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Requirements FOR HIGH SCHOOL GRADUATION

In States and Large Cities

by GRACE S. WRIGHT
Specialist for Secondary Education

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
ABRAHAM A. RIBICOFF, *Secretary*
Office of Education
WAYNE O. REED, *Acting Commissioner*

Foreword

HIGH school graduation requirements, representing as they do the general education area of a high school's offerings, are of significance in reflecting our educational objectives. The general education area of the curriculum is designed to provide for the common needs of all boys and girls in our society, in contrast to the special interests area represented by the elective subjects, which serves the individual needs of pupils. Through its required subjects a school can ensure for every pupil the basic instruction which it believes will best develop the knowledge, understandings, and attitudes he needs to function as an effective citizen. This document reports the subjects that State and city school people have designated as those which best fulfill this important need.

The Office of Education's first report of *Requirements for High School Graduation* was published as Bulletin 1928, No. 21. Included in that study were the 48 States, 12 large cities, and a random sample of 464 individual schools from each of the States. In the past decade the Office has made available through its circular series four reports on the requirements of State departments of education and one on those of large city school systems. The present report brings under one cover in the bulletin series information from the latest of the State (1960–61) and city studies (1958–59). While it does not include data for individual schools as did the 1928 study, it does reveal changes in States and cities and should prove useful to students of secondary education.

The Office of Education is grateful for the assistance of officials in State departments of education and city school systems who so generously helped in the interpretation and verification of data.

E. GLENN FEATHERSTON
Assistant Commissioner and Director
Division of State and Local School Systems

J. DAN HULL
Director, Instruction,
Organization, and Services Branch

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I. Introduction: The Elective System and Graduation Requirements

UNIVERSAL acceptance of the elective system in the public high schools is very generally a 20th century phenomenon. The 19th century witnessed its evolution. The first public high school, established in Boston in 1821, was designed to prepare youth for life. It provided a curriculum which, while noncollege-preparatory in nature, was completely prescribed. In the ensuing 40 years as the public high school movement spread, there was differentiation of the curriculum to take care both of those who were going to college and of those who were not. In some cities, separate schools were maintained for the teaching of an English or general course and the classical or college preparatory course. In other cities, separate departments for the classical and English courses were maintained in the same school. In general the subjects in the two courses were completely prescribed, although here and there schools were permitting students some choices.

The constantly increasing number of offerings in each of the two departments—classical and English—had, by the sixties, begun to make it a practical impossibility as well as an undesirability for everyone to take everything. This fact led to the widespread adoption of a variety of parallel courses, each of which, like the classical and English courses, was generally fixed and definite. The pupil had the right to choose the course, but not the subjects within the course. The disadvantage to the pupil was that the choice had to be made in his freshman year before he had had an opportunity to learn what interests and abilities he might have in subjects restricted to other courses. As in the earlier years, electives were permitted in a few schools.

As the years passed, the number of different courses multiplied. There was also the tendency for schools to add subjects, some of which were to be taken for brief periods. Some means of providing greater flexibility was conceded to be necessary. Beginning in the nineties,

there was a more general breaking away from absolute prescriptions. The provision of flexibility through the provision of electives began to be accepted.

In 1899, the Committee on College Entrance Requirements reported, in the *Proceedings* of the National Education Association, the adoption of a resolution that the principle of election be recognized in secondary schools. This gave the impetus needed to make the break complete.

Just as the various steps leading to the establishment of the elective system were not uniformly adopted by all schools in the last century, so today all high schools have not adopted the same pattern of curriculum organization. Parallel courses or, as they are more often referred to now, multiple curriculums are found in the high schools of approximately half of our large cities. Each curriculum has its prescribed subjects which include some commonly required for all curriculums; each has some limited electives; and each some free electives. Often these parallel courses or curriculums have subdivisions or options within them, each with its own special requirements.

High schools in the other half of our large city school systems operate on the basis of constants and electives. Beyond the constants which all pupils must take to be graduated, pupils may elect from the offerings of the school, usually with the help of the school's counselors so that their choices will correspond with their abilities, aptitudes, and needs, as well as their expressed interests.

The subjects required of all pupils for graduation, regardless of a school's pattern of curriculum organization and the particular curriculum an individual pupil has chosen, are the concern of this report.

II. State and Local Responsibility for Fixing Graduation Requirements

PRIMARY responsibility for establishing rules and regulations affecting the curriculum, including requirements for graduation from high school, rests with State agencies: the legislature, the State board of education, and the State department of education. State legislation relating to offerings at the high school level is most often directed to the teaching of American and State history and government, and health and physical education. A State law may stipulate only that the subject be taught, as it does in Colorado, for example:

The history and civil government of the State of Colorado shall be taught in all the public schools of this State. (123–21–4)

In all public and private schools located within the State of Colorado there shall be given regular courses of instruction in the Constitution of the United States. (123–21–8)

Or the law may stipulate that all pupils shall take a specific subject:

Physical education: All pupils are required to attend upon a course for an instructional period in each school day. (California EC 10124)

All state teachers colleges and other educational institutions supported by the State and all high, preparatory and secondary schools, public or private, whose property is exempt from taxation, shall give a course of instruction in the duties and responsibilities of United States citizenship. No student shall be graduated from any such state educational institution, teachers college or school who has not been found to be familiar with said subject. (Connecticut Sec. 10–18)

Public and private high schools, academies, and other institutions ranking as secondary schools which maintain three-year or longer courses of instruction shall offer, and all students shall be required to take, a minimum of instruction in American history and civics of the State and Nation to the extent of two semesters. (Iowa s280.8)

The large majority of curriculum requirements at the State level are not legislative mandates. Either they are State board regulations or they are standards established by the State department of education which high schools must meet to achieve and maintain accred-

ited status. Frequently, the legislature specifically authorizes the State board or the State department to establish curriculum requirements, such as in Hawaii where the School Code reads:

> The requirements for graduation from any division of the public school system shall be the completion by the individual of the curriculum specified by the Department. (441)

In 39 of the 50 States, the State board or State department of education prescribes units of study in excess of legislative requirements which every pupil must take to be graduated. In 11 States,[1] however, State agencies make no such additional requirements. They leave it to the local school systems to determine the program of required subjects. They may, and sometimes do, recommend requirements to the local systems. Even in those States having a sizable number of State requirements, local school systems are usually permitted to add to these if they wish. Thus the local school system has secondary responsibility for setting up curriculum and high school graduation requirements.

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[1] California, Colorado, Connecticut, Iowa, Massachusetts, Michigan, Nebraska, New Jersey, Rhode Island, Wisconsin, and Wyoming.

III. State Department of Education Requirements

GRADUATION requirements for 1960–61 as reported by the 50 States are shown in table 1. For comparative purposes, the specific subject requirements for all States are cited for grades 9 through 12 even though three States—Minnesota, Pennsylvania, and Utah—count credits earned in grades 10 through 12 only. While these States have specified subject requirements for grade 9, they do not include these with the units the pupil earns in grades 10 through 12. These three States have a strong, but not the strongest, 6–3–3 organization. Delaware and Maryland which have no schools organized on the 8–4 basis, and Florida which has virtually none, still count for graduation credits earned in ninth grade. Several States permit schools organized as 3-year senior high schools to limit credits for graduation to grades 10 through 12, if they wish.

In the study by Carl Jessen in 1928, hereafter referred to as the 1928 study,[2] no States reported recognizing credits earned in the last three grades only. Jessen thought this situation reasonable considering that 72 percent of all pupils enrolled in the last 4 years of the public secondary school were attending regular 4-year high schools. According to the most recent public high school statistics only 40 percent of such pupils were attending the regular 4-year high schools in 1958–59. With this situation, one might reasonably expect a larger number of States to limit credits for high school graduation to those earned in grades 10 through 12.

One State, Virginia, which makes extensive use of the 7–5 basis of school organization, has moved in a different direction in fixing credits for graduation. Effective for pupils enrolling in eighth grade in the school year 1959–60, the State Board of Education in December 1958 voted to start with grade 8 in counting Carnegie units for high school graduation. Twenty units will be required, of which 4 will be earned in the eighth grade.

[2] Jessen, Carl A. *Requirements for High School Graduation* (U.S. Bureau of Education Bulletin, 1928, No. 21).

Table 1.—State high school graduation requirements, in units of credit, effective for 1960–61 graduates

State	Total number of units	English	Social studies									Mathematics	Science				Fine arts	Practical arts	Health as a separate subject	Physical education or health and physical education combined
			Unspecified	9th-grade social studies	American history	American government or civics	American history and government combined	State history	World history or world cultures	Problems of democracy	Economics		Unspecified	General	Laboratory science	Biology				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Alabama	16	4		½	1			½		½	½	1		1						1-2 (4 yrs.).
Alaska	16	3			1	½			1			1		1	1					½ (1 yr.).
Arizona	16	3	½		1	½						1	1							
Arkansas	16	4					1													1 (1 or 2 yrs.).
California	19–24	(1)					1½													4 (4 yrs.).
Colorado	16																			
Connecticut						(1)														
Delaware	16	4			1	½					½									(1)
Florida	20	3	1				1	(1)				1	1					2 1		2.
Georgia	18	3	2				1					1	3 1			1			4 1	0 (4 yrs.).
Hawaii	18	4	4									3 2	3 2							2.
Idaho	17	3			1	½						2	2						½	½.
Illinois	16	3					1													1.
Indiana	16	3		½	1	½						1			1				½	½ (1 yr.).
Iowa							1													0 (4 yrs.).
Kansas	17	3 4	½		1	½						1	1							1 (1 or 2 yrs.).
Kentucky	16	3	1		1							1	2							1.
Louisiana	17	3			1	1						2	2							1 (4 yrs.).
Maine	16	4			1															
Maryland	16	4	2		1							1	2							
Massachusetts	15						1	(1)												
Michigan						½														
Minnesota	3 12	4		1	1					1				1				1		0 (2 yrs.).
Mississippi	16	4			1			½				1	1							
Missouri	17	3		1			1		1			1	1				1	1		1 (4 yrs.).

Montana	16	4			1	½							2	1							
Nebraska	16																				
Nevada	16	3			1	1							1	1							1 (3 yrs.).
New Hampshire	16	4	1					1					1	1							
New Jersey	15½				2																½ (4 yrs.).
New Mexico	16	3	1					1					1				1				
New York	[7] 16 or 18	4		1	1 or 2				1				1	1						½	0 (4 yrs.).
North Carolina	16	4	1		1								1	1			1				1 (1 yr.).
North Dakota	16	3½			1				1	1			1			[8] 2					1.
Ohio	16	3	1					1					1	1							1.
Oklahoma	16	4			1								1			1					
Oregon	19	[9] 3						1			1		1	1							2.
Pennsylvania	[6] 12	4	½	1				1		½			2	1	1						1 (4 yrs.).
Rhode Island																					
South Carolina	16	4	1				(1)	1					2	1							
South Dakota	16	3	1		½	½							1			1					
Tennessee	16	4						1					1								1.
Texas	16	3	1					1					2	1							(1)
Utah	[6] [10] 15	4	1	(½				1					[11] 1	1		[4] 1			[12]	[12]	½ 1½ (3 yrs.).
Vermont	16	4	1		1								1	1							
Virginia	16	4						1	1				1			1					0 (2 yrs.).
Washington	16	3						1	½	1			1			1				[5] 1	0 (2 yrs.).
West Virginia	16	4	2		1								1				1				1 (4 yrs.).
Wisconsin																					0 (4 yrs.).
Wyoming	16							1													

[1] Instruction is required of all pupils but credit or years is not specified.
[2] Homemaking for girls.
[3] A second year of mathematics may be substituted for this course.
[4] Unless taken in the 8th grade.
[5] One unit may be waived under certain circumstances.
[6] Only the units earned in grades 10 through 12 are counted toward graduation. For comparative purposes, 9th grade subject requirements are included in this tabulation.
[7] Sixteen units for a "local" high school diploma; 18 for a Regents (State) high school diploma effective June 1961.
[8] Two units of homemaking or vocational agriculture may be substituted for 1 unit of science.
[9] All pupils must enroll in English each year. A pupil failing in 1 year of English or graduating in 3 years may graduate with only 3 units in English.
[10] Any pupil on a personal guidance basis may be exempted from meeting any one of these requirements provided the number so exempted does not exceed 5 percent of the class enrollment; any student may be exempted from meeting two of the units provided the number so exempted does not exceed 2 percent of the class enrollment.
[11] Algebra taken in the 9th grade will not meet this requirement.
[12] One unit is required in grades 7, 8, or 9.

TOTAL NUMBER OF UNITS

Over the years a total of 16 Carnegie units [2] has been the modal requirement set by State agencies for graduation from high school. Some States permitted 15, the number traditionally required for admission to the college of liberal arts of most State universities. In 1928, only one State, New Jersey, reported requiring more than 16 units.

In recent years, there has been a tendency for States to increase the total number of required units and for State universities to raise from 15 to 16 the units required for admission. Today, only two State departments require fewer than 16 units; 11 require more than 16. The following tabulation reveals changes that have taken place in 48 States since the 1928 study.

Total units required	*Number of States*	
	1928	*1961*
15	11	[1] 2
16	35	32
17 or more	1	11
No requirement	1	5

[1] One of these is 15½.

Five States—Delaware, Kentucky, New Mexico, Oklahoma, and West Virginia—presently requiring 16 units, have announced an increase in the total which will be effective for graduating classes of 1962 to 1964. New York State, which will keep the 16 units for a local high school diploma, has raised to 18 the requirement for a Regents (State) diploma.

TOTAL NUMBER OF UNITS IN AREAS OF REQUIRED SUBJECTS

Within the 15 to 20 units required for graduation, wide differences among States have existed and continue to exist in the number of units which must be earned in particular subject fields. As was seen earlier, in 11 States there are either no subject fields with units specified, or a minimum number representing legislative stipulations only. These range from ½ unit in Michigan to 2½ in New Jersey and 5½ in California, a State allowing a unit for each of 4 years of physical education. In the remaining 39 States, the number of units in specified subject fields, grades 9 through 12, ranges from 5 in Illinois and Maine, to 12 in Pennsylvania and 14 in Hawaii. The median requirement of all the States is 8 units.

Table 2 shows for the 50 States the number of Carnegie units of instruction required of all pupils in each subject area as reported for the school year 1960–61.

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[2] A Carnegie unit represents a year's study in a major subject and assumes a minimum of 120 hours of class attendance. Some States set up their requirements in terms of credits or points rather than units. For convenience in discussion, these have been translated into units.

Table 2.—Number of State departments of education, by number of Carnegie units required for high school graduation grades 9 through 12,[1] and specified subject area, 1960–61

Subject area	Number of Carnegie Units									Other [2]	No requirement
	4	3½	3	2½	2	1½	1 or 2	1	½		
1	2	3	4	5	6	7	8	9	10	11	12
English	21	1	17	.....	.....	.....	.....	.....	.....	1	10
Social studies	1	.....	9	3	19	4	.....	9	1	2	2
Mathematics	.....	.....	.....	.....	7	.....	1	26	.....	.....	16
Science	.....	.....	.....	.....	[3] 10	.....	1	23	.....	.....	16
Health and/or physical education	1	.....	.....	.....	4	.....	1	16	2	8	18
Fine or practical arts	.....	.....	.....	.....	1	.....	.....	3	.....	.....	46

[1] Includes 9th grade requirements for Minnesota, Pennsylvania, and Utah, although these States count only units earned in grades 10 through 12 to compute graduation requirements.

[2] Instruction is required but units of credit are not specified.

[3] In two States practical arts may be substituted for 1 year of science.

It will be noted that social studies is the area in which some requirement is almost universally found. It is also the area in which there is the widest difference in the number of units required, the range being from ½ unit in one State to 4 units in another, with 2 units being the number typically required. English is the subject area having the largest numbers of required units. Mathematics and science are required in an equal number of States and to almost the same extent in terms of Carnegie units.

Another way of looking at the subject-requirement picture is provided by table 3, which totals for 48 States requirements in each of the four major subject areas. The table also provides a comparison with the 1928 study and with figures for 1964 insofar as these latter were projected at the time of publication.

A trend toward increasing the number of units of required subjects is obvious in three of the fields of study—social studies, mathematics,

Table 3.—Aggregate of required units in 48 States [1]

Subject area	Total number of required units		
	1928	1961	[2] 1964
1	2	3	4
English	142.0	130.5	122.5
Social studies	47.0	85.5	87.0
Mathematics	24.0	38.0	41.0
Science	29.0	40.0	43.0

[1] Since Alaska and Hawaii were not reported in the 1928 study, these two States are not included.

[2] Based on those changes announced by State departments of education at the date of preparation of this report.

and science. In the field of English, the decrease in units since 1928 can be accounted for by the increase in the number of States now reporting no unit requirements in this field: in 1928, there were 7 States in this category; in 1961, there are 11. In other words, an observed tendency of individual States to raise the English requirement from 3 to 4 units is more than offset by the removal of any English requirement in four States.

OTHER REQUIREMENTS AND RECOMMENDATIONS

Major (3 units) and minor (2 units) sequences as a State requirement are not as prevalent as they were in the 1928 study when Jessen found that 15 States made it compulsory that pupils present a certain number of major and minor groupings for graduation. For the 1960–61 school year, 8 States—Arkansas, Indiana, Louisiana, New Mexico, New York, Ohio, South Carolina, and Tennessee—require a pattern of majors and minors. New Hampshire strongly recommends that pupils be required to pursue such sequences. One major other than English and two minors is the most frequent combination reported.

Some of the other more important requirements together with recommendations of the State departments to the local schools are listed below. Where changes in requirements will be put into effect in the next 2 or 3 years these too have been included.

Arizona.—A year of health and physical education with emphasis on health is recommended for each pupil, but not required.

California.—All pupils must receive instruction in driver education for a minimum of 30 class hours.

Delaware.—A total of 18 units will be required for 1964 graduating classes. During the period from 1960 through 1964, schools will readjust programs to include the new required subjects and credit effective for the graduating class of 1964.

English	4
Social studies	3
Mathematics	1
Science	1
Physical education	1

Georgia.—One year of health is required. This may be in whole or in part in grade 8, or in whole or in part in grades above 8.

Illinois.—Instruction in traffic safety and driver education is required in at least one of the grades 9 through 12, equivalent to 1 class period a week. It is strongly recommended that schools require both a year of American history and a semester of government, at least 1 year of mathematics, and at least 1 year of science.

Kentucky.—For pupils entering grade 9 in 1959–60, a total of 17 units is required, of which 8 are in elective subjects. For pupils entering grade 9 in 1960–61, a total of 18 units is required, of which 1 is a second year of mathematics and 8 are electives.

Maine.—A 2-year course in grades 11 and 12 in American history and government is recommended to permit ample time to comply with a law requiring instruction in the foundation of American freedoms, including the Constitution of the U.S. and that of Maine.

Maryland.—Several periods a week of health and physical education for all pupils in grades 9 through 12 are strongly recommended.

The State Department of Education suggests that, in general, pupils should present more than 16 units for graduation.

Minnesota.—The State recommends that each ninth-grade pupil be required by the local school board to take a course in mathematics. It further recommends that all senior high schools not presently requiring 15 units for graduation explore the possibility of increasing the local requirement above the State minimum of 12 units.

For pupils graduating in 1963 and thereafter, 1 unit of mathematics and 1 of science become requirements in grades 10 through 12.

Nebraska.—The State Department of Education recommends the following pattern of graduation requirements: English, 4 units; social studies, 4; mathematics, 2; science, 2; fine arts, ½; practical arts, 1; health, safety, and physical education, 1.

New Hampshire.—A total of not more than 1 unit of the 16 required for graduation may be earned in courses carrying less than 1 unit of credit and requiring less than 225 minutes of class time per week, e.g., physical education, art, music and other partial-credit courses.

New Jersey.—The completion of 76 to 84 high school credits in subjects officially approved by the State Board of Education is a requirement.

New Mexico.—Effective in 1961–62, the English requirement will be 4 units and the total number of units will be increased to 17.

North Dakota.—Instruction in safety and driver education is required.

Oklahoma.—Students graduating in 1962 and thereafter must have 18 units of high school work. Two of the 18 units may be selected from one of the following fields, or a combination of these fields: physical education, instrumental music, vocal music, yearbook staff, newspaper staff, and driver education.

Beginning with the graduating class of 1964 one-half unit of Oklahoma history will be added to the required subjects in social studies.

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South Dakota.—After July 1, 1960, the English requirement is 4 units and this will apply to the graduating class of 1962–63.

Texas.—For pupils entering ninth grade at or after the beginning of the 1958–59 school year, the requirement in social studies is increased to 2½ units and that in science to 2 units. However, 2 years of vocational courses or 2 years of a foreign language may be accepted as an alternate for 1 year of science.

Virginia.—As heretofore mentioned, effective for classes entering the eighth grade in 1959–60, Virginia will count for graduation units earned in that grade, for a total of 20 units.

West Virginia.—The number of units required for graduation is raised to 17 effective in 1962.

The State strongly suggests that a second year of mathematics be required.

Wisconsin.—The number of units of work required for graduation and the nature of those units is a matter for local schools to decide. Traditionally, schools have required 16 units for graduation. The State Department does recommend that a program of studies require the following of most pupils: English, 3 units; social studies, 3; mathematics, 1; science, 1.

IV. City School System Requirements

AS WAS pointed out previously, city school systems and local school districts generally may add to the basic requirements set by the State if they wish; that is, if the State sets 1 Carnegie unit in science as the minimum for all pupils, the city or local school district may require 2 such units. In addition, the city may specify subject requirements for each individual curriculum or program offered by schools having multiple-type curriculums. For example, a pupil electing the business education curriculum must study those subjects established as minimum essentials of that program as well as the subjects required of all pupils.

SCOPE OF THE STUDY

In 1958–59, a sampling procedure was used in a survey to determine the graduation requirements in the 232 cities with populations above 50,000 according to the 1950 Census. These 232 cities were first separated into four categories by size of populations as shown in table 4.

Because the 18 cities with populations greater than 500,000 account for one-half of the total population of the 232 cities, all cities in this group were included in the sample. The sampling ratio for the cities in the three groups of 50,000 to 499,999 was fixed to provide prac-

Table 4.—Distribution of 232 cities in sample, by population size, 1950

Size of city	Total population included in cities	Percent distribution of population	Number of cities in population group
1	2	3	4
Total	**53,942,449**	**100.0**	**232**
500,000 and over	26,591,395	49.9	18
250,000–499,999	8,241,560	15.5	22
100,000–249,999	9,475,682	17.8	65
50,000–99,999	8,930,823	16.8	126

tically an equal number of cities for each group. Again greater weight was given to the larger population groups because of the larger number of pupils represented and on the assumption that variability in requirements tends to increase with size of city. A table of random numbers was used for the selection of the cities from a listing by size in descending order. The number of cities in the sample for each population size and the sampling ratio are as follows:

Group	*Size of city*	*Number of cities in the sample*	*Sampling ratio*
I	500,000 and over	18	1:1
II	250,000–499,999	10	1:2
III	100,000–249,999	11	1:6
IV	50,000–99,999	11	1:11

In the 50 cities in the sample [4] are approximately 600 public high schools which award diplomas. They represent an estimated 1,300 public high schools in the 232 large cities and include roughly one-fifth of all pupils enrolled in grades 9 through 12 of the public schools.

The procedure used in conducting the study was, first, a request to each of the 50 school systems for a copy of its handbook or other publication listing graduation requirements. Pertinent data from these publications, received from all of the cities, were used as the basis for the preparation of a manuscript draft, which then was sent to the superintendent or director of secondary education in each of the cities for verification of reporting accuracy. Changes suggested by these school officials were incorporated in the final draft of the study.

BASES USED FOR COMPUTING UNITS

Grades 9 through 12 vs. 10 through 12.—Thirty-nine of the 50 city school systems in the study count for graduation the credits earned in all four of the grades 9 through 12. These are cities organized on the 6–3–3 basis as well as those with an 8–4 organization. The other 11 systems base credit upon work done in grades 10 through 12 only. This practice in Minneapolis schools was explained as follows: "The Minneapolis junior high schools are not on a credit basis. The senior high schools accept students whom the junior high school counselors and principals feel can benefit more educationwise in a senior high school. The accumulated record of the junior high

[4] The 50 cities are listed in the appendix.

school student including all the work he has taken accompanies him to the senior high school. If he has failed certain classes in the junior high school, these are not repeated. He is given a fresh start."

Besides the 11 cities definitely counting for graduation units earned in grades 10 through 12 only, several other cities are at some in-between stage, and could as readily be counted in the 10–12 as in the 9–12 group. Cincinnati, for example, requires that in its comprehensive high schools 13¼ units must be earned in grades 10 through 12. At the same time a specific block of ninth-grade junior high school subjects is indicated: English, mathematics, social studies or science (the one not chosen must be taken in grade 10), and physical education.

What appears to be a trend in the cities to consider only grades 10 through 12 is in part a reflection of State requirements. As previously pointed out, three States (Minnesota, Pennsylvania, and Utah) set their unit requirements in terms of grades 10 through 12. Several of the 11 cities referred to above are in these States.

Credits, points, units.—Most of the cities in the sample calculate subject-matter credit in terms of Carnegie units. A class meeting for at least five 40-minute periods each week for 36 weeks merits 1 Carnegie unit of credit, provided the class requires outside preparation. Two class periods necessitating little or no preparation outside of class are usually considered as equivalent to one period of prepared class work.

A few cities mention requirements in terms of semester credits, 2 credits equaling a full unit. Several other cities—Cleveland, Boston, Cambridge, Detroit, Jersey City, Cranston, and the six California cities in the sample—use a system of points or periods. The number and value of the points or periods vary. A Carnegie unit may be equivalent to 5, 10, or even 20 points. Thus, in Boston where 90 points are required for graduation, a point equals one-fifth of a unit; in Jersey City where 168 points are required, the point is one-tenth of a unit. Cleveland requires 320 points and explains that 20 points equal one Carnegie unit.

Boston's point system allows 5 points credit towards a diploma for a course in English with prepared work and home assignments, meeting five periods a week for the full school year. A course in physical education, meeting twice a week for the full school year, having no prepared work and home assignments, allows one point credit. In Jersey City which operates on a semiannual promotion basis, each prepared subject earns 5 points a term; health and physical education earn one-half point a term for each subject.

TOTAL NUMBER OF UNITS REQUIRED FOR GRADUATION

Among the 39 cities with graduation requirements stated for grades 9 through 12 the total number of Carnegie units established varies from 16 to 20.

Total units required	*Number of cities*
16	17
17–17½	7
18	4
19–19½	5
20	6

The 11 cities stating their unit requirements in terms of grades 10 through 12 have totals ranging from 12 to 18:

Total units required	*Number of cities*	*Names of cities*
12	2	Baltimore, Minneapolis.
13–13½	3	Philadelphia, Reading, Cedar Rapids.
14	1	York.
15	3	Long Beach, Salt Lake City, Santa Monica.
16	1	Ogden.
18	1	Oakland.

Some of the difference in total number of unit requirements is more apparent than real. By and large, cities requiring only 16 or 17 units for graduation allow not more than a total of 1 unit and frequently none for health and physical education. Those with larger total unit requirements allow more units for these subjects. For example, Buffalo, Cleveland, Columbus, Alexandria, Macon—cities with a 16-unit minimum—require 4 years of physical education but allow no credit in terms of units. The California cities having a 19-unit or higher minimum over the 4 years and, in accordance with State law, requiring an instructional period of health and physical education every day, allow a unit of credit for each of the 4 years. Houston and Portland with a 19-unit minimum and Miami and St. Petersburg with a 20-unit requirement allow 2 units for health and physical education; Washington which requires 17½ units for graduation allows 1½ units. Phoenix, with a 20-unit total, allows 4 units for electives in the fields of art, music, industrial arts, homemaking, business education, physical education, and ROTC. Atlanta's 18-unit requirement allows 2 units in the fields of physical education, military science, band, orchestra, chorus, dramatics, and art.

Several representatives of city school systems have pointed out that the minimum number of units required is frequently or usually exceeded by pupils graduating from their high schools. It was reported that 98 percent of the June 1958 graduating class in one of Buffalo's general high schools exceeded the system's 16-unit minimum by 1 to

7 units, with 3 units being the most common. These figures could probably be duplicated, or approximated, in many school systems. particularly in those with 16- or 17-unit minimums.

COMPARISON OF TOTAL UNIT REQUIREMENTS OF STATES AND CITIES

Two-thirds of the city school systems in the sample do not exceed the total unit requirements set by their respective States. Seventeen of the 50 cities, located in 12 States, do however have requirements ½ to 5 units higher than their States' minimums, as shown in table 5.

Table 5.—Comparison of unit requirements of 17 cities with those of their respective States, 1958–59

State	Total of required units	City	Total of required units	Difference in units
1	2	3	4	5
Arizona	16	Phoenix	20	4
California	19	Los Angeles	20	1
		Oakland	24	5
		Sacramento	19½	½
		San Francisco	20	1
		Santa Monica	20	1
Illinois	16	Chicago	18	2
Iowa	[1] 16	Cedar Rapids	[2] 12½	3
Kentucky	16	Louisville	18	2
Massachusetts	15	Boston	18	3
New Jersey	15½	Jersey City	16½	1½
New Mexico	16	Albuquerque	20	4
New York	16	New York City	19	3
Ohio	16	Cincinnati	19½	3½
Pennsylvania	[2] 12	York	[3] 14	1
Texas	16	Dallas	17½	1½
		Houston	19	3

[1] State recommendation.
[2] For grades 10–12. The total would be 19 if the 5½ units required in ninth grade were included.
[3] For grades 10–12.

SUBJECTS REQUIRED OF ALL PUPILS, GRADES 9 THROUGH 12

Number of years of instruction prescribed.—Subjects required of all high school pupils regardless of the curriculum or school in which they enroll are shown in table 6. In all cities, the requirements are stated for grades 9 through 12, but because ninth-grade subject requirements were not always reported in Carnegie units, the listing is in terms of *number of years* of instruction rather than number of units.

In summary, each of the 50 city school systems requires at least 3 years of English and 32 require 4 years. All city systems require at least 1 year of social studies and half require 3 to 4 years. All except four of the systems have a requirement in science, and all except three have a requirement in mathematics. Nearly one-third of the cities specify 2 years of mathematics and nearly one-third 2 years of

science. All cities but one require at least 1 year of physical education; nearly two-thirds require 4 years.

As a general rule, except for the area of social studies, the subjects for fields of study are either not specified or a choice is given from among several. City school systems usually do name the particular social studies for which pupils must enroll. As shown in table 7, one-third of the school systems allow pupils at least a limited choice from

Table 6.—Number of years of study required in subject areas for all pupils in grades 9 through 12, by 50 city school systems, 1958–59

City	English	Social studies	Mathematics	Science	Health and physical education	Practical arts	Art	Music	Other
1	2	3	4	5	6	7	8	9	10
Group I									
Baltimore	4	2	2	2	4				
Boston	3	2	1	1	1		1	1	
Buffalo	4	3½	1	1	1½				
Cincinnati	3	2	1	1	2				
Chicago	4	3	1 or 2	1 or 2	1		1	1	
Cleveland	3	3	1	1	4				
Detroit	4	3	1	1	2				
Houston	4	3	2–2½	1	4	(?)	(?)	(?)	
Los Angeles	3	2½	1½	2	4				
Milwaukee	3	1	1	1	4				
Minneapolis	4	3		½	3				
New Orleans	3	2	2	2	4				
New York	4	3½	1	1	4		1	2	
Philadelphia	4	3	2	1	4	1	1	1	
Pittsburgh	4	3	1	2	4	(?)	(?)	(?)	
St. Louis	3	3	1	1	1½	(?)	(?)	(?)	Safety and Driver Education ½.
San Francisco	3	3	1	1	4				
Washington	4	1½	1	1	4				
Group II									
Atlanta	4	3	2	2	1				
Columbus	4	3	1	2	3				
Dallas	3	2½	2	2	4				
Jersey City	4	2	1		4				
Long Beach	4	4	1	1	4				
Louisville	4	2	1	2	1	½			
Memphis	4	1	1		2				
Oakland	2	3		2	4				
Portland	4	3	1	1	2				
Toledo	3	2	1	1	4				Orientation 1.
Group III									
Cambridge	4	1	1		2				
Knoxville	4	2	1	1	1				
Miami	4	3	2	1	3	1			Human Relations ½.
Peoria	3½	1½	1	1	4				
Phoenix	3	1½	1	1					Group Guidance 1; Safety Education ½.
Reading	4	3	2	2	2		1	1	Safety Education 1.
Sacramento	3	1½		1	4				
Salt Lake City	4	2½	2	2	3	1			
South Bend	3	3	1	1	4				Guidance ½.
Syracuse	4	3	1	1	4				
Worcester	4	1	1	1	2				

See footnotes at end of table.

Table 6.—Number of years of study required in subject areas for all pupils in grades 9 through 12, by 50 city school systems, 1958–59—Continued

Cities	English	Social Studies	Mathematics	Science	Health and physical education[1]	Practical arts	Art	Music	Other
1	2	3	4	5	6	7	8	9	10
Group IV									
Albuquerque	4	2	2	2	2	.....	.....	.....	
Alexandria	4	2½	1	1	4	.....	.....	.....	
Bay City	4	2	2	1	2	.....	.....	.....	Orientation ½; Speech ½.
Cedar Rapids	3½	3½	2	2½	1[3]1½	.....	.....	.....	
Chester	4	3	1	.....	4	1	.....	.....	
Cranston	4	2	1	2	4	.....	.....	.....	
Macon	4	3	2 or 1	1 2	4	.....	.....	.....	
Ogden	4	2½	1	2	½[3]	1	.....	.....	
St. Petersburg	4	[4] 3	2	[5] 1, [6] 2	2	[5] 1	.....	.....	
Santa Monica	3	3	1	1	4	.....	.....	.....	Guidance and Driver Education ½.
York	3	3	1	1	4	.....	.....	.....	
Average (mean years)	3.7	2.5	1.2	1.2	3.2				

[1] When two numbers are reported for a city, the first refers to health as a separate subject.
[2] One year of practical arts, art, or music.
[3] Girls.
[4] The third unit may be waived if the pupil takes the second year of a foreign language.
[5] Boys.

Table 7.—Average number of units of social studies subjects required by school systems in cities of 50,000 and above in population, 1958–59

Subject	Percent of cities requiring the subject	Average number of units required
History:		
United States	100	1.04
World (early, modern, and world cultures)	84	1.00
State (taught as separate subject)	7	1.00
Civics (American government, citizenship):		
Ninth grade	22	.76
Advanced	28	.80
Problems:		
American, or of democracy	9	.94
Social, economic, or modern	4	.00
World geography	20	.86
Social studies (ninth grade)	6	1.00
Free or limited elective	38	1.30

among the social studies courses offered. It may be that the choice must be a history course, or the choice may be between world history and modern problems. There may be a choice for general-education

students but not for college-preparatory students, or the required subject may differ by curriculums.

United States history is required in every city school system studied. If the sample is representative, it is a required subject in every city of 50,000 and above in population. Another common requirement is at least one-half unit of government separate from the 1-year history course. This may be either ninth-grade civics or citizenship which is frequently the social studies subject at that level, or advanced civics often found in the twelfth grade. World history, reported as a constant by a third of the large cities, is the only other subject required by a sizable number of city school systems.

MAJOR AND MINOR SEQUENCES

In his 1928 study, Jessen wrote that the system of requiring major and minor sequences has always been inherent in differentiated curriculum organization. "More recently," he continued, "it has repeatedly issued forth as an independent principle, sometimes added to curriculums, frequently free of affiliation with them. In schools which use the major-minor plan, practice is almost universal that a major represent 3 years' and a minor 2 years' work in one department."

Approximately a third of the large city school systems in 1958–59 require major and minor sequences. The most frequently recurring pattern is one major *or* two minors. In contrast is the 1928 finding that 70 percent of the schools reporting majors and minors specified one major *and* two minors, exclusive of English.

The seeming decrease in the number of sequences required may be related to the tendency of school systems to increase the basic number of units all pupils must earn in the various fields of study. This is particularly true in the field of social studies. In many cities, social studies has become a 2- or 3-year sequence for all pupils. Required sequences then are in fields other than English or social studies. Illustrative is Chicago's practice of requiring, in addition to the 4-year sequence in English and the 3-year sequence in social studies, one 3-year or two 2-year sequences. San Francisco requires 30 semester periods (3 units) in a special interest field "except in the field of social studies where 40 semester periods shall be required and English where 45 are required. The pattern of subject matter comprising a special interest field must meet with the approval of the Office of the Superintendent."

COMPARISON OF STATE AND CITY REQUIREMENTS IN FOUR MAJOR SUBJECT AREAS

In 35 of the 50 cities in the sample, unit requirements for the four areas of English, social studies, mathematics, and science combined exceed similar requirements of their respective State departments of

education. Sixteen of these 35 cities are in States that either make no requirement in the four subject areas named (Rhode Island and Wisconsin), or have only the legal requirement of 1 or 2 units in social studies (California, Iowa, Massachusetts, Michigan, and New Jersey).

The remaining 19 cities, located in 12 States, exceed their State requirements by 1 to 6 units in the four subject areas. They require a total of 176½ units; their States require a total of 136½. Broken down into subject areas, unit requirements are as follows:

Subject area	*Aggregate of required units in 19 cities, 1958–59*	
	Cities	*Respective States*
English	70½	60
Social studies	52	42
Mathematics	27	16½
Science	27	18
Total	176½	136½

City school systems tend to exceed the requirements set by the States. The following statement from the Florida State Department of Education [8] is pertinent: "In 1957–58, more than 97 percent of all pupils in grades 9–12 in Florida were enrolled in schools where local requirements must be met for graduation which exceed those set by the State Board of Education." The State Board has set a total of 20 units for graduation, of which 10 for girls and 9 for boys are in specified subjects.

COMPARISON OF REQUIREMENTS IN MAJOR SUBJECT AREAS OF SOME SELECTED CITIES NOW AND 30 YEARS AGO

Among the 12 cities included in the 1928 study are 8 which are a part of the present study. Table 8 lists the requirements for these cities as reported in 1928 and in 1959. With two exceptions, every change in the 30-year period in the number of units required in any of the subject fields has represented an increase.

REQUIREMENTS OF THE COLLEGE-PREPARATORY CURRICULUM

Among the 50 cities surveyed, 26 have adopted a single constants-with-variables curriculum and 24 provide for multiple-type curriculums in their schools. That is, the schools set up a pattern of required subjects (including of course those subjects required of all pupils), frequently accompanied by a suggested list of electives, for each of several curriculums. The most common curriculums found in the schools are the general, college preparatory, business education,

[8] Florida School Facts. *Florida School Bulletin*, December 1958. p. 38.

Table 8.—Units of required subjects in major subject areas as reported by 8 cities in 1928 and in 1959

City	Number of units required							
	English		Social studies		Mathematics		Science	
	1928	1959	1928	1959	1928	1959	1928	1959
1	2	3	4	5	6	7	8	9
Chicago	3½	4	1½	3	1	[1]	1	[1] 2
Cincinnati	4	3	1½	2		2		1
Detroit	4	4	3	3		1		1
Milwaukee	2	3	1	1		1		1
Minneapolis	4	4	2½	3				1
New York	4	4	3	3½		1		1
Philadelphia	3½	4	2	3	1	2	1	1
Washington [2]	4	4	1	1½	1	1	1	1

[1] See table 6.
[2] Washington in 1928 also required 2 years of a foreign language.

and vocational. Each of the 24 school systems reports a college preparatory curriculum and 10 of these break this down into types as shown below:

Phoenix.—Engineering and science, medicine and dentistry, nursing, law and government, agriculture, art and decoration, homemaking
Philadelphia.—Academic, art, commercial, home economics, industrial arts, music
Baltimore.—Academic, technical, business, art, music
Knoxville.—Government and law, science, literary, music, art
Boston.—Liberal arts, engineering, business, agriculture
Buffalo.—Language, science, mathematics
Milwaukee.—Liberal arts, science, mathematics
Pittsburgh.—Standard, mathematics and science, language
Houston.—Liberal arts, science and mathematics
Macon.—Literary, scientific

Since it is not feasible in this document to list the requirements for all of the different college-preparatory curriculums, table 9 itemizes for each of the 24 systems the major subject requirements for the curriculum which is most nearly academic in nature. If the science or preengineering curriculums rather than the academic had been selected, units of required work would spread themselves differently.

College-preparatory curriculums in the 24 city school systems are similar in their overall coverage. Variations do occur in the number of units required in all subjects except English, in which 4 years of study is general practice. For the other subject fields, the numbers of units most frequently required are 3 of social studies, 2 of mathematics, 1 or 2 of science, and 2 of foreign language.

Table 9.—Major-subject requirements of the college-preparatory curriculum, in units, grades 9 through 12, in 24 city school systems having multiple-type curriculums [1]

City	Subject area					Other requirements or limitations
	English	Social studies	Mathematics	Science	Foreign language	
1	2	3	4	5	6	7
Group I						
Baltimore	4	2	2	2	2	Restricted electives.
Boston	4	2	3	1	2	
Buffalo	4	3½	2½-3	1	2-3	
Cleveland	4	3	1	1	.....	Two 2-year sequences are required.
Detroit	4	3	[2] 2	[2] 2	[2] 2	
Houston	4	3	3	2	2	
Milwaukee	3	1	1	1	.....	One additional 3-year and two 2-year sequences are required.
New York	4	3½	2	2	2	An additional unit in science, mathematics, or foreign language is required.
Philadelphia	4	3	2	1	2	Four additional units must be selected from the following: Foreign language, physics, chemistry, algebra, advanced mathematics.
Pittsburgh (standard option)	4	3	2	2	2	Restricted electives.
St. Louis	4	3	2	2	2	
Washington	4	1½	2	2	2	
Group II						
Jersey City	4	3	3	1	2	
Louisville	4	2	2	2	2	A 3-year sequence in a field other than English must be completed.
Group III						
Cambridge	4	2	2	1	2	
Knoxville	4	2	2	1	.....	
Phoenix	4	1½	2	1	2	
Reading	4	4	2	2	.....	At least 4 additional units from the fields of foreign language, mathematics, and/or science.
Group IV						
Albuquerque	4	3	3	3	2	
Chester	4	3	2	.....	.....	
Cranston	4	2	3	2	2	
Macon	4	3	3	1	4	Restricted electives.
Santa Monica	3	3	2	1	2	
York	4	3	3	2	2	Those who take only one foreign language must elect another year of science in the 11th or 12th grade.
Average (mean unit).	3.9	2.6	2.3	1.5	1.7	

[1] When more than one type of college-preparatory curriculum is offered, the academic or liberal arts course, or the one most nearly like this, is selected for inclusion in the table.

[2] Two-year sequences are required in only two of the three fields of mathematics, science, and foreign language.

V. Diplomas—One or Several

IN GENERAL, school systems award the same type of diploma to all graduates regardless of their field of study. The diploma marks the completion of the high school years. For further information about an individual pupil's program and progress, a prospective employer, like the college admissions officer, may obtain a transcript of credits he earned in the high school and may consult the school's principal as to certain other qualifications.

To make the diploma itself more meaningful, a number of the school systems included in this study issue a different diploma for each of two or more major types of curriculums or endorse the diploma for a specific field of study. Two State departments of education, Delaware and Maryland, have for many years required the use of differentiated diplomas in all their high schools. This year Delaware has abandoned the practice and is issuing the same diploma to all pupils. In California, the use of differentiated diplomas is reported to be illegal. In 1957, the Texas State Department of Education ruled against the granting of differentiated diplomas.

The use of differentiated diplomas is of very long standing in some of the city school systems included in this study; very recent in others. Table 10 indicates that at least two systems introduced the practice about the turn of the century. It shows that three others are just starting.

Worcester, one of the school systems in this study, is considering the use of differentiated diplomas. Under a program adopted tentatively by the Minneapolis Board of Education in the spring of 1959, three different types of diplomas are contemplated to record the quality of work done. One diploma will give special recognition for honors qualifications, a second will be the regular diploma, and a third will recognize the completion of only minimum requirements.

Table 10.—City school systems that now or in the past have issued differentiated diplomas

City	When introduced	Currently in use	Practice abandoned
1	2	3	4
Atlanta			X
Baltimore	1901	X	
Buffalo	1936	X	
Cambridge			X
Chicago (vocational only)	1944	X	
Cincinnati			X
Jersey City	More than 35 years ago	X	
Knoxville (trade schools only)			X
New York	"Long ago"	X	
Philadelphia	More than 60 years ago	X	
Pittsburgh	1938	X	
Portland	1939	X	
St. Louis			X
St. Petersburg	1938	X	
Toledo (vocational schools only)		X	
York	1941	X	

VI. Concluding Statement

> High schools are often criticized as offering too much and requiring too little. There is an unfortunate notion abroad in the United States that the pupil after an easeful sojourn of four years in high school finds himself catapulted out of an environment of soft pedagogy into a world of hard facts and that he is fortified for this encounter only by a beribboned diploma certifying completion of a course consisting chiefly of fads, frills, and fine feathers. . . . The charge that the average pupil may skirt along the fringes of the curriculum, always taking "snap" courses, is not warranted by present facts. . . . If the central tendencies are accepted as typical, the high-school pupil presents for graduation 16 semester credits of constants and in addition completion of a definite curriculum, or one major and two minors aside from English, or both. Free election is thus limited to one-fourth or less of the pupil's work; if the elective system is worth retaining at all, it would seem that it should be allowed to operate to this extent.

This was the introduction to the concluding statement in the 1928 study. The same criticism can still be heard today when groups are discussing the schools, even though, as this report shows, the total number of required units and the number of units within subject areas have been increased.

Whereas in 1928 the total number of units required for graduation by State departments of education tended to be 15 or 16, in 1961 it is 16 and above. The aggregate of required units in the four major subject areas of English, social studies, mathematics, and science in the 48 States in 1928 was 252 units; for these same States in 1961, it is 294.

There are noticeable differences in the percentage of increase in the number of required units in each of the major subject fields. Social studies with an increase of 82 percent is by far the largest. Science requirements have increased 38 percent and mathematics 12 percent. These increases are partially offset by a 9 percent decrease at the State level in the total English requirement.

Added to the State requirements are those of the local school system. In large city school systems, the basic required subjects or constants count for a full half of the student's program. Most frequently required of all pupils are 4 years of English, 2 to 3 years of social studies, 1 year of mathematics, 1 year of science, and 4 years of health and physical education.

Besides these basic requirements, many large cities have established additional requirements for each of several curriculums, such as business education and college preparatory, and/or they have set up sequences of majors and minors requiring the student to concentrate in one or more subject fields.

While available data do not permit the drawing of exact comparisons with the 1928 data, it would seem that a pupil's opportunity to choose freely from electives in the high schools of many large city school systems is something less than it was 30 years ago.

Appendix

Cities drawn in the sample are listed below in the categories and in the rank order in which they fell in the 1950 Census. Doubtless a number of cities would be differently placed if 1960 Census figures had been available at the time the study was made. Some States are not represented in the 50 cities; some have two or more of their cities included. These latter are populous States in the northeastern quarter of the United States and in California.

Group I. 500,000 and over

New York, N.Y.
Chicago, Ill.
Philadelphia, Pa.
Los Angeles, Calif.
Detroit, Mich.
Baltimore, Md.
Cleveland, Ohio
St. Louis, Mo.
Washington, D.C.
Boston, Mass.
San Francisco, Calif.
Pittsburgh, Pa.
Milwaukee, Wis.
Houston, Tex.
Buffalo, N.Y.
New Orleans, La.
Minneapolis, Minn.
Cincinnati, Ohio

Group II. 250,000–499,999

Dallas, Tex.
Memphis, Tenn.
Oakland, Calif.
Columbus, Ohio
Portland, Oreg.
Louisville, Ky.
Atlanta, Ga.
Toledo, Ohio
Jersey City, N.J.
Long Beach, Calif.

Group III. 100,000–249,999

Miami, Fla.
Syracuse, N.Y.
Worcester, Mass.
Salt Lake City, Utah
Sacramento, Calif.
Knoxville, Tenn.
Cambridge, Mass.
South Bend, Ind.
Peoria, Ill.
Reading, Pa.
Phoenix, Ariz.

Group IV. 50,000–99,999

Santa Monica, Calif.
St. Petersburg, Fla.
Macon, Ga.
Cedar Rapids, Iowa
Bay City, Mich.
Albuquerque, N. Mex.
Chester, Pa.
York, Pa.
Cranston, R.I.
Ogden, Utah
Alexandria, Va.

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