

REED COLLEGE

tiveness of the students' work. Special courses of individual study may be planned for reading and research in materials not 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. Book-lists are made out bearing upon the material of various fields, and faculty members advise with students upon individual projects.

G 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) which is given at the end of the junior year for admission to the senior work. The examination emphasizes the individual's responsibility for his progress in the major field and tests his total preparation and not that of courses alone. 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,—one either 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

CURRICULUM

and maintaining standards of scholarship. In most courses no rigid regularity of class attendance is required, and generally no roll is taken. The student should recognize his responsibility for attention to his work and particularly for presence at group and individual conferences and in the laboratories, since these are the means of his active participation and progress in courses. He should find in himself the incentives to steady work and should learn 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 wishes. The adviser and other faculty members are ready 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 and in the more serious instances disciplinary action is taken after consideration by the faculty of the particular difficulties in each case and of the steps that should be taken to remedy them.

CURRICULUM

M THE CURRICULUM at Reed College covers a four-year program of liberal arts and sciences leading to the Bachelor of Arts degree. It strives 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 culture 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 purpose continues to be comprehensive grasp rather than merely technical or vocational training. The upperclass student in many cases broadens his program by courses unconnected with his major field and, in the senior year, he is encouraged to try to discover what meaning his intellectual experience as a whole has for him.

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 of ancient, medieval and modern civilizations and their literatures are treated in parallel courses. History 11 and Literature 11 in the first year carry the study to the period just preceding the revolutionary changes of the late eighteenth century. History 21 and Literature 21 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 and of 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 given in frequent individual conferences. Any of the 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 viewpoints of the social sciences. The modern emphasis in these courses is in keeping with that in History 21 and Literature 21.

The course in Contemporary Society, offered for first-year students, is intended to give a general acquaintance with typical problems in different social fields.

(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) 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 of the mastery of nature for man's ends. 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, Italian, and Greek. Courses based upon high school preparation are offered in French, German, 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. Students are expected to gain reading knowledge in time to make some use of these languages in their advanced studies in the college.

(f) Introduction to the arts, through courses in the history and appreciation of music and of the fine arts (architecture, painting and sculpture).

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—

Literature 11.

History 11 or Contemporary Society.

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

Freshman or sophomore year—

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

Sophomore year—

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

A reading knowledge of French or German, 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 least in the sophomore year, and continued if necessary.

Detailed descriptions of the courses will be found on pages 41 to 68.

G A normal program for the freshman and sophomore years is fifteen units carried throughout the year. A unit means approximately three hours of work weekly, including time spent in class meetings or conferences and in preparation. The number of credits earned is computed by the quality of scholarship as well as by the number of units taken. A normal program of work of average scholarship earns 25 credit-points a year. The requirement for unconditional admission to upperclass standing is 50 credit-points, or 30 units of work of average scholarship. Stu-

units \neq credit points¹⁴

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dents who are allowed to enter the junior year with a deficiency in credit may remove this either by carrying extra work or by doing work of more than average scholarship. Students are at their own request informed at the end of each year of the number of credits they have earned.

Program of the Last Two Years

The fields of the curriculum are grouped in the following four divisions, under whose supervision upperclass students pursue their major studies:

Literature and Languages (French, German, Greek and Latin).

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. In the work of each division the treatment of particular subjects is broadened by emphasis upon their mutual relationships. The major program of study of each student is divisional in its scope and is supervised by the division as a whole as well as by the student's major professor.

In some fields, as in literature and history, divisional lines may be crossed in framing a major program. In any case, the language departments offer advanced students opportunity to carry on reading in their major subjects.

At the beginning of the junior year students enter upon their major program under divisional supervision. Choice of the major division 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

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subjects, their vocational possibilities, or their bearing upon the students' developing interests.

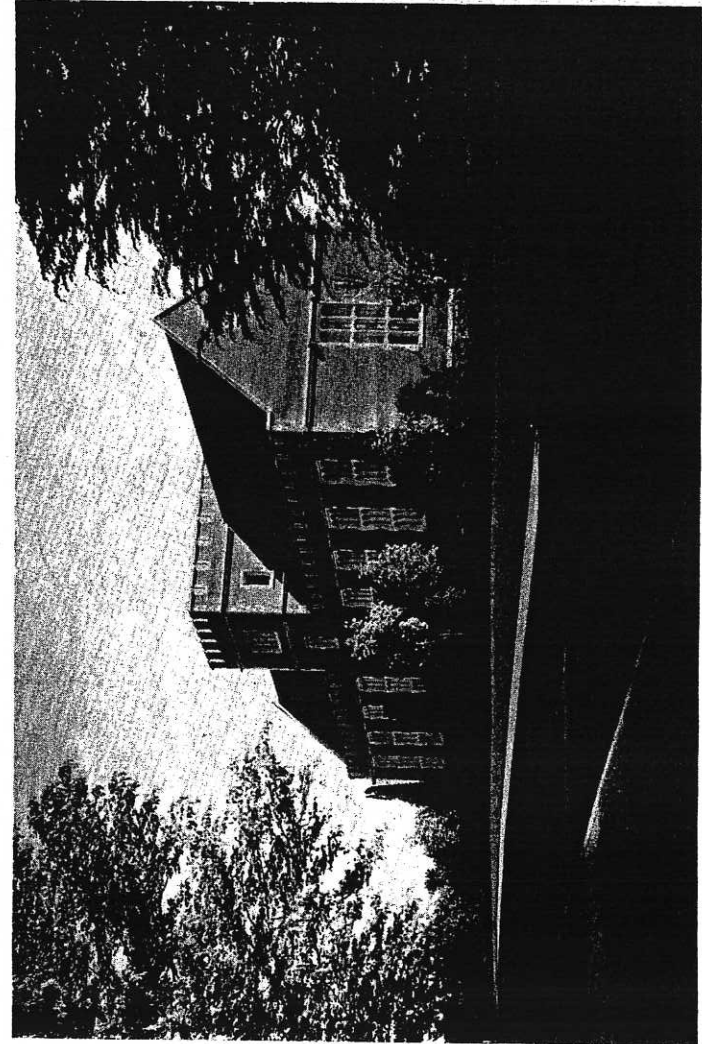
The choice of major made on entering the junior year is not necessarily final, although it is difficult to change unless the preparation has been unusually broad or unless graduation is not expected in the usual time.

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 divisions 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 it is subject to the approval of the division in each case. 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 a qualifying examination is given in each division to test students' general grasp of the major and related subjects and ability to undertake the writing of a thesis. Entrance upon the final year of work depends upon satisfactory completion of this examination. The thesis, an independent project of research in the major field, is the most important 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 faculty of his major division, with the assistance of one or more teachers from other fields and of an examiner from outside the college. 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 students' performance in the thesis, the senior oral and the last two years of study are taken into account by the division in recommending candidates to the college faculty for graduation.

The college seeks in the senior year to give a last emphasis to the coordination of interests proper to an educated and socially-minded man. Attempt is made to bring students to recognize and evaluate the objectives and principles of the

The Library



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EXTRA-CURRICULAR OPPORTUNITIES

different fields of study they have engaged in, and to relate these to the individual's program for living in society. This has been done for most students in the Senior Colloquium. Other experiments to the same end are now under way, including a seminar in the social studies.

An arrangement with the Portland Museum Art School makes it possible for students to combine technical work in the fine arts with studies at the college as a five-year course for which the Bachelor of Arts degree is given together with the certificate of the Museum Art School. The faculty of the art school takes the place of a divisional faculty in supervising the program of studies in art as the major field, and the general control of the joint course, of the junior and senior examinations and of recommendation for graduation rests with a joint committee of the faculties of the college and of the museum school.

EXTRA-CURRICULAR OPPORTUNITIES

THE AIMS of a liberal education include the aesthetic satisfaction and cultural enrichment which come from music, the fine arts and the drama. The college seeks to give its students an acquaintance with these arts and opportunities for active expression through them. Its location in Portland is in this respect a major advantage, since the facilities of a city interested in the arts are at the door of the college and supplement its own activities.

Music

The college chorus has always been an important feature of campus life. Two concerts by this group are given annually. Membership provides an opportunity for those interested in choral music to perform traditional carols and folk songs as well as sacred and secular cantatas and choruses.

The student orchestra is a more recent institution than the chorus but one which is rapidly making a place for itself. It is open to players of stringed and wood-wind instruments. Members of the orchestra have the opportunity of working not only in the complete orchestral ensemble but in the smaller instru-



The Arts Building

DIVISION OF MATHEMATICS AND NATURAL SCIENCE

Professors F. L. Griffin, L. E. Griffin, Knowlton; Assistant Professors Carmody, Clare, O'Day, Miss Short; Instructor, Seymour.

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, section L 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.

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DIVISION OF MATHEMATICS AND NATURAL SCIENCE

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.

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 sections SA, SB, with more work on technique.

Sec. L. 3 units. M.T.Th.F. at 10. F. L. Griffin.

Sec. SA. 4 units. M.T.Th.F. at 8. Miss Short.

Sec. SB. 4 units. M.W.F. at 11 and T. at 1. Miss Short.

11M—Special Topics. 1 unit.

Topics supplementary to the introductory course, primarily for students majoring in mathematics. F. at 2. Griffin, Miss Short.

21—Mathematical Analysis. 4 units.

Calculus, including elementary differential equations, with applications to biology, chemistry, economics and statistical theory, as well as to physics and the earth sciences. Further analytic geometry. M.T.Th.F. at 9. Griffin.

*29—General Astronomy. 3 units.

Solar system, stellar systems; theories of formation and evolution; observational study of constellations and apparent motions of solar system. Some mathematical work, but chiefly descriptive. Prerequisite: Mathematics 11 and an elementary knowledge of physics. Miss Short.

31—Theory of Equations. 2 units.

Theoretical solution of cubic, quartic and special higher equations; symmetric functions and elementary substitution groups; theory of determinants. Applications to geometry, special algebraic methods. T.Th. at 11. Griffin, Miss Short.

33—Higher Geometry, Analytic and Synthetic. 4 units.

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, tri-section of angles and other famous problems of construction. About a third of the year is spent on "college geometry". M.W.F. at 10. Miss Short.

* Not given in 1935-36.

- *35—Descriptive Geometry and Mechanical Drawing. 4 units.
Projections of lines and surfaces; intersections; perspective drawing; shades and shadows. Applications to architecture. To be arranged. Miss Short.
- 41—Advanced Calculus. 4 units.
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. M.T.W.F. at 8. Griffin.
- 43—Special Topics. 1 or 2 units.
Conferences. By appointment. Griffin.
- Education 45-E—Teaching of Mathematics. 2 units.
General procedure and special methods, in the light of the history and foundation of mathematics.
- 47—Thesis. 2 units.

Biology

The courses in biology are designed to give a thorough and broad understanding of biological fundamentals. The object is to equip students, in the first place, with knowledge useful to them in living; in the second place, with a good foundation for biological specialization, not necessarily professional. With the related sciences these courses furnish thorough preparation for the study of medicine, for teaching biology in high schools, for training as laboratory technicians, and for undertaking graduate study.

- 11—General Biology. 4 units.
The purpose of the course is to furnish an introduction to and an understanding of biological phenomena which are encountered in the ordinary course of life, such as the structure of plants and animals, their relation to each other and to their environment; the biological factors of disease; principles of heredity, evidence and theories of organic evolution; structure and functions of the human body. The animals and plants studied in the laboratory are chosen to give students an acquaintance with a variety of forms and to extend the study introduced by lectures and textbooks. The last third of the course consists of the study of human physiology, accompanied by laboratory study

* Not given in 1935-36.

of the anatomy of the cat. Two lectures or conferences and two laboratory periods weekly.
Lectures, T.Th. at 10. Lab. A, M.T. 1-4:00; Lab. B, W.F. 1-4:00; Lab. C, W.S. 9-12. L. E. Griffin.

- 21—Biology of the Vertebrates. 5 units.
This course affords the student opportunity to examine at first hand the evidences on which the evolutionary theory rests and to see the evolutionary process at work across the ages, as it is revealed in the rise and expansion of the major groups of vertebrate animals. The course is based upon the study and interpretation of form and structure. In the laboratory about three quarters of the year are given to the dissection of four vertebrate types which serve to illustrate the evolutionary sequence; the remainder of the time is devoted to the embryology of the chick, which, in a broad way, recapitulates the fundamental developments disclosed by the dissection. In the lectures information from diverse sources is drawn upon freely to round out and give coherence to the evolutionary story. Prerequisite: Biology 11. One lecture, one recitation, and three laboratory periods weekly. W.F. at 8. Labs., T.Th.S., 9-12. Clare.
- 31—General Physiology. 4 units.
As the physiologist views the organism, it can be likened to a vast city which owes its distinction to the unparalleled intricacy and coordination of the activities performed within its boundaries, such that the mere impairment of any one activity might render impossible its continued existence. Physiology is concerned with the activities which underlie the existence of the organism. It sets out to reveal the raw materials consumed, the processes by which they are worked over and converted into fabricated products, the agencies of transportation and exchange. It attempts to interpret the sources of energy, the systems of intercommunication and governance, and the factors upon which growth and the establishment, through reproduction, of new centers of growth depend. Finally, it seeks to understand the "give and take" relationship between all organisms and the physical world in which they live. Textbook of the past year: Mitchell, General Physiology. Prerequisites: Biology 11 and 21; Chemistry 11. Two laboratory periods and one or two conferences weekly. M.W. at 9. Labs., M.T., 1-4:00. Clare.
- 33—Biological Factors in Society. 3 units.
Human heredity and eugenics; the course of human evolution. Social and economic conditions in which biological factors are especially important. W.F. at 9. Griffin.
- 39—Special Topics. Credit in proportion to work done.
An opportunity for reading and laboratory work of a specialized character in some field of the student's interest. Prerequisites: Chemistry 11 and, usually, one year of biology after Biology 11. Griffin, Clare.

History of Art. 2 units.

The study of the architecture, sculpture and painting of the ancient world and of Europe as a corollary to the history and literature studied in History 11 and Literature 11, with emphasis upon the art of the Greeks, of the Middle Ages and of the Renaissance. Lectures and conferences. To be arranged. Miss Berg.

Joint Five-Year Course with the Museum Art School.

The course coordinates the regular program at the museum school with portions of the curriculum at the college. The work at the college follows the general pattern of required and elective subjects outside the major field and must total at least 42 units, or the equivalent of slightly less than three years of study. The work at the museum school replaces the major field at the college, and the junior qualifying and senior oral examinations are in art. The adjustment of the two programs of work to each other is determined according to individual needs rather than by fixed schedule, but continuity in each program for two years is desirable with the two years at the college put first.

Thesis projects in the fifth year give opportunity for use in personal expression of what the students have gained from their study and experience in the arts. They may choose a subject for painting or drawing, create designs, do original work in the crafts, or explore a topic in the history of art or in aesthetic theory.

Courses in the Museum Art School:

Day classes; drawing and painting, composition, life sketch, design and crafts, modelling and wood-carving, art history, teaching methods with opportunities for practice teaching.

Evening classes: life drawing.

The cooperation between the schools is not limited to the joint course. Other qualified Reed students may include work at the museum school in their regular programs of study with permission of the administration committee or, in the case of upperclass students, of the major division.

For details as to instructors, fees, hours, etc., write to the Museum Art School, West Park and Madison, Portland, or to the College Registrar for a catalogue of the school. The committee in charge of the joint course is composed of Professors Arragon and Sisson for the college, and Miss Anna B. Crocker, Principal, and Miss Henrietta H. Failing, Instructor in the History of Art, for the school.

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DEGREES

BACHELOR OF ARTS

The requirements for the degree of Bachelor of Arts 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.
- (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 required by the major division for the last two years.
- (6) Major thesis and comprehensive examination under divisional supervision.

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 student will be admitted as a candidate for the Master's degree unless he or she is a graduate assistant.




Reed 1935-36

Date: Tue, 10 May 2011 14:07:39 -0700 [05/10/11 17:07:39 EDT]

From: Mark Kuestner <kuestnem@reed.edu>

To: "Heather L. Huntington" <hlh2105@columbia.edu>, Gay Walker <gay.walker@reed.edu>

Subject: Re: Cajori Two Curriculum Research Project

- Part(s):  2 ReedCatalog1_1985-86.jpg [image/jpeg] 260 KB
-  3 ReedCatalogGradReq_1985-86.jpg [image/jpeg] 237 KB
-  4 ReedCatlgMathReq1985-86.jpg [image/jpeg] 16 KB

 1 unnamed [text/plain] 1.45 KB

Hi Heather;

I've scanned the Reed course catalog pages that seem to answer your queries for 1935-36 and 1985-86.

I'm attaching with this email.

From the 1935-36 Catalog, Reed was (and is) on a semester term.

From the 1985-86 Catalog:

(see attached scans as well)

I've scanned the page w/math courses preceding Math 332.

I've scanned the courses required in the Math Dept. for a math major.

The overall graduation requirement in number of "units" is going to require an approximate answer as to the "How many credits (or hours or units, etc.) were needed for a student to to obtain a Bachelors Degree".

I've scanned the relevant section that describes how to calculate how a Reed College "unit" equals semester "hours". Since there is a range noted--the approximate number of "hours" needed for a Bachelors Degree, from the 1985-86 Course Catalog would be 128, assuming 4 courses per semester taken, over 4 years--please refer to Attachment 2, for clarification.

I hope this helps, and good luck with your study,

Mark Kuestner
Special Collections Assistant,
Reed College Archives

On 5/9/2011 1:50 PM, Heather L. Huntington wrote:

Hi Mark,

Thank you again, dearly, for all your help! This is a big project and, as you know, is taking several year to complete!

My home address is:
12 19th Ave
Sea Cliff, NY 11579