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REQUIREMENTS FOR THE BACCALAUREATE DEGREE IN INDUSTRIAL ARTS EDUCATION IN TWENTY FIVE COLLEGES AND UNIVERSITIES

Dempsey Logan Walker

Kansas State Teachers College of Pittsburg

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REQUIREMENTS FOR THE BACCALAUREATE DEGREE
IN INDUSTRIAL ARTS EDUCATION
IN TWENTY FIVE COLLEGES AND UNIVERSITIES

A Thesis Submitted to the Graduate Division in Partial
Fulfillment of the Requirements for the
Degree of Master of Science

APPROVED:

02859858

Thesis adviser

By

Chairman of Thesis

Dempsey Logan Walker

Chairman of Graduate

176

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KANSAS STATE TEACHERS COLLEGE

Pittsburg, Kansas

July, 1955

INDUSTRIAL EDUCATION
and ART DEPT.
Kansas State Teachers College
Pittsburg, Kansas

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ABSTRACT

This study was planned to determine the requirements for the baccalaureate degree in industrial arts education in several teacher training institutions in the United States, to discover in what ways they were similar and how they differed.

Data for this study were obtained through perusal of the catalogs of the institutions considered. The survey revealed wide differences in the various requirements. Total requirements for the degree and education were the only items in which the school requiring the maximum number of hours did not require more than double the number of hours required by the school with the minimum requirements.

It was recommended that further studies be made to develop criteria by which these various curricula may be judged.

CHAPTER I

INTRODUCTION

Statement of the Problem

Many colleges and universities in the United States offer curricula which lead to the baccalaureate degree in industrial arts education. This degree is given various names by the several institutions but it is essentially the same degree as it qualifies the holder to teach industrial arts in the state in which it is given. Each of these institutions has minimum standards which must be met to qualify for this degree. In most cases the degree requirements are tailored to meet the state certification requirements.

This study was made in an attempt to discover what these minimum requirements were, to what extent they were similar, and to what extent they were different.

Need for the Study

A survey of the literature in the field revealed that the only similar study was made by Fryklund¹ in 1941. Curriculum planners, faculty members in industrial arts, and prospective students of industrial arts need

¹Verne C. Fryklund, "Industrial Arts Teacher Education in the United States" (National Association of Industrial Teacher-Trainers Bulletin, No. 2, 1941, Bloomington, Illinois), pp. 112

to know what is generally considered to be a good program in industrial arts. They need to know what changes are being made and what other schools are doing in the field.

If rapid progress is to be made in the field of industrial arts, schools must know what their contemporaries are doing that they may share their successes and avoid their mistakes. This study was designed to be a small step in that direction.

Purpose of the Study

It has been the purpose of this study to examine the curricula of several institutions which offer a degree in industrial arts education with a view toward discovering the attributes of an industrial arts curriculum that are generally considered essential.

Departures from the usual have been noted in order that a later study might observe whether they have grown.

It is hoped that this report will enable the reader with limited reading time to gain an insight into the industrial arts programs of the several schools without the tedious task of examining the catalogs.

Limitations of the Study

This study is limited to a discussion of the requirements for the baccalaureate degree in industrial arts education in twenty five arbitrarily selected teacher training institutions. The mean requirements of these

schools may not coincide with the mean for all industrial arts schools in the United States as many of the schools included in this survey are noted for their strong program in industrial arts.

Method of Research

The data for this report were obtained by the perusal of the catalogs and bulletins of the schools considered.

A postcard requesting a copy of their current catalog was mailed to the registrar of each of twenty-eight colleges and universities in the United States that were known to offer work in industrial arts. Responses were received from twenty-six of these schools; however, two of the responses did not contain information that was usable in this study. One additional catalog was borrowed from the registrar's office at Kansas State Teachers College, Pittsburg, Kansas to make a total of twenty five.

Where no definite statements as to the requirements were made, the sample curricula were perused and the data extracted. It is realized that some deviation from these sample curricula is permitted in many institutions, but, as they surely represent the thinking of the curriculum planners as to what is the desirable curriculum, it is felt that the information thus obtained is valid.

The data were examined statistically and analytically and are presented in graphic and tabular form.

Definitions

In order that misunderstandings may not arise due to the use of terms of a polemical nature such terms are defined for the purpose of this study:

Education: "A general term for the so-called "technical" or more specifically classified professional courses offered in higher institutions for the preparation of teachers and relating directly to educational psychology, philosophy and history of education, curriculum, special and general methods, instruction, administration, supervision, etc.;"¹

General Education: "A broad type of education aimed at developing attitudes, abilities, and behavior considered desirable by society but not necessarily preparing the learner for specific types of vocational or avocational pursuits,"¹

Humanities: "A term used today by many colleges in the United States to designate new comprehensive courses in literature, language, art, philosophy, religion and history."¹

Social Science: "The branch of knowledge that deals with human society or its characteristic elements, as family, state, or race, and with the relations and institutions involved in man's existence and well-being as a member of an organized community."¹

¹Carter V. Good, Editor, Dictionary of Education, New York: McGraw-Hill Book Co., Inc., 1945

Organization of the Report

The remainder of this report has been divided into three parts. Chapter II consists of a discussion of the industrial arts curricula of the individual schools. In Chapter III the curricula are treated in a collective manner with mean, median, and modal requirements given. The summary and recommendations make up the final chapter.

CHAPTER II

REQUIREMENTS OF INDIVIDUAL INSTITUTIONS FOR THE BACCALAUREATE DEGREE IN INDUSTRIAL ARTS

In determining the requirements for the bachelor's degree in industrial arts education it is necessary to determine the requirements in general education, education, and scholarship as well as the requirements in the department of industrial arts.

Classification of Courses

As the names given by the several colleges to their courses differ widely, an explanation of the procedure by which they were all fitted to the same mold seems appropriate. Four basic divisions were made of each curriculum: industrial arts major, general education, education, and electives.

Under the heading, industrial arts major, are included all courses that are required for a major in the field whether they are offered by the department of industrial arts or by some other department, such as the college of engineering, as is the case in some universities.

The courses of a professional nature that deal with the principles and practice of teaching are listed under the heading, education.

General education includes English, humanities and fine arts, social science, natural science, physical education and health, and military science.

The remainder of the total requirements were listed under electives. The term, electives, should not be taken to mean free electives. In most cases the student must select his electives with the help of an adviser and must include in them courses that will do one or more of the following: bolster weaknesses, fulfill certification requirements, or qualify him for teaching in one or more minor fields.

Scholarship

It is not considered desirable to list the scholarship requirements of each individual institution as all require scholarship of average or very nearly average quality. Most schools require work of average or slightly above average quality in the major field. The University of Missouri, who uses an "M", is the only school included in this study that does not use "C" to represent work of an average quality.

Miscellaneous Requirements

Although all schools have requirements which pertain to residence, health, character, and payment of fees requirements of this nature are not considered in this study.

Description of Figures

Figures one through twenty-five show the course requirements in the twenty-five schools considered in this survey. A "wheel" or "cut-pie" graph was chosen as the medium for presenting these data as it gives a good quantitative picture of the course requirements. This graph consists of three concentric circles divided to show the relative quantity of each requirement. The "hub" of the graph shows the total requirements for the degree in semester hours (SH) or in quarter hours (QH). Seven schools considered in this report operate on the quarter plan while the remainder operate on the semester plan. A quarter hour is defined as being equal to two-thirds of a semester hour.¹ Included in the "spoke" area of the graph are the four basic divisions: Industrial arts major, education, general education, and electives. The "tire" area of the graph shows further subdivisions of these four basic divisions.

General education is subdivided to show the requirements in English, which includes rhetoric and speech; humanities and social science (Hum. & S.S.); natural science, which includes biological science, physical science, and mathematics; and physical education and military science (PE & MS), which were offered as an integrated course in some schools. As some schools did not specify all the

¹Infra, p. 38

courses to fulfill the general education requirement a blank space will be found on some of the graphs.

Drafting is the only individual subject that is listed for all the industrial arts majors inasmuch as it is the only universal requirement. General shop, a subject of considerable interest, is listed wherever it is required. Many schools specify a number of fields in which work must be done but allow considerable freedom in the choice of these fields; therefore, only the number of fields in which work is required is listed. The fields include: drafting, woodworking, metalworking, electricity, automobile mechanics, mechanics, graphic arts, photography, audio visual, crafts, and building construction. Some of the institutions do not offer work in all these fields.

The education requirements are subdivided to show practice teaching (PT). Practice teaching was singled out for listing because of the wide differences in requirements in this course. The practice teaching requirements and the manner in which they are administered could be a study in itself. The definition of the word, education, describes fairly well the remainder of the requirements in education. The remaining subjects in education fit loosely the following categories: psychology, methods of teaching, guidance, and school organization. As nearly as can be determined from the course descriptions in the catalogs, these requirements are similar in all institutions.

Although the term, electives, means more than just

enough additional hours to fill out the requirements for the degree, insufficient data were available in the catalogs to enable them to be further subdivided. As was stated earlier in this report, they must be selected with the help of an adviser with a view toward rounding out the student's program.

Figure 1, page 11, shows the requirements at Greeley. The center circle shows the total requirement to be 186 quarter hours. The four dark "spokes" divide the requirements into four categories. The requirement for an industrial arts major is forty-eight quarter hours which is 25.8 per cent of the total curriculum, and, as is shown in the outer ring, ten quarter hours of drafting is required. Also indicated in the outer ring is the number of fields in which work must be done. The education requirement is thirty-one quarter hours which is 16.7 per cent of the total requirement. Eight hours of practice teaching is required. The remainder of the graph may be interpreted similarly. The prominent feature of this curriculum is the large number of electives. This indicates considerable flexibility.

To avoid boring the reader, only prominent features of the curricula shown in Figures 2 through 25 have been noted. As they are constructed similar to Figure 1, they should not be difficult to interpret. The mean of the twenty-five curricula is shown in Figure 26, page 40.

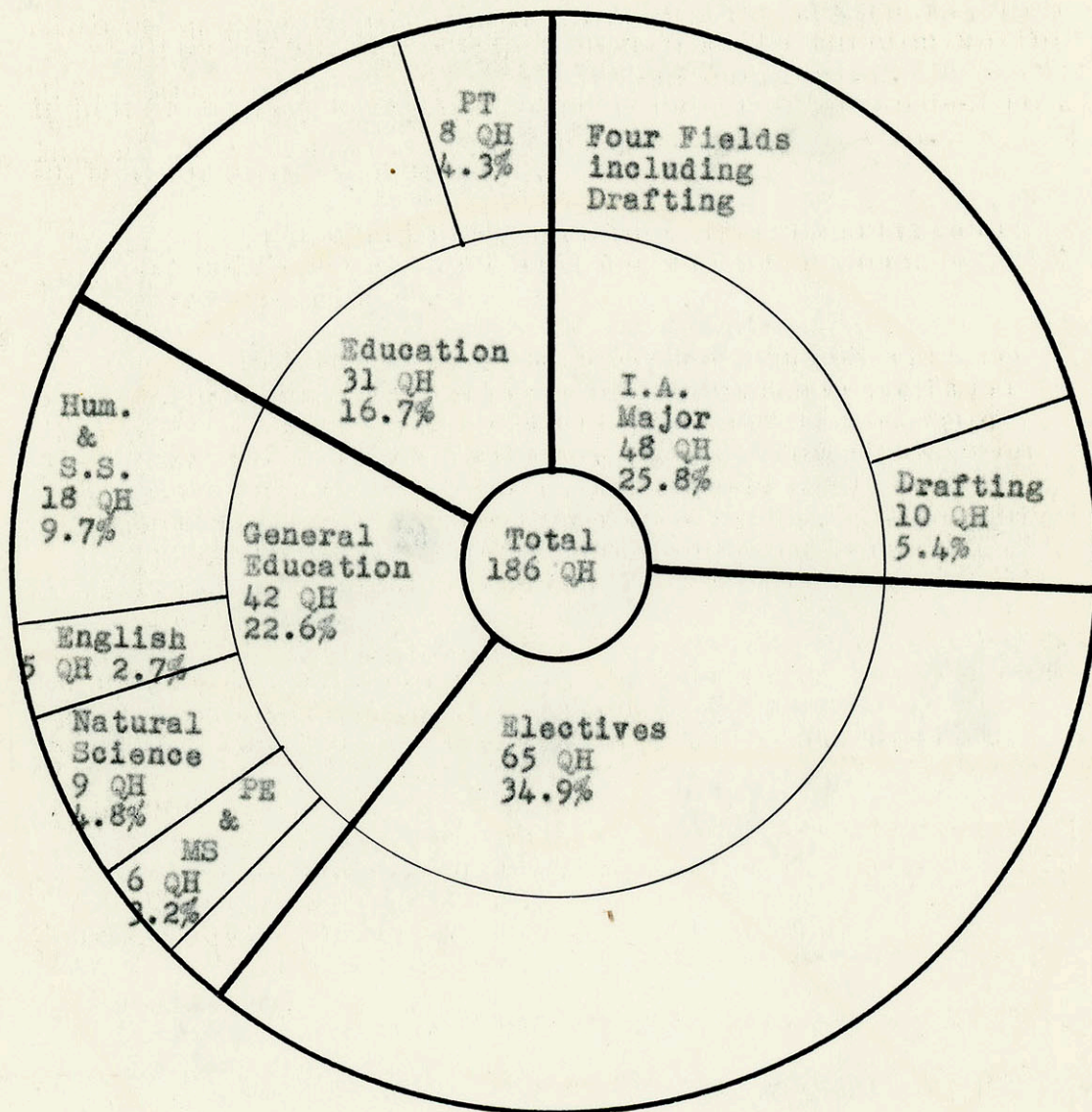


Figure 1

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Colorado State College of Education, Greeley, Colorado

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Santa Barbara's requirement in general education is third highest of the twenty-five schools. Figure 2 shows that 41.3 per cent of the total is general education.

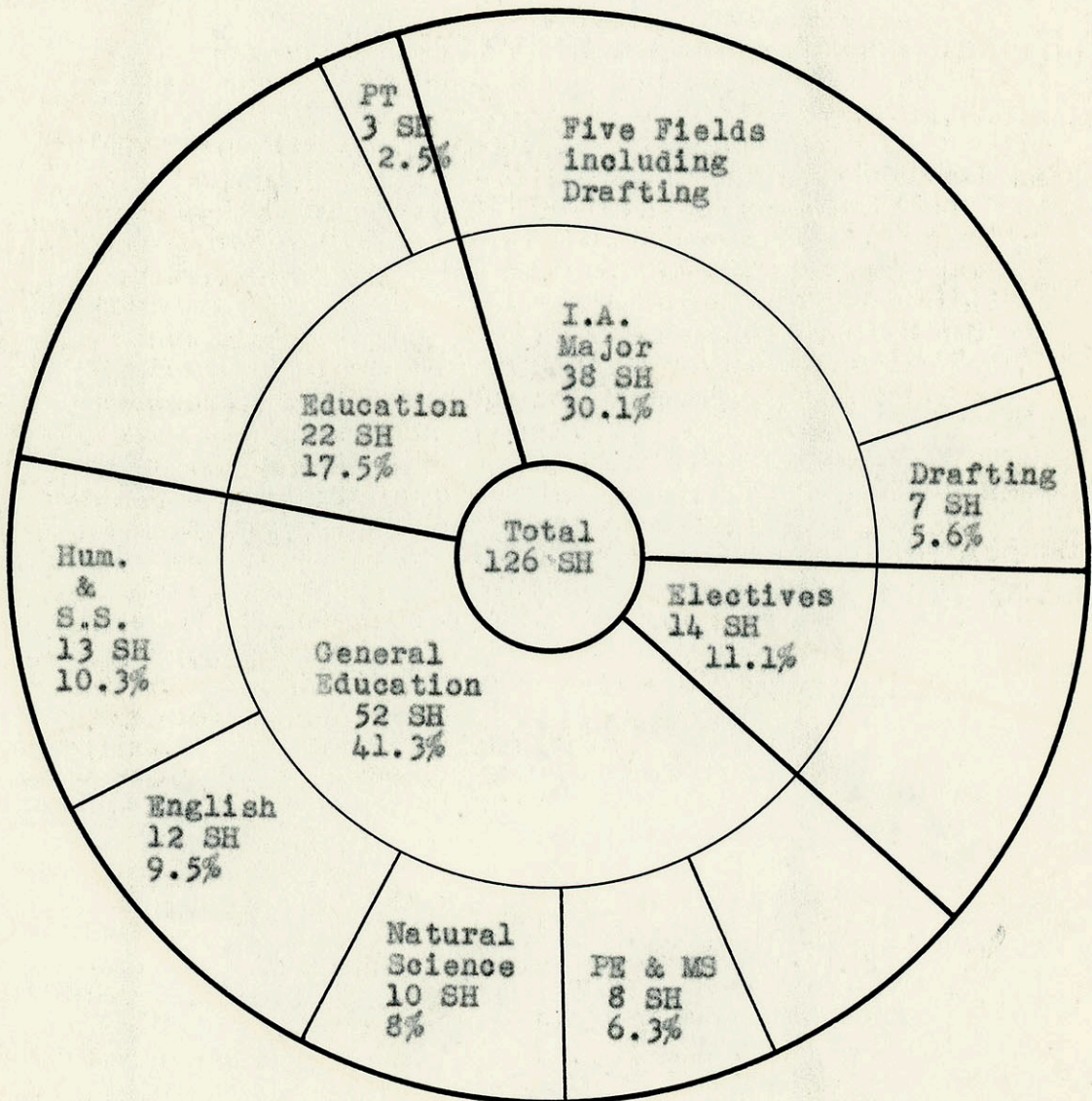


Figure 2

Requirements for the Baccalaureate Degree in
Industrial Arts Education, University of California,
Santa Barbara College, Santa Barbara, California

The requirements in practice teaching, general shop, and natural science which are shown in Figure 3 are the highest in these areas of any of the twenty-five schools.

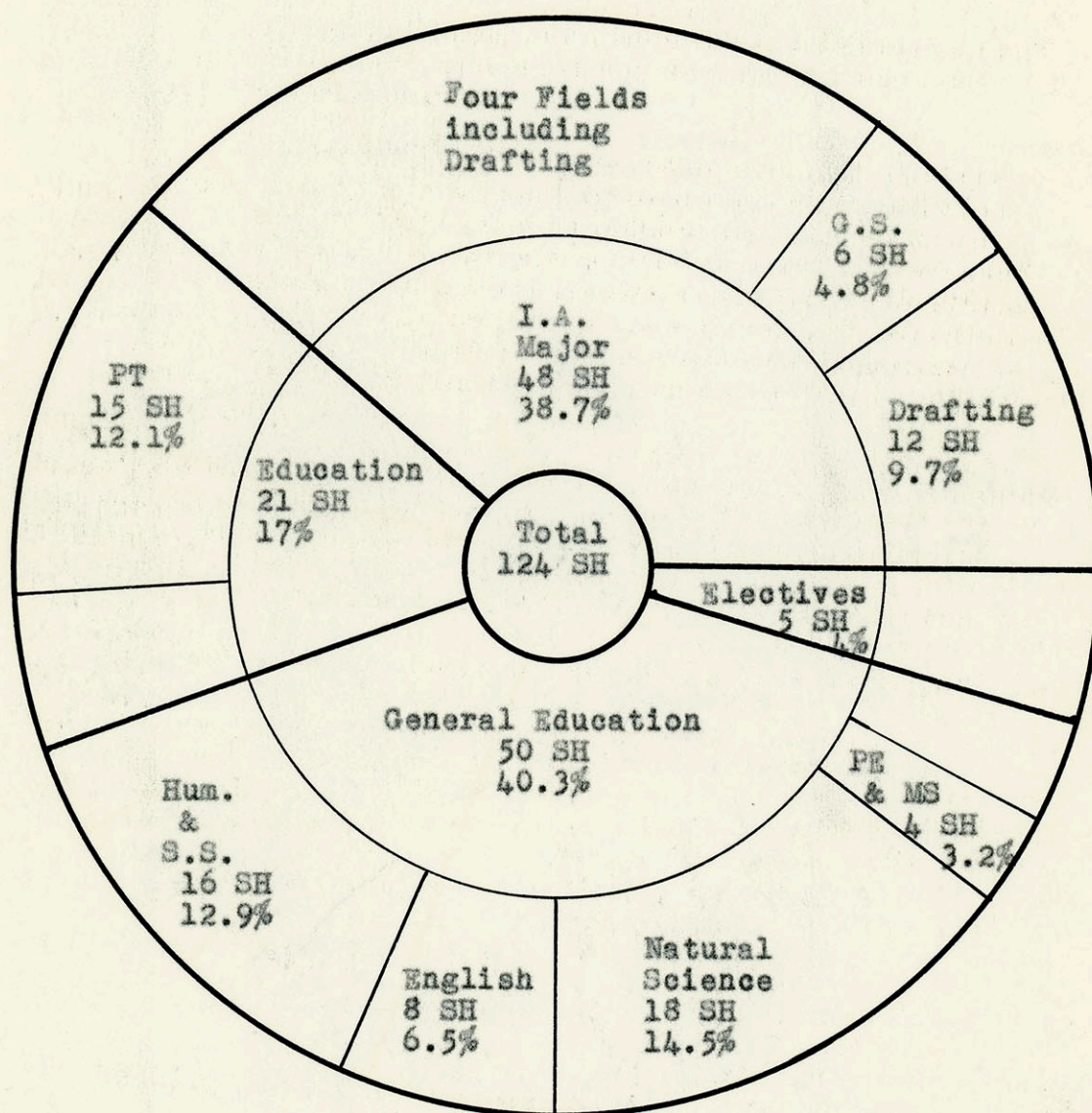


Figure 3

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at the University of Florida, Gainesville, Florida

Bradley's curriculum, shown in Figure 4, requires only twenty-nine hours of general education and leaves considerable flexibility by allowing thirty-eight hours of electives.

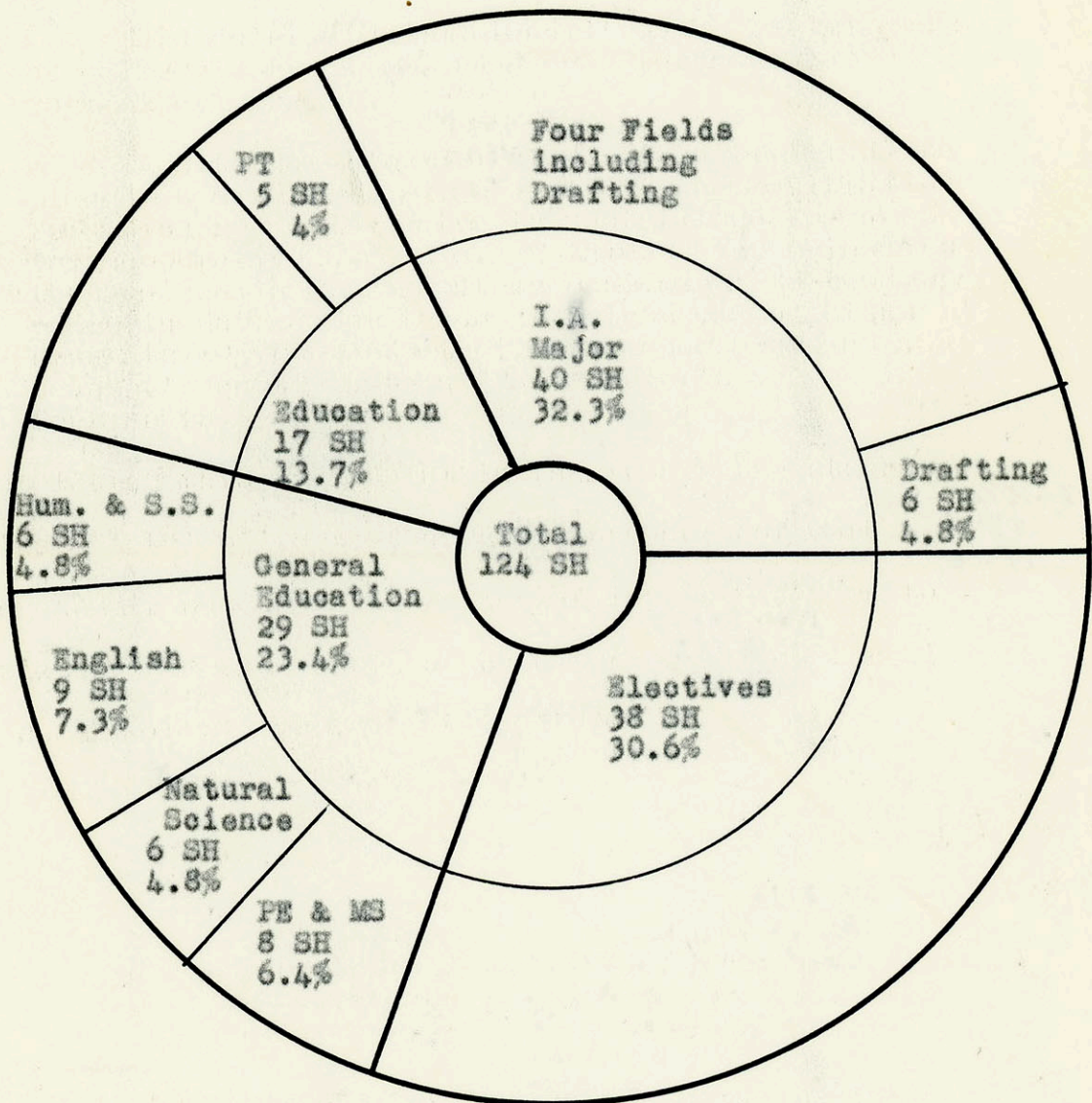


Figure 4

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Bradley University, Peoria, Illinois

Carbondale offers a curriculum that is similar to the mean of the twenty-five schools. Comparision of Figure 5 with Figure 26, page 40, will show this.

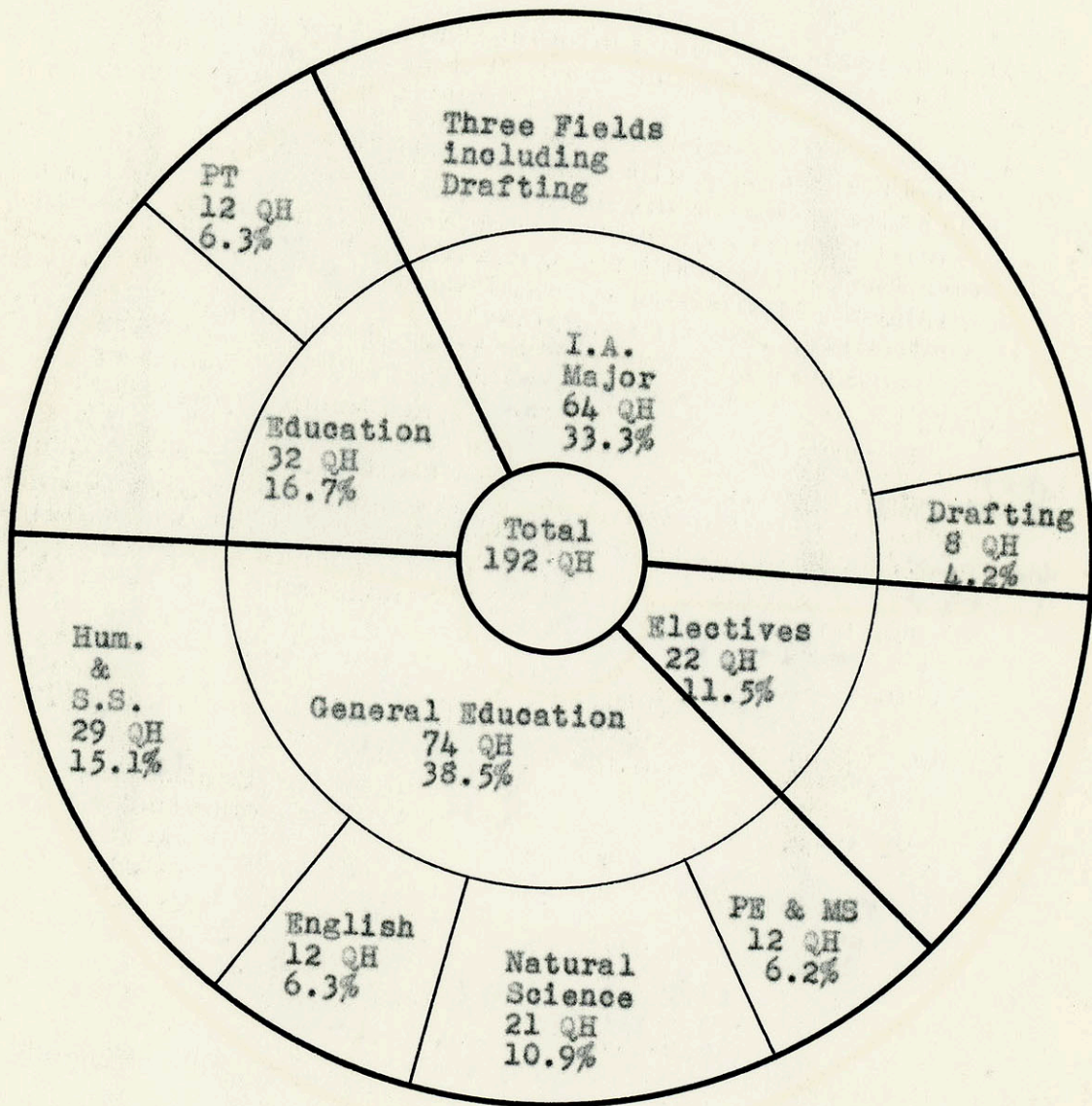


Figure 5

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Southern Illinois University, Carbondale, Illinois

The University of Illinois' 134 semester hour total requirement is second highest of the twenty-five schools. This is also true of the fifty-seven hour general education requirement. Figure 6 shows these requirements.

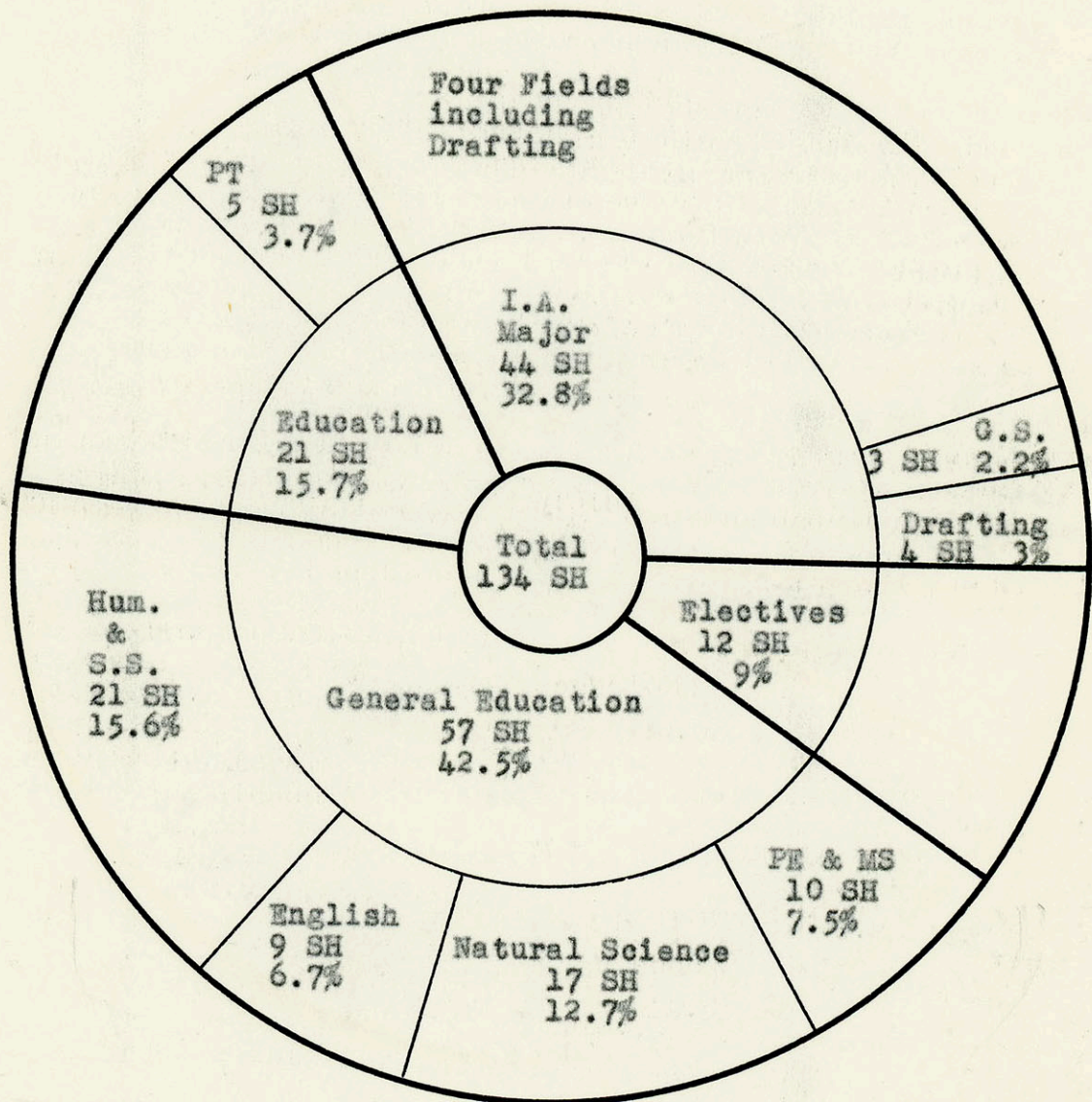


Figure 6

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at the University of Illinois, Urbana, Illinois

Figure 7 shows that Ball State devotes 44.8 per cent of its curriculum to general education; however, this is done at the expense of electives which are often used in this field.

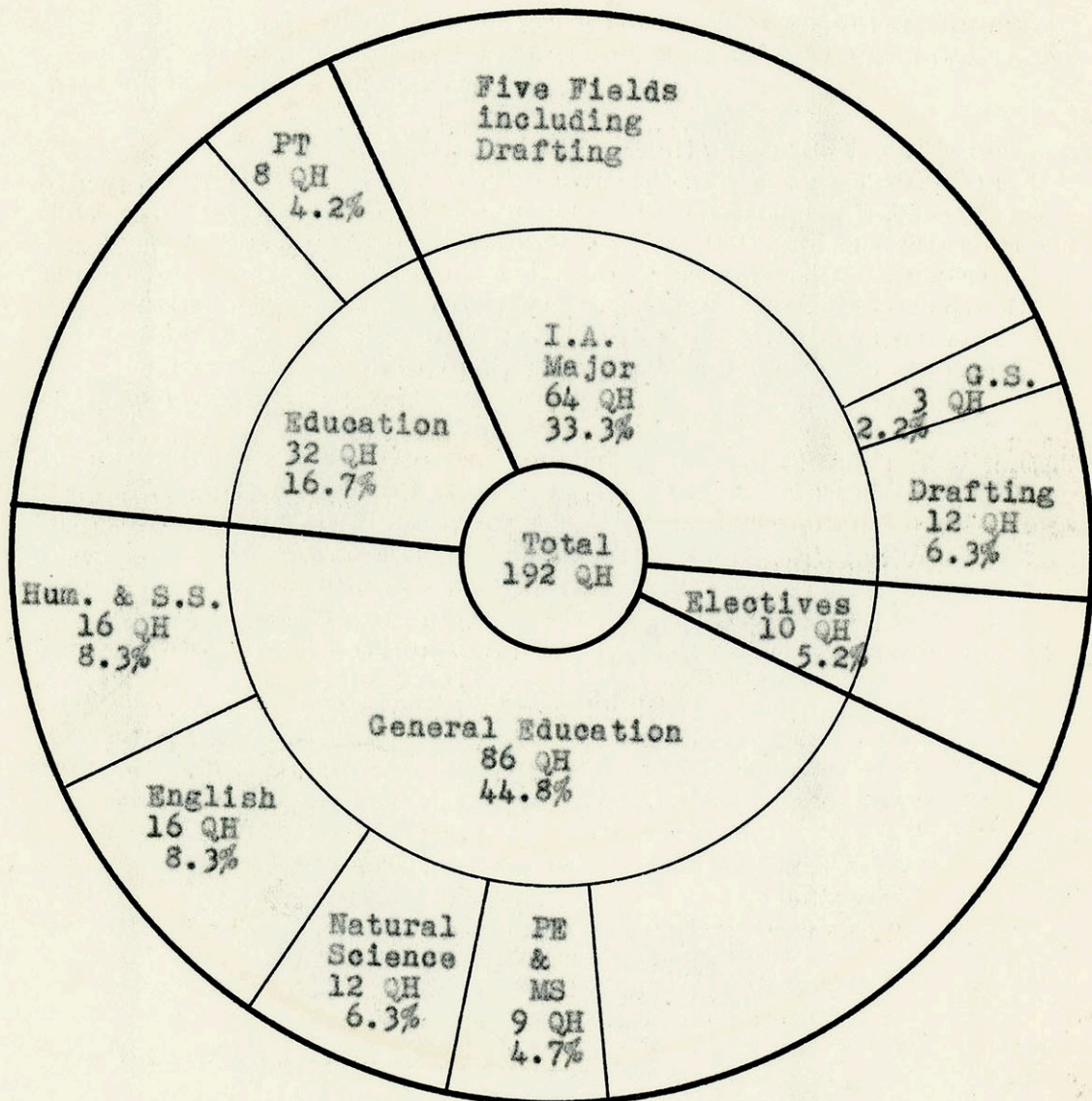


Figure 7

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Ball State Teachers College, Muncie, Indiana

Cedar Falls' requirement of only forty-five quarter (thirty semester) hours for an industrial arts major, as is shown in Figure 8, must include work in five fields.

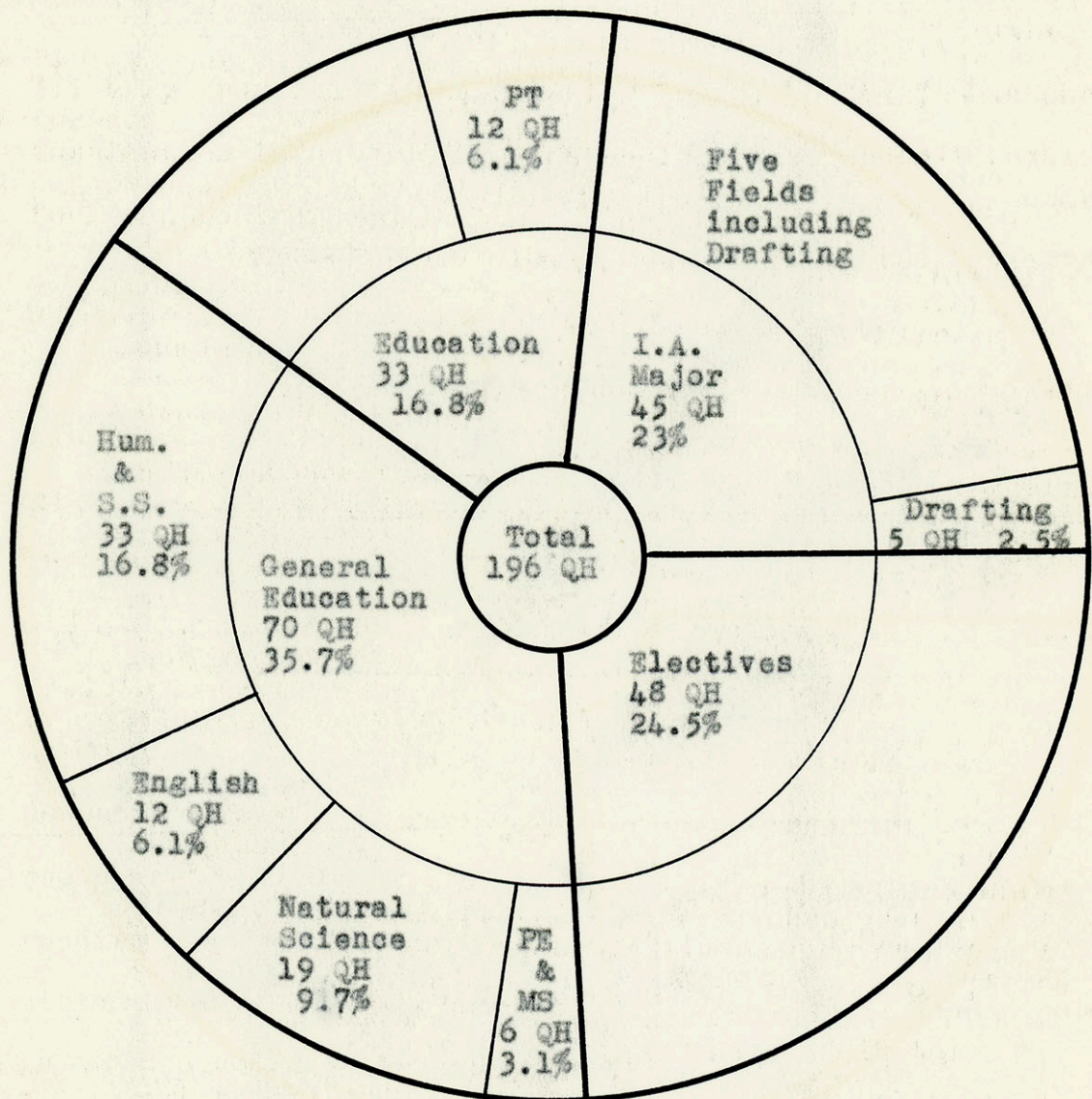


Figure 8

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Iowa State Teachers College, Cedar Falls, Iowa

Pittsburg makes the major divisions very similar to Cedar Falls. Only thirty semester hours with work in at least four fields is required for the major. Included in this thirty hours, as is shown in Figure 9, is a three hour general shop requirement.

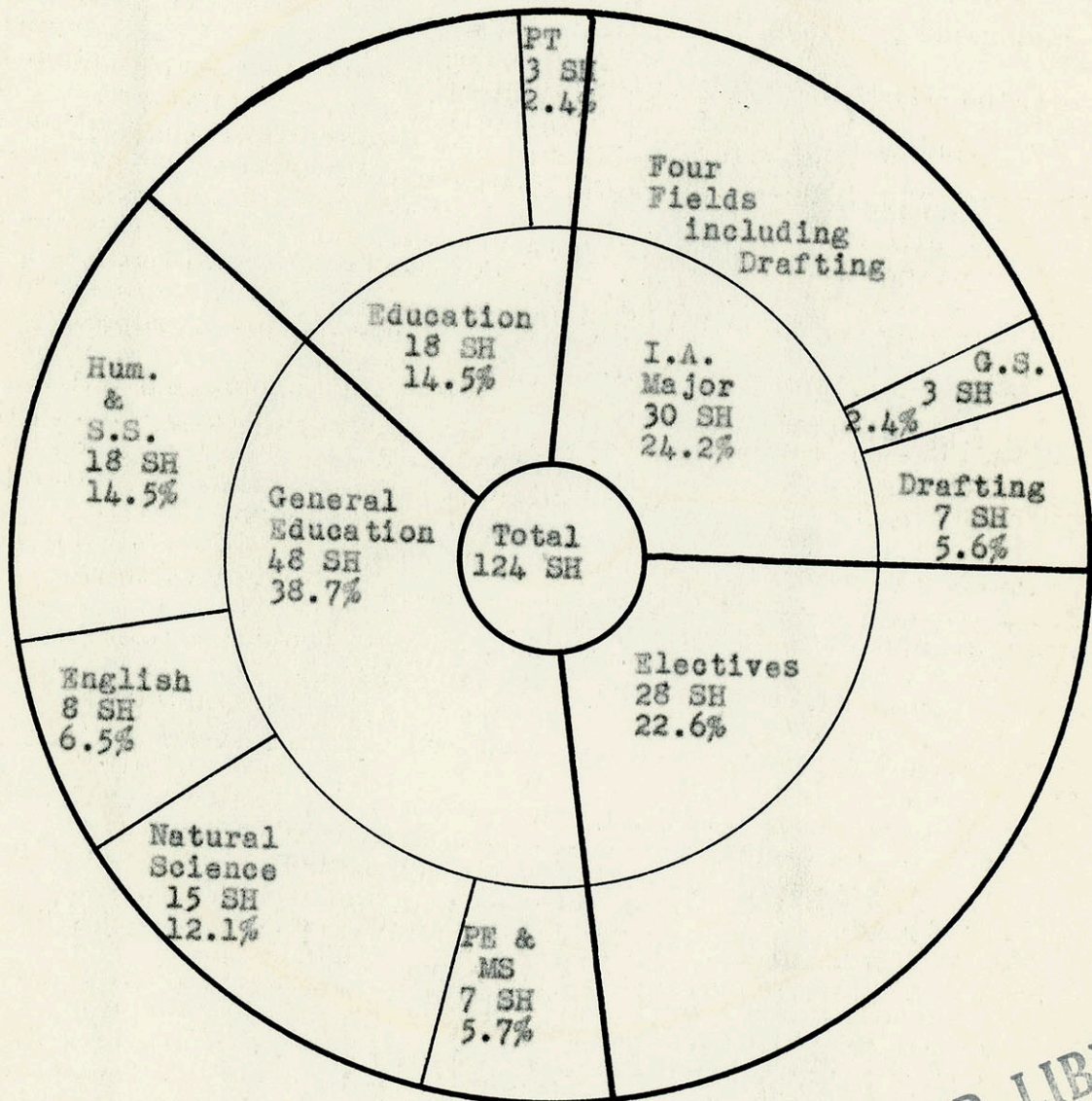


Figure 9

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Kansas State Teachers College, Pittsburg, Kansas

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Bowling Green's curriculum, Figure 10, compares favorably with the mean curriculum, page 39. There are no extremes in any department.

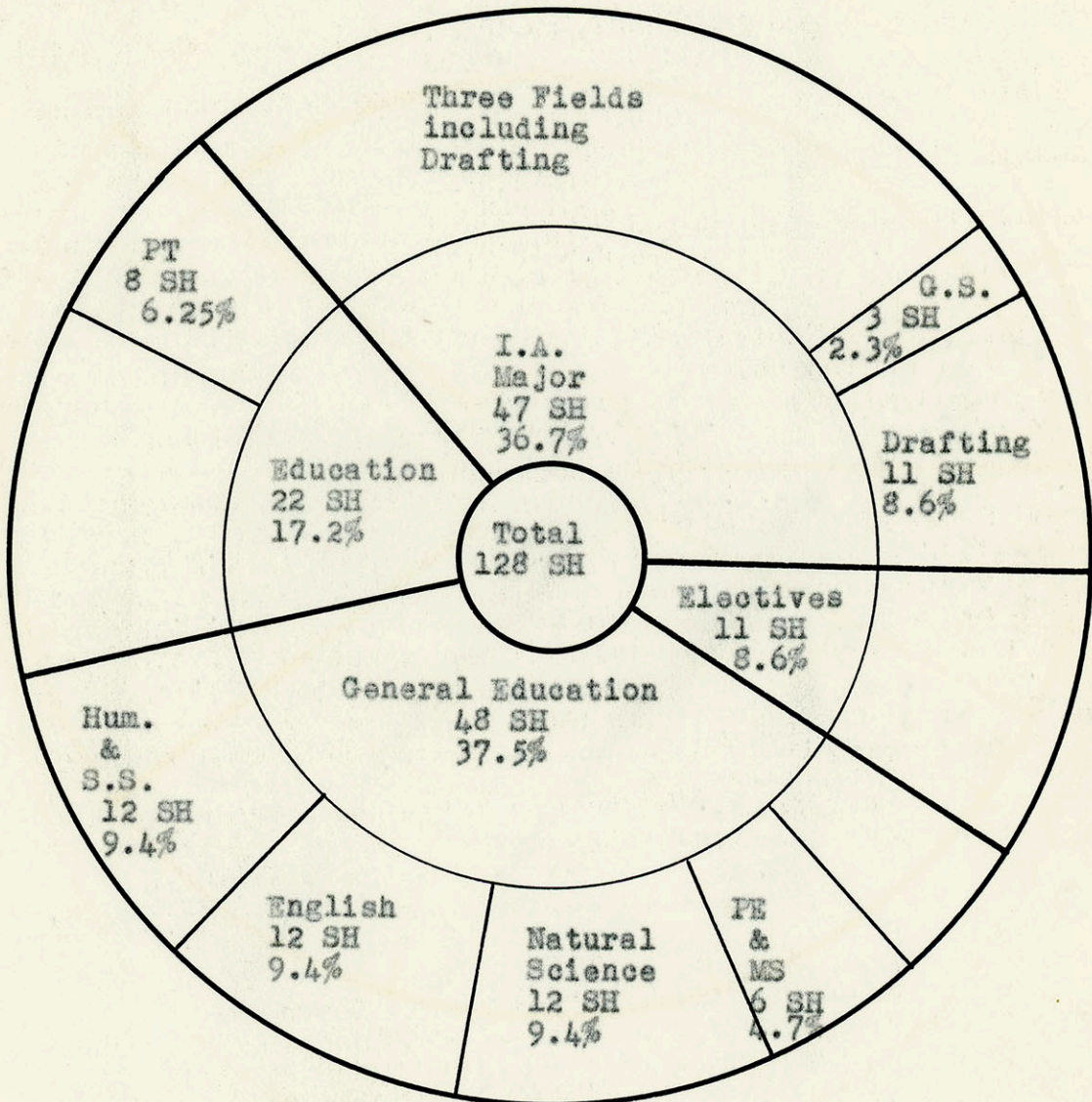


Figure 10

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Western Kentucky State College, Bowling Green, Kentucky

Figure 11 shows that Wayne University requires a relatively large major of forty-nine semester hours.

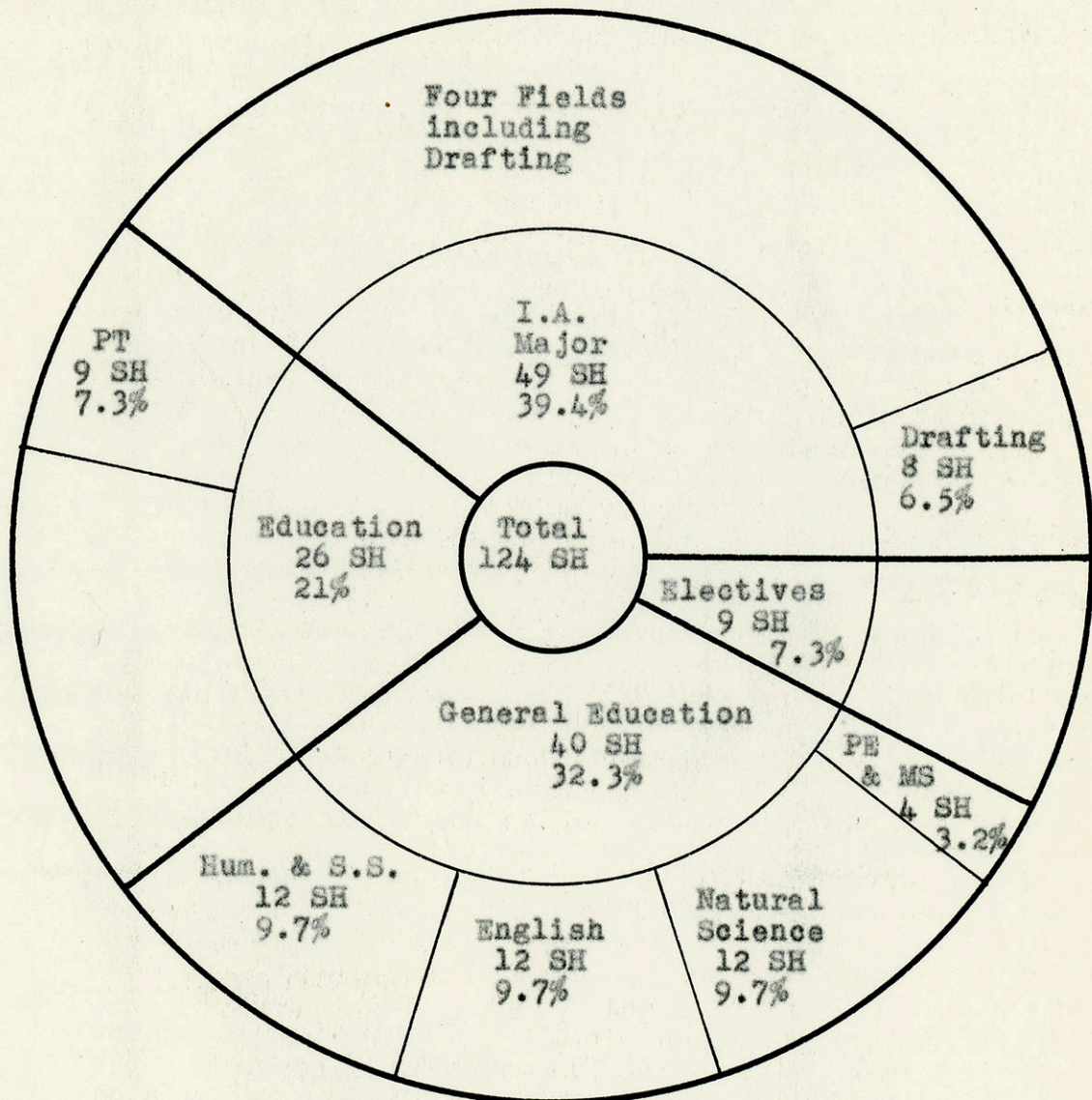


Figure 11

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Wayne University, Detroit, Michigan

Cooperative Work-Study

Wayne University offers an alternate curriculum in industrial arts that is called a cooperative work-study. In the words of the catalog,

This curriculum combines 110 semester hours of college work and sixteen semester hours of work experience.¹

In alternate semesters the student will be placed in a supervised work-experience position for which he will receive the established wage for cooperative students. Total work experience thus gained is approximately equivalent to two years industrial or trade experience. Competent students may complete their work and secure a teacher's certificate and a bachelor's degree in four years.

In completing this curriculum in four years the student carries a total of forty-four semester hours of work during summer sessions and while working in addition to the sixteen semester hours of credit he is given for his four semesters of work.

¹Bulletin, Wayne University, Detroit, Michigan, Vol. XXXI, No. 10, May 15, 1953, p. 68.

Requirements at Kalamazoo, shown in Figure 12, are very similar to the mean curriculum.

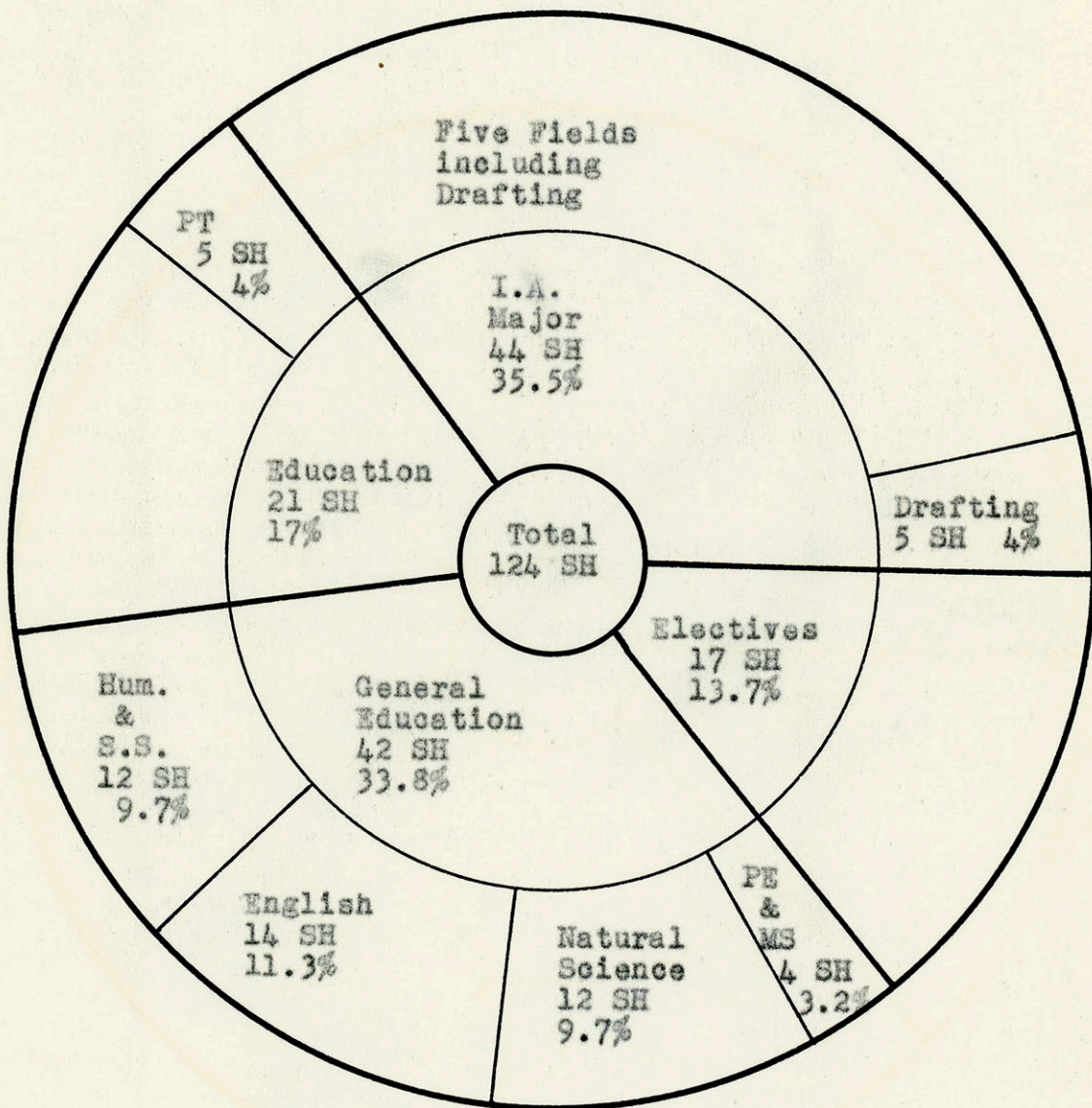


Figure 12

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Western Michigan College of Education, Kalamazoo, Michigan

Ninety quarter hours of general education are required at the University of Minnesota. Figure 13 shows that this is 48.3 per cent or nearly half the total.

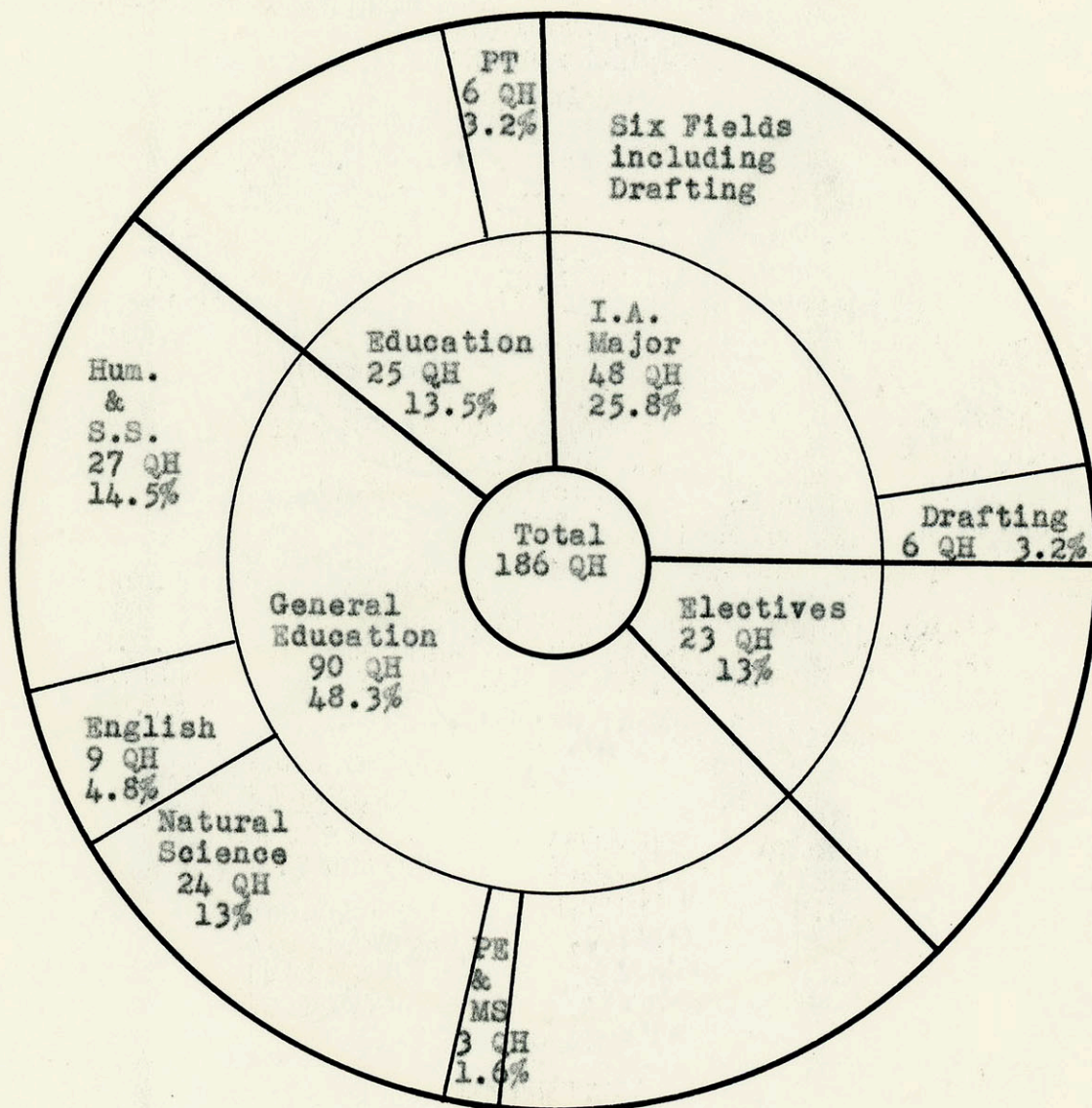


Figure 13

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at the University of Minnesota, Minneapolis, Minnesota

At the expense of electives, requirements at Columbia are slightly above the average in general education and the major. These requirements are shown in Figure 14.

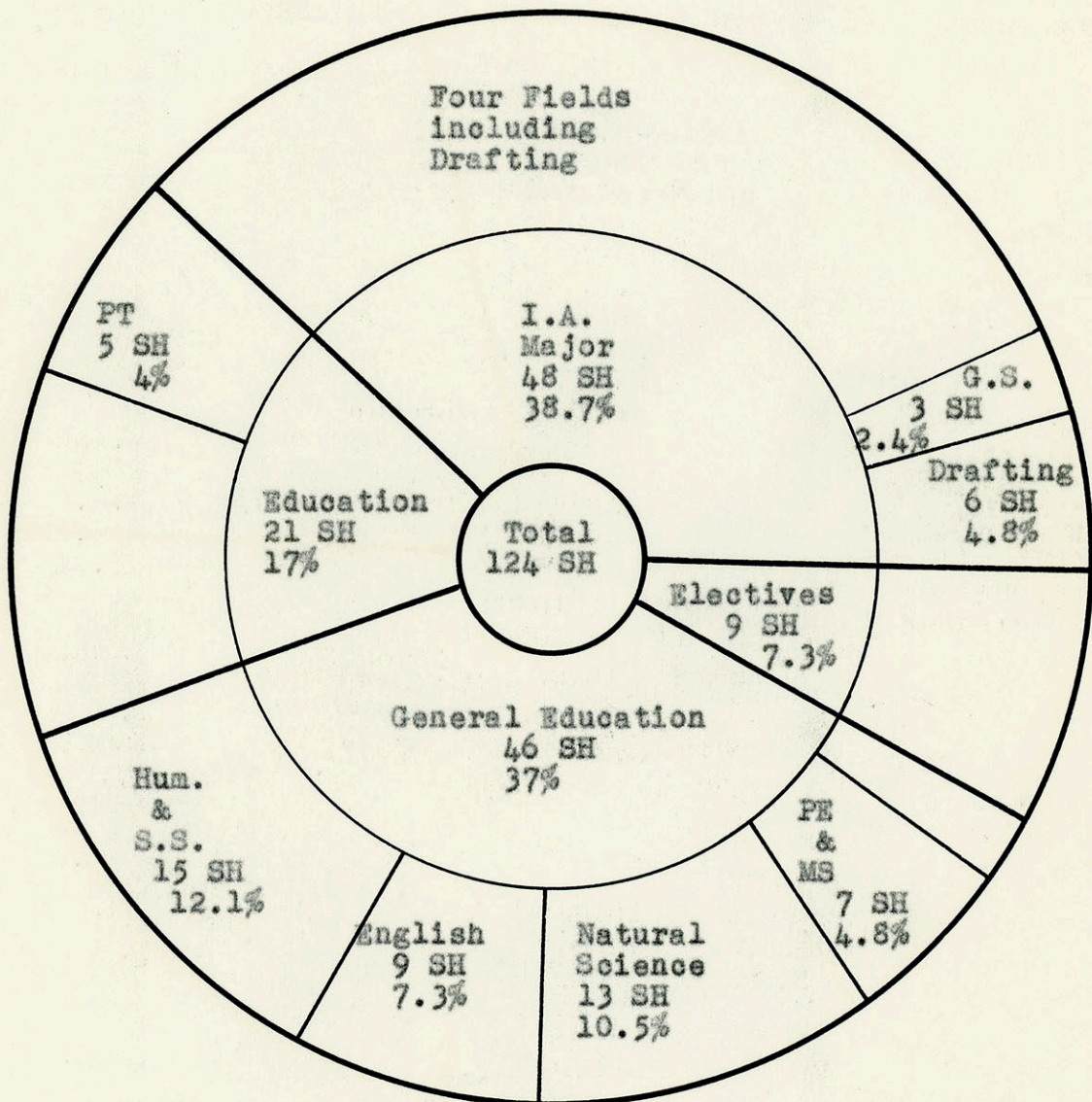


Figure 14

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at the University of Missouri, Columbia, Missouri

Warrensburg's curriculum, shown in Figure 15, varies from the mean in that the education requirement is slightly above average and the major requirement slightly below.

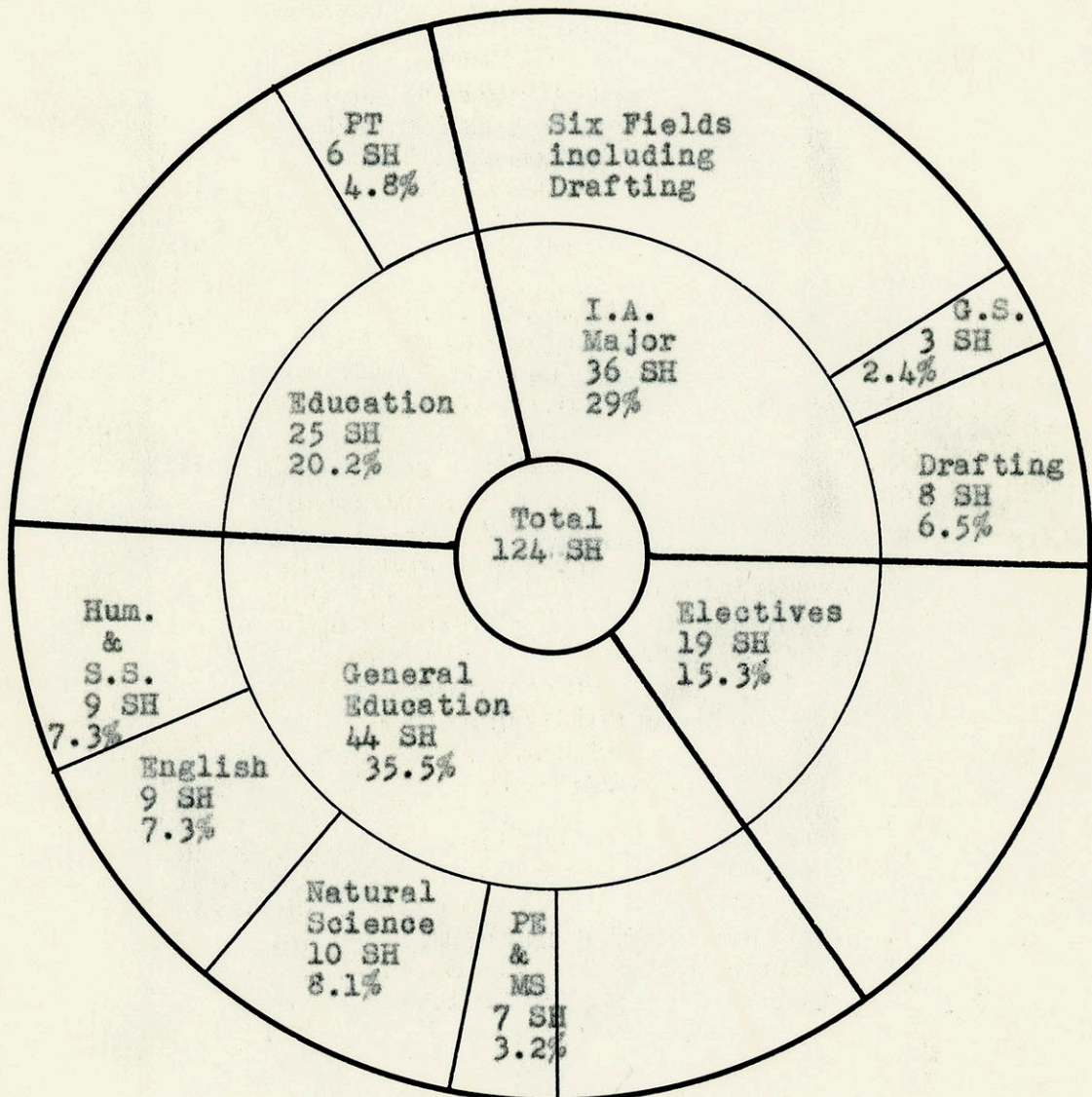


Figure 15

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Central Missouri State College, Warrensburg, Missouri

A relatively large amount of education and a relatively small amount of general education are the outstanding features of Ohio State's curriculum as shown in Figure 16.

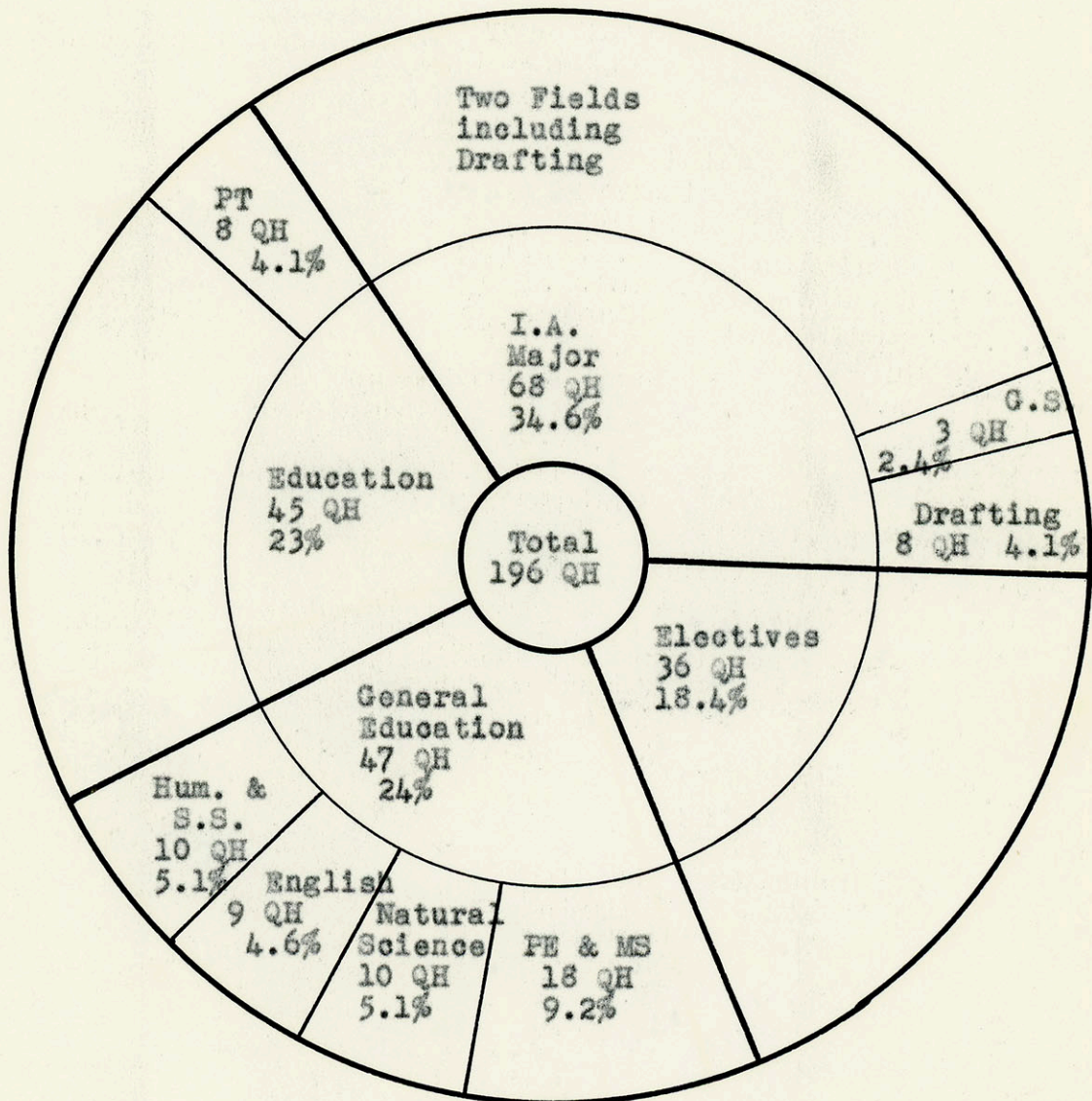


Figure 16

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Ohio State University, Columbus, Ohio

Figure 17, which shows the requirements at Miami University, shows requirements of ten hours in practice teaching and three hours in drafting.

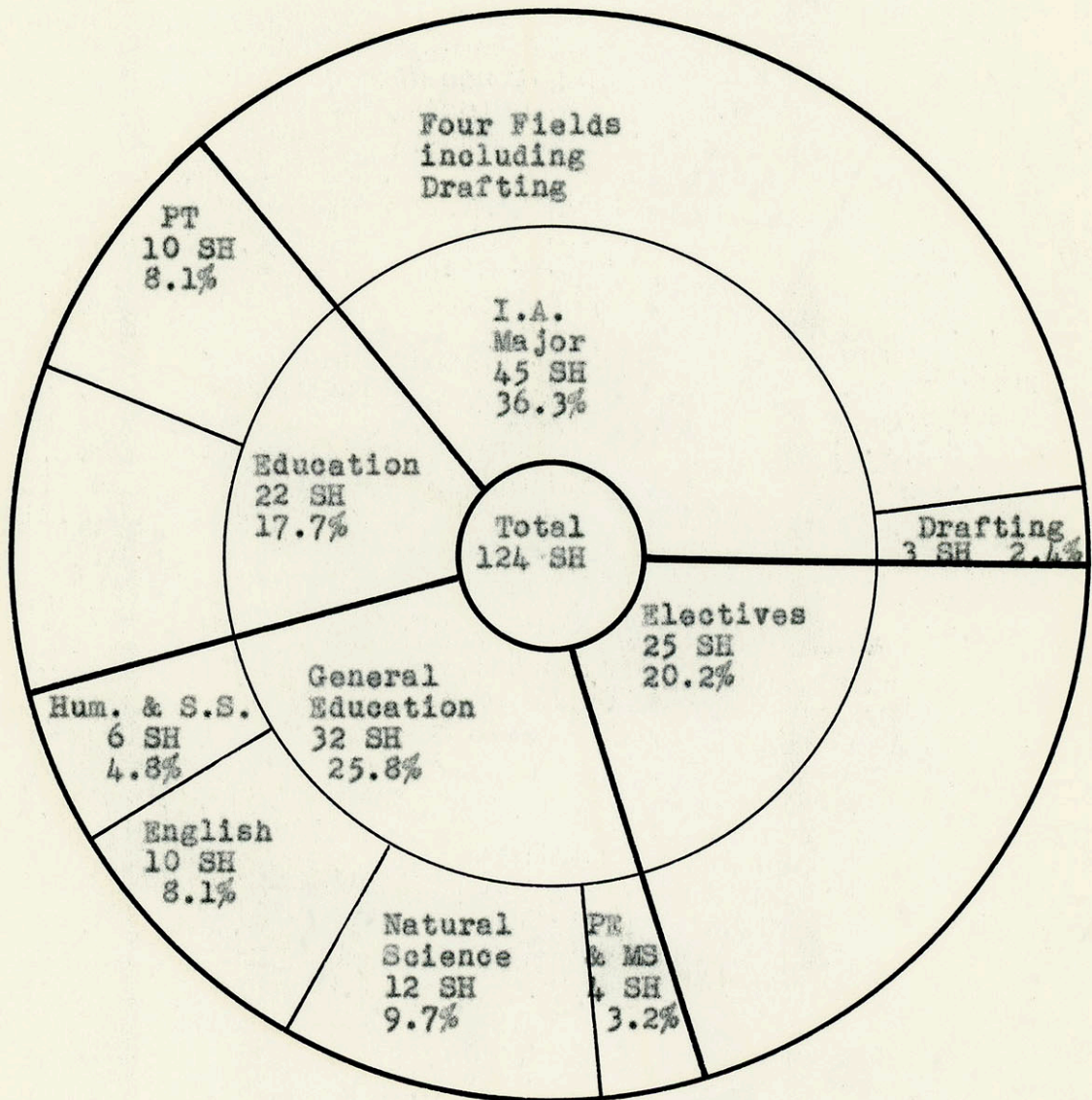


Figure 17

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Miami University, Oxford, Ohio

Tahlequah requires a major of only thirty-two semester hours but leaves twenty-seven hours of electives. This is shown in Figure 18.

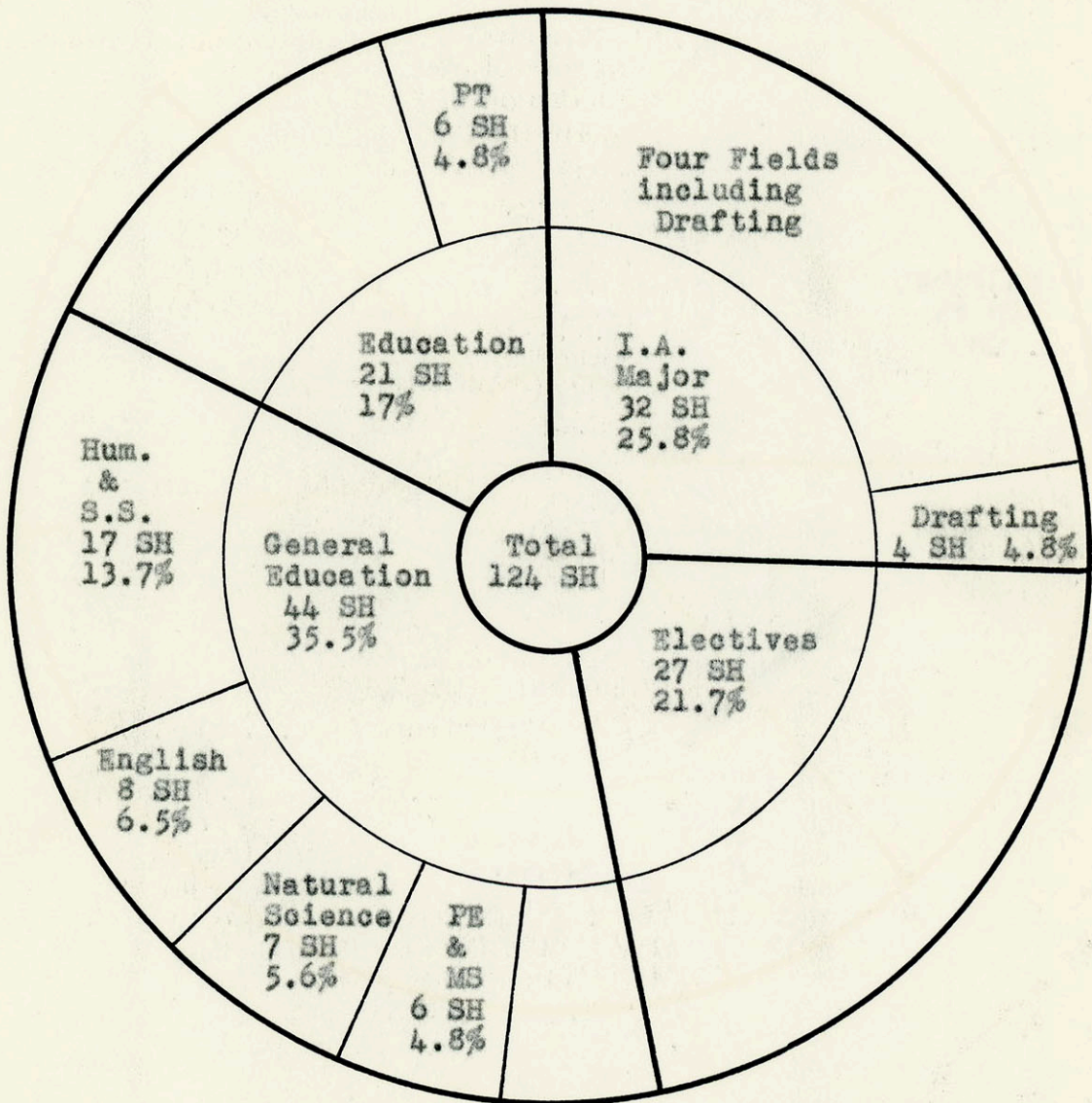


Figure 18

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Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Northeastern State College, Tahlequah, Oklahoma

Oregon State's requirements, shown in Figure 19 do not vary widely from the mean.

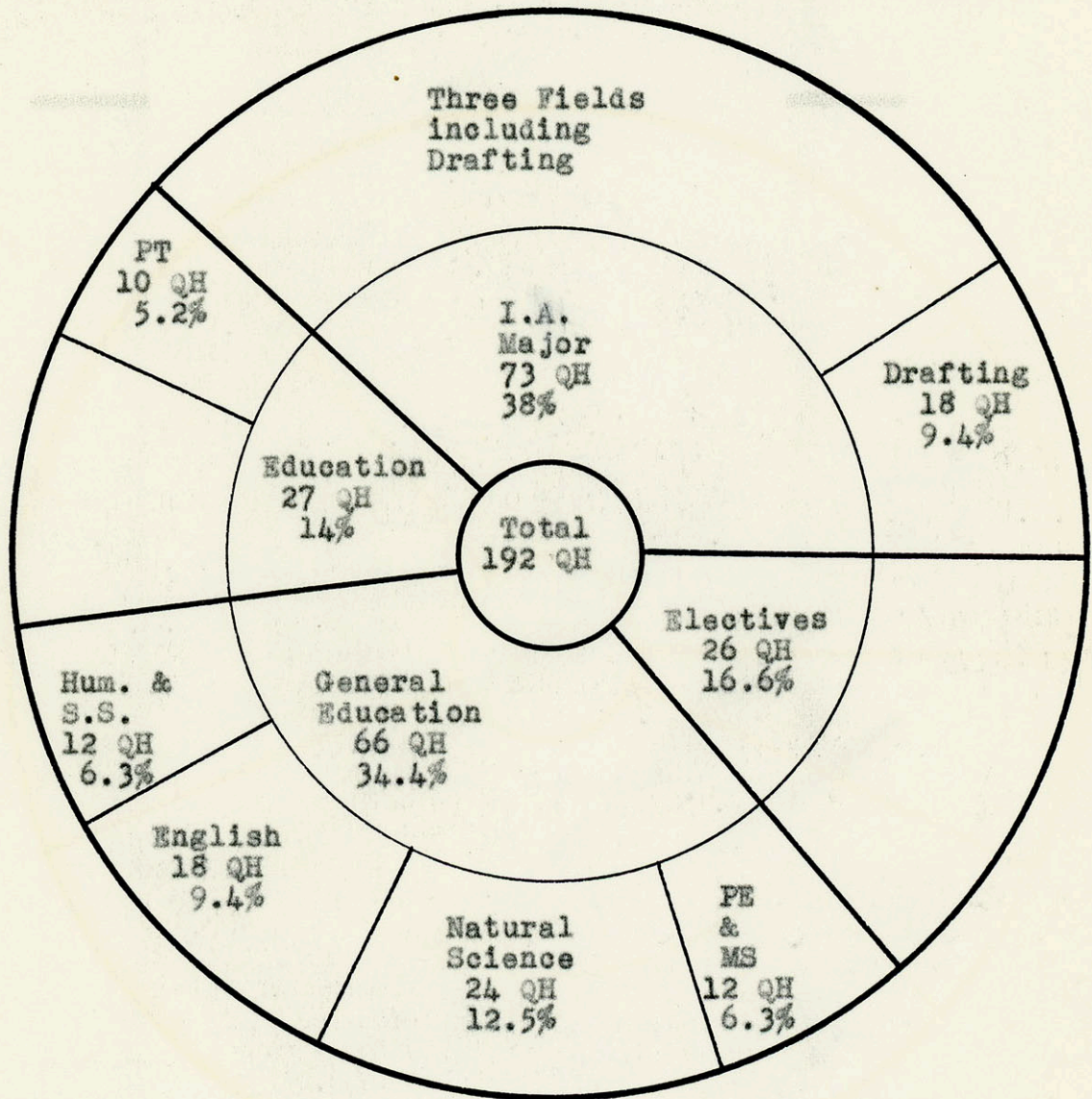


Figure 19

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at Oregon State College, Corvallis, Oregon

Relatively large requirements in drafting, practice teaching, and humanities and social science are the outstanding features at Millersville as is shown in Figure 20.

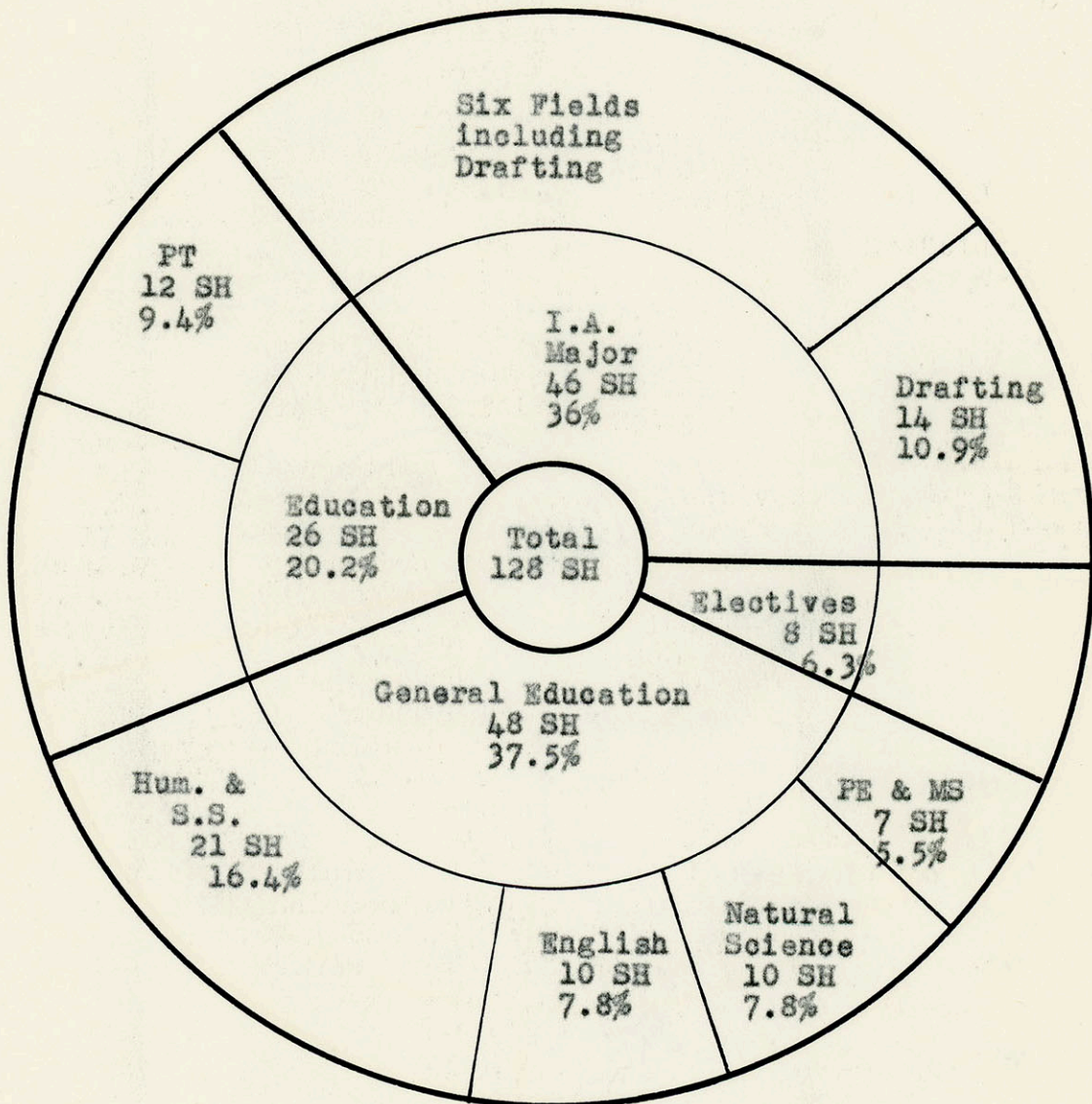


Figure 20

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at State Teachers College, Millersville, Pennsylvania

California's curriculum Figure 21, is only very slightly different from Millersville's. This is partly due to state certification requirements.

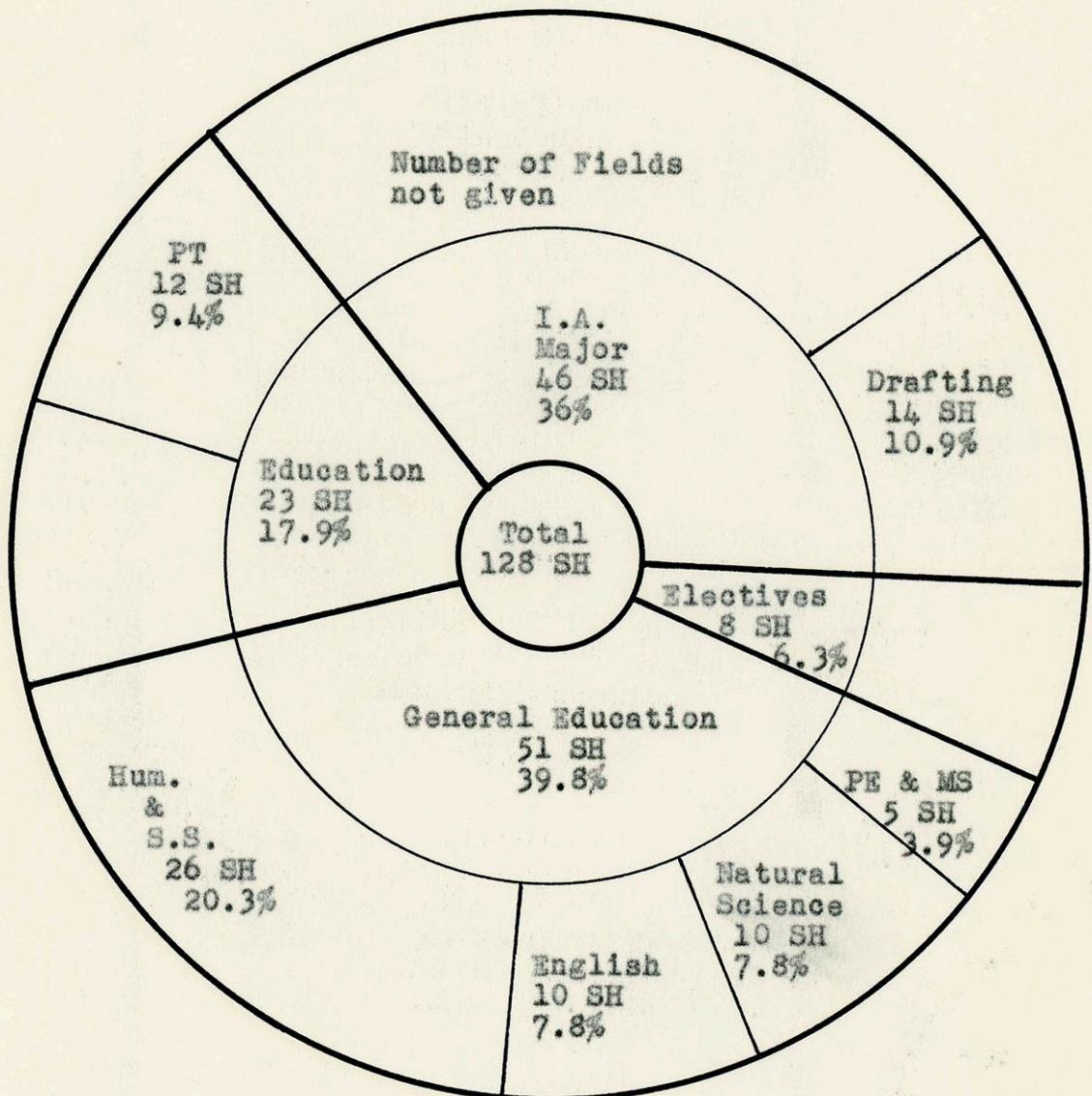


Figure 21

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at State Teachers College, California, Pennsylvania

The major at North Texas State is fifty-four semester hours. Figure 22 shows that this is 43.6 per cent of the total.

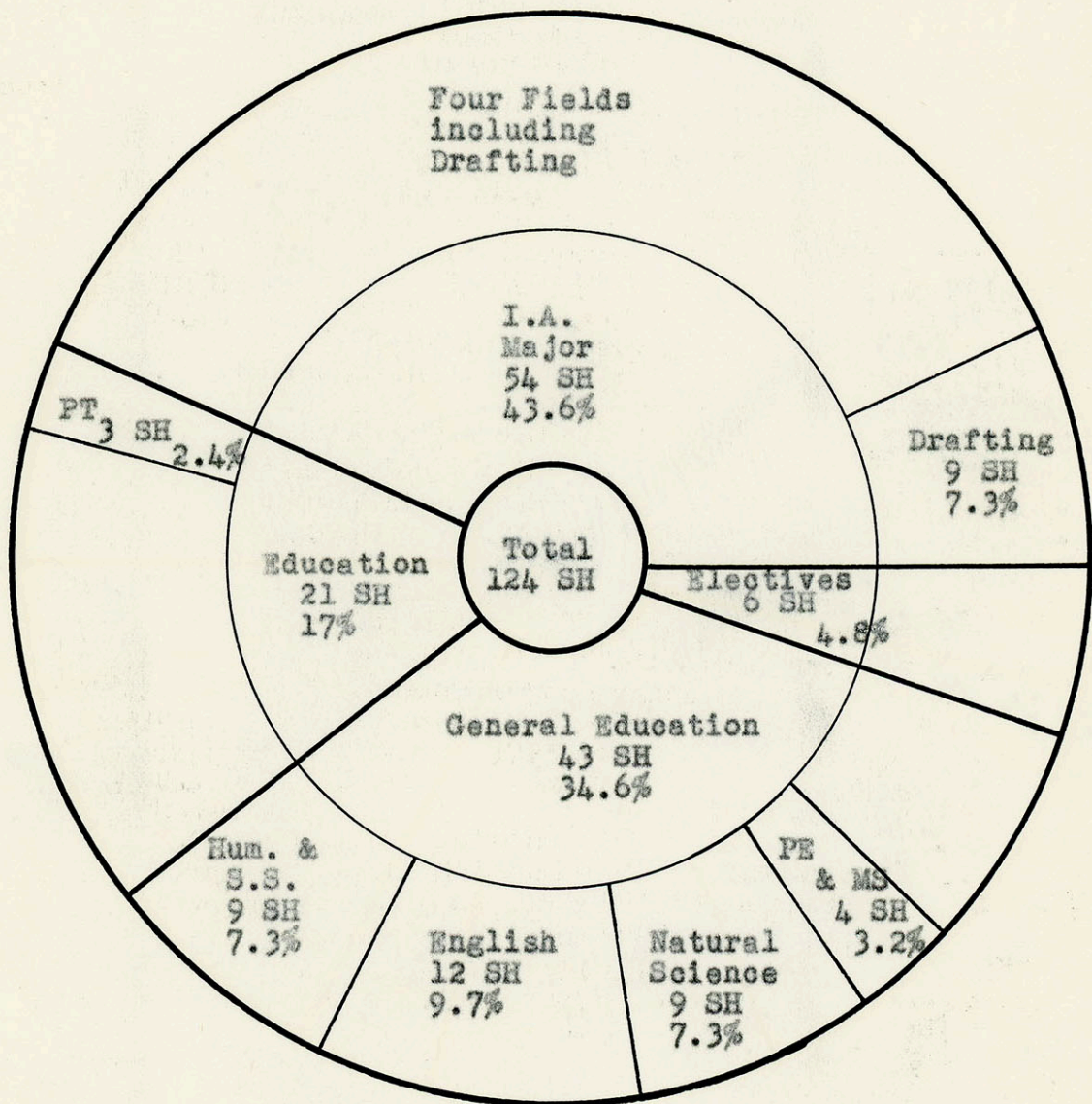


Figure 22

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at North Texas State College, Denton, Texas

Figure 23 shows that Texas A. and M. requires 144 semester hours for the degree and that slightly over half of this large requirement is devoted to the major.

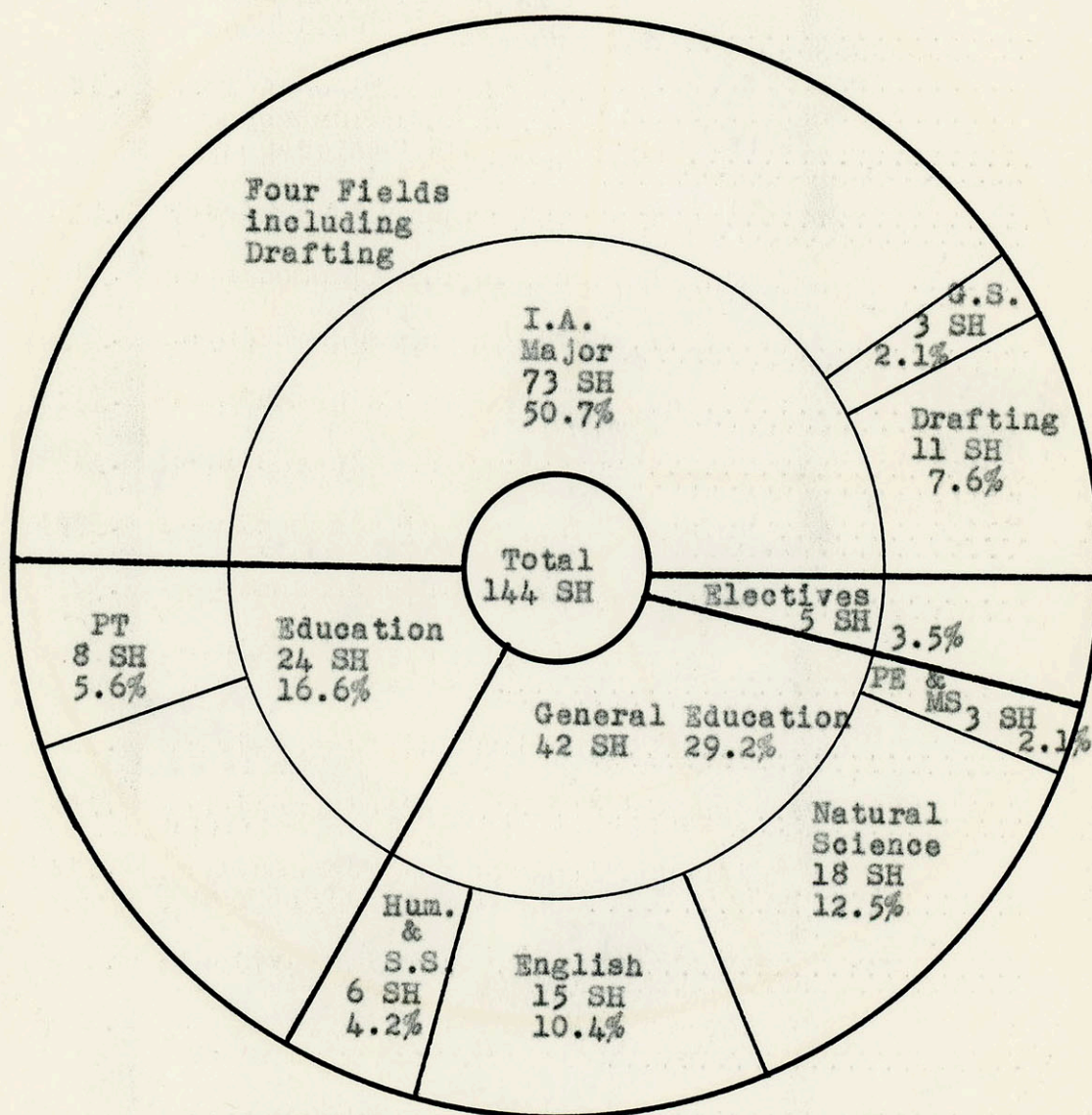


Figure 23

Requirements for the Baccalaureate Degree in
Industrial Arts Education at Agricultural and Mechanical
College of Texas, College Station, Texas

Pullman, Figure 24, requires a relatively large amount of education and a relatively small major.

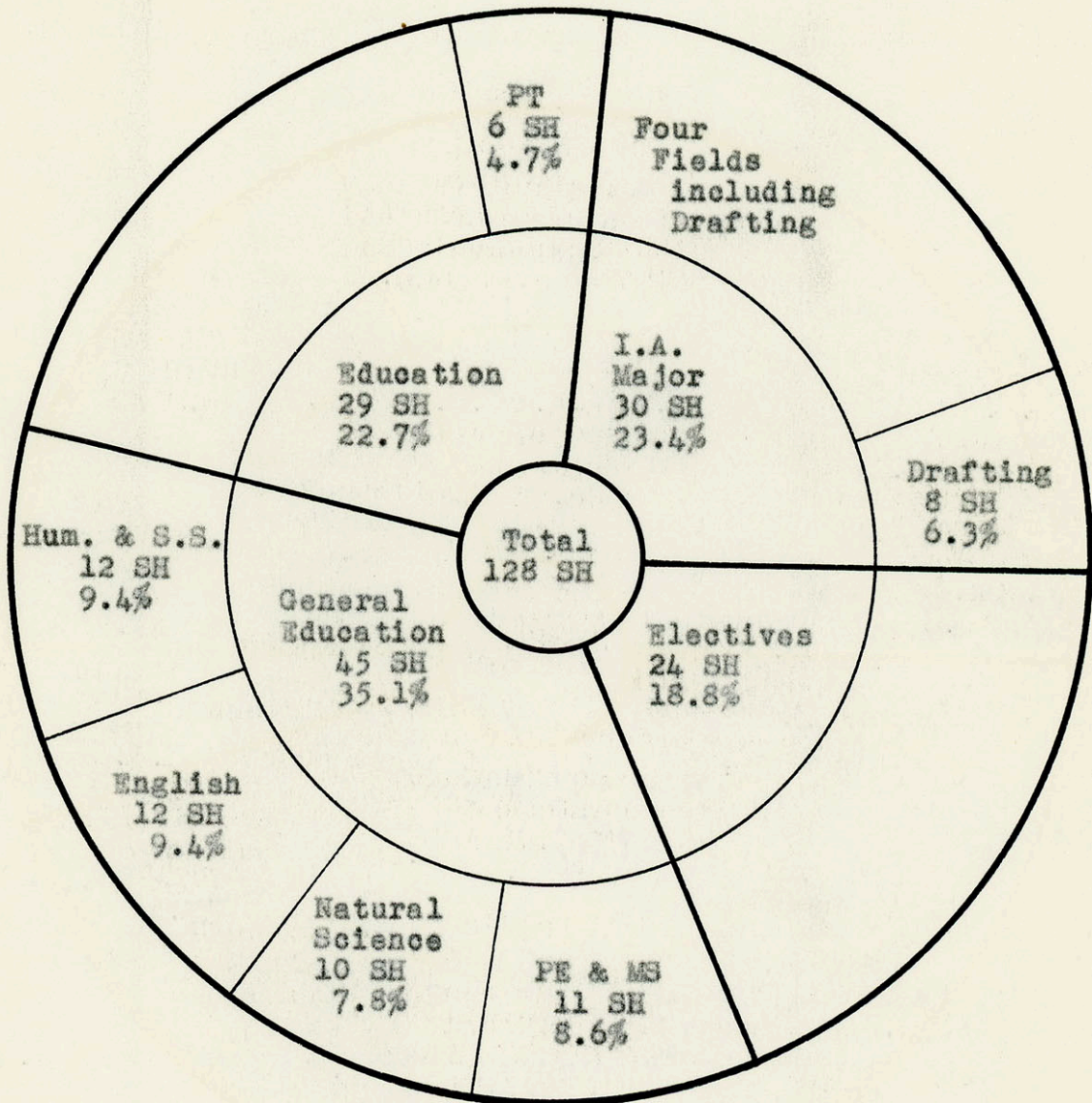


Figure 24

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at State College of Washington, Pullman, Washington

Education and general education requirements at Stout are relatively high. Figure 25 shows that no electives are allowed except in general education.

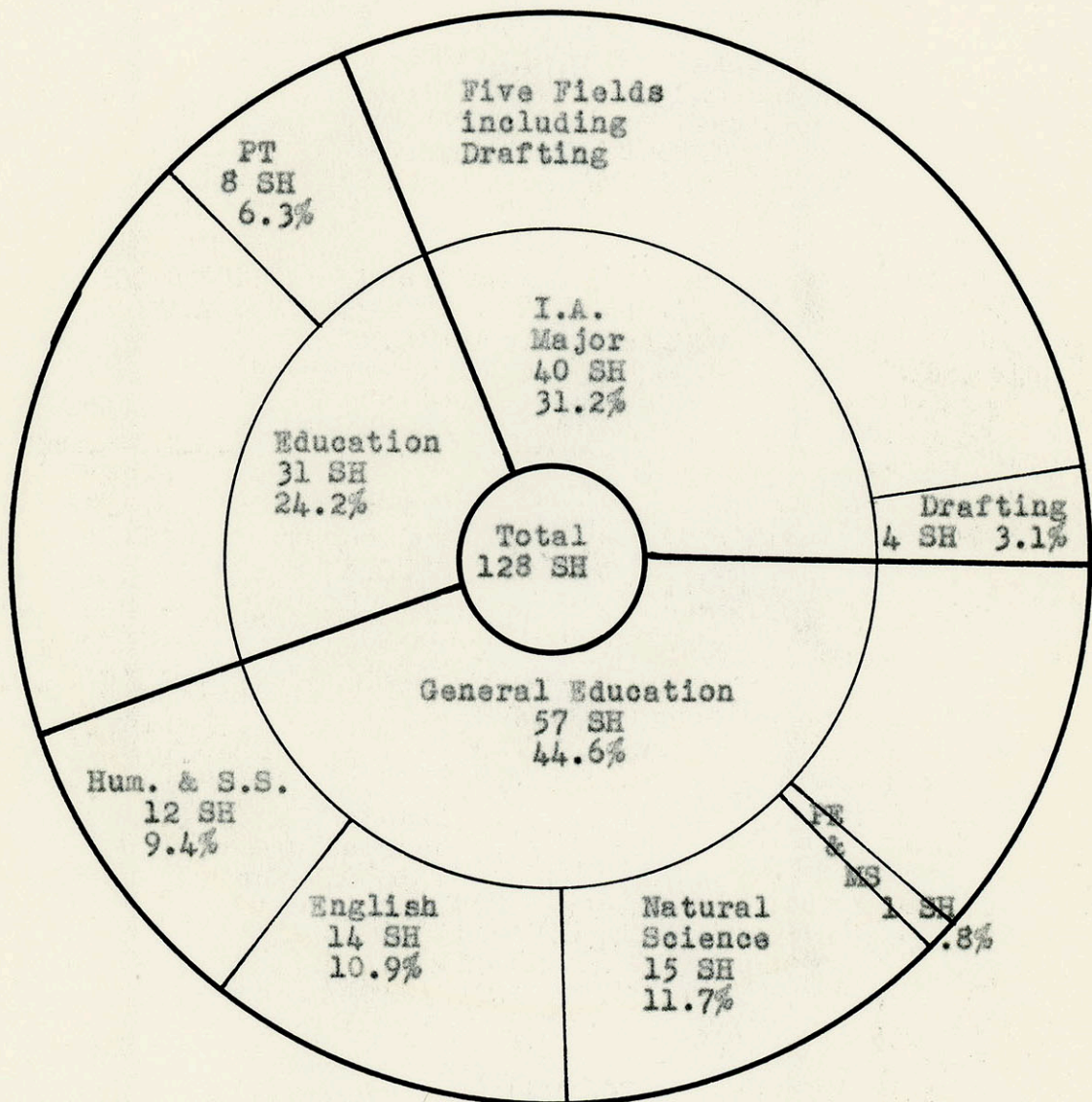


Figure 25

Requirements for the Baccalaureate Degree
in Industrial Arts Education
at The Stout Institute, Menomonie, Wisconsin

This chapter has been designed to give a picture of the minimum course requirements in each institution together with some of the highlights of each curriculum. The following chapter shows how these requirements compare.

CHAPTER III

COMPARATIVE REQUIREMENTS FOR THE BACCALAUREATE DEGREE IN INDUSTRIAL ARTS EDUCATION

The figure and tables in this chapter are designed to give the reader a comparative view of the requirements of the several institutions.

The numbers given in the tables are given in semester hours. Although seven of the twenty-five institutions considered operate on the quarter plan their requirements were converted to semester hours in order to have a common unit of credit. Numbers which contained fractions after converting from quarter to semester hours were rounded off to the nearest whole number. The conversion factor used was one quarter hour equals two-thirds of a semester hour. This conversion factor appears to be the correct one as the colleges that operate on the quarter plan require essentially the same amount of work each week for twelve weeks as the colleges that operate on the semester plan require each week for eighteen weeks. One catalog specifically states, "One quarter hour of credit is equivalent to two-thirds of a semester hour."¹ Another catalog implies that a quarter hour equals five-eighths of a semester hour, ".... of at least forty-eight quarter (thirty semester)

¹Bulletin, Southern Illinois University, Carbondale, Illinois, Vol. 47, No. 3, July, 1954, p. 47.

hours of credit."¹

Mean, Modal, and Median Requirements

Figure twenty-six, page 40, and Tables I, page 41, and II, page 42, show the mean, modal, and median requirements respectively. Being the same type of graph as Figures 1 through 25, Figure 26, showing the mean requirements, should offer a ready means of comparison. The modal and median requirements, due to their nature, could not be fitted to the type of graph used for the mean requirements. They, therefore, are given in Tables I and II.

¹Bulletin, Ball State Teachers College, Muncie, Indiana, Vol. XXVIII, No. 3, March, 1953, p. 13.

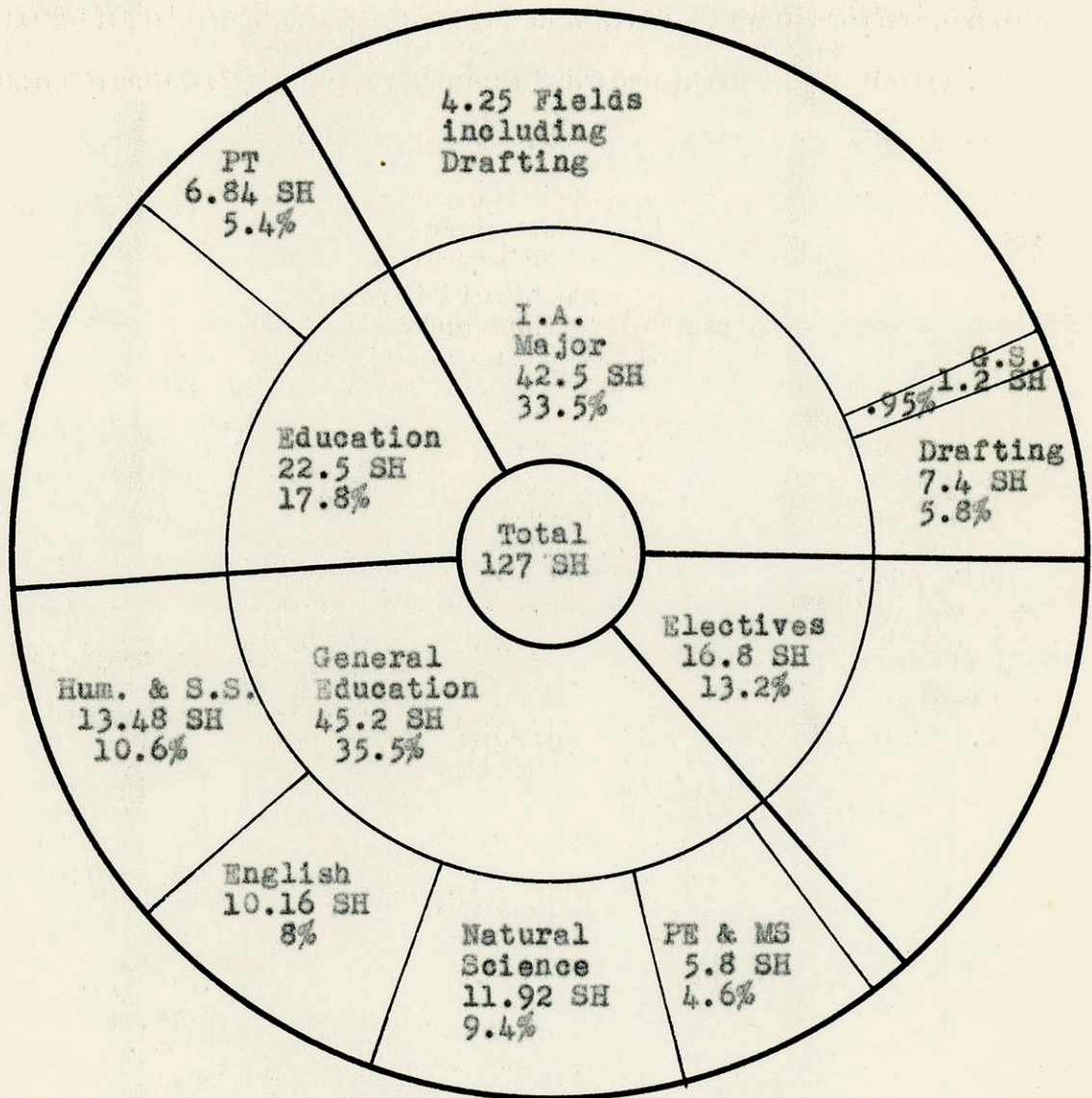


Figure 26

Mean Requirements for the Baccalaureate Degree
in Industrial Arts Education

TABLE I

MODAL REQUIREMENTS FOR THE BACCALAUREATE DEGREE
IN INDUSTRIAL ARTS EDUCATION

SUBJECT	SEM. HRS.
Total	124
Industrial Arts Major	47
General Education	42
Education	21
Natural Science	13
Social Science and Humanities	13
English	12
Electives	7
Drafting	5.5
Practice Teaching	5
Physical Education and Military Science	4
General Shop	0

As can be noted in Table II, page 42, the modal and median requirements are very similar.

TABLE II

MEDIAN REQUIREMENTS FOR THE BACCALAUREATE DEGREE
IN INDUSTRIAL ARTS EDUCATION

SUBJECT	SEM. HRS.
Total	126
General Education	45
Industrial Arts Major	44
Education	22
Electives	15
Natural Science	12
Social Science and Humanities	12
English	8
Drafting	7
Practice Teaching	6
Physical Education and Military Science	6
General Shop	0

List of Colleges and Universities

Table XVI, page 63, in the appendix of this report, is a list of the colleges and universities included in this study. They are listed alphabetically by states and numbered consecutively. In the interest of brevity and of condensing the data in order that an overall picture could be better presented, they have been referred to by catalog number in the tables to follow.

Maximum and Minimum Requirements

Listed from maximum to minimum in Tables III through XIV are the course requirements together with the number of schools and their catalog numbers for each requirement.

Total requirements for the degree, as shown in Table III very from 124 to 144 semester hours; however, only one institution is outside the 124 -- 134 range and all but four can be included in the 124 -- 128 range.

TABLE III

TOTAL REQUIREMENTS FOR DEGREE

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
144	1	23
134	1	6
131	2	8, 16
128	8	5, 7, 10, 19, 20, 21, 24, 25
126	1	2
124	12	1, 3, 4, 9, 11, 12, 13, 14, 15, 17, 18, 22
Total	25	

A wide range is shown in Table IV in the requirements for an industrial arts major. The maximum requirement is nearly two and a half times the minimum requirement. Fifteen of the twenty-five schools, however, are in the 40 -- 49 range.

TABLE IV

REQUIREMENTS FOR INDUSTRIAL ARTS MAJORS

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
73	1	23
54	1	22
49	2	11, 19
48	2	3, 14
47	1	10
46	2	20, 21
45	2	16, 17
44	2	6, 12
43	2	5, 7
40	2	4, 25
38	1	2
36	1	15
32	3	1, 13, 18
30	<u>3</u>	8, 9, 24
Total	25	

Table V shows that the requirements in drafting range from three to fourteen semester hours with a fairly even distribution over this range.

TABLE V
REQUIREMENTS IN DRAFTING

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
14	2	20, 21
12	2	3, 19
11	2	10, 23
9	1	22
8	4	7, 11, 15, 24
7	3	1, 2, 9
6	2	4, 14
5	3	5, 12, 16
4	4	6, 13, 18, 25
3	<u>2</u>	8, 17
Total	25	

Only nine schools required general shop. Of this number, eight required three semester hours and the other required six. Table VI, page 46, shows the general shop requirements.

TABLE VI

REQUIREMENTS IN GENERAL SHOP

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
6	1	3
3	8	6, 7, 9, 10, 14, 15, 16, 23
Total	9	

The requirements in education, as shown in Table VII on the following page, have a relatively narrow range of from seventeen to thirty-one semester hours. Seven of the twenty-five schools require twenty-one hours of education and six require twenty-two. Thus, over half the schools require either twenty-one or twenty-two semester hours of education.

TABLE VII
 REQUIREMENTS IN EDUCATION

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
31	1	25
30	1	16
29	1	24
26	2	11, 20
25	1	15
24	1	23
23	1	21
22	6	2, 5, 7, 8, 10, 17
21	7	1, 3, 6, 12, 14, 18, 22
18	2	9, 19
17	<u>2</u>	4, 13
Total	25	

The student teaching requirements range from three to fifteen semester hours. Five and eight hours are the most popular requirements with seven schools requiring five hours and five schools requiring eight hours. Table VIII, page 48, shows this requirement.

TABLE VIII

REQUIREMENTS IN STUDENT TEACHING

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
15	1	3
12	2	20, 21
10	1	17
9	1	11
8	5	5, 8, 10, 23, 25
7	1	19
6	3	15, 18, 24
5	7	1, 4, 6, 7, 12, 14, 16
4	1	13
3	<u>3</u>	2, 9, 22
Total	25	

As is shown in Table IX on the following page, the maximum requirement in general education is sixty semester hours and the minimum is twenty-eight. These requirements are fairly evenly distributed over the entire range. A slight mode can be noted in the neighborhood of forty-four semester hours.

TABLE IX
 REQUIREMENTS IN GENERAL EDUCATION

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
60	1	13
57	3	6, 7, 25
52	1	2
51	1	21
50	1	3
49	1	5
48	3	9, 10, 20
46	2	8, 14
45	1	24
44	3	15, 18, 19
43	1	22
42	2	12, 23
40	1	11
32	1	17
31	1	16
29	1	4
28	<u>1</u>	1
Total	25	

The social science and humanities requirement, Table X, vary from six to twenty-six semester hours. The mean of this requirement was 13.48 semester hours.

TABLE X

REQUIREMENTS IN SOCIAL SCIENCE AND HUMANITIES

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
26	1	21
22	1	8
21	2	6, 20
20	1	5
18	2	9, 13
17	1	18
16	1	3
15	1	14
13	1	2
12	6	1, 10, 12, 11, 24, 25
11	1	7
9	2	15, 22
8	1	19
7	1	16
6	<u>3</u>	4, 17, 23
Total	25	

The range of requirements in English, as shown in Table XI, is from three to fifteen semester hours with all but five of the twenty-five schools favoring requirements between eight and twelve semester hours.

TABLE XI
REQUIREMENTS IN ENGLISH

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
15	1	23
14	2	12, 25
12	7	2, 5, 10, 11, 19, 22, 24
11	2	7, 8
10	3	17, 20, 21
9	4	4, 6, 14, 15
8	3	3, 9, 18
6	2	13, 16
3	<u>1</u>	1
Total	25	

The natural science requirements, shown in Table XII, page 52, range from six to eighteen semester hours with ten and twelve being the most popular requirement. The mean of this requirement is 11.92 semester hours.

TABLE XII
REQUIREMENTS IN NATURAL SCIENCE

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
18	2	3, 23
17	1	6
16	2	13, 19
15	3	8, 9, 25
14	1	5
13	1	14
12	4	10, 11, 12, 17
10	5	2, 15, 20, 21, 24
9	1	22
8	1	7
7	2	16, 18
6	<u>2</u>	1, 4
Total	25	

As some schools require physical education with little or no credit given, the requirements in physical education and military science, shown in Table XIII, next page, do not have as much significance as the other requirements.

TABLE XIII

REQUIREMENTS IN PHYSICAL EDUCATION AND MILITARY SCIENCE

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
12	1	16
11	1	24
10	1	6
8	4	2, 4, 5, 19
7	2	9, 20
6	4	7, 10, 14, 18
5	1	21
4	8	1, 3, 8, 11, 12, 15, 17, 22
3	1	23
2	1	13
1	<u>1</u>	25
Total	25	

The electives shown in Table XIV, page 54, are directed electives and; therefore, do not represent the huge difference in curricula that their spread of from zero to forty-three semester hours might indicate in some other requirement.

TABLE XIV

PORTER LIBRARY

ELECTIVES ALLOWED

REQUIREMENT IN SEM. HRS.	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
43	1	1
38	1	4
32	1	8
28	1	9
27	1	18
25	1	17
24	2	16, 24
19	1	15
17	2	12, 19
15	2	5, 13
14	1	2
12	1	6
11	1	10
9	2	11, 14
8	2	20, 21
7	1	7
6	1	22
5	2	3, 23
0	<u>1</u>	25
Total	25	

Number of Fields Required

The number of fields required by the several schools, as shown in Table XV, varies from a maximum of six to a minimum of two. Both the modal and median requirements are four with twelve of the twenty-five schools requiring this number. The mean requirement is slightly more than this at 4.25. One catalog did not list the requirements in such a way that the number of fields could be determined.

TABLE XV

NUMBER OF FIELDS REQUIRED FOR AN INDUSTRIAL ARTS MAJOR

NO. OF FIELDS REQUIRED	NO. OF SCHOOLS REQUIRING	CATALOG NOS.
6	3	13, 15, 20
5	5	2, 7, 8, 12, 25
4	12	1, 3, 4, 6, 9, 11, 14, 17, 18, 22, 23, 24
3	3	5, 10, 19
2	<u>1</u>	16
Total	24	

Note: Catalog no. 21 did not list no. of fields.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

Summary

This study was made in an effort to determine the requirements for the baccalaureate degree in industrial arts education in several teacher training institutions in the United States. Below is a summary of the findings:

- I. The data for this study were obtained by the perusal of the catalogs of the twenty-five schools considered.
- II. Total course requirements for the degree ranged from 124 to 144 semester hours with a mean requirement of 127 semester hours.
- III. The maximum requirement for the industrial arts major, seventy three hours, was nearly two and a half times the minimum, thirty semester hours. The mean requirement was 42.52 semester hours or 35.5% of the total mean requirement.
- IV. In the field of drafting requirements varied from three to fourteen semester hours with a mean of 7.4 or 5.8% of the total.
- V. Only nine schools required general shop, with eight of those nine requiring three semester hours and the ninth requiring six.

- VI. The requirements in education had a relatively narrow spread of from seventeen to thirty-one semester hours. Thirteen of the twenty-five schools required either twenty-one or twenty-two semester hours. The mean requirement was 22.52 semester hours or 17.8% of the total.
- VII. On the average, 6.84 semester hours, which is 5.4% of the total mean curriculum is given to student teaching. The maximum is fifteen semester hours and the minimum is three.
- VIII. The general education requirements showed a wide spread of from twenty-eight to sixty semester hours. An average of 45.2 semester hours, which is 35.5% of the total, was allotted to general education.
- IX. The electives were fairly evenly distributed between zero and forty-three semester hours. The average allowed was 16.8 semester hours or 13.2% of the mean total requirement.

Recommendations

As the nature of this study precludes any recommendations on the basis of it alone, it is recommended that further studies be made to determine the relative success of the graduates of some of these institutions in order that opinions may be formed as to the relative merit of

the several curricula. If it were feasible to conduct one large study, or several smaller ones, that would cover such important considerations as quality of instruction, variety of offerings, and physical facilities as well as the success of the graduates, valuable criteria could be formulated which would assist schools in improving their offerings.

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Volume 55, No. 16, April 22, 1954.

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Vol. 55, No. 7, February 15, 1954.

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Missouri, Vol. LV, No. 1, June, 1954.

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Vol. LVIII, No. 21, June 21, 1954.

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TABLE XVI

LIST OF COLLEGES AND UNIVERSITIES
INCLUDED IN THIS STUDY

CATALOG NO.	NAME OF INSTITUTION
1	Colorado State College of Education, Greeley, Colorado
2	University of California, Santa Barbara College, Santa Barbara, California
3	University of Florida, Gainesville, Florida
4	Bradley University, Peoria, Illinois
5	Southern Illinois University, Carbondale, Illinois
6	University of Illinois, Urbana, Illinois
7	Ball State Teachers College, Muncie, Indiana
8	Iowa State Teachers College, Cedar Falls, Iowa
9	Kansas State Teachers College, Pittsburg, Kansas
10	Western Kentucky State College, Bowling Green, Kentucky
11	Wayne University, Detroit, Michigan
12	Western Michigan College of Education, Kalamazoo, Michigan
13	University of Minnesota, Minneapolis, Minnesota
14	University of Missouri, Columbia, Missouri
15	Central Missouri State Teachers College, Warrensburg, Missouri

TABLE XVI (CONTINUED)

CATALOG NO.	NAME OF INSTITUTION
16	Ohio State University, Columbus, Ohio
17	Miami University, Oxford, Ohio
18	Northeastern State College, Tahlequah, Oklahoma
19	Oregon State College, Corvallis, Oregon
20	State Teachers College, Millersville, Pennsylvania
21	State Teachers College, California, Pennsylvania
22	North Texas State College, Denton, Texas
23	Agricultural and Mechanical College of Texas, College Station, Texas
24	State College of Washington, Pullman, Washington
25	The Stout Institute, Menomonie, Wisconsin
