.[5]

In range and content the courses given at these independent institutions are similar to those of the corresponding professional departments of the large universities. Some of the schools of engineering, indeed, have become famous throughout the world for the high excellence of the work done in one or more departments.

[1] See Sec. VI, pp. 102, 163.
[2] Ibid, p. 184.
[3] Ibid, p. 177.
[4] See p. 16.
[5] For further details, see Sec. VI, pp. 151-153.

CHAPTER IV.

INDEPENDENT AND DENOMINATIONAL COLLEGES.

Numerically the most important of the institutions not included in the organization of some university are the independent colleges offering courses in arts and sciences,[1] the majority of which confer the bachelor's degree. They present a wide variety of types and almost as great a variety of scholastic standards; nevertheless certain generalizations can be made concerning them.

As a rule the independent colleges give instruction in a more limited range of subjects than are open to candidates for bachelor's degrees at the larger universities. For instance, as against the 45 branches which the Harvard undergraduate may select, Carleton College offers work in the following: Astronomy, Bible, biology, chemistry, economics, education, English, French, German, geology, Greek, Hebrew, history, Latin, mathematics, philosophy, physics, political science, sociology. Williams College in the following: Art, astronomy, biology, chemistry, economics, English, geology, German, government and political science, history, Latin, mathematics, philosophy, physics, public speaking, Romance languages. Reed College in the following: Biology, chemistry, classical languages, economics, education, English, Germanic languages, history and political science, mathematics, philosophy, physics, psychology, Romance languages, sociology.

The curricula of these institutions, then, are more nearly comparable to those of the French lycée and the German Gymnasium and Oberrealschule, most of the studies included being sanctioned by age-long tradition as appropriate training for the first degree in arts.

Reference has been made to the principle of election, in accordance with which the student chooses to a greater or less extent the subjects which shall compose his college course. Certain colleges of high standing have from conviction resisted the encroachments of this relatively new theory in higher education. For instance, at the leading Catholic institutions, which stand committed to a fixed educational procedure, courses in arts offer little freedom of choice. The courses leading to the degree of A. B. at Wabash College and William Jewell College are also largely prescribed. On the other hand, many independent colleges provide as extensive opportunities for election as their resources will permit. These differences in academic policy may properly have weight with the foreign student seeking a collegiate education in the United States.

The test of the excellence of a college, however, is not the multiplicity of its offerings, but the quality of work done. The stronger

[1] Some of these institutions are called universities. See above, p. 13.

colleges, perhaps a quarter of the whole number, enforce a standard of accomplishment for the bachelor's degree every whit as high as that maintained by the best universities. The universities themselves readily concede this. They accept for advanced study the holders of degrees from these colleges on the same terms as their own graduates.[1] The foreign student need have no hesitation, therefore, in choosing an independent college rather than the collegiate department of some larger university as the institution in which to secure the A. B. or B. S., provided he assures himself in advance that the degrees of the college of his choice are valid educational currency. Among the colleges recognized by the larger universities are, on the one hand, some[2] which offer instruction only in the rather circumscribed group of studies which have for generations formed the basis of the A. B. course, and, on the other, institutions[3] which more nearly approximate the scope of university undergraduate departments.

Probably the most striking difference between the independent colleges and the universities is the difference in size, which also involves a profound difference in the institutional life. The independent college is commonly known as the small college, for the reason that its students usually number from 100 to 500. Universities of the type described frequently enroll from 1,000 to 5,000 students.[4] The foreign observer may be led to wonder why it is that small colleges persist and multiply in a country so liberally provided with large institutions, many of them State supported, giving the same opportunities for general education. The principal reasons are the following:

The prime mover in the foundation of most American colleges has been some religious denomination. The college so founded draws chiefly children of members of its denomination, and in a peculiar sense may be said to serve the denomination, although communicants of other sects are, as a rule, freely admitted. Thus there are Methodist colleges, Presbyterian colleges, Catholic colleges, Lutheran colleges, and many more. Those who believe that higher education must not only be imbued with the spirit of religion, but definitely correlated with a particular religious doctrine, and interpreted

[1] At its meeting in 1913, the Association of American Universities, composed of the following 22 institutions—University of California, Leland Stanford Junior University, Yale University, Catholic University of America, University of Chicago, University of Illinois, Indiana University, University of Iowa, University of Kansas, Johns Hopkins University, Harvard University, Clark University, University of Michigan, University of Minnesota, University of Missouri, University of Nebraska, Princeton University, Cornell University, Columbia University, University of Pennsylvania, University of Virginia, University of Wisconsin—recommended that the degrees of 119 American institutions be recognized by foreign universities as of equal value with the degrees of the members of the association. Of these 118 institutions, 53 were colleges or technical schools of the type under discussion.

[2] For example, Albion College.

[3] For instance, Oberlin College.

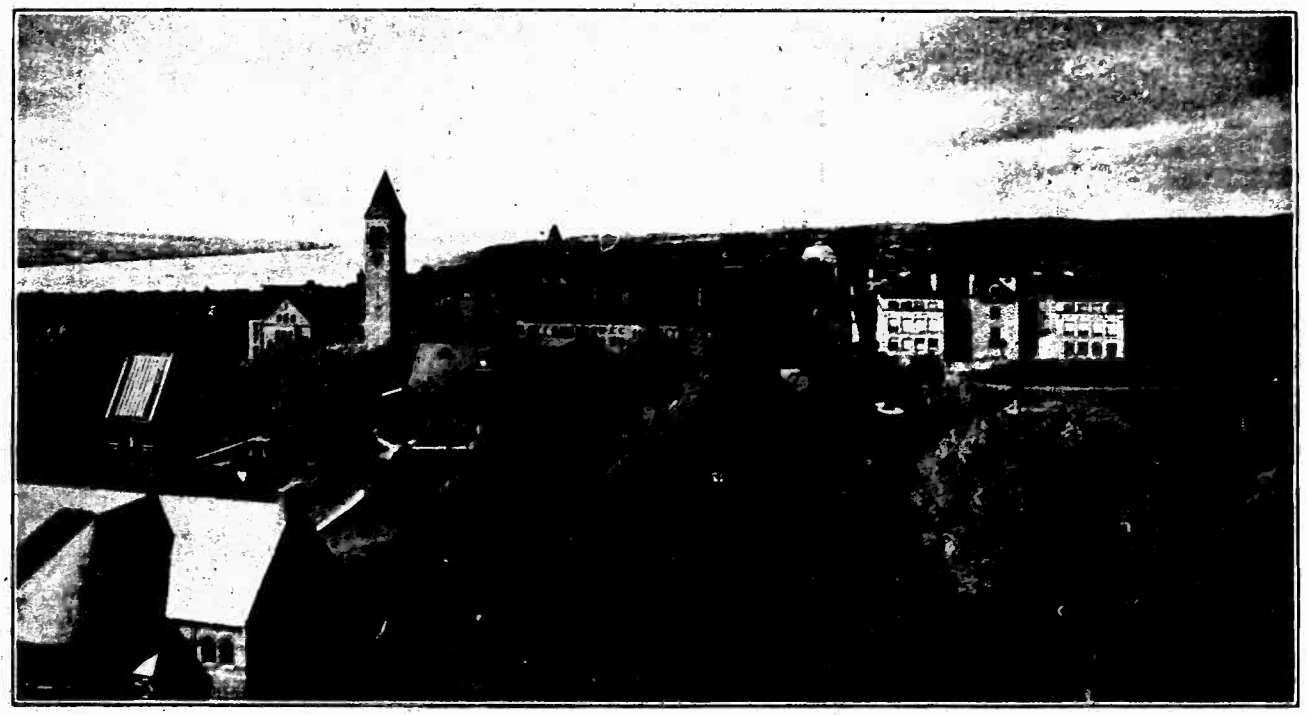
[4] See Sections VII and VIII.

in terms of that doctrine, generally patronize a college of the desired denominational affiliation. Many denominations have met and encouraged this tendency by establishing colleges all over the land, wherever the denominational membership was large enough to give promise of support. It is no unusual thing to find several colleges in the same city or located within a few miles of one another in country districts, each serving a different religious constituency.

The typical denominational college emphasizes the religious life and makes a special effort to create a religious atmosphere. More or less religious instruction generally appears in the curriculum. Denominational religious services are held daily, and attendance is usually required. Religious associations often occupy a prominent place among the social organizations which claim part of the student's leisure hours. It will be seen that the denominational college makes a very distinctive contribution to American higher education. The State university, owing to the nature of its support, must be nonsectarian. The large independent university, no matter under what auspices it was founded, can hardly have such complete denominational polarization. Foreign students of strong denominational attachments may well bear these facts in mind when selecting a college.

Neither in the United States nor in other countries is there consensus of opinion as to the extent to which sectarian influences and sectarian religious teaching should enter into higher education. In the last two decades the tendency has undoubtedly been toward the divorce of higher education and sectarianism, a tendency stimulated by the evident success of State universities. Consequently the sectarian affiliations of many colleges which started as strictly denominational institutions are all the time growing weaker. Some have even renounced their denominational connections and have frankly come forth as nonsectarian institutions. On the other hand, certain denominational colleges have, perhaps by way of protest, reaffirmed still more vigorously their denominational character. Several denominations, also, have been especially active in founding new institutions. Apparently the success of a college in maintaining a strong denominational bias depends in a large degree upon its location. As a rule such institutions flourish in the Middle West and South. The northeastern and far western sections of the country have shown themselves of late less hospitable to the rigidly sectarian principle in higher education.

The college is coming to be regarded more and more as a local institution. It serves a larger area than does a public high school, but still the radius from which it draws its students is comparatively short and is becoming annually shorter. This is a second reason for the large number of independent colleges. The number of



VIEW OF THE BUILDINGS OF CORNELL UNIVERSITY, ITHACA, N. Y.

persons securing college training in proportion to the total population [1] has recently increased enormously. There is consequently a growing demand for colleges within easy reach, at least of the centers of population.[2] This enables many students to live at home and save much of the expense of a college course. Others need travel but a few miles and are frequently in touch with parental influences.

A third reason for the persistent vitality of the independent college is the extraordinary influence it has had on the life and ideals of the Nation. The American college graduate generally cherishes the memory of his "alma mater" with a loyalty only second in intensity to that which he bestows on his family and friends. He is on all occasions her devoted and partisan champion. If he is an alumnus of a small college, he is apt to attribute to its influence and training whatever measure of success he may have achieved. This generous habit, coupled with the fact that the independent colleges actually have furnished the country with a surprisingly—one might almost say a disproportionately—large number of the national leaders in politics, in the professions, and in commerce, has served to entrench the small college in the regard of the people. In many quarters it is believed to be the peculiar repository of healthy democracy, lofty ideals, and sound intellectual training. In consequence it enjoys a prestige quite equal to that of the larger universities. Apparently it will long continue to do so.

CHAPTER V.

HIGHER EDUCATION OF WOMEN.

Substantially all of the facilities for advanced and professional training which have been described above are available for women.[3] Women seldom select certain professions, such as agriculture and engineering, from the nature of the demands which these callings make upon physical strength. On the other hand, increasingly large numbers of women are engaging in law, medicine, dentistry, teaching, and pursuing advanced studies in the arts and sciences.

The higher education of women is carried on both in institutions for the female sex alone and in colleges and universities where the sexes are educated together. In the East coeducation, as it is called, has not found general favor. The older colleges and the college

[1] In 1893, 1 in 837 went to college; in 1903, 1 in 638; in 1913, 1 in 321.

[2] A recent development is the municipal university, supported by the municipality, articulating with the city school system, and free to students of the city. New York, Cincinnati, and Akron, for example, have flourishing institutions of this type.

[3] The extent to which women have taken advantage of the higher educational opportunities is indicated by the following figures: Total enrollment of women in women's colleges, 1893, 12,200; 1903, 16,744; 1913, 19,142. Total enrollment of women in coeducational institutions, 1893, 13,068; 1903, 26,900; 1913, 55,564.

departments of universities in this section of the country are usually exclusively for men. Beside them numerous colleges for women have been established, offering courses leading to the bachelor's and, in some cases, even to the master's and doctor's degrees. In general, however, the older universities like Harvard, Yale, and the University of Pennsylvania, while excluding women from the undergraduate departments, admit them freely to graduate schools.

In the Middle West and West coeducation is the accepted educational policy. Nearly all colleges and universities are open in all departments to women on the same terms as to men. In particular, the State universities have been the most prominent exponents of this policy and have done much to give it national currency. Special supervision of the boarding and rooming accommodations of the women and a certain amount of chaperonage in social affairs are enforced. Otherwise perfectly free association between the sexes prevails. The policy of coeducation has proved almost universally successful and is now indorsed by the great majority of American educators.

"In addition to the coeducational and the separate method of the education of women has also grown up a method which has been denominated the coordinate system. It represents the affiliation of a college for women with a college for men."[1] Examples of this type of management are Barnard College, incorporated in the educational system of Columbia University; Radcliffe College, affiliated with Harvard; H. Sophie Newcomb Memorial College, affiliated with Tulane University of Louisiana; and the College for Women, affiliated with Western Reserve University. The academic relations of these colleges with the universities to which they are attached differ somewhat. Under one mode of affiliation the teaching in the woman's college is done by the faculty of the affiliated university. This plan prevails at Radcliffe. Another method is to provide an entirely separate faculty for the woman's college. This is the method of Western Reserve University.

CHAPTER VI.

COMPARISON OF AMERICAN AND FOREIGN INSTITUTIONS.

It will probably help the foreign student to adjust himself to educational conditions in the United States if his attention is called to the correspondences and differences between the principal types of American schools, on the one hand, and familiar European and Latin-American institutions on the other. These may first be suggested by showing in parallel columns the ages at which students enter and finish the various courses.

[1] Quoted from Ch. V, Vol. I, Rept. Commis. of Ed. for 1903.

AGE OF ATTENDANCE AT VARIOUS SCHOOLS.

Germany.		France.		England.	
School.	Age of attendance.	School.	Age of attendance.	School.	Age of attendance.
Volksschule	6–14	École primaire	6–14	Elementary school	7–14
Gymnasium Realgymnasium Oberrealschule	9–18	Lycée or collège	10–18	Secondary school	10–18
University: Professions Philosophy Technical callings	18–21 or 22	University: Professions Philosophy Technical callings	18–22	University: Science and art	18–21 or 22

Latin America.		United States.	
School.	Age of attendance.	School.	Age of attendance.
Elementary school	6–12	Elementary school	6–14
Liceo	12–18	High school (secondary school)	14–18
		College and technical callings	18–22
University: Professions Philosophy Technical callings	18–21 or 22	University: Older professions and philosophy	20 or 23 – 24 or 26

The most marked differences appear in the time allotted to secondary education and the ages at which it is begun in the countries mentioned. In fact, the position accorded the secondary school may be said to determine to a large extent the character of each country's educational system. In France and Germany the elementary and secondary school systems are entirely separate. They run along constantly diverging lines. It is only possible to transfer from the elementary to the secondary school at one or two points, and after the twelfth year not at all. To a certain extent the same conditions have prevailed in England also, although they have lately been somewhat modified. In all of these countries the elementary school has generally been regarded not as a place of preparation for the secondary school, but as furnishing a distinct and measurably complete scheme of education designed especially for the children of the laboring and artisan classes. The secondary school, on the other hand, is intended for children of prosperous parents who plan to fit themselves for the professions or to enter the civil service. The original and fundamental distinction between the two systems is a social one.

The figure of "the educational ladder" best expresses the popular conception of education in the United States. The schools must be so organized that the child of the humblest parents may climb up in them and through them to the highest educational advantages. Anything else is felt to be undemocratic. The secondary school is therefore based on the elementary school, and the college on the secondary school. This arrangement has had two consequences which are on the whole unfortunate. It has cramped the secondary school, and it has lengthened the whole school life of American boys and girls. Much work that is done by the French lycée or the German gymnasium is necessarily included here in the elementary school or the college.

The other outstanding peculiarity in the United States plan of educational organization, namely, the inclusion of the college as an extra link between the secondary school and the university, has been alluded to in the brief statement of the historical evolution of the college.[1]

The elementary schools of the United States and of Europe, notwithstanding minor differences, present nearly the same curriculum and aim at imparting approximately the same amount of training. The elementary school of Latin-American countries, like that of the United States and unlike those of Europe, is the regular preparatory institution for the secondary school or liceo. But the division line between the two institutions comes earlier in Latin America, at an age more appropriate for the beginning of secondary education. This, however, naturally reduces the range of the elementary curriculum.

[1] See p. 11.

European nations and Latin-American countries are substantially agreed as to the purpose and compass of secondary instruction. The practices of no two countries are alike in all details, but in general the secondary course is made up of languages, ancient and modern; mathematics up to or through calculus; the elements of the natural sciences; history; the literature of the vernacular; the outlines of philosophy and logic. In other words, secondary education is conceived as properly dealing with knowledge which has general use and validity, scientifically arranged and organized to show the causal relations between facts or phenomena. It includes training in orderly and independent methods of study. It aims to sharpen the esthetic and moral perceptions. Secondary education concerns itself little with the purely empirical; that is more particularly the province of elementary training. It prepares for the philosophical or minutely specialized pursuit of knowledge, which is the field of higher education. The period of general cultural training of the individual properly terminates with the completion of the secondary school course, which is fittingly recognized by the bestowal of the bachelor's degree. The six, eight, or nine years of secondary instruction in the countries mentioned are held to be sufficient for the accomplishment of this general purpose.

The function which is fulfilled in France, Germany, and Latin America by the secondary school is shared in the United States by two institutions—the secondary school and the college. It is generally admitted that the American student who has completed a secondary school course and two years of a general course in arts or sciences at an American college may be ranked with the holder of the baccalaureate of the French lycée or the Abiturientenzeugnis of the German Gymnasium. Those professional schools which demand two years of collegiate study for entrance maintain approximately the same standards of entrance, then, as the French and German universities, which are only open to holders of the two certificates just mentioned.

SECTION II.

CHAPTER I.

LIVING CONDITIONS.

Most of the larger universities are located in or near cities of considerable size. For instance, the University of California, at Berkeley, a city of 49,331 [1] inhabitants, is only 8 miles from San Francisco; the University of Minnesota is at Minneapolis, a city of 333,472 [1] inhabitants; the University of Wisconsin, at Madison, a city of 25,531 [2] inhabitants. Within the limits of the metropolitan district of each of the great centers, Chicago, New York, Philadelphia, St. Louis, Boston, New Orleans, Baltimore, Washington, are several universities and colleges. The work of certain professional departments, in particular departments of medicine and dentistry, can hardly be successfully carried on without the facilities afforded by a large city. It is in recognition of this fact that the medical departments of the University of Illinois and Cornell have been established at Chicago and New York, respectively.

On the other hand, quite the majority of small colleges and independent professional institutions are located in villages and towns of from 1,000 to 20,000 inhabitants. In many cases the founders have deliberately chosen small communities in order that students might be removed from the temptations of the city and might be encouraged to live a simple, healthy life, in contact with nature. The large city and the small rural or quasi rural community each has its own peculiar advantages. The great centers of population mentioned above [3] are also centers of art and forums for the exchange of ideas. Collections of paintings and of sculpture, concerts, theaters, museums, lectures, public meetings devoted to the discussion of political and economic problems may thus be legitimately included among the instrumentalities for education and self-improvement which the city university affords. The small town or village in return allows a more vigorous development and the closer welding together of the institutional community itself. "College life," so characteristic a feature of American higher institutions, flourishes especially in the country college.

[1] Figures of 1913. [2] Figures of 1910. [3] See also Sec. II, Ch. III, p. 48, et seq.

EXPENSES.

The expenses of foreign students attending American institutions will vary widely, for several reasons. Practically all of the privately endowed institutions charge annual tuition fees. The fee is rarely less than $40 a year for collegiate instruction, and in some cases as high as $150 or $200 a year. For example, Carthage College and Bowdoin College charge tuition fees of $40 and $75, respectively. Columbia University charges $180, and Princeton University $160.[1] Professional instruction, particularly in medicine and engineering, is still more expensive. The annual tuition at the University of Pennsylvania medical school is $200, for instance, as against $150 charged to collegiate students. Case School of Applied Science charges $125 a year; Massachusetts Institute of Technology charges $250 a year, and to its students in naval construction and naval architecture $500 a year.

Most State-aided institutions, on the other hand, charge only a small tuition fee to collegiate students not residents of the State, State residents being generally given instruction free of charge. But State institutions usually charge a considerable fee to students in some branches of professional study, because of the costly equipment needed for work in these departments. The practice of the University of Colorado, where the tuition fee to college students is $15, and the annual cost to the student in the medical school is $75, will serve as an illustration. In addition to tuition fees, most institutions, both private and State-aided, charge laboratory fees and various incidental fees. These rarely total more than $25 a year.

Living expenses, aside from tuition and other fees, vary with the location of the institution. Practically all the colleges and universities which are located in rural communities or in small towns maintain dormitories and dining halls, which generally assure the student of good boarding and rooming accommodations at a minimum rate. Dormitories and dining halls are also provided by certain city universities; for example, Yale and the University of Pennsylvania. Dormitories are commonly arranged so that two students share the same suite of two or three rooms, a study room and one or two bedrooms. Some dormitories, especially the older ones, contain chiefly single rooms, each serving as bedroom and study combined and designed for a single occupant. Where the institution has no dormitories, as is the case with the University of Michigan and the University of Illinois, an abundance of rooms are available in the houses of reputable private families. As a rule, the fundamental charges—room, board, and laundry—are somewhat lower at the country institution than at those located in the cities. The possible wide varia-

[1] For information concerning tuition at other institutions, see Sec. VI.

tions in price (which do not altogether depend upon the size of the community) are indicated by the figure, $4.50, quoted as the weekly minimum by the University of Minnesota, and $12, the weekly maximum mentioned by Cornell University. The incidental expenses of city living, including amusements, should, of course, also be reckoned.[1] These vary with the tastes and standards of the individual, but even the most ascetic student will spend a little more in an urban than in a rural community.

VACATIONS AND TRAVEL.

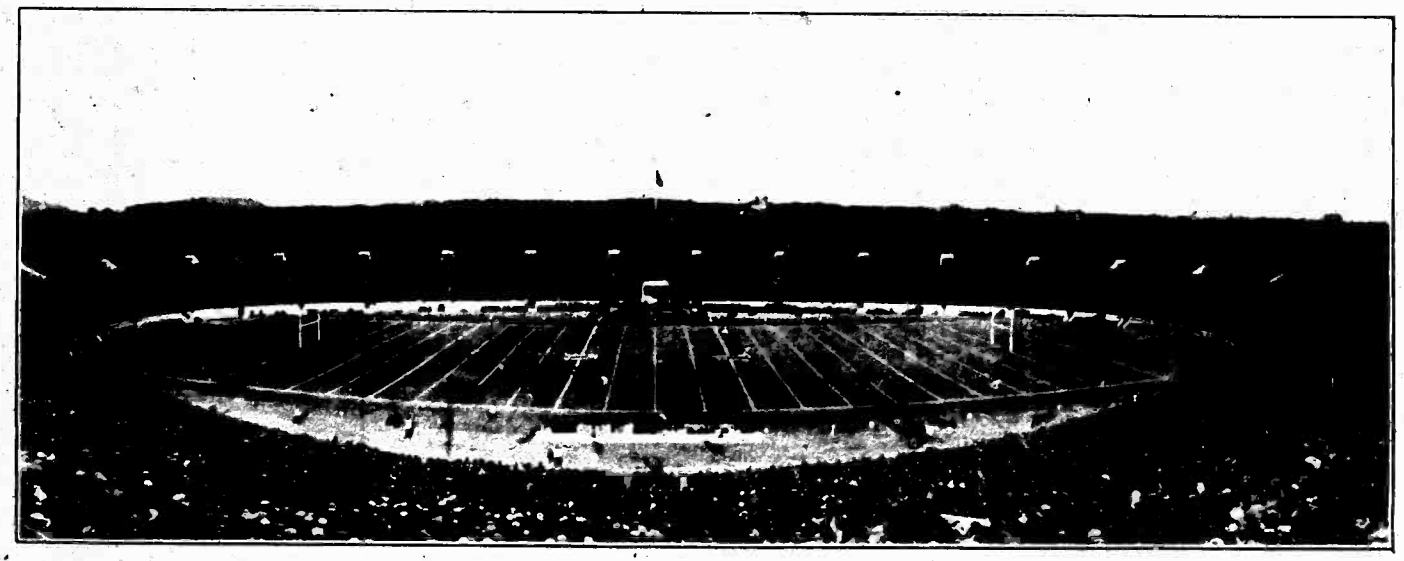
The foreign student contemplating a three or four year period of university study in the United States should make allowance in his budget for the long vacations. American colleges and universities are in session on an average about eight months in the year. The university year generally begins about the middle of September and closes about the middle of June.[2] At most institutions it is divided into two semesters, the division line coming about the first of February.[3] Approximately a month is devoted to short vacations of from 1 to 14 days duration, scattered through the academic year. The prices quoted by different institutions for the rent of dormitory rooms are generally for the academic year of nine months. Occupancy of the rooms during the short vacations is included. Students are usually not allowed to occupy dormitory rooms in the long summer vacation.

It is exceedingly desirable that the foreign student should spend part of the long vacation in travel if he can possibly afford this extra expense. The United States is so large a country; it contains so great a diversity of racial stocks, many of them concentrated in certain limited areas; its industries, climate, and conditions of living are so infinitely varied, that no single community can be regarded as typical. Not the least advantage to a foreign student pursuing his university work here will be the opportunity to observe the people and the customs of an alien nation. He should therefore strive to extend his observations as widely as possible. Railroad travel costs on the average 2½ to 3 cents a mile; a seat in an individual chair car, called a "Pullman" car, costs approximately one-half a cent a mile extra. A berth in a sleeping car costs about 1 cent a mile extra. Good hotel accommodations may be had—depending upon the place—from $2.50 a day, including meals, up. For a longer sojourn

[1] For estimates of the minimum total annual cost of attending the institutions described in this bulletin see the end of each description in Sec. VI. These estimates do not include incidentals.

[2] California institutions present an exception to this rule, the academic year there extending from the middle of August to the middle of May.

[3] It is now possible to enter almost any of the larger universities, and many colleges as well, at the beginning of either semester. Several institutions have two graduations, one in June and one in February. Classes, laboratory instruction, and courses of lectures are now usually arranged on the semester basis, as in German universities.



THE YALE "BOWL," WHERE YALE UNIVERSITY ATHLETIC CONTESTS ARE HELD, NEW HAVEN, CONN.

in city communities, good board and room may be secured at rates ranging from $7 or $8 a week up. In the country one may occasionally find satisfactory board and lodging for less.

STUDENT AID AND SELF-HELP.

Nearly all the better-equipped private institutions and some State institutions possess special funds for assisting needy and deserving students. The commonest form of student aid is the so-called "scholarship," an annual stipend, generally large enough to cover the tuition fee, often somewhat larger, which is granted a student of good ability and character upon the representation of his needs. Some scholarships are awarded as prizes for high scholastic standing without reference to the student's financial status. Some, again, are bestowed only upon those students who have demonstrated marked capacity and are also known to need pecuniary assistance.

Certain institutions have loan funds from which money is lent indigent students on proper security.

Larger stipends, called "fellowships," paying from $150 to $500 or $600 a year, have been established at many universities for the benefit of graduate and professional students of unusual ability and promise. Certain of these fellowships for students in graduate schools carry the obligation of teaching from one to six hours a week in undergraduate classes.[1] A few universities also maintain traveling fellowships, some of which pay as much as $1,500 per annum. These are generally awarded advanced students whose researches will be especially furthered by visiting some foreign country.

The foreign student is advised to apply for the catalogue of any American college or university to which he may feel attracted. The catalogue or a circular of information is sent free upon request, and generally contains full information concerning scholarships, fellowships, courses, teaching staff, and equipment.

A very large percentage of American students support themselves wholly or in part during their terms of collegiate or professional training. In the long summer vacations, in the evenings, in the spare hours not occupied with class exercises, these young men and women work at a multitude of occupations. The commonest of these are perhaps the following: Care of furnaces in private residences; janitor service in college or university buildings; waiting on table in college dining halls and eating clubs; clerical work for college officers; giving private lessons; selling commodities on commission. Some students have learned a trade before attending higher institutions,

[1] For example, the Austin teaching fellowships at Harvard University, holders of which receive $500 and are expected to devote about half of their time to teaching; also the Harrison senior fellowships at the University of Pennsylvania, holders of which receive $800 and are expected to offer a single course of lectures.

and by the occasional practice of it are able to assist themselves financially.

Nearly all the larger institutions and many of the small colleges maintain student employment bureaus. The purpose of these agencies is to ascertain the local opportunities for student labor and to put the student seeking employment in touch with a suitable occupation.

The American college or university community does not regard any of the occupations mentioned or any other form of honest manual labor on the part of students as degrading. This fact deserves especial emphasis, because in certain other countries there is quite a different attitude toward students who are obliged to work their way through college or who are recipients of scholarships, bursaries, or loans. The American student who earns his way suffers no loss of social standing. He is eligible for any social honor bestowed by his fellows, on the same terms as the son of the wealthiest parent. Indeed, the fact that a popular or talented young man waits on the table, for instance, in order to make his education possible, generally raises him in the esteem both of his fellow students and of his instructors.

Many students from other countries have taken advantage of the manifold opportunities for self-help and have thus eked out the money needed for a long and expensive university education. No discrimination in favor of native students is shown either by the employers or by the university employment agencies. However, the foreign student contemplating a course of study in the United States should be warned to bring with him enough money to defray the expenses of the first year. Before he can count on remunerative employment, he must be acquainted with the customs of the country and must be known to the officers of the institution at which he is enrolled.

CHAPTER II.

COLLEGE LIFE.

American educators are practically unanimous in the belief that the associations which the student forms with his fellows and the activities with which he fills his leisure hours are educative factors hardly less important than the instructional work of the institution. Especially is this true in the college and the collegiate departments of the universities. Students in the professional and graduate schools, thoroughly absorbed in preparing themselves for the practice of their professions, are likely to have less time and inclination to cultivate other interests. Encouraged by the governing authorities, there has grown up at most American colleges and universities a

kind of institutional life which is distinctly national. There is, to be sure, a certain generic similarity in the ideals and interests of students the world over, which manifests itself in similar ways. Yet American "college life," as it is called, exhibits many customs and activities that seem to be entirely unlike those of European and Latin-American students. To this extent it is unique and deserves brief notice. The foreign observer is perhaps first struck by the complexity and intensity of college life. The work of the classroom or the laboratory seems to be merely the focus for numerous other occupations, all pursued with a passionate earnestness.

ATHLETICS.

Chief among the extra-curricular activities is athletics, which occupies a shrine of its own not only in the hearts of college and university students but in the hearts of the whole American people. Athletic sports are of comparatively recent development. They began within the memory of men still alive. It is only within a little more than a generation that Americans have ceased to find ample scope for physical activity in the fields to be tilled, the woods to be cleared or explored, and the forces of the land to be subdued. It is the sudden urbanization of the United States that has stimulated the growth of athletic games. The city youth replaces by strenuous group sports the excitements and exertions of his pioneering fathers and grandfathers. The urban public participates vicariously and is boisterously enthusiastic over athletic exhibitions. Both the college community and the country at large are prone to make a hero of the successful college athlete. These are social phenomena of considerable significance in American life. They partly account for the large share of the college student's attention which athletics claim and for the prominence of athletic interests in most college communities.

Nearly every college and university maintains four types of athletic teams which compete with the teams of other institutions—baseball teams, football teams, basketball teams, and track teams. Track athletics, as it is called, includes running, jumping, weight throwing, etc. In addition, most of the larger institutions situated near bodies of water maintain crews for boat racing. Numerous other branches of athletics, such as hockey, fencing, tennis, etc., are cultivated at certain universities. But the interest of the general public, and of the college or university community as well, is chiefly centered in the four sports first mentioned, particularly the first two. Baseball in the spring and football in the fall make a special appeal to all ages and classes of Americans.

College and university athletic teams are trained with great care and often at great expense. It is customary for institutions to

employ a special trainer called a "coach" for each of the principal branches of athletics. The larger and wealthier institutions build costly gymnasia and training quarters and construct stadia for the public games. To be chosen to represent his institution on one of its important athletic teams is regarded by the college or university student as one of the most desirable distinctions to which he can attain. For many years it far outclassed scholarly distinctions in student estimation and in the estimation of the general public as well. Of late scholarship has been receiving more appropriate recognition, both within and without the walls. But the prestige of athletic success is still undimmed. The intercollegiate games of baseball and football are played before vast and enthusiastic crowds who are willing to pay large sums of money for the privilege of watching the spectacle. Indeed, a football game between Harvard and Yale, for example, is an event of national interest. The last one, in 1914, was played before an audience of 68,000 people, in a new amphitheater erected especially for these contests at a cost of approximately $600,000. The gate receipts were $136,000. Crowds only slightly smaller assemble for the games between the teams of other universities. The conspicuous athlete on one of these occasions acquires a publicity that, although short lived, is for the time only matched, perhaps, by that of the favorites of the stage.

All of these influences naturally combine to make nearly every able-bodied young man strive for athletic distinction. Moreover, the absorbing devotion to athletic success has created an ideal of physical fitness which pervades practically all college and university communities and affects the lives of those who are unable to win fame in the arena. To be in good physical condition and to participate as far as possible in some kind of athletic contest have come to be among the normal ends which almost every student sets himself to reach. What has been said with regard to the devotion of men to athletic sports holds true also, with only slight modifications, with regard to college women. Less publicity and strain attend the athletic contests of women students, but the athletic ideal has conquered the colleges for women as well as the colleges for men.

The prominence of the athletic interest among the students has led to the incorporation of systematic physical training in the college curriculum. Many progressive institutions now require every candidate for the bachelor's degree to undergo periodic physical examinations at the hands of a physician and to take a course of physical training under the direction of a competent physical instructor. The conservation of health and the promotion of a sound physical development are thus made fundamental to effective intellectual training.

FRATERNITIES AND CLUBS.

Next to athletics the most vital and generally influential factors in college or university life are the fraternities and clubs. Whereas athletics is a democratizing force bringing together the rich and the poor, the well-bred and the uncultivated, in sharp personal competition, or uniting them in a common enthusiasm, the fraternities and clubs tend to break the student body into cliques, on the basis of similarity of tastes, the pursuit of a particular object, or social compatibility. They represent the natural cleavages of large bodies of people into smaller congenial groups.

The American college fraternity, like the "college life" of which it is the outgrowth and the expression, has no exact counterpart in any other country. The student corps at German universities resemble it in certain features, but, on the whole, are quite different. The typical college fraternity is a secret order of strictly limited membership, having a Greek motto and conducting more or less mysterious rites of initiation. The fraternity is known by the initial letters of its motto (or what are taken to be such by the uninitiated public), as, for instance, Psi Upsilon, Delta Kappa Epsilon, Phi Delta Theta, Sigma Chi.

A great many fraternities are national, or at least interinstitutional. They consist of from a dozen to 50 chapters located in as many institutions in different parts of the country. So-called national fraternities generally have a central administrative body, made up wholly or partly of older men, whose duty it is to coordinate the activities and help in maintaining the standards of the fraternity. The individual chapters of a fraternity generally consist of from 15 to 30 members. At most institutions each fraternity has a club house. These clubhouses vary in size, comfort, and elegance. Some are modest domiciles, containing simple meeting rooms; others combine under one roof—often a very expensive roof, at that—a dormitory, meeting room, and boarding house. All, or nearly all, of the members then live in the fraternity house *en famille*. Under these circumstances, it is natural that the fraternity should become a formative influence in a young man's character second to no other. On the whole, this influence is good. Most fraternities, like the orders of knighthood from which through Masonic associations they probably took their origin, set before themselves the pursuit of high and noble ideals. The older members feel responsibility for maintaining both the scholarly standing and the good repute of the organization, and indeed frequently cooperate with the faculty to this end.

A few fraternities or individual chapters have fallen into overluxurious and vicious habits, in which cases they have become

peculiarly dangerous to the young men who join them. These are, however, the exception. The principal objection raised against the fraternity is the disintegrating effect which its close organization and interfraternity rivalries may have upon the solidarity of the college community. But this objection has not been strongly enough voiced to check as yet the growth and spread of fraternities.

Local secret orders without affiliation with other societies are also common at certain institutions. These are in all essential respects like the national fraternities just described. At a few of the most prominent universities, secret fraternities, local or national, are either rare or nonexistent. For instance, at Princeton secret societies are prohibited. At Harvard the vigorous development of other types of social organizations has kept fraternities from becoming numerous or important. At these universities and at others where similar conditions prevail, the place of fraternities is taken by social clubs which parallel in the variety of the purposes which they pursue the clubs of the outside world.

As a rule, fraternities and other societies welcome congenial foreign members of similar social training. Of particular interest to foreign sudents, however, are the cosmopolitan clubs which exist at most universities and which are now united by means of a national organization. These associations bring together upon a common ground of social intercourse the citizens of every country represented in the student body of the university.

Besides social clubs, there are at practically all colleges and universities other clubs organized for special purposes; for instance, debating, dramatic, and musical clubs—*Cercle Français*, *Deutscher Verein*, etc. There are also professional and technical associations, such as engineering clubs, chemical clubs, and law clubs, to which students of the professional schools belong.

The musical organizations of the majority of colleges and universities are partly social clubs for the cultivation of an art, and partly money-making ventures. University choral societies, glee clubs, mandolin clubs, and orchestras travel about the country in the vacation periods and at other times, as far as the work of the institution permits, giving public concerts. These are often sources of considerable profit to the members of the organizations.

RELIGIOUS ORGANIZATIONS.

At nearly all American higher institutions, including the State universities, the religious life of the student body is a matter of deep concern to the faculty and to the older students. The officers of the strictly denominational colleges usually undertake more or less openly the direction of the religious thought and observances of the

students, in accordance with the doctrines and ritual of the sect to which the college owes allegiance. State universities are of necessity nonsectarian and their officers never interfere with the religious affairs of the students. The larger independent universities also, even though founded by religious bodies, have for the most part outgrown sectarian limitations. The daily chapel exercises, which are held at nearly all American universities, both State and independent, are at these larger universities devoid of doctrinal content. Attendance is now generally optional.

The religious life of the students of these larger American universities is stimulated and fed by means of religious organizations for which the students themselves are chiefly responsible. The most widespread and influential of these bodies is the Young Men's Christian Association, branches of which are to be found in almost all Protestant and nonsectarian universities and colleges. In nonsectarian institutions, also, the Young Men's Catholic Association, the Intercollegiate Menorah Society, the Knights of St. Andrew, and other religious organizations, membership in which is limited to the adherents of particular sects, are frequently established.

UNIVERSITY DEMOCRACY.

Doubtless the most characteristic feature of the American college or university community is its democracy. A spirit of good comradeship in work and play pervades the typical college. No barriers are raised between groups or individuals because of wealth or family connections. A student stands or falls on the strength of his own attainments and personal likeableness. Cliques represented by the clubs and fraternities just mentioned are formed within the college itself, to be sure, but they seldom bear any relation to outside social alignments. The most influential and exclusive college fraternity may include in its membership sons of parents of every grade of wealth and every calling. Indeed, the typical American college community rather makes a cult of democracy, and since it is saturated with the idealism of youth and is more homogeneous than any other community it is able to practice democracy with comparatively little hardship.

For the most part the same informal relations exist between students and professors as among the students themselves. Few professors now assume superiority in their dealings with students or demand special deference on the strength of their position. The American university professor of to-day regards himself as a fellow student with those whom he teaches, a little older and more experienced, but essentially on the same plane. The relations between professors and students, then, are like those between younger and older men else-

where. This condition contributes to a better mutual understanding, a more complete harmony of purpose in the university community than used to prevail in the past. It has minimized, also, the need for disciplinary action on the part of the faculty.

THE FOREIGNER AT AN AMERICAN UNIVERSITY.

It is essential that the foreign student who contemplates studying at an American college or university should first be fairly fluent in the use of English. He should at least know the language well enough to be able to read it and to follow lectures given in it. If he does not have this knowledge when he arrives in the United States, it will probably be best for him to spend several months (three or four should suffice) studying English [1] under competent instruction before attempting to register in a university for either a general or professional course.

Once having mastered the vernacular sufficiently to make his way as a student and to take an intelligent part in the social activities of the university community, the foreign student will find himself accepted as in every sense a full-fledged member of the institution.[2] Then it rests with him what his place shall be. If he is agreeable, capable, and adaptable, he will suffer no handicaps in his relations with the natives. On the contrary, he will receive a most cordial welcome.

CHAPTER III.

HIGHER EDUCATIONAL CENTERS, DISTANCES FROM THE PORTS OF ENTRY, AND COST OF TRAVEL.

In a preceding chapter [3] reference was made to the extra-academic advantages to be found in the larger American cities. These cities are also foci for numbers of higher educational institutions. There is in many cases a certain amount of reciprocity between the various institutions. Aside from the cultural advantages, therefore, the larger cities of the United States have distinct advantages as centers of professional training. In the following paragraphs the principal metropolitan centers are mentioned. The institutions of collegiate or professional grade located in them are given and the distances from the three principal ports of entry. As noted in Chapter II, the cost of travel is, on the average, about 2½ cents a mile for railroad fares. In some parts of the country the average is as high as 3 cents per mile. An additional cent per mile should be added for first-class Pullman accommodations.

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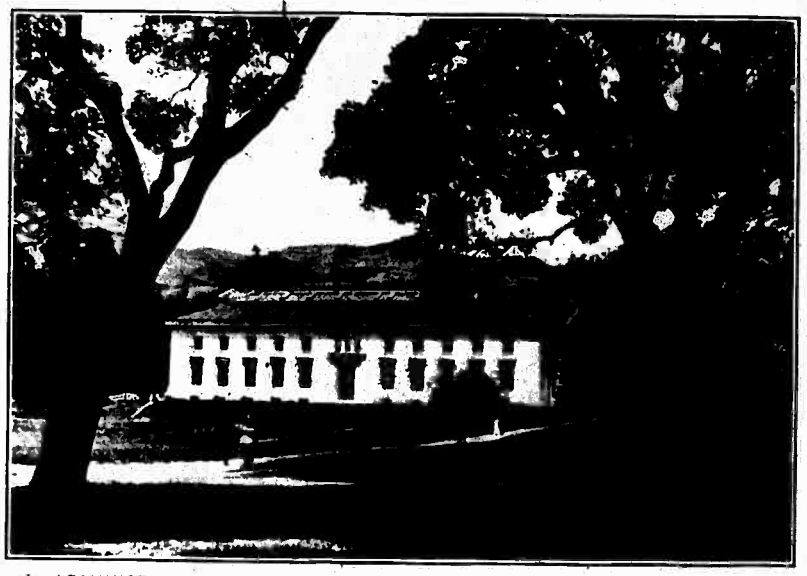
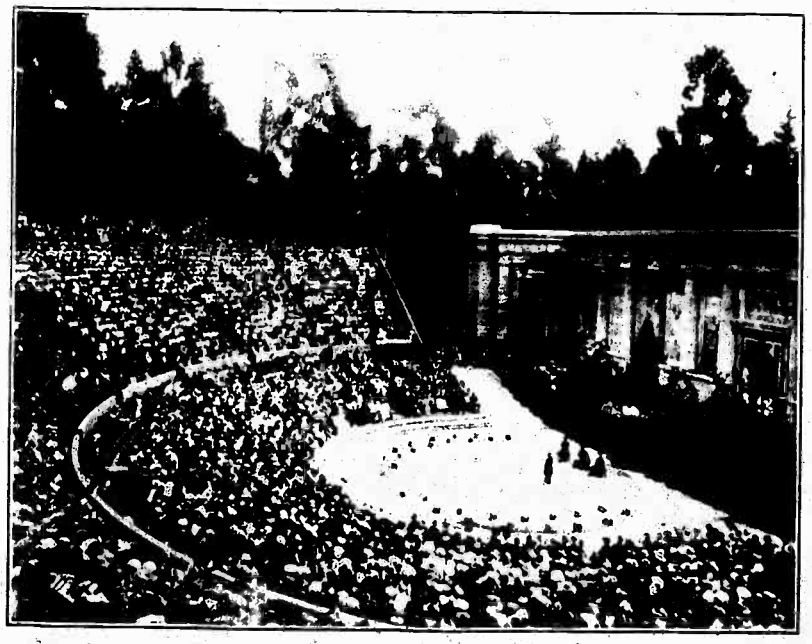
[1] See p. 27. Summer school.

[2] There are certain exceptions to the statement made above. In the Southern States persons of negro blood attend exclusively the schools which have been established for their race.

[3] See p. 35.



A. ADMINISTRATION BUILDING, UNIVERSITY OF CALIFORNIA, BERKELEY, CAL.



B. GREEK THEATER, UNIVERSITY OF CALIFORNIA, BERKELEY, CAL.

NEW YORK CITY.

New York City, the largest American city, with a population of 5,198,888, is the seat of the following collegiate institutions and universities:

Columbia University:
- Columbia College, arts and science (for men), nonsectarian.
- Barnard College, arts and science (for women), nonsectarian.
- School of Law (for men).
- College of Physicians and Surgeons (for men).
- Schools of Mines, Engineering, and Chemistry (for men).
- Graduate Faculties—Philosophy, Political Science, and Pure Science (coeducational).
- Faculty of Fine Arts—Architecture, Music, and Design (coeducational).
- College of Pharmacy (coeducational).
- School of Journalism (coeducational).
- Teachers College (coeducational):
  - School of Education.
  - School of Practical Arts.

College of the City of New York, arts and science (for men), under municipal control.
Fordham University (for men), under Roman Catholic control:
- St. John's College, arts and science.
- School of Law.
- School of Medicine.
- School of Pharmacy.

Hunter College of the City of New York, liberal arts (for women), under municipal control.
Manhattan College, arts and science (for men), under Roman Catholic control.
New York University (coeducational), nonsectarian:
- College of Arts and Pure Science.
- School of Applied Science.
- Washington Square College (offers afternoon and evening courses equivalent to courses in the university college).
- Graduate School.
- School of Law.
- University and Bellevue Hospital Medical College.
- School of Commerce, Accounts, and Finance.
- New York-American Veterinary College.
- School of Pedagogy.

Bible Teachers' Training School (interdenominational).
General Theological Seminary of the Protestant Episcopal Church.
Jewish Theological Seminary.
Union Theological Seminary (interdenominational).
New York Law School.
Cornell University Medical College.
New York Homeopathic Medical College and Flower Hospital.
New York Medical College and Hospital for Women.
College of Dental and Oral Surgery of New York.
New York College of Dentistry.

New York is itself the principal port of entry for all persons coming from Europe and from certain portions of South America and the West Indies. It is 3,183 miles from San Francisco and 1,344 miles from New Orleans.

CHICAGO, ILL.

Chicago, the second city in the United States, with a population of 2,344,018, is also a great educational center. The following universities and colleges are located there:

Armour Institute of Technology (for men), nonsectarian; undergraduate and graduate departments.
Lewis Institute, liberal and practical arts (coeducational), nonsectarian.
Loyola University (for men), under Roman Catholic control:
- College of Arts and Sciences.
- Lincoln College of Law.
- Bennett Medical College.
- Central States College of Pharmacy.
- School of Sociology.
- Engineering Department.

St. Stanislaus College, arts and sciences (for men), under Roman Catholic control.
University of Chicago (coeducational), nonsectarian:
- Schools and Colleges of Arts, Literature, and Science.
- Graduate schools—
  - School of Arts and Literature.
  - Ogden School of Science.
- University College (afternoon, evening, and Saturday courses equivalent to those in the regular colleges).
- Divinity School (Baptist).
- Law School.
- Rush Medical College.
- School of Education.
- College of Commerce and Administration—
  - College of Religious and Social Sciences.

Northwestern University (located in Evanston, a suburb of Chicago), (coeducational), under Methodist Episcopal control:
- College of Liberal Arts.
- Graduate School.
- College of Engineering.
- Medical School.
- School of Pharmacy.
- Union College of Law.
- Dental School.
- School of Commerce.
- School of Music.
- School of Oratory.
- Garrett Biblical Institute (Methodist Episcopal).
- Norwegian-Danish Theological Seminary (Methodist Episcopal).
- Swedish Methodist Episcopal Theological Seminary.

Bethany Bible School (Christian Brethren).
Chicago Theological Seminary (Congregationalist).
Evangelical Lutheran Theological Seminary (at Maywood).
McCormick Theological Seminary (Presbyterian).
Western Theological Seminary (Protestant Episcopal).
Chicago Law School.
Chicago-Kent Law School.
Hamilton College of Law.
Illinois College of Law of DePaul University.

Illinois Law School, Evening Law School of DePaul University.
John Marshall Law School.
Chicago College of Medicine and Surgery.
College of Medicine of the University of Illinois.
Hahnemann Medical College.
Jenner Medical College.
Chicago College of Dental Surgery of Valparaiso University.
College of Dentistry of the University of Illinois.
School of Pharmacy of the University of Illinois.
Chicago Veterinary College.
McKillip Veterinary College.

Chicago is 960 miles from New York, 2,280 miles from San Francisco, and 930 miles from New Orleans.

PHILADELPHIA, PA.

The following colleges and universities are located in the city of Philadelphia, third in size among American cities, with a population of 1,631,956:

Dropsie College, a graduate school for Hebrew and cognate learning (coeducational), under Jewish control.
La Salle College (for men), under Roman Catholic control:
  Department of Arts.
  Department of Civil Engineering.
Temple University (coeducational), nonsectarian:
  College of Liberal Arts and Sciences.
  Department of Theology (nonsectarian).
  School of Law.
  Department of Medicine.
  Teachers' College.
  Department of Pharmacy.
  Philadelphia Dental College.
  Department of Commerce, Accounts, and Finance.
  College of Music.
  Training School for Nurses.
University of Pennsylvania (coeducational), nonsectarian:
  The College—
    School of Arts.
    Towne Scientific School.
  Wharton School of Finance and Commerce.
  Graduate School.
  Law School.
  School of Medicine.
  School of Dentistry.
  School of Veterinary Medicine.
Bryn Mawr College (at Bryn Mawr, a suburb of Philadelphia), liberal arts (for women), nonsectarian.
  Undergraduate and Graduate Departments.
Haverford College (at Haverford, a suburb of Philadelphia), arts and science (for men), under Friends' control.
Swarthmore College (at Swarthmore, a suburb of Philadelphia), liberal arts (coeducational), nonsectarian.
Lutheran Theological Seminary (at Mount Airy).

Protestant Episcopal Church Divinity School.
St. Vincent's Seminary (Roman Catholic).
Jefferson Medical College.
Medico-Chirurgical College.
Woman's Medical College of Pennsylvania.
Medico-Chirurgical College Department of Dentistry.
Philadelphia Dental College.
Medico-Chirurgical College Department of Pharmacy.
Philadelphia College of Pharmacy.

Philadelphia is 90 miles from New York, 3,098 miles from San Francisco, and 1,254 miles from New Orleans.

ST. LOUIS, MO.

St. Louis, the great metropolitan center of the midsouthern section of the United States, a city of 723,347 population, contains the following collegiate institutions and universities:

Christian Brothers College, arts and science (for men), under Roman Catholic control.
Forest Park University (for women), nonsectarian:
- College of Liberal Arts.
- College of Music.

St. Louis University (for men), under Roman Catholic control:
- College of Arts and Sciences.
- School of Divinity.
- School of Philosophy and Science.
- School of Medicine.
- St. Louis College of Dentistry.
- Institute of Law.
- School of Commerce and Finance.

Washington University (coeducational), nonsectarian:
- Department of Arts and Sciences—
  - The College.
  - School of Engineering.
  - School of Architecture.
- Henry Shaw School of Botany.
- St. Louis Law School.
- Medical School.
- Dental School.
- St. Louis School of Fine Arts.
- School of Social Economy.

Concordia Theological Seminary (Evangelical Lutheran).
German (Eden) Evangelical Missouri College (German Evangelical Synod of North America).
Kenrick Theological Seminary (Roman Catholic).
Benton College of Law.
City College of Law and Finance.
American Medical College.
St. Louis College of Physicians and Surgeons.
Barnes Dental College of National University of Arts and Sciences.
School of Pharmacy of National University of Arts and Sciences.

St. Louis is 1,127 miles from New York, 2,294 miles from San Francisco, and 717 miles from New Orleans.

BOSTON, MASS.

Boston, the fifth city in the United States, with a population of 722,465, is, with its suburbs, one of the principal educational centers. These colleges, universities, and technological schools are located either in the city itself or in the immediate vicinity:

Boston College (at Chestnut Hill, a suburb of Boston), liberal arts (for men), under Roman Catholic control.
Boston University (coeducational), under Methodist Episcopal control:
- College of Liberal Arts.
- College of Business Administration.
- School of Theology (Methodist Episcopal).
- School of Law.
- School of Medicine (homeopathic).
- Graduate School.

Harvard University, Cambridge (for men), nonsectarian:
- Harvard College, arts and sciences.
- Graduate School of Arts and Sciences.
- Graduate School of Applied Science.
- School of Engineering.
- Mining School.
- School of Architecture.
- School of Landscape Architecture.
- School of Forestry.
- School of Applied Biology.
- Graduate School of Business Administration.
- Divinity School (nonsectarian).
- Law School.
- Medical School.
- Dental School.
- Graduate School of Medicine.

Radcliffe College (affiliated with Harvard University), arts and science (for women), nonsectarian: Undergraduate and graduate departments.
Massachusetts Institute of Technology (coeducational), nonsectarian:
- Undergraduate and graduate departments.
- School of Health Officers.

Simmons College, scientific courses (for women), nonsectarian.
Tufts College, Medford (coeducational), nonsectarian:
- School of Liberal Arts.
- Engineering School.
- Medical School.
- Graduate School.
- Dental School.
- Crane Theological School (Universalist).
- Jackson College for Women.

Wellesley College, Wellesley, liberal arts (for women), nonsectarian.
Andover Theological Seminary, Cambridge (Congregationalist).
Episcopal Theological Seminary, Cambridge.
New Church Theological School (Church of New Jerusalem).
Newton Theological Institution, Newton (Baptist).
St. John's Boston Ecclesiastical Seminary (Roman Catholic).
Boston Young Men's Christian Association Evening Law School.

Portia Law School.
Suffolk School of Law.
Massachusetts College of Pharmacy.

Boston is 232 miles from New York, 3,312 miles from San Francisco, and 1,576 miles from New Orleans.

BALTIMORE, MD.

Baltimore, a city of 583,000 inhabitants, is the seat of the following universities and colleges:

Goucher College, liberal arts (for women), under Methodist Episcopal control.
Johns Hopkins University (for men), nonsectarian:
- Faculty of Philosophy (undergraduate and graduate departments of arts and sciences).
- Faculty of Medicine.
- Department of Engineering.

Loyola College, liberal arts (for men), under Roman Catholic control.
Morgan College (colored), liberal arts (coeducational), under Methodist Episcopal control.
Mount St. Joseph's College, liberal arts (for men), under Roman Catholic control.
St. Mary's Seminary (Roman Catholic theological school).
Baltimore Law School.
University of Maryland Law School.
College of Physicians and Surgeons of Baltimore.
Maryland Medical College.
University of Maryland School of Medicine.
Baltimore College of Dental Surgery.
University of Maryland Dental Department.
Maryland College of Pharmacy of the University of Maryland.

Baltimore is 185 miles from New York, 3,076 miles from San Francisco, and 1,158 miles from New Orleans.

SAN FRANCISCO, CAL.

San Francisco, a city of 500,000 inhabitants and one of the chief ports of entry, is the principal educational center of the Pacific coast. In the city itself and its close vicinity are located:

Leland Stanford Junior University (coeducational), nonsectarian:
- Arts and Sciences—
  - Undergraduate.
  - Graduate.
- Department of Medicine.
- Law School.

St. Ignatius University (for men), under Roman Catholic control:
- College of Letters, Science, and Philosophy.
- College of Law.
- College of Engineering.

University of California (coeducational), under State control:
- College of Letters.
- College of Social Sciences.
- College of Natural Sciences.
- College of Commerce.

University of California (coeducational); under State control—Continued.
College of Agriculture.
College of Mechanics.
College of Mining.
College of Civil Engineering.
College of Chemistry.
College of Medicine (graduate department at Los Angeles).
College of Dentistry.
School of Architecture.
School of Education.
School of Jurisprudence.
Graduate School.
Hastings College of Law.
California College of Pharmacy.
Pacific Coast Baptist Theological Seminary.
Pacific Theological Seminary (undenominational).
Pacific Unitarian School for the Ministry.
San Francisco Law School.
College of Physicians and Surgeons:
Department of Dentistry.
Department of Pharmacy.
San Francisco Veterinary College.

San Francisco is 3,183 miles from New York and 2,477 miles from New Orleans.

NEW ORLEANS, LA.

New Orleans, the principal seaport of the Gulf States, a city of 400,000 inhabitants, contains the following collegiate institutions and universities:

Loyola University (for men), under Roman Catholic control:
College of Arts and Sciences.
College of Pharmacy.
New Orleans University (colored) (coeducational), under Methodist Episcopal control.
Tulane University of Louisiana (for men), nonsectarian:
College of Arts and Sciences.
College of Technology.
Graduate Department.
College of Medicine.
School of Pharmacy.
School of Dentistry.
School of Hygiene and Tropical Medicine.
Postgraduate School of Medicine.
Law Department.
H. Sophie Newcomb Memorial College (affiliated with Tulane University of Louisiana) (for women), nonsectarian:
School of Art.
School of Music.
School of Education.
Leland University, Theological Department (Baptist).
New Orleans College of Pharmacy.

New Orleans is 1,344 miles from New York and 2,477 miles from San Francisco.

WASHINGTON, D. C.

Besides being the capital of the country, and hence of peculiar interest to visitors from other nations, Washington, a city of 348,077 inhabitants; is also one of the leading educational centers. University and college education are furnished by:

American University, graduate school of arts and sciences (coeducational), under Methodist Episcopal control.
Catholic University of America (for men), under Roman Catholic control:
- School of Letters.
- School of Law.
- School of Philosophy.
- School of Sacred Sciences (Roman Catholic).
- School of Sciences.
- Graduate Departments.
- Teachers College (for women).

Trinity College (affiliated with the Catholic University of America), liberal arts (for women), under Roman Catholic control.
Gallaudet College (for the deaf), liberal arts and sciences (coeducational), under national control.
Georgetown University (for men), under Roman Catholic control:
- Georgetown College, arts and science.
- School of Medicine.
- Dental School.
- School of Law.
- Graduate School.

George Washington University (coeducational), nonsectarian:
- Columbian College, arts and science.
- School of Graduate Studies.
- College of Engineering.
- Teachers College.
- Law School.
- Medical School.
- Dental School.
- National College of Pharmacy.
- College of Veterinary Medicine.

Howard University (colored) (coeducational), under national control:
- School of Liberal Arts—
  - College of Arts and Sciences.
  - Teachers College.
- School of Manual Arts and Applied Sciences.
- Conservatory of Music.
- School of Theology (interdenominational).
- School of Medicine—
  - Medical College.
  - Dental College.
  - Pharmaceutic College.

St. John's College, arts and sciences (for men), under Roman Catholic control.
National University Law School.
Washington College of Law.
United States College of Veterinary Surgeons.

Washington is 225 miles from New York, 3,116 miles from San Francisco, and 1,118 miles from New Orleans.

CHAPTER IV.

NUMBER AND DISTRIBUTION OF FOREIGN STUDENTS AT AMERICAN UNIVERSITIES.

The extent to which citizens of foreign nations are taking advantage of the educational opportunities offered by the United States is not generally realized. Figures recently compiled at the Bureau of Education showing the number of foreign students enrolled at 275 American universities, colleges, and technological schools in the year 1913 not only reach the surprising total of 4,222, but indicate an increase of 577 over the number recorded in 274 of these same institutions in 1911. The size of this body of foreign students is brought more vividly to mind if one recalls that the total, 4,222, exceeds the total enrollment at any of the following great universities: Yale, Princeton, Ohio State, Minnesota, and Northwestern.

Several facts in connection with the distribution of these students among the various sections of the country and among the different departments of study are worthy of note. New York has the largest number found in any one State, 697. These are distributed among 19 institutions. Pennsylvania comes next with 506 students in 22 institutions. Massachusetts has 442 students in 15 institutions. The enrollment of foreign students in these 3 States is 1,645, or approximately 39 per cent of the total number. The only other State having an enrollment of more than 400 is Illinois, where 412 are recorded in 12 institutions. Then come Indiana and Michigan, the former with 303 foreign students in 12 institutions, the latter with 239 in 5 institutions. California, although closer than these other States to the oriental countries which send large numbers, shows but 191 students in 7 institutions. No foreign students are recorded in the States of Delaware, Oklahoma, Wyoming, and Idaho.

By far the largest group of foreign students is that enrolled in the undergraduate and graduate courses in arts and sciences. The total number is 1,700. This includes one class of professional students, those registered in schools of education, and those following special subjects in postgraduate courses with a view to teaching. The next largest number is to be found in courses in engineering, 801. Medicine follows with 339; 303 are registered in courses in dentistry, 275 in agriculture, and 256 in theology. The relatively new professional courses in commerce and business administration show an enrollment of 95 foreign students.

Perhaps the most unexpected fact revealed by this study is the universality of the appeal of American institutions of higher education. There are 51 different countries, not counting the dependencies of the United States—Hawaii, Philippine Islands, and Porto Rico—represented in this body of foreign students. Those sending

the largest contingents, together with the number of students credited to each, follow: Canada, 653; China, 594; Japan, 336; Mexico, 223; Great Britain and Ireland, 212; Cuba, 209; India, 162; Finland, 124; Germany, 122.

Every Latin-American country except French Guiana has representatives in this group of foreign students. The numbers range all the way from 2 in the case of Uruguay and Paraguay through 43 for Argentina, 113 for Brazil to the Mexican total of 223.

The figures cited above for Finland and Germany indicate also that there is a considerable company from the countries of western Europe, which have themselves well-developed systems of higher education. Every European country except Servia is represented in the total.

SECTION III.

CHAPTER I.

COLLEGE ENTRANCE REQUIREMENTS.

Admission to American colleges or the collegiate departments of universities is usually based upon the completion of a four-year secondary school course or its equivalent. Since there is considerable variation in the courses and standards of secondary schools, colleges have come by common consent to express their entrance requirements in terms of "units." The following definition of a "unit" is now generally accepted by both colleges and secondary schools throughout the country:

A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. A four-year secondary school curriculum should be regarded as representing not more than 16 units of work.

This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the four-year high-school course as a basis, and assumes that the length of the school year is from 36 to 40 weeks, that a period is from 40 to 60 minutes in length, and that the study is pursued for four or five periods a week; but under ordinary circumstances, a satisfactory year's work in any subject can not be accomplished in less than one hundred and twenty 60-minute hours or their equivalent. Schools organized on any other than a four-year basis can, nevertheless, estimate their work in terms of this unit.

From the foregoing definition it appears that the four-year high-school course normally consists of 16 units of work. The entrance requirements of most standard colleges call for the completion of from 14 to 16 units. Colleges which require less than 14 units for admission are not regarded as standard.

Two methods of admission are common. Throughout the West and Middle West, and to a certain extent in the East also, colleges admit by certificate. Under this plan a candidate for entrance must present a statement from the principal or head master of the school which he has attended, showing the amount and character of the work he has done. If the certificate indicates that the studies required for entrance by the college have been satisfactorily pursued, and if the standing of the school issuing the certificate is known and approved by the college authorities, the candidate is admitted without further formalities.

The other method of admission, in vogue in a number of the older institutions in the East, is by examination. In order to systematize both the entrance examinations and the courses offered by the secondary schools in preparation for them, some 30 institutions which

admit by this method, together with the principal associations of colleges and secondary schools, have formed an organization to conduct examinations, known as the College Entrance Examination Board. A student is admitted by any college which is a member of the board if he passes the examinations set by the board in the subjects required by the college for entrance. The standards maintained by the board are so high that a certificate showing that a candidate has passed its examinations is generally accepted for entrance by other institutions also. Nevertheless, a few institutions which admit by examination prefer to conduct their own examinations.

The statements of the entrance requirements of the 62 institutions described in Section VI indicate that there is a wide variation not only in the subjects required by different institutions, but also in the number of units prescribed and in the way in which these units are distributed. Whether a student enters on a secondary school certificate or on the certificate of the College Entrance Examination Board or takes the special examinations of the institution he means to attend, he must meet the specific requirements of that institution in the matter of subjects and units prescribed.

The examinations of the College Entrance Examination Board cover almost the whole range of subjects required or accepted for college entrance by the leading institutions of the country. Its definitions of the content of these subjects may therefore serve to show the scope of secondary education in the various branches. The essential parts of its latest circular are quoted in the following pages. By consulting it the foreign student who plans to enter an American college should be able to estimate whether his preliminary studies have fitted him for admission to the college of his choice.[1] Most institutions are willing to make certain concessions from the strict letter of the requirements to students from foreign countries who can demonstrate an equivalent preparation in subjects other than those prescribed.

COLLEGE ENTRANCE SUBJECTS AS DEFINED BY THE COLLEGE ENTRANCE EXAMINATION BOARD.

English	*1.*	Grammar and Composition.
	2.	Literature.[2]
	B.	Study and Practice.[3]
History	*A.*	Ancient History.
	B.	Medieval and Modern History.
	C.	English History.
	D.	American History and Civil Government.

[1] The board holds examinations in almost every State, at Oahu College, Honolulu, and at University College, Gower Street, W. C., London, England. A document showing places of examination will be sent on receipt of 10 cents by the Secretary, Post Office Substation 84, New York City.

[2] In connection with this examination a teacher's certificate is required. A blank form of the certificate may be obtained from the Secretary of the College Entrance Examination Board upon application.

[3] This examination will not be held after 1915.

Latin	*1.*	Grammar.
	2.	Elementary Prose Composition.
	3.	Second Year Latin.
	4.	Cicero (*Manilian Law* and *Archias*) and Sight Translation of Prose.
	5.	Virgil (*Æneid*, I, II, and IV or VI) and Sight Translation of Poetry.
	6.	Advanced Prose Composition.
	B.	Cæsar.[1]
	C.	Cicero.[1]
	D.	Virgil.[1]
	M.	Elementary Sight Translation of Prose.[1]
	P.	Advanced Sight Translation of Prose.
	Q.	Sight Translation of Poetry.
Greek	*A1.*	Grammar.
	A2.	Elementary Prose Composition.
	B.	Xenophon.
	C.	Homer (*Iliad*, I–III).
	F.	Prose Composition.
	G.	Sight Translation of Prose.
	CH.	Homer (*Iliad*, I–III) and Sight Translation of Homer.
French	*A.*	Elementary.
	B.	Intermediate.
	BC.	Intermediate and Advanced.
German	*A.*	Elementary.
	B.	Intermediate.
	BC.	Intermediate and Advanced.
Spanish		
Mathematics	*A.*	Elementary Algebra complete.
	A1.	Algebra to Quadratics.
	A2.	Quadratics and Beyond.
	B.	Advanced Algebra.
	C.	Plane Geometry.
	D.	Solid Geometry.
	E.	Trigonometry.
	F.	Plane Trigonometry.
Physics.[2]		
Chemistry.[2]		
Biology.[2]		
Botany.[2]		
Drawing.		
Geography.[2]		
Zoölogy.[2]		
Music	*A.*	Appreciation.[3]
	B.	Harmony.
	D.	Pianoforte.[4]
	E.	Voice.[4]
	F.	Violin.[4]

[1] After 1915 the board will discontinue the examinations in Latin *B*, Latin *C*, Latin *D*, and Latin *M*.

[2] In connection with this examination a teacher's certificate is required. A blank form of the certificate may be obtained from the Secretary of the College Entrance Examination Board upon application. Candidates wishing to submit laboratory notebooks, sets of drawings, etc., must forward them directly to the proper authorities of the university, college, or scientific school that they purpose entering. The College Entrance Examination Board does not receive notebooks, drawings, etc

[3] After 1915 the board will discontinue the examination in Music *A*.

[4] The same questions will be asked in Pianoforte, Voice, and Violin.

The following scale of values of admission requirements in terms of units has received the indorsement of the College Entrance Examination Board:

	Units.
English *1*	1½
2	1½
History *A*	1
B	1
C	1
D	1
Latin *1*[1]	1
2[1]	1
3[1]	2
4[1]	1
5[1]	1
6[1]	½
B	1
C	1
D	1
Greek *A1*	½
A2	½
B	1
C	1
CH	1
F	½
French *A*	2
B	1
C	1
German *A*	2
B	1
C	1
Spanish	2
Mathematics *A*	1½
A1	1
A2	½
B	½
C	1
D	½
E	½
F	½
Physics	1
Chemistry	1
Biology	1
Botany	1
Geography	1
Zoology	1
Drawing	1
Music *A*	1
B	1

Definition of Requirements.

ENGLISH.

The requirement in English is that recommended by the National Conference on Uniform Entrance Requirements in English.

REQUIREMENT FOR 1915–1919.

The study of English in school has two main objects: (1) Command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

GRAMMAR AND COMPOSITION.

One and one-half units.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge,

[1] As a tentative assignment of values, *1*, *2*, *4*, and *5* are counted as one unit each, *3* as two units, and *6* as one-half unit; but *3* has no assigned value unless offered alone, *1*, *2*, and *6* have no assigned values unless offered with *4* or *5*, and in no case is the total requirement to be counted as more than four units.

It is understood that this assignment of values will be reconsidered after the requirements have had a year or two of trial.

and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

LITERATURE.

One and One-half Units.

The second object is sought by means of two lists of books, headed, respectively, READING and STUDY, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

A. READING.

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

Group I—Classics in Translation.

The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther.

The *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII.

The *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI.

The *Æneid*.

The *Odyssey*, *Iliad*, and *Æneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

Group II—Shakespeare.

Midsummer Night's Dream.	*Richard II.*
Merchant of Venice.	*Richard III.*
As You Like It.	*Henry V.*
Twelfth Night.	*Coriolanus.*
The Tempest.	*Julius Cæsar.*[1]
Romeo and Juliet.	*Macbeth.*[1]
King John.	*Hamlet.*[1]

Group III—Prose Fiction.

Malory: *Morte d'Arthur* (about 100 pages).
Bunyan: *Pilgrim's Progress, Part I.*
Swift: *Gulliver's Travels* (voyages to Lilliput and to Brobdingnag).
Defoe: *Robinson Crusoe, Part I.*
Goldsmith: *Vicar of Wakefield.*
Frances Burney: *Evelina.*

[1] If not chosen for study under B.

Scott's Novels: any *one*.
Jane Austen's Novels: any *one*.
Maria Edgeworth: *Castle Rackrent*, or *The Absentee*.
Dicken's Novels: any *one*.
Thackeray's Novels: any *one*.
George Eliot's Novels: any *one*.
Mrs. Gaskell: *Cranford*.
Kingsley: *Westward Ho!* or *Hereward; the Wake*.
Reade: *The Cloister and the Hearth*.
Blackmore: *Lorna Doone*.
Hughes: *Tom Brown's Schooldays*.
Stevenson's *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae*.
Cooper's Novels: any *one*.
Poe: *Selected Tales*.
Hawthorne: *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*.
A collection of *Short Stories* by various standard writers.

Group IV—Essays, Biography, Etc.

Addison and Steele: *The Sir Roger de Coverley Papers*, or selections from the *Tatler* and *Spectator* (about 200 pages).
Boswell: Selections from the *Life of Johnson* (about 200 pages).
Franklin: *Autobiography*.
Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith*.
Southey: *Life of Nelson*.
Lamb: Selections from the *Essays of Elia* (about 100 pages).
Lockhart: Selections from the *Life of Scott* (about 200 pages).
Thackeray: Lectures on *Swift*, *Addison*, and *Steele* in the *English Humorists*.
Macaulay: Any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederick the Great*, *Madame d'Arblay*.
Trevelyan: Selections from the *Life of Macaulay* (about 200 pages).
Ruskin: *Sesame and Lilies*, or *Selections* (about 150 pages).
Dana: *Two Years Before the Mast*.
Lincoln: *Selections*, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg; the Last Public Address, the Letter to Horace Greeley; together with a brief memoir or estimate of Lincoln.
Parkman: *The Oregon Trail*.
Thoreau: *Walden*.
Lowell: *Selected Essays* (about 150 pages).
Holmes: *The Autocrat of the Breakfast Table*.
Stevenson: *An Inland Voyage* and *Travels with a Donkey*.
Huxley: *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*.
A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers.
A collection of *Letters* by various standard writers.

Group V—Poetry.

Palgrave's *Golden Treasury* (*First Series*): *Books II and III*, with special attention to Dryden, Collins, Gray, Cowper, and Burns.
Palgrave's *Golden Treasury* (*First Series*): *Book IV*, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B).
Goldsmith: *The Traveller* and *The Deserted Village*.
Pope: *The Rape of the Lock*.

A collection of English and Scottish *Ballads*, as, for example, some *Robin Hood* ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads.

Coleridge: *The Ancient Mariner*, *Christabel*, and *Kubla Khan*.

Byron: *Childe Harold*, *Canto III or IV*, and *The Prisoner of Chillon*.

Scott: *The Lady of the Lake*, or *Marmion*.

Macaulay: *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*.

Tennyson: *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*.

Browning: *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, "*De Gustibus*"—*Instans Tyrannus*.

Arnold: *Sohrab and Rustum*, and *The Forsaken Merman*.

Selections from *American Poetry*, with special attention to Poe, Lowell, Longfellow, and Whittier.

B. STUDY.

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

Group I—Drama.

Shakespeare: *Julius Cæsar*, or *Macbeth*, or *Hamlet*.

Group II—Poetry.

Milton: *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*.

Tennyson: *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*.

The selections from Wordsworth, Keats, and Shelley in *Book IV* of Palgrave's *Golden Treasury* (*First Series*).

Group III—Oratory.

Burke: *Speech on Conciliation with America*.

Macaulay's two *Speeches on Copyright*, and Lincoln's *Speech at Cooper Union*.

Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*.

Group IV—Essays.

Carlyle: *Essay on Burns*, with a selection from Burns's *Poems*.

Macaulay: *Life of Johnson*.

Emerson: *Essay on Manners*.

EXAMINATION.

However accurate in subject matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts:

I. GRAMMAR AND COMPOSITION.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from

the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

2. LITERATURE.

The examination in literature will include:

A. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined above under *A*. READING. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but the books named in this list will not be made the basis of detailed questions.[1]

B. A test on the books prescribed under *B*. STUDY above, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

SEPARATE EXAMINATION IN ENGLISH B IN 1915.

This examination will include composition and those books comprised in the list headed STUDY. The test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books prescribed for study, from the candidate's other studies, and from his personal knowledge and experiences quite apart from reading. For this purpose the examiner will provide several subjects, perhaps five or six, from which the candidate may make his own selections. The test on the books prescribed for study will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

HISTORY.

The requirements in history are based on the recommendations of the committee of seven of the American Historical Association.

A. **Ancient History**, with special reference to Greek and Roman history, and including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814). One unit.

B. **Medieval and Modern European History**, from the death of Charlemagne to the present time. One unit.

C. **English History**. One unit.

D. **American History and Civil Government**. One unit.

The examinations in history will be framed so as to require the use of both judgment and memory on the pupil's part. They will presuppose the use of good textbooks, collateral reading, and practice in written work. Geographical knowledge will be tested by requiring the location of places and movements on an outline map.

The report of the committee of seven, which appeared in the Proceedings of the American Historical Association for 1898, was published separately under the title

[1] A suitable blank form of certificate may be obtained from the secretary of the College Entrance Examination Board upon application.

"Study of History in Schools" by The Macmillan Company in 1899. It was incorporated in the report made to the National Education Association in 1899 by the Committee on College Entrance Requirements.

The attention of teachers is called also to the report of the committee of five of the American Historical Society, "The Study of History in Secondary Schools" (New York, The Macmillan Company, 1911). The examiners of the board will endeavor to frame the examination papers on the four fields of work defined above in accordance with the recommendations of this committee.

LATIN—NEW REQUIREMENTS.

The following requirements in Latin are in accordance with the recommendations made to the American Philological Association by the Commission on College Entrance Requirements in Latin, October, 1909:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

(1) The Latin reading, without regard to the prescription of particular authors and works, shall be not less *in amount* than Cæsar, Gallic War, I–IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Æneid, I–VI.

(2) The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Æneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SCOPE OF THE EXAMINATIONS.

(1) *Translation at Sight.*—Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

(2) *Prescribed Reading.*—Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, Æneid, I, II, and either IV or VI, at the option of the candidate, with questions on subject matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

(3) *Grammar and Composition.*—The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

SUGGESTIONS CONCERNING PREPARATION.

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded, and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination can not test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin,

therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practiced.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

SUBJECTS FOR EXAMINATION.

As a tentative assignment of values, 1, 2, 4, and 5 are counted as one unit each, 3 as two units, and 6 as one-half unit; but 3 has no assigned value unless offered alone, 1, 2, and 6 have no assigned values unless offered with 4 or 5, and in no case is the total requirement to be counted as more than four units.

It is understood that this assignment of values will be reconsidered after the requirements have had a year or two of trial.

1. **Grammar.** The examination will presuppose the reading of the required amount of prose (see I, 1 and 2), including the prose works prescribed (see II, 2).
2. **Elementary Prose Composition.** The examination will presuppose the reading of the required amount of prose (see I, 1 and 2), including the prose works prescribed (see II, 2).
3. **Second Year Latin.** This examination is offered primarily for candidates intending to enter colleges which require only two years of Latin or accept so much as a complete preparatory course. It will presuppose reading not less in amount than Cæsar, *Gallic War*, I–IV, selected by the schools from Cæsar (*Gallic War* and *Civil War*) and Nepos (*Lives*); but the passages set will be chosen with a view to sight translation. The paper will include easy grammatical questions and some simple composition.
4. **Cicero** (orations for the Manilian Law and for Archias) and **Sight Translation of Prose.** The examination will presuppose the reading of the required amount of prose (see I, 1 and 2).
5. **Vergil** (*Æneid*, I, II, and either IV or VI, at the option of the candidate) and **Sight Translation of Poetry.** The examination will presuppose the reading of the required amount of poetry (see I, 1 and 2).
6. **Advanced Prose Composition.**

LATIN—OLD REQUIREMENTS.[1]

The recommendations of the Committee of Twelve of the American Philological Association were included in the report of the committee of the National Education Association on college entrance requirements. Some of the examinations in Latin formerly held by the board are now superseded by examinations described on the preceding page.

B. **Cæsar:**[1] Any four books of the *Gallic War*, preferably the first four. One unit.

C. **Cicero:**[1] Any six orations from the following list, but preferably the first six mentioned.

The four orations against Catiline, Archias, the Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the fourteenth Philippic. One unit.

D. **Vergil**[1]**—***Æneid*, I–VI: The first six books of the *Æneid*, and so much prosody as relates to accent, versification in general, and dactylic hexameter. One unit.

M. **Elementary Sight Translation of Prose**[1] of no greater difficulty than the easier portions of Cicero's orations.

P. **Advanced Sight Translation of Prose** of no greater difficulty than ordinary passages from Cicero's orations.

Q. **Sight Translation of Poetry** of no greater difficulty than Vergil's *Æneid*.

[1] After 1915 the College Entrance Examination Board will discontinue the examinations in Latin *B*, Latin *C*, Latin *D*, and Latin *M*.

GREEK.

The following requirements in Greek conform as closely as possible to the recommendations of the Committee of Twelve of the American Philological Association.

A1. **Grammar:** The inflections; the simpler rules for composition and derivation of words; syntax of cases and the verbs; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive.[1] One-half unit.

A2. **Elementary Prose Composition,** consisting principally of detached sentences to test the candidate's knowledge of grammatical constructions.[2] One-half unit.

The examination in grammar and prose composition will be based on the first two books of Xenophon's *Anabasis*.

B. **Xenophon:** The first four books of the *Anabasis*. One unit.

C. **Homer**—*Iliad*, I-III: The first three books of the *Iliad* (omitting II, 494–end), and the Homeric constructions, form, and prosody. One unit.

F. **Prose Composition,** consisting of continuous prose based on Xenophon and other Attic prose of similar difficulty. One-half unit.

G. **Sight Translation of Prose** of no greater difficulty than Xenophon's *Anabasis*.

CH. **Homer**—*Iliad*, I-III, and **Sight Translation of Homer**. One unit.

FRENCH.

The requirements in French follow the recommendations of the Committee of Twelve of the Modern Language Association of America.[2]

A. ELEMENTARY FRENCH.

Two units.

THE AIM OF THE INSTRUCTION.

At the end of the elementary course the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of every-day life or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

THE WORK TO BE DONE.

During the first year the work should comprise:

1. Careful drill in pronunciation.
2. The rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax.
3. Abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression.
4. The reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English) and in reproducing from memory sentences previously read.
5. Writing French from dictation.

Suitable texts for the first year are: A well graded reader for beginners; Bruno, *Le tour de la France;* Compayré, *Yvan Gall;* Laboulaye, *Contes bleus;* Malot, *Sans famille.*

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[1] Some colleges consider Greek *A1* and Greek *A2* as together constituting a single indivisible subject.

[2] The Report of the Committee of Twelve, which was submitted in December, 1898, may be obtained in separate book form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Entrance Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

During the second year the work should comprise:

1. The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches.
2. Constant practice, as in the previous year, in translating into French easy variations upon the texts read.
3. Frequent abstracts, sometimes oral and sometimes written, of portions of the text already read.
4. Writing French from dictation.
5. Continued drill upon the rudiments of grammar, with constant application in the construction of sentences.
6. Mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Suitable texts for the second year are: Daudet, *Le Petit Chose;* Erckmann-Chatrian, stories; Halévy, *L'Abbé Constantin;* Labiche et Martin, *Le voyage de M Perrichon;* Lavisse, *Histoire de France.*

B. INTERMEDIATE FRENCH.

One unit.

THE AIM OF THE INSTRUCTION.

At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

THE WORK TO BE DONE.

This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts for the third year are: Bazin, *Les Oberlé;* Dumas, novels; Mérimée, *Colomba;* Sandeau, *Mlle. de la Seiglière;* Tocqueville, *Voyage en Amérique.*

C. ADVANCED FRENCH.[1]

One unit.

THE AIM OF THE INSTRUCTION.

At the end of the advanced course the pupil should be able to read at sight, with the help of a vocabulary of special or technical expressions, difficult French not earlier than that of the seventeenth century; to write in French a short essay on some simple subject connected with the works read; to put into French a passage of easy English prose; and to carry on a simple conversation in French.

THE WORK TO BE DONE.

This should comprise the reading of from 600 to 1,000 pages of standard French, classical and modern, only difficult passages being explained in the class; the writing of numerous short themes in French; the study of syntax.

Suitable texts for the fourth year are: Dumas fils, *La question d'argent;* Hugo, *Quatre-vingt treize* or *Les misérables;* Loti, *Pêcheur d'Islande;* Taine, *L'Ancien régime;* Vigny, *Cinq-Mars;* an anthology of verse.

BC. INTERMEDIATE FRENCH AND ADVANCED FRENCH.

Two units.

[1] The board does not hold a separate examination in advanced French. In place of it an examination is held covering the intermediate and advanced requirements in combination as a single subject.

GERMAN.

The requirements in German follow the recommendations of the Committee of Twelve of the Modern Language Association of America.[1]

A. ELEMENTARY GERMAN.

Two units.

THE AIM OF THE INSTRUCTION.

At the end of the elementary course in German the pupil should be able to read at sight, and to translate, if called upon, by way of proving ability to read, a passage of very easy dialogue or narrative prose, help being given upon unusual words and construction, to put into German short English sentences taken from the language of everyday life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

THE WORK TO BE DONE.

During the first year the work should comprise:

1. Careful drill upon pronunciation.
2. The memorizing and frequent repetition of easy colloquial sentences.
3. Drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of everyday life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word order.
4. Abundant easy exercises designed not only to fix in mind the forms and principles of grammer, but also to cultivate readiness in the reproduction of natural forms of expression.
5. The reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

Suitable texts for the first year[2] are: After one of the many readers especially prepared for beginners, Meissner's *Aus meiner Welt;* Blüthgen's *Das Peterle von Nürnberg;* Storm's *Immensee*, or any of Baumbach's short stories.

During the second year the work should comprise:

1. The reading of from 150 to 200 pages of literature in the form of easy stories and plays.
2. Accompanying practice, as before, in the translation into German of easy variations upon the matter read and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages.
3. Continued drill upon the rudiments of the grammar, directed to the ends of enabling the pupil, first, to use his or her knowledge with facility in the formation of sentences, and, secondly, to state his or her knowledge correctly in the technical language of grammar.

Suitable texts for the second year[2] are: Gerstacker's *Germelshausen;* Eichendorff's *Aus dem Leben eines Taugenichts;* Wildenbruch's *Das edle Blut;* Jensen's *Die braune Erica;* Seidel's *Leberecht Hühnchen;* Fulda's *Unter vier Augen;* Benedic's *Lustpiele* (any one). For students preparing for a scientific school a scientific reader is recommended.

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[1] The Report of the Committee of Twelve, which was submitted in December, 1898, may be obtained in separate book form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Entrance Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

[2] During each year at least six German poems should be committed to memory.

B. INTERMEDIATE GERMAN.

One unit.

THE AIM OF THE INSTRUCTION.

At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word formation, and to translate and explain (so far as explanation may be necessary) a passage of classical literature taken from some text previously studied.

THE WORK TO BE DONE.

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word order and word formation.

Suitable texts for the third year [1] are: Heyse's, Riehl's, Keller's, Storm's, Meyer's, Ebner-Eschenbach's, W. Raabe's *Novellen* or *Erzählungen;* Schiller's *Wilhelm Tell;* Freytag's *Die Journalisten;* Heine's *Harzreise.*

C. ADVANCED GERMAN.[2]

One unit.

THE AIM OF THE INSTRUCTION.

At the end of the advanced course the student should be able to read, after brief inspection, any German literature of the last 150 years that is free from any unusual textual difficulties, to put into German a passage of simple English prose, to answer in German questions relating to the lives and works of great writers studied, and to write in German a short independent theme upon some assigned topic.

THE WORK TO BE DONE.

The work of the advanced course should comprise the reading of about 500 pages of good literature in prose and poetry, reference readings upon the lives and works of the great writers studied, the writing in German of numerous short themes upon assigned subjects, independent translation of English into German.

Suitable texts for the fourth year [1] are: Goethe's, Schiller's, Lessing's works and lives.

BC. INTERMEDIATE GERMAN AND ADVANCED GERMAN.

Two units.

SPANISH.

Two units.

The requirement in Spanish which follows the form and spirit of the recommendations made for French and German by the Committee of Twelve of the Modern Language Association, is based upon recommendations made by a committee of that association in December, 1910.

THE AIM OF THE INSTRUCTION.

At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English

[1] At least six German poems should be committed to memory.
[2] The board does not hold a separate examination in Advanced German. In place of it an examination is held covering the intermediate and advanced requirements in combination as a single subject.

sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as indicated below.

THE WORK TO BE DONE.

During the first year the work should comprise:

1. Careful drill in pronunciation.
2. The rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax.
3. Exercises containing illustrations of the principles of grammar.
4. The careful reading and accurate rendering into good English of about 100 pages of easy prose and verse, with translation into Spanish of easy variations of the sentences read.
5. Writing Spanish from dictation.

During the second year the work should comprise:

1. The reading of about 200 pages of prose and verse.
2. Practice in translating Spanish into English, and English variations of the text into Spanish.
3. Continued study of the elements of grammar and syntax.
4. Mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses.
5. Writing Spanish from dictation.
6. Memorizing of easy short poems.

The emphasis should be placed on careful thorough work with much repetition rather than upon rapid reading. The reading should be selected from the following: A collection of easy short stories and lyrics, carefully graded; Juan Valera, *El pájaro verde;* Perez Escrich, *Fortuna;* Ramos Carrión and Vital Aza, *Zaragüeta;* Palacio Valdés, *José;* Pedro de Alarcón, *El Capitán Veneno;* the selected short stories of Pedro de Alarcón or Antonio de Trueba.

Every secondary school in which Spanish is taught should have in its library several Spanish-English and English-Spanish dictionaries, the all-Spanish dictionary of the Royal Spanish Academy; one or more manuals of the history of Spanish literature, such as that by Fitzmaurice-Kelly, and Ticknor's *History of Spanish Literature.*

MATHEMATICS.

The present definition of the requirements in mathematics is in accordance with recommendations made in September, 1903, by a committee of the American Mathematical Society.[1]

(A.) ELEMENTARY ALGEBRA.

One and one-half units.

The four fundamental operations for rational algebraic expressions.

Factoring, determination of highest common factor and lowest common multiple by factoring.

Fractions, including complex fractions, and ratio and proportion.

Linear equations, both numerical and literal, containing one or more unknown quantities.

Problems depending on linear equations.

Radicals, including the extraction of the square root of polynomials and of numbers.

Exponents, including the fractional and negative.

Quadratic equations, both numerical and literal.

Simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations.

[1] The report of the committee of the American Mathematical Society on entrance requirements in mathematics was published in the *Bulletin of the American Mathematical Society* for November, 1903, Vol. IX, No. 2.

Problems depending on quadratic equations.
The binomial theorem for positive integral exponents.
The formulas for the nth term and the sum of the terms of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

(A1.) ALGEBRA TO QUADRATICS.

One unit.

The first seven topics described under Elementary Algebra.

(A2.) QUADRATICS AND BEYOND.

One-half unit.

The last five topics described above under Elementary Algebra.

(B.) ADVANCED ALGEBRA.

One-half unit.

Permutations and combinations, limited to simple cases.
Complex numbers, with graphical representation of sums and differences.
Determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations.
Numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots.

(C.) PLANE GEOMETRY.

One unit.

The usual theorems and constructions of good textbooks,[1] including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle.
The solution of numerous original exercises, including loci problems.
Applications to the mensuration of lines and plane surfaces.

(D.) SOLID GEOMETRY.

One-half unit.

The usual theorems and constructions of good textbooks,[1] including the relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle.
The solution of numerous original exercises, including loci problems.
Applications to the mensuration of surfaces and solids.

[1] The board's examination questions in plane and solid geometry will be limited to propositions contained in the syllabus prepared by the national committee of fifteen appointed by the American Federation of Teachers of the Mathematical and Natural Sciences and the National Education Association. The report of the committee was published in *The Mathematics Teacher* for December, 1912. Reprints of the report may be obtained *gratis* upon application to the Commissioner of Education, Department of the Interior, Washington, D. C.

(E) TRIGONOMETRY.

One-half unit.

Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles.

Proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas.

Solution of trigonometric equations of a simple character.

Theory and use of logarithms (without the introduction of work involving infinite series).

The solution of right and oblique triangles and practical applications, including the solution of right spherical triangles.

(F) PLANE TRIGONOMETRY.

One-half unit.

This subject is the same as the preceding except that no topics from spherical trigonometry are included.

PHYSICS.

One unit.

The present definition of the requirement in physics was framed by a commission appointed for the purpose by the College Entrance Examination Board in cooperation with other associations.[1]

GENERAL STATEMENT.

1. The course of instruction in physics should include:

(*a*) The study of one standard textbook, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature.

(*b*) Instruction by lecture table demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications.

(*c*) Individual laboratory work consisting of experiments requiring at least the time of 30 double periods, two hours in the laboratory to be counted as equivalent to one hour of classroom work. The experiments performed by each student should number at least 30. Those named in the appended list are suggested as suitable. The work should be so distributed as to give a wide range of observation and practice.

The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustrations of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units.

Slovenly work should not be tolerated, but the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

2. Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

3. In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution. Unnecessary mathematical difficulties should be avoided and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

[1] The commission and its work are described in the ninth annual report of the secretary of the College Entrance Examination Board, pp. 4-12.

SYLLABUS.

The following is a list of topics which are deemed fundamental and which should therefore be included in every well planned course of elementary physics. Only a few of the most important applications of these topics have been mentioned; teachers should add liberally to them. It is expected that the teacher will arrange these topics in such order as will suit his individual needs.

I. INTRODUCTION:

a. Metric system.
Linear measure, units—meter, centimeter, millimeter.
Square measure—square centimeter.
Cubic measure—cubic centimeter, liter.
Mass—kilogram, gram.
b. Volume, weight, density.
c. States of matter: Solids, liquids, gases.

II. MECHANICS:

Fluids—

a. Pascal's law of fluid pressure. The hydraulic press.
b. Pressure due to gravity.
Pressure varying with depth and density of the liquid.
Total pressure on the bottom of a vessel.
c. Principle of Archimedes.
d. Specific gravity of solids and liquids.
e. Gases—relation between pressure and volume.
f. Atmosphere pressure, buoyancy, the barometer, pumps for liquids and gases.

Solids—

a. Principle of moments.
Parallelogram of forces (Resolution of forces, rectangular only).
b. Newton's laws of motion.
Force, momentum, velocity, acceleration.
Uniformly accelerated motion, when initial or final velocity is zero.
Falling bodies.
c. Mechanical work.
Energy—potential and kinetic.
Conservation of energy.
d. Machines: Principle of work applied to machines, mechanical advantage, friction, efficiency. (Use terms, effort, and resistance.)
Lever, wheel and axle, pulleys, inclined plane.
e. Uniform circular motion; centrifugal and centripetal forces qualitatively illustrated.
f. Law of universal gravitation.
Relation of weight to mass.
Center of gravity.
Stability.

III HEAT:

a. Heat—a form of energy.
Temperature, Centigrade and Fahrenheit scales.
b. Conduction, convection, and radiation.
c. Expansion of solids, coefficient of linear expansion.
Expansion of liquids, anomalous expansion of water.
Expansion of gases, law of Charles, absolute zero.
d. Change of state.
Fusion, the melting point.
Vaporization, boiling, evaporation.

III HEAT—Continued.
e. Measurement of heat, latent and specific heat.
f. Mechanical equivalent of heat.
IV SOUND:
a. Nature and origin of sound.
b. Pitch, loudness, quality.
c. Velocity.
d. Reflection of sound, echoes.
e. Resonance.
V LIGHT:
a. Definitions:
Light, luminous bodies, illuminated bodies, transparent, translucent, and opaque bodies.
b. Rectilinear propagation of light in a homogeneous medium, shadows, pin-hole camera.
c. Photometry.
Intensity of light (source) and intensity of illumination distinguished.
Law of inverse squares.
d. Reflection.
Law of reflection. Regular and diffused reflection.
Plane and spherical mirrors, position and character of images.
e. Refraction.
Laws of refraction (qualitative).
Refraction by plates, prisms, and lenses.
Lenses: Converging and diverging, conjugate foci, principal focus, principal axis.
Position and character of real and virtual images formed by converging lenses.
Dispersion, color and the spectrum.
Applications: The camera, the human eye, the compound microscope, the telescope.
VI MAGNETISM:
a. Magnets, permanent and temporary.
b. Polarity, magnetic attraction and repulsion.
c. Magnetic induction, magnetic field and lines of force, permeability.
d. The earth as a magnet, compass; declination, dip.
VII STATIC ELECTRICITY:
a. Electrification by friction; two kinds.
b. Electrical attraction and repulsion; electroscopes.
c. Conductors and insulators; electrification by induction.
d. Condensers.
VIII CURRENT ELECTRICITY:
a. Simple voltaic cell.
Electrochemical action.
Local action and polarization; prevention of polarization.
b. Types of cells (Daniel, Leclanché).
c. Electrolysis.
The ampère.
Electrolysis of water, electrodeposition of metals.
Storage cell.
d. Electromagnetism.
Magnetic field around a current.
Relation between direction of current and lines of magnetic force.
Electromagnets, ampère turns (qualitative).
The electric bell and the telegraph.

VIII CURRENT ELECTRICITY—Coutinued.

e. Resistance.
The ohm.
Ohm's law.
The volt.
Power—the watt and the watt hour.

f. Heating effects.
Fuse wire and electric heater.
Arc and incandescent lamps.

g. Measuring instruments: Galvanometer, ammeter, voltmeter, resistance box.

h. Series and parallel connection of cells, lamps, etc.

i. Fall of potential in a circuit.

j. Electromagnetic induction.
Direction and magnitude of the induced electromotive force.
Simple two-pole dynamo and motor.
Simple alternating and direct current generator.
Transformer, induction coil, telephone.

LIST OF EXPERIMENTS.

MECHANICS:

1. Weight of unit volume of a substance, prism or cylinder.
2. Principle of Archimedes.
3. Specific gravity of a solid body that will sink in water.
4. Specific gravity of a liquid, two methods (bottle and displacement methods); or,
5. Specific gravity of a liquid by balancing columns.
6. Boyle's law.
7. Density of air.
8. Hooke's law.
9. Strength of material.
10. The straight lever, principle of moments.
11. Center of gravity and weight of a lever.
12. Parallelogram of forces.
13. Four forces at right angles in one plane.
14. Coefficient of friction between solid bodies—on a level and by sliding on an incline.
15. Efficiency test of some elementary machine, either pulley, inclined plane, or wheel and axle.
16. Laws of the pendulum.
17. Laws of accelerated motion.

HEAT:

18. The mercury thermometer—relation between pressure of steam and its temperature.
19. Linear expansion of a solid.
20. Increase of pressure of a gas heated at constant volume; or,
21. Increase of volume of a gas heated at constant pressure.
22. Heat of fusion of ice.
23. Cooling curve through change of state (during solidification).
24. Heat of vaporization of water.
25. Determination of the dew point.
26. Specific heat of a solid.

SOUND:

27. Velocity of sound.
28. Wave length of sound.
29. Number of vibrations of a tuning fork.

LIGHT:

30. Use of photometer.
31. Images in a plane mirror.
32. Images formed by a convex mirror.
33. Images formed by a concave mirror.
34. Index of refraction of glass;
    or,
35. Index of refraction of water.
36. Focal length and conjugate foci of a converging lens.
37. Shape and size of a real image formed by a lens.
38. Magnifying power of a lens.
39. Construction of model of telescope or compound microscope.

MAGNETISM AND ELECTRICITY:

40. Study of magnetic field.
41. Magnetic induction.
42. Study of a single fluid voltaic cell.
43. Study of a two-fluid voltaic cell.
44. Magnetic effect on an electric current.
45. Electrolysis.
46. Laws of electrical resistance of wires—various lengths, cross-section, and in parallel.
47. Resistance measured by volt-ammeter method.
48. Resistance measured by Wheatstone's bridge.
49. Battery resistance—combination of cells.
50. Study of induced currents.
51. Power or efficiency test of a small electric motor.

LABORATORY NOTEBOOK.

While the College Entrance Examination Board does not require the submission of the candidate's laboratory notebook as part of the examination in physics, it requires the submission of a teacher's certificate descriptive of the candidate's work. The notebook should be forwarded directly to the proper authorities of the college or scientific school that the candidate purposes entering.

TEACHER'S LABORATORY CERTIFICATE.

In lieu of the presentation of the laboratory notebook, the candidate must submit to the College Entrance Examination Board a certificate in the following form:

(*School*)

.....

(*Post-office address of school*)

.....

(*Date*)

(*College or scientific school that candidate purposes entering*) .....

.....

I certify that during the academic years.....

(*Name in full*)

.....

has personally performed and properly recorded in a suitable notebook ..... experiments in the physical laboratory of ..... School.

The time given to laboratory work has been ..... periods of ..... minutes each, equivalent to ..... periods of 60 minutes each.

The time given to lectures and recitations has been ..... periods of ..... minutes each, equivalent to ..... periods of 60 minutes each.

Half the number of hours given to laboratory work plus the full number of hours given to lectures and recitations is equal to ..... hours.[1]

(*Signed*).....

Teacher of Physics.

The teacher may here enter the final grade of ..... per cent.

[1] To meet the board's requirement the number of hours here entered must be at least 120.

CHEMISTRY.

One unit.

The requirement in chemistry was framed by a representative commission, the appointment of which was authorized by the College Entrance Examination Board in April, 1911. The report of the commission was adopted by the board in April, 1913.[1]

The following requirement has been planned so as to make it equally suitable for the instruction of the student preparing for college and for the student not going beyond the secondary school. To this end the requirement is divided into two parts.

Part I contains a minimum list of essential topics. In the examination papers there will be no optional questions on this part, and these questions will count 60 per cent.

Part II is supplementary, and provides for a more extended program along three main lines, namely,

A. Descriptive chemistry.

B. Chemical principles or theories.

C. Applications of chemistry in the household or in the arts.

This part of the examination paper offers a choice of questions and will count 40 per cent. In his answers the candidate must confine himself to two out of three groups of questions.

The teacher may thus devote the time to any two of the three groups indicated, and so adapt his course to local conditions or personal preference. It should be clearly recognized that thoroughness in teaching must not be sacrificed to an attempt to cover the topics named in all three of the groups.

It is required that the candidate's preparation in chemistry should include:

(1) Individual laboratory work, comprising at least 40 exercises selected from a list of 60 or more, not very different from the list below.

(2) Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

(3) The study of at least one standard textbook, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

PART I. MINIMUM LIST OF ESSENTIALS.

The following outline includes such representative topics as should be studied in the classroom and laboratory. The material is, for the most part, common to all elementary textbooks and laboratory manuals. For convenience of statement the topics are classified without reference to the proper order for presentation. The actual order will be determined by that employed in the textbook or by the individual teacher himself.

The preparation, properties, and uses of the following elements: Hydrogen, oxygen, atmospheric nitrogen, chlorine; the properties and uses of carbon (including allotropic forms), sulphur, sodium, zinc, iron, copper, and gold. In the case of the metals mentioned, the action of air, of water, and of dilute acids should be discussed.

The preparation (one method), properties, and uses of the following compounds: Hydrochloric acid, sodium chloride, silver chloride; sulphur dioxide, sulphuric acid (preparation by the contact process), hydrogen sulphide; calcium phosphate; carbon dioxide, including its relation to vital processes; carbon monoxide; calcium carbonate, calcium oxide, calcium hydroxide; ammonia, ammonium hydroxide; nitric acid (including action on copper), nitric oxide; sodium nitrate, potassium nitrate; the properties and uses only of sodium carbonate and sodium acid carbonate.

The preparation, properties, and uses of a few common organic substances, namely, petroleum products, ethyl alcohol, acetic acid, glucose, cane sugar, and starch.

[1] An account of the commission and its work will be found in the thirteenth annual report of the secretary of the College Entrance Examination Board, pp. 6-17.

The properties of the elements and compounds studied should be those which serve for recognition, or those which are related to some important use. The uses considered should be those of household or industrial importance.

A detailed study of air, including the nitrogen, oxygen, carbon dioxide, and water vapor; water and its properties; impure water and its relation to health, its treatment by boiling, distillation, and filtration.

Simple types of chemical action—direct combination, decomposition, displacement of an element in a compound by another element, double decomposition; radicles as units in chemical action; order of activity of the common metallic elements; acids, bases, neutralization, and salts; the identification of a few substances by means of characteristic properties and reactions; quantitative character of chemical action as illustrated by one or two experiments.

The laws of Boyle and Charles, quantitatively, with simple problems in each separately; instances and statement of the laws of conservation of mass, conservation of energy, and definite proportions; illustration of the law of multiple proportions; reacting weights of elements; elementary statement of the atomic theory and its relation to the law of definite proportions; significance and use of atomic weights.

Valence in an elementary way; nomenclature as illustrated by simple inorganic compounds; use of formulæ in constructing and balancing equations; simple exercises in chemical arithmetic, the atomic weights, and the formulæ of the compounds involved being given, calculation of (*a*) percentage composition, (*b*) weights of substances concerned in chemical reactions, (*c*) the volume of a gas resulting from a chemical reaction (the weight of a liter of the gas under the conditions of the experiment being given).

Energy change as characteristic of chemical action; combustion (in an elementary way); effect of concentration as illustrated by combustion in air and in oxygen; flame; oxidation by oxygen and reduction by hydrogen and by carbon; catalysis, as illustrated by one or two simple examples of contact action; solution, saturated solution, degrees of solubility; separation of solids from solution, precipitation including crystallization (not crystallography); electrolysis, as illustrated by one or two cases.

Chemical terms should be defined and explained; and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but should be taught only so far as is necessary for the correlation and explanation of the experimental facts.

It should be the aim of the teacher to emphasize, as opportunity offers, the essential importance of chemistry to modern civilization.

PART II. SUPPLEMENTARY REQUIREMENT.

A. Descriptive: The chief physical and chemical characteristics, the preparation and the recognition of the following *elements:* oxygen (ozone), hydrogen, carbon, nitrogen, chlorine, bromine, iodine, sulphur, phosphorus, sodium, aluminium, zinc, iron, lead, and copper.

The chief physical and chemical characteristics, the preparation and the recognition of some important *compounds*, namely, the compounds mentioned in Part I, and also the following substances: Hydrogen peroxide; nitrous oxide; nitrogen peroxide; hypochlorous acid and one salt; sulphurous acid and sodium sulphite; the sulphate and the chloride of calcium; aluminium sulphate and alum; the sulphate and the chloride of zinc; ferrous sulphate, ferrous chloride, ferric chloride, ferric oxide and ferric hydroxide; the acetate and the carbonates of lead; litharge and red lead; cupric sulphate; the chlorides of mercury (preparation not required); silver nitrate.

In the case of the elements and compounds listed in both Part I and Part II, a more extended study is expected to be made for Part II.

B. Principles: Natural grouping of the elements; solvents and solubility of gases, liquids and solids, saturation; correction of gas volumes; law of multiple proportions; the atomic theory as a means of interpreting the fundamental chemical laws; two cases illustrating Gay Lussac's law of combining volumes; Avogadro's hypothesis, derivation of the hydrogen molecule as H_2, proportionality between weights of like volumes of gases and molecular weights; simpler aspects of the theory of electrolytic dissociation in so far as necessary to explain electrolysis, neutralization and reactions to litmus paper of copper sulphate and sodium carbonate solutions; reversibility of chemical actions.

C. Applications: In the treatment of all the above topics, due consideration should be given to the more familiar industrial and household applications of the substances involved. In addition, the following topics may be considered in some detail: treatment of waters for laundry and industrial purposes; soaps and washing powders; common fuels; operation of household stoves and furnaces; general classes of foods; simpler metallurgy of iron and steel; electrolysis as applied to electroplating and the refining of metals; the simple chemistry of the internal combustion engine.

The examination questions will be confined to the above topics, but it must be understood that the College Entrance Examination Board does not suggest that the instruction be thus limited. In case the number of assigned periods is above the average, the teacher may include a larger amount of descriptive and theoretical chemistry, or interesting applications of chemistry to subjects like the removal of grease, rust, ink, and mildew stains; glass; cement; typical alloys; metallurgy of zinc and aluminium; important fertilizers; photography; organic compounds like wood alcohol, ether, chloroform, carbon tetrachloride, carbon disulphide, and explosives.

LIST OF SUGGESTED EXPERIMENTS IN CHEMISTRY.[1]

1. Heating of substances in air.
2. Weight change on heating a metal in air.
3. Products obtained by heating "red precipitate."
4. Preparation and properties of oxygen.
5. Weight of a liter of oxygen.
6. Interaction of metals and acids.
7. Preparation and properties of hydrogen.
8. Reduction of copper oxide.
9. Equivalent weight of zinc (or magnesium) by displacing hydrogen.
10. Distillation of water.
11. Solvent power of water.
12. Water of crystallization.
13. Determination of water of crystallization.
14. Preparation and properties of chlorine.
15. Preparation and properties of hydrogen chloride.
16. Action of sodium on water, and recognition of products formed.
17. Neutralization of sodium hydroxide with hydrochloric acid.
18. Determination of concentration of hydrochloric acid by titration.
19. Combining weights of zinc and chlorine (or of zinc and oxygen).
20. Flame tests.
21. Tests for three common acids.
22. Preparation of soluble salts.
23. Preparation of insoluble salts.
24. Boiling points of solutions.
25. Freezing points of solutions.
26. Preparation of pure sodium chloride.

[1] Other experiments of similar standard may be substituted.

27. Incomplete reactions.
28. Forms of sulphur.
29. Preparation and properties of sulphur dioxide.
30. Preparation and properties of hydrogen sulphide.
31. Preparation of metallic sulphides.
32. Volumetric composition of air.
33. Preparation and properties of ammonia.
34. Preparation and properties of nitric acid.
35. Preparation and properties of nitric oxide.
36. Preparation and properties of nitrous oxide.
37. Preparation of potassium nitrate (crystallization).
38. Preparation and properties of bromine.
39. Preparation and properties of iodine.
40. Comparison of the halogen acids.
41. Preparation of charcoal.
42. Properties of carbon.
43. Preparation and properties of carbon dioxide.
44. Hard waters.
45. Molecular weight of carbon dioxide.
46. Preparation and properties of carbon monoxide.
47. Preparation and properties of lime.
48. Cobalt nitrate tests.
49. Relative replacement of common metals (electrochemical series).
50. Equivalent of silver.
51. Tests for iron salts.
52. Reduction of ferric to ferrous chloride.
53. Oxidation of ferrous to ferric chloride.
54. Qualitative separation of lead, silver, and mercury.
55. Fermentation.
56. Preparation of ethyl acetate.
57. Soap making.
58. Testing of milk for nutrients.
59. Determination of carbon dioxide in air.
60. Explosive mixtures of gasoline and air.

LABORATORY NOTEBOOK.

The College Entrance Examination Board does not require the submission of the candidate's laboratory notebook as part of the examination in chemistry, but requires the submission of a teacher's certificate descriptive of the candidate's work. The notebook should be forwarded directly to the proper authorities of the college or scientific school which the candidate purposes entering. It must contain:

(1) A brief description in the pupil's own words of the materials and apparatus employed and the operations performed in each experiment, sketches being used to represent apparatus where this is practicable.

(2) Records in the pupil's own words of phenomena as actually observed in the course of each experiment.

(3) A statement of the important conclusions which may be properly drawn from the phenomena as observed.

Special importance should be attached to the evidence which the notebook affords of independent and careful thought on the part of the pupil, as indicated by ability to recognize and express clearly the significance of the work actually performed. Statements which have been merely transcribed from textbooks or manuals are by no means satisfactory. The notebook should contain an index of experiments.

TEACHER'S LABORATORY CERTIFICATE.

In lieu of the presentation of the laboratory notebook, the candidate must submit to the College Entrance Examination Board a certificate in the following form:

(*School.*)

.....

(*Post-office address of school.*)

.....

(*Date.*)

.....

(*College or scientific school that candidate purposes entering.*)

.....

I certify that during the academic years.....

(*Name in full.*)

.....

has personally performed and properly recorded in a suitable notebook..... experiments in the chemical laboratory of.....School, the experiments being not very different from the list suggested by the College Entrance Examination Board, and that the notebook constitutes a true and original record of the experiments.

The time given to the laboratory work has been ..... periods of ..... minutes each, equivalent to ..... periods of 60 minutes each.

The time given to lectures and recitations has been ..... periods of ..... minutes each, equivalent to ..... periods of 60 minutes each.

Half the number of hours given to laboratory work plus the full number of hours given to lectures and recitations is equal to ..... hours.[1]

(*Signed*).....

Teacher of Chemistry.

BOTANY.

One unit.

The requirement in botany is based on the report of the committee on botany of the science department of the National Education Association, modified by a committee of the Society for Plant Morphology and Physiology (now merged with the Botanical Society of America).

The following course is designed to include those topics in the leading divisions of the subject which are now regarded by most teachers as fundamental. The general sequence of topics is that recommended, but this point is not regarded as especially important, and the sequence, the methods, and the textbooks are left to the judgment of the individual teacher. Where special circumstances, such as exceptional difficulty of obtaining material, etc., prevent the completion of the entire amount while allowing its equivalent in thoroughness, it is recommended that some of the minor topics here and there be omitted rather than that the attempt should be made to cover all more superficially. To provide for this possibility, the examination papers will always include a number of alternative questions.

Individual laboratory work by the students is essential and should receive at least double the amount of time given to recitation. In recording the laboratory work stress should be laid upon diagrammatically accurate drawing and precise expressive description.

While the College Entrance Examination Board does not require the submission of the laboratory notebook as part of the examination in botany but expects that the notebook will be sent directly to the proper authorities of the college or scientific school which the candidate purposes entering, it requires the submission of a teacher's

[1] To meet the board's requirement the number of hours here entered must be at least 120.

certificate covering the candidate's laboratory work. The blank form of the certificate required may be obtained from the secretary of the board.

The full year's course consists of two parts:

Part I. The General Principles of (A) Anatomy and Morphology, (B) Physiology, and (C) Ecology.

A. Anatomy and Morphology:

The Seed.—Four types (dicotyledon without and with endosperm, a monocotyledon and a gymnosperm); structure and homologous parts. Food supply; experimental determination of its nature and value. Phenomena of germination and growth of embryo into a seedling (including bursting from the seed, assumption of position, and unfolding of parts).

The Shoot.—Gross anatomy of a typical shoot, including the relationships of position of leaf, stem (and root), the arrangement of leaves and buds on the stem, and deviations (through light adjustment, etc.) from symmetry. Buds and the mode of origin of new leaf and stem; winter buds in particular.

Specialized and metamorphosed shoots (stems and leaves). General structure and distribution of the leading tissues of the shoot; annual growth; shedding of bark and leaves.

The Root.—Gross anatomy of a typical root; position and origin of secondary roots; hair zone, cap, and growing point.

Specialized and metamorphosed roots. General structure and distribution of the leading tissues of the root.

The Flower.—Structure of a typical flower, especially of ovule and pollen; functions of the parts.

Comparative morphological study of four or more marked types, with the construction of transverse and longitudinal diagrams.

The Fruit.—Structure of a typical fruit. Comparative morphological study of four or more marked types.

This comparatively morphological study of flowers and fruits may advantageously be postponed to the end of Part II, and then taken up in connection with classification of Angiosperms.

The Cell.—Cytoplasm, nucleus, sap cavity, wall.

As to the study of the cell, it is by no means to be postponed for consideration by itself after the other topics, as its position in the above outline may seem to imply, but it is to be brought in earlier along with the study of the shoot or root, and continued from topic to topic. Although enough study of the individual cell is to be made to give an idea of its structure (a study which may very advantageously be associated with the physiological topics first mentioned under B) the principal microscopical work should consist in the recognition and in the study of the distribution of the leading tissues.

B. Physiology:

Rôle of water in the plant: *Absorption (osmosis), path of transfer, transpiration, turgidity and its mechanical value, plasmolysis.*

Photosynthesis: *Dependence of starch formation upon chlorophyll, light, and carbon dioxide; evolution of oxygen,* observation of starch grains.

Respiration: *Necessity for oxygen in growth, evolution of carbon dioxide.*

Digestion: *Digestion of starch with diastase,* and its rôle in translocation of foods.

Irritability: *Geotropism, heliotropism, and hydrotropism.*

Growth: *Localization in higher plants; amount in elongating stems; relationships to temperature.*

Fertilization: Sexual and vegetative reproduction.

Although for convenience of reference, the physiological topics are here grouped together, they should by no means be studied by themselves and apart from anatomy and morphology. On the contrary, they should be taken up along with the study of the structures in which the processes occur, and which they help to explain; thus, photosynthesis should be studied with the leaf, as should also transpiration, while digestion may best come with germination, osmotic absorption with the root, and so on. The student should either try, or at least aid in trying, experiments to demonstrate the fundamental processes indicated above in italics.

C. Ecology:

Modifications (metamorphoses) of parts for special functions.

Dissemination.

Cross-pollination.

Light relations of green tissue.

Special habitats: Mesophytes, hydrophytes, halophytes, xerophytes; climbers, epiphytes, parasites (and saprophytes), insectivora.

The topics in ecology (particularly the first four and in part the fifth), like those in physiology, are to be studied not by themselves, but along with the structures with which they are most closely connected, as cross-pollination with the flower, dissemination with the seed, etc. The fifth may most advantageously be studied with G in Part II.

In this connection field work is of great importance; and for some topics is indispensable, though much may be done also with potted plants in greenhouses, photographs, and museum specimens. It is strongly recommended that some systematic field work be considered as an integral part of the course, coordinate in definiteness and value as far as it goes with the laboratory work. The temptation to haziness and guessing in ecology must be combated.

Part II. The Natural History of the Plant Groups, and Classification.

A comprehensive summary of the great natural groups of plants, based upon the thorough study of the structure, reproduction, and adaptations to habitat of one or two types from each group, supplemented and extended by more rapid study of other forms in those groups. Where living material is wanting for the latter, preserved material, and even good pictures, may be used, and a standard textbook should be thoroughly read. The general homologies from group to group should be noted, though it is not expected that these will be known in detail.

In general in this part of the course much less attention should be given to the lower and inconspicuous groups, and progressively more to the higher and conspicuous forms.

Following is a list of recommended types from which, or their equivalents, selection may be made:

A. ALGÆ. Pleurococcus, Sphærella, Spirogyra, Vaucheria, Fucus, Nemalion (or Polysiphonia or Coleochæte).

B. FUNGI. Bacteria, Rhizopus or Mucor, Yeast, Puccinia (or a Powdery Mildew), Corn Smut, Mushroom.

Bacteria and yeast have obvious disadvantages in such a course, but their great economic importance may justify their introduction.

C. LICHENS. Physcia (or Parmelia or Usnea).

D. BRYOPHYTES. In Hepaticæ, Radula (or Porella or Marchantia). In Musci, Mnium (or Polytrichum or Funaria).

E. PTERIDOPHYTES. In Filicineæ, Aspidium or equivalent, including, of course, the prothallus.

In Equisetineæ, Equisetum.

In Lycopodineæ, Lycopodium, and Selaginella (or Isoetes).

F. GYMNOSPERMS. Pinus or equivalent.

G. ANGIOSPERMS. A monocotyledon and a dicotyledon, to be studied with reference to the homologies of their parts with those in the above groups; together with representative plants of the leading subdivisions and principal families of Angiosperms.

Classification should include a study of the primary subdivisions of the above groups, based on the comparison of the types with other (preferably) living or preserved material. The principal subdivisions of the Angiosperms, grouped on the Engler and Prantl system, should be understood.

The ability to use manuals for the determination of the species of flowering plants is not considered essential in this course, though it is desirable. It should not be cultivated to the exclusion of any part of the course, but may well be made voluntary work for those showing a taste for it. It should not be limited to learning names of plants, but should be made a study in the plan of classification as well.

The preparation of a herbarium is neither required nor recommended, except as voluntary work for those with a taste for collecting. If made, it should not constitute a simple accumulation of species, but should represent some distinct idea of plant associations, or of morphology, or of representation of the groups, etc.

GEOGRAPHY.

One unit.

The requirement in geography is based on the report of the committee on physical geography of the science department of the National Education Association.

The following outline includes only the most essential facts and principles of physical geography, which must be studied in the classroom and laboratory. The material is, for the most part, common to the leading textbooks, though it should be recognized that no adequate laboratory manual is at present available. The order of presentation is not essential; it is recommended, however, that the topics be treated in general in the order given.

OUTLINE.

Recognizing that the field of physical geography in secondary schools should include (1) the earth as a globe, (2) the ocean, (3) the atmosphere, and (4) the land, the following outline is planned to cover these several large topics, with the further recommendation that the time allowance be proportionately increased in the order named:

The Earth as a Globe—

Shape of earth, how proved, consequences of shape.
Size: How earth is measured; effects of size.
Rotation: Character of motion; latitude, longitude, and time.
Revolution: Rate, path, direction, and the consequences.
Magnetism: Compass, poles, variation.
Map projection.

The Ocean—

Form, divisions, and general characteristics of the ocean.
Depth, density, temperature of ocean waters.
Characteristics of ocean floor.
Distribution of life in oceans.
Movement of ocean waters.
  Waves—cause and effect.
  Currents—causes, proofs of causes, important currents, effect of currents.
  Tides—character of motion, cause of tides, variation of tides, bores.
Work of the ocean.
Classes of shore lines and importance of shore lines.

The Atmosphere—

Composition and offices of atmosphere.
Instruments used in study of atmosphere.
Temperature.
  Source and variation of atmospheric temperatures.
  Isothermal charts of world, January and July, with special study of isothermals of northern and southern hemispheres, of location of heat equator, of cold pole, of crowded isotherms, etc.
Pressure.
  Measurement of pressure.
  Use of pressure in altitude determinations.
  Relation to temperature.
  Study of isobars on United States Weather Map.
  Distribution of pressure over world in January and July.
  Relations of isobars to isotherms.
Circulation of atmosphere.
  Winds, classes, directions, causes, effects.
Moisture.
  Source, forms, measurement, precipitation.

The Atmosphere—Continued.
- Storms.
  - Paths and characters of storms of United States.
  - Daily weather at different seasons.
  - Relation of storms to general weather conditions.
  - Relation of weather to climate.

The Land—
- Several features of land as compared with ocean.
- Distribution of land.
- Map representation of topography.
- Changes in land forms, effects of elevation and depression.
- Plains.
  - Kinds of plains.
  - Characteristics of different kinds.
  - Development of plains.
  - Coastal plain of eastern United States in parts.
  - Alluvial plains, their formation and importance.
  - Relation of life conditions to different forms of plains.
- Plateaus.
  - Young plateaus.
  - Dissected plateaus.
  - Old plateaus.
  - Broken plateaus.
- Mountains.
  - Block mountains.
  - Folded mountains.
  - Domed mountains.
  - Massive mountains.
- Volcanoes.
- Distribution.
  - Character at different stages.
- Rivers.
  - Life history of river—work of rivers, topography of valleys at different stages, lakes and lake basins.
  - Revived rivers.
  - Drowned valleys.
  - The great drainage basins of the United States.
- Glaciers.
  - Existing ice sheets.
  - Kinds of glaciers.
  - Work of glaciers.
  - Characteristics of glaciated area of northern United States.

Summary—
- Relation of man, plants, and animals to climate, land forms, and oceanic areas.

The outline given can but present the larger topics to be covered and in a way suggest the point of view desired. Each topic should be treated so as to show its casual relations to other topics and, so far as possible, the effects of earth features on life conditions should be emphasized.

The candidate's preparation should include:

(1) The study of one of the leading secondary textbooks in physical geography, that a knowledge may be gained of the essential principles and of well-selected facts illustrating those principles.

(2) Individual laboratory work, comprising at least 40 exercises selected from a list not very different from the one given below. From one-third to one-half of the candidate's classroom work should be devoted to laboratory exercises. In the autumn and spring field trips should take the place of laboratory exercises.

LIST OF POSSIBLE EXERCISES.[1]

Earth as a globe—

Construct a diagram showing inclination of earth's axis, and effects of an axis at right angles, and parallel to plane of orbit. [1.]
Cause of day and night, and extent of sunlight over surface. [1.]
Construct a diagram showing position of earth, moon, sun at the several phases of moon. [1.]
Construct a series of lines to some adopted scale, showing circumference and diameter of earth, and distance of several leading large cities from New York. [1.]
Determination of latitude, north and south line, and high noon. [1.]

Ocean

Study of ocean-current maps. [1.]
Study of tide charts. [1.]
Study of types of shore lines. [2.]
Study of positions of lighthouses, life-saving stations, and large cities in relation to southern Atlantic shore. [1.]
Study of map of world, showing heights of land and depths of sea. [1.]
Explain selected steamer routes across Atlantic and Pacific. [1.]

Atmosphere—

Determination of altitude of hill by barometer. [1.]
Determination of dew point. [1.]
Comparison of January and July temperature of 40° N. and S. lat. [2.]
Location and migration of heat equator and cold pole. [2.]
Comparison of temperature over land and water at different seasons. [2.]
Study distribution of wind systems by seasons, and compare with pressure conditions. [2.]
Make isotherm and isobar maps from furnished data. [2.]
Find average wind directions about a storm center. [1.]
Make complete weather maps from furnished data. [2.]
Study distribution of cloudiness and rainfall about a storm center. [1.]
Predict weather conditions from data furnished. [1.]
Find average rate and direction of motion of storm centers. [1.]
Study condition of "cold waves" and "northeasters." [1.]

Land—

Comparison of areas to scale. [1.]
Making cross sections of contour maps to scale. [4.]
Cross sections of hachure map, and changing hachure to contour map. [2.]
Writing description of models. [4.]
Writing description of picture and accompanying map. [2.]
Construction of river profile. [1.]
Making drainage map of United States. [1.]
Written description of selected maps illustrating classes of land forms. [4.]
Planning a journey and describing country to be seen. [1.]
Locating illustrations of common land forms on some special contour map. [1.]
Four excursions in autumn, described in detail. [8.]
Four excursions in spring, described in detail. [8.]

The candidate's practical exercises should be distributed about as follows: Mathematical geography 5, ocean 5, atmosphere 12, land 18. In connection with them the candidate should prepare a notebook in which are recorded with dates the steps and the results of his laboratory exercises. This book should contain an index of subjects, and should be a true and original record of the pupil's work.

[1] Numbers in brackets indicate the value that should be given in estimating the total number of 40.

While the College Entrance Examination Board does not require the submission of the laboratory notebook as part of the examination in geography but expects that the notebook will be sent directly to the proper authorities of the college or scientific school which the candidate purposes entering, it requires the submission of a teacher's certificate covering the candidate's laboratory work. The blank form of the certificate required may be obtained from the secretary of the board.

ZOOLOGY.

One unit.

The requirement in zoology is in accordance with the report of a committee appointed by the American Society of Zoologists.

The following outline includes the principles of zoology which are indispensable to a general survey of the science. It is not intended to indicate order of study of the topics; this must be left to the teacher and the textbook.

1. The general natural history—including general external structure in relation to adaptations, life histories, geographical range, relations to other plants and animals, and economic relations—of common vertebrates and invertebrates, so far as representatives of these groups are obtainable in the locality where the course is given.

The types suggested are a mammal, bird, lizard, snake, turtle, newt, frog, dogfish or shark, bony fish, clam, snail, starfish, earthworm, planarian, hydra, sea anemone, paramœcium. In the case of arthropods, pupils should become familiar with common crustaceans, spiders, myriapods, and insects representing at least five orders.

Actual examinations of common animals with reference to the above points should be supplemented by reading, giving natural-history information. It is not expected that there will be time for making extensive notebooks on the natural-history work; rather will the work in this line take the form of laboratory demonstrations. So far as time permits, drawings and notes should be made. The notebook mentioned below should contain at least drawings on the external structure of four animals not studied under section 3, preferably two insects, a mollusk, and a second vertebrate.

2. The classification of animals into phyla and leading classes (except the modern subdivisions of the worms) and the great characteristics of these groups. In the case of insects and vertebrates the characteristics of the prominent orders.

The teaching of classification should be by practical work, so as to train the pupil to recognize animals and to point out the chief taxonomic characteristics. The meaning of species, genera, and larger groups should be developed by constructive practical work with representatives of insect or vertebrate orders.

3. The general plan of external and internal structure, not the anatomical minutiæ, of one vertebrate (preferably frog or fish) in general comparison with human body; an arthropod (preferably a decapod); an annelid (earthworm or Nereis); a cœlenterate (hydroid, hydra, or sea anemone); a protozoon (a ciliate, and amœba when possible). In place of any of above types not locally available there may be substituted a second vertebrate, an insect, a mollusk, or an echinoderm. Tissues, the study of which is recommended as optional,[1] should be examined first with the unaided eye, in such a structure as a frog's leg, and then with a microscope demonstrate the relation of cells and intercellular substance in epithelium and cartilage; and, if possible, in other tissues. The functions of the chief tissues and their positions in the body of a vertebrate should be pointed out.

4. (i) The general physiology of above types, involving the essentials of digestion, absorption, circulation, respiration, cell metabolism, secretion, excretion, and nervous functions. This should apply comparatively the essentials of elementary work in human physiology. Demonstrations and experiments, such as are suggested in high-school textbooks on human physiology, should be introduced, or recalled if not

[1] Topics marked "optional" are regarded as *desirable* for the best high-school zoology, but will not be required in examinations.

previously well presented in elementary physiology, in connection with the discussion of the chief functions. As far as practicable structure and function should be studied together.

(ii) Comparison of the general life processes in animals and plants (in connection with botany if zoology is first studied).

5. The very general features of asexual reproduction of a protozoon (preferably *Paramecium*); alternation of generations in hydroids; reproduction and regeneration of *Hydra;* the very general external features of embryological development in a fish or frog; and (*optional*) the general cellular nature (not centrosomes and the like) of germ cells, fertilization, and cell division in developing eggs should, as far as possible, be demonstrated and briefly described. Also, the most interesting features of development should be pointed out in the case of other animals studied.

6. The prominent evidence of relationship, suggesting evolution, within such groups as the decapods, the insects, and the vertebrates, should be demonstrated. A few facts indicating the struggle for existence, adaptation to environment, variations of individuals, and man's selective influence should be pointed out; but the factors of evolution and the discussion of its theories should not be attempted.

7. (*Optional.*) Some leading facts regarding the epoch-making discoveries of biological history and the careers of such eminent naturalists as Darwin, Huxley, Pasteur, and Agassiz should be presented.

The above outline of a course in general zoology should be developed on the basis of a course of laboratory study guided by definite directions. This should be supplemented by the careful reading of at least one modern elementary textbook in general zoology. At least two-thirds of the time should be devoted to the practical studies of the laboratory. If good nature studies have not preceded the course in high-school zoology, pupils should be encouraged to do supplementary work in the line of natural history. A notebook with carefully labeled outline drawings of the chief structures studied anatomically (sec. 3), and the drawings mentioned under natural history (sec. 1), and with notes on demonstrations and in explanation of drawings, with dates and an index, should be prepared by the candidate in connection with his practical work.

While the College Entrance Examination Board does not require the submission of the laboratory notebook, but expects that the notebook will be sent directly to the proper authorities of the college or scientific school which the candidate purposes entering, it requires the submission of a teacher's certificate covering the candidate's laboratory work. The blank form of the certificate required may be obtained from the secretary of the board.

DRAWING.

One unit.

The requirement in drawing is based upon the statement of entrance requirements in this subject as contained in the catalogues of colleges and universities represented in the College Entrance Examination Board.

The candidate's preparation in drawing should be directed toward training him in accurate observation and in definite and truthful representation of form, without attempt to represent color or color values.

The candidate should be able to draw correctly and with lines of good quality simple forms in correct perspective in the size in which it is felt in the plane of the drawing, or larger or smaller. It is recommended that pupils should be taught to draw from the object itself rather than from the flat.

Correctness of proportion and accuracy in the angles and curves and structural relations of the parts of every object drawn are of the highest importance.

The elementary principles of perspective are to be thoroughly learned, and the candidate should be able to apply them in freehand drawing from the object or from the imagination.

No definite prescription as to the method of teaching is made. The examination will test the preparation of the candidate in the following points:

1. Ability to sketch from the object with reasonable correctness as to proportion, structure, and form. It is recommended that the subjects drawn include simple geometrical objects and simple natural objects such as living plant forms.

2. Ability to sketch free-hand from dictation with reasonable accuracy any simple geometrical figure or combination of figures.

3. Ability to represent accurately in perspective a simple geometrical solid of which projection drawings are given, and ability to make consistent projection drawings of a simple geometrical solid of which a perspective representation is given.

4. Ability to answer questions in regard to the principles involved in making these drawings.

MUSIC.

The requirement in music is based on the report of a joint committee representing the Eastern Educational Musical Conference and the New England Education League.

(A) MUSICAL APPRECIATION.[1]

One unit.

The board will hold a written examination on the first two parts of the following:

(1) A general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development.

(2) A general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Handel, Gluck, Haydn, Weber, Mendelssohn, Schumann, Wagner, Verdi, Brahms, Tschaikowsky, Grieg, MacDowell.

(3) Familiarity with certain designated works:

Bach:	Prelude 2 and Fugue 2, Book 1, Well-Tempered Clavichord.
	Gavotte from Sixth English Suite.
Handel:	The Hallelujah Chorus.
Haydn:	Slow movement from "Emperor" Quartet (op. 76, No. 3).
Mozart:	Symphony in G minor (entire).
Beethoven:	Sonata (op. 31, No. 3, entire).
	Slow movement from second symphony.
	First movement from seventh symphony.
Schubert:	First movement from unfinished symphony.
	Song, "The Erl-King."
	Song, "Hark, Hark, the Lark."
Mendelssohn:	Overture to "Midsummer Night's Dream."
Chopin:	Ballade (op. 47).
	Polonaise (op. 26, No. 1).
	Nocturne (op. 37, No. 2).
Schumann:	Allegro from Faschingsschwank (op. 26, No. 1).
	Song, "Im wunderschönen Monat Mai."
Wagner:	Overture to "Tannhäuser."
	Prize song from "The Mastersingers."

The College Entrance Examination Board will assign a rating on the written examination covering (1) and (2), upon the basis of which the college or university concerned will record a "provisional pass or a failure." A candidate who receives a "provisional pass" must take the examination in (3) at the institution which he or she elects to enter. In this latter examination the candidate will be expected to identify characteristic portions of the works set, when played by the examiner; and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform, or to read from printed music.

[1] After 1915 the College Entrance Examination Board will discontinue the examination in music *A*.

(B) HARMONY.

One unit.

The examination in harmony will consist only of a written test; there will be no test in performance. The candidate should have acquired:

(1) The ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass. These melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly related keys.

(2) Analytical knowledge of ninth chords, all nonharmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear training as to interval, melody, and chord be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff notation, including the terms and expression marks in common use.

(D) PIANOFORTE. (E) VOICE. (F) VIOLIN.

The board's examination in each of these subjects will consist of a test in theory, conducted in writing, and will be adapted to the proficiency of those who have had one year's systematic training with one lesson a week,[1] or its equivalent. The candidate should have acquired a knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression marks in common use; the ability to analyze the harmony and form of hymn tunes and simplest pieces for the pianoforte, involving triads and the dominant seventh chord and their inversions, passing tones, and modulation to nearly related keys; the ability to harmonize, on paper, in four vocal parts, melodic fragments involving the use of triads and the dominant seventh chord and their inversions, in major keys

The College Entrance Examination Board will assign a rating on the written test, upon the basis of which the college or university concerned will record a "provisional pass" or a "failure." A candidate who receives a "provisional pass" must take a test in performance at the institution which he or she elects to enter. Information concerning this test, which will include a requirement in ear training, can be secured from that institution.

BIOLOGY.

One unit.

The examination in biology presupposes the work of a half school year in botany and a half school year in zoology. While the College Entrance Examination Board has not yet adopted a formal definition of the requirement in biology, the examination questions will be adapted to the standards of good secondary schools that at present offer a course in biology having the value of a full half unit in botany plus a full half unit in zoology.

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[1] Each lesson is supposed to occupy one hour.

CHAPTER II.

TYPICAL CURRICULA.

Curriculum of public elementary school, Minneapolis, Minn.

	First grade.		Second grade.		Third grade.		Fourth grade.		Fifth grade.		Sixth grade.		Seventh grade.		Eighth grade.	
	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.	Periods.	Minutes.
Opening exercises	5	50	5	50	5	50	5	25	5	25	5	25	5	25	5	25
Recesses	10	150	10	150	10	150	10	150	10	150	10	150	10	150	10	150
Physical training	5	50	5	50	5	50	5	50	5	50	5	50	5	50	5	50
Hygiene	1	30	1	30	1	30	1	30	1	30	1	30	1	30	1	30
Phonics and word study	10	200	10	200	10	150	5	100	3	75	2	50	2	50	2	50
Spelling [1]	5	25	5	75	5	75	5	75	5	75	5	*75	5	*75	5	*75
Reading	25	400	20	395	15	365	5	250	5	240	5	220	4	*120	4	*120
Oral language	5	90	5	90	5	90	5	90	3	90	3	90	1	30	1	30
Written language	5	50	3	60	3	60	4	120	4	120	3	120	2	60	2	60
Grammar													3	180	3	180
Arithmetic			5	150	5	200	5	200	5	225	5	225	3	180	3	180
Geography and nature study	2	25	3	50	3	50	4	120	4	120	4	120	2	*70	2	*70
History and civics							3	60	3	60	3	75	3	*105	3	*105
Penmanship	5	60	5	75	5	75	5	75	5	75	5	75	3	60	3	60
Music	5	75	5	75	5	75	5	75	5	75	5	75	5	75	5	75
Drawing and construction work	4	80	3	90	3	90	3	90	3	90	2	60	3	60	2	60
Manual training or domestic art and science											1	60	1	180	1	180
Supervised study								150		150		150		150		150
Total		1,275		1,500		1,500		1,650		1,650		1,650		1,650		1,650

[1] The amount of time given each week to home study in starred subjects is as follows: Grades VII and VIII—reading and spelling, 1½ hours; geography, ½ hour; history and civics, ½ hour. Grades V and VI—spelling, 1 hour.

The following typical high-school curricula have been taken from Monroe's "Principles of Secondary Education," published by the Macmillan Co., 1914:

Curriculum of a Small Rural High School.

First year:
- English composition and literature.
- Ancient history.
- Latin.
- Algebra.

Second year:
- English composition and literature.
- Medieval history.
- Latin.
- Geometry.

Third year:
- English literature.
- Modern English history.
- Latin (or German).
- Physics (or bookkeeping and business arithmetic).

Fourth year:
- English literature.
- American history and government.
- Latin (or German).
- Chemistry (or typewriting and shorthand).

HIGH-SCHOOL CURRICULUM IN CITY OF MEDIUM SIZE.

I. Ancient classical course.

First year:
- Latin.
- Ancient history.
- English.
- Algebra.

Second year:
- Latin.
- Greek.
- English.
- Geometry.

Third year:
- Latin.
- Greek.
- English.
- Physics.

Fourth year:
- Latin.
- Greek.
- English.
- (Elective.)

II. Modern language course.

First year:
- German.
- Ancient history.
- English.
- Algebra.

Second year:
- German.
- Medieval history.
- English.
- Geometry.

Third year:
- French (or Spanish) American history.
- American history and government.
- English.
- (Elective.)

Fourth year:
- American history and government.
- English.
- (Elective.)
- (Elective.)

III. History-English course.

First year:
- Latin or German.
- Ancient history.
- English.
- Algebra.

Second year:
- Latin or German.
- Medieval history.
- English.
- Geometry.

Third year.
- Modern history.
- English.
- Physics.
- Drawing.

Fourth year:
- American history and government.
- English.
- (Elective.)
- (Elective.)

IV. Scientific course.

First year:
- German.
- Botany.
- English.
- Algebra.

Second year:
- German.
- Zoology.
- English.
- Geometry.

Third year:
- Physics.
- Drawing.
- Trigonometry.
- (Elective.)

Fourth year:
- Chemistry.
- Drawing.
- American history and government.
- (Elective.)

V. Business course.

First year:
(Any other course.)
Second year:
(Any other course.)
Third year:
Spanish.
Business arithmetic.
Bookkeeping.
Typewriting.
Fourth year:
Spanish.
Business practice.
(Commercial geography.)
(Commercial law.)
(Shorthand.)

HIGH-SCHOOL CURRICULUM OF A LARGE CITY WHERE FIXED COURSES HAVE BEEN ABANDONED.

The school offers a wide range of subjects, requires certain fixed units by groups, and makes up a different course of study for each high-school pupil. The following studies are offered, the numbers in parenthesis following each indicating the number of years of each subject offered by the school.

Group I—Languages:
Latin (4).
Greek (3).
German (4).
French (2).
Spanish (2).
Group II—English.
English composition (2).
English literature (4).
History English and American literature (1).
Group III—History:
Ancient history (1).
Medieval history (1).
Modern English history (1).
General world history (1).
American history and government (1).
Group IV—Mathematics:
Algebra (1, 1½).
Geometry (1, 1½).
Trigonometry (½).
Surveying (½).
Business arithmetic (½).
Group V—Science:
Botany (1).
Zoology (1).
Biology (1).
Physical geography (1).
Physics (1).
Chemistry (1).
Geology (½).
Astronomy (½).
Group VI—Miscellaneous:
Music (2).
Freehand drawing (2).
Vocal expression (2).
Physical training (4).
Group VII—Vocational:
Mechanical and geometrical drawing (2).
Manual training (3).
Domestic science (2).
Household management (1).
Bookkeeping (1).
Business practice (1).
Shorthand (1).
Typewriting (1).

Rules governing combinations and graduation.—(1) Students, to graduate, must complete 15 years' work, viz, four studies each year for three years, and three studies one year. (2) Students may, on permission, take as many as five studies or as few as three studies each half-year. (3) Students, to graduate, must have had two years' work in Groups I and II, one year's work in each of the other groups, and four years' work in some one group.

SECTION IV.

LIST OF THE PRINCIPAL DEPARTMENTS OR SCHOOLS OF THE INSTITUTIONS DESCRIBED IN SECTION VI DEVOTED TO VARIOUS BRANCHES OF LIBERAL, SCIENTIFIC, AND PROFESSIONAL STUDY.

The three sections of the bulletin immediately following set forth in as great detail as space will permit the offerings of certain American colleges, universities, and technological schools which have already attracted foreign students in some numbers and which have good standing among the educational institutions of the country. In Section IV the list of these institutions is first given. This is followed by lists showing which of the institutions offer courses leading to degrees, diplomas, or certificates in undergraduate departments of liberal arts, in graduate schools or departments, and in professional or technological schools. Section V is a key to the abbreviations commonly used to designate the degrees granted by all of the institutions mentioned in the bulletin. Section VI contains brief accounts of the organization and offerings of the institutions selected for special treatment.

List of Institutions Named in Section VI.

Alabama:
1. Alabama Polytechnic Institute.

Arizona:
2. University of Arizona.

California:
3. Leland Stanford Junior University.
4. University of California.
5. University of Southern California.

Colorado:
6. Colorado School of Mines.

Connecticut:
7. Yale University.

District of Columbia:
8. Catholic University of America.
9. Georgetown University.
10. George Washington University.
11. Howard University.

Hawaii:
12. College of Hawaii.

Illinois:
13. Armour Institute of Technology.
14. University of Chicago.
15. University of Illinois.
16. Northwestern University.

Indiana:
17. University of Notre Dame.
18. Purdue University.

Iowa:
19. Iowa State College.
20. State University of Iowa.

Louisiana:
21. Louisiana State University.
22. Tulane University of Louisiana.

Maryland:
23. Goucher College.
24. Johns Hopkins University.

Massachusetts:
25. Clark University and Clark College.
26. Harvard University.
27. Massachusetts Agricultural College.
28. Massachusetts Institute of Technology.
29. Mount Holyoke College.
30. Simmons College.
31. Smith College.
32. Tufts College.
33. Worcester Polytechnic Institute.

Michigan:
34. Michigan College of Mines.
35. University of Michigan.

Minnesota:
36. University of Minnesota.

Missouri:
37. St. Louis University.
38. University of Missouri.
39. Washington University.

Nebraska:
40. University of Nebraska.

New Hampshire:
41. Dartmouth College.

New Jersey:
42. Princeton University.
43. Stevens Institute of Technology.
New York:
44. Columbia University.
45. Cornell University.
46. New York University.
47. Rensselaer Polytechnic Institute.
Ohio:
48. Case School of Applied Science.
49. Ohio State University.
50. University of Cincinnati.
Oregon:
51. University of Oregon.
Pennsylvania:
52. Bryn Mawr College.
53. Lehigh University.
Pennsylvania—Continued.
54. Pennsylvania State College.
55. University of Pennsylvania.
South Carolina:
56. Clemson Agricultural College.
Tennessee:
57. George Peabody College for Teachers.
58. Vanderbilt University.
Virginia:
59. Randolph-Macon Woman's College.
60. University of Virginia.
Washington:
61. University of Washington.
Wisconsin:
62. University of Wisconsin.

UNDERGRADUATE DEPARTMENTS (OR COLLEGES OR SCHOOLS) OF ARTS AND SCIENCES.

Degrees: A. B. or B. A., B. S. or B. Sc. or S. B., Ph. B., L. H. B., B. L., Lit. B. or Litt B., B. S. in General Science, B. S. in Pure Science; certificates.

1. Bryn Mawr College (Undergraduate Department)—A. B. (4 years).
2. Catholic University of America (School of Philosophy—Undergraduate Department)—A. B. (4 years), Ph. B. (4 years).
(School of Letters—Undergraduate Department)—A. B. (4 years), L. H. B. (4 years).
(School of Sciences—Undergraduate Department)—B. S. (4 years), A. B. (4 years).
(Trinity College—Undergraduate Department)—A. B. (4 years), B. S. (4 years), B. L. (4 years).
3. Clark College—A. B. (3 years).
4. College of Hawaii (Undergraduate Department)—B. S. (4 years).
5. Columbia University (Columbia College)—A. B. (4 years), B. S. (4 years).
(Barnard College)—A. B. (4 years), B. S. (4 years).
6. Cornell University (College of Arts and Sciences)—A. B. (4 years).
7. Dartmouth College (Undergraduate Department of Arts and Sciences)—A. B. (4 years), B. S. (4 years).
8. George Washington University (Columbian College)—A. B. (4 years).
9. Georgetown University (The College—Undergraduate Department)—A. B. (4 years), B. S. (4 years).
10. Goucher College (Undergraduate Department)—A. B. (4 years).
11. Harvard University (Harvard College)—A. B. (4 years), B. S. (4 years).
(Radcliffe College—Undergraduate Department)—A. B. (4 years).
12. Howard University (College of Arts and Sciences)—A. B. (4 years), B. S. (4 years).
13. Johns Hopkins University (Faculty of Philosophy)—A. B. (4 years).
14. Lehigh University (Undergraduate Department)—B. A. (4 years), B. S. (4 years).
15. Leland Stanford Junior University (Undergraduate Department)—A. B. (4 years).
16. Louisiana State University (Department of Arts and Sciences)—A. B. (4 years).
17. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (General Science) (4 years).
18. Mount Holyoke College (Undergraduate Department)—A. B. (4 years).
19. New York University (College of Arts and Pure Science)—A. B. (4 years), B. S. in Pure Science (4 years).
(Washington Square College)—A. B. (8 years), B. S. (8 years).

20. Northwestern University (College of Liberal Arts)—A. B. (4 years).
21. Ohio State University (College of Arts, Sciences, and Philosophy)—A. B. (4 years).
22. Pennsylvania State College (School of Liberal Arts)—A. B. (4 years).
(School of Natural Sciences)—B. S. (4 years).
23. Princeton University (Undergraduate Department)—A. B. (4 years), Litt. B. (4 years), B. S. (4 years).
24. Purdue University (Undergraduate Department)—B. S. (4 years).
25. Randolph-Macon Woman's College (Undergraduate Department)—A. B (4 years).
26. Rensselaer Polytechnic Institute (Undergraduate Department)—B. S. (4 years).
27. St. Louis University (College of Arts and Sciences)—A. B. (4 years), B S. (4 years).
School of phylosophy and Science).
28. Simmons College (Undergraduate Department)—B. S. (4 years), certificate (short course).
29. Smith College (Undergraduate Department)—A. B. (4 years).
30. State University of Iowa (College of Liberal Arts)—B. A. (4 years), B. S. (6 years combined course).
31. Tufts College (School of Liberal Arts)—A. B. (4 years), B. S. (4 years).
(Jackson College)—A. B. (4 years), B. S. (4 years).
32. Tulane University of Louisiana (College of Arts and Sciences)—B. A. (4 years), B. S. (4 years).
(H. Sophie Newcomb Memorial College)—B. A. (4 years).
33. University of Arizona (Undergraduate Department)—A. B. (4 years), B. S. (4 years).
34. University of California (College of Letters)—A. B. (4 years).
(College of Natural Sciences)—B. S. (4 years).
35. University of Chicago (The Colleges)—A. B. (4 years), B. S. (4 years), Ph. B. (4 years).
36. University of Cincinnati (McMicken College of Liberal Arts)—A. B. (4 years).
37. University of Illinois (College of Liberal Arts and Sciences)—A. B. (4 years), B. S. (4 years).
38. University of Michigan (College of Literature, Science, and the Arts)—A. B. (4 years), B. S. (4 years).
39. University of Minnesota (College of Science, Literature, and the Arts)—A. B. (4 years), B. S. (Combined Arts and Med.), 4 (years).
40. University of Missouri (College of Arts and Sciences)—A. B. (4 years).
(School of Mines and Metallurgy)—B. S. in General Science (4 years).
41. University of Nebraska (College of Liberal Arts)—A. B. (4 years), B. Sc. (4 years).
42. University of Notre Dame (College of Arts and Letters)—A. B. (4 years), Lit. B. (4 years); Ph. B., (4 years).
(College of Science)—B. S. (4 years).
43. University of Oregon (College of Literature, Sciences, and the Arts)—A. B. (4 years), B. S. (4 years).
44. University of Pennsylvania (Undergraduate Department of Arts and Sciences)—A. B. (4 years).
45. University of Southern California (College of Liberal Arts—Undergraduate department)—A. B. (4 years), B. S. (4 years).
46. University of Virginia (The College)—A. B. (4 years), B. S. (4 years).
47. University of Washington (College of Liberal Arts)—A. B. (4 years).
(College of Science)—B. S. (4 years).
(College of Mines)—B. S. (4 years).
48. University of Wisconsin (College of Letters and Sciences)—A. B. (4 years), Ph. B. (2 years).
49. Vanderbilt University (The College)—A. B. (4 years), B. S. (4 years).

50. Washington University (St. Louis) The College—A. B. (4 years).
51. Worcester Polytechnic Institute (undergraduate department)—B. S. (4 years).
52. Yale University (Yale College)—B. A. (4 years).
(Sheffield Scientific School)—Ph. B. (3 years).

GRADUATE SCHOOLS (OR DEPARTMENTS OR COLLEGES) OF ARTS AND SCIENCES.

Degrees granted M. S. or S.M., A. M. or M. A., Ph. M., Ph. D., L. H. M., L. H. D., Sc. D. or D. Sc., or S. D., M. L., etc.

1. Alabama Polytechnic Institute (Graduate school)—M. S. (1 year).
2. Armour Institute of Technology (Graduate department)—M. S. (1 year).
3. Bryn Mawr College (Graduate department)—A. M. (1 to 3 years), Ph. D. (3 years).
4. Case School of Applied Science (Graduate department)—M. S. (1 year).
5. Catholic University of America (School of Philosophy)—Graduate department—Ph. M. (2 years), Ph. D. (3 years).
School of Letters (Graduate department)—A. M. (1 year), L. H. M. (2 years), Ph. D. (3 years), L. H. D. (3 years).
School of Sciences (Graduate department)—A. M. (1 year), Sc. D. (3 years), Ph. D. (3 years), M. S. (2 years).
Trinity College (Graduate department)—A. M. (1 year), M. S. (1 year).
6. Clark University—A. M. (1 year), Ph. D. (3 years).
7. College of Hawaii (Graduate department)—M. S. (1 year).
8. Columbia University (Graduate department)—A. M. (1 year), Ph. D. (2 years).
9. Cornell University (Graduate school)—A. M. (1 year), Ph. D. (3 years).
10. Dartmouth College (Graduate department)—A. M. (1 year), M. S. (1 year).
11. George Washington University (School of Graduate Studies)—A. M. (1 year). M. S. (1 year), Ph. D. (3 years).
12. Georgetown University (Graduate school)—A. M. (1 year), M. S. (1 year), Ph. D. (2 years).
13. Harvard University (Graduate School of Arts and Sciences)—A. M. (1 year), Ph. D. (2 years).
(Graduate School of Applied Science)—M. S. (2 years), S. D. (2 years).
Radcliffe College (Graduate department)—A. M. (1 year), Ph. D. (2 years).
14. Iowa State College (Graduate department)—M. S. (1 year), Ph. D. (3 years).
15. Johns Hopkins University (Graduate department)—A. M. (2 years), Ph. D. (3 years).
16. Lehigh University (Graduate department)—M. A. (1 year), M. S. (1 year).
17. Leland Standford Junior University (Graduate department)—A. M. (1 year), Ph. D. (3 years).
18. Louisiana State University (Graduate school)—M. A. (1 or 2 years), M. S. (1 or 2 years).
19. Mount Holyoke College (Graduate department)—A. M. (1 year).
20. New York University (Graduate school)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years), Sc. D. (3 years).
21. Northwestern University (Graduate school)—A. M. (1 year), Ph. D. (3 years).
22. Ohio State University (Graduate school)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years).
23. Pennsylvania State College (Graduate department)—A. M., M. S., C. E., M. E., E. E., E. M.
24. Princeton University (Graduate school)—A. M. (1 year), Ph. D. (2 years).
25. Purdue University (Graduate department)—M. S. (1 year).
26. Randolph-Macon Woman's College (Graduate department)—A. M. (1 year).
27. Rensselaer Polytechnic Institute (Graduate department)—M. S. (1 year), Ph. D. (3 years), Sc. D. (3 years).

28. Simmons College (Graduate department)—M. S. (1 year).
29. Smith College (Graduate department)—A. M. (1 year), Ph. D. (3 years).
30. State College of Iowa (Graduate college)—M. S. (1 year), M. A. (1 year), Ph. D. (3 years).
31. Tufts College (Graduate school)—M. A. (1 year), M. S. (1 year).
32. Tulane University of Louisiana (Department of Graduate Studies)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years).
33. University of Arizona (Graduate school)—A. M. (1 year), M. S. (1 year).
34. University of California (Graduate school)—M. A. (1 year), M. L. (1 year), M. S. (1 year), Ph. D. (2 years).
35. University of Chicago (Graduate school of Arts and Literature, and Ogden School of Science)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years).
36. University of Cincinnati (Graduate School)—A. M (1 year), Ph. D. (3 years).
37. University of Illinois (Graduate school)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years).
38. University of Michigan (Graduate school)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years), Sc. D. (3 years).
39. University of Minnesota (Graduate school)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years), D. Sc. (3 years).
40. University of Missouri (Graduate school)—A. M. (1 year), Ph. D. (3 years).
41. University of Nebraska (Graduate College)—A. M. (1 year), Ph. D. (3 years).
42. University of Notre Dame (Graduate School)—Master (1 year), Ph. D. (3 years).
43. University of Oregon (Graduate School)—M. A. (1 year), M. S. (1 year).
44. University of Pennsylvania (Graduate School)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years).
45. University of Southern California (College of Liberal Arts—Graduate department)—A. M. (1 year).
46. University of Virginia (Department of Graduate Studies)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years).
47. University of Washington (Graduate School)—M. A. (1 year), M. S. (1 year), Ph. D. (3 years).
48. University of Wisconsin (Graduate School)—M. A. (1 year), M. S. (1 year), Ph. M. (1 year), Ph. D. (3 years).
49. Vanderbilt University (Graduate Department)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years), D. Sc. (3 years).
50. Washington University (St. Louis) (The College)—A. M. (1 year), Ph. D. (3 years).
51. Worcester Polytechnic Institute (Graduate Department)—M. S. (1 year); Sc. D. (3 years).
52. Yale University (Sheffield Scientific School)—M. S. (2 years).
(Graduate School)—M. A. (2 years), Ph. D. (3 years).

Engineering Courses.

General engineering colleges (or departments or schools or divisions),

(Including also courses in two or more engineering subjects.)

Undergraduate courses.

Degrees: B. S., B. S. in E. M. and Met., B. S. in Engineering (or B. S. in Eng.), B. Eng., B. S. in Ceramics, B. Cr. E., B. S. in Structure Design, B. S. in Structural Engineering, B. S. in M. E. and E. E.

1. Alabama Polytechnic Institute (College of Engineering and Mines)—B. S. (4 years).
2. Clemson Agricultural College (Undergraduate Department)—B. S. in M. E. and E. E. (4 years).
3. Howard University (School of Manual Arts and Applied Science)—B. S. in Engineering (4 years).

4. Iowa State College (Division of Engineering)—B. S. in Ceramics (4 years), B. S. in Structure Design (4 years).
5. Johns Hopkins University (Department of Engineering)—B. S. (4 years).
6. Louisiana State University (Department of Engineering)—B. S. (4 years).
7. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years), (Mining Engineering and Metallurgy).
8. Northwestern University (College of Engineering)—B. S. (4 years).
9. Ohio State University (College of Engineering)—B. Cr. E. (4 years).
10. Pennsylvania State College (School of Engineering)—B. S. (4 years).
11. State University of Iowa (College of Applied Science)—B. Eng. (4 years), B. S. (4 years).
12. Tuft's College (Engineering School)—B. S. in Structural Engineering (4 years).
13. University of Arizona (Undergraduate Department)—B. S. in E. M. and Met. (4 years).
14. University of California (College of Mechanics)—B. S. (Mechanical and Electrical Engineering) (4 and 5 years).
(College of Civil Engineering)—B. S. (Railway Engineering, Sanitary Engineering, Irrigation Engineering (4 and 5 years).
15. University of Michigan (College of Engineering and Architecture)—B. S. in Eng. (4 years).
16. University of Minnesota (College of Engineering and Mechanic Arts)—B. S. in Eng. (4 years).

GRADUATE COURSES.

Degrees: M. S., M. S. in Eng., M. S. (with mention of specific subject), B. S. and B. S. (in specific subject), Ph. D., D. Eng. (or Eng. D.), Cr. E.

1. Iowa State College (Division of Engineering)—B. S. and B. S. (in specific subject), (5 years).
(Division of Industrial Science)—B. S. and B. S. (in specific subject), (5 years).
2. Johns Hopkins University (Department of Engineering)—Ph. D. (3 years).
3. Massachusetts Institute of Technology (Graduate Department)—M. S. (1 year), Ph. D. (3 years), D. Eng. (3 years).
4. Ohio State University (Graduate School)—Cr. E. (5 to 8 years), M. S. in Eng. (4 or 5 years).
5. Rensselaer Polytechnic Institute (Graduate Department)—Eng. D. (3 years).
6. University of Illinois (Graduate School)—M. S. (with mention of specific subject) (1 year).
7. University of Michigan (Graduate School)—M. S. in Eng. (1 year).
8. University of Nebraska (College of Engineering)—Ph. D. (3 years).

CHEMICAL ENGINEERING COLLEGES (OR SCHOOLS OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: B. S. in Chem. (or Ch.) E., Chem. (or Ch.) E., B. Chem. (or Ch.) E., B. S., B. E.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in Ch. E. (4 years).
2. Case School of Applied Science (Undergraduate Department)—B. S. in Chem. E. (4 years).
3. Catholic University of America (School of Sciences—Undergraduate Department)—B. S. in Chem. E. (4 years).
4. Columbia University (School of Chemistry)—Chem. E. (4 years).
5. Iowa State College (Division of Engineering)—B. S. in Chem E. (4 years).
6. Lehigh University (Undergraduate Department)—Ch. E. (4 years).
7. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).

8. New York University (School of Applied Science)—B. S. in Chem. E. (4 years).
9. Ohio State University (College of Engineering)—B. Ch. E. (4 years).
10. Purdue University (Undergraduate Department)—B. S. in Chem. E. (4 years).
11. Rensselaer Polytechnic Institute (Undergraduate Department)—Ch. E. (4 years).
12. Tufts College (Engineering School)—B. S. in Chem. E. (4 years).
13. Tulane University of Louisiana (College of Technology)—B. Chem. E. (4 years).
14. University of Cincinnati (College of Engineering)—B. S. in Chem. E. (4-year theoretical course)—Ch. E. (5-year cooperative course).
15. University of Missouri (School of Engineering)—Ch. E. (3 years).
16. University of Notre Dame (College of Engineering)—Chem E. (4 years).
17. University of Pennsylvania (Towne Scientific School)—B. S. in Chem. E. (4 years).
18. University of Southern California (College of Liberal Arts—Undergraduate Department)—2 years' course.
19. University of Virginia (Department of Engineering)—Ch. E. (4 years).
20. University of Washington (College of Engineering)—B. S. in Ch. E. (4 years), B. S. (4 years).
21. University of Wisconsin (College of Engineering)—B. S. in Chem. E. (4 years).
22. Vanderbilt University (Engineering Department)—B. E. (4 years).
23. Washington University (St. Louis) (School of Engineering)—B. S. in Chem E. (4 years).

GRADUATE COURSES.

Degrees: M. S. in Ch. E., M. Ch. E., Ch. E. (or Chem. E.).

1. Alabama Polytechnic Institute (Graduate Department)—Ch. E. (1 year).
2. Armour Institute of Technology (Graduate Department)—Ch. E. (3 years).
3. Case School of Applied Science (Graduate Department)—Chem. E. (3 years).
4. Leland Stanford Junior University (Graduate Department)—Ch. E. (1 year).
5. Louisiana State University (Graduate School)—Ch. E. (1 or 2 years).
6. New York University (School of Applied Science)—Chem. E. (1 year).
7. Ohio State University (Graduate School)—Ch. E. (5 to 8 years).
8. Purdue University (Graduate Department)—Ch. E. (1 year).
9. Rensselaer Polytechnic Institute (Graduate Department)—M. Ch. E. (1 year).
10. Tulane University of Louisiana (Department of Graduate Studies)—Chem. E. (1 or 2 years).
11. University of Michigan (Graduate School)—Ch. E.
12. University of Minnesota (School of Chemistry—Course in Applied Chemistry)—Chem. E. (5 years).
13. University of Washington (College of Engineering)—M. S. in Ch. E. (1 year).
14. University of Wisconsin (Graduate School)—Ch. E. (1 to 3 years).
15. Washington University (St. Louis) (School of Engineering)—Chem. E. (3 years).
16. Worcester Polytechnic Institute (Graduate Department)—Ch. E. (1 year).

CIVIL ENGINEERING DEPARTMENTS (OR SCHOOLS OR COLLEGES OR DIVISIONS).

UNDERGRADUATE COURSES.

Degrees: B. S. (or B. Sc.) in C. E., B. S., B. C. E., B. E., C. E.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in C. E. (4 years).
2. Case School of Applied Science (Undergraduate Department)—B. S. in C. E. (4 years).
3. Catholic University of America (School of Sciences—Undergraduate Department)—B. S. in C. E. (4 years).
4. Clemson Agricultural College (Undergraduate Department)—B. S. in C. E. (4 years).

5. College of Hawaii (Undergraduate Department)—B. S. in C. E. (4 years).
6. Columbia University (School of Engineering)—C. E. (4 years).
7. Cornell University (College of Civil Engineering)—C. E. (4 or 5 years).
8. George Washington University (College of Engineering)—B. S. in C. E. (4 years).
9. Iowa State College (Division of Engineering)—B. S. in C. E. (4 years).
10. Lehigh University (Undergraduate Department)—C. E. (4 years).
11. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
12. New York University (School of Applied Science)—B. S. in C. E. (4 years).
13. Ohio State University (College of Engineering)—B. C. E. (4 years).
14. Princeton University (Undergraduate Department)—C. E. (4 years).
15. Purdue University (Undergraduate Department)—B. S. in C. E. (4 years).
16. Rensselaer Polytechnic Institute (Undergraduate Department)—C. E. (4 years).
17. Tufts College (Engineering School)—B. S. in C. E. (4 years).
18. Tulane University of Louisiana (College of Technology)—B. C. E. (4 years).
19. University of Arizona (Undergraduate Department)—B. S. in C. E. (4 years).
20. University of Cincinnati (College of Engineering)—B. S. in C. E. (4-year theoretical course)—C. E. (5-year cooperative course).
21. University of Illinois (College of Engineering)—B. S. in C. E. (4 years).
22. University of Missouri (School of Engineering)—C. E. (3 years).
(School of Mines and Metallurgy)—B. S. in C. E. (4 years).
23. University of Nebraska (College of Engineering)—B. Sc. in C. E. (4 years).
24. University of Notre Dame (College of Engineering)—C. E. (4 years).
25. University of Pennsylvania (Towne Scientific School)—B. S. in C. E. (4 years).
26. University of Virginia (Department of Engineering)—C. E. (4 years).
27. University of Washington (College of Engineering)—B. S. in C. E. (4 years), B. S. (4 years).
28. University of Wisconsin (College of Engineering)—B. S. in C. E. (4 years).
29. Vanderbilt University (Engineering Department)—B. E. (4 years).
30. Washington University (St. Louis) (School of Engineering)—B. S. in C. E. (4 years).

GRADUATE COURSES.

Degrees: B. S. in C. E., M. S. in C. E., C. E., M. C. E.

1. Alabama Polytechnic Institute (Graduate Department)—C. E. (1 year).
2. Armour Institute of Technology (Graduate Department)—C. E. (3 years).
3. Case School of Applied Science (Graduate Department)—C. E. (3 years).
4. Catholic University of America (School of Sciences—Graduate Department)—C. E. (2 years).
5. College of Hawaii (Graduate Department)—C. E. (1 year).
6. Cornell University (Graduate School)—M. C. E. (1 year).
7. Dartmouth College (Thayer School of Civil Engineering)—C. E. (2 years).
8. George Washington University (School of Graduate Studies)—C. E. (1 year).
9. Harvard University (Graduate School of Applied Science)—M. C. E. (2 years).
10. Howard University (School of Manual Arts and Applied Science)—C. E. (2 years).
11. Iowa State College (Division of Engineering)—B. S. in C. E. (5 years), C. E. (5 or 6 years).
12. Johns Hopkins University (Department of Engineering)—M. C. E. (2 years).
13. Leland Stanford Junior University (Graduate Department)—C. E. (1 year).
14. Louisiana State University (Graduate School)—C. E. (1 or 2 years).
15. New York University (School of Applied Science)—C. E. (1 year).
16. Northwestern University (College of Engineering)—C. E. (5 years).
17. Ohio State University (Graduate School)—C. E. (5 to 8 years).
18. Pennsylvania State College (Graduate Department)—C. E.
19. Purdue University (Graduate Department)—C. E. (1 year).

20. Rensselaer Polytechnic Institute(Graduate Department)—M. C. E. (1 year).
21. Tulane University of Louisiana (Department of Graduate Studies)—C. E. (1 or 2 years).
22. University of California (Graduate School)—C. E. (3 years).
23. University of Illinois (Graduate School)—C. E. (3 years).
24. University of Michigan (Graduate School)—C. E.
25. University of Minnesota (College of Engineering and Mechanic Arts)—C. E. (5 years).
26. University of Nebraska (Graduate College)—M. S. in C. E. (1 year), C. E. (1 year).
27. University of Washington (College of Engineering)—M. S. in C. E. (1 year), C. E. (1 or 2 years).
28. University of Wisconsin (Graduate School)—C. E. (1 to 3 years).
29. Vanderbilt University (Engineering Department)—C. E. (1 year).
30. Washington University (St. Louis) (School of Engineering)—C. E. (3 years).
31. Worcester Polytechnic Institute (Graduate Department)—C. E. (1 year).
32. Yale University (Sheffield Scientific School)—C. E. (5 years).

ELECTRICAL ENGINEERING DEPARTMENTS (OR SCHOOLS OR DIVISIONS OR COLLEGES).

UNDERGRADUATE COURSES.

Degrees: B. S. (or B. Sc.) in C. E., B. S., B. E. E., E. E., B. E.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in E. E. (4 years).
2. Case School of Applied Science (Undergraduate Department)—B. S. in E. E. (4 years).
3. Catholic University of America (School of Sciences—Undergraduate Department)—B. S. in E. E. (4 years).
4. Columbia University (School of Engineering)—E. E. (4 years).
5. George Washington University (College of Engineering)—B. S. in E. E. (4 years).
6. Iowa State College (Division of Engineering)—B. S. in E. E. (4 years).
7. Lehigh University (Undergraduate Department)—E. E. (4 years).
8. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
9. Northwestern University (College of Engineering)—E. E. (4 years).
10. Ohio State University (College of Engineering)—B. E. E. (4 years).
11. Pennsylvania State College (Graduate Department)—E. E. (4 years).
12. Purdue University (Undergraduate Department)—B. S. in E. E. (4 years.)
13. Rensselaer Polytechnic Institute (Undergraduate Department)—E. E. (4 years).
14. Tufts College (Engineering School)—B. S. in E. E. (4 years).
15. Tulane University of Louisiana (College of Technology)—B. E. E. (4 years).
16. University of Arizona (Undergraduate Department)—B. S. in E. E. (4 years).
17. University of Cincinnati (College of Engineering)—B. S. in E. E. (4-year theoretical course)—E. E. (5-year cooperative course).
18. University of Illinois (College of Engineering)—B. S. in E. E. (4 years).
19. University of Missouri (School of Engineering)—E. E. (3 years).
20. University of Nebraska (College of Engineering)—B. Sc. in E. E. (4 years).
21. University of Pennsylvania (Towne Scientific School)—B. S. in E. E. (4 years).
22. University of Virginia (Department of Engineering)—E. E. (4 years).
23. University of Washington (College of Engineering)—B. S. in E. E. (4 years), B. S. (4 years).
24. University of Wisconsin (College of Engineering)—B. S. in E. E. (4 years).
25. Vanderbilt University (Engineering Department)—B. E. (4 years).
26. Washington University (St. Louis) (School of Engineering)—B. S. in E. E. (4 years).

GRADUATE COURSES.

Degrees: B. S. in E. E., M. S. in E. E., E. E., M. E. E.

1. Alabama Polytechnic Institute (Graduate Department)—E. E. (1 year).
2. Armour Institute of Technology (Graduate Department)—E. E. (3 years).
3. Case School of Applied Science (Graduate Department)—E. E. (3 years).
4. Catholic University of America (School of Sciences—Graduate Department)—E. E. (2 years).
5. College of Hawaii (Graduate Department)—E. E. (1 year).
6. George Washington University (School of Graduate Studies)—E. E. (1 year).
7. Harvard University (Graduate School of Applied Science)—M. E. E. (2 years).
8. Howard University (School of Manual Arts and Applied Science)—E. E. (2 years).
9. Iowa State College (Division of Engineering)—B. S. in E. E. (5 years), E. E. (5 or 6 years).
10. Johns Hopkins University (Department of Engineering)—M. E. E. (2 years).
11. Leland Stanford Junior University (Graduate Department)—E. E. (1 year).
12. Louisiana State University (Graduate School)—E. E. (1 or 2 years).
13. Northwestern University (College of Engineering)—E. E. (5 years).
14. Ohio State University (Graduate School)—E. E. (5 to 8 years).
15. Pennsylvania State College (Graduate Department)—E. E.
16. Princeton University (School of Electrical Engineering)—E. E. (2 years).
17. Purdue University (Graduate Department)—E. E. (1 year).
18. Rensselaer Polytechnic Institute (Graduate Department)—M. E. E. (1 year).
19. Tulane University of Louisiana (Department of Graduate Studies)—E. E. (1 or 2 years).
20. University of Illinois (Graduate School)—E. E. (3 years).
21. University of Michigan (Graduate School)—E. E.
22. University of Minnesota (College of Engineering and Mechanic Arts)—E. E. (5 years).
23. University of Nebraska (Graduate College)—M. S. in E. E. (1 year), E. E. (1 year).
24. University of Washington (College of Engineering)—M. S. in E. E. (1 year), E. E. (1 or 2 years).
25. University of Wisconsin (Graduate School)—E. E. (1 to 3 years).
26. Vanderbilt University (Engineering Department)—E. E. (1 year).
27. Washington University (St. Louis) (School of Engineering)—E. E. (3 years).
28. Worcester Polytechnic Institute (Graduate Department)—E. E. (1 year).
29. Yale University (Sheffield Scientific School)—E. E. (5 years).

MECHANICAL ENGINEERING DEPARTMENTS (OR SCHOOLS OR COLLEGES OR DIVISIONS OR INSTITUTES).

UNDERGRADUATE COURSES.

Degrees: B. S. (or B. Sc.) in M. E., B. S., M. E. (or Mech. E.), B. M. E., B. E.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in M. E. (4 years).
2. Case School of Applied Science (Undergraduate Department)—B. S. in M. E. (4 years).
3. Catholic University of America (School of Sciences—Undergraduate Department)—B. S. in M. E. (4 years).
4. College of Hawaii (Undergraduate Department)—B. S. in M. E. (4 years).
5. Columbia University (School of Engineering)—Mech. E. (4 years).
6. Cornell University (Sibley College of Mechanical Engineering and Mechanic Arts)—M. E. (4 or 5 years).
7. George Washington University (College of Engineering)—B. S. in M. E. (4 years).
8. Iowa State College (Division of Engineering)—B. S. in M. E. (4 years).

9. Lehigh University (Undergraduate Department)—M. E. (4 years).
10. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
11. New York University (School of Applied Science)—B. S. in M. E. (4 years).
12. Ohio State University (College of Engineering)—B. M. E. (4 years).
13. Purdue University (Undergraduate Department)—B. S. in M. E. (4 years).
14. Rensselaer Polytechnic Institute (Undergraduate Department)—M. E. (4 years).
15. Stevens Institute of Technology—M. E. (4 years).
16. Tufts College (Engineering School)—B. S. in M. E. (4 years).
17. Tulane University of Louisiana (College of Technology)—B. M. E. (4 years).
18. University of Arizona (Undergraduate Department)—B. S. in M. E. (4 years).
19. University of Cincinnati (College of Engineering)—B. S. in M. E. (4-year theoretical course)—M. E. (5-year cooperative course).
20. University of Illinois (College of Engineering)—B. S. in M. E. (4 years).
21. University of Missouri (School of Engineering)—M. E. (3 years).
22. University of Nebraska (College of Engineering)—B. Sc. in M. E. (4 years).
23. University of Notre Dame (College of Engineering)—M. E. (4 years).
24. University of Pennsylvania (Towne Scientific School)—B. S. in M. E. (4 years).
25. University of Virginia (Department of Engineering)—M. E. (4 years).
26. University of Washington (College of Engineering)—B. S. in M. E. (4 years), B. S. (4 years).
27. University of Wisconsin (College of Engineering)—B. S. in M. E. (4 years).
28. Vanderbilt University (Engineering Department)—B. E. (4 years).
29. Washington University (St. Louis) (School of Engineering)—B. S. in M. E. (4 years).

GRADUATE COURSES.

Degrees: B. S. in M. E., M. S. in M. E., M. E., M. M. E.

1. Alabama Polytechnic Institute (Graduate Department)—M. E. (1 year).
2. Armour Institute of Technology (Graduate Department)—M. E. (3 years).
3. Case School of Applied Science (Graduate Department)—M. E. (3 years).
4. Catholic University of America (School of Sciences—Graduate Department)—M. E. (2 years).
5. College of Hawaii (Graduate Department)—M. E. (1 year).
6. Cornell University (Graduate School)—M. M. E. (1 year).
7. George Washington University (School of Graduate Studies)—M. E. (1 year).
8. Harvard University (Graduate School of Applied Science)—M. M. E. (2 years), M. E. (2 years).
9. Howard University (School of Manual Arts and Applied Science)—M. E. (2 years).
10. Iowa State College (Division of Engineering)—B. S. in M. E. (5 years), M. E. (5 or 6 years).
11. Johns Hopkins University (Department of Engineering)—M. M. E. (2 years).
12. Leland Stanford Junior University (Graduate Department)—M. E. (1 year).
13. Louisiana State University (Graduate School)—M. E. (1 or 2 years).
14. New York State University (School of Applied Science)—M. E. (1 year).
15. Ohio State University (Graduate School)—M. E. (5 to 8 years).
16. Pennsylvania State College (Graduate Department)—M. E.
17. Purdue University (Graduate Department)—M. E. (1 year).
18. Rensselaer Polytechnic Institute (Graduate Department)—M. M. E. (1 year).
19. Tulane University of Louisiana (Department of Graduate Studies)—M. E. (1 or 2 years).
20. University of California (Graduate School)—M. E. (3 years).
21. University of Illinois (Graduate School)—M. E. (3 years).
22. University of Michigan (Graduate School)—M. E.

23. University of Minnesota (College of Engineering and Mechanic Arts)—M. E. (5 years).
24. University of Nebraska (Graduate College)—M. S. in M. E. (1 year), M. E. (1 year).
25. University of Washington (College of Engineering)—M. S. in M. E. (1 year), M. E. (1 or 2 years).
26. University of Wisconsin (Graduate School)—M. E. (1 to 3 years).
27. Vanderbilt University (Engineering Department)—M. E. (1 year).
28. Washington University (St. Louis) (School of Engineering)—M. E. (3 years).
29. Worcester Polytechnic Institute (Graduate Department)—M. E. (1 year).
30. Yale University (Sheffield Scientific School)—M. E. (5 years).

METALLURGICAL ENGINEERING SCHOOLS (OR DEPARTMENTS OR COLLEGES).

UNDERGRADUATE COURSES.

Degrees: B. S. in Metallurgy, B. S. in Met. E., Met., El. Met.

1. Case School of Applied Science (Undergraduate Department)—B. S. in Metallurgy (4 years).
2. Columbia University (School of Mines)—Met. E. (4 years).
3. Lehigh University (Undergraduate Department)—Met. E. (4 years), El. Met. (4 years).
4. University of Cincinnati (College of Engineering)—Met. E. (5-year cooperative course).
5. University of Missouri (School of Mines and Metallurgy)—B. S. in Metallurgy (4 years).
6. University of Washington (School of Mines)—B. S. in Met. E. (4 years).

GRADUATE COURSES.

Degrees: Met. E. (or Metallurgical Engineer or Metallurgical E.).

1. Harvard University (Graduate School of Applied Science)—Met. E. (2 years).
2. University of California (Graduate School)—Metallurgical E. (3 years).
3. University of Minnesota (School of Mines)—Met. E. (5 years).
4. University of Missouri (School of Mines and Metallurgy)—Metallurgical Engineer (1 year).
5. University of Washington (College of Mines)—Met. E. (3 years).
6. Yale University (Sheffield Scientific School)—Met. E. (5 years).

MINING ENGINEERING COLLEGES (OR SCHOOLS OR DIVISIONS OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: B. S. in E. M. (or Mining Eng.), E. M., B. E. M., B. S., B. S. in Coal Mining Eng.

1. Case School of Applied Science (Undergraduate Department)—B. S. in E. M. (4 years).
2. Colorado State School of Mines—E. M. (4 years).
3. Columbia University (School of Mines)—E. M. (4 years).
4. Iowa State College (Division of Engineering)—B. S. in E. M. (4 years).
5. Lehigh University (Undergraduate Department)—E. M. (4 years).
6. Michigan College of Mines—E. M. (4 years), B. S. (4 years).
7. Northwestern University (College of Engineering)—E. M. (4 years).
8. Ohio State University (College of Engineering)—B. E. M. (4 years).
9. Pennsylvania State College (School of Mines)—B. S. (4 years).
10. University of California (College of Mining)—B. S. (4 or 5 years).
11. University of Illinois (College of Engineering)—B. S. in E. M. (4 years).
12. University of Missouri (School of Mines and Metallurgy)—B. S. in Mining Engineer (4 years).

13. University of Southern California (College of Liberal Arts—Undergraduate Department)—2 years' course.
14. University of Virginia (Department of Engineering)—E. M. (4 years).
15. University of Washington (College of Mines)—B. S. in E. M. (4 years), B. S. in Coal Mining Eng. (4 years).
16. University of Wisconsin (College of Engineering)—B. S. in E. M. (4 years).

GRADUATE COURSES.

Degrees: M. S., B. S. in E. M., E. M.

1. Alabama Polytechnic Institute (Graduate Department)—E. M. (1 year).
2. Case School of Applied Science (Graduate Department)—E. M. (3 years).
3. Colorado State School of Mines (Graduate Department)—M. S. (1 year).
4. Iowa State College (Division of Engineering)—B. S. in E. M. (5 years), E. M. (5 or 6 years).
5. Leland Stanford Junior University (Graduate Department)—E. M. (1 year).
6. Pennsylvania State College (Graduate Department)—E. M.
7. University of California (Graduate School)—E. M. (3 years).
8. University of Minnesota (School of Mines)—E. M. (5 years).
9. University of Missouri (School of Mines and Metallurgy)—E. M. (1 year).
10. University of Washington (College of Mines)—E. M. (3 years), B. S. in E. M. (1 year).
11. University of Wisconsin (Graduate School)—E. M. (1 to 3 years).
12. Yale University (Sheffield Scientific School)—E. M. (5 years).

MUNICIPAL AND SANITARY ENGINEERING COLLEGES (OR DEPARTMENTS OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: B. S. in Municipal and Sanitary Engineering, B. S.

1. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
2. University of Illinois (College of Engineering)—B. S. in Municipal and Sanitary Engineering (4 years).

GRADUATE COURSES.

Degree: C. E.

1. University of Illinois (Graduate School)—C. E. (3 years).

ARCHITECTURAL ENGINEERING SCHOOLS (OR COLLEGES OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degree: B. S. (or B. Sc.) in Arch. E.

1. Catholic University of America (School of Sciences—Undergraduate Department)—B. S. in Arch. E. (4 years).
2. Clemson Agricultural College (Undergraduate Department)—B. S. in Arch. E. (4 years).
3. University of Illinois (College of Engineering)—B. S. in Arch. E. (4 years).
4. University of Nebraska (College of Engineering)—B. Sc. in Arch. E. (4 years).
5. University of Notre Dame (College of Architecture)—B. S. in Arch. E. (4 years).
6. University of Pennsylvania (Towne Scientific School)—B. S. in Arch. E. (4 years).

GRADUATE COURSES.

Degrees: Arch. E., M. S. in Arch. E.

1. University of Illinois (Graduate School)—Arch. E. (3 years).
2. University of Minnesota (College of Engineering and Mechanical Arts)—Arch. E. (5 years).
3. University of Notre Dame (College of Architecture)—M. S. in Arch. E. (1 year).

RAILWAY ENGINEERING COLLEGES (OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: B. S. in Railway C. E., B. S. in Railway E. E., B. S. in Railway M. E.

1. University of Illinois (College of Engineering)—B. S. in Railway C. E. (4 years), B. S. in Railway E. E. (4 years), B. S. in Railway M. E. (4 years).

GRADUATE COURSES.

Degrees: C. E., E. E., M. E.

1. University of Illinois (Graduate School)—C. E. (3 years), E. E. (3 years), M. E. (3 years).

NAVAL ARCHITECTURE AND MARINE ENGINEERING DEPARTMENTS

UNDERGRADUATE COURSES.

Degree: B. S.

1. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).

GRADUATE COURSES.

Degrees: Nav. Arch., Mar. E.

1. University of Michigan (Graduate School)—Nav. Arch., Mar. E.

FIRE PROTECTION ENGINEERING DEPARTMENTS.

UNDERGRADUATE COURSES.

Degree: B. S. in Fire Protection.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in Fire Protection (4 years).

GRADUATE COURSES.

Degree: Fire Protection E.

1. Armour Institute of Technology (Graduate Department)—Fire Protection E. (3 years).

AGRICULTURAL ENGINEERING COLLEGES (OR DIVISIONS).

UNDERGRADUATE COURSES.

Degrees: B. S. in Agr. Eng. (or B. Sc. in Agr. Eng.).

1. Iowa State College (Division of Agriculture)—B. S. in Agr. Eng. (4 years).
   (Division of Engineering)—B. S. in Agr. Eng. (4 years).
2. University of Nebraska (College of Engineering)—B. Sc. in Agr. Eng. (4 years).

GRADUATE COURSES.

Degrees: B. S. in Agr. Eng., M. S. in Agr. Eng., A. E. (or Agr. E.).

1. Iowa State College (Division of Agriculture)—B. S. in Agr. Eng. (5 years).
   (Division of Engineering)—B. S. in Agr. Eng. (5 years), A. E. (5 or 6 years).
2. University of Nebraska (Graduate College)—M. S. in Agr. Eng. (1 year), Agr. E. (1 year).

ENGINEERING ADMINISTRATION DEPARTMENTS.

UNDERGRADUATE COURSES.

Degree: B. S.

1. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).

AGRICULTURE.

AGRICULTURAL COLLEGES (OR DEPARTMENTS OR DIVISIONS OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: B. S. (or B. Sc.), B. S. (Agr.), B. S. (or B. Sc.) in Agr., B. S. in Sugar Technology, B. S. in Floriculture, B. S. (or B. Sc.) in Agr. Ed., B. S. in Agronomy, B. S. in Animal Husbandry, B. S. in Dairying, B. S. in Horticulture, B. S. in Entomology, Certificate in Agr., Graduate in Agr.

1. Alabama Polytechnic Institute (College of Agricultural Sciences)—B. S. (4 years).
2. Clemson Agricultural College (Undergraduate Department)—B. S. in Agr. (4 years).
3. College of Hawaii (Undergraduate Department)—B. S. in Agr. (4 years), B. S. in Sugar Technology (4 years).
4. Cornell University (New York State College of Agriculture)—B. S. (4 years).
5. Iowa State College (Division of Agriculture)—B. S. in Agr. Ed. (4 years), B. S. in Agronomy (4 years), B. S. in Animal Husbandry (4 years), B. S. in Dairying (4 years), B. S. in Horticulture (4 years), Certificate in Agriculture (2 years).
6. Louisiana State University (Department of Agriculture)—B. S. (4 years).
   (Audubon Sugar School)—B. S. (5 years).
7. Massachusetts Agricultural College (Undergraduate Department)—B. Sc. (4 years).
8. Ohio State University (College of Agriculture)—B. S. in Agr. (4 years), B. S. in Horticulture (4 years), B. S. in Entomology (4 years).
9. Pennsylvania State College (School of Agriculture)—B. S. (4 years).
10. Purdue University (Undergraduate Department)—B. S. in Agr. (4 years).
11. University of Arizona (Undergraduate Department)—B. S. in Agr. (4 years).
12. University of California (College of Agriculture)—B. S. (4 years).
    (University Farm School.)
13. University of Illinois (College of Agriculture)—B. S. in Agr. (4 years), B. S. in Floriculture (4 years).
14. University of Minnesota (College of Agriculture)—B. S. (4 years).
15. University of Missouri (College of Agriculture)—B. S. in Agr. (4 years).
16. University of Nebraska (College of Agriculture)—B. Sc. in Agr. (4 years).
17. University of Wisconsin (College of Agriculture)—B. S. in Agr. (4 years), Graduate in Agr. (2 years).

GRADUATE COURSES.

Degrees: B. S. and B. S. (in specific subject), M. S., M. S. in Agr., M. S. A., Ph. D.

1. College of Hawaii (Graduate Department)—M. S. A. (1 year).
2. Cornell University (Graduate School)—M. S. in Agr. (1 year).
3. Iowa State College (Division of Agriculture)—B. S. and B. S. (in specific subject) (5 years).
   (Division of Industrial Science)—B. S. and B. S. (in specific subject) (5 years).
4. Massachusetts Agricultural College (Graduate School)—M. S. (1½ years), Ph. D. (3 years).
5. Purdue University (Graduate Department)—M. S. in Agr. (1 year).
6. University of California (Graduate School of Tropical Agriculture).

FORESTRY SCHOOLS (OR DIVISIONS OR COLLEGES).

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. (or B. Sc.) in Forestry, M. F.

1. Iowa State College (Division of Agriculture)—B. S. in Forestry (4 years).
2. Ohio State University (College of Agriculture)—B. S. in Forestry (4 years).
3. University of Michigan (College of Literature, Science, and the Arts)—B. S. in Forestry (4 years).
4. University of Minnesota (College of Forestry)—B. S. (4 years).
5. University of Missouri (College of Agriculture)—B. S. in Forestry (4 years).

6. University of Nebraska (College of Agriculture)—B. Sc. in Forestry (4 years).
7. University of Washington (College of Forestry)—B. S. (4 years).
8. Yale University (School of Forestry)—M. F. (2 years).

GRADUATE COURSES.

Degrees: B. S. in Forestry, M. S. in Forestry, M. S. F., M. F.

1. Cornell University (Graduate School)—M. F. (1 year).
2. Harvard University (Graduate School of Applied Science)—M. F. (2 years).
3. Iowa State College (Division of Agriculture)—B. S. in Forestry (5 years).
4. University of Michigan (Graduate School)—M. S. in Forestry (1 year).
5. University of Missouri (College of Agriculture)—M. F. (5 years).
6. University of Nebraska (College of Agriculture)—M. F. (6 years).
7. University of Washington (College of Forestry)—M. S. F. (1 year).

LANDSCAPE GARDENING COLLEGES (OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: B. A., B. S. in Landscape Gardening, B. S.

1. University of Illinois (College of Agriculture)—B. S. in Landscape Gardening (4 years).
2. University of Michigan (College of Literature, Science, and the Arts)—B. A. (4 years), B. S. (4 years).

GRADUATE COURSES.

Degrees: M. L. D. (or Master of Landscape Design), M. L. A.

1. Cornell University (Graduate School)—Master in Landscape Design (1 year).
2. Harvard University (Graduate School of Applied Science)—M. L. A. (2 years).
3. University of Michigan (Graduate School)—M. L. D. (1 year).

INDUSTRY.

COMMERCE COLLEGES (OR SCHOOLS OR DEPARTMENTS OR COURSES).

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. in Commerce, B. S. in Economics, A. B., B. A. in Commerce, Ph. B., Ph. B. in Commerce, B. B. A., B. C. S., Certificate.

1. Howard University (Commercial College).
2. Lehigh University (Undergraduate Department)—B. S. (4 years). (Business Administration).
3. New York University (School of Commerce, Accounts, and Finance)—B. C. S. (3 years).
4. Northwestern University (School of Commerce)—B. B. A. (3 years).
5. St. Louis University (School of Commerce and Finance)—B. C. S. (3 years), certificate.
6. Simmons College (Undergraduate Department)—B. S. (4 years). (Secretarial duties), certificate (short course in secretarial duties).
7. University of California (College of Commerce)—B. S. (4 years).
8. University of Chicago (College of Commerce and Administration—Undergraduate Department)—Ph. B. (4 years). (College of Religious and Social Sciences)—Ph. B. (4 years).
9. University of Cincinnati (College of Commerce)—Bachelor of Commerce (4 years).
10. University of Missouri (School of Commerce)—B. S. in Commerce (2 years).
11. University of Nebraska (School of Commerce)—A. B. (4 years).
12. University of Notre Dame (College of Arts and Letters)—Ph. B. in Commerce (4 years).

13. University of Pennsylvania (Wharton School of Finance and Commerce)—B. S. in Economics (4 years), certificate (2 years).
14. University of Washington (College of Liberal Arts)—A. B. (4 years).
15. University of Wisconsin (Course in Commerce)—B. A. in Commerce (4 years).

GRADUATE COURSES.

Degrees: A. M., M. C. S., M. B. A., Ph. D.

1. Dartmouth College (Amos Tuck School of Administration and Finance)—M C. S. (2 years).
2. Harvard University (Graduate School of Business Administration)—M. B. A. (2 years).
3. New York University (School of Commerce, Accounts, and Finance)—M. C. S. (1 year).
4. University of Chicago (College of Commerce and Administration)—A. M. (1 year), Ph. D. (3 years).

INDUSTRIAL ARTS DEPARTMENTS (OR DIVISIONS OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. in Industrial Arts, B. S. in Practical Arts.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in Industrial Arts (4 years).
2. Columbia University (Teachers' College—School of Practical Arts)—B. S. in Practical Arts (4 years).
3. Iowa State College (Division of Industrial Science)—B. S. (4 years).

GRADUATE COURSES.

Degrees: A. M., Ph. D.

1. Columbia University (Teachers College—School of Practical Arts)—A. M. (1 year), Ph. D. (2 years).

DOMESTIC SCIENCE OR HOUSEHOLD ECONOMICS SCHOOLS (OR DIVISIONS OR COLLEGES OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: A. B., B. S., B. S. (or B. Sc.) in Home Economics, B. S. (Home Economics), B. S. in Household Science, B. S. and Diploma in Domestic Science or Art, Diploma in Household Economy, Certificate.

1. Howard University (School of Manual Arts and Applied Science)—B. S. and diploma in domestic science or art (4 years).
2. Iowa State College (Division of Home Economics)—B. S. in Home Economics (4 years).
3. Ohio State University (College of Agriculture)—B. S. in Home Economics (4 years).
4. Pennsylvania State College (Department of Home Economics)—B. S. (4 years).
5. Simmons College (Undergraduate Department)—B. S. (4 years), Certificate (short course).
6. Tulane University of Louisiana (H. Sophie Newcomb Memorial College)—Diploma in Household Economy (short course).
7. University of Cincinnati (School of Household Arts)—B. S. (3 years).
8. University of Illinois (College of Agriculture)—B. S. in Household Science (4 years).
9. University of Minnesota (College of Agriculture)—B. S. (4 years).
10. University of Nebraska (College of Agriculture)—B. Sc. in Home Economics (4 years).
11. University of Washington (College of Science)—B. S. in Home Economics (4 years).
    (College of Liberal Arts)—A. B. (4 years).
12. University of Wisconsin (College of Agriculture)—B. S. (Home Economics), (4 years).

GRADUATE COURSES.

Degrees: B. S. and B. S. in Home Economics, B. S. and B. S. in specific subject.

1. Iowa State College (Division of Home Economics)—B. S. and B. S. in Home Economics, (5 years).
   (Division of Industrial Science)—B. S. and B. S. (in specific subject) (5 years).

LIBRARY SCIENCE SCHOOLS (OR DEPARTMENTS OR COLLEGES OR COURSES).

UNDERGRADUATE COURSES.

Degrees: A. B., B. A. and Certificate of Library School, B. S., Bachelor of Library Science, Certificate, Certificate of Library School.

1. Howard University (Library School).
2. Simmons College (Undergraduate Department)—B. S. (4 years), Certificate (short course).
3. University of Illinois (Library School)—Bachelor of Library Science (2 years).
4. University of Washington (College of Liberal Arts)—A. B. (4 years).
5. University of Wisconsin (Library Course)—Certificate of Library School, B. A. and Certificate of Library School.

TEXTILE INDUSTRY DEPARTMENTS.

UNDERGRADUATE COURSE.

Degree: B. S. in Textile Industry.

1. Clemson Agricultural College (Undergraduate Department)—B. S. in Textile Industry (4 years).

JOURNALISM COLLEGES (OR SCHOOLS OR COURSES).

UNDERGRADUATE COURSES.

Degrees: A. B., B. A. in Journalism, B. J., B. Lit., Ph. B. in Journalism.

1. Columbia University (School of Journalism)—B. Lit. (4 years).
2. University of Missouri (School of Journalism)—B. J. (2 years).
3. University of Notre Dame (College of Arts and Letters)—Ph. B. in Journalism (4 years).
4. University of Washington (College of Liberal Arts)—A. B. (4 years).
5. University of Wisconsin (Course in Journalism)—B. A. in Journalism (4 years).

ART.

FINE ARTS INSTITUTES (OR COLLEGES OR SCHOOLS OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: A. B. (or B. A.), B. Fine Arts, Diploma, Diploma in Art, Certificate.

1. Randolph-Macon Woman's College (Undergraduate Department)—Certificate.
2. State University of Iowa (College of Fine Arts).
3. Tulane University of Louisiana (H. Sophie Newcomb Memorial College)—Diploma in Art (4 years, also a short course).
4. University of California (San Francisco Institute of Art).
5. University of Nebraska (School of Fine Arts)—A. B. (4 years).
6. University of Oregon (School of Fine Arts)—B. A. (4 years).
7. University of Southern California (College of Fine Arts)—B. Fine Arts (4 years), Diploma (3 years).
8. University of Washington (College of Fine Arts)—Certificate (2 years).

GRADUATE COURSE.

Degree: B. F. A.

1. Yale University (School of the Fine Arts)—B. F. A. (5 years).

ARCHITECTURE SCHOOLS (OR COLLEGES OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: B. F. A., B. S., B. S. (or B. Sc.) in Arch., B. Arch., Certificate.

1. Armour Institute of Technology (Undergraduate Department)—B. S. in Arch. (4 years).
2. Catholic University of America (School of Sciences, Undergraduate Department)—B. S. in Arch. (4 years).
3. Columbia University (School of Architecture)—B. Arch. (4 years).
4. Cornell University (College of Architecture)—B. Arch. (4 to 6 years).
5. George Washington University (College of Engineering)—B. S. in Arch. (4 years).
6. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
7. Ohio State University (College of Enginerring)—B. Arch. (4 years).
8. Tulane University of Louisiana (College of Technology)—B. Arch. (4 years).
9. University of Illinois (College of Engineering)—B. S. in Arch. (4 years).
10. University of Michigan (College of Literature, Science, and the Arts)—B. S. in Arch. (4 years).
11. University of Minnesota (College of Engineering and Mechanic Arts)—B. S. in Arch. (4 years).
12. University of Nebraska (College of Engineering)—B. Sc. in Arch. (4 years).
13. University of Notre Dame (College of Architecture)—B. S. in Arch. (4 years).
14. University of Oregon (School of Architecture)—B. S. (4 years).
15. University of Pennsylvania (Towne Scientific School)—B. S. in Arch. (4 years), Certificate (2 years).
16. University of Washington (College of Fine Arts)—B. Arch. (4 years), Certificate (4 years).
17. Washington University (St. Louis) (School of Architecture)—B. S. in Arch. (4 years).
18. Yale University (School of the Fine Arts)—B. F. A. (4 years).

GRADUATE COURSES.

Degrees: Grad. in Arch., M. S. in Arch., M. Arch., Arch. (or Architect).

1. Cornell University (Graduate School)—M. Arch. (1 year).
2. Harvard University (Graduate School of Applied Science)—M. Arch. (2 years).
3. Ohio State University (Graduate School)—M. Arch. (5 to 8 years).
4. University of California (Graduate School)—Grad. in Arch. (2 years).
5. University of Illinois (Graduate School)—M. Arch. (3 years).
6. University of Michigan (Graduate School)—M. S. in Arch. (1 year), Arch. (1 year).
7. University of Minnesota (College of Engineering and Mechanic Arts)—Architect (5 years).
8. University of Notre Dame (College of Architecture)—M. S. in Arch. (1 year).
9. Washington University (St. Louis) (School of Architecture)—M. S. in Arch. (1 year).

MUSIC COLLEGES (OR SCHOOLS OR CONSERVATORIES OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: B. Mus., Graduate in Music, Diploma, Certificate, Teachers' Certificate.

1. Howard University (Conservatory of Music)—Diploma (4 years).
2. Northwestern University (School of Music).
3. Randolph-Macon Woman's College (Undergraduate Department)—Certificate.
4. State University of Iowa (College of Music)—B. Mus. (4 years).
5. Tulane University of Louisiana (H. Sophie Newcomb Memorial College)—B. Mus. (4 years, also short courses).

6. University of Illinois (School of Music)—B. Mus. (4 years), Teachers' Certificate (1 year).
7. University of Minnesota (College of Science, Literature, and the Arts)—B. Mus. (4 years).
8. University of Notre Dame (College of Music)—B. Mus. (4 years).
9. University of Oregon (School of Music)—B. Mus. (4 years).
10. University of Pennsylvania (Undergraduate Department of Arts and Sciences)—Certificate (4 years).
11. University of Southern California (College of Music).
12. University of Washington (College of Fine Arts)—B. Mus. (4 years), Certificate (4 years).
13. University of Wisconsin (School of Music)—Graduate in Music (4 years); Certificate (2 years).
14. Yale University (School of Music)—Certificate (2 years).

GRADUATE COURSES.

Degrees: Mus. B. (or Mus. Bac.).

1. University of Pennsylvania (Graduate Department)—Mus. Bac. (1 year).
2. Yale University (School of Music)—Mus. B. (2 years).

PUBLIC SPEAKING COLLEGES (OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: —

1. Northwestern University (School of Oratory).
2. University of Southern California (College of Oratory).

SCIENCES.

CHEMISTRY COLLEGES (OR DEPARTMENTS OR SCHOOLS OR COURSES).

UNDERGRADUATE COURSES.

Degrees: B. A., B. S., B. S. in Chem., Ch., B. Chem.

1. Clemson Agricultural College (Undergraduate Department)—B. S. in Chem. (4 years).
2. Columbia University (School of Chemistry)—Ch. (4 years).
3. Cornell University (College of Arts and Sciences)—B. Chem. (4 years).
4. George Washington University (Columbian College)—B. S. in Chem. (4 years).
5. Lehigh University (Undergraduate Department)—B. S. in Chem. (4 years); B. S. (4 years).
6. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
7. State University of Iowa (College of Applied Science)—B. S. (4 years).
8. Tufts College (School of Liberal Arts)—B. S. in Chem. (4 years).
9. University of Arizona (Undergraduate Department)—B. S. in Chem. (4 years).
10. University of California (College of Chemistry)—B. S. (4 to 5 years).
11. University of Michigan (College of Literature, Science, and the Arts)—B. S. in Chem. (4 years).
12. University of Minnesota (School of Chemistry—Course in Applied Chemistry)—B. S. (4 years).
    (School of Chemistry—Course in Analytical Chemistry)—B. S. in Chem. (4 years).
13. University of Notre Dame (College of Science)—B. S. in Chem. (4 years).
14. University of Pennsylvania (Towne Scientific School)—B. S. in Chem. (4 years).
15. University of Wisconsin (Course in Chemistry)—B. S. in Chem. (4 years).

GRADUATE COURSES.

Degree: B. S. in Chem.

1. University of Minnesota (School of Chemistry—Course in Arts and Chemistry)—B. S. in Chem. (5 years).

ELECTROCHEMISTRY DEPARTMENT.

UNDERGRADUATE COURSE.

Degree B. S.

1. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).

SOCIAL SCIENCE SCHOOLS (OR DEPARTMENTS OR COLLEGES).

UNDERGRADUATE COURSES.

Degrees: B. S., B. L., Certificate.

1. Simmons College (Undergraduate Department)—B. S. (4 years); (Social Work)—Certificate (short course in social work).
2. State University of Iowa (School of Political and Social Science and Commerce).
3. University of California (College of Social Sciences)—B. L. (4 years).

BIOLOGY INSTITUTIONS (OR COLLEGES OR DEPARTMENTS OR STATIONS).

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. in Biol. (or Biology).

1. Harvard University (Bussey Institution of Applied Biology).
2. Lehigh University (Undergraduate Department)—B. S. (4 years).
3. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years). (Biology and public health).
4. University of California (Scripps Institution for Biological Research).
5. University of Notre Dame (College of Science)—B. S. in Biol. (4 years).
6. University of Pennsylvania (Undergraduate Department of Arts and Sciences)—B. S. in Biology (3 to 5 years).
7. University of Washington (Puget Sound Marine Station).

PHYSICS DEPARTMENTS.

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. in Physics.

1. Case School of Applied Science (Undergraduate Department)—B. S. in Physics (4 years).
2. Lehigh University (Undergraduate Department)—B. S. (4 years).
3. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years)

GEOLOGY DEPARTMENTS (OR COLLEGES).

UNDERGRADUATE COURSES.

Degrees: B. S., B. S. in Geology and Mining.

1. Lehigh University (Undergraduate Department)—B. S. (4 years).
2. Massachusetts Institute of Technology (Undergraduate Department)—B. S. (4 years).
3. University of Washington (College of Mines)—B. S. in Geology and Mining (4 years).

GRADUATE COURSES.

Degrees: E. M. (Geology).

1. University of Minnesota (School of Mines)—E. M. (Geology) (5 years).

Medical Science.

MEDICINE DEPARTMENTS (OR COLLEGES OR SCHOOLS OR FACULTIES).

UNDERGRADUATE COURSES.

Degrees: M. D., B. S. in Med., A. B. and M. D., B. S. and M. D., Dr. P. H., D. T. M., C. P. H., B. S., Certificate, Certificate (C. S.).

1. Columbia University (College of Physicians and Surgeons)—M. D. (4 years).
2. Cornell University (Medical College)—M. D. (4 years).
3. Dartmouth College (Medical School)—(No degree; 2 years' work only).
4. George Washington University (Columbian College)—B. S. in Med. (4 years).
   (Medical School)—M. D. (4 years).
5. Georgetown University (School of Medicine)—M. D. (4 years).
6. Harvard University (Medical School)—M. D. (4 years).
7. Howard University (Medical College)—M. D. (4 years).
8. Leland Stanford Junior University (Department of Medicine)—M. D. (5 years).
9. Massachusetts Institute of Technology (School for Health Officers)—C. P. H.
10. New York University (University and Bellevue Hospital Medical College)—M. D. (4 years).
11. Northwestern University (Medical School)—M. D. (5 years).
12. Ohio State University (College of Medicine)—M. D. (4 years).
13. St. Louis University (School of Medicine)—M. D. (4 years).
14. State University of Iowa (College of Medicine)—M. D. (4 years).
    (College of Homeopathic Medicine)—M. D. (4 years).
    (Training School for Nurses).
15. Tufts College (Medical School)—M. D. (4 years).
16. Tulane University of Louisiana (School of Medicine)—M. D. (4 years).
    (School of Hygiene and Tropical Medicine)—Dr. P. H., D. T. M.
17. University of Chicago (Rust Medical College)—M. D. (5 years).
18. University of Cincinnati (College of Medicine)—M. D. (4 years) or B. S. (Combined Arts and Medicine, 4 years), M. D. (6 years).
19. University of Illinois (College of Medicine)—A. B. and M. D. (6 or 8 years), B. S. and M. D. (6 years).
20. University of Michigan (Medical School)—M. D. (4 years).
    (Homeopathic Medical School)—M. D. (4 years).
21. University of Minnesota (Medical School)—B. S. (Combined Arts and Medicine) (4 years), M. D. (5 years).
22. University of Missouri (School of Medicine)—Certificate (2 years).
23. University of Nebraska (College of Medicine)—M. D. (4 years).
24. University of Oregon (School of Medicine)—M. D. (4 years).
25. University of Pennsylvania (School of Medicine)—M. D. (4 years), Certificate (C. S.) (1 year).
26. University of Southern California (College of Physicians and Surgeons)—M. D. (4 years).
27. University of Virginia (Department of Medicine)—M. D. (4 years).
28. University of Wisconsin (Medical School)—(No degree, 2-year course.)
29. Vanderbilt University (Medical Department)—M. D. (4 years).
30. Washington University (St. Louis) (Medical School)—M. D. (4 years).
31. Yale University (School of Medicine)—M. D. (4 years).

GRADUATE COURSES.

Degrees: M. D., M. S. in Med., Dr. P. H. (or D. P. H.), Graduate in Public Health, M. S. in Public Health, Diploma of Public Health, C. P. H. (Certificate).

1. Harvard University (Medical School)—D. P. H. (1 year).
   (Graduate School of Medicine)—M. D.
   (School for Health Officers)—C. P. H. (Certificate).

2. Johns Hopkins University (Faculty of Medicine)—M. D. (4 years).
3. New York University (University and Bellevue Hospital Medical College)—Dr. P. H. (1 year).
4. State University of Iowa (Graduate College)—M. S. in Med. (1 year).
5. University of California (Graduate School)—Graduate in Public Health (2 years). (Medical School)—M. D. (5 years).
6. University of Michigan (Graduate School)—D. P. H. (2 years), M. S. in Public Health (1 year).
7. University of Pennsylvania (School of Medicine)—D. P. H. (1 year).
8. University of Wisconsin (Medical School)—Diploma in Public Health (1 year). (Graduate School)—Dr. P. H. (2 years).

DENTISTRY COLLEGES (OR SCHOOLS OR DEPARTMENTS).

UNDERGRADUATE COURSES.

Degrees: D. D. S., D. D. C., D. M. D.

1. George Washington University (Dental School)—D. D. S. (3 years).
2. Georgetown University (Dental School)—D. D. S. (3 years).
3. Harvard University (Dental School)—D. M. D. (3 years).
4. Howard University (Dental School)—D. D. S. (3 years).
5. Northwestern University (Dental School)—D. D. S. (4 years).
6. Ohio State University (College of Dentistry)—D. D. S. (3 years).
7. St. Louis University (St. Louis Dental College)—D. D. S. (3 years).
8. State University of Iowa (College of Dentistry)—D. D. S. (3 years).
9. Tufts College (Dental School)—D. M. D. (3 years).
10. Tulane University of Louisiana (School of Dentistry)—D. D. S. (3 years).
11. University of California (College of Dentistry)—D. D. C. (3 years).
12. University of Illinois (College of Dentistry)—D. D. S. (3 years).
13. University of Michigan (College of Dental Surgery)—D. D. S. (3 years).
14. University of Minnesota (College of Dentistry)—D. D. S. (3 years).
15. University of Pennsylvania (School of Dentistry)—D. D. S. (3 years).
16. University of Southern California (College of Dentistry)—D. D. S. (3 years).
17. Vanderbilt University (Dentistry Department)—D. D. S. (3 years).
18. Washington University (St. Louis) (Dental School)—D. D. S. (3 years).

GRADUATE COURSES.

Degree: D. D. Sc.

1. University of Michigan (College of Dental Surgery)—D. D. Sc. (1 year).

PHARMACY COLLEGES (OR SCHOOLS OR DEPARTMENTS OR COURSES.)

UNDERGRADUATE COURSES.

Degrees: Ph. C., Ph. G., Phar. B., Phar. D., Phar. Chem. (or Pharmaceutical Chemist), B. S. in Pharmacy (or Phar., or Pharm.), B. S. (or B. Sc.).

1. Alabama Polytechnic Institute (Undergraduate Department)—Ph. C. (3 years), Ph. G. (2 years).
2. Columbia University (College of Pharmacy—College Course)—Ph. G. (2 years). (College of Pharmacy—University Course)—Ph. C. (3 years).
3. George Washington University (National College of Pharmacy)—Phar. D. (3 years).
4. Howard University (Pharmaceutic College)—Phar. D. (3 years).
5. Northwestern University (School of Pharmacy)—Ph. G. (2 years of 6 months each), Pharmaceutical Chemist (2 years of 9 months each).
6. Ohio State University (College of Pharmacy)—B. S. in Phar. (4 years), Ph. C. (2 years).

7. Purdue University (Undergraduate Department)—B. S. in Pharmacy (4 years), Pharmaceutical Chemist (2 years).
8. State University of Iowa (College of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years), Phar. B. (6 years, combined course).
9. Tulane University of Louisiana (School of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years).
10. University of California (College of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years), Phar. B. (4 years).
11. University of Illinois (School of Pharmacy)—Ph. G. (2 years), Phar. Chem. (2 years).
12. University of Michigan (College of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years), B. S. in Pharmacy (4 years).
13. University of Minnesota (College of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years), B. S. in Pharm. (4 years).
14. University of Nebraska (College of Pharmacy)—Ph. G. (2 years), Ph. C. (3 years), B. Sc. (4 years).
15. University of Notre Dame (College of Science)—B. S. in Phar. (4 years), Ph. G. (2 years), Ph. C. (3 years).
16. University of Southern California (College of Pharmacy)—Ph. C. (2 years).
17. University of Washington (College of Pharmacy)—Ph. C. (2 years), B. S. (4 years).
18. University of Wisconsin (Course in Pharmacy)—Ph. G. (2 years), B. S. in Pharmacy (4 years).
19. Vanderbilt University (Pharmacy Department)—Ph. G. (2 years), B. S. in Pharm. (4 years).

GRADUATE COURSES.

Degrees: M. S. in Phar. (or Pharmacy), B. S. in Pharmacy, Phar. B., Phm. M., Phm. D., Phar. D. (or Pharm.).

1. Alabama Polytechnic Institute (Graduate Department)—M. S. in Phar. (1 year).
2. Columbia University (College of Pharmacy—Graduate course)—B. S. in Pharmacy (1 year), Phar. D. (3 years).
3. Tulane University of Louisiana (School of Pharmacy)—Phar. D. (1 year).
4. University of Minnesota (College of Pharmacy)—Phar. M. (5 years), Phar. D. (6 years).
5. University of Southern California (College of Pharmacy)—Phar. B. (1 year).
6. University of Washington (College of Pharmacy)—M. S. in Pharmacy (1 year).

VETERINARY MEDICINE DEPARTMENTS (OR COLLEGES OR DIVISIONS OR SCHOOLS).

UNDERGRADUATE COURSES.

Degrees: D. V. M. (or V. M. D.), D. V. S.

1. Alabama Polytechnic Institute (Undergraduate Department)—D. V. M. (3 years).
2. Cornell University (New York State Veterinary College)—D. V. M. (3 years).
3. George Washington University (College of Veterinary Medicine)—D. V. M. (4 years).
4. Iowa State College (Division of Veterinary Medicine)—D. V. M. (4 years).
5. New York University (New York State Veterinary College)—D. V. S. (3 years).
6. Ohio State University (College of Veterinary Medicine)—D. V. M. (4 years).
7. University of Pennsylvania (School of Veterinary Medicine)—V. M. D.

GRADUATE COURSES.

Degrees: B. S. and D. V. M.

1. Iowa State College (Division of Industrial Science)—B. S. and D. V. M. (6 years).

Law Colleges (or Schools or Institutes or Departments).

UNDERGRADUATE COURSES.

Degrees: LL. B., B. C. L., J. B., J. D.

1. Catholic University of America (School of Law—Undergraduate Department)—LL. B. (3 years).
2. Columbia University (School of Law)—LL. B. (3 years).
3. Cornell University (College of Law)—LL. B. (4 years).
4. George Washington University (Law School)—LL. B. (3 years).
5. Georgetown University (Law School)—LL. B. (3 years).
6. Harvard University (Law School)—LL. B. (3 years).
7. Howard University (School of Law)—LL. B. (3 years).
8. Leland Stanford Junior University (Law School)—LL. B. (3 years), J. D. (3 years).
9. Louisiana State University (Law School)—LL. B. (3 years).
10. New York University (School of Law)—LL. B. (3 years), J. D. (3 years).
11. Northwestern University (Law School)—LL. B. (3 years), J. B. (3 years).
12. Ohio State University (College of Law)—LL. B. (3 years), J. D. (3 years).
13. St. Louis University (Institute of Law)—LL. B. (3 or 4 years).
14. State University of Iowa (College of Law)—LL. B. (3 years).
15. Tulane University of Louisiana (College of Law)—LL. B. (3 years).
16. University of California (Hastings College of the Law)—LL. B. (3 years).
17. University of Chicago (Law School)—LL. B. (3 years).
18. University of Illinois (School of Law)—LL. B. (3 years), J. D. (3 years).
19. University of Michigan (Law School)—LL. B. (3 years).
20. University of Minnesota (Law School)—LL. B. (3 years).
21. University of Missouri (School of Law)—LL. B. (3 years).
22. University of Nebraska (College of Law)—LL. B. (3 years).
23. University of Notre Dame (College of Law)—LL. B. (3 years).
24. University of Oregon (School of Law)—LL. B. (3 years), J. D. (3 years). (School of Law—Night school)—LL. B. (3 years).
25. University of Pennsylvania (Law School)—LL. B. (3 years).
26. University of Southern California (College of Law)—LL. B. (3 years), J. D. (3 years).
27. University of Virginia (Department of Law)—LL. B. (3 years).
28. University of Washington (School of Law)—LL. B. (3 years).
29. University of Wisconsin (Law School)—LL. B. (3½ years).
30. Vanderbilt University (Law Department)—LL. B. (3 years).
31. Washington University (St. Louis) (St. Louis Law School)—LL. B. (3 years).
32. Yale University (School of Law)—LL. B. (3 years), B. C. L. (3 years).

GRADUATE COURSES.

Degrees: LL. M., M. L., LL. D., M. C. L., D. C. L., Jur. D., J. D., S. J. D., Master of Patent Law.

1. Catholic University of America (School of Law—Graduate Department)—LL. M. (1 year), M. C. L. (1 year), J. D. (2 years), D. C. L. (2 years).
2. Columbia University (School of Law)—LL. M. (1 year).
3. George Washington University (Law School)—LL. M. (1 year). Master of Patent Law (1 year).
4. Georgetown University (Law School)—LL. M. (1 year), Master of Patent Law (1 year).
5. Harvard University (Law School)—S. J. D. (1 year).
6. New York University (School of Law)—LL. M. (1 year).
7. Northwestern University (Law School)—LL. M. (1 year), J. D. (1 year).
8. St. Louis University (Institute of Law)—LL. M. (1 year).
9. University of California (Graduate School)—J. D. (2 years).

10. University of Chicago (Law School)—J. D. (2 or 3 years).
11. University of Michigan (Law School)—LL. M. (1 year), J. D. (3 years).
12. University of Notre Dame (College of Law)—LL. M. (1 year), LL. D. (3 years), D. C. L. (3 years).
13. University of Pennsylvania (Law School)—LL. M. (1 year).
14. University of Southern California (College of Law)—LL. M. (1 year).
15. Yale University (School of Law) M. L. (1 year), D. C. L. (2 years), Jur. D. (1 year).

Theology Colleges (or Schools or Seminaries).

UNDERGRADUATE COURSES.

Degrees: B. D., S. T. B., J. C. B., Diploma.

1. Catholic University of America (School of Sacred Sciences)—S. T. B., J. C. B.
2. Harvard University (Divinity School)—S. T. B. (3 years).
3. Howard University (School of Theology) (Interdenominational)—B. D. (3 years), Diploma (3 years).
4. St. Louis University (School of Divinity) (Catholic).
5. Tufts College (Crane Theological School) (Universalist)—B. D. (5 years).
6. University of Chicago (English Theological Seminary)—(4 years' summer work—no degree).
7. University of Southern California (College of Theology) (Methodist)—B. D. (3 years).
8. Yale University (School of Religion)—B. D. (3 years)

GRADUATE COURSES.

Degrees: S. T. L., S. T. D., M. S. T. (or S. T. M.), J. C. L., J. C. D., D. B. (or B. D.), Th. D., A. M., Ph. D.

1. Catholic University of America (School of Sacred Sciences)—S. T. L. (2 years), J. C. L. (2 years), S. T. D. (4 years), J. C. D. (4 years).
2. Harvard University (Divinity School)—S. T. M. (1 year), Th. D. (2 years).
3. Northwestern University (Graduate School)—M. S. T. (3 years).
   (Garret Biblical Institute)—B. D. (3 years).
4. University of Chicago (Graduate Divinity School)—A. M. (1 year). D. B. (3 years). Ph. D. (4 years).
5. Vanderbilt University (Biblical Department)—B. D. (3 years), Diploma (3 years).

Education Colleges (or Schools or Courses).

UNDERGRADUATE COURSES.

Degrees: A. B. (or B. A.), A. B. (or B. A.) in Education, A. B. and Bachelor's Diploma in Education, B. S., B. S. in Pedagogy, S. B. (or B. S.) in Education, B. S. and Bachelor's Diploma in Education, Ph. B. in Education, Bachelor of Education, Diploma, Teacher's Certificate, Certificate, Kindergarten Primary Certificate, Manual Arts Certificate, Home Economics and Household Arts Certificate, Graphic and Plastic Arts Certificate, Supervisor's Certificate.

1. Columbia University (Teachers College—School of Practical Arts)—B. S. in Education (4 years).
2. George Peabody College for Teachers (School of Practical Arts and School of Education, combined)—B. S. (4 years).
   (Seaman A. Knapp School of Country Life and School of Education, combined)—B. S. (4 years).
3. George Washington University (Teacher's College)—A. B. and Bachelor's Diploma in Education (62 credits; 60 credits=4 years).
4. Howard University (Teachers College)—A. B. and Bachelor's Diploma in Education (4 years), B. S. and Bachelor's Diploma in Education (4 years).

5. Louisiana State University (Teachers' College)—A. B. (4 years).
6. New York University (School of Pedagogy)—B. S. in Pedagogy (3 years).
7. Ohio State University (College of Education)—B. S. in Education (4 years).
8. Simmons College (Undergraduate Department—Course in Industrial Education)—Certificate (short course).
9. State University of Iowa (College of Education)—Certificate (4 years).
10. Tulane University of Louisiana (College of Arts and Sciences)—B. A. in Education (4 years).
    (H. Sophie Newcomb Memorial College)—B. A. in Education (4 years).
11. University of Chicago (School of Education—The College)—Ph. B. in Education (4 years), A. B. in Education (4 years), S. B. in Education (4 years), Kindergarten Primary Certificate (2 years), Manual Arts Certificate (2 years), Home Economics and Household Arts Certificate (2 years), Graphic and Plastic Arts Certificate (2 years), Supervisor's Certificate (1 year).
12. University of Cincinnati (College for Teachers)—B. S. (4 years).
13. University of Illinois (School of Education)—(no special degree, 2 years' work).
14. University of Minnesota (College of Education)—A. B. in Education (2 years).
15. University of Missouri (School of Education)—B. S. in Education (2 years), Teacher's Certificate.
16. University of Nebraska (Teachers' College)—Teachers' College Diploma (2 years), University Teacher's Certificate (2 years).
17. University of Oregon (School of Education)—A. B. (4 years).
18. University of Pennsylvania (School of Education)—B. S. in Education (4 years).
19. University of Washington (College of Education)—Bachelor of Education (4 years), Diploma.
20. University of Wisconsin (Teachers' Training Course)—B. A., B. S., Certificate.

GRADUATE COURSES.

Degrees: A. M., M. A. in Education, A. M. and Master's Diploma in Education, M. S., M. S. in Education, M. S. Pd. M., Pd. D., Ph. D., Graduate Teacher's Diploma.

1. Columbia University (Teachers College—School of Education)—A. M. (1 year), Ph. D. (2 years).
   (Teachers College—School in Practical Arts)—A. M. (1 year), Ph. D. (2 years).
2. George Peabody College for Teachers (Graduate Department)—A. M. (1 year), Ph. D. (2 years).
3. Howard University (Teachers' College)—A. M. and Master's Diploma in Education (1 year).
4. New York University (School of Pedagogy)—Pd. M. (3 years), Pd. D. (5 years).
5. University of Chicago (Graduate School of Arts and Literature, and Ogden School of Science)—A. M. (1 year), M. S. (1 year), Ph. D. (3 years).
6. University of Nebraska (Graduate College)—Graduate Teacher's Diploma.
7. University of Pennsylvania (Graduate School)—A. M. (1 year), Ph. D. (3 years).
8. University of Washington (College of Education)—M. A. in Education (1 year), M. S. in Education (1 year).

SECTION V.

TABLE OF DEGREES MENTIONED IN THIS BULLETIN, AND THE ABBREVIATIONS USED TO DESIGNATE THEM.

BACHELOR'S DEGREES.

A. B. or B. A.....Bachelor of Arts.
B. Agr.....Bachelor of Agriculture.
B. Arch.....Bachelor of Architecture.
B. A. in Ed.....Bachelor of Arts in Education.
B. B. A.....Bachelor of Business Administration.
B. Chem.....Bachelor of Chemistry.
B. C. E.....Bachelor of Chemical Engineering.
B. C. S.....Bachelor of Commercial Science.
B. Cr. E.....Bachelor of Ceramics Engineering.
B. D. or D. B.....Bachelor of Divinity.
B. E. E.....Bachelor of Electrical Engineering.
B. Ed.....Bachelor of Education.
B. F. A.....Bachelor of Fine Arts.
B. Eng.....Bachelor of Engineering.
B. E. M.....Bachelor of Mining Engineering.
B. M. E.....Bachelor of Mechanical Engineering.
B. J.....Bachelor of Journalism.
B. L., B. Litt., or Litt. B.....Bachelor of Literature.
B. L. Sc.....Bachelor of Library Science.
B. Mus. or Mus. B.....Bachelor of Music.
B. Ped.....Bachelor of Pedagogy.
B. S. or S. B.....Bachelor of Science.
B. Sc. Agr.....Bachelor of Scientific Agriculture.
B. S. in Agr.....Bachelor of Science in Agriculture.
B. S. in Agr. Ed.....Bachelor of Science in Agricultural Education.
B. S. in Agr. Eng.....Bachelor of Science in Agricultural Engineering.
B. S. in Agron.....Bachelor of Science in Agronomy.
B. S. in Animal Husbandry.
B. S. in Arch.....Bachelor of Science in Architecture.
B. S. in Arch. Eng.....Bachelor of Science in Architectural Engineering.
B. S. in Biol.....Bachelor of Science in Biology.
B. S. in Cer.....Bachelor of Science in Ceramics.
B. S. in Chem.....Bachelor of Science in Chemistry.
B. S. in C. E.....Bachelor of Science in Civil Engineering.
B. S. in Coal Mining Engineering.
B. S. in Com.....Bachelor of Science in Commerce.
B. S. in Dairying.
B. S. in Econ.....Bachelor of Science in Economics.
B. S. in Ed.....Bachelor of Science in Education.
B. S. in El. Eng.....Bachelor of Science in Electrical Engineering.

B. S. in Fire Protection Engineering.
B. S. in Floriculture.
B. S. in For.....Bachelor of Science in Forestry.
B. S. in Geology and Mining.
B. S. in H. Econ.....Bachelor of Science in Home Economics.
B. S. in Horticulture.
B. S. in Household Science.
B. S. in Ind. Arts.....Bachelor of Science in Industrial Arts.
B. S. in Landscape Gardening.
B. S. in Law.
B. S. in Mech. Eng.....Bachelor of Science in Mechanical Engineering.
B. S. in Med.....Bachelor of Science in Medicine.
B. S. in Met. Eng.....Bachelor of Science in Metallurgical Engineering.
B. S. in Min. E.....Bachelor of Science in Mining Engineering.
B. S. in Mun. and San. Eng....Bachelor of Science in Municipal and Sanitary Engineering.
B. S. in Ped.....Bachelor of Science in Pedagogy.
B. S. in Phar.....Bachelor of Science in Pharmacy.
B. S. in Railway Civil Engineering.
B. S. in Railway Electrical Engineering.
B. S. in Railway Engineering.
B. S. in Railway Mechanical Engineering.
B. S. in Structure Design.
B. S. in S. T.....Bachelor of Science in Sugar Technology.
B. S. in Textile Industry.
Graduate in Music.
J. C. B.....Bachelor in Canon Law.
L. H. B.....Bachelor of Literature.
LL. B.....Bachelor of Laws.
Ph. B.....Bachelor of Philosophy.
Ph. B. in Com.....Bachelor of Philosophy in Commerce.
Ph. B. in Jour.....Bachelor of Philosophy in Journalism.
Ph. C.....Pharmaceutical Chemist.
Ph. G.....Graduate in Pharmacy.
Phar. B.....Bachelor of Pharmacy.
S. T. B.....Bachelor of Sacred Theology.

HIGHER DEGREES.

A. E.....Agricultural Engineer.
A. M. or M. A.....Master of Arts.
Arch.....Architect.
Arch. Eng.....Architectural Engineer.
Cer. Eng.....Ceramics Engineer.
Chem. Eng.....Chemical Engineer.
C. E.....Civil Engineer.
C. P. H.....Certificate in Public Health.
C. S.....Certified Sanitarian.
D. C. L.....Doctor of Civil Law.
D. D. S.....Doctor of Dental Surgery.
D. D. Sc.....Doctor of Dental Science.

D. Eng. or Eng. D.....Doctor of Engineering.
D. M. D.....Doctor of Dental Medicine.
D. Sc. or Sc. D.....Doctor of Science.
D. P. H.....Doctor of Public Health.
D. V. M. or V. M. D.....Doctor of Veterinary Medicine.
E. E.....Electrical Engineer.
E. M.....Engineer of Mines.
El. Met.....Electrometallurgist.
Fire Protection Engineer.
Graduate in Architecture.
Graduate in Public Health
J. C. D.....Doctor in Canon Law.
J. C. L.....Licentiate in Canon Law.
J. D. or Jur. D.....Doctor of Law.
L. H. D.....Doctor of Literature.
LL. D.....Doctor of Laws.
LL. M.....Master of Laws.
Mar. E.....Marine Engineer.
M. Arch.....Master of Architecture.
M. B. A.....Master in Business Administration.
M. C. E.....Master of Civil Engineering.
M. C. L.....Master of Civil Law.
M. C. S.....Master of Commercial Science.
M. D.....Doctor of Medicine.
M. E.....Mechanical Engineer.
M. E. E.....Master of Electrical Engineering.
Met. E.....Metallurgical Engineer.
M. F.....Master of Forestry.
M. L.....Master of Literature.
M. L. A.....Master of Landscape Architecture.
M. L. D.....Master of Landscape Design.
M. M. E.....Master of Mechanical Engineering.
M. P. L.....Master of Patent Law.
M. Ped.....Master of Pedagogy.
M. S. A.....Master of Scientific Agriculture.
M. S. or S. M.....Master of Science.
M. S. in Agr.....Master of Science in Agriculture.
M. S. in Arch.....Master of Science in Architecture.
M. S. in Eng.....Master of Science in Engineering.
M. S. in For.....Master of Science in Forestry.
M. S. in Min. E.....Master of Science in Mining Engineering.
M. S. in Public Health.
M. S. T. or S. T. M.....Master of Sacred Theology.
Nav. Arch.....Naval Architect.
Pd. D.....Doctor of Pedagogy.
Pd. M.....Master of Pedagogy.
Ph. D.....Doctor of Philosophy.
Ph. M.....Master of Philosophy.
Phm. D.....Doctor of Pharmacy.
Phm. M.....Master of Pharmacy.
S. J. D.....Doctor of Law.
S. T. D.....Doctor of Sacred Theology.
S. T. L.....Licentiate in Sacred Theology.

SECTION VI.

ORGANIZATION AND OFFERINGS OF UNIVERSITIES AND COLLEGES.

It would obviously be impossible in the limits set for such a presentation as that contained in this bulletin to describe, however briefly, all the sound and standard institutions at which the foreign student might profitably seek general or professional training. Selection has been made of those to which foreign students have already gone in considerable numbers and of a few others which by reason of particular and individual offerings may appropriately be brought to the attention of citizens of other countries.

There are many other institutions of equally high rank which have not been included because through the accident of location they have not yet drawn many foreign students or because they belong to a type of college or university already represented among the institutions described. Foreign students interested in other institutions than those mentioned in this section are urged to correspond with the Bureau of Education, which will furnish full and impartial information.

ALABAMA POLYTECHNIC INSTITUTE, Auburn, Ala., a town of 1,400 inhabitants. Founded, 1872; a "land-grant" institution; coeducational.

Undergraduate courses.

Admission: 14 units; 8 prescribed—3½ mathematics, 3 English, 1½ history.

Degrees:

B. S.—General courses of four years, as follows:

In College of Engineering and Mines—Civil engineering; electrical engineering; mechanical engineering; mining engineering; architecture; chemical engineering; chemistry and metallurgy.

In College of Agricultural Sciences—Agriculture; horticulture; animal husbandry; agricultural chemistry; botany; pharmacy.

D. V. M.—Three-year course in veterinary medicine.

Ph. C.—Three-year course in pharmacy.

Ph. G.—Two-year course in pharmacy; for admission to this course evidence of one year of high-school work is required.

Graduate courses.

Admission: Bachelor's degree from a recognized college.

Degrees:

M. S.—One year of postgraduate study; thesis.

M. S. in Pharmacy—One year of postgraduate study in the departments of chemistry and pharmacy.

C. E., E. E., M. E., Ch. E., E. M.—One year of postgraduate study; thesis. These degrees are also conferred upon graduates of the institute who have had at least four years' professional experience, including work in a responsible position, and who present a thesis

Expenses:

Tuition (free to residents of Alabama)	$20
Board and room—$13 to $17.50 a month.	
Total annual expense	$250

Faculty, 54.

Students, 820, of whom 10 are from foreign countries.

Of special interest to foreign students.—In the last year of the course in agriculture, instruction is provided in the cultivation and classing of cotton, in the growth of other southern crops, such as sugar cane, tobacco, and rice, and in the construction and operation of farm machinery.

In connection with the work in electrical engineering, a one-year course in wireless telegraphy is offered.

A well-equipped laboratory and good clinical facilities make possible the emphasis placed upon practical work in the college of veterinary medicine and surgery.

UNIVERSITY OF ARIZONA, Tucson, Ariz., a city of 18,000 inhabitants, on the main lines of the Southern Pacific Railway and the El Paso & Southwestern System. Founded, 1885; a "land-grant" institution; coeducational.

Admission: 15 units, 9½ prescribed—3 English, 2½ mathematics, 1 history, 1 science, 2 foreign language. For admission to the engineering school the history unit is not prescribed, but there is an added ½ unit solid geometry. Physics and chemistry are prescribed sciences for admission to the course in mining, engineering, and metallurgy.

Undergraduate courses—four years:	Degrees.
General	A. B. and B. S.
Agriculture	B. S. in Agriculture.
Chemistry	B. S. in Chemistry.
Civil engineering	B. S. in Civil Engineering.
Electrical engineering	B. S. in Electrical Engineering.
Mechanical Engineering	B. S. in Mechanical Engineering.
Mining and metallurgy	B. S. in Mining, Engineering, and Metallurgy.

Graduate courses.

Admission: Bachelor's degree from a recognized college.

Degrees: M. S. and A. M.—One year of postgraduate study; thesis. A student who has received the B. S. in Mining, Engineering, and Metallurgy may attain the degree of engineer of mines by one year of postgraduate study.

Expenses:

Tuition (free for residents of Arizona) for nonresidents of Arizona	$30
Incidental fee	10
Board, per month	20
Room (college dormitory, per year)	25
Total annual expense	316

Faculty, 48.

Students, 302, of whom 3 are from foreign countries.

Of special interest to foreign students.—On account of the great diversity of its rock formation and ore deposits, southern Arizona offers a good field for work in geology.

Before entering the senior year in mining engineering all students must have spent at least six weeks in practical mining and metallurgical work.

The department of agriculture lays special emphasis upon phases of the subject of interest to people in a dry climate like that of Arizona. Mention may be made of courses in farm and horticultural crops, plant breeding, dry farming, soil physics and fertility, citrus and small fruits, and farm management.

LELAND STANFORD JUNIOR UNIVERSITY, Stanford University, Cal., a town of 1,500 inhabitants, near Palo Alto and San Francisco. Founded, 1885; coeducational.

Undergraduate Department.
Admission: Secondary school record showing completion of at least 15 units.
Degrees: A. B.—Completion of 120 units and recommendation of department faculty regardless of time spent; 30 units a normal year's work.
Graduate Department.
Admission: Bachelor's degree from a recognized college.
Degrees: A. M.—One year of postgraduate study; thesis.
Engineer (Civil, Mechanical, Electrical, Chemical, Mining)—One year of postgraduate work in department of applied science; thesis.
Ph. D.—Three years' postgraduate study; thesis.
Department of Medicine (San Francisco).
Admission: Three years' collegiate work, including physics, chemistry, biology, and a knowledge of French or German.
Degree: M. D.—Four-year course of study and one year of practical work.
Law School.
Admission: Two years' collegiate work.
Degrees:
LL. B.—Three-year course. } A bachelor's degree from a recognized college is a
J. D.—Three-year course. } prerequisite.
Expenses:
Tuition (free except as indicated below). An incidental fee of $30 a year required of undergraduates; graduate students exempt—

Law Department	$100
Medical Department	150
Board and room (at university), per month	25
Board and room (outside university), per month	25–35
Annual expense (exclusive of tuition in law and medicine)	350–500

Faculty, 201.
Students, 1,906, of whom 50 are from foreign countries.
Of special interest to foreign students.—The medical course, which requires a fifth year of practical work as a prerequisite for the degree, and for which San Francisco provides excellent clinical and hospital facilities. Ten internes are appointed annually at the Lane Hospital.
The department of law offers courses of high grade.
Special mention should be made of the work in geology, biology, including the summer courses at the marine biological laboratory, mechanical engineering, chemistry, history, and education.

UNIVERSITY OF CALIFORNIA, Berkeley, Cal., a city of 49,331 inhabitants, 35 minutes by train from San Francisco. Founded, 1868; a "land-grant" institution; coeducational.

Undergraduate departments, four-year courses unless otherwise stated.
Admission:
I. Colleges of Letters, Social Sciences, Natural Sciences, and Commerce; five-year courses in Colleges of Mechanics, Mining, Civil Engineering, and Chemistry—45 units;[1] 30 prescribed—6 English, 6 mathematics, 3 history, 3 laboratory science, 6 foreign languages, 6 additional foreign languages, additional laboratory science, or advanced mathematics in any combination.

[1] Three units in the University of California are the equivalent of one standard college entrance unit.

Undergraduate departments, four-year courses unless otherwise stated—Continued.
Admission—Continued.

II. College of Agriculture—45 units; 27 prescribed—6 English, 6 mathematics, 6 foreign languages, 6 sciences (physics and chemistry), 3 history.

III. Four-year courses in Colleges of Mechanics, Mining, Civil Engineering, and Chemistry—45 units; all prescribed—6 English, 12 mathematics, 3 history, 6 science (physics and chemistry), 6 drawing, 6 foreign languages, 6 additional foreign language or advanced English.

Degrees:

Colleges of general culture—
College of Letters—A. B.
College of Social Sciences—B. L.
College of Natural Sciences—B. S.

Colleges of applied science—
College of Commerce—B. S.
College of Agriculture—B. S.
College of Mechanics (mechanical engineering and electrical engineering)—B.S.
College of Mining—B. S.
College of Civil Engineering (railroad engineering, sanitary engineering, irrigation engineering)—B. S.
College of Chemistry—B. S.

There are five-year courses in the colleges of mechanics, mining, civil engineering, and chemistry, providing a broader cultural and professional training than is possible in the four-year courses, but leading to the same degree.

Undergraduate courses are offered in architecture, education, and jurisprudence. Students in these are also classified in the colleges of general culture, subject to admission requirements, and receiving the degree of the college in which they are enrolled.

Graduate School:

Admission: Bachelor's degree from a recognized college.

Degrees:

M. A., M. L., M. S.—One year of post graduate study; thesis.
J. D.—Two years of post graduate study; thesis.
Graduate in Architecture—Two years of postgraduate study; thesis.
Graduate in Public Health—Two years of postgraduate study.
Ph. D.—At least two years of postgraduate study; thesis.
M. E., E. M., Metallugrical E.—These degrees are conferred upon graduates of engineering colleges who, at least three years after receiving the bachelor's degree, one of which must have been spent in professional work, successfully pass an examination in prescribed subjects and present a thesis.
C. E.—At least three years of postgraduate study and thesis.

The engineering degrees will also be conferred upon those holding bachelor's degrees from the University of California who, at least 10 years after graduation, in addition to evidence of exceptionally successful professional work, present a satisfactory thesis.

Hastings College of the Law (San Francisco):

Admission: Two years' collegiate work.
Degree: LL. B.—Three-year course.

Medical School:

Admission: Two years' collegiate work.
Degree: M. D.—Five-year course. The first two years are spent at Berkeley and the last three at San Francisco. Graduate instruction only is offered at the Los Angeles medical department.

College of Pharmacy (San Francisco):

Admission, for degree Ph. G.: Graduation from an approved high school, or two years' work in a high school.

For degree Ph. C.: Graduation from an approved high-school course of four years.

For degree Phar. B.: Graduation from an approved high-school course of four years.

Degrees:

Ph. G.—Two-year course; thesis.

Ph. C.—Three-year course; thesis.

Phar. B.—Four-year course; thesis.

College of Dentistry (San Francisco):

Admission: 45 units, selected by student, to include physics or chemistry.

Degree: D. D. S.—Three-year course.

Miscellaneous:

Lick Astronomical Observatory, at Mount Hamilton.

Scripps Institution for Biological Research, at La Jolla.

San Francisco Institute of Art.

University Farm School, at Davis.

Graduate School of Tropical Agriculture, at Riverside.

University Extension Division.

Expenses:

Tuition for nonresidents of California, except in medical school and colleges of dentistry and pharmacy	$20
Tuition for all students in medical school	150
Tuition for all students in college of dentistry	150
Tuition for all students in college of pharmacy	100
Board and lodging, per month	15–45
Total annual expense in academic departments need not exceed	350

Faculty, 600.

Students, 8,733, of whom about 180 are from foreign countries.

Of special interest to foreign students.—Well-equipped laboratories provide excellent facilities for work in mining, electrical, and civil engineering. In the latter division, courses are offered in irrigation, including irrigation institutions and economics, engineering, design, water supply, agricultural hydraulics, and drainage, with graduate work in design, and the management and operation of engineering systems.

The location of the university makes it possible to offer strong courses in the college of agriculture in such special fields as viticulture, wine industry, citriculture, and the growth of semitropical fruits. Laboratories are maintained in these branches, and the citrus experiment station provides for special study and work with the citrus fruits.

The work in education has in view the professional training of three classes—those preparing to teach in secondary schools and colleges, those preparing to engage in school administration work, and graduates of normal schools who are making further preparation for teaching in elementary schools.

The college of dentistry and the schools of jurisprudence and medicine are of high rank.

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, Cal., a city of 412,466 inhabitants. Founded, 1880; coeducational.

College of Liberal Arts.

Undergraduate department.

Admission: 15 units. For A. B. course, 8 prescribed—2 English, 2 foreign language, 1 science, 2 mathematics, 1 history. For B. S. course, 13 prescribed—in addition to these above, 1 science, 2 mathematics, 2 drawing.

Degrees:

A. B.—Four-year course.

B. S.—Four-year course in civil or electrical engineering.

The university also offers the first two years of a four-year course in mining and chemical engineering.

Graduate department.

Admission: Bachelor's degree from a recognized college.

Degree: A. M.—One year of postgraduate study; thesis.

College of Physicians and Surgeons.

Admission: One year (two years, September, 1916) collegiate work, including physics, chemistry, biology, and German or French.

Degree: M. D.—Four-year course.

College of Law.

Admission: Graduation from an approved high school.

Degrees:

LL. B.—Three-year course.

J. D.—Three-year course, for those holding A. B. degree.

LL. M.—One-year course after LL. B. or J. D.; thesis.

College of Dentistry.

Admission: Graduation from an approved high school.

Degree: D. D. S.—Three-year course.

College of Theology (Methodist).

Admission: Bachelor's degree from a recognized college.

Degree: B. D.—Three-year course. A three-year course leading to a diploma is also open to students with only two years of collegiate work.

College of Pharmacy.

Admission: One year of high-school work.

Degrees:

Ph. C.—Two-year course.

Phar. B.—One-year course after Ph. C.; thesis. (This degree is granted to graduates of high schools only.)

College of Fine Arts.

Admission: 15 units, as in college of liberal arts.

Degree: B. Fine Arts.—Four-year course; three-year courses are offered leading to a diploma.

Miscellaneous.

High School (model training school).

College of Music.

College of Oratory.

Expenses:

Tuition—

College of liberal arts and college of law	$90
College of fine arts	95
College of pharmacy	100
College of medicine, and college of dentistry	150
Free in theological school.	
Board and room, per week	5-7

Faculty, 197.
Students, 2,505, of whom 35 are from foreign countries.
Of special interest to foreign students:
The Oriental Department.
The College of Dentistry.
The comparative nearness of the University of Southern California to South America and the countries of Central America should interest students from those localities.

COLORADO SCHOOL OF MINES, Golden, Colo., a town of 3,000 inhabitants, 13 miles east of Denver. Founded, 1874.

Admission: 15 units; 12 prescribed—3 mathematics, 3 English, 2 foreign languages, 2 history, 2 science.
Degrees:
E. M.—Four-year undergraduate course; thesis.
M. S.—One-year postgraduate study after E. M.; thesis.
Expenses:

Tuition (free to residents of Colorado) for nonresidents	$150
Board, per week	4–5
Room, per month	6–10
Total annual expense need not exceed	500–550

Faculty, 21.
Students, 209, of whom 23 are from foreign countries.
Of special interest to foreign students.—The course includes mining, metallurgy, mechanical, electrical, and civil engineering, geology and mineralogy, and mining law. The school is well equipped with laboratories, and since it is situated in one of the country's greatest mining centers, within reach of an unusually large number and variety of mines and metallurgical enterprises, it offers exceptional opportunities for students in this particular field.

YALE UNIVERSITY, New Haven, Conn., a city of 141,915 inhabitants. Founded, 1701.

Yale College (undergraduate). Admission: Examination covering 16 units. Prescribed subjects—English, Latin, French or German, algebra, plane geometry; four additional subjects to be selected by the candidate.
Degree: B. A.—Four-year course.
Sheffield Scientific School.
Admission: 15 units; 13 prescribed—3 English, 4 foreign language, 1 history, 4 mathematics, 1 science.
Degrees:
Ph. B.—Three-year course.
M. S.—Two years of postgraduate study; thesis.
C. E.—Five-year course; thesis.
M. E.—Five-year course; thesis.
E. M.—Five-year course; thesis.
Met. E.—Five-year course; thesis.
E. E.—Five-year course; thesis.
Graduate School. Admission: Bachelor's degree from a recognized college.
Degrees:
M. A. (minimum requirement).—Two years of postgraduate study; essay.
Ph. D. (minimum requirement).—Three years of postgraduate study; thesis.
Only the Ph. D. degree is conferred upon women.

School of the Fine Arts. Three-year course in drawing, painting, and sculpture. B. F. A. is conferred upon students of special ability who have spent at least two years in professional work (one year may be spent in advanced study in the Yale School of the Fine Arts) after completing a three-year course, and who present a thesis and an original work.

Four-year course in architecture. B. F. A. is conferred on satisfactory completion of the four-year course. The work presented by students in this department may consist of selections from the work done during the senior year in the school. In addition a thesis must be presented.

School of Music. Three-year undergraduate course. A certificate of proficiency in the theory of music is given after this course.

Mus. B. is conferred upon students of special ability who have spent at least two years in graduate study after receiving the certificate. An original work in one of the larger forms must be submitted as a thesis.

School of Forestry. Admission: Bachelor's degree from a recognized college, or, in some cases, three years of college work., M. F.—Two-years' course. Students holding a degree in forestry from an institution of high standing may receive the master's degree at the end of one year.

School of Religion.

Admission: Bachelor's degree from a recognized college, or its full equivalent.

Degrees: B. D.—Three-year course. Students may also enroll in the graduate school as candidates for the M. A. and Ph. D.

School of Medicine.

Admission: Minimum general requirement: Two years' collegiate work, which must have included certain specified preparatory subjects in science.

Degree: M. D.—Four-year course; thesis.

School of Law.

Admission: As candidate for a degree, bachelor's degree from a recognized college (except for Yale College seniors). As special student not candidate for a degree, two years' collegiate work.

Degrees:

LL. B.—Three-year course.

B. C. L.—Three-year course; an equivalent amount of work to that for LL. B. For B. C. L., courses in Roman law are prescribed, but not for LL. B.

M. L.—One year's study for graduates of recognized law schools; thesis.

Jur. D.—One year's study for those holding a bachelor's degree and who are graduates of recognized law schools; thesis.

D. C. L.—Two years' postgraduate study, and in addition to requirements for admission to Jur. D., preliminary examination in Roman law and history, Latin, and either French or German; thesis.

Expenses:

Tuition—

School of the Fine Arts—	
In departments of drawing, painting, and sculpture	$90
In department of architecture	180
School of music	50–200
Yale College	160
Sheffield Scientific School	201
Schools of law and medicine	150
School of forestry, junior year	150
School of forestry, senior year	125
Graduate school	125

Expenses—Continued.
Board, $4 a week and upward.
Room, $1.50 a week and upward.
Total annual expense, $400 to $1,000, which may be reduced by scholarship and in the case of students of proven capacity and character.
Faculty, 367.
Students, 3,268, of whom 80 are from foreign countries.

Of special interest to foreign students.—Yale College should prove attractive to foreign students desiring strong undergraduate courses. It includes on its teaching staff many men of the highest reputation and is excellently equipped in the matter of libraries, laboratories, and museums.

Sheffield Scientific School offers both graduate and undergraduate courses in the mathematical, physical, and natural sciences. Modern laboratories provide ample facilities for experiment, advanced work, and research, not only in natural science, but also in mechanical, electrical, and mining engineering.

The School of Forestry, founded in 1900, is strictly a graduate school, and offers thorough training in all branches of forestry. Special endowments provide for the departments of silviculture, lumbering, and forest management. In addition to the usual classroom and laboratory subjects, a large part of each student's time is spent in practical fieldwork, for which the school has at its disposal a tract of 1,000 acres at Milford, Pa., the forests of the New Haven Water Co. at New Haven, aggregating 9,000 acres, the school forest at Keene, N. H., and localities in the Adirondack Mountains of New York and in the Southern States.

The Graduate School has recently been reorganized as a separate department of the university, is excellently equipped, and offers courses leading to advanced degrees in all departments. It should be noted that two years of postgraduate study instead of the usual minimum of one year, are required for the master's degree.

Among those departments which are especially noteworthy, either on account of the eminence of the professors connected with them or the scope of the courses, may be mentioned history (including Latin American, and the history of Japanese civilization), economics, law, forestry, geography, geology, English, comparative philology, art, and music.

CATHOLIC UNIVERSITY OF AMERICA, Washington, D. C., a city of 348,077 inhabitants, the capital of the country. Founded, 1887.

School of Philosophy.
Undergraduate department.
Admission: Graduation from an approved secondary school, with evidence of work completed in English, history, Latin, Greek, French or German, mathematics, two sciences.
Degrees: A. B., Ph. B.—Four-year course.
Graduate department.
Admission: Bachelor's degree from a recognized college.
Degrees:
Ph. M.—Two years' postgraduate study; thesis.
Ph. D.—Three years' postgraduate study; thesis.
School of Letters.
Undergraduate department.
Admission: Graduation from an approved high school, with evidence of completion of required work in English, one history, mathematics, Latin, and either A or B.
A—Greek, elementary French or German.
B—One only of the following:
(*a*) Advanced French and German.
(*b*) Advanced French or advanced German with physics or chemistry.
Degrees: A. B., L. H. B.—Four-year course.

Graduate Department.
Admission: Bachelor's degree from a recognized college.
Degrees:
A. M.—One year of postgraduate study; thesis.
L. H. M.—Two years of postgraduate study; thesis.
Ph. D.—Three years of postgraduate study; thesis.
L. H. D.—As for Ph. D.

School of Sciences.
Undergraduate department.
Admission: As in the School of Philosophy.
Courses, 4 years:

	Degree.
General	B. S. and A. B.
Civil engineering	B. S. in C. E.
Electrical engineering	B. S. in E. E.
Chemical engineering	B. S. in Chem. E.
Mechanical engineering	B. S. in M. E.
Architecture	B. S. in Arch.
Architectural engineering	B. S. in Arch. E.

Graduate department.
Admission: Bachelor's degree from a recognized college.
Degrees:
A. M.—One year of postgraduate study; thesis.
M. S., E. E., C. E., M. E.—Two years of postgraduate study; thesis.
Sc. D., Ph. D.—Three years of postgraduate study; thesis.

Teachers College. Degrees: Usual degrees in arts and philosophy.

School of Sacred Sciences.
Admission: Completion of a two-year course in philosophy and a three-year course in theology in a Catholic theological seminary.
Degrees:
S. T. B.—Conferred after an examination based on previous theological courses.
J. C. B.—Conferred after an examination based on previous seminary courses, including at least one year of canon law.
S. T. L. or J. C. L.—Two years of postgraduate study; thesis.
S. T. D. or J. C. D.—Four years of postgraduate study; thesis.

School of Law.
Undergraduate department.
Admission: Graduation from an approved secondary school.
Degree: LL. B.—Three-year course.
Graduate department.
Admission: Bachelor's degree from a recognized college and LL. B. from the University Law School or from some law school of recognized standing.
Degrees:
LL. M., M. C. L.—One year of postgraduate study; thesis.
J. D.—Two years of postgraduate study after LL.M; thesis.
D. C. L.—Two years of postgraduate study after M. C. L.; thesis.

Expenses:

Tuition (except in school of sacred sciences)	$100
Tuition in school of sacred sciences	250
Board (at university), per month	25
Room (at university), $8.50 to $20 a month.	
Total annual expense	[1] 500

Faculty, 66.
Students, 508, of whom 11 are from foreign countries.

[1] And upward.

Trinity College (affiliated with the Catholic University). Founded, 1897; a Catholic institution for the education of women.

Undergraduate department.

Admission: 15½ units; 13½ prescribed—3 English, 1 history, 2½ mathematics, 4 Latin, 3 Greek, French, or German.

Degrees: A. B., B. S., or B. L.—Four-year course.

Graduate department.

Admission: Bachelor's degree from a recognized college.

Degrees: A. M., M. S.—One year of postgraduate study; thesis. Graduate work is offered only in those departments in which professors from the Catholic University teach, and it must be under their personal direction.

Expenses:

Tuition	$150
Board and room	350–500

Faculty: 32.

Students: 190, none of whom are from foreign countries.

Of special interest to foreign students.—The Catholic University of America offers thorough training in all departments amid a distinctly religious environment. Its location in Washington has the additional advantage of putting the student in contact with cultural and educational opportunities to be found nowhere else in the country.

The School of Sacred Sciences, which is strictly a graduate institution, offers exceptionally complete training for those graduates of a theological seminary who are looking forward to advanced study. Courses are given in the following departments: Sacred scripture, dogmatic theology, apologetics, moral theology, sacramental theology, canon law, church history, ascetic and pastoral theology.

The Department of Education emphasizes the philosophical and psychological aspects of the subject (and those principles upon which Catholic education is based). It includes courses in philosophy of education, psychology of education, science and art of study, general methods, school management and administration, history of education, and public-school administration in the United States.

Professors in the Catholic University teach in some of the undergraduate departments of Trinity College, and all of the graduate work is under their direction.

GEORGE WASHINGTON UNIVERSITY, Washington, D. C., a city of 345,077 inhabitants, and the capital of the country. Founded, 1821; coeducational.

Columbian College, undergraduate.

Admission: 15 units; 7½ prescribed—3 English, 2½ mathematics, 2 foreign language.

Degrees: A. B., B. S. in Chem., B. S. in Med.—Completion of 60 hours [1] of undergraduate courses.

College of Engineering.

Admission: 15 units; 13 prescribed—3 English, 4 foreign language, 4 mathematics, 2 science. (For the course in architecture the science is not prescribed, and only 2 units of foreign language are required.)

Degrees: B. S. in C. E., B. S. in E. E., B. S. in M. E., B. S. in Arch.—Four-year courses.

Teachers' College.

Admission: 15 units; 7½ prescribed—3 English, 2½ mathematics, 2 foreign language.

Degree: A. B. and Bachelor's Diploma in Education.—Completion of 62 hours.[1]

[1] An "hour" of credit is one recitation, lecture, or laboratory period a week for an academic year. No time is prescribed for completion of a course in the college, but the degree is awarded when the student has the required number of credit hours.

School of Graduate Studies.
Admission: Bachelor's degree from a recognized college.
Degrees:
A. M., S. M.—One year of postgraduate study; thesis.
C. E., M. E., E. E.—One year of postgraduate study; thesis.
Ph. D.—Three years of postgraduate study; thesis.

Law School.
Admission: 15 units; 7½ prescribed—3 English, 2½ mathematics, 2 foreign language; one year of college work if applicant is under 21.
Degrees:
LL. B.—Three-year course.
LL. M. or Master of Patent Law—One year after LL. B. A bachelor's degree from a recognized college is a prerequisite.

Medical School.
Admission: One year of collegiate work in physics, chemistry, and biology.
Degree: M. D.—Four-year course.

Dental School.
Admission: Graduation from an approved secondary school.
Degree: D. D. S.—Three-year course.

National College of Pharmacy.
Admission: Three years in an approved secondary school. (Beginning with the session of 1916–17 four years will be required.)
Degree: Phar. D.—Three-year course.

College of Veterinary Medicine.
Admission: Grammar-school education or the equivalent.
Degree: D. V. M.—Four-year course.

Expenses:
Tuition—

Colleges and law school, for each hour per week	$10
Graduate and medical schools	150
Veterinary college	100
Dental school	125
College of pharmacy	80–90
Board and room, per month	35–40
Total annual expense	500–800

Faculty, 189.
Students, 1,611, of whom 38 are from foreign countries.

Of special interest to foreign students.—Teachers College offers courses adapted to the needs of both prospective teachers desiring collegiate training and those already in the service who wish specialized instruction in particular phases of educational work.

In the department of political science the university offers courses for those intending to enter the consular or diplomatic service. The work includes a study of American and European government, political history of modern Europe and of South America, international law, elements of diplomacy and diplomatic usage, consular service, and colonial administration.

GEORGETOWN UNIVERSITY, Washington, D. C., a city of 846,077 inhabitants, the capital of the country. Founded 1789.

The College.

Undergraduate department.

Admission: Completion of required secondary-school work in Latin, Greek, English, history, mathematics, science, and one modern language.

Degrees:

A. B.—Four-year course.

B. S.—Four-year course.

School of Medicine.

Admission: Two years of collegiate work, including chemistry, physics, biology, and French or German.

Degree: M. D.—Four-year course.

Dental School.

Admission: Graduation from an approved secondary school.

Degree: D. D. S.—Three-year course.

Law School.

Admission: Graduation from an approved secondary school.

Degrees:

LL. B.—Three-year course.

LL. M.—One year of postgraduate work after LL. B.; thesis.

Master of Patent Law—One-year course in patent law, open to seniors, graduate students, and members of the bar.

Expenses:

Tuition—	
College, and School of Medicine	$150
School of Dentistry	125
School of Law	100
School of Law (for patent-law course only)	40
Room and board, at university, including laundry and medical attendance	322–372
Room at university, per year	50–300
Room and board, outside university, per month	25–40
Total annual expense	500

Faculty, 177.

Students 1,499, of whom 22 are from foreign countries.

Of special interest to foreign students.—Georgetown is under the control of the Catholic Church but admits students of all religious denominations.

The Dental and Medical Schools, which are of high grade and are provided with excellent clinical facilities in the city of Washington, have drawn many students from foreign countries.

As in the case of the two last-named institutions the location, in Washington, should prove attractive to the foreign student on account of the exceptional educational equipment and facilities for research in the great scientific collections and libraries of the Government, and because he is given opportunity to become acquainted, through daily observation and contact, with the American system of Federal administration.

HOWARD UNIVERSITY, Washington, D. C., a city of 348,077 inhabitants. Founded, 1867, especially for the education of the negro, although no race is excluded; coeducational.

College of Arts and Sciences.

Admission: 15 units, to be selected from one of the following groups:

Group I: 12 prescribed—3 English, 2 mathematics, 4 Latin, 2 Greek, 1 history.

Group II: 12 or 13 prescribed—3 English, 2 mathematics, 4 Latin, 1 or 2 French or German, 2 history.

Group III: 12½ prescribed—3 English, 2½ mathematics, 2 Latin, 2 history, 1 French or German, 2 science.

Degrees: A. B., B. S.—Four-year course.

Teachers College.

Admission: As in the College of Arts and Sciences.

Degrees:

A. B. or B. S., and Bachelor's diploma in Education—Four-year course.

A. M. and Master's diploma in Education—One year of postgraduate study.

School of Manual Arts and Applied Science.

Admission: As in the College of Arts and Sciences.

Degrees:

B. S., and Diploma in Domestic Science or Art—Four-year course in home economics.

B. S. in Engineering—Four year course in civil, mechanical, or electrical engineering.

C. E., M. E., E. E.—Two years' postgraduate study after B. S.

Short courses are also offered in home economics, manual arts, and manual training.

Conservatory of Music.

Admission: All persons are admitted, but for courses leading to a diploma graduation from an approved secondary school is required. Diplomas are granted at the completion of a four-year course.

School of Theology (interdenominational).

Admission: Graduation from an approved secondary school.

Degree: B. D.—Three-year course. A bachelor's degree from a recognized college is a prerequisite. A diploma is conferred upon those who complete the course but can not meet this requirement.

Medical College.

Admission: Two years of collegiate work, including physics, chemistry, biology, and a modern language other than English.

Degree: M. D.—Four-year course.

Dental College.

Admission: Graduation from an approved secondary school.

Degree: D. D. S.—Three-year course.

Pharmaceutic College.

Admission: Two years' high-school work.

Degree: Phar. D.—Three-year course.

School of Law.

Admission: Graduation from an approved college or secondary school. Those who are not college graduates must pass a preliminary examination.

Degree: LL. B.—Three-year course.

Miscellaneous.

Library School.

Academy.

Commercial School.

Expenses:

Tuition—	
School of Liberal Arts, Manual Arts, and Applied Sciences	$20
Medical College	100
Dental and Pharmaceutical Colleges	80
School of Law	50
Board, per month	10
Room, per year	25
Total annual expenses	150–250

Faculty: 115.

Students: 1,463, of whom 125 are from foreign countries.

Of special interest to foreign students.—Howard University was founded especially for the education of the negro, and draws the largest part of its students from that race. It is a Federal institution, under the supervision of the Department of the Interior, and receives about half of its income from a national appropriation. Thorough courses are offered in all departments. The university shares with the others just mentioned the advantages of the location in Washington.

COLLEGE OF HAWAII, Honolulu, Hawaii, a city of 52,000 inhabitants. Founded, 1907; a "land-grant" institution; coeducational.

Undergraduate courses.

Admission: (1) Graduation from approved high school. (2) 15 units; 5½ prescribed—3 English, 2½ mathematics. For students specializing in engineering an additional unit of mathematics is prescribed.

Courses, 4 years:

Agriculture; degree, B. S. in Agr.
Civil engineering; degree, B. S. in C. E.
Mechanical engineering; degree, B. S. in M. E.
Sugar technology; degree, B. S. in S. T.
Science: Group A.—Physical sciences; B.—Biological sciences; C.—Domestic arts and sciences; degree, B. S.

Graduate courses.

Admission: Bachelor's degree from a recognized college.

Degrees: M. S., M. S. A., M. E., C. E., E. E.—one year postgraduate study; thesis.

Expenses:

Tuition (free to residents of Hawaii)	$50
Board	225
Room	90
Total annual expenses, including books and stationery	400

Faculty, 22.

Students, 105; embracing 12 Chinese, 5 Japanese, 2 Koreans, 2 Filipinos, 3 from Caucasian foreign countries.

Of special interest to foreign students.—On account of its location the college is able to provide special facilities for instruction in the agriculture of tropical countries. Courses are offered in plant breeding and selection, tropical crops, and sugar-cane production.

A four-year course in sugar technology has recently been introduced, to train men in the fundamentals of sugar chemistry, sugar-cane production, and the manufacture of raw sugar. Hawaii's scientifically managed plantations and favorable climate are unusual advantages. In this connection the department of engineering offers a course in the engineering of sugar plants.

Hawaii's climate, which permits outdoor work throughout the year, and the variety of plant and animal life, facilitate work in zoology, botany, and entomology, for which excellent equipment is provided. The college possesses the most complete herbarium of Hawaiian plants in existence.

ARMOUR INSTITUTE OF TECHNOLOGY, Chicago, Ill., a city of 2,344,013 inhabitants. Founded, 1893.

*Undergraduate Department.

Admission: 15 units; 12½ prescribed—3½ mathematics, 3 English, 2 science, 1 history, 2 foreign language, 1 mechanical drawing.

Courses, 4 years:

Mechanical engineering; degree, B. S. in M. E.
Electrical engineering; degree, B. S. in E. E.
Civil engineering; degree, B. S. in C. E.
Chemical engineering; degree, B. S. in Ch. E.
Fire-protection engineering; degree, B. S. in Fire Protection Engineering.
Architecture; degree, B. S. in Arch.
Industrial arts; degree, B. S. in Industrial Arts.

Graduate Department.

Admission: Bachelor's degree from a recognized college.

Degrees: M. S.—One year of postgraduate study; thesis. M. E., E. E., C. E., Ch. E., Fire Protection Engineer.—Conferred without resident study upon graduates of Armour Institute who have had at least three years' successful engineering practice or teaching, and who present a thesis.

Expenses:

Tuition	$175
Board and room, per week	6–8
Total annual expense	550

Faculty, 56:

Students, 527, of whom 19 are from foreign countries.

Of special interest to foreign students.—The department of fire-protection engineering offers instruction in these subjects: Fire-protection engineering, underwriters' requirements, special hazards, insurance practice and schedule rating, and electrical machinery. The Underwriters' Laboratories at Chicago, conducted and maintained by the fire-insurance companies of the country, have excellent facilities for experimental and research work.

Through cooperation with the Art Institute of Chicago, exceptional facilities for courses in architecture are provided.

In the department of civil engineering the institute has recently established courses in aeronautics, including instruction in aerodynamics, aeronautical designing, and gas engines.

UNIVERSITY OF CHICAGO, Chicago, Ill., a city of 2,344,013 inhabitants, and one of the great railway centers of the country. Incorporated, 1890; coeducational.

The Colleges, four-year undergraduate courses. The work is divided into two parts. That of the first two years is spent in the "Junior College." At its completion the student having received the title of "Associate" passes on to the "Senior College," for the work of the two last years before the bachelor's degree.

Admission: The subjects are arranged in these groups: (1) Greek, (2) Latin, (3) modern languages other than English, (4) history, civics, and economics, (5) mathematics, (6) science.

Required: Fifteen units, including 3 in English; 3 (or more) in a single group, 1–6; 2 (or more) in another single group, 1–6; 2 (or less) in any of the groups. Five units may be offered in any subjects accepted by a recognized secondary school.

Degrees: A. B., B. S., Ph. B. The subjects in which a student specializes determine the degree to be awarded.

The Graduate Schools { Graduate School of Arts and Literature.
Ogden School of Science.

Admission: Bachelor's degree from a recognized college.

Degrees: A. M. and M. S.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate study; thesis. The doctor's degree is given "not on the basis of the completion of a certain amount of time spent on a specified program, but as the recognition and mark of high attainments and ability in the candidate's chosen province."

The Divinity School.

English Theological Seminary.

Admission: Fifteen units, as in the colleges. Four years prescribed curriculum of resident study during summer quarters and nonresident correspondence work during remainder of year.

Graduate Divinity School.

Admission: Bachelor's degree from a recognized college.

Degrees:

A. M.—One year of postgraduate work; thesis.

D. B.—Three years of postgraduate work; thesis.

Ph. D.—Four years of postgraduate work; thesis. (See note regarding this degree in the Graduate Schools.)

The Law School.

Admission, for the degree LL. B.: Granted to mature students who have completed work equivalent to the college entrance requirements.

Degree: LL. B.—Three years of study.

Admission, for the degree J. D.: Three years of collegiate work. Before receiving the J. D., students must receive a bachelor's degree from Chicago or an equivalent college. The first year in the law school may be counted toward this, and the bachelor's degree be awarded at its completion.

Degree: J. D.—Two or three years of postgraduate work, dependent upon whether the undergraduate work has included one year of law.

The Medical School (Rush Medical College).

Admission: Two years of collegiate work, including chemistry, physics, biology, two years of Latin, and a reading knowledge of French or German.

Degree: M. D.—Five years, one year to be spent as an interne in a hospital or in advanced work in one of the departments of the school.

School of Education.

The University Elementary School and the University High School. (See p. 144.)

The College.

Admission: 15 units, as in the other colleges. (See p. 142.)

Degrees:

A. B., S. B., or Ph. B. in Education—four years.

Kindergarten Primary Certificate—two years.

Manual Arts Certificate—two years.

Home Economics and Household Arts Certificate—two years.

Graphic and Plastic Arts Certificate—two years.

Supervisor's Certificate (for kindergarten and elementary schools)—one year. Graduation from a normal or kindergarten training school is required for admission to this course.

To obtain the Home Economics and Household Arts, Graphic and Plastic Arts, or Supervisor's Certificate, three years of teaching experience or a two-years' normal course above a four-year high school is required.

Graduate Department.

Admission: Bachelor's degree from a recognized college.

Degrees: A. M., M. S., Ph. D., conferred by the Graduate Schools of Arts, Literature, and Science.

College of Commerce and Administration.

The Trade and Industry Division—For those intending to enter various business pursuits.

The Charitable and Philanthropic Division—For those intending to enter social service work.

The Public Service Division—For those expecting to work in various public service bureaus.

Undergraduate Departments.

Admission: 15 units, as in the other colleges.

Degree: Ph. B.—Four-year course.

Graduate Departments.

Admission: Bachelor's degree from recognized college.

Degrees: A. M. and Ph. D.—Conferred under the same conditions as in the graduate school.

College of Religious and Social Sciences—A group within the College of Commerce and Administration, planned to meet the needs of these classes of students: (1) Those preparing to be Y. M. C. A. secretaries or to fill like positions; (2) those preparing for the work of medical missionaries (for this a college course and a medical course are presupposed); (3) those preparing for the ministry, who can not afford time for a separate college and divinity school course.

Admission: 15 units, as in the other colleges.

Degree: Ph. B.—Four-year course.

Expenses:

Tuition—	
Colleges, Graduate School, Divinity School, School of Education, College of Commerce and Administration	$120
School of Law	150
School of Medicine	180
Room (university dormitory)	60–225
Board (university commons)	135–225
Total annual expense	340–715

Faculty, 337.

Students, 7,858, of whom 147 are from foreign countries.

Of special interest to foreign students.—(1) As parts of the School of Education the university maintains a high school and an elementary school of standard type. These give unusual opportunity for observation of methods and for the practice teaching required of all students. A psychopathic laboratory, well equipped with special apparatus, provides facilities for work with mentally deficient children.

(2) The Medical School is among the best in the country.

(3) The Divinity School requires that students shall select one of the following as a field for future work: The pastorate, religious education, social service, foreign missionary work. Various curricula are prescribed to fit each particular field. Special attention should be called to courses in the department of practical sociology.

(4) Courses offered in the Graduate Schools are of the highest rank. Opportunities for specialization are offered in the following departments: Philosophy, psychology, education, political economy, political science, history, history of art, sociology and anthropology, household administration, comparative religion, semitic languages and literatures, biblical and patristic Greek, Sanskrit and Indo-European comparative philology, Greek, Latin, romance, Germanic, English language and literature, general literature, mathematics, astronomy and astrophysics, physics, chemistry, geology,

geography, zoology, anatomy, physiology, paleontology, botany, pathology, hygiene, and bacteriology.

(5) The university is in session throughout the year. The calendar year is divided into four quarters. Any three of these are the equivalent of an academic year. In the majority of cases students may, by attendance during the four quarters, considerably lessen the number of academic years required for a degree.

A large correspondence-study department and a university college for afternoon, evening, and Saturday classes are maintained.

UNIVERSITY OF ILLINOIS, Urbana-Champaign, Ill., a city of 25,000 inhabitants, 126 miles south of Chicago, 118 miles west of Indianapolis, 164 miles northeast of St. Louis. Founded, 1867; a "land-grant" institution; coeducational.

College of Liberal Arts and Sciences.

Admission: 15 units; 6 prescribed—3 English, 2 mathematics, 1 laboratory science. Additional prescriptions for various courses, as follows: Literature and arts, business, journalism, household science, and medical preparatory—2 foreign language; general science and chemistry—1 science. If admission to course in chemical engineering is desired, 2 units of German are prescribed.

Degrees: A. B. and B. S.—Four-year courses. B. S. is conferred upon those doing the larger part of their work in applied science.

College of Engineering.

Admission: 15 units; 7 prescribed—3 English, 3 mathematics, 1 laboratory science.

Courses, four years:

	Degree.
Architecture	B. S. in Architecture.
Architectural engineering	B S. in Architectural Engineering.
Civil engineer	B. S. in Civil Engineering.
Electrical engineering	B. S. in Electrical Engineering.
Mechanical engineering	B. S. in Mechanical Engineering.
Mining engineering	B. S. in Mining Engineering.
Municipal and sanitary engineering	B. S. in Municipal and Sanitary Engineering.
Railway civil engineering	B. S. in Railway Civil Engineering.
Railway electrical engineering	B. S. in Railway Electrical Engineering.
Railway mechanical engineering	B. S. in Railway Mechanical Engineering.

College of Agriculture.

Admission: 15 units; 7 prescribed—3 English, 2 mathematics, 2 science.

Courses, four years:

	Degree.
General agriculture	B. S. in Agriculture.
Floriculture	B. S. in Floriculture.
Household science	B. S. in Household Science.
Landscape gardening	B. S. in Landscape Gardening.

School of Music.

Admission; 15 units; 10 prescribed—3 English, 2 mathematics, 1 laboratory science, 2 foreign language, 2 music.

Degree: B. Mus.—Four-year course. A course of one year in public-school music is offered and a teacher's certificate is granted at its completion.

Graduate School.

Admission: Bachelor's degree from recognized college.

Degrees:

M. A. and M. S.—One year of postgraduate study; thesis.

Master's degree in Engineering (2 classes):

1. Academic degree—M. S., with mention of specific subject, e. g., M. S. in Architecture. One year of postgraduate study in residence, after B. S.; thesis.

2. Professional degrees—

M. Arch.—after B. S. in Arch.

Arch. E.—after B. S. in Arch. Engineering.

C. E.—after B. S. in C. E., or B. S. in Municipal and Sanitary Engineering.

E. E.—after B. S. in Electrical Engineering.

M. E.—after B. S. in Mechanical Engineering.

C. E., E. E., or M. E.—after B. S. in Railway Engineering, according to course taken.

These professional degrees are awarded after at least three years' professional work, either (1) in residence or (2) away from the university (the second alternative, however, being open only to graduates of the University of Illinois) and the presentation of a thesis. In professional work may be included contributions to technical literature, activity in professional societies, investigation of engineering problems, and teaching of engineering subjects.

Ph. D.—Three years' postgraduate study; thesis.

Library School.—For those wishing to enter library work as a profession.

Admission: Bachelor's degree from a recognized college.

Degree: Bachelor of Library Science—two-year course.

School of Education.

Students planning to teach and registered in the colleges of the university are, at the beginning of the third year, enrolled in the School of Education and have the remaining two years of their undergraduate work directed by its faculty. The regular baccalaureate degree is granted.

School of Law.

Admission: Two years of collegiate work.

Degrees:

LL. B.—Three-year course.

J. D.—Three-year course, as for LL. B.; thesis.

(A bachelor's degree from a recognized college and a high grade of scholarship in the law course are prerequisites for J. D.)

College of Medicine (located in Chicago).

Courses:

(1) Eight years—four years in College of Liberal Arts and Sciences (Urbana) for A. B., and four years in College of Medicine (Chicago) for M. D. Entrance requirement: 15 units; 8 prescribed—3 English, 2 mathematics, 1 laboratory science, 2 foreign language.

(2) Six years—special three-year course in College of Liberal Arts and Sciences (Urbana), including substantially the subjects offered in a first-year course in medicine and the two years in general arts and sciences required for admission to the College of Medicine; and three years in College of Medicine (Chicago). A. B. degree after first year in College of Medicine and M. D. at end of course. Entrance requirement: Same as for (1) above.

(It is recommended that for the sake of the broader training, wherever possible, the student take the 8-year course.)

College of Medicine (located in Chicago)—Continued.
Courses—Continued.
(3) Four years. In College of Medicine (Chicago). Entrance requirement: (1) 15 units of secondary work, including 8 prescribed—3 English, 2 mathematics, 2 German, French, Latin, or Greek, 1 American history and civics; and (2) two years (60 semester hours) of college work, including 30 prescribed—8 chemistry, 8 physics, 8 biology, 6 German or French. B. S. degree after first two years and M. D. after fourth year.
College of Dentistry (located in Chicago).
Admission: 15 units work in an approved secondary school.
Degree: D. D. S.—Three-year course.
School of Pharmacy (located in Chicago).
Admission:
For degree of Graduate of Pharmacy, 2 years of work in an approved secondary school.
For degree of Phar. Chem.; graduation from an approved secondary school.
Degrees: Graduate in Pharmacy—two-year course. Four years' practical drug experience. The time spent in residence at the school may be counted a part of this requirement.
Phar. Chem.—Two-year course, with special emphasis upon laboratory work.
Expenses:

Tuition—	
School of Music	$20–$54
College of Law	50
College of Medicine	120–155
College of Dentistry	150
School of Pharmacy—	
Shorter course	75
Longer course	125
Incidental fee—	
Colleges of Liberal Arts and Sciences, Engineering, Agriculture, Library, and Music School	24
Board, at Urbana	144–180
Room, at Urbana	72–80
Board and room, at Chicago, per week	5–6
Total annual expense	375–450

Faculty, 753.
Students, 5,539, of whom 190 are from foreign countries.

Of special interest to foreign students.—Located in the heart of the great corn country, the university, in the College of Agriculture, offers particularly strong courses dealing with this grain and its culture. A close affiliation maintained with the State experiment station enables the university to support a much larger faculty and permit a higher degree of specialization than would otherwise be possible. Among the noteworthy courses in this college may be mentioned animal husbandry, with opportunity for advanced work in animal nutrition; agronomy, particularly soils and grains; entomology, and landscape gardening.

The College of Engineering is of first rank. The work in civil and electrical engineering is particularly strong, and the university maintains an engineering experiment station devoted entirely to research.

In the newly organized College of Commerce, the university offers courses in business administration, including social and industrial economics, accountancy, banking, and railway administration. The work in railway administration is divided into two general courses; in one, emphasis is upon traffic and accounting; the other, with stress

upon the transportation service, prepares men directly for transportation department of railways.

Preparation for journalistic work, either on the managerial and advertising, or on the reportorial, literary or editorial side, is provided.

The Library School is among the best in the country. The course includes, numerous visits to libraries, book binderies, book stores, and printing establishments in the vicinity, and each student is required to spend at least one month in practical work in an assigned public library.

The Graduate School, which has recently been reorganized, is of high rank.

NORTHWESTERN UNIVERSITY, Evanston and Chicago, Ill. The College of Liberal Arts, the Graduate School, the College of Engineering, the Theological Schools, the School of Music, and the School of Oratory, are located in Evanston, a city of 25,000 inhabitants, 12 miles north of the center of Chicago, and continuous with it. The Schools of Law, Medicine, Pharmacy, Dentistry, and Commerce are in Chicago, a city of 2,344,013 inhabitants. Founded, 1851.

College of Liberal Arts (undergraduate).

Admission: 15 units; 5½ prescribed—3 English, 2½ mathematics.

Degrees: A. B. and B. S.—Four-year courses.

Graduate School.

Admission: Bachelor's degree from recognized college.

Degrees:

A. M.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate study; thesis.

M. S. T.—Three years in a theological school; one year of postgraduate work in theology; thesis.

Medical School.

Admission: Two years of college work.

Degree: M. D.—Four-year course and additional hospital year.

Law School.

Admission: One year of college work. A graduate of a recognized secondary school who is more than 20 years old may be admitted.

Degrees:

LL. B. and J. B.—Three-year course.

LL. M.—One year of study after receiving LL. B.; thesis.

J. D.—(The candidate for this degree must have a bachelor's degree from a recognized college.) One year of postgraduate study after LL. B.

College of Engineering.

Admission: As in College of Liberal Arts.

Degrees:

B. S.—Four-year course.

E. E. and C. E.—Five-year course.

School of Pharmacy.

Admission: Fifteen units.

Degrees:

Graduate in Pharmacy—Two years of six months each.

Pharmaceutical Chemist—Two years of nine months each.

Dental School.

Admission: Graduation from recognized high school.

Degree: D. D. S.—Four-year course.

School of Commerce.
Admission: Two years of collegiate work.
Degree: B. B. A.—Three years' study and thesis.
Garrett Biblical Institute, primarily a Methodist theological seminary, but open to any properly recommended students.
Graduate School of Theology.
Admission: Bachelor's degree from recognized college.
Degree: B. D.—Three-year course.
Miscellaneous:
School of Music.
School of Oratory.
Preparatory schools—
Evanston Academy (Evanston).
Grand Prairie Seminary (Onarga, Ill.).
Elgin Academy (Elgin, Ill.).
Expenses:
Tuition—

College of Liberal Arts	$110
Graduate School (based on courses taken), not to exceed	40
Medical School	175
Law School	150
Engineering School	110
School of Pharmacy—	
For course leading to degree Graduate in Pharmacy	100
For course leading to degree Pharmaceutical Chemist	140
Dental School	150
School of Commerce (based on courses taken), average	45
Theological School, free.	
Board, $5 to $7 a week.	
Room, $5 to $12 a month.	
Total annual expense	389–585

Faculty, 477.
Students, 4,791, of whom 115 are from foreign countries.

Of special interest to foreign students.—The medical school and pharmacy school occupy three large and well-equipped buildings. In addition numerous hospitals and dispensaries throughout the city provide abundant opportunities for clinical instruction. Wesley Hospital and Mercy Hospital each conducts a training school for nurses with a curriculum under the supervision of the university.

The Dental School is of the first rank. A special postgraduate or practitioner's course, beginning the day after commencement and lasting four weeks, is offered.

The location of the School of Commerce, in Chicago, offers unusual opportunities for practical observation and study of modern business and business problems in one of the country's greatest commercial centers.

The College of Engineering introduces an unusual number of nontechnical courses into its curriculum with the intention of giving its graduates a broader and more general training than is commonly done.

A Norwegian-Danish and a Swedish Theological Seminary are maintained to train students for work in this country among people of the respective nationalities.

UNIVERSITY OF NOTRE DAME, Notre Dame, Ind., town of 1,000 inhabitants 2 miles from South Bend, Ind., a city of 63,186 inhabitants, and 80 miles east of Chicago, Ill., city of 2,344,018 inhabitants. Founded, 1842.

College of Arts and Letters.

Admission: 16 units; 13 prescribed—4 English, 2 Latin, 2 French or German, 2 history, 2 mathematics, 1 science. For the department of classics all 16 units are prescribed, there being 7 foreign language units required. These must be 4, Latin and 3 Greek.

Degrees: A. B., Lit. B., Ph. B., Ph. B. in Journalism, Ph. B. in commerce—Four-year courses.

College of Science.

Admission: 16 units; 13 prescribed—4 English, 2 science, 3 mathematics, 2 foreign language, 2 history.

Degrees: B. S., B. S. in Chem., B. S. in Biol., B. S. in Phar.—Four-year courses. A thesis is required.

Short courses in pharmacy. Two years for those who have completed one year of high-school work, and leading to degree Ph. G. Three years for those who have completed two years of high-school work, and leading to degree Ph. C.

College of Engineering.

Admission: 16 units, as in College of Science.

Degrees: C. E., M. E., E. E., E. M., Chem. E.—Four-year courses. A thesis is required.

College of Architecture.

Admission: 16 units, as in the College of Science.

Degrees:

B. S. in Architecture, B. S. in Architectural Engineering—Four-year courses.

M. S. in Architecture, M. S. in Architectural Engineering—One year post-graduate study; thesis. These masters' degrees may also be conferred for work done in absentia.

College of Law.

Admission: 16 units; 13 prescribed, as in the College of Letters.

Degrees:

LL. B.—Three-year course.

LL. M.—One year after LL. B.; thesis.

LL. D, or D. C. L.—Three years after LL. B; thesis.

For either of these degrees, an A. B. or a B. S. is a prerequisite.

College of Music.

Admission: As in the College of Arts and Letters.

Degree: B. Mus.—Four-year course.

Graduate courses:

Admission: Bachelor's degree from a recognized college.

Degrees:

Master of Music—One year of postgraduate study; thesis.

Ph.D.—Three years of postgraduate study; thesis.

Expenses: Board, room, and tuition, $400.

Faculty, 70.

Students, 1,028, of whom 57 are from foreign countries.

Of special interest to foreign students.—The College of Engineering is equipped with ample laboratories and shops for instruction in civil, mechanical, electrical, mining, and chemical engineering. The proximity to the city of South Bend affords the student opportunity for observation in modern engineering plants.

Although students of all religious denominations are admitted, the university is strictly a Roman Catholic institution.

PURDUE UNIVERSITY, Lafayette, Ind., a city of 20,060 inhabitants. Founded, 1869; a "land-grant" institution; coeducational.

Admission: 15 units; 9½ prescribed—3 English, 2 foreign language, 2½ mathematics, 1 science, 1 history. For the engineering schools an additional ½ unit of solid geometry.

Undergraduate courses, 4 years:

	Degree.
Science	B. S.
Agriculture	B. S. in Agriculture.
Chemical engineering	B. S. in Chemical Engineering.
Civil engineering	B. S. in Civil Engineering.
Electrical engineering	B. S. in Electrical Engineering.
Mechanical engineering	B. S. in Mechanical Engineering.
Pharmacy	B. S. in Pharmacy.

A two-year course in pharmacy leads to the degree Pharmaceutical Chemist.

Graduate Department.

Admission: Bachelor's degree from a recognized college.

Degrees: M. S., M. S. in Agriculture, M. E., C. E., E. E., Ch. E.—One year of postgraduate study and thesis.

Expenses:

Tuition (for nonresidents of Indiana)	$25.00
Board, per week	$3.50–4.00
Room, per month	4.50–6.00
Entrance and incidental fee	15.00
Average annual expense	325.00

Faculty, 179.

Students, 1,987, of whom 34 are from foreign countries.

Of special interest to foreign students.—The engineering courses, with exceptional laboratory equipment and large faculty, afford excellent opportunity for the study of civil, electrical, mechanical, and chemical engineering.

The School of Pharmacy is organized on the basis of college work; the School of Agriculture emphasizes work in animal husbandry, agronomy, horticulture, and dairy husbandry. In the School of Science extensive courses in chemistry, physics, and biology, including bacteriology and forestry, are offered.

IOWA STATE COLLEGE, Ames, Iowa, a town of 4,000 inhabitants. Founded 1858; a "land-grant" institution.

Admission: 15 units; 8½ prescribed—3 English, 2½ mathematics, 1 history, 2 foreign languages. For admission to the division of engineering an additional one-half unit solid geometry is prescribed.

Collegiate courses.

Division of Agriculture:

Four-year courses—

Agricultural Education; degree, B. S. in Agricultural Education.
Agricultural Engineering; degree, B. S. in Agricultural Engineering.
Agronomy; degree, B. S. in Agronomy.
Animal Husbandry; degree, B. S. in Animal Husbandry.
Dairying; degree, B. S. in Dairying.
Forestry; degree, B. S. in Forestry.
Horticulture; degree, B. S. in Horticulture.

Five-year courses—

Agricultural Engineering; degree, B. S. in Agricultural Engineering.
Forestry; degree, B. S. in Forestry.
Science and Agriculture; degree, B. S. and B. S. (in specific subjects).

Two-year course—Agriculture; certificate.

Collegiate courses—Continued.
Division of Engineering:
Four-year courses—
Agricultural Engineering; degree, B. S. in Agricultural Engineering.
Ceramics; degree, B. S. in Ceramics.
Chemical Engineering; degree, B. S. in Chemical Engineering.
Civil Engineering; degree, B. S. in Civil Engineering.
Electrical Engineering; degree, B. S. in Electrical Engineering.
Mechanical Engineering; degree, B. S. in Mechanical Engineering.
Mining Engineering; degree, B. S. in Mining Engineering.
Structure Design; degree, B. S. in Structure Design.
Five-year courses—
Agricultural Engineering; degree, B. S. in Agricultural Engineering.
Civil Engineering; degree, B. S. in Civil Engineering.
Electrical Engineering; degree, B. S. in Electrical Engineering.
Mechanical Engineering; degree, B. S. in Mechanical Engineering.
Mining Engineering; degree, B. S. in Mining Engineering.
Science and Engineering; degree, B. S. and B. S. (in specific subjects).
Division of Home Economics:
Home Economics; degree, B. S. in Home Economics.—Four-year course.
Science and Home Economics; degree, B. S. and B. S. in Home Economics.—Five-year course.
Division of Industrial Science:
Industrial Science; degree, B. S.—Four-year course.
Science and Agriculture; degree, B. S. and B. S. (in specific subjects).—Five-year course.
Science and Engineering; degree, B. S. and B. S. (in specific subjects).—Five-year course.
Science and Home Economics; degree, B. S. and B. S. in Home Economics.—Five-year course.
Science and Veterinary Medicine; degree, B. S. and D. V. M.—Six-year course.
Division of Veterinary Medicine:
Veterinary Medicine; degree, D. V. M.—Four-year course.
Science and Veterinary Medicine; degree, B. S. and D. V. M.—Six-year course.
Special course for Practitioner's Certificate.

Graduate Department.
Admission: Bachelor's degree from a recognized college.
Degrees:
M. S. (in specific subjects).—One year of postgraduate work.
Ph. D.—Three years of postgraduate study; thesis. The Engineering Division grants the following professional degrees at the completion of one year of postgraduate study and one year's responsible practice, or of five years of responsible practice: A. E., C. E., E. E., M. E., E. M.

Expenses:

Tuition (free to residents of Iowa) to nonresidents of Iowa	$50
Board and room, per week	4–5
Incidental fee	12
Laboratory fees	
Total annual expense need not exceed	350

Faculty: 226.
Students: 2,611, of whom 25 are from foreign countries.

Of special interest to foreign students.—The college has a complete course in forestry, with opportunity for specialization in the following groups: General forestry, forest management, silviculture, forest utilization and products, forest protection, and forest engineering.

The course in veterinary medicine includes surgery, anatomy, medicine, pathology and bacteriology, physiology, and pharmacology. During the senior year there is opportunity for special work in bacteriology and pathology or for individual research.

Thorough courses are offered in agriculture, especially in animal husbandry, agronomy, and dairying, for which the college possesses unusual facilities in the matter of live stock.

A course in agricultural engineering is offered jointly by the divisions of agriculture and engineering.

STATE UNIVERSITY OF IOWA, Iowa City, Iowa, a city of 10,000 inhabitants. Founded, 1847; coeducational.

College of Liberal Arts, undergraduate.

Admission: 15 units; 8½ prescribed—3 English, 2 in one foreign language, 1 history, 2½ mathematics.

Degrees:

B. A.—Four-year course.

B. S.—Six-year combined course in liberal arts and medicine, homeopathic medicine, or dentistry.

College of Education.

Admission: As in College of Liberal Arts.

At the completion of a four-year course which fulfills all requirements for the bachelor's degree and includes a specified amount of professional work, a certificate is granted.

College of Applied Science.

Admission: 15 units, as in College of Liberal Arts, except that an additional one-half unit in solid geometry is prescribed.

Degrees:

B. Eng.—Four-year course in a specific branch of engineering.

B. S.—Four-year course in general engineering or chemistry.

Advanced professional degrees are granted to graduates in engineering who have had four years' professional experience, one of which must have been in a responsible position and another of which may have been spent in graduate work.

Graduate College.

Admission: Bachelor's degree from a recognized college.

Degrees:

M. S., M. A.—One year of postgraduate study; thesis.

M. S. in Medicine.—One year of postgraduate study and a thesis for those who offered preparatory work equivalent to that in the College of Liberal Arts, and who have completed the four-year medical course.

Ph. D.—Three years' postgraduate study; thesis.

College of Law.

Admission: Two years' collegiate work.

Degree: LL. B.—Three-year course.

College of Medicine.

Admission: Two years' collegiate work, including a foreign language, physics, chemistry, and biology.

Degree: M. D.—Four-year course.

College of Homeopathic Medicine.
Admission: Two years' collegiate work, including a foreign language, physics, chemistry, and biology.
Degree: M. D.—Four-year course.
College of Dentistry.
Admission: Graduation from an approved secondary school.
Degree: D. D. S.—Three-year course.
College of Pharmacy.
Admission: Graduation from an approved secondary school.
Degrees:
Ph. G.—Two-year course.
Ph. C.—Three-year course.
Phar. B.—A combined academic and professional course arranged on request. Admission requirements as in College of Liberal Arts.
Miscellaneous.
School of Political and Social Science and Commerce.
College of Fine Arts.
School of Music.—Four-year course leading to degree B. Mus.
Training School for Nurses.
Expenses:
Tuition—
Colleges of Liberal Arts, Engineering, Education, Fine Arts..... $20.00
Colleges of Law, Medicine, Homeopathic Medicine, Dentistry, Pharmacy..... 50.00
Board, $3.50 a week and upward, average..... 4.00
Room, $4 a month and upward, average..... 6.50
Faculty, 225.
Students, 2,850, of whom 28 are from foreign countries.
Of special interest to foreign students.—The College of Education aims to give teachers a liberal education and to supply specialized training in that particular professional field which may be selected.
The College of Medicine is well equipped, and ranks among the best medical schools in the country.

LOUISIANA STATE UNIVERSITY, Baton Rouge, La., a city of 18,000 inhabitants, 90 miles from New Orleans, a city of 355,958 inhabitants. Founded, 1860; a "land-grant" institution; coeducational.

Undergraduate departments.
Admission: 14 units; 8½ prescribed—3 English, 2½ mathematics, 2 foreign language, 1 history. Requirement is uniform in all undergraduate departments except the College of Agriculture, where the foreign language is not prescribed.
Degrees:

Arts and sciences	A. B.—4 years.
Teachers College	A. B.—4 years.
Agriculture	B. S.—4 years.
Engineering	B. S.—4 years.
Audubon Sugar School	B. S.—5 years.
Law School	LL. B.—3 years.
Graduate School	M. A., E. E.—1 or 2 years.
	M. S., M. E.
	C. E., Ch. E.

Expenses:

Tuition (free to citizens of the United States of America)	$100
Board, at university, per month	11
Room, at university, per month	2
Board and room, outside university, per month	18–30

Faculty, 84.

Students, 745, of whom 44 are from foreign countries.

Of special interest to foreign students.—The Audubon Sugar School, which is the only institution of its kind in America, is excellently equipped, and offers a course for training sugar experts. It includes chemistry, agriculture, mechanical engineering, sugar making, study and design of sugar-house machinery, sugar chemistry, analysis, and special agriculture of the sugar cane. Practical work in the fields and sugar house, at the university sugar experiment station, is required during two full sugar seasons, and properly qualified students may, in their fifth year, receive appointments for the season at standard salaries as assistant chemists and engineers. The library is ample and the material equipment, including a sugar house, fields of cane, and laboratories, is valued at about $100,000.

On account of the similarity of the law systems of the State of Louisiana and the Spanish-American countries—the main differences between the Louisiana and Spanish codes are differences of detail rather than of fundamental principles—the work of the Law School should prove of interest to students from those regions.

TULANE UNIVERSITY OF LOUISIANA, New Orleans, La., a city of 355,953 inhabitants. Founded, 1834.

College of Arts and Sciences.

Admission: 15 units. For B. A. degree, 11 prescribed—3 English, 3 mathematics, 3 Latin, and either 2 Greek or 1 history and 1 science. For B. S. degree, 12 prescribed—3 English, 3 mathematics, 2 foreign language, 2 science, 2 history. (For 2 science, 1 mathematics and 1 foreign language may be substituted.)

Degrees: B. A., B. S., B. A. in Education—four-year courses.

College of Technology.

Admission: 15 units; 10 prescribed—3 English, 3 mathematics, 2 foreign language, 2 science. (For the 2 science, 1 mathematics and 1 foreign language may be substituted.)

Degrees:

B. Arch.—Four-year course in architecture.

B. E.—Four-year course in the departments of mechanical and electrical engineering, civil engineering, chemical engineering, or architectural engineering. (The diploma will indicate the particular course taken.)

H. Sophie Newcomb Memorial College (for women only).

Admission: 15 units. For B. A., 12 prescribed—3 English, 3 mathematics, 5 foreign languages, 1 science. (For the equivalent in foreign language, 2 history may be substituted.) For B. A. in Education, 9 prescribed—3 English, 3 mathematics, 2 foreign language, 1 science.

Degrees:

B. A., B. A. in Education—Four-year courses.

Diploma in Art—Four years in School of Art.

B. Mus.—Four years in School of Music.

Diplomas are granted in art, music, and household economy, upon completion of shorter courses.

Faculty of Graduate Studies.

Admission: Bachelor's degree from a recognized college.

Degrees:

M. E., C. E., Chem. E., E. E.—Either one year resident postgraduate study and thesis, or two years professional work in absentia and thesis.

M. A., M. S.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate study; thesis.

School of Medicine.

Admission: One year collegiate work, including biology, chemistry, physics, and a modern language other than English.

Degree: M. D.—Four-year course.

School of Dentistry.
Admission: 15 units; 8 prescribed—3 English, 3 mathematics, 2 foreign language.
Degree: D. D. S.—Three-year course.
School of Pharmacy.
Admission: 12 units; 5½ prescribed—3 English, 2½ mathematics.
Degrees:
Ph. G.—Two-year course.
Ph. C.—Three-year course.
Pharm. D.—One year after Ph. C.
School of Hygiene and Tropical Medicine.
Courses in hygiene and tropical medicine, open to medical students, physicians, and others properly qualified.
Degree:
Dr. P. H.—Completion of course in public health.
Diploma—D. T. M.—Completion of course in tropical medicine.
College of Law.
Admission: 15 units; 7½ prescribed—3 English, 2½ mathematics, 2 foreign language.
Degree: LL. B.—Three-year course.
Expenses:
Tuition—

Colleges of Arts and Sciences and Technology	$100
College of Law, and Newcomb	90
College of Dentistry	150
College of Medicine	150–165
College of Pharmacy	45
Graduate School	20
Board and room, at university	135–150
Board and room, at Newcomb	230
Board and room, outside university, per month	16–22
Total annual expense, approximated	300–500

Faculty: 300.
Students: 1,487, of whom 47 are from foreign countries.

Of special interest to foreign students.—The medical school is of high grade, and its location in a city of the size of New Orleans insures excellent clinical facilities. The postgraduate school provides special opportunities for advanced study and research, while the course in tropical medicine should attract students from southern countries. It consists of lectures and demonstrations, laboratory periods and clinics, and considers in turn diseases due to physical and chemical agencies, to vegetable and animal parasites, and those of unknown causation. Three laboratories are devoted especially to this work, one of which is set aside for graduate study and research, and the hospital facilities are probably unexcelled in the United States.

The courses in the law school are divided into two groups—the common-law group and the Louisiana or civil-law group. Owing to the similarity of the Louisiana Code to that of the Spanish-American countries, the latter course should be of interest to students from those localities.

The sugar engineering course of the College of Technology differs from any other given in the United States. It trains students to design and erect sugar factories and to take charge as general superintendents of their chemical and mechanical operations. The industrial chemical engineering course gives training in applied industrial chemistry as well as mechanical instruction in the design of chemical manufacturing plants. Special attention is given to reinforced concrete and structural design, irrigation and drainage. A combined course in mechanical and electrical engineering is also given.

The university is open to white students only.

GOUCHER COLLEGE, Baltimore, Md., a city of 574,575 inhabitants; near Washington, D. C., capital of the country, a city of 331,069 inhabitants. Founded, 1885, for women only.

Admission: 15 units; 7½ prescribed—3 English, 2½ mathematics, 2 Latin (preferably 4½).

Degree: A. B.—Four-year course.

Expenses:

Tuition	$165
Board	225
Room	105

Faculty, 32.

Students, 422, of whom 4 are from foreign countries.

JOHNS HOPKINS UNIVERSITY, Baltimore, Md., a city of 574,575 inhabitants, 40 miles from Washington, the capital of the country. Founded, 1867.

Undergraduate courses.

Under the Faculty of Philosophy.

Admission: Secondary school record showing work in languages, mathematics, history, science, and drawing. Examination in English, mathematics, history, and the foreign languages.

Degree: A. B.—Four years.

In the Department of Engineering.

Admission: Fifteen units; 12 prescribed—3 English, 3 mathematics, 2 history, 4 foreign languages (Latin, French, German). (For Latin 2 units physics and manual training may be substituted.)

Degree: B. S.—Four years.

Graduate courses.

Under the Faculty of Philosophy.

Admission: Bachelor's degree from recognized college.

Degrees:

A. M.—Two years' postgraduate study. Essay.

Ph. D.—Three years' postgraduate study; thesis.

Under the Faculty of Medicine.

Admission: Bachelor's degree from recognized college, or knowledge equivalent to that implied by such degree, including work in Latin, French, and German, biology, chemistry, and physics.

Degree: M. D.—Four years' postgraduate work.

Under the Department of Engineering.

Admission: Bachelor's degree from a recognized college.

Degrees:

Master of C. E., Master of E. E., Master of M. E.—Two years' postgraduate study.

Ph. D.—Three years' postgraduate study; thesis.

Expenses:

Tuition	$150
Tuition in the Medical School	240

Board, $3.50 a week and upward.

Rooms, $1.50 a week and upward.

Faculty, 228.

Students, 900, of whom 7 are from foreign countries.

Of special interest to foreign students.—From its foundation Johns Hopkins has been primarily devoted to graduate study and is the pioneer in that field in this country. The highest of standards have always been maintained, both in the quality of instruction given and in the work demanded of the student in all departments. The

university is one of the very few in the United States requiring two years instead of one for the master's degree. The medical school stands in the front rank among the schools of the country. Close connection between the university and the Johns Hopkins Hospital and Dispensary offers excellent clinical facilities and makes possible the emphasis placed upon laboratory and hospital training.

Members of the graduating class receive appointments as resident house officers in the hospital.

The Technical School, opened in 1913, will probably be characterized by the same thoroughness and excellence of standards as are the other departments of the university. Graduate and undergraduate work is now offered in civil, electrical, and mechanical engineering, and a liberal appropriation insures complete equipment and every facility for the new laboratories and buildings.

CLARK UNIVERSITY and CLARK COLLEGE, located at Worcester, Mass., a city of 154,941 inhabitants.

The university and the college, although separate institutions with separate faculties, are under the control of the same board of trustees and use the same buildings and equipment.

The University: Founded, 1887; coeducational; offers instruction in eight graduate departments only.

Admission: Bachelor's degree from a recognized college, or the equivalent.

Degrees:

A. M.—At least one year of postgraduate study; thesis.

Ph. D.—At least three years of postgraduate study; thesis.

Faculty, 23.

Students, 90, of whom 8 are from foreign countries.

The College: Founded, 1902.

Admission: Graduation from a recognized secondary school with 15 units credit. In cases of exceptional ability, 14 units may be accepted.

Degree: A. B.—Three-year course.

Faculty, 24.

Students, 156, of whom 3 are from foreign countries.

Expenses:

Tuition—

College	$50
University	100

Board, college dining hall, $4 a week.

Room, $1.50 to $3 a week.

Total annual expense, $300 and upward.

Of special interest to foreign students.—The university is strictly a graduate school. It is devoted primarily to research, secondarily to the training of investigators and teachers. For both these ends it emphasizes the importance of close personal relations between professors and students. Its small student body and large teaching staff have enabled it to foster these relations.

Especially noteworthy, both on account of the eminence of the instructors and the comprehensiveness of the courses, is the work in education, under which head is included instruction in psychology and pedagogy. The university is one of the few in the country to possess an excellently equipped pedagogical museum. A childrens' institute provides special facilities for various branches of child study.

Clark College is the only college mentioned in this bulletin which regularly grants the A. B. in three years. It seeks to do this without lowering the standard of the degree by requiring a greater amount of work of each student weekly, by the exclusion of extraneous activities (such as intercollegiate athletics) which make large demands

on the students' time, by maintaining a relatively large faculty, and by the immediate dismissal of all students who can not maintain the required pace.

The library, used jointly by university and college, is exceptional in equipment and administration. It is maintained by an ample separate endowment which permits the purchase of any book needed for any investigation.

HARVARD UNIVERSITY, Cambridge, Mass., a city of 109,045 inhabitants, adjoining Boston, 722,465 inhabitants. Founded in 1636, it is the oldest American university.

Harvard College, undergraduate department of arts and sciences.

Admission: 16½ units, by examination. Two plans.

1. Examinations in all subjects; 11½ or 12½ units prescribed for A. B. course—3 English, 2 Greek or 3 Latin, 2 modern languages, 2½ mathematics, 1 history, 1 science. 10½ units prescribed for S. B. course—3 English, 3 modern languages, 2½ mathematics, 1 history, 1 science.
2. Secondary school record showing work in languages, science, mathematics, and history. Examinations in English, a foreign language, mathematics or science, and one other subject.

Degrees: A. B. and S. B.

Graduate School of Arts and Sciences.—Advanced instruction in the arts and pure science.

Admission: Bachelor's degree from recognized college.

Degrees:

A. M.—One year of satisfactory postgraduate study.

Ph. D.—At least two years of advanced study; a thesis; examinations. "The requirements of time for the degree of doctor of philosophy are wholly secondary."

Graduate School of Applied Science.—Including school of engineering, mining school, school of architecture and landscape architecture, school of forestry, school of applied biology.

Admission: Bachelor's degree from recognized college.

Degrees: M. C. E., M. M. E., M. E., Met. E., M. E. E., M. Arch., M. L. A., M. F. S. M.—Two years of postgraduate study. S. D.—Requirements as for Ph. D.

Graduate School of Business Administration. Scientific instruction in principles of business organization and in specialized branches of modern business.

Admission: Bachelor's degree from recognized college.

Degrees: M. B. A.—Two years of postgraduate study; thesis.

Divinity School.

Admission: A. B. or equivalent.

Degrees:

S. T. B.—Three-year course.

S. T. M.—One year of advanced study after taking S. T. B.

Th. D.—Not less than two years of advanced study; thesis; examination.

Law School.

Admission: Bachelor's degree from recognized college.

Degrees:

LL. B.—Three-year course.

S. J. D.—One year of advanced study after taking LL. B.

Medical School.

Admission: Two years of collegiate work.

Degrees:

M. D.—Four-year course.

D. P. H.—One year's study after taking M. D.

Graduate School of Medicine.

Admission: M. D.

Dental School.
Admission: Graduation from secondary school
Degrees: D. M. D.—Three-year course.
School for Health Officers.
Admission: Bachelor's degree from recognized college, or M. D.
Certificate: C. P. H.
Miscellaneous.
Bussey Institution of Applied Biology.
Arnold Arboretum.
Astronomical Observatory.
Museums of Zoology, Ethnology, Archæology, etc.
Botanical Garden.
Gray Herbarium.
Library.
Expenses:

Tuition in Harvard College and graduate schools	$150
In medical school	225
In dental school	200–150
Bond from students in Harvard College and graduate students	400
Bond from students in medical and dental schools	50
Rooms in dormitories	50–200

Board at Memorial Hall, $5.25 per week.
Board at Foxcroft Hall, $3.50 per week.
Faculty, 803.
Students, 5,407, of whom 148 are from foreign countries.
Radcliffe College. Affiliated with Harvard University. Admits women only.
Undergraduate Department—
Admission: As in Harvard College.
Degree: A. B.—Four-year course.
Graduate Department—
Admission: Bachelor's degree from a recognized college.
Degrees:
A. M.—One year postgraduate study.
Ph. D. (See under Graduate School of Arts and Sciences.)
Expenses:

Tuition	$200
Board	216
Room	72–324

Faculty, 122.
Students, 568, of whom 7 are from foreign countries.

Of special interest to foreign students.—Harvard College offers exceptional advantages for undergraduate study because of the strong graduate schools included in the university, and because of the fact that many of the most distinguished scholars connected with these schools also give instruction to undergraduate students.

The schools of engineering, architecture and landscape architecture and forestry are strictly graduate schools, and therefore demand a more extended general and special training than is usually required to secure degrees in these departments.

The medical school occupies a new spacious and magnificently equipped group of buildings in Boston within easy reach of the hospitals affiliated with it. Clinical instruction is given at 17 hospitals, dispensaries, and infirmaries. This number includes the largest State and city institutions. "About 80 appointments as internes and assistants are made annually to hospitals in and about Boston for terms of service varying from six months to two years." Almost every graduate may receive one of these appointments.

The school for health officers, conducted by Harvard University and the Massachusetts Institute of Technology in cooperation, prepares young men for administrative positions as health officers, members of boards of health, secretaries, agents or inspectors of health organizations. The subjects embraced in the course include medical, biological, hygienic, and engineering sciences, together with practical health administration.

The Graduate School of Arts and Sciences is one of the best equipped graduate schools in the country. The following departments are especially noteworthy by reason of the outstanding eminence of the professors connected with them, or because of exceptional material equipment: Astronomy, biology, botany, chemistry, comparative literature, economics and sociology (called social ethics), education, English language and literature, Germanic languages and literature, history and government, philosophy and psychology, Romance languages and literatures.

MASSACHUSETTS AGRICULTURAL COLLEGE, Amherst, Mass., a town of 5,000 inhabitants. A "land-grant" institution, incorporated in 1863; coeducational.

Undergraduate course, 4 years.

Admission: 14 units; 8½ prescribed—2½ mathematics, 3 English, 2 modern languages, 1 history.

Degree conferred—B. S.

Work for all during first two years is practically the same. In second semester of sophomore year the student selects one subject (agriculture, agronomy, animal husbandry, dairying, poultry husbandry, floriculture, forestry, landscape gardening, pomology, agricultural chemistry, economic entomology, rural social science, microbiology, plant physiology and pathology, agricultural education) in which he wishes to specialize. In this and correlated subjects almost all the work of his final two years will lie.

Graduate School:

Admission: Bachelor's degree from a recognized college.

Degrees conferred:

M. S.—One and one-half years' graduate study in two subjects; thesis; examination.

Ph. D.—Three years' graduate study in three subjects; thesis; examinations.

Expenses:

Tuition, (free to residents of Massachusetts), nonresidents of Massachusetts	$40
Tuition to foreigners	120
Room	39–110
Board (college dining hall) per week	4
Total annual expense	240–350

Faculty, 67.

Students, 610, of whom 7 are from foreign countries.

Of special interest to foreign students.—Equipment for work in entomology is especially complete. It includes a library, a new fireproof entomological and zoological building with laboratories, museums, and lecture rooms; an eight-room building for instruction in bee-keeping; and an apiary with 50 colonies of bees.

The course in pomology includes practical, systematic, and commercial pomology, with a course in spraying. For this work the college possesses 20 acres of orchard.

Strong courses are offered in plant physiology and pathology, horticulture, agricultural chemistry, plant breeding, floriculture, landscape gardening, market gardening, agricultural economics, rural sociology, farm administration, dairying, microbiology, poultry husbandry, and agricultural education.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Boston, Mass., a city of 722,465 inhabitants. Incorporated, 1861; coeducational.

Undergraduate courses:

Admission: Examination. Prescribed subjects: Algebra, plane and solid geometry, physics, French, German, English, history. Evidence of satisfactory work in two electives or one continued throughout two years. Students from countries where a language other than English is spoken are in most cases allowed to substitute their own language for either French or German.

Four-year courses are offered in civil engineering, mechanical engineering, mining engineering and metallurgy, architecture, chemistry, electrical engineering, biology and public health, physics, general science, chemical engineering, sanitary engineering, geology, naval architecture and marine engineering, electrochemistry, and engineering administration.

Five-year undergraduate courses are offered for those who wish to combine two related courses, to add to their strictly professional studies work of a more general nature, or to distribute the work of a regular four-year course over five.

Special summer work is required between the first and second years in chemistry and chemical engineering and between the second and third years in civil and sanitary engineering, mining, and metallurgy. In connection with various departments, students are given special facilities during the summer to engage in field work or to visit and report on mines or industrial establishments.

A thesis, original report, or design is required at the completion of any course.

Degree conferred. B. S.

Graduate courses:

Admission: Bachelor's degree from a recognized college or scientific school.

Degrees:

M. S.—One year of postgraduate study if previous work is equivalent to institute's undergraduate courses; thesis.

Ph. D.—Three years of postgraduate study and research, mainly in general science.

Doctor of Engineering.—Three years of post graduate study and research, mainly in engineering subjects.

School for Health Officers, a joint establishment of Harvard University and the institute, to train students for public-health work.

Admission: Bachelor's degree from recognized college or M. D.

Certificate: C. P. H.

Expenses:

Tuition	$250
Board and room, per week	6-8
Laboratory breakage deposit	15-50

Faculty, 128 professors, 163 other members educational staff.

Students, 1,816, of whom 114 are from foreign countries.

Of special interest to foreign students.—Nearby are the Boston libraries; and the manufacturing district in which the institute is situated offers unusual opportunities for observation and practical work. The work in naval architecture and marine engineering is facilitated by the proximity of the institute to the navy yard and the Fore River Shipyard. Courses in this department include a study of mechanism, thermodynamics, applied mechanics, hydraulics, heat engineering, steam turbines, and marine engineering. The institute also offers a complete five-year course in naval construction and has been selected by the United States Navy Department to give professional instruction to officers designated for the Corps of Naval Constructors. For a portion of this course the fee is $500, instead of $250 as in other courses.

For students in architecture there are two options: (1) General architecture with emphasis upon design and art, and (2) architectural engineering with emphasis upon structural design and engineering.

The graduate course in aeronautical engineering includes theoretical dynamics of rigid bodies and fluids and the general theory and design of aircraft. An aerodynamic laboratory provides facilities for research and experiment.

The work in civil, electrical, and mechanical engineering, and chemistry is noteworthy.

The importance of laboratory work has always been recognized at the institute, which now possesses excellently equipped laboratories, several devoted to advanced research. The equipment in the electrical, mechanical, and hydraulic laboratories is especially complete.

Students registering in civil engineering, mechanical engineering, mining engineering and metallurgy, electrical engineering, or sanitary engineering are entitled to all the rights and privileges of students in the professional schools of Harvard University, and are eligible to degrees from the university in addition to those from the institute.

The institute has now in the process of construction a splendid new plant at Cambridge, on the banks of the Charles River. This will be ready for occupancy in September, 1916.

MOUNT HOLYOKE COLLEGE, South Hadley, Mass., a town of 5,000 inhabitants. Founded, 1836; for women only.

Admission: 15 units, 11 prescribed; 3 English, 1 history, 4 Latin, 3 mathematics.

Degrees:

A. B.—Four-year course.

A. M.—One year of postgraduate study and a thesis for those holding the bachelor's degree from a recognized college.

Expenses:

Tuition	$150
Board and room	275
Total annual expense, including laboratory fees and incidentals	500

Faculty, 90.

Students, 796, of whom 14 are from foreign countries.

SIMMONS COLLEGE, Boston, Mass., a city of 732,465 inhabitants. Opened, 1902.

Admission: 72 credits,[1] 34 prescribed—12 English, 8 foreign language, 10 mathematics, 4 history.

Degrees:

B. S.—Four-year courses in household economics, secretarial studies, library science, general science, or social work.

M. S.—One year of postgraduate study after B. S. Certificates are granted to students completing short courses in any of the departments mentioned above, or in that of industrial teaching.

Expenses:

Tuition	$125
Board and room	200–300
Total annual expense	415

Faculty, 97.

Students, 1,074, of whom 7 are from foreign countries.

Of special interest to foreign students.—Simmons offers, to women only, thorough courses, combining both professional and cultural studies, and aiming to fit the student to earn an independent livelihood.

In addition to the regular four-year programs there are one-year and two-year courses, designed for college graduates, which lead to the bachelor's degree, and also courses of one year for students who are not candidates for a degree. In all departments the curricula are largely prescribed and emphasis is placed upon the practical side of the work.

[1] A "credit" represents the work of a class meeting one hour a week through the school year.

SMITH COLLEGE, Northampton, Mass., a city of 19,000 inhabitants. Founded, 1871, for women only.

Admission (undergraduate work): 14½ units; 10½ prescribed—3 English, 2½ mathematics, 1 history, 4 Latin or Greek.

Degree: A. B.—Four-year course.

Admission (graduate work): Bachelor's degree from a recognized college.

Degrees:

A. M.—One year of postgraduate work. Also conferred upon Smith graduates for work done in absentia after three years and the presentation of thesis.

Ph. D. (rarely conferred).—Three years' postgraduate study; thesis.

Expenses:

Tuition	$150
Board and room, at college	300
Board and room, away from college, per week	6–12

Faculty, 126.

Students, 1,638, of whom 2 are from foreign countries.

Of special interest to foreign students.—A fund of $7,500 has recently been donated by the class of 1890 to establish the Latin-American scholarship of the class of 1890. This will yield from $337.50 to $375 a year. Preference in the award of the scholarship will be given to deserving condidates from Latin-American countries.

TUFTS COLLEGE, Tufts College, Mass., near Boston, a city of 722,465 inhabitants. Founded, 1852.

School of Liberal Arts. Undergraduate.

Admission: 15 units; 8½ prescribed—3 English, 2 foreign language, 1 history, 2½ mathematics.

Degrees:

A. B. and B. S.—Four-year courses.

B. S. in Chemistry.—Four-year course.

Engineering School:

Admission: 14 units; 9 prescribed—3 English, 2 foreign language, 1 history, 3 mathematics.

Degree: B. S.—Four-year courses in civil, structural, mechanical, electrical, and chemical engineering.

Graduate School.

Admission: Bachelor's degree from a recognized college.

Degrees: M. A. and M. S.—One year of postgraduate study; thesis.

Crane Theological School (Universalist).

Admission: As in School of Liberal Arts.

Degree: B. D.—Five-year course. This degree is also conferred upon students who have obtained a bachelor's degree from a recognized college and complete a three-year course in the theological school.

Jackson College. An undergraduate college for women equivalent to the School of Liberal Arts.

Admission: 15 units, as in the School of Liberal Arts.

Degrees: A. B. and B. S.—Four-year courses.

Medical School (Boston).

Admission: One year's collegiate work, including physics, chemistry, biology, and German or French.

Degree: M. D.—Four-year course.

Dental School (Boston).

Admission: 14 units; 8½ prescribed—3 English, 2 foreign language, 1 physics, 2½ mathematics.

Degree: D. M. D.—Three-year course.

Expenses:
Tuition—
School of Liberal Arts, Jackson College..... $125
Graduate School..... 100
Crane Theological School (including room)..... 100
Medical and Dental Schools..... 150
Engineering School..... 175
Board at college, $4.50 a week.
Room at college..... 25-80
Board and room at Boston, $5.50 to $7 a week.
Total annual expense..... 350-450
Faculty, 262.
Students, 1,241, of whom 33 are from foreign countries.

Of special interest to foreign students.—The Dental School is well equipped, and its location in a city of the size of Boston assures excellent clinical facilities.

A four-year course in chemistry leading to the degree of B. S. fits men for positions of responsibility in industrial chemistry.

The School of Engineering offers courses in civil, structural, electrical, mechanical, and chemical engineering. In all departments the work of the first two years is the same, and aims to give the student a strong scientific foundation for work in his chosen field, and as liberal an education as possible. Advanced and technical study in the different fields of engineering begins in the third year.

WORCESTER POLYTECHNIC INSTITUTE, Worcester, Mass., a city of 154,941 inhabitants. Founded, 1865.

Undergraduate Department:
Admission: Graduation from a recognized secondary school, including work in English, algebra, plane and solid geometry, history, two foreign languages (one of which must be French or German), chemistry or physics.
Degree: B. S.—Four-year course; thesis.

Graduate Department.
Admission: Bachelor's degree from a recognized college.
Degrees: M. S.—One year postgraduate study; thesis.
Sc. D.—Three years' postgraduate study; thesis.
M. E., E. E., C. E., Ch. E.—One year postgraduate study; thesis. These degrees may also be conferred upon graduates of the institute who have had three years' professional experience, including responsible charge of work in that line for which the degree is to be given, and who present a thesis.

Expenses:
Tuition..... $150
Board and room, $4.25 a week and upward.
Total annual expense..... 500-600
Faculty, 59.
Students, 541, of whom 12 are from foreign countries.

Of special interest to foreign students.—Strong courses are offered in mechanical, civil, and electrical engineering; chemistry, and general science. The institute lays especial emphasis upon practice work. It was the first institution in the country to establish workshops in connection with courses in engineering. These supplement the well-equipped laboratories. The shops are run under commercial conditions, affording the student valuable training in scientific management. Instruction in electrical engineering design, and electric railway engineering is offered in the department of electrical engineering.

MICHIGAN COLLEGE OF MINES, Houghton, Mich., a town of 6,000 inhabitants. Founded, 1885.

Admission: 15 units, 9 prescribed—3 English, 2 mathematics, 1 physics, 2 foreign language, ½ bookkeeping, ½ physiography.

Degree: E. M.—Four-year course. If the student attends the summer session it is possible to fulfill the requirements in three calendar years. A candidate may, upon application, receive the B. S.

Expenses:

Tuition, residents of Michigan	$25
Tuition, nonresidents of Michigan	150
Minimum annual expense	550

Board and room, $25 a month and upward.

Faculty, 25.

Students, 135, of whom 8 are from foreign countries.

Of special interest to foreign students.—The college gives courses in metallurgy; mechanical, electrical, civil, and mining engineering; ore dressing; geology and mineralogy; and technical writing. The location of the college makes possible practical work in copper and iron mining.

UNIVERSITY OF MICHIGAN, Ann Arbor, Mich., a city of 14,000 inhabitants. Founded, 1837; coeducational.

College of Literature, Science, and the Arts. Undergraduate.

Admission: 15 units, 8 prescribed—3 English, 2 foreign language, 2 mathematics, 1 science.

Degrees:

A. B.—Four-year course. A student who has completed half this work in mathematics and the physical and biological sciences may, if he desires, receive the degree B. S.

B. S. in Forestry.—Four-year course in forestry.

Special course in landscape design, 5 years. (B. S. or A. B. at end of fourth year. M. L. D. at end of fifth year.)

B. S. in Chemistry.—Four-year course specializing in chemistry.

College of Engineering and Architecture.

Admission: 15 units; 11½ or 12 prescribed—3 English, 3 mathematics, 1 physics, 1 history, 2 foreign language, 1½ or 2 to be selected from the following: Chemistry 1, trigonometry ½, French or German 1 or 2, Greek or Latin 1 or 2, manual training 1.

Degrees:

B. S. in Engineering.—Four-year course.

B. S. in Architecture.—Four-year course.

Medical School.

Admission: Two years' collegiate work.

Degree: M. D.—Four-year course.

Law School.

Admission: Two years' collegiate work.

Degrees:

LL. B.—Three-year course.

LL. M.—One year after LL. B.

J. D.—Three-year course for those having a bachelor's degree from a recognized college.

College of Pharmacy.

Admission: 15 units; 8 prescribed—3 English, 2 foreign language, 2 mathematics, 1 physics.

Degrees:

Ph. G.—Two-year course.

Ph. C.—Three-year course.

B. S. in Pharmacy.—Four-year course.

Homeopathic Medical School, offers work in medicine and surgery, especially from a homeopathic standpoint.

Admission: One year of collegiate work; two years of collegiate work in fall of 1916.

Degree: M. D.—Four-year course.

College of Dental Surgery.

Admission: 15 units; 9 prescribed—3 English, 2 mathematics, 2 science, 2 Latin. One year of collegiate work in fall of 1916.

Degrees:

D. D. S.—Three-year course.

D. D. Sc.—At least one year of postgraduate work. Two years of practice, and publication of original articles of scientific value, are prerequisite for this degree

Graduate School.

Admission: Bachelor's degree from a recognized college.

Degrees:

A. M. and M. S.—One year postgraduate work.

M. S. in Forestry.—One year of postgraduate work after B. S. in Forestry.

M. L. D.—One year postgraduate work after A. B.

M. S. in Engineering.—One year postgraduate work after B. S.

M. S. in Architecture.—One year of postgraduate work after B. S. in Architecture.

M. S. in Public Health.—One year of postgraduate work after M. D. To obtain this degree a student must also have an A. B. or B. S.

Advanced Engineering degrees: C. E., M. E., E. E., Ch. E., Nav. Arch., Mar. E. Arch. (At least five years must have elapsed after the bachelor's degree before registration for engineering degree. At least one year must have been spent in responsible charge of some professional work.) One year advanced study. Thesis.

Ph. D. or Sc. D.—Three years of postgraduate work. Thesis.

D. P. H.—Two years after M. D. Thesis. (A bachelor's degree is a prerequisite.)

Expenses:

Annual fee—

College of Literature, Science, and the Arts and Graduate Department:	
Residents of Michigan	$42
Nonresidents of Michigan	52
Colleges of Engineering and Architecture, Medical School, College of Pharmacy, Homeopathic Medical School:	
Residents of Michigan	57
Nonresidents of Michigan	67
Law School:	
Residents of Michigan	67
Nonresidents of Michigan	77
College of Dental Surgery:	
Residents of Michigan	77
Nonresidents of Michigan	107
Matriculation fee, on first entering—	
Residents of Michigan	10
Nonresidents of Michigan	20
Board, $3.50 to $6 a week.	
Room, $0.75 to $2.50 a week.	
Total annual expense	400–500

Faculty, 362.

Students 5,520, of whom 159 are from foreign countries.

Of special interest to foreign students.—The work in forestry is prescribed throughout the four undergraduate years. Courses will be recommended for such lines as forest engineer, forest entomologist, forest pathologist, forest grazing expert, city forester, and others.

The Law and Medical Schools and Dental College are of high rank.

Ample facilities in the matter of museums, laboratories, library, and operating rooms are provided for the work in dentistry. An advanced course is offered.

The courses in civil and mechanical engineering are noteworthy. The student selects that field in which he wishes to work from among the groups into which the general subject is divided. Civil engineering includes structural engineering, hydraulic engineering, transportation engineering, sanitary and municipal engineering, geodetic engineering, and general engineering science. Steam-power engineering, internal-combustion engineering, machine design, hydromechanical engineering, heating and ventilating engineering, automobile engineering, and general engineering science are the mechanical engineering groups.

Students may receive credit toward a degree for work done during a summer session.

The university is one of the few in this country offering thorough courses in marine engineering and naval architecture. A special laboratory is equipped for this work, and includes a naval tank for various experiments, relating to resistance, propulsion, and steering, to be made upon models of ships and propellers.

The College of Pharmacy, in addition to strong undergraduate courses, offers facilities for advanced work in food and drug analysis, drug assaying, pharmacology, bacteriology, and physiological chemistry.

The university was one of the first to recognize the need for trained specialists in landscape design, and to establish a course for that purpose. The work in this field covers five years, and includes, in addition to a large amount of nonprofessional studies, such subjects as civic improvement, design of home grounds, country places, and cemeteries, park and city planning, forestry, architecture, fine arts, surveying, and municipal engineering.

UNIVERSITY OF MINNESOTA, Minneapolis, Minn., a city of 333,472 inhabitants. Founded, 1851; a "land grant" institution; coeducational.

College of Science, Literature, and the Arts (undergraduate).

Admission: 15 units; prescribed—4 English (if 4 units foreign language are offered 3 English will be accepted), 2 mathematics.

Degrees:

A. B.—Four-year course in science, literature, and the arts.

B. S.—Combined arts and medicine, 4 years. Admission same as for B. A.

B. Mus.—Four-year course in arts and music. For admission evidence of musical ability, in addition to the required 15 units, must be shown.

College of Engineering and Mechanic Arts.

Admission: 15 units; prescribed—3 English, 3 mathematics, 1 chemistry.

Degrees:

B. S. in Engineering.—Four-year course.

B. S. in Architecture.—Four-year course.

C. E., M. E., E. E., Arch. E., Architect.—Five-year courses; thesis.

College of Agriculture (at St. Paul).

Admission: 15 units, as in College of Science, Literature, and the Arts.

Degree: B. S.—Four-year courses in agriculture and home economics.

College of Forestry (at St. Paul).

Admission: 15 units, as in College of Science, Literature, and the Arts.

Degree: B. S.—Four-year course.

Law School.
Admission: Two years of collegiate work.
Degree: LL. B.—Three-year course.
Medical School.
Admission: Two years of collegiate work, including physics, chemistry, biology, social science, and German.
Degrees:
B. S.—Four-year course (2 arts, 2 medicine).
M. D.—Four years' study, and one year to be spent as an interne in an approved hospital or in approved laboratory study.
College of Dentistry.
Admission: 15 units; prescribed—4 English, or 3 English accompanied by 4 in a foreign language, 2 mathematics, chemistry.
Degree: D. D. S.—Three-year course.
College of Pharmacy.
Admission: Graduation from a recognized secondary school.
Degrees:
Ph. G.—Two-year course.
Ph. C.—Three-year course.
B. S. in Pharm.—Four-year course.
Phm. M.—Five-year course.
Phm. D.—Six-year course.
School of Mines.
Admission: 15 units; prescribed—4 English, or 3 accompanied by 4 in a foreign language, 2 mathematics.
Courses, 5 years (students with sufficient preparation in mathematics may complete the work in 4 years). A thesis is required.
Mining Engineering, degree, E. M.
Mining Engineering (specializing in geology), degree, E. M. (Geology).
Metallurgical Engineering, degree, Met. E.
School of Chemistry.
Admission: 15 units; prescribed—4 English, or 3 accompanied by 4 in a foreign language, 2 mathematics.
Courses:
Analytical Chemistry, 4 years.
Degree, B. S. in Chem.
Arts and Chemistry, 5 years.
Degrees—
B. A. at end of fourth year.
B. S. in Chem. at end of fifth year.
Applied Chemistry, 5 years.
Degrees—
B. S. at end of fourth year.
Chem. E. at end of fifth year.
College of Education.
Admission: Two years' collegiate work.
Degrees: A. B. in Education, two-year course.
Graduate School.
Admission: Bachelor's degree from a recognized college.
Degrees—
M. A., M. S.—One year of postgraduate study; thesis.
Ph. D., D. Sc.—At least three years of postgraduate study; thesis.

Expenses:

Incidental fee (Colleges of Science, Literature, and the Arts, Education, Agriculture, Forestry)—	
Resident	$30
Nonresident	60
Graduate School	30
College of Engineering	50
Schools of Mines and Chemistry	55
Law School	65
College of Pharmacy—	
Two-year course	82
Three-year course	55
Medical School and College of Dentistry	150
Board, per week	3–6
Room, per month	6–18
Total annual expense	250–850

Faculty, 608.

Students, 4,155 collegiate, 3,209 subcollegiate, 1,628 extension, total 8,992.

Of special interest to foreign students.—The work in the College of Agriculture is divided into two groups: (1) Those courses of study preparing the student for general agricultural pursuits, including agricultural education, agronomy, and farm management, dairy and animal husbandry, and horticulture, and (2) courses in special fields of agricultural science preparing the student usually for scientific research. In the latter group is included agricultural chemistry, entomology, plant pathology, and soils. Six months' practical farm experience is required before graduation.

The university also maintains schools of agriculture with three-year courses of study adapted to the needs of farm boys and girls who have not had sufficient preparation for the college work. They offer courses of special training for practical farm life and for practical home economics.

The curriculum of the College of Forestry includes courses in general forestry; dendrology; silviculture; forest mensuration—protection, management, and by-products; lumbering and lumber manufacturing, and wood preservation. The forest experiment stations at Cloquet, where the State maintains a tract of 2,700 acres, and at Itaska, provide excellent facilities for experiment and practical work.

The schools of medicine and dentistry offer thorough courses and rank high among similar schools throughout the country.

Especially strong courses are offered in the departments of geology and chemistry.

ST. LOUIS UNIVERSITY, St. Louis, Mo., a city of 723,347 inhabitants. Founded, 1818.

College of Arts and Sciences (undergraduate).

Admission: Graduation from an approved high school.

For A. B. degree, examination in philosophy, Latin, Greek, chemistry, physics, English, mathematics, and history.

For B. S. degree, examination in philosophy, physics, chemistry, biology, mathematics, history, English, and a modern language.

Degrees: A. B. and B. S.—Four-year courses.

School of Medicine.

Admission: One year of college work in physics, biology, chemistry, and a modern language, above a regular four-year high-school course.

Degree: M. D.—Four-year course.

School of Dentistry (St. Louis Dental College).

Admission: Graduation from a recognized high school.

Degree: D. D. S.—Three-year course.

Institute of Law.
Admission: Graduation from a recognized high school.
Degrees—
LL. B.—Three-year (day) course; four-year (night) course.
LL. M.—One year of postgraduate study after LL. B.; thesis.
School of Commerce and Finance.
Admission: Graduation from a recognized high school.
Degree: B. C. S.—Three-year course; thesis. Certificates of proficiency are granted to students who complete a required amount of work and who are not candidates for a degree.
School of Divinity (Catholic).
School of Philosophy and Science.
Expenses:
Tuition—

College of Arts and Sciences	$75
School of Medicine	150
Institute of Law, day course	100
Institute of Law, night course	80
School of Dentistry	150
School of Commerce and Finance	80
Board and room	128–190
Total annual expense	300–525

Faculty, 211.
Students, 1,037, of whom 26 are from foreign countries.

UNIVERSITY OF MISSOURI, Columbia, Mo., a town of 12,000 inhabitants. Founded, 1839; a "land grant" institution; coeducational.

College of Arts and Science (undergraduate).
Admission: 15 units; 6 prescribed—3 English, 1 mathematics, 2 in *one* foreign language.
Degree: A. B.—Four-year course.
College of Agriculture.
Admission: 15 units; 4 prescribed—3 English, 1 algebra.
Degrees:
B. S. in Agriculture—Four-year course. Two different courses are offered, one for men and the other for women.
M. F.—Five-year course in forestry. At the completion of the fourth year B. S. in forestry is conferred.
School of Education.
Admission: Two years' work in the College of Arts and Science, or its equivalent.
Degrees: B. S. in Ed.—Two-year course. Teacher's certificates are also granted.
School of Law.
Admission: Two years' collegiate work.
Degree: LL. B.—Three-year course.
School of Medicine.
Admission: Two years' collegiate work. The work comprises only the first two years of a medical course. At its completion a certificate is granted.
School of Engineering.
Admission: Two years' collegiate work.
Degrees:
C. E.—Three-year course.
E. E.—Three-year course.
M. E.—Three-year course.
Ch. E.—Three-year course.

School of Mines and Metallurgy (at Rolla).

Admission: 15 units, as in College of Arts and Sciences.

Undergraduate courses, four years:

	Degrees.
Mining Engineering	B. S. in Mining Engineering.
Metallurgy	B. S. in Metallurgy.
Civil Engineering	B. S. in Civil Engineering.
General Science	B. S. in General Science.

Graduate Courses.—One year of postgraduate study and thesis.

Admission: Bachelor's degree in the subject to be pursued.

Mining Engineering; degree, E. M.

Metallurgy; degree, Metallurgical Engineer. Bachelors of Science in Civil, Electrical, or Mechanical Engineering may attain the degree E. M. by two years of postgraduate study and thesis.

School of Journalism.

Admission: Two years' collegiate work.

Degree: B. J.—two-year course.

School of Commerce.

Admission: Two years' collegiate work.

Degree: B. S. in Com.—two-year course.

Graduate School.

Admission: Bachelor's degree from a recognized college.

Degrees:

A. M.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate study; thesis.

Expenses:

Tuition (free for residents of Missouri) for nonresidents of Missouri (except in Graduate School)	$20.00
Board (at university), per week	2.75
Room, university dormitories, per year	20.00–35.00
Board and room (outside university), per week	4.00–6.00
Total annual expense	300.00

For women it will average about $75 more.

Faculty, 295.

Students, 3,826, of whom 24 are from foreign countries.

Of special interest to foreign students.—The College of Agriculture offers curricula for training in the fundamentals of general agriculture and for specialization in animal husbandry, agricultural chemistry, dairying, farm crops, forestry, horticulture and botany, soils, and veterinary medicine.

In connection with the five-year course in forestry, a 50,000-acre forest in the Ozark regions provides excellent facilities for practical work and experimentation.

The School of Journalism offers numerous courses, including history and principles of journalism, comparative journalism, reporting, news and editorial writing, copy reading, newspaper jurisprudence, illustrative art, agricultural journalism, newspaper management, and advertising.

The School of Mines at Rolla is within easy reach of lead, zinc, and iron regions, where opportunities may be had to observe the various processes of mining and smelting.

WASHINGTON UNIVERSITY, St. Louis, Mo., a city of 723,347 inhabitants. Founded, 1857; coeducational, except in medical and dental schools.

Departments of Arts and Sciences.

The College (for undergraduate work):

Admission: Fifteen units; 12½ prescribed—3 English, 5 foreign language, 1 history, 2½ mathematics, 1 science.

(For graduate work): Bachelor's degree from a recognized college.

Degrees:

A. B.—Four-year undergraduate course.

A. M.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate work; thesis.

Schools of Engineering and Architecture:

Admission (for undergraduate work): Fifteen units; 10 prescribed—3 English, 2 foreign language, 1 history, 3 mathematics, 1 physics or chemistry.

(For graduate work): Bachelor's degree from a recognized college.

Degrees:

B. S. in Civil, Mechanical, Electrical, or Chemical Engineering, or Architecture—Four-year undergraduate courses.

C. E., M. E., E. E., Chem. E.—Conferred upon graduates of the university after at least three years of professional work, one of which must have been in a responsible position, and the presentation of a thesis.

M. S. in Arch.—One year of residence and postgraduate study; thesis.

Law School (St. Louis Law School):

Admission: One year's collegiate work.

Degree: LL. B.—three-year course.

Medical School:

Admission: Two years' collegiate work, including English, German, physics, chemistry, and biology.

Degree: M. D.—four-year course.

Dental School:

Admission: Graduation from an approved secondary school.

Degree: D. D. S.—three-year course.

Expenses:

Tuition—

Arts and Sciences (undergraduate), Medical and Dental Schools	$150
Graduate courses	25
Law School	100
Room (university dormitories)	40–80

Faculty, 210.

Students, 1,800, of whom 6 are from foreign countries.

Of special interest to foreign students.—The university has recently opened a group of modern buildings devoted entirely to the needs of the medical school, which is now excellently equipped with lecture rooms, libraries, museums, and laboratories. Numerous hospitals in the city provide clinical facilities, and each year positions as internes are open to several members of the graduating class. The course of study is divided into three general periods: First, a study of the fundamental sciences of anatomy, biological chemistry, physiology, pathology, and bacteriology; secondly, a period devoted primarily to clinical work; and, finally, in the latter part of the course there is no prescribed curriculum; but the student is expected to devote himself to acquiring further knowledge in that field in which he is particularly interested or in research.

The university maintains an excellent School of Fine Arts, offering instruction in drawing, painting, sculpture, and applied art.

The Henry Shaw School of Botany, which maintains a close cooperation with the Missouri Botanical Gardens, offers special opportunities for study and research in this particular subject.

The School of Social Economy provides training for charitable and social workers and has unusual facilities for research and original investigation.

UNIVERSITY OF NEBRASKA, Lincoln, Nebr., a city of 45,258 inhabitants. Founded, 1869; a "land-grant" institution.

College of Liberal Arts (undergraduate).

Admission: 30 points,[1] 18 prescribed—4 English; 2 history; 6 foreign language; 2 science; 4 mathematics.

Degrees: A. B. and B. Sc.—four-year courses.

Teachers' College:

Admission: Two years' collegiate work.

Degrees: The course in Teachers' College is two years long. Upon its satisfactory completion a baccalaureate degree is conferred by that college of the university in which the student's two years of preparatory work were done.

A "Teachers' College Diploma," showing subjects in which student is qualified to teach, is granted upon graduation.

University Teacher's Certificate.—Two years' work in Teachers' College. A bachelor's degree from the university is a prerequisite, and the student must show exceptional scholastic ability and fitness for teaching.

College of Engineering.

Admission: 30 points, as in College of Arts and Sciences.

Degrees:

B. Sc. in Arch.—Four-year course in architecture.

B. Sc. in Arch. E.—Four-year course in architectural engineering.

B. Sc. in Agr. E.—Four-year course in agricultural engineering.

B. Sc. in C. E.—Four-year course in civil engineering.

B. Sc. in E. E.—Four-year course in electrical engineering.

B. Sc. in M. E.—Four-year course in mechanical engineering.

Conferred by the Graduate College—

M. S. in Agricultural, Civil, Electrical, or Mechanical Engineering.—One year of postgraduate study; thesis.

Agr. E., C. E., E. E., M. E.—One year of postgraduate study and thesis for graduates of the university of at least five years' standing who hold a bachelor's degree and have been engaged in professional work.

Ph. D.—Three years of postgraduate study in engineering; thesis.

College of Agriculture.

Admission: 30 points, as in College of Arts and Sciences.

Degrees:

B. Sc. in Agr.—Four-year course in agriculture.

B. Sc. in Forestry—Four-year course in forestry.

B. Sc. in Home Economics—Four-year course in home economics.

M. F.—Five-year course in forestry and one year of practical experience.

Graduate College.

Admission: Bachelor's degree from a recognized college.

Degrees:

A. M.—One year of postgraduate study; thesis.

Ph. D.—Three years of postgraduate study; thesis.

Graduate Teacher's Diploma is granted for advanced work in education.

[1] Two points are equal to one standard unit.

College of Law.
Admission: One year of collegiate work.
Degree: LL. B.—Three-year course.
College of Medicine (located at Omaha).
Admission: Two years of collegiate work, including chemistry, physics, zoology, and German.
Degree: M. D.—Four-year course.
School of Pharmacy.
Admission: 30 points, as in College of Arts and Sciences.
Degrees:
Ph. G.—Two-year course.
Ph. C.—Three-year course.
B. Sc.—Four-year course.
School of Fine Arts.
Admission: 30 points, as in College of Arts and Sciences.
Degree: A. B.—Four-year course in drawing and painting, or dramatic art.
School of Commerce.
Admission: 30 points, as in College of Arts and Sciences.
Degree: A. B.—Four-year course.
Expenses:
Tuition—
Teachers' College, High School, Colleges of Law, Medicine, and Pharmacy, $13.50 to $65 a semester.
Board, $3.50 to $5 per week.
Room, $5 to $10 per month.
Minimum annual expense, $300.
Faculty, 251.
Students, 4,316, of whom 14 are from foreign countries.

Of special interest to foreign students.—The Teachers' College aims especially to train better teachers for secondary schools and departmental work. A high-grade accredited high school is maintained, and, in addition, the schools throughout the city provide opportunities for study of problems connected with their administration and teaching, and for observation and practical work.

DARTMOUTH COLLEGE, Hanover, N. H., a town of 1,300 inhabitants, exclusive of students, 4 miles north of railroad center at White River Junction, Vt. Founded, 1769.

Dartmouth College. Undergraduate department of arts and sciences.
Admission: 14½ units.
For A. B. degree, 12½ prescribed—3 English, 1 history, 2½ mathematics, 4 Latin, 2 foreign language.
For B. S. degree, 10½–11 prescribed—3 English, 1 history, 2½ mathematics, 3–4 modern language, 1 science.
Course of study, 4 years. The student is required to devote special attention to a subject in one of the following groups: (1) Language and literature, (2) mathematics and physical and natural sciences, (3) history and the social sciences; and, in addition, to complete a prescribed amount of work in each of the other groups.
Degrees:
A. B. and B. S.
A. M. and M. S.—One year of postgraduate study; thesis.
Summer Session:
Offers regular college work for six weeks in summer to college students and teachers who wish to utilize a portion of summer vacation. (Coeducational.)

Medical School:
Admission: Two years' prescribed collegiate work. The medical school now offers only the first half of a four-year course.
Thayer School of Civil Engineering:
Admission: Bachelor's degree from recognized college and examination.
Degree: C. E.—Two years' postgraduate study; thesis.
Amos Tuck School of Administration and Finance:
Admission: Three years' collegiate work.
Degree: M. C. S.—Two years of study and thesis.

Expenses:

Tuition	$140.00
Board, per week	3.50– 6.00
Room	45.00–150.00
Total annual expense	337.00–600.00

Administration and faculty, 126. (Faculty of summer session, 21; students, 228.)
Students, 1,391, of whom 6 are from foreign countries.

Of special interest to foreign students.—The Tuck school aims to prepare the student either for the general field of business or for that particular branch which he may select. Work is offered in accounting, commercial French, German, and Spanish, statistics, law, business organization and management, financial organization and administration, commerce and industry, banking, and transportation. Students who can show evidence of three years' work in a recognized college may, at the end of their first year, receive the bachelor's degree from Dartmouth or, by special arrangement, from their own college.

Students in Dartmouth College may elect for their final year first-year courses in the graduate schools, and thus shorten the period of postgraduate work.

PRINCETON UNIVERSITY, Princeton, N. J., a city of 5,000 inhabitants. Founded, 1746.

Undergraduate Department.
Admission: Two methods.
(1) Examination in all subjects.
Prescribed for A. B. course—Greek, Latin, English, mathematics.
For B. S. or Litt. B. course, a modern language is prescribed in place of the Greek.
For C. E. course English, Latin, and a modern language, or two modern languages, mathematics, and science are prescribed.
In addition to the prescribed subjects, candidates for all three courses must offer electives amounting to about one-fourth of the total preparatory work.
(2) For candidates of exceptional ability; secondary school record and examination in four subjects.
For A. B. candidates—mathematics, English, Latin, Greek.
For B. S. or Litt. B. candidates—as above, except that a modern language is substituted for Greek. Candidates for the C. E. are not admitted by this method.
Degrees:
A. B.—Four years. Conferred upon those offering Greek for admission and fulfilling the classical requirements.
Litt. B.—Four years. Conferred upon those not offering Greek, who specialize in philosophical, literary, political, or humanistic departments.
B. S.—Four years. Conferred upon those not offering Greek, who specialize in a mathematical or scientific department.
C. E.—Four years of technical study. Those having a bachelor's degree who have selected suitable courses during their undergraduate years may prepare for this degree by two years' work in professional subjects.

School of Electrical Engineering:
Admission—First degree from accredited college, or equivalent work in mathematics, physics, and chemistry.
Degree—E. E., after two years of graduate study.
The Graduate School:
Admission—Bachelor's degree from a recognized college.
Degrees—
A. M.—One year of postgraduate study.
Ph. D.—A minimum of two years' postgraduate study. Requirements for the degree can rarely be completed in less than three years; thesis.
Expenses:

Tuition—	
Undergraduate and electrical engineering	$175
Graduate—	
Full-time students, per year	30
Part-time students, per year	15
Board, per week	3–8
Room (including light and heat)	52–256
Total annual expense (undergraduate)	384–768
Total annual expense (graduate)	330–480

Faculty, 207.
Students, 1,643, of whom 32 are from foreign countries.
Of special interest to foreign students.—For admission to the undergraduate department an Asiatic student may offer an equivalent amount of Arabic, Chinese, Sanskrit, or Pali, as a substitute for the Latin requirement.
The Graduate College (of residence), which was opened in 1913, is one of the most magnificent groups of university buildings exclusively for graduate students to be found in the country. A liberal endowment and fellowship fund make it possible for Princeton to offer to able students exceptional opportunities for graduate work in arts and sciences.

STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, N. J., a city of 73,884 inhabitants. Founded, 1871.
Admission: 14½ units; 8½ prescribed—3 English, 3½ mathematics, 2 science.
Undergraduate course, 4 years.
Mechanical Engineering; degree, M. E.
Expenses:

Tuition, per year	$225
Board, per week	5–8
Room, per week	2–4
Total annual expense	525–685

Faculty, 34.
Students, 324, of whom 5 are from foreign countries.
Of special interest to foreign students.—Stevens offers a single course leading to the degree of Mechanical Engineer, and aims to make the instruction in this particular field as complete and thorough as possible. Throughout the course the importance of the practical side of the subject is recognized and the classes make numerous field trips in charge of the instructors.

COLUMBIA UNIVERSITY, New York, N. Y., a city of 5,198,888 inhabitants. Founded, 1754.
Columbia College (men).

Barnard College (women). Undergraduate departments of arts and sciences.
Admission: 14½ units; 9½ prescribed—3 English, 2½ mathematics, 4 Latin. Candidates for B. S. may substitute 2 science and 2 intermediate or advanced subjects for Latin. For admission to Barnard College 3 units modern language prescribed for those not offering elementary Greek. Candidates for course in journalism must offer 2 history and at least 4 foreign language. Mathematics is not prescribed.
Degrees: A. B. and B. S.—Four-year courses.
Graduate Faculties: Philosophy, Political Science, Pure Science.
Admission—Bachelor's degree from recognized college.
Degrees—
A. M.—One year of postgraduate study.
Ph. D.[1]—Two years of postgraduate study.
School of Law:
Admission: Three years' collegiate work.
Degrees:
LL. B.—Three-year course.
LL. M.—One year of study after LL. B., under direction of deans of faculties of law, political science, philosophy, and pure science.
College of Physicians and Surgeons.
Admission: Two years' collegiate work and medical-student certificate of the Regents of the University of the State of New York. This certificate is issued upon evidence of the satisfactory completion of not less than two full years of study, or the equivalent, in an approved college or scientific school, including one year's work in physics, biology, inorganic chemistry, and a modern language. Foreigners must take a special examination in English.
Degree: M. D.—Four-year course.
Schools of Mines, Engineering, and Chemistry.
Admission: Three years' work in an approved college or scientific school.
Degrees: E. M., Met. E., C. E., E. E., Mech. E., Ch., Chem. E.—Four years' study.
School of Architecture.
Admission: Two years' collegiate work.
Degree: B. Arch.—Four years of study.
College of Pharmacy.
College course.
Admission: Qualifying certificate for a pharmacy student, granted by the State education department upon evidence of the completion of one year's work in approved secondary school.
Degree: Ph. G.—Two years of study.
University course.
Admission: Graduation from secondary school.
Degree: Ph. C.—Three years of study.
Graduate course:
Admission: Ph. C.
Degrees:
B. S. in Pharmacy—One year of postgraduate study.
Phar. D.—Three years of postgraduate study.
School of Journalism.
Admission: 14½ units, as for Columbia College.
Degree: B. Lit.—Four-year course.

[1] See note at end of this section.

Teachers College.

School of Practical Arts.

Admission: 14½ units; 7 prescribed—3 English, 2 mathematics and science, 2 foreign language and history.

Degrees:

B. S. in Practical Arts—Four-year courses emphasizing the technology of fine arts, household arts, industrial arts, music, physical education, practical science.

B. S. in Education—Four-year course. Emphasis upon teaching of fine arts, household arts, industrial arts, music, physical education, nursing, and health.

A. M.—One year of postgraduate work.

Ph. D.[1]—Two years of postgraduate work; thesis.

School of Education.

Admission: Bachelor's degree from recognized college.

Degrees:

A. M.—One year of study.

Ph. D.[1]—Minimum of two years; thesis. Diplomas are granted to those who show superior professional ability in that field of education which they propose to make their life work.

Expenses:

Tuition—In Barnard College and the School of Law the tuition is a fixed charge. In the other schools and colleges of the university it is based on amount of work taken.

In Columbia College (average)	$186
In Barnard College	150
In School of Law	180
In College of Physicians and Surgeons (average)	250
In Schools of Mining, Engineering, and Chemistry (average)	250
In School of Architecture (average)	250
In School of Journalism (average)	204
In College of Pharmacy (average)	145
In Teachers College (average)	186
Board, university commons	160–225
Room, university dormitory	105–190
Total annual expense	545–875

Faculty, 888.

Students, 7,322, during academic year, and 5,590 during summer session (including 1,048 double registrations), of whom 191 are from foreign countries.

Of special interest to foreign students.—The school of education of Teachers College offers to advanced students extensive courses in the history and philosophy of education, educational psychology and sociology, theory and practice of educational administration, supervision, and class teaching. The Horace Mann school, and the Speyer school, including kindergarten, elementary, secondary classes, and neighborhood work, are maintained by the college, and provide unusual facilities for studying the practical work of teaching and for the investigation of educational problems. Arrangement is also made for work and observation in the New York public schools.

Numerous hospitals throughout the city with which the university maintains close relations give the students of the College of Physicians and Surgeons exceptional opportunities for study, observation, and clinical work.

[1] See note at end of this section.

The School of Law is one of the foremost law schools of the country.

The School of Journalism aims "to make better journalists, who will make better newspapers, which will better serve the public." Opened in 1912, it already occupies an important place among schools of journalism.

The College of Pharmacy of the City of New York became affiliated with Columbia in 1904. It is especially well equipped, and ranks among the best schools of pharmacy in the United States.

The Graduate Faculties of Political Science, Philosophy, and Pure Science, which offer advanced work, leading to the degrees of A. M. and Ph. D., in professional,[1] scientific, and liberal subjects, have the largest student registration of any part of the university.

The Summer School offers an unusually large number of courses and a foreign student may profitably attend the sessions.

The location of Columbia, in America's most populous city, the liberal endowment, the large number of valuable scholarships, and especially the high standing of the university in all departments have combined to draw to it in the past a great many foreign students.

The following departments are among those especially noteworthy, either because of the eminence of the men connected with them, or because of the wide range of the courses offered: Mathematics, physics, biology, botany, geology, chemistry, Oriental and Semitic languages, Germanic languages and literature, English, history, economics, and politics, anthropology, philosophy, and psychology.

CORNELL UNIVERSITY, Ithaca, N. Y., a city of 14,000 inhabitants. Founded, 1865; a "land-grant" institution; coeducational.

College of Arts and Sciences (undergraduate).

Admission: 15 units; 11 prescribed—for A. B. course, 3 English, 5 (in two) foreign languages, 1 history, 2 mathematics; for B. Chem. course, 3 English, 3 (in one) foreign language, 1 history, 4 mathematics.

Degrees:

A. B.—Four-year course.

B. Chem.—Four year course, with special emphasis upon chemistry.

College of Law.

Admission: 15 units; 9 prescribed—3 English, 1 history, 2 mathematics, 3 (in one) foreign language.

Degree: LL. B.—Four-year course. The first year is almost entirely prelegal and devoted to courses in the College of Arts and Sciences. Students who have completed one year of collegiate work before admission may begin at once upon the professional studies, and receive the degree in three years.

New York State College of Agriculture.

Admission: 15 units; 9 prescribed—3 English, 3 (in one) foreign language, 1 history, 2 mathematics.

Degree: B. S.—Four-year course.

New York State Veterinary College.

Admission: 15 units; 9 prescribed—3 English, 3 (in one) foreign language, 1 history, 2 mathematics.

Degree: D. V. M.—Three-year course.

College of Architecture.

Admission: 15 units; 12 prescribed—3 English, 3 (in one) foreign language, 1 history, 1 physics, 4 mathematics.

Degree: B. Arch.—Four-year course. (It is recommended that wherever possible a student plan to take five or even six years for this work in order to get a broader and more cultural training, by electing more nonprofessional courses.)

[1] Although provision is made for the attainment of the Ph. D. with two years' postgraduate work, it is rarely if ever possible to fulfill the requirements in less than three years.

College of Civil Engineering.

Admission: 15 units; 11 prescribed—3 English, 3 (in one) foreign language, 1 history, 4 mathematics.

Degree: C. E.—Four-year course. (A five-year course has been arranged for those wishing to cover a broader field. For admission to this course 9 units are prescribed.)

Sibley College of Mechanical Engineering and Mechanic Arts.

Admission: 15 units; 11 prescribed—3 English, 3 (in one) foreign language, 4 mathematics, 1 history.

Degree: M. E.—Four-year course. (A five-year course is also arranged, giving a broader training, and for this there are only 9 admission units prescribed.)

Medical College (New York City).

Admission: Bachelor's degree from a recognized college.

Degree: M. D.—Four-year course. (The work of the first year of the course is also given at Ithaca.)

Graduate School.

Admission: Bachelor's degree from a recognized college.

Degrees:

A. M., M. Arch., M. C. E., M. M. E., M. F., M. S. in Agr., Master in Landscape Design.—One year's postgraduate study; thesis.

Ph. D.—Three years' postgraduate study; thesis.

Expenses:

Tuition—

Medical, Architecture, Civil Engineering, Sibley College	$150
Arts and Sciences, Law, Agriculture	125
Veterinary	100

For residents in New York State, tuition is free in the Veterinary College and the College of Agriculture.

Students in the Graduate School pay the same tuition as is charged in the college in which most of the work is taken.

Board and room, $5 to $12 a week.

Faculty, 750.

Students, 5,015, of whom about 150 are from foreign countries.

Of special interest to foreign students.—The College of Agriculture is exceedingly well equipped. In the Department of Dairy Industry there is practice in the laboratories and manufacturing rooms in milk testing, dairy bacteriology, butter, cheese, and ice-cream making, market-milk handling, and dairy mechanics. A five-year course in forestry provides thorough training for general agricultural students, prospective teachers, and others desiring an understanding of the plan of forestry in the life of the nation, for technical students in other lines wishing courses in special branches of the subject, and for professional forestry students. Among the other excellent courses in the College of Agriculture may be mentioned general agriculture, animal and poultry husbandry, pomology, horticulture, entomology, and landscape gardening.

The Veterinary College is well equipped and provided with clinical facilities. Graduate courses are offered, with opportunity for special advanced work and research.

The location of the medical school, in New York City, with its numerous hospitals, provides almost unexcelled clinical material. In the fourth year students are required to spend a large part of their time in practical work as clinical clerks to the various wards of the New York and Bellevue Hospitals.

Graduates are admitted to the final examinations for diploma of Licentiate of the Royal College of Physicians of London and membership of the Royal College of Surgeons of England.

The College of Civil Engineering, the Sibley College of Mechanical Engineering and Mechanic Arts, and the College of Architecture are of high repute and have attracted many foreign students. In Sibley College the student may specialize in mechanical, electrical, or mining engineering.

NEW YORK UNIVERSITY, New York, N. Y., a city of 5,198,888 inhabitants. Founded, 1831.

College of Arts and Pure Science.

Entering students are divided into three groups: A—prepared in Latin and one other foreign language; B—prepared in modern languages and advanced mathematics; C—those entering the one-year premedical course.

Admission: 15 units.

Section A—11½ or 12½ prescribed—3 English, 4 Latin, 2 or 3 additional foreign languages, 2½ mathematics.

B—11½ prescribed—3 English, 2 German, 2 French, 3½ mathematics, physics, or chemistry.

C—None prescribed.

Degrees: A. B. and B. S. in Pure Science, four-year course.

School of Applied Science.

Admission: 15 units; 10½ prescribed—3 English, 3 foreign language, 3½ mathematics, 1 physics.

Degrees:

B. S. in Civil Engineering, four-year course.

B. S. in Mechanical Engineering, four-year course.

B. S. in Chemical Engineering, four-year course.

C. E., M. E., Chem. E.—One year of postgraduate study; thesis.

Washington Square College, coeducational, offers four-year combined course in cultural and vocational training. Aims to meet the needs of teachers, lawyers, doctors, ministers, and other professional workers who desire further cultural training and a bachelor's degree, and students who desire collegiate training, but are unable to attend classes except in the afternoon and Saturday. The courses offered are of full collegiate value.

Admission: 15 units; 5 prescribed—3 English, 2 mathematics. For those desiring the degree of B. A., an additional 4 units in classical languages is prescribed.

Degrees: A. B. and B. S.—128 points of credit, which should require not more than eight years.

Graduate School.

Admission: Bachelor's degree from recognized college.

Degrees:

M. A. and M. S.—Not less than one year of postgraduate study; thesis.

Ph. D. and Sc. D.—Not less than three years' postgraduate study; thesis.

School of Law.

Admission: Graduation from an approved high school or regents' qualifying certificate.

Degrees:

LL. B.—Three-year course.

J. D. for those holding bachelor's degree from recognized college.—Three-year course.

LL. M.—One year of postgraduate study after LL. B.

University and Bellevue Hospital Medical College.

Admission: One year of collegiate work, including chemistry, physics, and biology.

Degrees:

M. D.—Four-year course.

Dr. P. H.—One year's work in public health and sanitation after M. D.

School of Commerce, Accounts, and Finance, coeducational.
Admission: Graduation from an approved secondary school or regents' qualifying certificate.
Degrees:
B. C. S.—Three-year course of study plus two years' experience in business.
M. C. S.—One year of postgraduate work after B. C. S.; thesis.
New York State Veterinary College.
Admission: Graduation from an approved secondary school.
Degree: D. V. S.—Three-year course.
School of Pedagogy, coeducational.
Admission: Graduate department, bachelor's degree from a recognized college.
Undergraduate department, graduation from an approved State normal school or city training school, or completion of two years in an approved college.
Degrees, Graduate Department:
Pd. M.—Not less than one year of postgraduate study plus two years' teaching experience.
Pd. D.—Not less than two years' postgraduate study plus three years' teaching experience; thesis.
Undergraduate Department:
B. S. in Pedagogy.—At least three years' study after normal school graduation.
Expenses:

College of Arts and Pure Science and School of Applied Science	$125
Law School, for LL. B. or J. D. course	120
Law School, for LL. M. course	100
Medical School	200
School of Commerce, Accounts, and Finance (based on the amount of work taken)	15–150
Veterinary College	100
Washington Square College (based on the amount of work taken)—	
For each 1-hour course	15
For each 2-hour course	25
For each 3-hour course	37
School of Pedagogy (based on amount of work taken)—	
For each 1-hour course	10
For each 2-hour course	20
Graduate School (based on amount of work taken)—	
For each 1-hour course	15
For each 2-hour course	25
Board	160–210
Room	60–140
Total annual expense	440–630

Faculty, 432.
Students, 5,981, of whom 56 are from foreign countries.
Of special interest to foreign students.—The medical school possesses four adjoining buildings, and numerous hospitals throughout the city offer abundant clinical facilities. The course in public health and sanitation includes a study and investigation of measures for controlling the spread of communicable diseases, institutions for the care of the sick, hygiene of infancy and childhood, inspection of food supplies, sanitation and sanitary engineering, applied bacteriology and chemistry, vital statistics, economics, administration, and diseases of animals. New York City provides unusual opportunities for work of this nature.
The School of Commerce, Accounts, and Finance was established in 1900, and offers complete courses in accounting, commerce, finance, government and public

affairs, law, English, Spanish, French, and German. The location in a great business and commercial center such as New York should prove attractive to students contemplating work in such a school.

RENSSELAER POLYTECHNIC INSTITUTE, Troy, N. Y., a city of 77,382 inhabitants. Founded in 1824, it is the oldest independent engineering school.

Admission: 14 units; 10 prescribed—3 mathematics, 3 English, 2 foreign language, 1 science, 1 history.

Undergraduate courses (4 years):

	Degree.
Civil Engineering	C. E.
Mechanical Engineering	M. E.
Electrical Engineering	E. E.
Chemical Engineering	Ch. E.
General Science	B. S.

Graduate courses:

Degrees—

M. C. E., M. M. E., M. E. E., M. Ch. E., and M. S.—One year for holders of bachelor's degree.

Ph. D., Sc. D., and Eng. D.—Three years of graduate study, two of which must be spent in residence at the institute.

Expenses:

Tuition for undergraduates	$205
Tuition for graduates	150
Board and lodging, per week	5–9
Total annual expense	425–575

Faculty, 61.

Students, 646, of whom 45 are from foreign countries.

Of special interest to foreign students.—The course in civil engineering, in the last two years of which the strictly professional instruction includes the design, location, construction, and superintendence of public works; the design, construction, and management of mills, iron works, railroads, etc.; the design and construction of buildings, bridges, etc.; the design, construction, and use of various kinds of machines and the determination of their efficiency; metallurgy, mineralogy, and geology; the determination of latitude, longitude, and time; the survey of mines and of rivers, lakes, and harbors, and the determination of their improvements.

UNIVERSITY OF CINCINNATI, Cincinnati, Ohio, a city of 398,452 inhabitants. Founded, 1874. A municipal university; coeducational.

McMicken College of Liberal Arts—Undergraduate.

Admission: 16 units; 9 prescribed; 3 English, 2 mathematics, 1 history, 3 foreign language (2 of which must be in same language).

Degree: A. B.—Four-year course.

College for Teachers.

Admission: Same as College of Liberal Arts.

Degree: B. S.—Four-year course.

Graduate School.

Admission: Bachelor's degree from a recognized college.

Degrees: A. M.—One full year's residence in the Graduate School. Ph. D.—Three years' postgraduate study. Thesis.

College of Engineering.

Admission: 16 units; 6½ prescribed; 3 English, 2½ mathematics, 1 history.

Four-year theoretical course:

	Degree.
Chemical Engineering	B. S. in Chem. Eng.
Civil Engineering	B. S. in Civ. Eng.
Electrical Engineering	B. S. in Elec. Eng.
Mechanical Engineering	B. S. in Mech. Eng.

College of Engineering—Continued.

Five-year cooperative course:

	Degree.
Chemical Engineering	Ch. E.
Civil Engineering	C. E.
Electrical Engineering	E. E.
Mechanical Engineering	M. E.
Metallurgical Engineering	Met. E.

College of Medicine.

Admission: Four-year high-school course plus two years of college work.

Degrees: M. D.—Four-year course. Six-year combined collegiate and medical course leads to the degrees of B. S. and M. D.

College of Commerce.

Admission: Same as College of Liberal Arts.

Degree: Bachelor of Commerce.

School of Household Arts.

Admission: Same as College of Liberal Arts.

Degree: B. S.—Three-year course.

Expenses:

Tuition—

Courses in Graduate School, Liberal Arts, College for Teachers, and Engineering	$75
Medicine	100
Board and room, per week	5-8
Total annual expense	325-500

Of special interest to foreign students.—The College of Engineering offers two courses—a four-year theoretical course similar to that given in other engineering institutions, and a 5-year cooperative course in which students spend alternate biweekly periods in practical engineering work and at the university. In the cooperative course the practice of engineering is taught in a shop or on a railroad under actual commercial conditions, and the science underlying the practice is taught in the university. Each class is divided into two equal sections. During one biweekly period one section is at the university and the other works in the factories or shops. At the beginning of the next biweekly period the sections are changed, those who were at the university going to the shops and those who were in the shops coming to the university. This alternation of university work and shop work continues throughout the course. It is the aim of the cooperative course to give not only instruction in the theory but also training in the practice of engineering. Cooperative students are paid for their work in the shops at the same rate as other employees.

The Medical College enjoys special facilities in connection with the General Hospital of Cincinnati and its branches, and other city asylums and institutions. The students do work in these institutions on a plan similar to the cooperative system followed in the College of Engineering and graduates may receive appointments as internes for an additional year's service. A limited number of students in the first two years of the course are appointed as hospital orderlies and receive maintenance and $10 a month in compensation for service in the hospital.

CASE SCHOOL OF APPLIED SCIENCE, Cleveland, Ohio, a city of 622,699 inhabitants. Founded, 1880.

Admission: 15 units; 10 prescribed—3 English, 3 mathematics, 2 foreign languages, 2 science.

Undergraduate courses—Four years; all lead to a single degree, B. S. Thesis.

Civil Engineering. Mechanical Engineering. Electrical Engineering.

Undergraduate courses—Continued.

Mining Engineering (includes both mining and metallurgy. First three years alike for all students, but in fourth years they specialize in mining or metallurgy).

Chemical Engineering.

Physics.

Graduate courses:

Admission: Bachelor's degree from a recognized college.

Degrees: M. S.—One year postgraduate study; thesis. Engineering degrees, C. E., M. E., E. E., E. M., Chem. E., are conferred upon graduates of the school who have been engaged in professional work for three years in responsible positions and who present an acceptable thesis. In exceptional cases they may be conferred upon graduates of other institutions, provided they have taken the master's degree at Case.

Expenses:

Tuition	$125.00
Board and room, per week	$5.50–6.50
Miscellaneous	130.00–210.00
Total annual expense	474.00–592.00

Faculty, 48.

Students, 549, of whom 6 are from foreign countries.

Of special interest to foreign students.—The courses in mechanical, civil, and electrical engineering. In the first year the work is the same in all departments, after which the student is required to select that branch of engineering in which he wishes to specialize. The subjects become more technical as he advances, and in his final year all the time is devoted to studies in his own department.

OHIO STATE UNIVERSITY, Columbus, Ohio, a city of 199,417 inhabitants. A "land-grant" institution, founded, 1870; coeducational.

College of Agriculture.

Admission: 15 units; 8 prescribed—2 English, 1 history, 2 mathematics, 1 science, 2 foreign language. For home economics course 1 English and 2 foreign language units additional are prescribed.

Degrees, four-year courses:

B. S. in Agriculture.

B. S. in Horticulture.

B. S. in Entomology.

B. S. in Forestry.

B. S. in Home Economics.

College of Arts, Sciences, and Philosophy.

Admission: 15 units; 11 prescribed—3 English, 1 history, 2 mathematics, 1 science, 4 foreign language.

Degree: A. B., four-year course.

College of Education.

Admission: 15 units; 11 prescribed—3 English, 1 history, 2 mathematics, 1 science 4 foreign language.

Degree: B. S. in Education—four years.

College of Engineering.

Admission: 15 units; 11 prescribed—3 English, 3 mathematics, 1 science, 4 foreign language.

Degrees: B. Arch., B. Cr. E., B. Ch. E., B. C. E., B. E. E., B. M. E., B. E. M.—four-year courses.

College of Law.

Admission: Two years' collegiate work in a recognized college.

College of Law—Continued.
Degrees:
LL.B.—three-year course.
J. D.—three-year course, for those having bachelor's degree from a recognized college and 50 hours merit in the College of Law.
College of Pharmacy.
Admission: One year in an accredited high school, for the course leading to the certificate. For course leading to a degree, 15 units; 8 prescribed—2 English, 1 history, 2 mathematics, 1 science, 2 foreign language.
Degree: B. S. in Phar.—four-year course; Certificate—Ph. C.—two-year course.
College of Veterinary Medicine.
Admission: Graduation of 15 units from an approved secondary school.
Degree: D. V. M.—four-year course.
College of Medicine.
Admission: Medical students' certificate, granted upon completion of high-school course, and two years' collegiate work.
Degree: M. D.—four-year course.
College of Dentistry.
Admission: Graduation from an approved secondary school.
Degree: D. D. S.—three-year course.
Graduate School.
Admission: Bachelor's degree from recognized college.
Degrees:
A. M., M. S.—One year of postgraduate study.
C. E., M. E., E. E., Cr. E., Ch. E., M. Arch —
(1) Four years of professional experience and thesis, or
(2) M. S. in Engineering followed by two years' experience and thesis, or
(3) One year of experience, one year at university in engineering, and thesis.
Ph. D.—Three years' graduate study and thesis (dissertation).
Expenses:
Tuition—including incidental fee—

College of Law	$60
College of Medicine	150
College of Dentistry	150
College of Homeopathic Medicine	125
Incidental fee in all other colleges of the university	30

Board, $3.50 a week.
Room, $8 a month.
Total annual expense (except in medical college), $386 to $400.
Faculty, 423.
Students, 4,935, of whom 43 are from foreign countries.

Of special interest to foreign students.—The university possesses facilities for original and research work in forestry, and offers an opportunity for specialization in silviculture, forest management, and arboriculture.

The four-year course in veterinary medicine aims to fit students for regular practice. The veterinary hospital, to which animals are brought from the city and near-by agricultural district, is well equipped. There are free clinics daily, at which the students assist.

The agricultural chemistry department offers courses in general and advanced agricultural chemistry, chemistry of fungicides and insecticides, dairy chemistry, chemistry of soils, chemistry of animal nutrition, food inspection and analysis, and the chemistry of food and nutrition.

UNIVERSITY OF OREGON, Eugene, Oreg., city of 12,000 inhabitants. Founded, 1872; coeducational.

College of Literature, Sciences, and the Arts (undergraduate).
Admission: 15 units; 7 prescribed—3 English, 2 mathematics, 1 history, 1 science.
Degrees: A. B., B. S.—Four-year course; thesis.
School of Fine Arts.
Admission: 15 units, as in College of Literature, Science, and the Arts.
Degree: B. A.—Four-year course.
School of Architecture.
Admission: 15 units; 8 prescribed - 3 English, 3 mathematics, 1 history, 1 science.
Degree: B. S.—Four-year course.
School of Education.
Admission: 15 units, as in College of Literature, Science, and the Arts.
Degree: A. B.—Four-year course.
School of Medicine (at Portland, Oreg.).
Admission: One year of collegiate work, including physics, chemistry, histology, and French or German.
Degree: M. D.—Four-year course.
School of Law.
Admission: Two years of collegiate work.
Degrees: LL. B., J. D.—Three-year courses.
School of Law (night school at Portland, Oreg.).
Admission: Graduation from an approved secondary school.
Degree: LL. B.—Three-year course.
School of Music.
Admission: 15 units, as in College of Literature, Science, and the Arts.
Degree: B. Mus.—Four-year course.
Graduate School.
Admission: Bachelor's degree from a recognized college.
Degrees: M. A., M. S.—One year of postgraduate study, of which at least one semester must be spent in residence; thesis.

Expenses:

Tuition—	
School of Music (based on amount of work taken), up to	$180
Law School, first year	60
Law School, last two years	75
School of Medicine	150
Free in other departments of the university.	
Board, at university, $3.75 a week.	
Room, at university	30
Board and room, away from university, per month	20-30
Total annual expense	300-700

Faculty, 108.
Students, 1,146, of whom 11 are from foreign countries.
Of special interest to foreign students.—The lectures in the Law School are given in the evening, and as far as possible the university aims to connect its students with law offices during the day, where they may find opportunity to become familiar with the conduct of business and the practical duties of the profession.

BRYN MAWR COLLEGE, Bryn Mawr, Pa., a town of 5,000 inhabitants, near Philadelphia, city of 1,631,956 inhabitants. Founded, 1880, for women only.

Admission, undergraduate department: Examination in all subjects; mathematics, English, Latin, history, science, two of the following three languages—Greek, German, French.

Degrees: A. B.—Four-year course.

Admission, graduate department: Bachelor's degree from a recognized college.

Degrees:

A. M.—One year of postgraduate study for graduates of Bryn Mawr only.

Ph. D. and A. M.—Three years of postgraduate study; thesis.

Expenses:

Tuition (undergraduate)	$200
Tuition (graduate)	125
Board (undergraduate)	225
Board (graduate)	200
Room (undergraduate)	100–400
Room (graduate)	75
Total annual expense (undergraduate)	510
Total annual expense (graduate)	405

Faculty, 63.

Students, 472, of whom 16 are from foreign countries.

Of special interest to foreign students.—Bryn Mawr offers strong collegiate courses to women only. The students are not divided into the conventional four classes, and there is no time limit set for the completion of the requirements for graduation.

The School of Education offers graduate courses only to those who wish to study education for one, two, or three years, and it is assumed that about one-half of the time will be given to purely educational courses and the remainder to that subject which the student intends to teach. In connection with the department a model school is maintained which receives pupils at the age of 10 and prepares them for college in seven years. This work is under the direction of expert teachers and excellent opportunity is thus afforded for observation and discussion.

The college offers graduate work in all departments. In addition to 16 resident fellowships and 20 scholarships, 4 traveling fellowships are available. Twelve scholarships covering the cost ($405) of board, residence, and tuition in the graduate school are offered—5 to British, 5 to German, and 2 to French women.

LEHIGH UNIVERSITY, South Bethlehem, Pa., a city of 20,000 inhabitants; 57 miles from Philadelphia, Pa., city of 1,631,956 inhabitants; 86 miles from New York, N. Y., city of 5,198,888 inhabitants. Founded, 1866.

Undergraduate courses.

Admission:

To B. A. course, 14½ units; 3 English, 7 foreign languages, 2 history, 2½ mathematics.

To B. S. course, 14 units; 8½ prescribed—3 English, 2 foreign language, 1 history, 2½ mathematics.

To engineering courses, 14 units; 10 prescribed—3 English, 2 foreign language, 1 history, 4 mathematics.

Degrees:

B. A.—Four-year course arts and science.

B. S.—Four-year courses—

(1) In which biological and chemical sciences predominate.

(2) In which geological sciences predominate.

(3) In which mathematical and physical sciences predominate.

(4) In business administration.

C. E., M. E., Met. E., El. Met., E. M., E. E., B. S. in Chem., Ch. E.—Four-year courses in the various subjects indicated by the degree.

Graduate courses:

Admission: Bachelor's degree from a recognized college.

Degrees: M. A., M. S.—One year postgraduate study.

Expenses:

Tuition—	
For engineering and electro-metallurgy	$200
For chemistry and B. S. courses	150
For B. A. courses	100
For graduate courses	50
Room, university dormitories	65–81
Board, university dining hall, per month	15
Total annual expense, approximately	600

Faculty, 72.

Students, 705, of whom 33 are from foreign countries.

Of special interest to foreign students.—The university offers excellent courses in civil, mechanical, electrical, metallurgical, chemical, and mining engineering, electro-metallurgy, chemistry, and geology. The course in business administration includes, besides the general, nontechnical subjects, work in commerce, economics, industrial history, accounting, business and public law, labor legislation, railway administration, finance, banking and currency, and insurance.

PENNSYLVANIA STATE COLLEGE, State College, Pa., a town of 1,800 inhabitants. Founded, 1863; a "land-grant" institution; coeducational.

Admission: 14 units. For Schools of Agriculture, Engineering, Mining, or Natural Science, 11 prescribed—3 English, 3 mathematics, 2 foreign language, 2 science, 1 history.

For Schools of Liberal Arts (except classical course) and Course in Home Economics the unit of mathematics, which includes algebra (from quadratics) and solid geometry, is not prescribed.

For classical course, 13 prescribed—3 English, 2 mathematics, 1 history, 4 Latin, 3 foreign language.

Degrees:

A. B.—Four-year course in School of Liberal Arts.

B. S.—Four-year course in—

School of Agriculture.
School of Engineering.
School of Mines.
School of Natural Sciences.
Department of Home Economics.

A. M., M. S., C. E., M. E., E. E., E. M.—These degrees are conferred upon holders of a bachelor's degree who complete a special program of advanced work arranged by faculty committee.

Three-year prelegal and premedical courses are offered. A student who has completed these receives his bachelor's degree after one year in the professional school.

Expenses:

Tuition, free.	
Gymnasium fee	$10
Library fee	3
Incidental fee	35
Board, per week	3–4
Room, college dormitory, per year	35–50
Room, outside college, per year	36–72

Faculty, 175.

Students, 2,006, of whom 25 are from foreign countries.

Of special interest to foreign students.—The course in industrial engineering aims to fit the student for positions in industrial organizations, leading to superintendence, purchasing, selling, scientific management, and industrial business administration. Besides the regular engineering subjects, emphasis is placed upon such matters as industrial economics, logic, psychology, and specialized work in accounting, forestry management, shop time study, machine tools and methods, and factory planning, with more shop practice than is found in the regular engineering curricula. For training teachers and supervisors of industrial work in schools a course is also offered in industrial education.

Pennsylvania is one of the greatest mining States and the student in the School of Mines is given abundant opportunity for observation and study of mining and metallurgical operations.

The Institute of Animal Nutrition, affiliated with the college and the Experiment Station, is devoted entirely to research and provides excellent facilities for graduate work in this subject.

UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa., a city of 1,631,986 inhabitants. Founded, 1740.

The College. Undergraduate Department of Arts and Sciences; special work in biology and music.

Admission, for the course in Arts and Science: 14½ units; 9½ prescribed—3 English, 1 history, 2½ mathematics, 3 or 4 foreign language.

If but one language is offered the minimum requirement shall be: In Latin, 4 units; in Greek, 3 units; in German, 3 units; in French, 3 units; in Italian, 3 units; in Spanish, 3 units. If two languages are offered, the minimum requirements shall be 2 units in each language.

Courses:

Arts and Sciences, 4 years. Degree: A. B.

Biology, 3, 4, or 5 years, as the student wishes.

Admission: 14½ units; 8½ prescribed—3 English, 1 history, 2½ mathematics, 2 foreign language.

Degree: B. S. in Biology.

Music, open to special students only.

Admission: A knowledge of the rudiments of music, ability to play a musical instrument, 1½ units English.

The four-year course leads to a certificate of proficiency.

The degree Mus. Bac. is awarded after one year has elapsed, to those possessing the certificate, upon examination, and the presentation of an original composition.

Towne Scientific School:

Admission: 14½ units; 10 prescribed—3 English, 1 history, 3½ mathematics, ½ physics, 2 French or German. For the course in architecture only 3 units mathematics prescribed.

Courses, 4 years unless otherwise stated.

Architecture, degree, B. S. in Architecture.

Graduate courses leading to M. S. in Architecture one year after B. S.

Two-year special course leading to certificate of proficiency.

Architectural Engineering; degree, B. S. in Architecture.

Chemical Engineering; degree, B. S. in Chemical Engineering.

Chemistry; degree, B. S. in Chemistry.

Civil Engineering; degree, B. S. in Civil Engineering.

Electrical Engineering; degree, B. S. in Electrical Engineering.

Mechanical Engineering; degree, B. S. in Mechanical Engineering.

Wharton School of Finance and Commerce:

Admission: 14½ units; 8½ prescribed—3 English, 1 history, 2½ mathematics, 2 foreign language.

Courses:

Finance and Commerce; 4 years, degree, B. S. in Economics.

Special course in business practice and banking, 2 years, leading to certificate of proficiency.

School of Education (College for Teachers. Founded, 1914. Coeducational.):

Admission: 14½ units; 8½ prescribed—3 English, 2½ mathematics, 1 history, 2 Latin, French, or German.

Course, 4 years. Graduation upon the completion of 64 units of work, 4 of which are in Physical Education. The other 60 units consist of 26 in content subjects, 11 in fundamental professional subjects, 15 in the special subject to be taught, and 8 free electives.

Degree: Bachelor of Science (B. S.) in Education. Graduate courses in Education, leading to A. M. and Ph. D. in the Graduate School.

Graduate School (Coeducational):

Admission: Bachelor's degree from a recognized college in the United States, or the equivalent for foreign institutions.

Degrees:

A. M., M. S.—One year of postgraduate study.

Ph. D.—Three years of postgraduate study; thesis.

Law School:

Admission: Bachelor's degree (or equivalent degree) from a recognized college.

Degrees:

LL.B.—Three-year course.

LL.M.—One year after LL.B.; thesis.

School of Medicine:

Admission: 14½ units of secondary school work; 10½ prescribed—3 English, 1 history, 2½ mathematics, 4 foreign language. Two languages, not less than 2 units in each. If Latin is offered, there must be 4 units in that alone, thus raising the number of units prescribed to 12½. Followed by two years of collegiate work.

The following subjects must be taken in college: Chemistry, including both general chemistry and qualitative analysis, 6 units; physics, 4 units; zoology or general biology, 4 units; French or German, 3 units; and at least 13 units, made up of subjects which are open to freshmen and sophomores in colleges or universities of recognized standing. The work in the three sciences must include laboratory work performed by the student; and the laboratory notebooks, properly certified, must be submitted

Degrees:

M. D.—Four-year course.

Dr. P. H.—One year's work in public hygiene, following graduation from a recognized medical school.

Certificate—C. S.—One year's work in public hygiene, as above, for those not holding M. D.

School of Dentistry:

Admission: Graduation from an approved high school or equivalent preparatory course of four academic years.

Degree: D. D. S., three-year course.

School of Veterinary Medicine:

Admission: Two years' work in an approved secondary school, including at least 8 units of work—5 prescribed; 2 English, 2 mathematics, 1 history.

Degree: V. M. D.

Expenses:

Tuition—	
Courses in Arts and Sciences, Education, Finance and Commerce, Biology, and Dentistry	$150
Law	200
Medicine, Chemistry, Engineering, and Architecture	200
Graduate School, based on the amount of work taken, not to exceed	150
Veterinary Medicine	100
Music	30
Board and room	185–350
Total annual expense	365–605

Faculty, 560.

Students, 6,332, of whom 265 are from foreign countries.

Of special interest to foreign students.—The Medical School, founded in 1765, is the oldest in the country and one of the best. It is well equipped with museums and laboratories. The University Hospital maintains almost 400 beds, and, in conjunction with the other hospitals throughout the city, offers excellent clinical facilities. In the first two years of the course the fundamental medical sciences are studied; the latter half is devoted to clinical subjects and specialties. Graduate work is offered in public hygiene. The Phipps Institute for the study, prevention, and treatment of tuberculosis furnishes opportunity for research in this particular field.

The course in tropical medicine should interest students from southern countries.

The Wharton School is among the most prominent institutions offering courses in financial and commercial branches. The course of study for the first two years is largely prescribed. In the last two electives are offered in business law, commerce and transportation, economics, finance and accounting, geography and industry, insurance, political science, and sociology.

The School of Dentistry is of high rank and has drawn many students from abroad. During the first year the student's time is equally divided between dental, histological, and chemical laboratory work. Ample opportunity is provided in the last two for practice in mechanical and operative dentistry.

The School of Veterinary Medicine is well equipped. It maintains a veterinary hospital, and has access to local stockyards, abattoirs, breeding and dairy farms.

Among special departments of study not included in the Wharton School or the other schools just referred to, those of chemistry and biology enjoy wide reputation.

CLEMSON AGRICULTURAL COLLEGE, Clemson College, S. C., a town of 753 inhabitants; a "land grant" institution. Founded, 1889.

Admission: Subjects are divided into three groups—

A—English and mathematics; B—History; C—Science and Latin. Ten units; 8 prescribed, to be selected as follows: 4 from group A, 1 from group B, 3 from group C.

Courses, four years:

	Degree.
Agriculture	B. S. in Agr.
Chemistry	B. S. in Chem.
Mechan. and Elec. engineering	B. S. in Mechan. and Elec. E.
Civil engineering	B. S. in C. E.
Textile industry	B. S. in Textile Industry.
Architectural engineering	B. S. in Arch. E.

Expenses:

Tuition (free to students from South Carolina who are unable to pay)	$40
Room and board (nine months)	90
Total annual expenses	200

Faculty, 64.
Students, 818, of whom 6 are from foreign countries.

Of special interest to foreign students.—In the department of agriculture facilities are offered for studying the phases of the subject especially affecting southern countries. Attention is paid to cultivation and grading of cotton. The textile building, built in the style of a modern mill, affords the student an opportunity to become familiar with many points regarding mill construction, manipulation of cotton fibers, and the study of cotton-mill operation. Close relation is maintained between the college and State agricultural experiment station.

GEORGE PEABODY COLLEGE FOR TEACHERS, Nashville, Tenn., a city of 113,822 inhabitants. Founded, 1875, as State Normal School; reorganized and chartered 1909; coeducational, but white students only are admitted.

Organization:
School of Education;
School of Practical Arts (industrial arts and home economics);
Seaman A. Knapp School of Country Life.
The Schools of Practical Arts and Country Life offer courses for the first two years only. Upon completion of these the student is registered in the School of Education, which includes courses above the sophomore year only, and confers all degrees.

Admission to undergraduate courses:
To Schools of Practical Arts and Country Life—Graduation from an approved four-year secondary school or the equivalent.
To School of Education—Completion of two years' work in School of Practical Arts or Country Life, or in an approved normal school course two years above high school, or two years in a college.

Degree: B. S.—Four years in the Schools of Practical Arts, Country Life, and Education combined, or the equivalent.

Admission to graduate courses:
To School of Education—Bachelor's degree from an approved college.

Degrees:
A. M.—One year of postgraduate work; thesis.
Ph. D.—At least two years of postgraduate work; thesis. (It is rarely possible to complete the requirements for this degree in less than three years.)

Expenses:

Tuition, per year of 36 weeks	$75
(Or $25 per quarter.)	
Board and room, per month	20-30
Total annual expense	300-400

Faculty, 25.
Students, 207.

Of special interest to foreign students.—The college was completely reorganized in 1909 and reopened in the summer of 1914. It has a large endowment and aims to provide the best possible instruction for workers in all fields of education. The School of Practical Arts offers, in the division of industrial arts, training for teachers of manual arts and also for specialists in wood and metal working, printing, and the teaching and supervision of drawing and handwork; in the division of home economics, courses in almost all lines of women's work in the home, with opportunities for specialization in textiles and sewing, and food and cooking. The Seaman A. Knapp School of Country Life includes courses which aim to train leaders for work in rural communities.

An agreement with Vanderbilt University enables students registered in either institution to enjoy the advantages of the other without additional charge.

The college is in session throughout the year, and the work is divided into four quarters of about 12 weeks each. A student may materially shorten the number of academic years of residence required for a degree by attendance during the extra summer quarter in the calendar year.

VANDERBILT UNIVERSITY, Nashville, Tenn., a city of 113,822 inhabitants. Incorporated, 1872; coeducational.

The College. Undergraduate department of arts and sciences.

Admission: 14 units. For A. B. degree, all prescribed—3 English, 3 mathematics, 4 Latin, 3 Greek, 1 history or science. For B. S., 12 prescribed—3 English, 3 mathematics, 4 foreign language, 2 history or science.

Degrees: A. B., B. S.—Four-year courses.

Graduate Department.

Admission: Bachelor's degree from recognized college.

Degrees:

M. A., M. S.—One year of postgraduate study; thesis.

Ph. D., D. Sc.—Three years of postgraduate study; thesis.

Engineering Department.

Admission: 14 units, as for B. S. degree.

Degrees:

B. E.—Completion of four-year undergraduate courses in civil engineering, mechanical engineering, electrical engineering, chemical engineering.

C. E.—One year of graduate work in civil engineering; thesis.

M. E.—One year of graduate work in mechanical engineering; thesis.

E. E.—One year of graduate work in mechanical engineering and physics; thesis

Biblical Department.

Admission: No definite requirement. Anyone judged capable of doing the work is admitted, provided he is well recommended.

Degrees: B. D. (A bachelor's degree from a recognized college is a prerequisite).—Three years of postgraduate study; thesis. To those not possessing a bachelor's degree, who complete courses in the Biblical Department, a diploma is awarded.

Law Department.

Admission: 14 units; 6 prescribed—3 English, 2 mathematics, 1 history.

Degree: LL. B.—Three-year course.

Medical Department.

Admission: One year of collegiate work, including physics, chemistry, biology, and a modern language.

Degree: M. D.—Four-year course.

Pharmacy Department.

Admission: 14 units; 8 prescribed—2 English, 2 mathematics, 2 foreign language, 2 history or science.

Degrees:

Ph. G.—Two-year course.

B. S. (in Pharm.).—Four-year course.

Dentistry Department.

Admission: Graduation from an approved secondary school.

Degree: D. D. S.—Three-year course.

Expenses:

Tuition (including matriculation and library fees)—

Biblical Department	$25
Pharmacy Department	70
Academic and Engineering Departments	105
Law and medicine	150
Dentistry Department	155

Expenses—Continued.
Board and room, per month..... $15–18
Total annual expense..... 300–417
Faculty, 120.
Students, 1,112, of whom 9 are from foreign countries.

Of special interest to foreign students.—The thorough courses offered by the Department of Dentistry, and the excellent equipment, place it among the high-grade dental schools of the country.

Vanderbilt is now affiliated with the George Peabody College for Teachers, and students registering in either institution may, for the single fee, avail themselves of all advantages and opportunities for instruction offered by the other.

RANDOLPH-MACON WOMAN'S COLLEGE, Lynchburg, Va., a city of 31,275 inhabitants. Founded, 1893; for women only.

Admission: 15 units; 9½ prescribed—3 English, 2½ mathematics, 4 Latin.
Degrees:
A. B.—Four-year course.
A. M.—One-year after A. B.
Certificates of proficiency are awarded to those completing courses in music or art.
Expenses:
Tuition..... $75
(Additional charges for courses in art or music.)
Board..... 200
Total annual expenses..... 300–500
Faculty, 45.
Students, 584, of whom 6 are from foreign countries.

UNIVERSITY OF VIRGINIA, Charlottesville, Va., a city of 8,000 inhabitants, at the junction of the Chesapeake & Ohio and the Southern Railroads. Founded, 1819.

The College. Undergraduate department.
Admission: 14 units; 10½ prescribed—3 English, 2½ mathematics, 1 history; for A. B., 4 Latin; for B. S., 4 modern languages.
Degrees: A. B. and B. S.—Four-year course. If the student does sufficient work in one of the departments of natural or mathematical sciences the vocational B. S. may be conferred, with special mention of that subject in which he has specialized.
Department of Graduate Studies.
Admission: Bachelor's degree from a recognized college.
Degrees:
M. A. and M. S.—One year of postgraduate study.
Ph. D.—Three years of postgraduate study; thesis.
Department of Law.
Admission: 14 units; 6½ prescribed—3 English, 2½ mathematics, 1 history.
Degree: LL. B.—Three-year course.
Department of Medicine.
Admission: One year of collegiate work.
Degree: M. D.—Four-year course.
Department of Engineering.
Admission: 14 units; 7½ prescribed—3 English, 3½ mathematics, 1 history.
Degrees: C. E., M. E., E. E., E. M., Ch. E.—Four-year courses; thesis.

Expenses:

Tuition, free (in college and graduate departments) to students from Virginia.	
In college	$95
In graduate department	75
In departments of law and medicine	100
In department of engineering—	
Students from Virginia	50
Students from outside Virginia	100
University fee	40
(For Virginians in college and graduate departments)	10
Board (university commons), per month	16½
Board (outside university), per month	15–20
Room (university dormitory)	50–100
Room (outside university), per month	5–25
Total annual expense	250–500

Faculty, 73.

Students, 920, of whom 5 are from foreign countries.

Of special interest to foreign students.—The University of Virginia owed its beginning to Thomas Jefferson. The memory of Jefferson and the ideals which he set form the university's strongest tradition. His educational philosophy is still to some extent preserved in its curricula and organization.

The Medical School has laboratory facilities for special research work. Clinical instruction is provided for at the University of Virginia Hospital and Dispensary, and in connection with the hospital the university maintains a training school for nurses.

UNIVERSITY OF WASHINGTON, Seattle, Wash., a city of 295,226 inhabitants. Founded, 1861; coeducational.

College of Liberal Arts. Undergraduate.

Admission: 15 units; 11 or 12 prescribed—3 English, 2½ mathematics, 1 science, 2 foreign language, 1 history, ½ solid geometry, and 1 science or 2 foreign language.

Degree: A. B.—Four-year course. Includes general course, home economics, journalism, library economy, and commerce.

College of Science.

Admission: 15 units; 11 prescribed—3 English, 3 mathematics, 2 science, 2 foreign language, 1 history.

Degrees:

B. S.—Four-year course.

B. S. in Home Economics—Four-year course.

College of Education.

Admission: As in College of Liberal Arts.

Degree:

Bachelor of Education—Four-year course.

Degrees:

M. A. or M. S. in Education—One year after A. B. or B. S.

Diplomas are granted, valid in all public schools in the State.

College of Engineering.

Admission: 15 units; 10 prescribed—3 English, 3 mathematics, 1 science, 2 foreign language, 1 history.

Degrees:

B. S. in C. E., B. S. in E. E., B. S. in M. E., B. S. in Ch. E.—Four-year courses.

The college also offers another four-year course in each of the departments to meet the need for a broader foundation in general training and leading simply to the B. S. degree.

College of Engineering—Continued.
Degrees—Continued.
M. S. in C. E., M. S. in E. E., M. S. in M. E., M. S. in Ch. E.—One year of postgraduate study after baccalaureate degree; thesis.
C. E., E. E., M. E.—These are professional degrees, conferred without resident study upon holders of the bachelor's or master's degree after at least two years and one year, respectively, of successful professional work and the presentation of a thesis.
College of Fine Arts.
Admission: As in College of Liberal Arts. For courses in music an additional requirement of four years in music.
Degrees:
B. Mus.—Four-year course.
B. Arch.—Four-year course.
Certificates of Proficiency, for those not having fulfilled requirements for degree.
Certificate of Proficiency, two-year course in art.
College of Forestry.
Admission: 15 units; 11 prescribed, as in College of Science, except that 1 unit botany is required instead of chemistry or biology.
Degrees:
B. S.—Four-year course.
M. S. F.—One year after bachelor's degree.
The Puget Sound Marine Station (summer only).
(Cooperative under direction of the University of Washington.)
Located at Friday Harbor, Wash.
Admission: Ability to carry on marine biology.
Tuition, $10.
Living expenses for six weeks modest.
School of Law.
Admission: Two years of collegiate work.
Degree: LL. B.—Three-year course.
College of Mines.
Admission: 15 units, as in College of Science.
Degrees:
B. S.—Four-year course in general science.
B. S. in Mining Engineering.—Four-year course.
B. S. in Geology and Mining.—Four-year course.
B. S. in Metallurgical Engineering.—Four-year course.
B. S. in Coal Mining Engineering.—Four year course.
M. S. in Mining Engineering.—One year postgraduate study; thesis.
E. M., Met. E.—Professional degrees, conferred without resident study upon holders of the bachelor's degree who have been engaged in professional work at least three years and present a thesis.
College of Pharmacy.
Admission: 15 units; 9½ prescribed.—3 English, 2 foreign language, 2½ mathematics, 1 science, 1 history.
Degrees:
Ph. C.—Two-year course.
B. S.—Four-year course.
M. S. in Pharmacy.—One year of postgraduate work after B. S.; thesis.
Graduate School.
Admission: Bachelor's degree from a recognized college.

Graduate School—Continued.

Degrees:

M. A. or M. S.—One year of postgraduate study; thesis.

Ph. D.—At least 3 years of postgraduate study; thesis. Limited at present to three departments: Chemistry, English, Botany.

Expenses:

Matriculation fee	$10
Tuition (Colleges of Liberal Arts, Science, Education, Engineering, Fine Arts, Forestry, and Mines)	20
College of Law	65
Marine Station	10
Board, at university, per month	17½
Room, at University, per year	24
Board and room, outside university, per month	23–30
Minimum annual expense	350

Faculty, 194.

Students, 3,616, of whom 75 are from foreign countries.

Of special interest to foreign students.—Seattle is the center of the timber industry of the Northwest and furnishes opportunities for observation of the practical side of work in forestry. Examples of forest management may be seen in the near-by national forests, and the university owns tracts in various parts of the State especially for research. The curricula allow specialization in forest service and State work, logging engineering, and forest products, and advanced courses are given in dendrology, silviculture, wood technology, timber physics, and wood preservation.

A $30,000 Gatzert Foundation enables the School of Education to provide for special study of defective children.

The State of Washington and the adjoining country provide excellent opportunities to students in the School of Mines to become familiar with mining and metallurgical operations and mining machinery.

UNIVERSITY OF WISCONSIN, Madison, Wis., a city of 30,292 inhabitants, and the capital of Wisconsin. Founded, 1848; a "land-grant" institution; coeducational.

College of Letters and Science. Undergraduate.

Admission: 14 units; 6 prescribed.—2 English, 2 mathematics, 2 foreign language.

Degrees:

A. B.—Four-year course; thesis, or special research with report.

Ph. B.—Two-year course in philosophy and education for normal-school graduates.

Course in Pharmacy.

Admission: To the two-year course; graduation from an approved high school. Nongraduates may be admitted who are at least 18 years old and who can present evidence of one year's high-school work and practical experience.

To the four-year course.—14 units, as in College of Letters and Science.

Degrees:

Graduate in Pharmacy.—Two-year course.

B. S., Pharmacy course.—Four-year course.

Course in Commerce.

Admission: Students will be admitted to this course on compliance with the conditions imposed for entrance to the College of Letters and Science.

Degree: B. A. Course in Commerce.—Four-year course; thesis, or special research with report.

Course in Chemistry.

Admission: Students will be admitted to this course on compliance with the conditions imposed for entrance to the College of Letters and Science.

Degree: B. S. Course in Chemistry.—Four-year course; thesis, or special research with report.

Course in Journalism.

Admission: Students will be admitted to this course on compliance with the conditions imposed for entrance to the College of Letters and Science.

Degree: B. A. Course in Journalism.—Four-year course; thesis, or special research with report.

College of Engineering.

Admission: 14 units; 7½ or 8 prescribed—2 English, 2½ or 3 mathematics, 2 foreign language, 1 science.

Degree: B. S. (with specific mention of course taken).—Four-year course in civil, mechanical, electrical, chemical, or mining engineering.

The Law School.

Admission: Two years' collegiate work.

Degree: LL. B.—Three-year course and at least six months' clerkship in an accredited law office.

College of Agriculture.

Admission: 14 units, as in College of Letters and Science.

Degrees:

B. S. (Agriculture).—Four-year course in agriculture.

B. S. (Home Economics).—Four-year course in home economics.

Title: Graduate in Agriculture.—Two-year course in agriculture.

Medical School.

Admission: Two years' collegiate work. The school offers only the first two years of a medical course, and confers no degree.

Diploma of Public Health.—One-year course in public health, after M. D.

Course for Training of Teachers.

Admission: Two years' collegiate work.

Degree: B. A. or B. S.

Certificate: Granted on completion of major subject and special courses in philosophy, education, and departmental teacher's training courses.

Library Course.

Admission: To independent library course of one-year competitive examinations in history, general literature, current events, and German. Also personal interview.

Certificate of Library School.

Admission: To joint library course—90 credits in College of Letters and Science. Must pass entrance examinations of Library School.

Degree: B. A. and certificate of Library School.

School of Music:

Admission: 14 units, as in College of Letters and Science. Ability to play piano and violin and to read music.

Degree: Graduate in Music.—Four-year course. For those taking the two-year course for supervisors of music in public schools a certificate is granted.

Graduate School.

Admission: Bachelor's degree from a recognized college.

Graduate School—Continued.

Degrees:

M. A., M. S., Ph. M.—One year of postgraduate study.

C. E., M. E., E. E., Ch. E., E. M.—One year of postgraduate study in engineering and thesis. Graduates of the College of Engineering of the University of Wisconsin who have spent three years in professional work—at least one of them in a responsible position—and who present a thesis, may also receive the advanced engineering degree, without resident study.

Ph. D.—At least three years' postgraduate study; thesis.

Dr. P. H.—Two years' postgraduate work in public health for those holding M. D. from an approved medical school.

Expenses:

Tuition (free to residents of Wisconsin)	$100
Incidental fee	24
Library School—	
Resident tuition per year	50
Nonresident tuition per year	100
Room at university	60–148
Board at university, per week	4½

Faculty, 651, of whom 175 assistants and lecturers average half time.

Students, 4,686; of whom 106 are from foreign countries.

Of special interest to foreign students.—The special course in chemistry is arranged to meet the needs of those planning to enter upon chemistry as a life work, and includes a general course, and courses for the industrial, agricultural, soil, physiological, and sanitary or food chemist. The work of the first year is the same for all these groups.

The work in journalism includes courses to familiarize the student with present political, social, and economic conditions, and with his own and foreign literatures; to develop his skill in writing; and to give the necessary technical instruction. Opportunity for study is offered to those interested in professional and trade journalism.

In connection with the work in the College of Agriculture, special mention should be made of the courses in animal husbandry, dairying and dairy husbandry, and soils. There is opportunity for research work in almost all departments and close association is maintained with the State experiment station.

The university is the culmination of the free educational system of Wisconsin, and sustains a similar relation to the high schools that the latter sustain to the primary and grammar schools. Moreover, the university maintains the closest connection with all the interests of the State, and through its extension service aims to provide a better education for all the people.

The course in pharmacy is especially strong, and the university is one of the few institutions to give systematic consideration to plant chemistry.

The courses in political science, economics, and sociology are noteworthy.

SECTION VII.

STATISTICAL TABLES FOR THE YEAR 1914.

TABLE 1.—*State universities.*

(Names of universities followed by an asterisk (*) include the agricultural and mechanical colleges.)

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
University, Ala.	University of Alabama	Coed.	82	726	$302,558	$555,800
Tucson, Ariz.	University of Arizona*	Coed.	38	123	243,064	10,500
Fayetteville, Ark.	University of Arkansas*	Coed.	149	735	283,593	130,000
Berkeley, Cal.	University of California*	Coed.	457	5,029	2,499,457	5,620,220
Boulder, Colo.	University of Colorado	Coed.	142	1,236	305,615	*
Gainesville, Fla.	University of Florida*	Men.	39	285	171,109	219,650
Athens, Ga.	University of Georgia*	Men.	71	660	250,135	371,202
Moscow, Idaho.	University of Idaho*	Coed.	73	405	262,119	78,005
Urbana, Ill.	University of Illinois*	Coed.	643	4,920	2,824,053	618,443
Bloomington, Ind.	Indiana University	Coed.	270	1,927	378,265	744,000
Iowa City, Iowa.	State University of Iowa	Coed.	224	2,270	942,491	259,733
Lawrence, Kans.	University of Kansas	Coed.	233	2,336	652,433	151,000
Lexington, Ky.	State University of Kentucky*	Coed.	106	811	282,894	165,000
Baton Rouge, La.	Louisiana State University and Agricultural and Mechanical College*	Coed.	81	707	282,262	318,313
Orono, Me.	University of Maine*	Coed.	99	886	391,526	238,300
Ann Arbor, Mich.	University of Michigan	Coed.	351	5,520	2,177,860	940,284
Minneapolis, Minn.	University of Minnesota*	Coed.	366	3,771	2,987,107	1,605,356
University, Miss.	University of Mississippi	Coed.	32	354	116,086	700,000
Columbia, Mo.	University of Missouri*	Coed.	259	2,726	1,459,983	1,505,939
Missoula, Mont.	University of Montana	Coed.	45	281	109,414	.....
Lincoln, Nebr.	University of Nebraska*	Coed.	241	3,054	1,001,706	786,555
Reno, Nev.	University of Nevada*	Coed.	41	308	192,823	150,400
Albuquerque, N. Mex.	University of New Mexico	Coed.	17	90	70,767	.....
Chapel Hill, N. C.	University of North Carolina	Coed.	62	891	237,027	101,300
University, N. Dak.	University of North Dakota	Coed.	75	668	252,766	1,706,698
Athens, Ohio.	Ohio University	Coed.	41	610	278,819	165,000
Columbus, Ohio.	Ohio State University*	Coed.	328	3,829	1,283,727	985,070
Oxford, Ohio.	Miami University	Coed.	48	638	185,418	115,515
Norman, Okla.	University of Oklahoma	Coed.	123	1,101	278,197	.....
Eugene, Oreg.	University of Oregon	Coed.	113	1,070	207,979	5,500
Columbia, S. C.	University of South Carolina	Coed.	37	523	102,419	.....
Vermillion, S. Dak.	University of South Dakota	Coed.	51	386	146,586	.....
Knoxville, Tenn.	University of Tennessee*	Coed.	127	952	202,773	105,000
Austin, Tex.	University of Texas	Coed.	171	2,530	871,386	2,505,000
Salt Lake City, Utah.	University of Utah	Coed.	77	1,215	292,894	.....
Burlington, Vt.	University of Vermont and State Agricultural College.*	Coed.	109	600	270,767	1,050,070
Charlottesville, Va.	University of Virginia	Men.	73	919	432,838	2,119,174
Seattle, Wash.	University of Washington	Coed.	177	2,403	601,238	5,000,000
Morgantown, W. Va.	West Virginia University*	Coed.	102	672	327,557	115,104
Madison, Wis.	University of Wisconsin*	Coed.	523	4,616	2,909,475	679,084
Laramie, Wyo.	University of Wyoming*	Coed.	53	170	177,187	60,852

TABLE 2.—*Agricultural and mechanical colleges not connected with State universities.*

Location.	Institution.	For men or coeducational.	Faculty—college grade and professional.	Students—college grade, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
Auburn, Ala.	Alabama Polytechnic Institute.	Coed.	72	820	$302,735	$281,50
Fort Collins, Colo.	Colorado State Agricultural College.	Coed.	67	534	246,534	183,409
Storrs, Conn.	Connecticut Agricultural College.	Coed.	27	148	257,278	136,000
Newark, Del.	Delaware College.	Coed.	29	170	192,641	100,000
Lafayette, Ind.	Purdue University.	Coed.	185	1,853	787,401	340,000
Ames, Iowa.	Iowa State College of Agriculture and Mechanic Arts.	Coed.	250	2,091	1,250,052	688,818
Manhattan, Kans.	Kansas State Agricultural College.	Coed.	183	1,662	871,144	491,746
College Park, Md.	Maryland Agricultural College.	Men.	32	214	134,940	115,943
Amherst, Mass.	Massachusetts Agricultural College.	Coed.	61	607	467,988	361,000
East Lansing, Mich.	Michigan Agricultural College.	Coed.	145	1,410	565,287	991,674
Agricultural College, Miss.	Mississippi Agricultural and Mechanical College.	Coed.	62	809	449,847	239,787
Bozeman, Mont.	Montana College of Agriculture and Mechanic Arts.	Coed.	44	115	230,061	519,719
Durham, N. H.	New Hampshire College of Agriculture and Mechanic Arts.	Coed.	47	292	274,981	950,000
New Brunswick, N. J.	Rutgers College.	Men.	62	420	905,608	855,215
State College, N. Mex.	New Mexico College of Agriculture and Mechanic Arts.	Coed.	34	62	124,256	.....
West Raleigh, N. C.	North Carolina College of Agriculture and Mechanic Arts.	Men.	62	647	295,407	125,000
Agricultural College, N. Dak.	North Dakota Agricultural College.	Coed.	56	283	304,019	1,203,315
Stillwater, Okla.	Oklahoma Agricultural and Mechanical College.	Coed.	67	645	262,450	.....
Corvallis, Oreg.	Oregon State Agricultural College.	Coed.	131	1,302	712,734	202,114
State College, Pa.	Pennsylvania State College.	Coed.	226	1,923	826,493	502,013
Kingston, R. I.	Rhode Island State College.	Coed.	31	230	133,881	50,000
Clemson College, S. C.	Clemson Agricultural College.	Men.	62	608	354,211	176,539
Brookings, S. Dak.	South Dakota State College of Agriculture and Mechanic Arts.	Coed.	43	260	260,578	257,844
College Station, Tex.	Agricultural and Mechanical College of Texas.	Men.	56	865	357,133	289,000
Logan, Utah.	Agricultural College of Utah.	Coed.	62	407	221,853	143,080
Blacksburg, Va.	Virginia Agricultural and Mechanical College and Polytechnic Institute.	Men.	53	431	296,860	344,312
Pullman, Wash.	State College of Washington.	Coed.	109	883	549,552	737,940

TABLE 3.—*Schools of mines not connected with universities.*

Location.	Institution.	For men or coeducational.	Collegiate faculty.	Collegiate and graduate students.	Income.	Endowment.
1	2	3	4	5	6	7
Golden, Colo.	Colorado School of Mines.	Men.	21	209	$120,237	.....
Houghton, Mich.	Michigan College of Mines.	Men.	24	138	85,800	.....
Butte, Mont.	Montana State School of Mines.	Coed.	7	56	33,287	.....
Socorro, N. Mex.	New Mexico School of Mines.	Coed.	6	16	20,368	.....
Wilburton, Okla.	Oklahoma State School of Mines.	Men.	7	55	25,000	.....
Rapid City, S. Dak.	South Dakota State School of Mines.	Coed.	10	45	35,000	.....

TABLE 4.—*Technological schools independent of university organization.*

Location.	Institution.	For men or coeducational.	Collegiate faculty.	Collegiate and graduate students.	Income.	Endowment.
1	2	3	4	5	6	7
Pasadena, Cal.	Throop College of Technology.	Men.	21	58	$73,213	$500,000
Atlanta, Ga.	Georgia School of Technology.	Men.	29	633	133,511	.....
Chicago, Ill.	Armour Institute of Technology.	Men.	56	527	280,000	1,500,000
Terre Haute, Ind.	Rose Polytechnic Institute.	Men.	21	208	43,918	800,000
Boston, Mass.	Massachusetts Institute of Technology.	Coed.	272	1,683	694,124	2,874,467
Worcester, Mass.	Worcester Polytechnic Institute.	Men.	30	535	150,728	887,500
Hoboken, N. J.	Stevens Institute of Technology.	Men.	32	324	122,718	875,000
Brooklyn, N. Y.	Polytechnic Institute of Brooklyn.	Men.	33	262	183,178	800,000
Potsdam, N. Y.	Clarkson College of Technology.	Men.	10	104	21,787	350,000
Troy, N. Y.	Rensselaer Polytechnic Institute.	Men.	63	626	214,431	1,358,922
Cleveland, Ohio.	Case School of Applied Science.	Men.	43	531	205,732	2,415,493
Philadelphia, Pa.	Drexel Institute.	Coed.	69	506	93,138	2,000,000
Pittsburgh, Pa.	Carnegie Institute of Technology.	Coed.	176	1,133	533,716	8,000,000

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units.*

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate and professional.	Income.	Endowment.
1	2	3	4	5	6	7
ALABAMA.						
Birmingham	Birmingham College	Coed.	7	34	$15,100	$12,500
Do	Howard College	Coed.	9	112	28,210	97,000
Greensboro	Southern University	Coed.	8	75	28,098	75,000
Marion	Judson College	Women.	12	148	80,320	29,000
Montgomery	Woman's College of Alabama.	Women.	11	164	50,160	24,000
St. Bernard	St. Bernard College	Men.	14	30	.....	.....
Spring Hill	Spring Hill College	Men.	10	34	.....	.....
ARKANSAS.						
Arkadelphia	Ouachita College	Coed.	12	231	47,295	19,100
Clarksville	Arkansas Cumberland College.	Coed.	4	30	7,045	9,000
Conway	Central College	Women.	6	57	34,262	.....
Do	Hendrix College	Coed.	9	129	39,848	300,000
CALIFORNIA.						
Claremont	Pomona College	Coed.	43	465	167,668	475,139
Los Angeles	Occidental College	Coed.	23	315	48,686	312,000
Mills College	Mills College	Women.	35	115	78,168	480,310
Oakland	St. Mary's College	Men.	9	56	49,000	.....
San Francisco	St. Ignatius University	Men.	15	100	.....	.....
San Jose	College of the Pacific	Coed.	24	138	54,250	102,875
Santa Clara	University of Santa Clara	Men.	28	123	274,300	.....
Whittier	Whittier College	Coed.	16	106	17,500	150,000
COLORADO.						
Colorado Springs	Colorado College	Coed.	49	561	119,816	1,042,009
Denver	College of the Sacred Heart	Men.	7	46	.....	.....
Greeley	State Teachers College of Colorado.	Coed.	27	635	130,558	.....

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
COLORADO—continued.						
University Park	University of Denver	Coed	121	770	$53,475	$427,000
Westminster	Westminster College	Coed	7	19	.....	.....
CONNECTICUT.						
Hartford	Trinity College	Men	26	258	21,980	1,220,538
Middletown	Wesleyan University	Men	37	413	216,484	2,167,199
FLORIDA.						
De Land	John B. Stetson University	Coed	37	224	97,020	385,539
Tallahassee	Florida State College for Women.	Women	24	279	90,938	.....
Winter Park	Rollins College	Coed	7	96	57,008	220,871
GEORGIA.						
Atlanta	Atlanta University (colored)	Coed	10	44	62,927	107,563
Do	Morris Brown University (colored).	Coed	8	24	.....	.....
College Park	Cox College	Women	16	53	.....	.....
Dahlonega	North Georgia Agricultural College.	Coed	13	112	25,050	.....
Decatur	Agnes Scott College	Women	30	163	97,043	.....
Forsyth	Bessi Tift College	Women	25	167	56,000	6,000
Gainesville	Brenau College	Women	13	202	151,813	.....
Lagrange	Lagrange College	Women	12	69	20,200	20,000
Macon	Mercer University	Men	20	341	55,304	400,000
Do	Wesleyan Female College	Women	12	193	177,638	80,010
Oxford	Emory College	Men	14	234	36,938	311,711
Rome	Shorter College	Women	13	218	89,500	.....
IDAHO.						
Caldwell	College of Idaho	Coed	10	56	15,382	25,000
ILLINOIS.						
Abingdon	Hedding College	Coed	8	50	12,404	106,449
Aledo	William and Vashti College	Coed	8	60	19,500	128,000
Bloomington	Illinois Wesleyan University	Coed	22	322	79,327	359,125
Bourbonnais	St. Viator College	Men	19	150	120,000	.....
Carlinville	Blackburn University	Coed	8	33	10,273	107,000
Carthage	Carthage College	Coed	8	73	22,149	248,353
Chicago	De Paul University	Coed	81	672	.....	.....
Do	Lewis Institute	Coed	26	328	163,610	1,120,000
Do	Loyola University	Men	129	603	.....	.....
Decatur	James Millikin University	Coed	56	318	100,843	220,605
Eureka	Eureka College	Coed	16	95	26,475	177,975
Ewing	Ewing College	Coed	7	11	10,706	10,000
Galesburg	Knox College	Coed	22	325	154,457	413,966
Do	Lombard College	Coed	17	154	36,834	231,000
Greenville	Greenville College	Coed	6	94	29,991	10,000
Jacksonville	Illinois College	Coed	12	131	60,712	396,717
Do	Illinois Woman's College	Women	13	166	98,327	104,182
Knoxville	St. Mary's School	Women	8	51	45,720	6,000
Lake Forest	Lake Forest College	Coed	20	239	226,066	790,023
Lebanon	McKendree College	Coed	6	73	80,028	133,180
Monmouth	Monmouth College	Coed	15	222	46,996	262,977
Mount Carroll	Frances Shimer School	Women	7	35	51,676	80,000
Naperville	Northwestern College	Coed	9	157	36,360	234,778
Quincy	St. Francis Solanus College	Men	8	25	40,567	.....
Rockford	Rockford College	Women	27	189	79,779	126,042
Rock Island	Augustana College	Coed	17	220	82,267	422,121
Upper Alton	Shurtleff College	Coed	8	56	19,976	177,538
Wheaton	Wheaton College	Coed	13	81	74,863	200,133

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
INDIANA.						
Collegeville	St. Joseph's College	Men	9	118	$144,000	$100,000
Crawfordsville	Wabash College	Men	24	320	50,733	754,727
Earlham	Earlham College	Coed	30	347	100,153	459,428
Franklin	Franklin College	Coed	14	176	58,828	240,000
Goshen	Goshen College	Coed	13	78	48,680	60,000
Greencastle	De Pauw University	Coed	36	716	102,159	1,391,525
Hanover	Hanover College	Coed	10	225	23,766	189,014
Indianapolis	Butler College	Coed	19	410	48,562	394,954
Do	Indiana Central University	Coed	23	77	.....	.....
Moores Hill	Moores Hill College	Coed	10	69	16,556	70,000
Notre Dame	St. Mary's College and Academy.	Women	18	145	.....	.....
St. Meinrad	St. Meinrad College	Men	17	170	30,300	.....
Upland	Taylor University	Coed	9	95	32,952	.....
IOWA.						
Cedar Falls	Iowa State Teachers College	Coed	126	1,657	322,087	.....
Cedar Rapids	Coe College	Coed	21	203	55,193	710,000
Clinton	Wartburg College	Men	9	32	19,969	3,802
Decorah	Luther College	Men	15	130	34,974	278,982
Des Moines	Des Moines College	Coed	12	203	46,160	150,000
Do	Drake University	Coed	50	854	180,530	797,866
Dubuque	Dubuque College	Men	18	157	204,400	150,000
Fairfield	Parsons College	Coed	12	113	27,570	236,491
Fayette	Upper Iowa University	Coed	11	149	35,019	210,000
Grinnell	Grinnell College	Coed	52	502	135,348	1,301,469
Hopkinton	Lenox College	Coed	14	38	16,002	165,523
Indianola	Simpson College	Coed	16	272	41,424	256,119
Iowa Falls	Ellsworth College	Coed	15	79	28,176	.....
Mount Pleasant	Iowa Wesleyan College	Coed	15	195	28,082	259,160
Mount Vernon	Cornell College	Coed	24	379	112,118	620,423
Oskaloosa	Penn College	Coed	14	141	33,410	220,000
Pella	Central University of Iowa	Coed	10	73	19,192	101,299
Sioux City	Morningside College	Coed	31	286	54,879	400,000
Storm Lake	Buena Vista College	Coed	11	54	18,396	25,006
Tabor	Tabor College	Coed	7	19	7,766	27,000
Toledo	Leander Clark College	Coed	12	77	29,509	.....
University Park	Central Holiness University	Coed	18	48	28,189	.....
KANSAS.						
Atchison	Midland College	Coed	11	70	23,600	85,000
Baldwin	Baker University	Coed	14	319	46,463	237,686
Emporia	College of Emporia	Coed	17	163	36,549	112,000
Highland	Highland College	Coed	7	35	4,943	40,000
Holton	Campbell College	Coed	7	29	14,630	.....
Lindsborg	Bethany College	Coed	13	97	93,176	77,708
McPherson	McPherson College	Coed	14	53	16,007	30,000
Ottawa	Ottawa University	Coed	12	159	28,467	231,341
St. Marys	Saint Mary's College	Men	20	64	.....	.....
Salina	Kansas Wesleyan University	Coed	6	124	16,969	71,500
Sterling	Cooper College	Coed	11	107	16,543	115,814
Topeka	Washburn College	Coed	54	408	74,188	363,611
Wichita	Fairmount College	Coed	15	165	22,770	114,998
Do	Friends University	Coed	15	283	21,790	177,341
Winfield	Southwestern College	Coed	10	251	17,929	130,000
KENTUCKY.						
Berea	Berea College	Coed	8	104	249,845	1,132,294
Bowling Green	Ogden College	Men	5	36	8,750	200,000
Danville	Central University of Kentucky.	Men	12	95	84,684	508,000
Georgetown	Georgetown College	Coed	11	180	43,102	267,918
Glasgow	Liberty College	Women	8	20	5,000	.....

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
KENTUCKY—continued.						
Hopkinsville	Bethel Female College	Women.	2	15	$10,000	.....
Lexington	Transylvania College	Women.	7	30	42,000	.....
Do	Hamilton College	Coed.	31	233	30,264	$337,293
Louisville	University of Louisville	Coed.	123	492	79,250	.....
Russellville	Bethel College	Men.	4	22	12,490	63,800
St. Mary	St. Mary's College	Men.	6	22	.....	.....
Winchester	Kentucky Wesleyan College	Coed.	7	50	25,021	82,194
LOUISIANA.						
Clinton	Silliman Collegiate Institute	Women.	6	75	19,100	25,000
Mansfield	Mansfield Female College	Women.	4	29	15,650	.....
New Orleans	Loyola University	Men.	19	139	.....	.....
Do	New Orleans University (colored).	Coed.	8	10	19,603	.....
MAINE.						
Brunswick	Bowdoin College	Men.	86	422	147,808	2,310,829
Lewiston	Bates College	Coed.	30	463	80,827	734,664
Van Buren	Van Buren College	Men.	5	40	49,000	.....
Waterville	Colby College	Coed.	26	410	87,742	459,062
MARYLAND.						
Annapolis	St. John's College	Men.	12	122	37,500	.....
Baltimore	Loyola College	Men.	7	50	40,869	10,970
Do	Morgan College (colored)	Coed.	6	30	30,982	56,199
Do	Mount St. Joseph's College	Men.	8	25	23,000	.....
Chestertown	Washington College	Coed.	7	82	42,541	.....
Ellicott City	Rock Hill College	Men.	10	50	.....	.....
Emmitsburg	Mount St. Mary's College	Men.	23	161	.....	.....
Frederick	Hood College	Women.	9	90	87,267	40,000
Westminster	Western Maryland College	Coed.	18	172	51,726	80,000
MASSACHUSETTS.						
Amherst	Amherst College	Men.	44	416	227,838	2,776,452
Boston	Boston University	Coed.	170	1,827	218,374	1,091,007
Norton	Wheaton College	Women.	22	163	132,924	896,310
Wellesley	Wellesley College	Women.	142	1,391	699,972	2,056,255
Williamstown	Williams College	Men.	54	495	250,979	1,683,810
Worcester	College of the Holy Cross	Men.	30	536	137,595	.....
MICHIGAN.						
Adrian	Adrian College	Coed.	20	100	26,880	.....
Albion	Albion College	Coed.	17	366	53,507	405,000
Alma	Alma College	Coed.	18	147	47,919	400,389
Detroit	University of Detroit	Men.	38	143	.....	.....
Hillsdale	Hillsdale College	Coed.	13	277	31,748	315,069
Holland	Hope College	Coed.	18	179	42,390	.....
Kalamazoo	Kalamazoo College	Coed.	15	233	47,676	538,978
Olivet	Olivet College	Coed.	25	224	37,228	112,382
MINNESOTA.						
Albert Lea	Albert Lea College	Women.	10	14	22,836	60,000
Collegeville	St. John's University	Men.	39	108	74,145	.....
Minneapolis	Augsburg Seminary	Men.	15	67	16,348	31,930
Northfield	Carleton College	Coed.	30	399	128,589	842,771
Northfield	St. Olaf College	Coed.	17	333	93,433	275,906
St. Paul	Hamline University	Coed.	23	381	57,606	475,588
Do	Macalester College	Coed.	20	258	55,582	308,286
St. Peter	Gustavus Adolphus College	Coed.	13	125	29,425	270,000
Winona	College of Saint Teresa	Women.	30	50	71,500	.....

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
MISSISSIPPI.						
Brookhaven	Whitworth College for Women	Women	8	18		
Clinton	Mississippi College	Men	12	323	$61,283	$125,000
Columbus	Mississippi Industrial Institute and College.	Women	49	679	155,657	
Grenada	Grenada College	Women	7	47	27,250	
Jackson	Millsaps College	Coed	10	158	39,049	447,297
Meridian	Meridian College	Coed	11	255		
MISSOURI.						
Albany	Palmer College	Coed	8	22	10,555	50,000
Cameron	Missouri Wesleyan College	Coed	11	74	14,419	143,000
Canton	Christian University	Coed	10	52	15,350	200,000
Columbia	Stephens College	Women	10	38	35,500	36,000
Fayette	Central College	Coed	11	145	45,354	
Fulton	Synodical College for Girls	Women	7	24	39,847	
Do	Westminster College	Men	10	90	27,273	222,555
Lexington	Central Female College	Women	7	36	32,582	57,824
Do	Lexington College for Young Women.	Women	16	124	22,750	20,000
Liberty	William Jewell College	Men	26	245	84,047	853,085
Marshall	Missouri Valley College	Coed	12	90	23,345	192,688
Mexico	Hardin College	Women	10	58	42,532	86,750
Morrisville	Scarritt-Morrisville College	Coed	8	108	21,783	50,000
Parkville	Park College	Coed	13	254	82,146	453,876
St. Charles	Lindenwood College for Women.	Women	7	28	26,375	22,000
St. Louis	Christian Brothers College	Men	20	41	23,114	
Springfield	Drury College	Coed	16	255	51,550	300,000
Tarkio	Tarkio College	Coed	11	116	46,923	199,084
Warrenton	Central Wesleyan College	Coed	9	115	21,942	190,000
NEBRASKA.						
Bellevue	Bellevue College	Coed	20	79	36,155	15,094
Bethany	Cotner University	Coed	33	405	64,900	
College View	Union College	Coed	9	97	47,585	
Crete	Doane College	Coed	14	125	31,059	279,700
Hastings	Hastings College	Coed	7	92	24,970	201,142
Omaha	Creighton University	Coed	105	668	252,062	2,750,000
Do	University of Omaha	Coed	23	82	13,500	
University Place	Nebraska Wesleyan University.	Coed	19	413	54,051	285,656
York	York College	Coed	15	24	13,319	74,000
NEW JERSEY.						
Convent Station	College of St. Elizabeth	Women	16	102		
Jersey City	St. Peter's College	Men	8	70	20,000	
Kenilworth	Upsala College	Coed	6	13	13,220	
New Brunswick	Rutgers College	Men	62	420	404,440	855,215
South Orange	Seton Hall College	Men	9	123		
NEW YORK.						
Albany	New York State College for Teachers.	Coed	35	491	107,500	
Alfred	Alfred University	Coed	24	165	41,023	391,413
Annandale	St. Stephen's College	Coed	11	44	43,802	98,000
Aurora	Wells College	Women	33	197	145,329	364,200
Brooklyn	Adelphi College	Coed	34	424	45,391	166,566
Do	College of St. Francis Xavier	Men	10	50	12,237	42,700
Buffalo	Canisius College	Men	11	116	18,796	
Canton	St. Lawrence University	Coed	34	478	132,133	749,571
Clinton	Hamilton College	Men	20	200	119,871	1,150,000
Elmira	Elmira College	Women	20	234	73,973	119,780
Geneva	Hobart College	Coed	24	200	77,322	750,734
Hamilton	Colgate University	Men	46	449	159,383	1,765,000
Keuka	Keuka College	Coed	8	29	37,102	47,546

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	3	3	4	5	6	7
NEW YORK—contd.						
New Rochelle	College of New Rochelle	Women.	22	157	$121,976	.....
New York	College of the City of New York.	Men.	121	1,401	448,366	.....
Do	Fordham University	Men.	132	857	240,509	$65,040
Do	Hunter College of the City of New York.	Women.	137	1,686	522,868	.....
Do	Manhattan College	Men.	15	92	45,397	.....
Niagara	Niagara University	Men.	12	159	26,600	.....
Poughkeepsie	Vassar College	Women.	105	1,077	1,003,033	1,517,257
Rochester	University of Rochester	Coed.	30	439	128,154	1,666,577
St. Bonaventure	St. Bonaventure's College	Men.	21	135	30,176	27,000
Schenectady	Union University	Men.	36	381	123,016	835,131
Syracuse	Syracuse University	Coed.	277	2,795	429,094	1,902,109
NORTH CAROLINA.						
Charlotte	Biddle University (colored)	Men.	11	134	26,460	125,025
Davidson	Davidson College	Men.	15	335	54,177	.....
Durham	Trinity College	Coed.	33	450	104,806	1,391,849
Elon College	Elon College	Coed.	15	293	60,693	80,500
Greensboro	Greensboro College for Women.	Women.	8	50	37,531	105,500
Raleigh	Meredith College	Women.	18	249	78,532	113,074
Do	Shaw University (colored)	Coed.	30	117	53,677	38,170
Red Springs	Southern Presbyterian College	Women.	11	98	47,230	.....
Wake Forest	Wake Forest College	Men.	39	457	50,300	455,600
Winston-Salem	Salem Academy and College	Women.	13	119	113,367	170,266
NORTH DAKOTA.						
Fargo	Fargo College	Coed.	15	157	28,206	.....
Jamestown	Jamestown College	Coed.	23	54	88,491	103,000
University	Wesley College	Coed.	2	37	29,272	120,000
OHIO.						
Akron	Municipal University of Akron	Coed.	18	198	47,686	91,000
Alliance	Mount Union College	Coed.	20	221	60,044	307,634
Ashland	Ashland College	Coed.	6	57	.....	.....
Berea	Baldwin-Wallace College	Coed.	17	172	111,503	468,537
Bluffton	Bluffton College	Coed.	11	45	25,770	31,000
Cedarville	Cedarville College	Coed.	7	47	7,453	81,143
Cincinnati	St. Xavier College	Men.	9	56	25,747	.....
Cleveland	St. Ignatius College	Men.	9	58	51,862	139,713
Do	Western Reserve University	Coed.	223	1,327	265,657	3,436,081
Columbus	Capital University	Men.	16	168	19,928	40,559
Dayton	St. Mary College	Men.	13	35	.....	.....
Defiance	Defiance College	Coed.	14	218	32,271	273,977
Delaware	Ohio Wesleyan University	Coed.	47	930	129,174	1,011,962
Findlay	Findlay College	Coed.	14	52	29,955	110,000
Gambier	Kenyon College	Men.	18	133	66,841	509,002
Granville	Denison University	Coed.	30	476	111,313	755,000
Hiram	Hiram College	Coed.	22	207	40,099	272,470
Lebanon	Lebanon University	Coed.	8	26	5,200	.....
Marietta	Marietta College	Coed.	15	162	42,940	553,893
New Athens	Franklin College	Coed.	9	78	9,700	45,000
New Concord	Muskingum College	Coed.	10	259	53,855	120,000
Oberlin	Oberlin College	Coed.	61	1,007	388,195	2,336,076
Oxford	Oxford College for Women	Women.	12	151	60,030	.....
Do	Western College for Women	Women.	27	241	96,303	239,532
Painesville	Lake Erie College	Women.	24	110	60,300	239,470
Rio Grande	Rio Grande College	Coed.	4	32	9,100	80,000
Springfield	Wittenberg College	Coed.	21	415	93,600	523,000
Tiffin	Heidelberg University	Coed.	27	192	66,032	336,000
Toledo	St. John's University	Men.	34	55	16,400	8,500
Do	Toledo University	Coed.	82	219	20,444	.....
Westerville	Otterbein University	Coed.	22	218	84,553	250,000
Wooster	College of Wooster	Coed.	42	443	142,980	1,144,436
Yellow Springs	Antioch College	Coed.	16	53	10,622	113,158

TABLE. 5—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
OKLAHOMA.						
Guthrie	Methodist University of Oklahoma.	Coed	9	71	$18,307	$75,000
Kingfisher	Kingfisher College	Coed	8	67	19,410	149,912
OREGON.						
Albany	Albany College	Coed	10	37	18,490	200,813
Forest Grove	Pacific University	Coed	16	86	27,768	237,926
McMinnville	McMinnville College	Coed	10	89	28,176	60,349
Newberg	Pacific College	Coed	12	43	19,500	65,000
Portland	Reed College	Coed	20	184	88,383	3,000,000
Salem	Willamette University	Coed	44	319	75,000	500,000
PENNSYLVANIA.						
Allentown	Allentown College for Women.	Women.	12	127	12,728	.....
Do	Muhlenberg College	Men	14	173	52,080	289,138
Annville	Lebanon Valley College	Coed	11	164	59,287	57,390
Beatty	St. Vincent College	Men	10	126	.....	.....
Beaver Falls	Geneva College	Coed	15	136	8,101	204,000
Bethlehem	Moravian College	Men	8	51	45,738	115,000
Do	Moravian Seminary and College for Women.	Women.	6	65	48,000	33,000
Carlisle	Dickinson College	Coed	25	361	62,071	778,868
Chambersburg	Wilson College	Women.	30	163	62,510	71,475
Chester	Pennsylvania Military College.	Men	15	90	.....	.....
Collegeville	Ursinus College	Coed	17	176	66,946	202,100
Easton	Lafayette College	Men	59	580	131,856	621,986
Gettysburg	Pennsylvania College	Coed	23	287	70,583	417,813
Greenville	Thiel College	Coed	9	76	44,019	61,000
Grove City	Grove City College	Coed	18	221	128,918	81,802
Haverford	Haverford College	Men	22	176	165,245	1,976,948
Huntingdon	Juniata College	Coed	14	110	58,539	188,256
Lancaster	Franklin and Marshall College.	Men	17	302	39,804	384,466
Lewiston	Bucknell University	Coed	27	431	117,582	.....
Lincoln University	Lincoln University (colored)	Men	12	194	50,052	649,784
Meadville	Allegheny College	Coed	24	418	94,910	745,497
Myerstown	Albright College	Coed	10	88	44,878	.....
New Wilmington	Westminster College	Coed	16	171	69,014	435,390
Philadelphia	La Salle College	Men	17	60	.....	.....
Do	Temple University	Coed	188	1,402	182,939	.....
Pittsburgh	Duquesne College of the Holy Ghost.	Men	28	68	35,000	.....
Do	Pennsylvania College for Women.	Women.	19	76	64,005	40,000
Do	University of Pittsburgh	Coed	329	2,512	437,167	522,969
Selinsgrove	Susquehanna University	Coed	14	109	43,150	65,000
Swarthmore	Swarthmore College	Coed	44	420	289,080	1,615,164
Villanova	Villanova College	Men	23	178	113,449	.....
Washington	Washington and Jefferson College.	Men	18	250	79,104	637,599
Waynesburg	Waynesburg College	Coed	10	70	20,685	86,059
RHODE ISLAND.						
Providence	Brown University	Coed	84	944	250,029	4,276,995
SOUTH CAROLINA.						
Columbia	Benedict College (colored)	Coed	16	141	31,200	140,000
Greenwood	Lander College	Women.	10	164	39,681	6,100
Orangeburg	Claflin University (colored)	Coed	5	32	55,110	40,000
Spartanburg	Converse College	Women.	26	132	77,138	69,251
Do	Wofford College	Men	15	334	47,675	188,154

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
SOUTH DAKOTA.						
Huron	Huron College	Coed.	18	90	$57,785	$463,963
Mitchell	Dakota Wesleyan University	Coed.	22	200	44,403	.....
Redfield	Redfield College	Coed.	6	24	11,433	.....
Sioux Falls	Sioux Falls College	Coed.	18	32	20,400	.....
Yankton	Yankton College	Coed.	16	127	66,679	231,830
TENNESSEE.						
Bristol	King College	Men.	7	56	14,700	25,000
Chattanooga	University of Chattanooga	Coed.	13	134	55,006	400,000
Clarksville	Southwestern Presbyterian University.	Men.	10	78	8,225	300,000
Greeneville	Tusculum College	Coed.	6	44	59,217	176,281
Jackson	Union University	Coed.	9	90	18,920	.....
Jefferson City	Carson and Newman College	Coed.	7	119	17,169	73,000
Knoxville	Knoxville College (colored)	Coed.	10	30	50,254	10,000
Lebanon	Cumberland University	Coed.	9	253	23,300	110,000
Maryville	Maryville College	Coed.	12	212	84,539	478,707
Memphis	Christian Brothers College	Men.	12	90	.....	.....
Milligan	Milligan College	Coed.	9	62	61,125	12,500
Murfreesboro	Tennessee College	Women.	8	62	43,381	4,000
Nashville	Fisk University (colored)	Coed.	5	184	121,308	150,973
Sewanee	University of the South	Men.	25	154	122,734	390,365
Washington College	Washington College	Coed.	6	20	13,000	100,000
TEXAS.						
Abilene	Simmons College	Coed.	12	240	81,600	100,000
Belton	Baylor College for Women	Women.	12	118	75,555	.....
Brownwood	Howard Payne College	Coed.	8	61	35,000	.....
Fort Worth	Texas Christian University	Coed.	39	112	63,043	25,000
Georgetown	Southwestern University	Coed.	44	505	161,410	.....
Houston	Rice Institute	Coed.	29	252	529,000	10,000,000
San Antonio	St. Louis College	Men.	8	28	30,000	.....
Sherman	Austin College	Men.	9	141	39,500	200,000
Tehuacana	Westminster College	Coed.	7	62	9,360	6,000
Waco	Baylor University	Coed.	22	558	152,561	222,979
Waxahachie	Trinity University	Coed.	11	230	56,771	58,768
VERMONT.						
Middlebury	Middlebury College	Coed.	29	340	94,090	577,784
Northfield	Norwich University	Men.	15	147	52,050	114,636
Winooski	St. Michael's College	Men.	6	26	26,000	.....
VIRGINIA.						
Abingdon	Martha Washington College	Women.	9	63	41,294	.....
Do	Stonewall Jackson Institute	Women.	6	79	13,750	.....
Ashland	Randolph-Macon College	Men.	11	187	35,613	321,303
Bridgewater	Bridgewater College	Coed.	7	54	25,128	18,641
Bristol	Virginia Intermont College	Women.	5	48	33,622	.....
Emory	Emory and Henry College	Coed.	17	135	.....	.....
Hampden-Sidney	Hampden-Sidney College	Men.	9	115	25,000	190,000
Hollins	Hollins College	Women.	18	129	127,393	.....
Lexington	Washington and Lee University.	Men.	27	449	101,272	.....
Manassas	Eastern College	Coed.	9	78	31,350	20,000
Richmond	Richmond College	Coed.	31	454	173,362	935,000
Do	Virginia Union University (colored).	Men.	9	89	44,422	88,000
Roanoke	Virginia College	Women.	5	63	50,000	.....
Salem	Roanoke College	Men.	12	93	42,773	143,440
Do	Elizabeth College	Women.	12	17	.....	.....
Sweet Briar	Sweet Briar College	Women.	26	74	152,764	.....

TABLE 5.—*Colleges and universities, not included in preceding special lists, which report to the Bureau of Education entrance requirements to college courses of at least 14 units*—Continued.

Location.	Institution.	For men, for women, or coeducational.	Faculty—collegiate and professional.	Students—collegiate, graduate, and professional.	Income.	Endowment.
1	2	3	4	5	6	7
WASHINGTON.						
Spokane	Gonzaga University	Men	30	177		
Do	Whitworth College	Coed	10	101	$22,916	$108,000
Tacoma	College of Puget Sound	Coed	28	196	9,855	
Walla Walla	Whitman College	Coed	28	250	59,031	538,502
WEST VIRGINIA.						
Bethany	Bethany College	Coed	23	216	47,527	410,000
Buckhannon	West Virginia Wesleyan College	Coed	8	128	118,221	117,285
Elkins	Davis and Elkins College	Coed	8	25	21,917	100,000
WISCONSIN.						
Appleton	Lawrence College	Coed	31	448	166,587	893,000
Beloit	Beloit College	Coed	41	395	132,084	1,268,966
Milton	Milton College	Coed	11	57	20,087	137,000
Milwaukee	Marquette University	Men	237	775	92,669	
Do	Milwaukee-Downer College	Women	20	192	133,279	215,422
Prairie du Chien	Campion College	Men	14	56	87,607	15,000
Ripon	Ripon College	Coed	19	164	60,042	252,036
Shsinawa	St. Clara College and Academy	Women	19	68	30,600	
Waukesha	Carroll College	Coed	25	221	26,795	287,877

TABLE 6.—*Medical colleges rated as class A by the Council on Medical Education of the American Medical Association.*

Institutions.	Faculty.	Students.	Tuition.	Endowment.
Alabama:				
University of Alabama, School of Medicine—Mobile	55	105	$150	(1)
California:				
Leland Stanford Junior University, School of Medicine—San Francisco	50	75	150	(1)
University of California, School of Medicine—San Francisco	35	122	150	$114,650
Colorado:				
University of Colorado, School of Medicine—Boulder-Denver	78	59	(2)	(1)
Connecticut:				
Yale Medical School—New Haven	57	49	150	760,053
District of Columbia:				
Georgetown University, School of Medicine—Washington	99	99	150	5,000
George Washington University, Medical School—Washington	74	175	150	37,185
Howard University School of Medicine—Washington	40	110	100	15,000
Georgia:				
Atlanta Medical College[3]—Atlanta	103	490	150	(1)
University of Georgia, Medical Department—Augusta	47	58	125	(1)
Illinois:				
Northwestern University Medical School—Chicago	139	370	175	565,700
Rush Medical College (University of Chicago)—Chicago	288	462	185	(1)
University of Illinois, College of Medicine—Chicago	146	451	155	0
Indiana:				
Indiana University, School of Medicine—Bloomington-Indianapolis	130	133	130	(1)
Iowa:				
State University of Iowa, College of Medicine—Iowa City	42	109	50	0
State University of Iowa, College of Homeopathic Medicine—Iowa City	7	6	50	0
Kansas:				
University of Kansas, School of Medicine—Lawrence-Rosedale	65	110	(4)	(1)
Kentucky:				
University of Louisville, Medical Department—Louisville	94	274	168	(1)

[1] No report.
[2] $75 to resident and $100 to nonresident students.
[3] Is now school of medicine of Emory University.
[4] $25 first two years and $100 last two years in medical course.

TABLE 6.—*Medical colleges rated as class A by the Council on Medical Education of the American Medical Association*—Continued.

Institutions.	Faculty.	Students.	Tuition.	Endowment.
Louisiana:				
Tulane University of Louisiana, School of Medicine—New Orleans.	115	338	195	$1,000,000
Maine:				
Medical School of Maine—Brunswick-Portland	66	67	100	242,255
Maryland:				
College of Physicians and Surgeons—Baltimore	69	184	165	0
Johns Hopkins University, Medical Department—Baltimore	124	360	240	464,902
University of Maryland, School of Medicine—Baltimore	130	472	165	(1)
Massachusetts:				
Boston University, School of Medicine—Boston	68	121	125	170,000
Medical School of Harvard University—Boston	207	308	225	4,011,782
Tufts College Medical School—Boston	57	275	155	48,000
Michigan:				
Detroit College of Medicine and Surgery—Detroit	169	249	116	70,000
University of Michigan, Department of Medicine and Surgery—Ann Arbor	75	288	57,67	1,029,600
University of Michigan, Homeopathic Medical College—Ann Arbor	26	80	55,65	(1)
Minnesota:				
University of Minnesota Medical School—Minneapolis	81	169	150	0
Mississippi:				
University of Mississippi, Department of Medicine [2]—Oxford	14	35	100	(1)
Missouri:				
St. Louis University, School of Medicine—St. Louis	89	241	140	0
University of Missouri, School of Medicine [2]—Columbia	16	76	0	0
Washington University Medical School—St. Louis	79	71	150	2,250,000
Nebraska:				
University of Nebraska, College of Medicine—Omaha	69	87	115	0
New Hampshire:				
Dartmouth Medical School [2]—Hanover	11	23	140	(1)
New York:				
Albany Medical College, Albany	103	258	100	30,986
Columbia University, College of Physicians and Surgeons—New York City	209	344	250	1,572,305
Cornell University Medical College—New York City	114	108	150	4,478,177
Fordham University, School of Medicine—New York City	95	254	200	(1)
Long Island College Hospital—New York City	113	360	190	(1)
Syracuse University, College of Medicine—Syracuse	73	96	175	50,000
University and Bellevue Hospital Medical College—New York City	125	333	200	270,000
University of Buffalo, Medical Department—Buffalo	100	236	125	11,500
North Carolina:				
University of North Carolina, School of Medicine [2]—Chapel Hill	29	60	70	(1)
Wake Forest College, School of Medicine [2]—Wake Forest	10	28	50	(1)
North Dakota:				
University of North Dakota, School of Medicine [2]—University	10	14	50	0
Ohio:				
Western Reserve University, School of Medicine—Cleveland	58	163	150	1,459,637
Medical College of the University of Cincinnati—Cincinnati	137	69	150	115,000
Ohio State University, College of Medicine—Columbus	76	284	150	0
Oregon:				
University of Oregon, Department of Medicine—Portland	62	79	150	0
Pennsylvania:				
Hahnemann Medical College and Hospital—Philadelphia	82	96	150	100,200
Jefferson Medical College—Philadelphia	153	704	200	400,000
Medico-Chirurgical College of Philadelphia—Philadelphia	114	384	150	11,000
University of Pennsylvania, School of Medicine—Philadelphia	174	266	200	520,567
University of Pittsburgh, School of Medicine—Pittsburgh	95	126	200	0
Woman's Medical College of Pennsylvania—Philadelphia	59	93	175	351,905
South Dakota:				
University of South Dakota, College of Medicine [2]—Vermilion	16	22	60	(1)
Tennessee:				
Vanderbilt University, Medical Department—Nashville	67	394	150	809,325
University of Tennessee, College of Medicine—Memphis	104	321	131	400,000
Texas:				
University of Texas, Department of Medicine—Galveston	26	172	0	0
Utah:				
University of Utah, School of Medicine [2]—Salt Lake City	12	63	55	0
Vermont:				
University of Vermont, College of Medicine—Burlington	46	146	125	(1)
Virginia:				
Medical College of Virginia—Richmond	126	424	150	(1)
University of Virginia, Department of Medicine—Charlottesville	35	104	100	0
Wisconsin:				
Marquette University, School of Medicine—Milwaukee	11	188	170	0
University of Wisconsin, Medical School [2]—Madison	23	83	(4)	(1)

[1] No report.
[2] Only first two years of medical course given.
[3] $25 first two years and $100 last two years in medical course.
[4] $70 to nonresident students.

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BULLETIN OF THE BUREAU OF EDUCATION.

[NOTE.—With the exceptions indicated, the documents named below will be sent free of charge upon application to the Commissioner of Education, Washington, D. C. Those marked with an asterisk (*) are no longer available for free distribution, but may be had of the Superintendent of Documents, Government Printing Office, Washington, D. C., upon payment of the price stated. Remittances should be made in coin, currency, or money order. Stamps are not accepted. Numbers omitted are out of print.]

1906.

*No. 3. State school systems: Legislation and judicial decisions relating to public education, Oct. 1, 1904, to Oct. 1, 1906. Edward C. Elliott. 15 cts.

1908.

*No. 5. Education in Formosa. Julean H. Arnold. 10 cts.
*No. 6. The apprenticeship system in its relation to industrial education. Carroll D. Wright. 15 cts.

1909.

*No. 1. Facilities for study and research in the offices of the United States Government in Washington. Arthur T. Hadley. 10 cts.
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*No. 3. Daily meals of school children. Caroline L. Hunt. 10 cts.
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*No. 6. Instruction in the fine and manual arts in the United States. A statistical monograph. Henry T. Bailey. 15 cts.
No. 7. Index to the Reports of the Commissioner of Education, 1867–1907.
*No. 8. A teacher's professional library. Classified list of 100 titles. 5 cts.
*No. 9. Bibliography of education for 1908–9. 10 cts.
No. 10. Education for efficiency in railroad service. J. Shirley Eaton.
*No. 11. Statistics of State universities and other institutions of higher education partially supported by the State, 1908–9. 5 cts.

1910.

*No. 1. The movement for reform in the teaching of religion in the public schools of Saxony. Arley B. Show. 5 cts.
No. 2. State school systems: III. Legislation and judicial decisions relating to public education. Oct. 1, 1908, to Oct. 1, 1909. Edward C. Elliott.
*No. 3. American schoolhouses. Fletcher B. Dresslar. 75 cts.

1911.

*No. 1. Bibliography of science teaching. 5 cts.
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*No. 4. Report of the commission appointed to study the system of education in the public schools of Baltimore. 10 cts.
*No. 5. Age and grade census of schools and colleges. George D. Strayer. 10 cts.
*No. 6. Graduate work in mathematics in universities and in other institutions of like grade in the United States. 5 cts.
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*No. 13. Mathematics in the elementary schools of the United States. 15 cts.
*No. 14. Provision for exceptional children in the public schools. J. H. Van Sickle, Lightner Witmer, and Leonard P. Ayres. 10 cts.
*No. 15. Educational system of China as recently reconstructed. Harry E. King. 10 cts.
No. 19. Statistics of State universities and other institutions of higher education partially supported by the State, 1910–11.

1912.

*No. 1. A course of study for the preparation of rural-school teachers. F. Mutchler and W. J. Craig. 5 cts.
*No. 3. Report of committee on uniform records and reports. 5 cts.
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*No. 6. Agricultural education in secondary schools. 10 cts.

*No. 7. Educational status of nursing. M. Adelaide Nutting. 10 cts.
*No. 8. Peace day. Fannie Fern Andrews. 5 cts. [Later publication, 1913, No. 12. 10 cts.]
*No. 9. Country schools for city boys. William S. Myers. 10 cts.
*No. 13. Influences tending to improve the work of the teacher of mathematics. 5 cts.
*No. 14. Report of the American commissioners of the international commission on the teaching of mathematics. 10 cts.
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No. 22. Public and private high schools.
*No. 23. Special collections in libraries in the United States. W. D. Johnston and I. G. Mudge. 10 cts.
No. 27. History of public-school education in Arkansas. Stephen B. Weeks.
*No. 28. Cultivating school grounds in Wake County, N. C. Zebulon Judd. 5 cts.
No. 29 Bibliography of the teaching of mathematics, 1900-1912. D. E. Smith and Chas. Goldziher.
No. 30. Latin-American universities and special schools. Edgar E. Brandon.

1913.

No. 1. Monthly record of current educational publications, January, 1913.
*No. 2. Training courses for rural teachers. A. C. Monahan and R. H. Wright. 5 cts.
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*No. 4. Present standards of higher education in the United States. George E. MacLean. 20 cts.
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*No. 19. German industrial education and its lessons for the United States. Holmes Beckwith. 15 cts.
*No. 20. Illiteracy in the United States. 10 cts.
*No. 22. Bibliography of industrial, vocational, and trade education. 10 cts.
*No. 23. The Georgia club at the State Normal School, Athens, Ga., for the study of rural sociology. E. C. Branson. 10 cts.
*No. 24. A comparison of public education in Germany and in the United States. Georg Kerschensteiner. 5 cts.
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*No. 38. Economy of time in education. 10 cts.
No. 39. Elementary industrial school of Cleveland, Ohio. W. N. Hallmann.
*No. 40. The reorganized school playground. Henry S. Curtis. 10 cts.
*No. 41. The reorganization of secondary education. 10 cts.
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*No. 43. Agriculture and rural-life day; material for its observance. Eugene C. Brooks. 10 cts.
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*No. 46. Educational directory, 1913. 15 cts.
*No. 47. Teaching material in Government publications. F. K. Noyes. 10 cts.
*No. 48. School hygiene. W. Carson Ryan, jr. 15 cts.
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*No. 51. Education of the immigrant. 10 cts.
*No. 52. Sanitary schoolhouses. Legal requirements in Indiana and Ohio. 5 cts.
No. 53. Monthly record of current educational publications, December, 1913.
No. 54. Consular reports on industrial education in Germany.
No. 55. Legislation and judicial decisions relating to education, October 1, 1909, to October 1, 1912. James C. Boykin and William R. Hood.
No. 58. Educational system of rural Denmark. Harold W. Foght.
No. 59. Bibliography of education for 1910-11.
No. 60. Statistics of State universities and other institutions of higher education partially supported by the State, 1912-13.

1914.

*No. 1. Monthly record of current educational publications, January, 1914. 5 cts.
No. 2. Compulsory school attendance.
*No. 3. Monthly record of current educational publications, February, 1914. 5 cts.
No. 4. The school and the start in life. Meyer Bloomfield.
No. 5. The folk high schools of Denmark. L. L. Friend.
No. 6. Kindergartens in the United States.
No. 7. Monthly record of current educational publications, March, 1914.
*No. 8. The Massachusetts home-project plan of vocational agricultural education. R. W. Stimson. 15 cts.
No. 9. Monthly record of current educational publications, April, 1914.
*No. 10. Physical growth and school progress. B. T. Baldwin. 25 cts.
*No. 11. Monthly record of current educational publications, May, 1914. 5 cts.
*No. 12. Rural schoolhouses and grounds. F. B. Dressler. 50 cts.
No. 13. Present status of drawing and art in the elementary and secondary schools of the United States. Royal B. Farnum.
No. 14. Vocational guidance.
No. 15. Monthly record of current educational publications. Index.
No. 16. The tangible rewards of teaching. James C. Boykin and Roberts King.
No. 17. Sanitary survey of the schools of Orange County, Va. Roy K. Flannagan.
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No. 21. Monthly record of current educational publications, September, 1914.
No. 22. The Danish folk high schools. H. W. Foght.
No. 23. Some trade schools in Europe. Frank L. Glynn.
No. 24. Danish elementary rural schools. H. W. Foght.
No. 25. Important features in rural school improvement. W. T. Hodges.
No. 26. Monthly record of current educational publications, October, 1914.
*No. 27. Agricultural teaching. 15 cts.
No. 28. The Montessori method and the kindergarten. Elizabeth Harrison.
No. 29. The kindergarten in benevolent institutions.
No. 30. Consolidation of rural schools and transportation of pupils at public expense. A. C. Monahan.
No. 31. Report on the work of the Bureau of Education for the natives of Alaska.
No. 32. Bibliography of the relation of secondary schools to higher education. R. L. Walkley.
No. 33. Music in the public schools. Will Earhart.
No. 34. Library instruction in universities, colleges, and normal schools. Henry R. Evans.
No. 35. The training of teachers in England, Scotland, and Germany. Charles H. Judd.
*No. 36. Education for the home—Part I. General statement. B. R. Andrews. 10 cts.
*No. 37.—Education for the home—Part II. State action, schools, agencies. B. R. Andrews. 30 cts.
No. 38. Education for the home—Part III. Colleges and universities. B. R. Andrews.
No. 39. Education for the home—Part IV. Bibliography, list of schools. B. R. Andrews.
No. 40. Care of the health of boys in Girard College, Philadelphia, Pa.
No. 41. Monthly record of current educational publications, November, 1914.
No. 42. Monthly record of current educational publications, December, 1914.
No. 43. Educational directory, 1914-15.
No. 44. County-unit organization for the administration of rural schools. A. C. Monahan.
No. 45. Curricula in mathematics. J. C. Brown.
No. 46. School savings banks. Mrs. Sara L. Oberholtzer.
No. 47. City training schools for teachers. Frank A. Manny.
No. 48. The educational museum of the St. Louis public schools. C. G. Rathman.
No. 49. Efficiency and preparation of rural-school teachers. H. W. Foght.
No. 50. Statistics of State universities and State colleges.

1915.

No. 1. Cooking in the vocational school. Iris P. O'Leary.
No. 2. Monthly record of current educational publications, January, 1915.
No. 3. Monthly record of current educational publications, February, 1915.
No. 4. The health of school children. W. H. Heck.
No. 5. Organization of State departments of education. A. C. Monahan.
No. 6. A study of colleges and high schools.
No. 7. Accredited secondary schools in the United States. Samuel P. Capen.
No. 8. Present status of the honor system in colleges and universities. Bird T. Baldwin.
No. 9. Monthly record of current educational publications, March, 1915.
No. 10. Monthly record of current educational publications, April, 1915.
No. 11. A statistical study of the public-school systems of the southern Appalachian Mountains. Norman Frost.
No. 12. History of public-school education in Alabama. Stephen B. Weeks.

No. 13. The schoolhouse as the polling place. E. J. Ward.
No. 14. Monthly record of current educational publications, May, 1915.
No. 15. Monthly record of current educational publications. Index, Feb., 1914–Jan., 1915.
No. 16. Monthly record of current educational publications, June, 1915.
No. 17. Civic education in elementary schools as illustrated in Indianapolis. A. W. Dunn.
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