

FACULTY

Edmund Ezra Day, Ph.D., LL.D., President of the University.
Andrew Leon Winsor, Ph.D., Head of Department of Rural Education
and Director of the School of Education.

Lucile Allen, Ed.D., Counselor of Students.
Thomas L. Bayne, Jr., Ph.D., Associate Professor of Rural Education
(Educational Psychology).
C. Kenneth Beach, Ph.D., Professor of Industrial Education.
John Matthew Brophy, Ph.D., Assistant Professor of Industrial and
Labor Relations.
Julian Edward Butterworth, Ph.D., Professor of Rural Education (Edu-
cational Administration).
Samuel J. Catalfano, M.S., Supervisor of Practice Teaching in Modern
Languages, Ithaca Public Schools.
Cora E. Binzel Chase, M.S., Professor of Rural Education, Emeritus
(Home Economics Education).
E. William Crane, B.S., Instructor of Rural Education.
Theodore H. Eaton, Ph.D., Professor of Rural Education, Emeritus.
Emma Rose Elliott, M.S., Instructor in Home Economics Education.
Margaret Elliott, M.S., Instructor in Home Economics Education.
Lynn A. Emerson, Ph.D., Professor of Industrial Education.
Frank S. Freeman, Ed. D., Professor of Education (Educational
Psychology).
Eva Gordon, M.S., Instructor in Rural Education (Nature Study).
Milacent Grimes, M.A., Director of English, Ithaca Public Schools.
Helen Hoefer, B.S., Associate Professor in Home Economics Education.
Edwin R. Hoskins, Ph.D., Associate Professor of Rural Education
(Agricultural Education).
Margaret Hutchins, Ph.D., Professor of Home Economics Education.
Riverda H. Jordan, Ph.D., Professor of Education, Emeritus.
John E. King, Ph.D., Assistant Professor of Rural Education (Secondary
Education).

Loretta Klee, M.A., Director of Social Studies, Ithaca Public Schools.
Paul J. Kruse, Ph.D., Professor of Extension Education.
———, Instructor in Rural Education (Agricultural Education).
Clyde B. Moore, Ph.D., Professor of Education.
Helen Moser, M.A., Assistant Professor of Home Economics Education.
A. Gordon Nelson, Ph.D., Assistant Professor of Educational and Vocational Guidance.
Roy A. Olney, Professor of Rural Education (Agricultural Education).
E. Laurence Palmer, Ph.D., Professor of Rural Education (Nature Study and Science Education).
H. Irene Patterson, M.S., Assistant Professor of Home Economics Education.
Victor E. Schmidt, Ph.D., Assistant Professor of Science Education.
Clarence K. Schultz, Ph.D., Director of Placement, School of Education.
William A. Smith, Ph.D., Associate Professor of Rural Education (Agricultural Education).
Rolland M. Stewart, Ph.D., Professor of Rural Education, Emeritus.
Frederick H. Stutz, Ph.D., Assistant Professor of Education.
Flora M. Thurston, M.A., Professor of Home Economics Education.
Asahel D. Woodruff, Ph.D., Professor of Rural Education (Educational Psychology).

ASSISTANTS, 1946-1947

Marvin Chapman, M.A., Assistant in Human Growth and Development.
Lee Robert Crane, Assistant in Agricultural Education.
Richard M. Dickerman, B.S., Assistant in Agricultural Education.
Rosalind Dymond, M.A., Assistant in Human Growth and Development.
Daniel J. Hays, M.S., Assistant in Rural Education.
Marilyn Horn, B.S., Assistant in Home Economics Education.
Robert Isenberg, B.S. in Ed., Assistant in Rural Education.
Harry Kitts, M.S., Assistant in Rural Education.
Gilbert Mouser, B.S., Assistant in Rural Education.
Nicolas T. Théodorou, M.S., Assistant in Rural Education.
Kenneth D. Wells, M.S. in Ed., Assistant in Agricultural Education.
Dewitt Zien, M.S., Assistant in Nature Study.

Cooperating Teachers in the Ithaca High Schools, 1946-1947

Gladys I. Adams

Fred Bennett

Mayfred Claflin

Dora DePew

Margaret Dunlavey

Mary Furey

Eloise Hadlock

Catherine D. Jones

Ina P. James

Loretta Klee

Bertha S. McCargo

Kathryn McClarty

Eleanor McGinnis

Nora Mullin

Ruth Miller

Martha Neighbor

Margaret Pope

Harry S. Powell

Lilly Robinson

Irene Roehl

Arthur Smith

Stanley Smith

Oliver Stanford

Kathryn Stenson

Jane Stoutenberg

Louise Williams

Florence Williamson

Adelaide Wright

ORGANIZATION AND FUNCTIONS

THE School of Education at Cornell is the unit of organization which assumes the responsibility for planning and administering professional educational programs throughout the University. It is composed of staff members engaged in professional education work in the College of Agriculture, the College of Home Economics, the College of Arts and Sciences, and the School of Industrial and Labor Relations. Its purpose is to integrate specifically the work of teacher education in the Department of Rural Education, the Department of Home Economics Education, the Division of Industrial Education, and the courses of professional workers in the field of education in the College of Arts and Sciences. Particular opportunity is thus provided for coordinated undergraduate and graduate work in such fields as Agricultural Education, Administration and Supervision, Curriculum Construction, Educational Psychology, Extension Education, Guidance and Personnel Management, Home Economics Education, Industrial and Technical Education, Science Education, and Nature Study.

Cornell University provides more than the usual opportunities for students preparing to teach. The students in education attend classes with all other students in the University, thus they have access to the strong subject matter courses and laboratories that the various colleges have built up. They live in the dormitories and fraternities with students preparing for other professions and occupations, and enjoy the social and educational stimulation that a large university offers.

TYPES OF PROFESSIONAL WORKERS SERVED

The School of Education prepares workers for many different types of positions. Its graduates find professional opportunities in rural areas as well as urban centers. It offers preparation for initial positions in teaching and professional services in secondary schools and in colleges. For experienced teachers and school officers of proven ability, it provides for education leading to administrative, supervisory, counseling, and other specialized services in the field of education. For teachers of superior attainment or qualification, further preparation is provided for positions in research, authorship, and administration, and for professorships in institutes and colleges.

Curricula for the several types of workers in the urban centers correspond, in general, to such curricula elsewhere. In rural education, the offerings undertake to adapt the general principles of education

to the special conditions found in rural areas (defined in New York State as communities with a population of less than 4500). In recognizing that these special conditions make adjustments in the program of preparation desirable, the fact is not overlooked that elements common to all education usually predominate in any curriculum. Among those given special attention as rural workers are: teachers, supervisors, and directors of agriculture; principals of central, consolidated, and village schools; county, district, and village superintendents; and specialists in rural education for normal schools, teachers colleges, universities, and state education departments. Courses for elementary teachers are given only on the graduate level. The School of Education also renders assistance to certain departments in the Colleges of Agriculture and Home Economics in the preparation of such rural workers as 4-H club leaders and county agricultural and home demonstration agents and extension workers. In brief, Rural Education at Cornell University aims to prepare various types of leaders competent to deal understandingly with those problems, both general and special, found in rural America. In all curricula, students are given opportunity to become acquainted with the educational problems and practices found in representative New York communities. Notable among these resources for effective teacher preparation is the system of central rural schools that offers, in most communities, exceptional opportunities for the education of rural people.

ADMISSION

Applications for admission should be made on forms provided by the Office of Admissions. A candidate for admission as a freshman in the undergraduate colleges must satisfactorily complete secondary school subjects carrying a value of 15 entrance units. The subjects in which these units may be offered, the number of units that may be credited in each subject, and the units required in specific subjects by the several divisions of the University, together with other general information about admission and costs at Cornell, are all described in the General Information booklet. This may be obtained from Cornell University Official Publication, 124 Roberts Place, Ithaca, N. Y.

Admission to study in the Graduate School is granted to men and women whose personalities, experience, and records provide evidence of ability to succeed in the various fields for which the school provides preparation. Every student, whether or not he is a candidate for a degree, must be admitted by the required procedures before he registers in any course. A committee of the faculty examines carefully the

application of each individual and makes recommendations to the Graduate School relative to his fitness as a candidate.

Because of the time required to secure and evaluate transcripts and other records, a period of two to four weeks usually elapses between the receipt of an application and formal action upon it. Every effort will be made to render decisions promptly, and applicants can assist materially by making early applications.

VETERANS IN THE SCHOOL OF EDUCATION

Veterans eligible for benefits under the G.I. Bill (Public Law 346, as amended December 28, 1945) may use those benefits for graduate or undergraduate work. Eligibility should be established well in advance of registration day. Upon presentation of a certificate of eligibility and entitlement or terminal leave order at registration time, tuition, fees, books, and supplies will be charged to the Veterans Administration, up to the maximum allowed by the law.

Veterans who have not established eligibility at the time of registration may be required to pay tuition and fees, and charges for required books and supplies. These payments will then be refunded to them when their certificates of eligibility and entitlement are filed. Representatives of the Veterans Administration at the University will help veterans who have not established their eligibility to make the necessary applications. Original discharge papers or certified copies of them, and, in the case of married veterans, legal proof of marriage, must be furnished at the time of making application.

Veterans eligible for vocational rehabilitation training under Public Law 16 should arrange in advance for the transfer of their cases to the Syracuse, New York, office of the Veterans Administration. On arrival they should report at once to the Training Officer who will advise them on further procedure.

Veterans who hold New York State War Veterans Scholarships and Canadian Veterans eligible for education benefits under P.C. 5210 should present evidence of their eligibility at registration time.

All veterans who wish to use educational benefits from any of these sources must register in the University Office of Veterans Education on registration day, or as soon as possible after that date. Late registrants run some risk of receiving only partial benefits.

GUIDANCE AND SELECTION OF UNDERGRADUATES

In most cases the student will be assigned to a regular college adviser on entrance. In order that the prospective teacher may secure advice

regarding his professional program, he should, as early as possible in his university experience, consult with the official adviser in his teaching field. A list of these advisers is given on page 8.

As the student proceeds in his preparation for teaching, appraisal will be made of the development of his abilities, understandings, appreciations, and of such other qualities as make for success in teaching. Special determinations will be made at two principal points as to the fitness of the candidate to continue: (1) at the end of the sophomore year, and (2) prior to the period of student teaching in the senior year. Committees responsible for the selection in the several fields will be concerned with the personal and physical fitness of the candidate, his emotional and intellectual equipment, his general and special academic competence, his familiarity with current affairs, and his ability to use the English language.

Knowledge gained of the student by his advisers and his instructors, supplemented by the health record and the more formal measures such as psychological and personality tests, will provide information useful in judging the strictly personal factors involved. In general each student will be expected to maintain a standing in scholarship at least equal to the average of his college. Competence in this field of teaching and his knowledge of current affairs will be tested at the close of his fourth year of residence. A steady growth in the use of English will be expected of each student. Standards of accomplishment will be set up for the several groups of prospective teachers, beginning in the freshman year and checked at frequent intervals throughout the period of preparation. Training in the organization of materials, in platform speaking, and in reading will be required. Opportunity to discover and remedy defects in speech will be provided.

These requirements and standards may be supplemented by additional requirements in the several fields of training in order to insure a high degree of competence at all levels and to meet the special demands in different areas of teaching. Students entering the program later than the sophomore year will be expected to meet the standards and requirements indicated above.

Students planning to apply for admission to the undergraduate colleges should apply directly to the Director of Admissions of the University. If they expect to obtain a Bachelor of Science degree, they should apply for admission to the Colleges of Agriculture or Home Economics. If they seek a Bachelor of Arts degree, they should apply to the College of Arts and Sciences.

PRE-PROFESSIONAL AND PROFESSIONAL COURSES FOR SECONDARY SCHOOL TEACHERS

Students planning to teach should consult with official advisers as follows:

Academic Subjects Except Science: Assistant Professor Frederick Stutz, Goldwin Smith

Agriculture: Professor Roy A. Olney, 205 Stone

Art: Associate Professor J. A. Hartell, 303 White

Home Economics: Professor Margaret Hutchins, Apt. C. Van Rensselaer

Industrial and Technical Education: Professor L. A. Emerson, I. and L. R. School

Science: Assistant Professor Victor E. Schmidt, 16 Fernow

ADMISSION TO THE GRADUATE SCHOOL

Students may be admitted to the Graduate School in one of the following three classes:

- (1) Resident Doctors;
- (2) Graduate students not candidates for degrees: "non-candidates";
- (3) Candidates for degrees.

Applications for admission, made on the proper forms, should be filed in the office of the Graduate School at the earliest possible date and, ordinarily, not later than August 10 and January 25 for entrance to the first and second terms, respectively; and not later than June 1, if possible, for entrance to the Summer Session.

An applicant who is not a graduate of Cornell University must submit complete official transcripts of all previous college studies.

To be admitted to the Graduate School, either as a non-candidate or as a candidate for a degree an applicant (1) must have received his baccalaureate degree from a college or university of recognized stand-

ing or have done work equivalent to that required for such degree; (2) as judged by his previous scholastic record, or otherwise, must show promise of ability satisfactorily to pursue advanced study and research; and (3) must have had adequate previous preparation in his chosen field of study to enter at once upon graduate study in that field.

Seniors in the colleges of Cornell University who have completed the academic requirements for the Bachelor's degree, and who qualify under (2) and (3), may, subject to the approval of the deans of their respective colleges, be admitted to the Graduate School.

Resident Doctors: Persons who hold the Doctor's degree or who have equivalent standing may, subject to permission from the Dean, be admitted to the Graduate School as Resident Doctors, for the purpose of engaging in advanced study and research in a field in which they have had adequate previous preparation. On the recommendation of the Dean, Resident Doctors are exempt from the payment of tuition and all fees except laboratory charges. Resident Doctors ordinarily are not permitted to attend classes.

Graduate Students Not Candidates for Degrees: Students admitted to the Graduate School usually pursue a course leading to one of the advanced degrees; but a properly qualified person who, for special reasons, does not wish to meet the requirements for a degree may be admitted to the Graduate School as a "non-candidate" and arrange a program of graduate study suitable to his purposes. *For further information, consult the Announcement of the Graduate School.*

THE SPECIAL COMMITTEE . . . The work of each graduate student is in charge of a Special Committee. After the student has chosen his major and minor subjects, he must select one or more members of the faculty to represent each subject or field and to serve as the members of his Special Committee, the representative of his major subject being the chairman.

THE PROFESSIONAL DEGREES IN EDUCATION . . . Two professional degrees are offered, namely, Master of Education and Master of Science in Education. The former degree is granted upon the completion of a program of pre-service preparation for secondary school teaching; the latter, of a program for the preparation of special school officers. The programs leading to these degrees shall include such courses, seminars, projects, and investigations of an advanced or graduate nature as will develop ability to perform acceptably the professional duties required of the several types of educational workers.

General Regulations Governing Both Degrees:

1. Under the general administration of the Director, the candidate shall choose two or more members of the Graduate Faculty as a Special Committee to direct his work. The Special Committee of a candidate for the degree of Master of Education should include a representative from the student's teaching field. The Special Committee of a candidate for the degree of Master of Science in Education may include a faculty member representing a field other than Education. In each case the Chairman shall be a member of the Education staff.

2. The office of the School of Education acts as an office of record, and the candidate for a degree shall, within ten days of his registration, file in writing a statement approved by his committee showing his plan of work and course of study.

3. The maximum period allowed for the completion of all requirements shall conform to the regulations of the Graduate School.

4. Prior to scheduling the final examination, each member of the Education staff under whom the candidate has had instruction shall be informed of the proposed examination, shall be asked to express an opinion regarding the candidate's fitness for such examination, and shall be invited to be present and to take part in the examination.

The Degree of Master of Education. The program for this degree is planned for students seeking *pre-service* preparation for teaching in the secondary school. There may be two types of candidates for this degree, as follows:

1. Those who, early in their University work, make definite plans whereby preparation for teaching may be carried through the four undergraduate years and a fifth year of advanced professional study. The general pattern for this five-year program is presented on page 21.

2. Those who wish to prepare for teaching even though they may have secured little or no professional training during their undergraduate years. Such persons may normally earn the degree by following a continuous program involving one summer session and the fifth year. The pre-professional and professional subjects shall be those included in the program outlined on page 21.

Note: The attention of *experienced* teachers is directed to the opportunity that exists under Plan B of the M.A., M.S., and M.S. in Agr. degrees to secure, through a flexible program, additional preparation for secondary school teaching.

The Degree of Master of Science in Education. The various programs leading to this degree are planned primarily for those who, having had experience in teaching or other type of educational work, wish to prepare themselves for such specialized forms of service as supervision, counseling, or the administration of an elementary, secondary,

vocational, or technical school. For the present, teachers of industrial arts and of industrial and technical subjects and extension education should also ordinarily seek this degree.

1. An approved program for this degree, in which Education shall constitute the major portion, must have unity in terms both of purpose and of sequential development.

2. The courses taken by the candidate should fall into three groups designated A, B, C. The determination of the groups into which particular courses fall will depend upon the professional purpose of the candidate in his graduate study and integration of courses to such purpose.

GROUP A. This group includes courses of a special nature and of immediate interest, such as the technical courses in English, in the languages (or a language), history, sciences (or a science), agriculture (or a division thereof), etc., and the professional studies appropriate to the special field. It is expected that at least a third of the candidate's program will fall in this group.

GROUP B. This group includes courses in the theory and science of education which will furnish the several types of background that are warranted by the nature of courses in Group A. Courses to the extent of one-third of the total may be chosen in this group. Educational Psychology, including measurement, History and Philosophy of Education and other courses necessary to integration, such as general studies appropriate to the organization and administration of schools at the several educational levels, are representative of this group.

GROUP C. This group includes courses intended to meet the particular needs of the candidate not adequately met in Groups A and B. In certain cases as much as a third of the candidate's program should be taken in this group.

For the selection of courses in all the above groups, the candidate should consult his special committee, whose approval is necessary.

3. The candidate is not required to present a formal thesis or essay; but, if he does not do so, he is expected to complete a problem to the satisfaction of his committee. If the candidate seeking a degree through summer session attendance does not present a thesis or an essay that complies with the standards and requirements for the degrees of Master of Arts and Master of Science, including deposit of two bound copies in the University Library through either the Graduate School or the School of Education, a fifth summer of work shall be required. It is expected that normally all work will have been taken at Cornell University. However, under exceptional circumstances, any necessary study beyond the required four summer sessions of residence may be done at some other institution of comparable standards but only when this

work can be shown, to the satisfaction of the Special Committee, to be an integral part of the student's entire program.

4. The student's Special Committee, by the middle of the third summer of study (or by the end of the first term of graduate study), shall determine the fitness of the candidate to continue his candidacy for this degree through examination or such other suitable means as the committee may elect. The action of the Committee shall be recorded in the office of the School of Education.

OTHER MASTER'S DEGREES . . . Certain students in education may be interested in one of the following degrees: M.A., M.S., M.S. in Agr. There are two procedures by which any of these degrees may be secured, called Plan A and Plan B. Plan A is intended primarily for those candidates who, by suitably restricting their graduate work to a given field, wish to acquire some degree of competence in that field, frequently as a basis for further study and research or for professional purposes. Plan B is designed for those who wish a somewhat broader training than is permitted in Plan A.

THE DEGREE OF DOCTOR OF PHILOSOPHY . . . Work leading to the Ph.D. degree is designed primarily to give the candidate a thoroughly comprehensive view of a field of knowledge; to train him in methods of research and scholarship in that field; and to develop qualities of leadership and a feeling of responsibility to add to the sum total of knowledge in his field. The requirements for the degree include, in addition to the requirements in foreign language, (1) six terms of residence as a graduate student, (2) the satisfactory completion, under the direction of a Special Committee, of work in one major subject and two minor subjects, (3) the presentation of an acceptable thesis, and (4) the passing of a qualifying examination and a final examination.

Major and Minor Subjects. A candidate for Ph.D. must select a major subject and two minor subjects properly related to the major subject. A list of approved major and minor subjects in each of the several fields of graduate study will be found in the *Announcement of the Graduate School*. There are no requirements in semester hours for the Ph.D. degree.

Requirements in Foreign Languages. Each candidate for the Ph.D. must demonstrate his ability to read both French and German (or two languages, other than English, approved by his Special Committee), by passing in each of these languages an examination given by a member of the Language Examination Board.

A candidate for the Ph.D. is expected to meet the foreign language requirements at the beginning of his candidacy at Cornell University for that degree. A minimum of seven terms of residence is required of a candidate who does not pass at least one language examination at this time. A minimum of three terms of residence is required after completion of all language requirements, except in the case of a student admitted to candidacy with two or more terms of residence credit; in such a case, a minimum of two terms is required.

Language examinations passed within one month after registration are considered as being passed at the time of registration.

Additional requirements in foreign language may be made at the discretion of the student's Special Committee.

Residence. For Ph.D. a minimum of six terms of residence is required; or seven terms if the candidate does not pass one of the examinations in foreign language (see requirements in foreign language) on beginning candidacy at Cornell University. Upon the recommendation of the student's Special Committee residence up to a maximum of four terms may be credited toward the doctor's degree for work done in other universities.

Research Under Personal Direction. A candidate for the Ph.D. degree who has demonstrated ability in graduate studies may, upon recommendation of his Special Committee and with the approval of the Dean, receive residence credit for research done during the summer under the personal direction of a member of the Faculty of the Graduate School. The privilege of working under Personal Direction will not ordinarily be granted to a student until he has completed at least a full year of graduate work in regular sessions. Application for the privilege must be accompanied by a statement from the member of the Faculty concerned, showing the number of weeks during which he is prepared to supervise the work of the student and the nature of the research to be done. To secure credit for such work, the student must register *in advance* at the office of the Graduate School, and the professor must certify to its satisfactory completion. A maximum of two terms may be earned in this way.

Credit toward the Ph.D. degree earned in Summer Sessions at Cornell or elsewhere is limited to two terms. A candidate who has already earned two terms of credit by work in summer sessions and who has demonstrated ability in graduate work, may, however, upon the recommendation of his Special Committee and with the approval of the General Committee, earn one more term credit by work in

Summer Sessions at Cornell with the privilege of credit for an additional term for research under Personal Direction. But the last year of residence must be in regular academic sessions and in successive terms.

Thesis Requirement. The thesis for the Doctor's degree must give evidence of the candidate's power to carry on independent investigation and must be satisfactory in style and composition. The thesis must be acceptable to the candidate's Special Committee in respect of both scholarship and literary quality. The completed thesis must be in the hands of the Special Committee at least fifteen days before the final examination for the Doctor's degree; and, during the five days immediately preceding this examination a typewritten copy approved by all members of the Special Committee, shall be on file in the office of the Graduate School. *For further information regarding the thesis and the thesis abstract, see the Announcement of the Graduate School.*

Qualifying Examination. Each candidate for Ph.D. must pass a qualifying examination given by his Special Committee. The examination is ordinarily given at the end of the first year of graduate study, if that year is at Cornell. If the candidate has had one year or more of graduate work elsewhere, the qualifying examination should be given as soon as possible after his entrance into the Graduate School.

Before presenting himself for Final Examination B or C (see next paragraph), each candidate must have earned at least two terms of residence credit after the passing or the waiving of the qualifying examination.

Final Examination. Each candidate for the Ph.D. must pass a final examination, conducted by his Special Committee and covering (1) the major and minor subjects and (2) the thesis and related topics. At the discretion of the Special Committee, the two parts of this examination may be given either separately or in combination.

When the two parts are given separately, an examination, dealing mainly with the major and minor subjects and designated as Final Examination A, may be given at the end of the fourth term of candidacy, or thereafter. Final Examination B, on the thesis and related topics and on such other work as the student may have done after completing Examination A, will be given after the residence requirement has been satisfied and the thesis has been completed and filed.

When the two parts of the final examination are given in combination, the combined examination, designated as Final Examination C, will be given after the residence requirement has been satisfied and the thesis has been completed and filed.

WORK IN SUMMER SESSION . . . The *Announcement of the Summer Session* contains a statement regarding the graduate work offered during that period.

Credit toward advanced degrees may be earned in Summer Sessions in accordance with the following conditions and rules:

For A.M., M.S., M.S. in Agr., and Ph.D., residence during Summer Sessions may be counted at the rate of three Summer Sessions for one term of credit, and five sessions for two terms; for all other advanced degrees at the rate of two Summer Sessions for each term of credit.

Since Cornell University grants no advanced degree for less than two terms of residence and work in the Graduate School and since the minimum residence requirement for Master's degrees is two terms, work in Summer Sessions elsewhere can not be counted toward Master's degrees at Cornell.

The credit toward the Ph.D. that may be earned in Summer Sessions at Cornell University or elsewhere is limited to two terms. A candidate who has demonstrated unusual ability in his graduate studies, however, may, upon the recommendation of his Special Committee and upon approval by the General Committee, earn one more term by work in summer sessions at Cornell, with the privilege of credit for an additional term for research under personal direction. But the last year of candidacy for Ph.D. must be spent in residence at the University and in consecutive, regular sessions.

To obtain residence credit in the Graduate School for Summer Session work the candidate must register both in the Summer Session and in the Graduate School. He must file in the office of the Graduate School within one week after registration a statement-of-courses blank, as provided for students in the regular session.

Extramural Work

Courses in the extramural program will be available to students interested in part-time study. These are regular offerings scheduled late afternoon, evening, and Saturday morning for the convenience of students able to commute to the campus. Graduate credit is granted for the satisfactory completion of these courses, and is recorded in the Registrar's Office or in the Graduate School if the student has matriculated in the Graduate School. As much as twelve hours toward a higher degree may be earned in this manner. One-fifth of a term's residence is given for each two-hour course. Students who wish to register for these courses should apply to the Director of Extramural Courses for information.

TUITION FEES

UNDERGRADUATE COLLEGES

A student pursuing the undergraduate program will pay the tuition fee of the College in which he is matriculated as a candidate for the Bachelor's degree. Tuition rates, a term, are as follows:

Two hundred seventy-five dollars in the College of Arts and Sciences.

Two hundred seventy-five dollars in the College of Architecture.

One hundred fifty dollars in the College of Agriculture.*

One hundred fifty dollars in the College of Home Economics.*

One hundred fifty dollars in the School of Industrial and Labor Relations.*

For details see the *General Information* booklet.

THE GRADUATE SCHOOL

A tuition fee of \$150 a term is to be paid by all students registered in the Graduate School. It is payable at the beginning of each term.

Certain classes of students are exempt from the payment of the tuition fee. They are:

(1) Graduate students holding certain appointments as University fellows or Graduate Scholars, and holders of certain temporary fellowships and scholarships.

(2) Resident Doctors upon recommendation of the Dean.

(3) Certain members of the instructing Staff. See the *Announcement of the Graduate School*.

A matriculation fee of \$13**, an administration fee of \$12.50 a term, a health and infirmary fee of \$15 each term, a Willard Straight Hall fee of \$5 each term, a laboratory and library fee of \$5 each term, and a graduation fee of \$10 are also charged. An abstract fee of \$12.50 is required of each candidate for the Ph.D. degree.

Any tuition or other fee may be changed by the Board of Trustees to take effect at any time without previous notice.

*Under certain conditions residents of New York State are exempt from the payment of tuition.

** Payable upon first registration only.

GRADUATE FELLOWSHIPS, SCHOLARSHIPS, AND ASSISTANTSHIPS

Financial assistance to students in the various phases of the work of the School of Education is available as indicated below. These aids are granted only to students matriculated in the Graduate School, who, in addition to adequate preparation in general subjects, in an appropriate special field, and in Education, *have had a sufficient amount of successful teaching or other professional experience to warrant seeking further preparation for educational leadership.* Experience is not required of candidates for 5.

1) RURAL EDUCATION

- a) One \$1200 Research assistantship available to a person desiring to prepare for professional service in some field for which the Department of Rural Education offers preparation. (For example: administration, agricultural education, educational psychology, elementary education, guidance, nature study and science education, philosophy of education, secondary education, supervision.) A well-planned project in research must be submitted. Normally this assistantship will be granted only to a candidate for the doctorate who is within approximately one year of completing the requirements for that degree (including a reading knowledge of two foreign languages, preferably French and German).
- b.) One \$1000 and one \$750 Research assistantship open to candidates for a Ph.D. degree who are available for assistance in a research project being carried on in some field for which the Department of Rural Education offers preparation.
- c) One \$1000 assistantship open to qualified candidates for a Ph.D. in Educational Psychology who are capable of assisting with the instruction in the introductory psychology courses.
- d) One \$1000 assistantship available in Agricultural Education normally only to one who is a candidate for the doctorate. It is essential that the candidate shall have had satisfactory teaching experience in vocational agriculture and, in addition, teacher training or supervisory experience in agricultural education.

2) NATURE STUDY AND SCIENCE EDUCATION

- a) Two or three American Nature Association research fellowships of \$400 to \$600. Free tuition is not included.
- b) Two \$150 scholarships given by the late Anna Botsford Comstock and available to graduate students in nature study.
- c) One \$500 assistantship available to a person of experience preparing for a leadership position in the teaching of science.

3) INDUSTRIAL EDUCATION. A number of assistantships are available in this field. Persons interested should apply to Professor John W. McConnell, School of Industrial and Labor Relations.

4) HOME ECONOMICS EDUCATION

- a) One assistantship is available which provides a basic income of \$500 plus free tuition for the academic year, to a graduate student who shows promise of giving outstanding service in the field of home economics education. Preference will be given to a candidate with experience in teaching home economics in schools, colleges or the Extension Service, who is preparing herself for more effective service.
- b) One assistantship is available which provides an income of \$750, plus free tuition for the academic year to a graduate student experienced in teaching home economics, who is preparing for a position of leadership in home economics education. Preference will be given to candidates holding the Master's degree who have had experience in research.
- c) One assistantship is available which provides an income of \$1200 plus free tuition for the academic year to a graduate student who has held a position of leadership in home economics education and who holds the Master's degree. Preference will be given to candidates who have undertaken post master's study, who are working for the doctorate, who have had experience in research and who can submit a satisfactory plan for a project in research.

5) HIGH SCHOOL TEACHERS IN TRAINING. Ten free tuition scholarships to students in the fifth year of the five-year program who give promise of becoming outstanding secondary school teachers in any of the following fields: Agriculture, Art, English, Foreign Language, Home Economics, Mathematics, Science, Social Studies. Five of these scholarships are available to students who have received their undergraduate preparation in institutions other than Cornell.

6) EDWARD A. SHELDON SCHOLARSHIP FOR WOMEN TEACHERS. This scholarship may be awarded "to any woman of suitable qualifications who needs this assistance", preference being given candidates in the following order: first, a woman graduate of the State Teachers College at Oswego, New York; second, a woman graduate of any other New York State Teachers College; third, a suitably qualified woman who is preparing to teach. The funds available will be apportioned among qualified applicants, usually not exceeding \$250 for any one scholarship. Free tuition is not included.

Free tuition in the Graduate School is given in addition to the cash awards, except as indicated.

The amount and character of the service required of the holder of an assistantship varies, but information on this point may be secured upon request.

THE PLACEMENT BUREAU

The chief activities of the Bureau are concerned with the various phases of teacher placement. In the field of education, this is a highly specialized function. Each prospective teacher prepared at Cornell is urged to register with this office well in advance of the completion of his training. By means of this registration, there is on file in appropriate form comprehensive information as to personal, educational, and experimental qualifications of each registrant. With the cooperation of the registrant, this record is kept up to date at all times and is available to any institution or qualified official upon request.

The Bureau's program of rendering discriminating service to interested educational institutions is facilitated by and combined with the follow-up check on registrants previously placed. By this means a realistic evaluation is attained which permits a practical upgrading program to be followed.

Answering frequent requests for information about trends and demands, both long and short term, forms an important part of the Bureau's service. Location of positions, salary range, contract terms, certification requirements, and many other factors are items on which the Bureau is equipped to give up-to-date information.

All prospective teachers, as well as those already in the field, are urged to avail themselves of the services which the Bureau offers. It is located in 102 Stone Hall.

THE BUREAU OF EDUCATIONAL RESEARCH AND SERVICE

The Bureau is designed to provide equipment and an organization whereby the various resources in the University can be utilized in the study of educational problems. These problems may arise in such areas as curriculum planning, testing and evaluation, administration and supervision, personnel management, youth adjustment and psychological foundations of education. They may exist in any of the various colleges of the University, in the public schools, or in the communities of the State. In addition to the coordination of research, the Bureau offers statistical and clerical assistance to the staff and graduate students in their independent research studies.

The Bureau also maintains an educational and vocational testing and guidance service for students referred by the various college or administrative offices. Persons not so referred may obtain such service upon application to the Bureau and the payment of a fee.

Other forms of service include the maintenance of information concerning schools and colleges and related matters, teaching aids for use by the staff in the preparation of teachers, an extensive library of psychological and educational tests, and a small selected library of technical books dealing with research in education and psychology. There are numerous opportunities for graduate students in education to obtain practical experience in the various activities of the Bureau as part of their programs of study. Arrangements for such experience are made through the Director of the Bureau and the student's advisory committee.

Effort is made to offer educational service in harmony with recognized needs and developments. For that purpose suggestions as to improvement of the Bureau's program are constantly solicited.

UNDERGRADUATE PROGRAM FOR SECONDARY SCHOOL TEACHERS

The following program is recommended for all prospective teachers of secondary school subjects:

Pre-Professional studies

Freshman Year

Social Science 101 3 hours
(Freshman or Sophomore Year)

Sophomore Year

Human Growth and Development 6 hours
First selection of prospective teachers

Professional Studies

Junior Year

111. Educational Psychology 3 hours
190. Social Foundations of Education 3 hours
Second selection of prospective teachers

Senior Year

130. The Art of Teaching 10 hours
Academic subjects, 130
Science, 121 or 130, 128 and 129
Home Economics, 330, 331
Agriculture, 131, 132

When time permits, an additional year of education is strongly recommended. Due to the current teacher shortage, apprentice teaching facilities for this fifth year have been curtailed temporarily. It is recommended that students return after a few years of experience to complete their professional education and to obtain a higher degree.

The remainder of the student's program will be made up of: (a) courses required by the college in which the student is registered; (b) courses in the field or fields in which he plans to teach; (c) courses helpful in developing understandings and appreciations of particular significance to teachers.

TEACHERS OF AGRICULTURE . . . Graduation Requirements of the College of Agriculture. Students preparing to teach in the field of vocational agriculture will register in the New York State College of Agriculture and must meet the requirements of that College for graduation. The College of Agriculture requires the completion of the following program of courses; orientation, 1 hour; English, 6 hours; botany, biology or zoology, 6 hours; chemistry or physics, 6 hours; geology, 3 hours; basic sciences and social studies, 24 hours; electives in the College of Agriculture, 54 hours; general electives, 20 hours.

Technical Studies in Agriculture and Related Sciences. In the present plan for the preparation of prospective teachers through the New York State College of Agriculture, a total of 60 semester hours in Agriculture and Related Science is required. Thirty-six of these hours must be distributed in five broad fields as follows:

Agricultural Economics and Farm Management	6-9 hrs
Agricultural Engineering and Farm Mechanics	6-9 hrs.
Animal Husbandry and Poultry Husbandry	6-12 hrs.
Farm Crops and Horticulture	6-12 hrs.
Soil Technology	3-6 hrs.

In addition to a required minimum of 36 hours of credit taken in the above five fields, 24 hours of credit in agricultural courses approved by his adviser is recommended.

To assist the student in meeting these requirements, a plan is set up for the use of students and their advisers.

General Electives. The prospective teacher will find opportunity to select, with the approval of his adviser, such courses from agriculture, science, or other University offerings as will contribute further to his preparation for teaching.

TEACHERS OF ACADEMIC SUBJECTS . . . Graduation Requirements of the College of Arts and Sciences. At Cornell University all prospective teachers of academic subjects, except students in the College of Agriculture preparing to teach science, will register in the College of Arts and Sciences and must meet the graduation requirements of that College. In brief, the College requires the completion of a full year course in English, foreign languages, history, and laboratory science. The details may be secured from the College Announcement.

Teachers of science may be prepared either through the College of Arts and Sciences or through the College of Agriculture. Students in

the College of Agriculture must, of course, meet the graduation requirements of that College.

Preparation in the Teaching Field. The student must select, after the first year of residence and before registering for the first term of the third year, a major field of study. The specific requirements vary somewhat according to the field but, in general, course work to the extent of approximately 24 hours in the major subject and 18 hours in related subjects is required.

As an aid to the prospective teacher, programs in the academic subjects have been established for the four undergraduate years which meet college requirements and provide the preparation needed for teaching in the secondary schools. These programs vary in extent and in the number of prescribed courses. It is desirable that some one of the combination programs below be selected, although other combinations may be arranged to suit individual preferences.

English and Public Speaking. The program in English follows closely the pattern prescribed for students majoring in that subject. Composition, reading of expository prose, and introduction to drama and fiction will comprise the work of the sophomore year. These aspects of the subject will be developed further in the upperclass years and, in addition, the student will select the literature of some period and the works of some author for intensive study. Nine hours in public speaking must be included in the related subjects. The total requirement of the major is 45 hours. Students primarily interested in speech and dramatics should major in public speaking and supplement that training with considerable work in English.

Foreign Language. In foreign language, concentration in Latin and French is provided which satisfies the requirements of the major in either subject. Additional preparation in a third language is recommended since the object is to prepare a teacher of language rather than a specialist in a single subject. The course work in Latin and French totals 54 hours.

Mathematics. Preparation for teaching mathematics is based on the major requirement in the subject: 9 hours of analytic geometry and calculus plus 15 hours of advanced courses. The student should also complete the 30 basic hours in science.

Science. Teachers of science may be prepared either through the College of Agriculture or through the College of Arts and Sciences. In the College of Agriculture the training includes 36 hours of basic courses in physical, biological, and earth sciences, and approximately 24 hours of advanced courses in one of these areas. The program in the College of Arts and Sciences is based on approximately 20 to 40 hours in a major field, ordinarily chosen from botany, chemistry, physics, or zoology, and additional courses to make a total of approximately 60 hours in science. In addition, completion of the minimum certification requirement of 15 hours in mathematics is advisable.

Social Studies. In social studies the student may major in history, economics, government, or sociology, although concentration in history is preferable. The basic program must include 18 hours of history, and 18 hours of social science.

Depending upon the major subject selected, the number of hours in the program will aggregate from 48 to 60.

When the fifth year is elected, the prospective teacher of an academic subject may select, under the guidance of his Special Committee, approximately 20 hours of advanced courses and seminars in his teaching field.

General Electives. After meeting the minimum requirements described above, the student still has opportunity to elect courses according to his needs and interests. These electives may, with the approval of the student's adviser, be chosen from professional courses, from the student's teaching field, or from other University offerings.

TEACHERS AND EXTENSION WORKERS IN HOME ECONOMICS

TEACHERS. . . . Undergraduate Program: *Graduation requirements of the College of Home Economics.* Students preparing to teach Home Economics in the public schools will register in the New York State College of Home Economics and must meet the requirements of that College for graduation. In brief, the College requires the completion of: 30 hours of basic sciences of which 6 are to be in the biological sciences, 6 in the physical sciences, 12 in the social sciences and 6 additional hours to be distributed among the three groups; 6 hours of English; 40 hours of home economics to include the "home-making core"; 44 hours of electives, of which 24 hours may be in any College of the University, and of which 20 hours must be in courses offered in the State Colleges of Home Economics, Agriculture, and Veterinary Medicine.*

Subject-matter requirements of the State Education Department for Certification.

In the majority of school systems instructors in home economics teach all phases of homemaking. Even in those schools in which homemaking is departmentalized it is desirable that each teacher have a broad view of the entire field. To help achieve this, the following subject matter is required by the State Education Department.

	<i>Credit hours</i>
Family Relationships and Child Study.....	8-12
Part of the work in family relationships may be covered through sociology	

* Detailed information may be secured from the Announcement of the College of Home Economics.

courses in The Family. Part is taken in home economics. Child study may include work in child psychology, and should also include observation of child behavior and guidance in a nursery school, and some participation in work with children through a nursery school, play group, or in homes.

- Health in the Home and Community and Home Nursing..... 2-4
This includes study of home and community hygiene, first aid, and emergencies in the care of the sick at home.
- Household Management and Economics of the Household..... 8-12
Study in this field is concerned with management and economic principles as they apply in the home. Consideration should be given to the management of the house with relation to family living. Some experience in practical problems should be included. It is also desirable to develop that phase of managerial ability involved in the interrelationships in the home and the community.
- Nutrition and Food Preparation..... 10-14
This should include nutrition for all ages and, in the main, for the healthy person. It includes the science of food preparation, food buying, storage, kitchen planning, family meals, and the food budget.
- Art and Home Furnishing..... 8-10
This may include courses in applied art, or art principles, or design and color, or other types of courses which include fundamental principles of art, or various kinds of courses in applied art such as home crafts. The work in furnishing and house planning should emphasize furnishing in relation to family living.
- Clothing and related subjects (design, textiles, construction)..... 10-16
This includes an understanding of the essentials of personal grooming, care of clothing, the personal wardrobe, clothing for the family, the clothing budget, the construction of clothing, and the design of costumes. The textiles study should include textiles used in clothing and home furnishings.

48-68

Suggested Experiences. In addition to the above requirements, a student preparing to teach Home Economics should plan her college program and her experiences during the summers so as to build an understanding of herself, of children, and of adults. She should be able to recognize in homes and communities the significant situations and problems to which home economics applies, to use home economics to achieve sound practices in her own living, and to give evidence of a growing skill in helping others to interpret and apply its findings and standards to the solution of individual, home, and community needs.

EXTENSION WORKERS . . . Graduation requirements of the College of Home Economics. (See requirements for teachers of Home Economics, above).

Subject-matter recommendations in addition to graduation requirements. It is recommended that students preparing for extension work have general training in homemaking and courses in sociology, psychology, economics, and education.

To assist the students in meeting these recommendations, a suggested plan is set up for the use of students and their counselors. This plan provides for courses as indicated to meet graduation requirements, recommended courses of special interest for extension workers, and elective courses which will further contribute to the student's preparation for extension service.

Suggested Experience. A student preparing to do extension work should plan her college program and her experiences during the summer to provide opportunity to work with individuals and groups, to observe and study communities and the significant situations and problems to which home economics applies. Summer experience in the extension service program is recommended whenever possible. Opportunities for volunteer work can be provided between freshman—sophomore, sophomore—junior years by the extension service. Summer assistant positions with compensation are provided between junior and senior years.

Practice in public speaking, radio, newspaper writing, and discussion with a variety of groups and organizations will be valuable.

Graduate Program: For graduate study for experienced teachers, home demonstration agents, and 4H Club agents, see page 34. Preparation for other positions in Home Economics Education is discussed on pages 34 and 35.

DIRECTED AND APPRENTICE TEACHING . . . When the five-year program is elected, it provides for two types of practical work, looking toward the development of ability to perform successfully the various responsibilities of a teacher.

The first type involves observation and directed teaching which is completed usually during the undergraduate years. It is designed to provide opportunity to the student to associate himself with skillful teachers, who are usually employees of both the University and local boards of education, that he may learn, firsthand, to understand what is required in handling classroom situations, particularly what is

involved in efficient teaching, and what is required to utilize the resources of a community to the greatest advantage.

Apprentice teaching, given in the fifth year of the five-year program, is the second type of participation and the final step in the pre-service preparation through experience. It is a continuation of directed teaching, but at this stage of participation, the student assumes full teaching responsibility under the general supervision of the principal and the supervising teacher, and comes to perform in the school and community all of the functions of a regular teacher, including such community and other studies as good teaching requires.

Observation and directed teaching are conducted in selected schools of Ithaca and of nearby communities. Apprentice teaching also will be done in off-campus schools, selected primarily to provide better than average opportunity for experience and growth. Students engaged in apprentice teaching will live in the school community during the period of this experience and will be expected to participate in community life.

TEACHERS OF TECHNICAL AND RELATED TECHNICAL SUBJECTS . . . The permanent state certificate for teachers of technical subjects in industrial and technical high schools requires one full year of study in addition to undergraduate work of a technological nature, supplemented by three years of practical experience in the technical field for which the certificate is desired.

To meet the needs of this group, Cornell University has provided programs of study leading to the degree of Master of Science in Education. Teachers in technical institutes will also be served by these programs with an opportunity to concentrate their work in the technical institute field. No fixed curricula are prescribed. The program for each student is worked out with his special committee, the subjects required being selected upon the basis of the student's needs. The student's program includes general and special courses in education, and may include courses in basic sciences, engineering or other technical fields, economics, industrial and labor relations, personnel administration, guidance, and the like. This work is offered during the regular academic year and in the Summer Session.

TEACHERS OF INDUSTRIAL ARTS . . . The permanent state certificate for teachers of Industrial Arts requires thirty hours of advanced professional study. Cornell offers opportunities for industrial arts teachers to do graduate work in the broad field of industrial

education, including industrial arts education. This program leads to the degree of Master of Science in Education. Graduate work in the field of industrial education provides opportunity for persons with industrial arts preparation to expand their background and opportunities.

The program for each student is worked out with his special committee keeping in mind individual needs. Some industrial arts teachers have found it desirable to take work in secondary school administration, industrial and labor relations, guidance, personnel administration, and other fields.

TEACHERS OF TRADE SHOP SUBJECTS . . . Although the Industrial and Technical Education program at Cornell is designed primarily for graduate study, teachers of trade shop subjects will find value in many of the courses open to both graduate and undergraduate students. Cornell does not offer a B.S. degree in Industrial Education; however, shop teachers working toward the bachelor's degree may take courses in residence, Summer Session, or by extension, and have them applied toward the degree at another institution or toward permanent state certification.

ADMINISTRATION AND SUPERVISION IN INDUSTRIAL AND TECHNICAL EDUCATION . . . Permanent certification for administrators and supervisors of industrial and technical education in New York State requires thirty hours of graduate work. Persons with appropriate undergraduate training who desire to prepare themselves for positions as supervisors of industrial and technical programs and industrial arts, administrative assistants and principals in vocational, industrial, and technical schools and in technical institutes, and city directors of vocational education, will find general and specialized courses suited to their needs in the list shown below. Courses (ILR) 130, (ILR) 83 and (ILR) 132 are designed to meet the special requirements for administrative and supervisory licenses in the industrial and technical education field in New York State.

Principal courses in Education:

(ILR) 81	(ILR) 132	(ILR) 82	(RE) 245
(ILR) 83	(ILR) 199	(RE) 194	(RE) 261
(ILR) 130	(ILR) 80	(RE) 243	(RE) 276

Related courses in Education:

(ED.) 607	212	251	282
* 194	255	253	283

* Unless otherwise indicated, courses in education are in Rural Education.

Related courses in other fields:

Personnel Management
Labor Union Organization and Management
Wage Determination and Related Problems
Collective Bargaining
Public Relations
Human Relations in Industry
Counseling Methods
Tests in Guidance and Personnel Administration

Attention is directed also to the various technical offerings in special fields of engineering for technical teachers who may wish to supplement their technological background. See the Announcement of the College of Engineering.

ART

TEACHERS OF ART . . . The School of Education cooperates with the College of Architecture in the preparation of teachers of Art. Students desiring to prepare in this field should register in the College of Architecture as candidates for the degree Bachelor of Fine Arts. See the Announcement of the College of Architecture for the curriculum.

The technical work in Art, History of Art, and related subjects, required of such students, is the equivalent of more than three full years of work, with the remainder of the time being spent on general education and professional education.

The technical work in Art is given by members of the staff of the Department of Painting and Sculpture, who are all practicing artists. It affords a training in the fundamentals of design, drawing, and painting, which aims to equip the student as a competent practitioner of his art, as well as a teacher.

OPPORTUNITIES FOR OTHER EDUCATIONAL OFFICERS

ADMINISTRATION AND SUPERVISION . . . As indicative of increasing standards that are becoming effective in this field in many states, New York requires for permanent certification thirty hours of graduate work. In the list given below may be found courses that enable a person with appropriate undergraduate training to prepare as: city superintendent, county superintendent, district superintendent, supervising principal, elementary school supervisor or secondary school supervisor. Basic Rural Education courses are 260 (or 262 or 263), 261, 243 and 276. Administrators of vocational schools and programs, if prepared for teaching in a vocational subject, will find opportunity for appropriate specialization through such courses as ILR 132, 130; R.E. 267, 269. (See statements under "Agricultural Education", "Home Economics Education", and "Industrial Education".)

Principal Courses in Education:

(ILR) 132	260	265	278
*236	261	266	298
243	262	267	300
245	263	268 (H.E.Ed.)	469
246	264	276	

Related Courses in Education:

(Ed.) 607	244	253	290
(Ed.) 675	247	276	295
212	251	282	299

Related Courses in Other Fields:

Local Government	Seminar in Public Finance
Taxation	Money, Currency, and Credit
Land Economics	Accounting
Problems in Public Administration	Trade Fluctuations

*Unless otherwise indicated, courses in education are in Rural Education.

Labor Conditions and Problems	Rural Sociology
Economic Policy	Social Pathology
Public Administration	Population Problems
Social Services to Individuals	Social Anthropology
Rural Leadership	Criminology
The Rural Community	

AGRICULTURAL EDUCATION Under the National Vocational Education Acts, the State Education Department of New York has made provision for the preparation of leaders in the several phases of agricultural education, other divisions of vocational education cooperating. In the several states specific qualifications for teachers, for supervisors and directors, and for teacher-trainers in designated institutions have been set up. These qualifications define the acceptable standards pertaining to practical working experience, technical education, professional education, teaching experience in approved vocational schools, supervisory or administrative experience.

In addition to the preparation of leaders, as indicated above, administrators and supervisors, responsible for the general supervision of vocational agriculture (together with other vocational personnel), are becoming concerned about the necessary preparation for professional leadership. This interest has developed also among leaders in the related fields of agricultural extension, vocational guidance and counseling, special agricultural services here and abroad, and in other agricultural programs among private and public agencies. The courses listed below represent these required or elected most frequently in connection with graduate work in agricultural education.

Principal Courses in Education:

134	232	236	300
194	235	267	
199	230	237	

Related Courses in Education:

211	299	243	295
212	251	276	
218	253	281	
223	261	282	

Courses in Technical Fields (See Announcement of the College of Agriculture).

Graduate students majoring in Agricultural Education elect minors in many different fields. Agricultural Economics, Agricultural Engineering, Agronomy, Animal Husbandry, Bacteriology, Dairy Industry,

Ornamental Horticulture, Plant Breeding, Pomology, Poultry, Rural Sociology, Vegetable Crops, constitute the principal fields of such minors. Frequently also majors in these fields elect minors in Agricultural Education. Students are advised to address these departments for information.

EDUCATIONAL PSYCHOLOGY . . . The courses in educational psychology are intended to meet the needs of two general groups of students: (1) those who specialize in educational psychology, such as college teachers of this subject, and those who intend to meet the state certification requirements for the position of school psychologist, and (2) those teachers, administrators, supervisors, social workers, students of family life, and others who wish to supplement their preparation with selected psychological courses.

Principal Courses in Education:

(Ed.)	607	111	211	251
"	608	112	212	254
"	618	117	213	255
"	675	119	218	282
"	680	199	219	283

H.G.&D. (A & B)

Related Courses in Other Fields:

Social Psychology (See Sociology or Psychology Announcements)	Creative Materials in Child Development
Culture and Personality	Children's Literature
Social Anthropology	Principles of Child Guidance
Memory and Thinking	Family Relationships and Personality Development
Aesthetics: Psychology of Art	Marriage
Physiological Psychology of the Senses	Participation in Nursery School
Contemporary Psychology	Seminar in Child Guidance
Psychology of the Abnormal	The Home and Family Life
Experimental Psychophysiology	Elementary Methods and Techniques of Research in Child Development and Family Life
Psychosomatic Problems and Theory	
Endocrinology and Behavior	The Family
Heredity and Eugenics	Criminology
Comparative Neurology	Genetics
Cerebral Mechanisms	Social Case Work
Experience with Children	

ELEMENTARY EDUCATION . . . Cornell offers graduate work of special interest to advanced students of elementary education. Provisions are made for programs of study appropriate for prospective teachers of elementary education in teachers colleges, master teachers in elementary schools, and specialists in elementary education for state,

county, and city school systems. Each candidate will be assisted in planning his program according to his interests and purposes. The following courses merely suggest areas of possible interest.

Principal Courses in Education:

(Ed.) 618	202	213	246
107	209	247	276
117	212	228	300
127			

Related Courses in Education:

(Ed.) 607	129	253	265
(Ed.) 608	218	254	295
(Psych.) 275	241	243	
(Psych.) 305	251	245	
(Psych.) 375			

Related Courses in Other Fields:

The advanced student in elementary education may well consider certain offerings in the departments or divisions of the University listed below. The graduate student is encouraged to tap any of the resources of the University which will contribute to the development, enrichment, and integration of his program.

Botany	History
English	Music
Entomology	Ornithology
Fine Arts	Philosophy
Geology and Geography	Psychology
Speech and Drama	Sociology
Zoology	Family Life
Foods and Nutrition	

GUIDANCE AND PERSONNEL WORK . . . The demand for mature, well-trained workers in guidance and personnel service has increased in recent years, and is at present accentuated by problems of postwar readjustment. To help meet the need for counselors and personnel administrators in high schools and colleges, business and industrial organizations, government bureaus, and in philanthropic and social agencies, the School of Education and other divisions of the University offer a wide variety of courses.

A program of study should be planned in the light of the area in which one desires to do professional work, and in consultation with one's major adviser and persons teaching the courses. Students who wish to meet the New York State requirements for guidance service in the public schools must take, for the Provisional Certificate, the

courses listed below that are marked with a single asterisk (*). For the Permanent Certificate, the courses marked with a double asterisk (**) must also be taken.

Principal Courses in Education:

(Ed.) **607	280	*283	**289
**255	281	**284	
251	*282	**285	

Related Courses in Education and Other Fields:

Curriculum	**Mental Hygiene
**Economics	Personnel Administration
Educational Psychology	Psychology
History and Philosophy of Education	School Administration and Supervision
Industrial and Labor Relations	**Sociology and Social Case Work
**Labor Problems	Statistics

Qualified advanced students are also given an opportunity to obtain practical experience through work in the Cornell Guidance Center.

EXTENSION EDUCATION . . . Many workers in Cooperative Extension Work in Agriculture and Home Economics have through the years supplemented their technical training with some courses in Education. The need for broader and more extended training of workers in Extension Education has come to be widely recognized. In recognition of this need, a program for graduate studies is now available for students of experience in this field.

The varied technical, professional, and experience backgrounds of students make any listing of courses inappropriate. Individual counselling with prospective students is an important part of the program. Clearly economics and sociology are closely related fields. Educational psychology, history and philosophy of education, and principles of procedure represent principal fields of study in education.

HOME ECONOMICS EDUCATION . . . Curricula are planned for experienced persons who wish to qualify themselves further as (a) teachers in secondary schools and colleges, including those who wish to earn a permanent teaching certificate in New York State, (b) supervisors, (c) administrators, (d) extension workers, (e) teacher educators.

Principal Courses in Education:

H.E. Ed. 320	H.E. Ed. 438	H.E. Ed. 468
" 321	" 448	" 469
" 435	" 449	" 479
" 437	" 459	" 400

Related Courses in Education:

(Ed.) 607	218	243	282
190	241	276	283
211	251	278	244
212	261	281	300

Related Courses in Home Economics:

Economics of the Household and Household Management
 Child Development and Family Relationships
 Food and Nutrition
 Household Art
 Textiles and Clothing

Related Courses in Other Fields:

Modern Economic Society	Introduction to International Relations
Elements of Journalism	History of Art, of Painting and Sculpture
Oral and Written Expression	The Rural Community
Extension Organization, Administration, and Policy	Rural Sociology
Agricultural Radio Broadcasting	Seminar in Contemporary Philosophy
American National Government	The Family

APTITUDE AND ACHIEVEMENT TESTS . . . The teacher, supervisor, guidance and personnel worker, and administrator all have frequent occasion to use measurements of various kinds. The data secured through the use of instruments of measurement must be systematically arranged, interpreted statistically, and often presented in graphical form for better understanding by boards and by the public. The offerings in this field are planned to meet the needs of such students. The school psychologist, the guidance and personnel worker, and the research worker need more training in this field than the teacher.

Principal Courses in Education:

(Ed.) 607	251	254	300
" 608	253	255	

Related Courses in Other Fields:

The following courses in Mathematics are not required but they are advised for the student who specializes in the statistical aspects of measurement:

Mathematics for Students of Economics and Statistics
 Statistics

NATURE STUDY, SCIENCE EDUCATION, AND CONSERVATION EDUCATION . . . Opportunities are provided for qualified students to prepare for responsible positions in elementary schools, secondary schools, junior colleges, teachers colleges and universities, and in state and federal departments as well as for positions outside the teaching profession. Courses are offered in appropriate subject matter, in teaching methods and materials and in the literature of these fields. Graduate work usually presupposes an adequate background in both the physical and the biological sciences. Cornell's rich tradition in the sciences and in science education has contributed to a unique development and unusually broad offerings in various fields of pure and applied science and in the teaching of these subjects.

Principal Courses in Education:

106	108	128	202	207	226
107	127	129	205	209	

Special courses are offered in summer in Teaching Natural History in the Field and in teaching science in different areas.

Related Courses in Education:

211	241	261
212	243	276
213	251	281

Related Courses in Other Fields: (such courses are chosen mostly from the following)

Agriculture	Entomology	Ornithology
Astronomy	Genetics	Paleontology
Bacteriology	Geology	Physics
Botany	Limnology	Soils
Chemistry	Meteorology	Wildlife Management
Engineering	Nutrition	Zoology

SECONDARY EDUCATION . . . Education on the secondary school levels with its problems of organization, curriculum, functions, and relations with other levels of education is replete with challenges for trained leadership in those areas. With the appropriate undergraduate preparation the courses listed below should help persons to fit themselves for such positions as: College teachers of secondary education, master teachers, principals, and supervisors. Those continuing their study in the teaching of any of the several fields of instruction will find the appropriate subject-matter course offerings in the Announcement of the Graduate School and the Announcements of the several colleges.

Principal Courses in Education:

(Ed.) 618	251	281	300
(Ed.) 675	276	282	

Those qualifying for principalships usually take:

261	243	298	278
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Related Courses in Education:

(Ed.) 607	212	264
127	245	265
194	253	246
211	255	295

Related Courses in Other Fields:

See list of courses in Agricultural Economics, Government, Rural Sociology and Sociology, given under Administration and Supervision above.

HIGHER EDUCATION . . . The School of Education offers an opportunity for a limited number of superior students to prepare themselves for college teaching and other positions of leadership in higher education. The fields of preparation in which candidates may major for higher degrees are: Administration and Supervision, Agricultural Education, Educational Psychology, Elementary Education, Guidance and Personnel Administration, Home Economics Education, Industrial Education, Nature Study (including Conservation Education), Science Education, Secondary Education, and Social Studies Education.

Because so many different fields are involved, and because programs of preparation within a single field must be adjusted to meet the specific requirements of various types of positions, it is impossible to outline a single sequence of courses which is appropriate for all persons who wish to prepare themselves for positions in higher education.

It is impossible in this Announcement to suggest the variety of related courses which may be elected by students working toward the Ph.D. degree in Education. Such students carry two minors, one or both of which may be located outside the major field. Each candidate will plan his program in consultation with his graduate committee. To appreciate the richness of offerings at Cornell, the candidate should read carefully the Announcement of the Graduate School and of the College of Arts and Sciences, Agriculture, Home Economics, and Industrial and Labor Relations.

DESCRIPTION OF COURSES

NATURE STUDY AND SCIENCE TEACHING

106. *OUTDOOR LIVING*. Fall term. Credit two hours. S 8-11.30, with two over-night trips. Fernow 8. Professor Palmer and Miss Gordon.

A study of outdoor living, with practice in understanding the terrain, methods of camping and hiking, primitive means of survival.

107. *THE TEACHING OF NATURE STUDY AND ELEMENTARY SCHOOL SCIENCE*. Spring term. Credit two hours. Open to juniors, seniors, and graduate students. For those who are preparing to teach or supervise science. Lecture, S 8. Practical exercises, S 9-11.30. Fernow 8. Miss Gordon.

The content and methods of nature-study and of elementary-school science, with field work and laboratory experience useful in classroom and camp.

108. *FIELD NATURAL HISTORY*. Fall or spring term. Credit two hours a term. Lecture, T4. Fernow 8. Field work, T 1.40-4. Professor Palmer.

Field trips and lectures devoted to a study of the natural history of five ecological units under different seasonal conditions, with special emphasis on their contributions to the teaching of science. May be taken one or both terms.

121. *METHOD AND PROCEDURE IN SECONDARY SCHOOL TEACHING*. Fall term. Credit three hours. Assistant Professor King.

128. *METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS*. Fall term. Credit three hours. Prerequisite or parallel course, Rural Education 121 or Education 130. For seniors and graduate students. F 10-11.40 and additional hours to be arranged. Assistant Professor Schmidt.

A consideration of methods and materials useful in teaching science in secondary schools. Observation of the work of experienced teachers constitutes a major part of the course.

129. *PRACTICE IN TEACHING SCIENCE IN SECONDARY SCHOOLS*. Spring term. Credit four hours. Prerequisite, Rural Education 128. For seniors and graduate students. Hours to be arranged. Assistant Professor Schmidt.

Supervised practice in teaching science in secondary schools, with frequent conferences on teaching plans and problems.

(202. *NATURE LITERATURE*. Fall term. Credit two hours. Open to seniors and graduate students interested in science and science teaching. M W 10. Fernow 8. Miss Gordon.) Not given in 1947-1948.

205. *THE TEACHING OF CONSERVATION*. Spring term. Credit two hours. T Th 10. Fernow 8. Professor Palmer.

Consideration of principles, materials and methods of conservation education useful to teachers and others engaged in teaching wise use of the resources of the nation.

207. *METHODS AND MATERIALS FOR THE TEACHING OF SCIENCE IN SECONDARY SCHOOLS*. Spring term. Credit two hours. Lectures, F 10-11.40. Fernow 8. Assistant Professor Schmidt.

A consideration of problems of selection and organization of subject matter, of choice and use of materials, and of methods of teaching science at the secondary level.

209. *THE DEVELOPMENT OF NATURE AND SCIENCE EDUCATION IN THE UNITED STATES*. Fall term. Credit two hours. Lectures, M W 10. Fernow 8. Miss Gordon.

A survey of origins and developments in nature and science education both in and out of schools, with emphasis on leaders and their philosophies.

226. *RESEARCH IN SCIENCE TEACHING*. Fall or spring term. Credit one or two hours a term. M 12.30. Fernow 8. Professor Palmer, Assistant Professor Schmidt, and Miss Gordon.

Special problems in science teaching.

EDUCATIONAL PSYCHOLOGY

10. *PSYCHOLOGY*. Fall or spring term. Credit three hours. M W 10 and one hour to be arranged. Plant Science 233. Professor Woodruff.

Designed for students who are not preparing to teach. Consideration of the outstanding psychological concepts that bear upon personal problems and upon business and social relationships.

111. *EDUCATIONAL PSYCHOLOGY*. Spring term. Credit three hours. Prerequisite, Human Growth and Development, or permission of the instructor. Not open to freshmen. Lectures, M W F 9. Laboratory, F 2.00-4.30. Warren 201. Professor Woodruff. (Same as Ed. 601).

Consideration of the outstanding facts and principles of psychology bearing upon the problems of education.

112. *EDUCATIONAL PSYCHOLOGY*. Fall or spring term. Credit three hours. Fall term, M W F 9. Spring term, M W F 10. Warren 125. Associate Professor Bayne.

Designed for second-term sophomores, juniors, and seniors who plan to become teachers. Students may not receive more than five hours of credit for courses 10 and 112.

117. *PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE*. Spring term. Credit three hours. Prerequisite, a course in educational psychology. M W F 11. Warren 225. Associate Professor Bayne.

Ed. 601. *EDUCATIONAL PSYCHOLOGY*. Fall term. Credit three hours. Primarily for undergraduate prospective teachers. Prerequisite, Human Growth and Development. M W F 11. Goldwin Smith 236. Professor Freeman. (Same as 111)

211. *EDUCATIONAL PSYCHOLOGY*. Fall term. Credit three hours. M F 11-12.20. Stone 309. Professor Kruse.

For mature students with teaching experience.

(212. *PSYCHOLOGY OF LEARNING*. Spring term. Credit two hours. Professor Kruse.) Not given in 1947-1948.

213. *PSYCHOLOGY OF LEARNING IN THE SCHOOL SUBJECTS*. Fall term. Credit two hours. S 9-10.30. Stone 309. Associate Professor Bayne.

214. *EDUCATIONAL PSYCHOLOGY*. Fall term. Credit two hours. For members of the staff. T 4.00-5.30. Stone 309. Professor Kruse.

Principles of procedure in teaching with exemplification in teaching practices and support in principles of psychology.

216. *SEMINAR IN HUMAN MOTIVATION*. Spring term. Credit three hours. Prerequisite; permission of the instructor. M 4-6 and individual conferences. Stone 309. Professor Woodruff.

218. *SEMINAR IN EDUCATIONAL PSYCHOLOGY*. Spring term. Credit two hours. Th 4-5.30. Stone 309. Professor Kruse.

219. *SEMINAR IN PERSONNEL ADMINISTRATION*. Spring term. Credit two hours. Open to qualified seniors and graduate students. Th 7-9 P.M. Stone 309. Professor Winsor.

A study of the problems of human relations in industry. The methods and principles of recruitment, selection, placement, maintenance, organization, and government of employees are analyzed with particular reference to industry and business.

223. *SEMINAR IN EXTENSION TEACHING*. Spring term. Credit two hours. T 4.15-5.45. Roberts 392. Professor Kruse.

228. *SEMINAR IN CHILD GUIDANCE (CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS 450)*. Spring term. Credit two hours. For graduate students who have had some child guidance. F 4-6. Martha Van Rensselaer G-58. Professor Waring.

Ed. 608. *EXPERIMENTAL EDUCATIONAL PSYCHOLOGY*. Fall or spring term. Credit and hours to be arranged. For undergraduate and graduate students. Consent of the instructor is required. Prerequisite, Education 607 (see page 42) or its equivalent. Professor Freeman.

The application of psychological and statistical methods to problems in education.

Ed. 618. *INDIVIDUAL DIFFERENCES*. Spring term. Credit three hours. Prerequisite, Education 607 (see page 42) or equivalent or consent of instructor. T Th 2-3.15. Goldwin Smith 248. Professor Freeman.

The nature, causes, and implications of individual differences in abilities and behavior. Study and observation of atypical groups.

Ed. 675. *SEMINAR IN HUMAN DEVELOPMENT AND BEHAVIOR*. Spring term. Credit two hours. Primarily for graduate students. M 4-6. Goldwin Smith 248. Professor Freeman.

Recent experimental and clinical materials and theories. Educational implications.

AGRICULTURAL EDUCATION

131. *INTRODUCTION TO TEACHING IN VOCATIONAL AGRICULTURE*. Throughout the year. Credit two hours. Open by permission only to students whose practical experience and grades are satisfactory and whose progress in the prescribed courses in technical agriculture is adequate. Laboratory, M 2-4. Plant Science 141. Associate Professor W. A. Smith.

Consideration of the organization of programs of instruction in vocational agriculture and of the problems involved in conducting a program. Observation of teaching in typical departments; preparation for course 132.

132. *THE TEACHING OF AGRICULTURE IN THE SECONDARY SCHOOL*. Fall and spring terms. Credit three hours a term. Open to seniors who have completed an approved course in educational psychology and course 131, whose farm experience is adequate, and who have permission to register. T Th 10. Warren 201. Professor Olney.

The problems of teaching based upon the planning for and participation in teaching. Opportunity for experience is provided through organizing course materials, listing appropriate equipment for departments, and through planning programs for special groups.

133. *DIRECTED TEACHING OF STUDENTS IN AGRICULTURAL EDUCATION*. Fall or spring term. Credit to be arranged. Registration by permission. Staff in Agricultural Education.

134. *SPECIAL EDUCATION FOR OUT-OF-SCHOOL YOUTH AND ADULTS*. Spring term. Credit two or three hours. Th. 4.15-5.45. Warren 201. Associate Professor Hoskins.

Designed for advanced seniors in training and leaders of rural youth. A consideration of the objectives and trends in educational and social-economic problems; also cooperative relationships with 4-H and older youth groups.

135. *DIRECTING EXTRA-CURRICULAR ACTIVITIES BY TEACHERS OF AGRICULTURE*. Fall and spring terms. Credit one hour a term. W 7.30-9. Stone 309. Staff in Agricultural Education.

Emphasis will center in the duties and responsibilities of the teacher as adviser to an F.F.A. Chapter, with participating experience in the Collegiate and nearby local chapters.

(136. *PREVOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOL*. Credit two hours. Staff in Agricultural Education.) Not given in 1947-1948.

(138. *PLANNING UNITS OF INSTRUCTION IN VOCATIONAL AGRICULTURE*. Credit two hours. Staff in Agricultural Education.) Not given in 1947-1948.

230. *SEMINAR IN AGRICULTURAL EDUCATION*. Spring term. Credit two hours. For students whose progress in graduate study is satisfactory. W 4.15-6. Stone 309. Associate Professor W. A. Smith.

(231. *THE SUPERVISION OF VOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOL*. Spring term. Credit two hours. Open to teachers, supervisors, principals, district superintendents, and other educational leaders responsible for supervision in this field. Associate Professor W. A. Smith.) Not given in 1947-1948.

232. *EVALUATION AND PROGRAM PLANNING IN AGRICULTURAL EDUCATION*. Spring term. Credit two or three hours. M 4.15-5.45 and special trips to be arranged. Associate Professor Hoskins.

The evaluation of programs of vocational education in agriculture in actual situations as a basis for more effective planning.

(233. *SUPERVISED FARMING PROGRAMS IN VOCATIONAL AGRICULTURE*. Fall term. Credit two hours. Professor Olney.) Not given in 1947-1948.

(235. *THE TECHNICAL AND PROFESSIONAL PREPARATION OF TEACHERS OF AGRICULTURE*. Spring term. Credit three hours. Prerequisite, course 211 or its equivalent. Professor Olney.) Not given in 1947-1948.

236. *THE ORGANIZATION AND ADMINISTRATION OF VOCATIONAL AGRICULTURE IN THE PUBLIC SCHOOLS*. Spring term. Credit three hours. T Th 11-12.30. East Roberts 223. Professor Olney. Should follow or accompany course 261 or its equivalent.

Designed for persons on the state, county, and local levels who will be responsible for organizing and administering agricultural education in the public schools.

(237. *AGRICULTURAL CURRICULUM AND COURSES OF STUDY*. Spring term. Credit two hours. Associate Professor Hoskins.) Not given in 1947-1948.

SUPERVISION

(241. *THE PREPARATION OF TEACHERS FOR NORMAL SCHOOLS AND COLLEGES*. Spring term. Credit two hours. Professor Moore.) Not given in 1947-1948.

243. *PROCEDURES AND TECHNIQUES IN SUPERVISION*. Fall term. Credit three hours. Candidates for a principal's certificate may register for two hours credit. M W F 10. Stone 309. Professor Moore.

Designed for superintendents, supervisors, and principals. Students taking this course must be prepared to spend four full days or more in observing supervisory procedures in various school systems.

(244. *PHILOSOPHY OF EDUCATION*. Spring term. Credit two hours. W 4-5.40. Stone 309. Professor Moore.) Not given in 1947-1948.

245. *SEMINAR FOR PRINCIPALS*. Fall term. Credit two hours. Required of all graduate students who are candidates for a principal's certificate. S 9-10. East Roberts 223. Professor Moore.

246. *THE SUPERVISION OF THE ELEMENTARY SCHOOL*. Spring term. Credit three hours. Candidates for a principal's certificate may register for two hours credit. T Th 2. Stone 309. Professor Moore.

A course designed for supervisors, elementary school principals, and superintendents.

247. *SEMINAR IN ELEMENTARY EDUCATION*. Spring term. Credit two hours. S 9-10.40. Stone 309. Professor Moore.

APTITUDE AND ACHIEVEMENT TESTS

251. *EDUCATIONAL MEASUREMENT*. Spring term. Credit three hours. Candidates for a principal's certificate may register for two-hours credit. Prerequisite, a course in educational psychology. S 11-12.30 and an additional hour to be arranged. Roberts 492. Associate Professor Bayne.

The use of aptitude and achievement tests and other measuring instruments in the classification and guidance of pupils, improvement of instruction, and other activities of the teacher and school officer. Those class members who wish may make a study of their own aptitudes and achievements.

253. *INTRODUCTION TO EDUCATIONAL STATISTICS*. Fall term. Credit three hours. T Th 10 and an hour to be arranged. Stone 309. Associate Professor Bayne.

A study of common statistical procedures in relation to critical reading of technical studies, research, and writing reports of studies. As far as possible, the work is related to the problems of the individual.

254. *STATISTICAL INSTRUMENTS IN EDUCATION*. Spring term. Credit two hours. Prerequisite, a first course in statistics and permission of the instructor. T 10 and a period to be arranged. Stone 309. Associate Professor Bayne.

Material covered depends upon the interests and problems of the members of the class.

255. *USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION*. Fall term. Credit three hours. Open to students in guidance or personnel administration. Th 7-9. Stone 309. Professor Winsor.

This course deals with the development, use, and interpretation of aptitude tests as a basis for guidance and selection.

Ed. 607. *MENTAL MEASUREMENTS*. Fall term. Credit three hours. Prerequisite, a course in psychology and a course in statistics, or consent of the instructor. For undergraduate and graduate students. T Th S 9. Goldwin Smith 234. Professor Freeman.

Development of individual and group tests of intelligence and personality; principles underlying their construction and use; their use in schools, psychological clinics, the armed services, and in other fields. The nature of mental abilities. Demonstrations in administering and interpreting tests.

ADMINISTRATION AND CURRICULUM

(260. *THE TWELVE-GRADE PRINCIPALSHIP*. Credit two hours. Assistant Professor King.) Not given in 1947-1948.

261. *FUNDAMENTALS OF EDUCATIONAL ORGANIZATION AND ADMINISTRATION*. Fall term. Credit three hours. T Th 11-12.30. Stone 309. Professor Butterworth.

A consideration of the main problems in organizing and administering the school program, including the services provided when school and community cooperate in meeting educational needs.

262. *THE SECONDARY SCHOOL PRINCIPALSHIP*. Spring term. Credit two hours. T 7-8.30. Stone 309. Assistant Professor King.

A course in school administration dealing with the responsibilities of the secondary school principal within the school building. An opportunity will be afforded to make an analysis of procedures and techniques employed by a secondary school principal.

(263. *THE PRINCIPALSHIP OF THE ELEMENTARY SCHOOL*. Credit two hours. Professor Moore.) Not given in 1947-1948.

264. *SCHOOL FINANCE*. Fall term. Credit two hours. Prerequisite, 261 or the equivalent. T 4.15-5.45. Stone 309. Professor Butterworth.

Typical problems: how local school funds are levied, collected, and disbursed; cost accounting; budget making; bonding; sources of state funds and their distribution. The discussion is based upon actual problems; prospective members of the class are urged, therefore, to bring with them financial data regarding their schools.

265. *THE SCHOOL PLANT*. Spring term. Credit two hours. Prerequisite, course 261 or the equivalent. S 11-12.30. Stone 309. Professor Butterworth.

The planning and utilization of the school building to serve community needs. Each student works on a project for his community.

266. *SEMINAR IN THE SOCIAL AND ECONOMIC PROBLEMS OF THE SCHOOL ADMINISTRATOR*. Fall term. Credit two hours. S 11-12.30. Stone 309. Professor Butterworth and specialists from the fields of economics and sociology.

An analysis of the social and economic characteristics of the community that affect the work of the school, and a consideration of as many specific problems as is practicable in the time available. Among these problems are: racial and national composition of the population; occupational pattern; standards of living; delinquency; welfare; income and its distribution; taxation; labor, agricultural, and business groups in relation to education.

(267. *THE LEGAL PROBLEMS OF THE SCHOOL ADMINISTRATOR*. Credit two hours. Mr. ———.) Not given in 1947-1948.

268. *SEMINAR IN RURAL SCHOOL ADMINISTRATION*. Spring term. Credit two hours. T 4.15-5.45. Stone 309. Professor Butterworth.

Topic to be announced.

269. *SEMINAR IN CITY SCHOOL ADMINISTRATION*. Credit two hours. Mr. ———.

Topic to be announced.

276. *PRINCIPLES OF CURRICULUM BUILDING*. Fall term. Credit three or four hours. T Th 2-3.30, and an additional hour to be arranged for those wishing to carry further the study of special curriculum problems. Stone 309. Assistant Professor King.

A consideration of the major problems, principles, and techniques in determining educational objectives and curriculum content and organization in elementary and secondary schools in the light of modern theory and practice.

(278. *SEMINAR IN RURAL SECONDARY EDUCATION*. Spring term. Credit two hours. Assistant Professor King.) Not given in 1947-1948.

GUIDANCE AND PERSONNEL

280. *STUDENT PERSONNEL ADMINISTRATION*. Fall and spring term. Graduates only. Credit two hours a term. Laboratory work to be arranged. Prerequisite: Sociology, Psychology, Economics, Political Science, or practical field experience such

as teaching, administration or other kinds of personnel work. T 9-11. Conference room, Administration Building. Dr. Lucile Allen.

Study in administration areas, organization and administration of personnel programs, including counseling and counseling techniques. This course will train people primarily to become assistant deans and personnel workers in colleges. Camp Fire Workers, Scout Workers, and the like will receive benefit from such training.

281. *SEMINAR IN STUDENT PERSONNEL ADMINISTRATION*. Fall and spring term. Graduates only. Credit two hours. Students will be admitted upon consultation with the instructor. Dr. Lucile Allen, Miss Peard assisting.

282. *EDUCATIONAL AND VOCATIONAL GUIDANCE*. Fall term. Credit two hours. Primarily for graduate students who wish to become certified as counselors. Th 4.20-6. Warren 125. Assistant Professor Nelson.

Principles and practices of educational and vocational guidance. Historical and theoretical background of the guidance movement; educational, vocational, and community information needed; the study of the individual; group methods; counseling; placement and follow-up; and the organization, administration, and appraisal of guidance programs.

283 *COUNSELING METHODS*. Spring term. Credit four hours. Prerequisite, course 282 or its equivalent. T Th 4.20-6. Warren 101. Assistant Professor Nelson.

Techniques for counseling with individuals concerning various types of educational, social, and vocational adjustment problems. Case studies and field work.

284. *THE TEACHING OF OCCUPATIONS AND ORIENTATION CLASSES*. Spring term. Credit two hours. M 4.20-6. Warren 140. Assistant Professor Nelson.

Methods and materials for presenting occupational and orientation information to students. Deals with classes in occupations, orientation groups, field trips, clubs, work-experience programs, and other group methods.

285. *OCCUPATIONAL AND EDUCATIONAL INFORMATION*. Fall term. Credit four hours. T Th 1. Field trips on Wednesday afternoons or as arranged. Stone 309. Assistant Professor Nelson.

Survey and appraisal of occupations and training opportunities; study of sources of educational and vocational information; job analysis; vocational trends. Field trips to places of employment.

289. *SUPERVISED PRACTICE IN TESTING AND COUNSELING*. Spring term. Credit three hours. Prerequisites, 255, 282, 283 (or their equivalents), and the permission of the instructor. Hours for observation and practice to be arranged. W 5. Assistant Professor Nelson.

Practice in the administration, scoring, and interpretation of psychological tests. Observation and supervised practice in counseling at the Cornell Guidance Center. Case conferences and assigned readings.

Ed. 680. *PROCEDURES IN CLINICAL CHILD GUIDANCE*. Fall term. Credit three hours. Prerequisite, Education 607 or its equivalent. Primarily for graduate students. All students must have consent of the instructor. M W 4-6 and conferences. Professor Freeman.

Procedures and instruments used in case studies of psycho-educational problems of learning and adjustment. Study of case materials. Occasional participation in making actual case studies of pupils.

GENERAL

190. *SOCIAL FOUNDATION OF EDUCATION*. Fall or spring term. Credit three hours. Must be approved by the instructor in charge. Fall term: M W F 9; spring term: T Th S 11. Warren 201. Professor Moore.

Evaluation of the school as a social institution and emphasis upon the role the school must play in a democratic society.

194. *PRINCIPLES OF VOCATIONAL EDUCATION*. Fall term. Credit two hours. Open to graduate students and others who have permission to register. W 4.15-6. Stone 309. Associate Professor W. A. Smith.

The concepts basic for content, method, organization, and administration of vocational education.

199. *INFORMAL STUDY IN EDUCATION*. Maximum credit, three hours each term. Members of the staff.

This privilege is granted to a qualified student of junior rank or above, when approved by his adviser from the Education staff who is personally responsible for the study.

290. *RURAL SECONDARY EDUCATION*. Fall term. Credit three hours. Primarily for graduate students. M W F 9. Stone 309. Assistant Professor King.

A consideration of some of the more basic problems in the functions, nature, organization, curriculum, and extension of secondary education in its adaptations to rural and village needs and conditions.

291. *THE EDUCATIONAL PROGRAM IN UNDEVELOPED COMMUNITIES*. Spring term. Credit three hours. T Th 2-3.30. Warren 340. Assistant Professor King.

Using the Casa del Pueblo of Mexico as one type of school suitable for undeveloped communities, attention is focused upon the principles that should govern the planning and the implementation of educational programs for situations of this type. Several different countries are called upon for illustrations.

(293. *ADULT EDUCATION*. Credit three hours. Associate Professor Hoskins.) Not given in 1947-1948.

(295. *COMPARATIVE EDUCATION*. Fall term. Credit two hours. Professors Butterworth and Moore.) Not given in 1947-1948.

296. *HISTORY OF AMERICAN EDUCATION*. Fall term. Credit three hours. T Th S 10. Assistant Professor Stutz.

A survey of educational change in the United States from the beginning of the seventeenth century to the present, with special emphasis on public schools and consideration of the religious, economic, political, and social factors affecting education. European influences throughout the period will also be considered briefly.

298. *SEMINAR IN RURAL EDUCATIONAL LEADERSHIP*. Spring term. Credit three hours. T Th 11-12.30. Stone 309. Professor Butterworth, Assistant Professor King, and others.

A consideration of the problems especially significant in rural areas. Planned for superintendents, principals, extension workers, social workers, and others preparing for leadership responsibilities in rural education.

299. *RESEARCH METHODS AND TECHNIQUES IN EDUCATION*. Fall term. Credit two hours. Recommended for graduate students preparing for or engaged in research in education. T 7-8:30. Stone 309. Associate Professor W. A. Smith and members of the staff.

An analysis and evaluation of types of research used in education. Special attention given to appropriate techniques, instruments, and devices.

RESEARCH

300. *SPECIAL STUDIES*. Credit as arranged. Members of the staff. Students working on theses or other research projects may register for this course.

The staff members concerned must be consulted before registration.

THE ART OF TEACHING

130. *THE ART OF TEACHING*. Throughout the year. Credit five hours a term. Open only to selected seniors preparing to teach academic subjects.

200. *APPRENTICE TEACHING*. (Ed. and R. E.). A one-term period off-campus to be arranged. Credit six hours. Members of the staff. Required of all candidates

for the M.Ed. degree. Prerequisite: Satisfactory completion of the first four years of the five-year program, or the equivalent, or special permission.

Students will be assigned to cooperating schools so selected as to provide the most favorable conditions for this type of experience. They will be expected to carry a half-time teaching program including the usual related responsibilities of the teacher. Preparation for teaching and work on special problems under the direction of University instructors will occupy the remainder of the student's time. Each student will be under the immediate supervision of the principal, of a competent local teacher, and of a member of the staff of the School of Education.

HOME ECONOMICS EDUCATION

H.E. Ed. 320. *EXTENSION EDUCATION*. Fall and spring terms. Credit two hours. Open to juniors and seniors preparing for 4H Club or home demonstration work. This course must precede Extension Education 321. F 2-4. Mrs. Hoefler.

Opportunity to observe extension and other community programs will be provided.

H.E. Ed. 321. *EXTENSION EDUCATION*. Fall and spring terms. Credit eight hours. Supervised field experience for seven weeks in a selected county. Prerequisite, Extension Education 320. During this term the student will take Homemaking Apartments 302. Students will live in the Homemaking Apartments for seven weeks and in the county in which they are doing extension work for seven weeks. Mrs. Hoefler.

Students will be assigned to cooperating counties where opportunity will be provided to work with the county extension staff and to gain experience in 4H Club and/or home demonstration work. They will live in the county and will work under the direction and guidance of the local extension agents. A member of the college staff will supervise this field experience. Students will observe, assist, and participate in the program of the county extension groups. They should gain experience in teaching 4H Club and/or home demonstration groups, in office management, radio, newswriting, working with other county agencies, and other of the usual activities of an extension agent.

H.E. Ed. 330-331. *THE ART OF TEACHING*. To be taken in two successive terms. Open to juniors and seniors preparing to teach home economics in the public schools. Professor Hutchins, Assistant Professor Moser, Assistant Professor Patterson, Miss Elliott, ———, and cooperating teachers.

330. Fall and spring terms. Credit two hours. Field work one half day each week and general conference S 8-10. Room 121, Van Rensselaer.

331. Fall and spring terms. Credit eight hours. Directed teaching for one half of the term and general conference S 10-1 throughout the term. This course is a continuation of Home Economics Education 330. During this term the student will register for only one other course, Homemaking Apartments 302, Van Rensselaer. Students will live in the Homemaking Apartments for one half of the term and in the communities in which they teach for the other half of the term. Student teachers will be assigned to cooperating schools within a reasonable distance of Ithaca. They will live in the communities and will work under the guidance of the local home-making teachers and under the supervision of the Home Economics Education staff.

In both terms of Home Economics Education 330-331 student teachers will have an opportunity to study the community and the place of home economics in the total educational program of the community. They will observe and participate in community activities, in the total school program, and in the Home Economics program.

The course may include one or two one-day trips to visit schools for the purpose of studying homemaking programs, furnishings, and equipment. Estimated costs of each trip, \$3.

H.E. Ed. 400. *SPECIAL STUDIES*. Credit as arranged. Members of the staff. Students working on theses or other research projects may register for this course. The staff members concerned must be consulted before registration.

H.E. Ed. 435. *SEMINAR IN TEACHING HOME ECONOMICS*. Spring term. Credit two hours. Students will need to consult the instructor before registering. Hours to be arranged. Professor Thurston.

This course provides opportunity for graduate study of methods in home economics education and for field work. It is intended for secondary-school teachers, extension workers, college teachers, supervisors, those who prepare teachers, and other leaders in home economics. Individual problems may include experiments, observation, and practice in teaching and supervision.

H.E. Ed. 437. *ADULT HOMEMAKING EDUCATION*. Fall or spring terms. Credit two or three hours. M 4 and other hours to be arranged. Assistant Professor Patterson.

Designed for teachers, nutritionists, extension agents, health and social workers, leader in parent-education and other adult education programs.

This course deals with philosophy, organization, program planning, promotion, leadership and evaluation of adult education. Attention is given to the contributions that different agencies can make to adult education in the community program. Students will observe and participate in adult homemaking programs within the vicinity. Time must be planned for trips. Estimated cost of trips, \$5 to \$7.

H.E. Ed. 438. *ADULT HOMEMAKING EDUCATION* (Advanced). Fall or spring terms. Credit two or three hours. S 9 and other hours to be arranged. Assistant Professor Patterson.

This course is a continuation of Home Economics Education 437. However, students with experience in adult education may register for the course with permission of instructor without registering for Home Economics Education 437.

This course deals with desirable learning experiences and provides opportunities for experimentation with a variety of teaching methods and materials suited to adults. Attention is given to the use of home visits, radio, films, printed materials as well as discussion and other procedures for group teaching.

Students should schedule time for observation and participation in adult home making programs within the vicinity. Estimated cost of trip, \$8-\$10.

H.E. Ed. 448. *TEACHER EDUCATION IN HOME ECONOMICS*. Fall term. Credit two hours. Hours to be arranged. Professor Hutchins. Planned for cooperating teachers who are participating in teacher education programs and for experienced teachers who desire to prepare for positions in the field of teacher education.

H.E. Ed. 449. *SEMINAR IN PROBLEMS OF HOME ECONOMICS EDUCATION*—with special emphasis upon Curricula. Fall and spring terms. Credit two or three hours either term. Hours to be arranged. Field work is required. Students must consult the instructor before registering. Professor Thurston.

Designed to meet the needs of graduate students who have had experience as home economics educators in schools, college, extension service, and other agencies. Students are given opportunity to observe and to work on curriculum problems in the field and to develop curricula for their own use. Courses in philosophy and principles of education, psychology, child development, guidance, curriculum, and measurement are recommended as prerequisites or parallel.

H.E. Ed. 459. *SEMINAR IN EVALUATION*. Prerequisite or parallel, Home Economics Education 449. Spring term. Credit two or three hours. Hours to be arranged. Students must consult the instructor before registering. Professor Thurston.

Intended for advanced graduate students and members of the staff. Sessions will consider the theory of evaluation in home economics teaching, supervision and administration, reports of evaluation studies and proposals for new projects. Students will be expected to carry on field studies.

(H.E. Ed. 468. *ADMINISTRATION IN HOME ECONOMICS*. Professor Hutchins). Not offered in 1947-1948.

H.E. Ed. 469. *THE SUPERVISION OF HOME ECONOMICS EDUCATION*. Spring term. Credit two or three hours. Students must consult the instructor before registering. Hours to be arranged. Professor Thurston.

Planned for state and city supervisors of home economics in public schools and others engaged in supervision and in the education of teachers in service, and for those who wish to prepare for such work. Field observation and experience will be provided. Students who have had several years of experience and who are advanced in graduate work will be accepted.

H.E. Ed. 479. *SEMINAR IN STUDIES AND RESEARCH IN HOME ECONOMICS EDUCATION*. Fall term. Credit two or three hours. Hours to be arranged. Students must consult the instructor before registering. Professor Thurston.

The purpose of this course is to help students develop critical judgment, to understand and use research techniques and to become familiar with and be able to evaluate current research projects in home economics education. This course should precede work on a Master's study.

H.E. Ed. 300. *SPECIAL PROBLEMS*. Fall and spring terms. Credit and hours to be arranged individually. For seniors and graduate students who wish to do independent advanced work on a problem not dealt with by other courses in the department.

INDUSTRIAL AND TECHNICAL EDUCATION

I&LR 83. *CURRICULUM CONSTRUCTION IN INDUSTRIAL AND TECHNICAL EDUCATION*. Spring term. Credit two hours. Th 4.15-5.45. Assistant Professor Brophy.

Deals with principles and procedures of curriculum construction for industrial and technical schools.

I&LR 81. *JOB ANALYSIS TECHNIQUES*. Fall term. Credit two hours. Th 4.15-5.45. Assistant Professor Brophy.

Deals with various types of job analyses and their relation to job specifications, job descriptions, training programs, and job evaluation.

I&LR 80. *INDUSTRIAL AND TECHNICAL EDUCATION IN THE UNITED STATES*. Fall term. Credit two hours. S 9-10.30. Assistant Professor Brophy.

An overview course dealing with the various types of programs in industrial and technical education. Study will be made of industrial arts education, unit trade programs in vocational high schools, apprentice training, technical high schools, and technical institutes. Some attention will be given to private trade schools, diversified occupation programs, and special programs for veterans.

I&LR 82. *INDUSTRIAL PLANT TRAINING FOR WORKERS AND SUPERVISORS*. Spring term. Credit two hours. S 9-10.30. Assistant Professor Brophy.

Study of the various types of industrial training programs found in industrial plants. Deals with vestibule schools, on-the-job training, apprentice training, evening classes of supplementary type, and foreman and supervisor training. Consideration will also be given to methods used in training programs.

I&LR 132. *ADMINISTRATION OF INDUSTRIAL AND TECHNICAL EDUCATION*. Spring term. Credit two hours. W 4.15-5.45. Professor Beach.

A course in school administration dealing with the responsibilities of the principal and administrative assistants in industrial and technical high schools, and in technical institutes. Consideration will also be given to the problems of the city director of vocational education.

I&LR 130. *SUPERVISION OF INDUSTRIAL AND TECHNICAL EDUCATION*. Fall term. Credit two hours. S 11-12.30. Professor Beach.

Principles and practices in the improvement of instruction in all phases of industrial high school, technical high school, and technical institute courses.

I&LR 135. *AUDIO-VISUAL AIDS IN INDUSTRIAL AND LABOR RELATIONS*. Credit two hours. Open only to juniors and seniors. Th. 11 and 3-hour laboratory to be arranged. Mr. Jehring.

The preparation and proper use of motion pictures, stripfilms, sound slidefilms, charts, flash cards, pictures, models, bulletin boards, and radio materials, particularly in relation to their applications in industries and labor unions.

I&LR 199. *SPECIAL STUDIES*. Graduate; credit and hours as arranged. Members of the staff.

Directed research in special problems.

INTERDEPARTMENTAL COURSES

101. *INTRODUCTION TO THE STUDY OF SOCIETY*. Either term. Credit three hours. Open to freshmen. Not open to those who have credit for Social Science 1 or Rural Sociology 1. M W F 8, 10, or 2; T Th S 8 or 12. Mr. Clausen and Mr. White.

An introduction to the study of societies as interrelated systems; their institutional and class structures; social factors in personality formation; selected major problems of contemporary American society as seen in the context of our own social system.

The following course is offered cooperatively by the Department of Zoology and the School of Education:

201-202. *HUMAN GROWTH AND DEVELOPMENT*. Throughout the year. Credit three hours a term. Not open to freshmen. Prerequisite, a laboratory science, preferably General Biology or Zoology. Course A is prerequisite to course B. Course 201—Fall term: Lectures, T Th 10; Recitation, S 10 and other hours to be arranged. Mr. Papez. Course 202—Spring term: Lecture, T Th 10; Recitations, S 10 and one or more additional hours to be arranged. Mr. Freeman.

The aim of this course is to integrate information about structural, physiological, behavioral, and intellectual aspects of growth and development. Emphasis is placed on those aspects of growth and development that will help educators to understand human individuals as functioning organisms in a social environment. The materials of the course are selected from pertinent fields, including anatomy, embryology, genetics, neurology, physiology, hygiene, sociology, cultural anthropology, developmental psychology, and education.

MILITARY SCIENCE AND TACTICS

Cornell university requires men of the Freshman and Sophomore classes to take the Basic Course in Military Science and Tactics. That requirement is precisely defined, and exceptions and alternatives are clearly stated, in the General Information booklet and in each of the college announcements, which should be consulted.

PHYSICAL TRAINING

All undergraduate men, unless officially excused, are required to follow a program of physical training, for the satisfactory completion of which one hour of credit a term will be allowed.

All undergraduate women, unless officially excused, are required to follow a program of physical education during the first four terms of their course of study. For the satisfactory completion of this requirement one hour of credit a term will be allowed.

These requirements are administered by the Dean of the University Faculty.

CORNELL UNIVERSITY OFFICIAL PUBLICATION

The issues of this publication are designed to give prospective students and other persons information about Cornell University. No charge is made except for the *Directory of Staff and Students* and *A Book of Pictures*.

The prospective student should have a copy of *General Information* and a copy of one or more of the following Announcements:

Graduate School, Medical College, Cornell University-New York Hospital School of Nursing, Law School, College of Arts and Sciences, College of Architecture, College of Engineering, School of Business and Public Administration, New York State College of Agriculture, Two-year Courses in Agriculture, Farm Study Courses, New York State School of Industrial and Labor Relations, New York State College of Home Economics, Course in Hotel Administration, New York State Veterinary College, School of Nutrition, Department of Military Science and Tactics, School of Education, Summer Session, Annual Report of the President.

Directory of Staff and Students is priced at 25 cents, postpaid. *A Book of Pictures* is priced at 50 cents, postpaid.

Correspondence regarding these publications should be addressed to

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