covered by the formal courses, and in the laboratories independent research is promoted. In general more personal attention is given to students by instructors than is possible in the first two years. Systematic reading and scientific work during the summers are encouraged and occasionally these form part of a student's formal program.

The larger use of independent study in the junior and senior years is in keeping with the student's concentration upon a program of major study. His program is an individual one worked out by him in consultation with his teachers to fit his needs and purposes. He must have in mind the qualifying examination (written or oral, at the discretion of the division concerned) which is given at the end of the junior year for admission to senior work. Though the examination emphasizes the individual's responsibility for his program in the major field it tests his total preparation as well. Students are encouraged not to be content with merely a common pattern of major study, but to discover for themselves lines of interest and special problems to be explored. In the senior year one of these problems forms the subject for the thesis project—one found by the student or shaped out of his interests by the counsel of his teachers. This project is individual and requires independent research under the guidance of the major professor. Sources of information and means of investigation must be sought, facts gathered, tested and interpreted, ideas critically analyzed, and conclusions drawn. The thesis is thus the culmination of individual study and the test of its success.

The completion of the college course is marked by the senior oral examination. In this examination, as in the junior qualifying examination, the emphasis is upon the ability of the student to handle materials in his field thoughtfully, critically, and independently.

The informal cooperation and the personal attention that mark the relations of faculty and students in the instruction carry over into the administrative details of handling courses and maintaining standards of scholarship. In most courses no rigid regularity of class attendance is required, and generally no roll is taken. The student recognizes his responsibility for attention to his work and particularly for presence at group

1945-1946

and individual conferences and in the laboratories, since these are the means of his active participation and progress in courses. He finds in himself the incentives to steady work and learns to measure his success by his grasp of a subject and by his intellectual growth. Conferences with instructors and with the student's faculty adviser take the place of formal notification of grades. The adviser is selected according to the interests or the personal choice of the student and may be changed when the student so wishes. The adviser and other faculty members are willing at all times to confer with students on the quality of their work in courses, their programs of study, and other problems. In the case of students whose scholarship is distinctly unsatisfactory, notice is given; in the more serious instances action is taken only after consideration by the faculty of the particular difficulties in each case and of the steps that should be taken to remedy them.

CURRICULUM

G

THE CURRICULUM at Reed College covers a four-year program of liberal arts and sciences leading to the Bachelor of Arts degree. It aims to answer students' need for breadth of intellectual experience as well as for expertness in chosen fields. Emphasis during the first two years is placed upon a study of society and its achievements by means of introductory courses in different fields which are designed not only to aid students to discover their interests but also to furnish a background for later more specialized study. During the last two years students work in chosen major fields and closely related subjects. The objective continues to be a comprehensive grasp rather than merely technical or vocational training. The upper-class student in many cases broadens his program by courses other than those closely connected with his major field and is encouraged to try to discover the meaning of his intellectual experience as a whole.

1945-46

Program of the First Two Years

Introductory courses of the first and second years fall into the following groups:

(a) A two-year course of study in the history and literature of western society from Hellenic times to the present.

The history and literature of ancient, medieval, and modern civilizations are covered in a single course, known as Humanities 11 (or 12), given conjointly by the Literature and History departments during the first year, and in separate though parallel courses in history and literature during the second year. Humanities 11 (or 12), in the first year, carries the study to the point just preceding the revolutionary changes of the late eighteenth century. History 21 and Literature 23, in the second year, introduce students to modern society and literature. These courses attempt to furnish students with a background for a critical understanding of man's social relations, his thought and expression, and to provide insight into present problems by understanding of the past. All of these courses include emphasis upon practice in writing through regular papers and upon corrective criticism in frequent individual conferences. Any of these courses may be taken separately from the others, although they are planned to be correlative.

(b) A study of present-day society in the fields of economics, politics, and sociology.

Examination of the social scene is made in introductory courses in the social sciences available in the second year or later. The courses in principles of economics (Economics 21), comparative government (Politics 21), and introduction to sociology (Sociology 21) introduce students to fundamental features of economic, political, and social life and to methods and points of view of the social sciences. The modern emphasis in these courses is in keeping with that in History 21 and Literature 23.

(c) The examination of man's mind and behavior and of his systematic thinking through courses in psychology and philosophy.

These fields are primarily concerned with how and what we think. They treat of reason, imagination, and emotion. They touch conduct closely, for they are concerned with the causes and principles of action. The courses in general psychology (Psychology 21) and introduction to philosophy (Philosophy

21), both available in the second year or later, offer students a comprehensive introductory view of these fields.

(d) Study of mathematics and the natural sciences.

First-year courses in mathematics, biology, chemistry, and physics (those numbered 11 and 12) attempt to give students insight into principles of organic life and physical environment and some grasp of method and basic ideas of science. These courses aid students to obtain understanding of modern society through comprehension of science as a technique utilized by man in the mastery of nature. Second-year courses in the sciences are more specialized in character.

(e) Study of modern and ancient languages.

Beginning courses are offered in French, German, Spanish, and Russian. Other elementary courses are offered in these languages and in Latin and Greek. In all the languages emphasis is put upon rapid acquirement of reading ability as a tool for the appreciation of ancient and modern foreign literatures, and for research. The endeavor is to give students sufficient reading knowledge to enable them to make some use of these languages in their advanced studies in the college.

(f) Introduction to the arts, through a course in the history and appreciation of the fine arts, courses in music and speech, and in art studio practice.

The college has made requirements among the introductory courses in order to assure distribution of attention over these fields. The requirements and the years in which they are normally satisfied are:

Freshman year—

Humanities 11 or 12.[1]

One 11 or 12 course in mathematics or natural science (biology, chemistry, or physics).

Freshman *or* sophomore year—

A second science course chosen from a group (Group B) including Mathematics 11, Biology 11, Biology 12, Chemistry 11, Physics 11, Physics 12, and Psychology 21. (If Psychology 21 is chosen it is taken in the sophomore year.)

[1] Students who take Humanities 12 (see page 38) are required to take *two* "Group A courses" (see page 14).

Sophomore year—

One course chosen from a group (Group A) including Literature 23, History 21, Economics 21, Politics 21, Sociology 21, Sociology 23, Psychology 21 (if not chosen in the science group above), and Philosophy 21.

A reading knowledge of French, German, Spanish, or Russian, attained before the senior year and tested by special examination or by examinations in courses. This requirement means that a language is usually taken in the freshman year, or at latest in the sophomore year, and continued if necessary.

Detailed descriptions of the courses will be found on pages 38 to 66.

The amount of work required by a course is expressed as "hours". One "hour" means approximately three hours of work weekly, including time spent in class meetings, conferences, laboratories and in preparation. Most courses at Reed are planned to continue for a full academic year, or two semesters; a few are complete in one semester. To distinguish between these two types of courses, the unit *year-hour* is used for a full year course and the unit *semester-hour* for a one semester course. Credit-points are computed on the basis of quality, as well as quantity of work. Attention is called to the fact that during the war period students will be able to earn credit for one semester's work in some two-semester courses.

The normal program for both freshmen and sophomores is 15-hours, or 30 semester hours. Such a year's program, completed with average scholarship, earns 25.0 credit points. The requirement for junior standing is 50.0 credit-points; i.e., the result of 30 year-hours of work completed with average scholarship. Students who are allowed to enter the junior year with deficiencies in credit-points must make up the deficiency by additional work in class, or by attending summer session here or at other colleges. Freshman and sophomore students may have the number of credit-points earned reported to them at the end of each year by leaving a stamped and addressed envelope with the Registrar. Since the upperclass requirement is stated in year-hours, credit-points are not calculated for juniors and seniors.

1945-46

Program of the Last Two Years

The courses of the curriculum, exclusive of those in humanities and the arts, are grouped in the following four divisions:

Literature and Language (English, French, German, Russian, Latin, Italian, and Spanish).

History and the Social Sciences (Economics, Politics, Sociology).

Mathematics and the Natural Sciences (Biology, Chemistry, and Physics).

Philosophy, Psychology, and Education.

Kindred subjects are grouped in divisions to avoid the isolation of specialized fields of learning. (Though courses in the arts are not listed in any of the divisional course groupings, they are open to upper-class as well as to lower-class students. See pages 13, 38, 39.) In the work of each division the treatment of particular subjects is broadened by emphasis upon their mutual relationships. The student's major program of study is usually divisional in its scope and is supervised by the division as a whole as well as by the student's major professor. A student may, with the consent of his adviser and of other instructors concerned, arrange a special program of upper-class study covering various fields to meet individual needs and interests.

At the beginning of the junior year students enter upon their major programs. Choice of the major division or of the alternative, an inter-divisional program, should be made before this time. Tentative choice by the end of the first year is often useful, since in some cases courses taken in the sophomore year should be elected for their bearing on the major field. During the first two years students are encouraged to consult freely with teachers to obtain advice and information about the content of various subjects, their vocational possibilities, or their bearing upon the students' developing interests.

The choice of a major made on entering the junior year is not necessarily final, although it is difficult to change unless the preparation has been unusually broad or unless graduation is not expected in four years.

At the end of the sophomore year each division estimates the capacity of its prospective major students to undertake upper-class work. (Notice is given students of whose success the divi-

sions have serious doubt.) A program of studies for the last two years is made out at the beginning of the junior year in conference between each student and the member of the faculty whom he has chosen as his major professor. The program must provide for at least fourteen units for each of the two years; and each program is subject to the approval of the division or of the divisions concerned. It remains open to later changes if these are necessary to make it better fit the student's needs. Graduation depends not upon a fixed number of credit-points, but upon work of high quality intelligently and responsibly performed.

At the end of the junior year qualifying examinations are given to test the student's general preparation and his ability to undertake a thesis in his chosen field of study. Entrance upon the final year of work depends upon satisfactory completion of this examination. The thesis, an independent project of research or of critical or creative work, is a central feature of the last year's work. The senior oral examination at the close of the senior year is a two-hour discussion between each student and the teachers in his major division (or, in the case of inter-divisional majors, a special committee) with the assistance of teachers from other fields including, whenever practicable, one or more from outside the faculty. One hour is given to consideration of the thesis and the other to testing the student's grasp of his field and related subjects. The quality of performance in the thesis, the senior oral, and the last two years of study are taken into account by the division or special committee in recommending candidates to the college faculty for graduation.

The college seeks in the senior year to emphasize the need for a coordination of interests proper to an educated and socially-minded person; and, in so far as the requirements of specialized work permit it, an attempt is made to bring students to recognize and evaluate the objectives and principles of the different fields of study they have engaged in, and to relate these to the individual's problem of living in society.

1945-1946

THE LIBRARY

THE COLLEGE LIBRARY has increasingly become the laboratory in which the student's work is done, for instead of the single volume the whole library is now his textbook. The book collection at Reed College has been largely built around the curriculum of the college, but books of enduring value and general interest which lie outside immediate curricular needs are included. The requirement of a thesis — an independent project of research or of critical or creative work — as well as the request that even freshmen use primary sources in preparing term papers, have alike determined the character of the book holdings.

Student use of the library has been consistently high; during 1943–1944 an average of eighty-eight volumes per student was borrowed from the general collection and from books placed on reserve for class use.

The library building, erected in 1930 with funds bequeathed by Eric V. Hauser, is the first unit of a plant which can be expanded as future needs require. Two reading rooms with a seating capacity of nearly two hundred occupy the main floor, with books in literature on the open shelves around them. The circulation desk and alcoves for reserve books are on the same floor. The Founders' Room in the Library tower contains the Simeon G. Reed collection of papers relating to Northwest economic history, the Woodbridge collection of Belgian literature, together with books on music and the fine arts; this room also serves as a reading room for faculty and seniors. The other books of a collection totalling 77,000 volumes and about 50,000 pamphlets are in basement stacks likewise open for students to consult. Approximately 2,000 volumes a year are added to the collection, and more than 300 periodicals are received. Obsolete books, unless they have "collectors' value," are discarded annually on the advice of the faculty. The library is a depository for United States government documents and for the publications of the Carnegie Institution of Washington and of the Carnegie Endowment for International Peace.

The materials in the library were enlarged in 1930 by a grant of $15,000 from the Carnegie Corporation of New York for the

change in society; the sociology of technique, economy, religion, art, conservatism, and radicalism. Attention will be given to problems of population growth and change, race relations, urbanization and human ecology, and social disorganization. Consideration will be given consistently to the rôle of sociology in the solution of modern social problems and to the sociology of democracy versus dictatorship. Lectures and discussions in sections. *Course fee.*

32—Social Psychology. 1½ yr. hrs.

A study of theories of personality growth and the processes of socialization; the development of attitudes, techniques of attitude measurement and attitude change. Problems of social interaction, group behavior, linguistic behavior, propaganda and public opinion, and the psychology of social movements will be examined. *Course fee.*

37—Urban Sociology. 1½ yr. hrs.

A study of the historical development of the city and problems of contemporary urbanization, of differences between rural and urban populations, and factors involved in urbanward migration. Attention will be given to human ecology: a study of the distributive patterns of urban institutions and population types. Students will be given opportunity to use Portland and its metropolitan area as a laboratory. *Course fee.*

43—History and Problems of Sociology. 3 yr. hrs.

This course includes a survey of major social systems from the Greeks on, with particular emphasis on the problems and thought of the nineteenth and twentieth centuries, and on the sociology of war and conflict. In contemporary sociology and anthropology, outstanding thinkers in the field are examined somewhat in detail with attention paid to social and historical backgrounds in each case. An attempt is made to emphasize the problems confronting sociology in each instance and to see the social scientists of today and yesterday in the light of their historical position and their major contributions. *Course fee.*

47—Thesis. 4 yr. hrs.

48—Independent Reading and Advanced Seminars. Credit in proportion to work accomplished in independent reading; in seminars, 3 yr. hrs.

Open only to upperclassmen, and to them only under very special circumstances.

General Social Science

30—Statistical Method. 4 yr. hrs.

Statistical methods with an emphasis on their possibilities and limitations in investigations in various fields of study. The work consists largely of the analysis and interpretation of actual statistical materials, and includes both individual and group projects. Prerequisite: Mathematics 11.

Reed College 1945-1946

DIVISION OF MATHEMATICS AND NATURAL SCIENCE

Professors F. L. Griffin, Knowlton, Macy, Scott; Visiting Professor Hardy; Assistant Professors Ayres, Hurley, Pence, Rosenbaum; Instructor Reed.

THE INTRODUCTORY courses in the several fields are planned as parts of a liberal education, rather than as technical courses for specialists. Effort is made to point out the relations of the subjects considered to problems of human life and to make clear the methods of observation, experiment, analysis, and reasoning by which man has gained insight into the nature of the world about him and ability to utilize many of its possibilities. More emphasis is laid upon clear concepts, grasp of large principles, accurate thinking, and intelligent methods of investigation than upon the amassing of detailed information. These courses also provide a sound foundation for students who expect to specialize in science, since it has been found that the perspective afforded at the outset enables such students to work more comprehendingly in the subsequent intensive courses.

Mathematics

The courses in mathematics have been planned with needs of several different groups of students in mind:

(I) For those who do not expect to use this subject professionally as a tool but desire some insight into the philosophical significance of mathematics as a system of thought and its relation to numerous human activities and fields of study, a three-unit section of course 11 is offered.

(II) For prospective workers in the biological and social sciences, chemistry, experimental medicine, and business administration, who desire to be able to understand the mathematical portions of the literature of their field and perhaps to employ mathematical ideas occasionally in their own work, a four-unit section of course 11 may suffice.

(III) Those intending to use mathematics extensively in a professional capacity—as engineers, teachers, statistical analysts, or in an actuarial office, government bureau, or research laboratory—will need some or all of the higher courses.

Anyone expecting to specialize in mathematics should take Physics 11 and Mathematics 11 in the freshman year. The instructor is to be consulted before registration for Mathematics 21 or any higher course.

11—Introduction to Mathematical Analysis. 3 or 4 yr. hrs.

This course aims more at insight and interpretation than at the acquisition of technique. It presents a very general and precise mode of thought, basic in modern scientific method, and illustrates the use of the ideas and operations in the natural and social sciences, the investment world, and elsewhere. The processes are drawn from elementary calculus, analytic geometry, trigonometry, and algebra, and are fused into a unified course which presupposes no preparatory courses beyond elementary algebra and geometry. Students expecting to specialize in science are taught in separate sections, with more work on technique.

11-M—Review of Algebra. ½–1 yr. hr.

For students in Mathematics 11 who need remedial work in algebraic techniques. Credit is allowed if not more than one unit of algebra was credited for college entrance.

21—Mathematical Analysis. 4 yr. hrs.

Calculus, including elementary differential equations, with applications to biology, chemistry, economics, and statistical theory, as well as to geometry, physics, and the earth sciences.

21-F—Topics in Analytic Geometry. 1 yr. hr.

Some important topics of analytic geometry not covered in Mathematics 11 and 21.

31—Introduction to Modern Algebra. 3 yr. hrs.

Theoretical solution of cubic, quartic, and special higher equations; symmetric functions and elementary substitution groups; theory of matrices and determinants. Applications to geometry; special algebraic methods.

33—Higher Geometry, Analytic and Synthetic. 3 yr. hrs.

Geometrical properties of conics and certain higher plane curves, considered as an end in themselves and not from the standpoint of applied science. Polars, pedals, inversion, duality, points at infinity, projective relations, trisection of angles, and other famous problems of construction.

35—Descriptive Geometry and Mechanical Drawing. 3 yr. hrs.

Projections of lines and surfaces; intersections; perspective drawing; shades and shadows. Applications to architecture.

1945-1946

41—Advanced Calculus. 4 yr. hrs.

Fundamental concepts; elliptic integrals; gamma functions and other important definite integrals; elementary calculus of variations; complex variables and contour integration; geometry of surfaces and space curves; further differential equations, ordinary and partial, with application to vibrating strings and membranes, electricity and flow of heat; solution in Fourier series; Bessel's and other functions defined.

43—Special Topics. 1 or 2 yr. hrs.

With the approval of the staff, qualified students may elect work in the mathematics of actuarial science or finance or economics, or in other topics of special interest. Open only to upperclassmen, and to them only under very special circumstances.

44—History and Philosophy of Mathematics. 1 yr. hr.

47—Thesis. 2–4 yr. hrs.

Biology

The courses in biology are designed to give a thorough understanding of biological fundamentals. The object is to equip students with knowledge useful to them in every-day life; and, further, to equip those who wish to specialize in biology with a sound foundation for doing so. The courses in biology, with courses in related sciences, furnish preparation for the study of medicine, for teaching biology, for training as laboratory technicians, and for graduate study.

The normal sequence of courses for a major in the field of biology is 11, 21, 33, 37, 47. Majors are expected to have had three full years of biology before taking their junior qualifying examination in the field.

The variety of biological experience at a marine station is such that it is greatly to the advantage of a student to take summer work at the Institute of Marine Biology at Coos Bay, the Hopkins Marine Station at Pacific Grove, Calif., or the Oceanographic Laboratories of the University of Washington at Friday Harbor, Wash. Credit is given for this work, if approved by the division in advance.

11—Introductory Biology. 4 yr. hrs.

The purpose of this course is to furnish an understanding of biological phenomena which are encountered in the ordinary course of life, such as the structure and function of plants and animals, their relation to

Reed College

G

DEGREES

BACHELOR OF ARTS

The requirements for the degree of Bachelor of Arts regularly include:

(1) Completion of four years of study at Reed College, or the equivalent. Students may be admitted to senior standing from other colleges, but in all cases the work of the senior year is to be done while in attendance at Reed College.

(2) Fulfillment of the freshman and sophomore requirements (see pages 13, 14).

(3) Passing of the junior qualifying examination at the end of the junior year.

(4) Reading knowledge of French or German.

(5) Satisfactory completion of the program of study approved by the major division or by the inter-divisional committee for the last two years.

(6) Thesis, or equivalent project, and comprehensive examination under supervision of a division or the inter-divisional committee.

Exceptions to the four-year resident requirement may be allowed as follows:

(1) Through a cooperative arrangement between the two institutions students who enter the Massachusetts Institute of Technology after three years of satisfactory work in Reed College may with two additional years at the M. I. T. qualify for both the bachelor of arts degree from Reed and the bachelor of science degree from the Massachusetts Institute of Technology. This arrangement was suggested by the M. I. T. to a group of liberal arts colleges offering a high quality of instruction in science and mathematics in order to provide for a combination of liberal arts and engineering education which would ordinarily require six years.*

(2) The opportunity is likewise extended to pre-medical students to obtain the bachelor of arts degree from Reed College after three years of satisfactory work here followed by two similar years in a "Class A" medical school. thus receiving in many cases their A.B. and M.D. degrees simultaneously.

(3) As set forth on page 39, students under the combined liberal and fine arts course offered by Reed College and the Portland Museum Art School are required to take five years' work to complete the requirements for the bachelor of arts degree from Reed and for the certificate from the Art School.

MASTER OF ARTS

The college does not conduct a graduate school. Only in exceptional cases will it offer work leading to the degree of Master of Arts. Ordinarily no students except graduate assistants will be admitted as candidates for the Master's degree.

* Students interested in this cooperative course are asked to consult both institutions for advice as to a satisfactory course of study.

1945-1946

PERSONNEL OF REED COLLEGE

1944–1945

TRUSTEES AND REGENTS

THE SUPERIOR governing bodies of the college are the board of trustees of Reed Institute, created by the will of Mrs. Reed, and the board of regents of Reed College.

Trustees of Reed Institute

Simeon Reed Winch, President
Judge James T. Brand
John Albert Laing
Abbot L. Mills
John H. Smith

Regents of Reed College

John Albert Laing, Chairman, Portland
Judge James T. Brand, Salem
Bishop Benjamin D. Dagwell, Portland
Dr. Leon Albert Goldsmith, Portland
Benjamin H. Kizer, Spokane, Washington
Gunther F. Krause, Portland
Wayne Edward Kuhn, New York City
Paul B. McKee, Portland
Abbot L. Mills, Portland
Maurine Laber, Portland
David B. Simpson, Portland
John H. Smith, Portland
Dean Benjamin Webster, Portland
Harold F. Wendel, Portland
Simeon Reed Winch, Portland
Clifford E. Zollinger, Portland

Honorary Regent

Dr. William Greenleaf Eliot, Jr.