

CORNELL UNIVERSITY
OFFICIAL PUBLICATION

School of Education

1949-1950

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Faculty

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Andrew Leon Winsor, Ph.D., Head of Department of Rural Education
and Director of the School of Education.

Lucile Allen, Ed.D., Dean of Women.

Howard Andrus, M.S. in Edu., Director of Placement Bureau.

Frank C. Baldwin, M.A., Dean of Men.

Jessie Bateman, M.S., Instructor in Home Economics Education.

Thomas L. Bayne, Jr., Ph.D., Associate Professor of Rural Education
(Educational Psychology).

C. Kenneth Beach, Ph.D., Professor of Industrial Education.

Sara E. Blackwell, M.S., Assistant Professor, Home Economics Education.

John M. Brophy, Ph.D., Assistant Professor of Industrial and Labor
Relations.

Julian Edward Butterworth, Ph.D., Professor of Rural Education
(Educational Administration).

Samuel J. Catalfano, M.S., Supervisor of Practice Teaching in Modern
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Cora E. Binzel Chase, M.S., Professor of Rural Education, Emeritus
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E. William Crane, B.S., Instructor in Rural Education.

Carolyn H. Crawford, M.S., Assistant Professor of Home Economics
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Robert H. Dalton, Ph.D., Professor of Child Development and Family
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Dora M. DePew, M.A., Supervisor of Practice Teaching in Mathematics,
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Theodore H. Eaton, Ph.D., Professor of Rural Education, Emeritus.

Lloyd Elliott, Ph.D., Assistant Professor of Rural Education (Secondary
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Margaret Elliott, M.S., Instructor in Home Economics Education.

Lynn A. Emerson, Ph.D., Professor of Industrial Education.

Jean Failing, M.A., Associate Professor of Home Economics and Student
Counselor.

Frank S. Freeman, Ed.D., Professor of Psychology and Education.

Marvin D. Glock, Ph.D., Professor of Rural Education (Educational
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- Eva L. Gordon, Ph.D., Assistant Professor of Rural Education (Nature Study).
- Esther Harris, Ph.D., Assistant Professor of Child Development and Family Relationships.
- Helen Hoefler, M.S. in Ed., 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.
- Loretta Klee, M.A., Director of Social Studies, Ithaca Public Schools.
- J. Paul Leagans, Ph.D., Professor of Extension Education.
- Clyde B. Moore, Ph.D., Professor of Education.
- Helen Moser, M.A., Assistant Professor of Home Economics Education.
- A. Gordon Nelson, Ph.D., Associate Professor of Educational and Vocational Guidance.
- Milacent Grimes Ocvirk, M.A., Director of English, Ithaca Public Schools.
- 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., Associate Professor of Home Economics Education.
- Louis A. Preston, Instructor in Rural Education (Agricultural Education).
- Victor E. Schmidt, Ph.D., Associate Professor of Science 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., Associate Professor of Education.
- Flora M. Thurston, M.A., Professor of Home Economics Education, Emeritus.
- Ethel Waring, Ph.D., Professor of Child Development and Family Relationships.

ASSISTANTS, 1948-1949

- Royden C. Braithwaite, B.S., Assistant in Educational Psychology.
- Gladys Brown, B.S. in Home Ec., Assistant in Home Economics Education.
- Wilson F. Clark, A.B., Assistant in Rural Education.
- J. Glenn Coombs, M.S., Assistant in Agricultural Education.
- Richard M. Dickerman, B.S., Assistant in Agricultural Education.
- Lu-I Hsia, B.A., Assistant in Home Economics Education.
- Robert McCambridge, M.S. in Ed., Assistant in Rural Education.
- Harold Noakes, M.S. in Ed., Assistant in Agricultural Education.

Grant Northrup, M.A., Assistant in Rural Education.
 Gerald E. Ottoson, B.S.E., Assistant in Industrial Education.
 Robert E. Pingry, A.M., Assistant in Teacher Training Program.
 Farnham G. Pope, M.S. in Ed., Assistant in Rural Education.
 Kathleen Rhodes, M.S. in Ed., Assistant in Home Economics Education.
 Helen B. Ross, M.A., Assistant in Nature Study and Science Education.
 Ruth Sanderson, B.S., Assistant in Home Economics Education.
 Paul Warnick, M.S. in Ed., Assistant in Teacher Training Program.
 Kenneth D. Wells, M.S. in Ed., Assistant in Agricultural Education.

COOPERATING TEACHERS IN THE ITHACA HIGH SCHOOL

Gladys I. Adams	Albert E. Lawrence
Zelma B. Becker	Bertha McCargo
Fred A. Bennett	John Mack
Mary Alice Boehlert	Eleanor D. McGinnis
Emilie Brown	Ruth L. Miller
Leonard Buyse	Nora M. Mullin
Mayfred Claffin	Martha Neighbour
Josephine Conlon	Edward Neulander
Dora DePew	Harry S. Powell
Robert R. Donaldson	Lilly Robinson
Marian Elliott	Irene P. Rohel
Clara S. Gage	Walter C. Schroeder
Arthur Glogau	Kathryn Stenson
Eloise Hadlock	Jane Stoutenburg
Josephine Howe	Vera Warner
Susanne Jacobus	Florence Williamson
Catherine Jones	Adelaide Wright
Florence Miller Jones	DeWitt Zien

COOPERATING TEACHERS IN CENTERS OUTSIDE ITHACA

Madeline Dunsmore, <i>Spencer</i>	Clarissa Smith, <i>Candor</i>
Seymour Fowler, <i>Dryden</i>	Marjorie Swift, <i>Dryden</i>
Jane Kester, <i>Spencer</i>	Marilyn Tiensuu, <i>Newfield</i>
Katherine Miller, <i>Trumansburg</i>	Henry Wise, <i>Dryden</i>

COOPERATING ADMINISTRATORS

Russell Doig, Principal	Trumansburg Central School
William L. Gragg, Administrative Assistant	Ithaca Public Schools
Claude L. Kulp, Superintendent	Ithaca Public Schools
Edward Long, Principal	Dryden Central School

Organization and Functions

THE School of Education at Cornell 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, in extension services, 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 College 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, 336 Administration Building, 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. Members of the faculty examine carefully the application of each individual and make recommendations to the Graduate School relative to his fitness as a candidate. 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.

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 9.

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 candidates, 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 will be tested at the close of the 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, 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.

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

Academic Subjects Except Science: Associate Professor Frederick Stutz, 245 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: Associate Professor Victor E. Schmidt, 16 Fernow

Requirements for Advanced Degrees

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 standing 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 this 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 fields, 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 . . . Three professional degrees are offered, namely, Master of Education, Master of Science in Education, and Doctor of Education. The Master of Education degree is granted upon the completion of a program of pre-service preparation for secondary school teaching; the Master of Science in Education, of a program for the preparation of specialists in education, and the Doctor of Education degree for leadership in education. 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 Masters' 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 25.

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 25.

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.

The candidate, working under the direction of a Special Committee for a minimum of two terms, is required to complete an approved program of study adjusted to his needs. The candidate is required to pass a comprehensive final examination.

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 I, II, III. 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 I. 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), home economics, 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 II. 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 I. 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 III. This group includes courses intended to meet the particular needs of the candidate not adequately met in Groups I and II. 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. It is expected that normally all work will have been taken at Cornell University. However, under exceptional circumstances, one summer 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 EDUCATION . . . The program for the Doctor of Education degree is designed to prepare the candidate within a broad cultural context for professional proficiency in a selected field of education. Candidates for this degree must show evidence of competency in a field of educational activity and of ability to assume a position of leadership in education. The special requirements for the degree are shown below.

Residence Requirements. A candidate for this degree shall be expected to complete his residence with reasonable continuity. All re-

quirements, including the final examination, must be completed within four years after the minimum residence requirement has been satisfied. Two terms of residence must be consecutive, of which one may be secured under personal direction; ordinarily, these two terms should be the final terms of residence. All other requirements pertaining to residence are the same as those for the Ph.D.

Special Committees. Regulations pertaining to the establishment and functions of Special Committees are the same as those for the Ph.D.

Major and Minor Fields. A candidate for the Ed.D degree must select a major field of concentration and two minor fields of distribution properly related to and supporting the field of concentration. Fields of concentration approved for this degree are the same as the major fields listed on p. 33 for the Ph.D. in Education. Fields of distribution will be determined by consultation with the professor representing the major field.

The candidate should consult members of the faculty regarding his choice of a major field.

Special Requirements of Competency. A candidate for the Ed.D. degree must demonstrate by examination competency in two of the following areas: (1) an approved foreign language; (2) a second foreign language; (3) statistics as applied in education; (4) law as applied in education; (5) accounting as applied in education; or (6) some other area recommended by the special committee and approved by the Dean of the Graduate School. Competency in each of these areas will be determined by examination by staff members appointed for the purpose. Preparation for these examinations must be made outside of the residence requirement and examinations must be passed within the time limits operative in the Ph.D. program.

Thesis. The thesis required must meet the Ph.D. requirement of scholarship and literary quality, but may emphasize the critical application of knowledge to a professional problem rather than an attempt to contribute new knowledge. All regulations governing the preparation and publication of the thesis and abstracts are the same as those for the Ph.D.

Examinations. A candidate for the Ed.D degree must take a special written scholastic aptitude examination selected and administered by the School of Education in addition to the qualifying examination given by his special committee. The committee shall decide the weight to be attached to the candidate's performance on this test in evaluating his fitness for candidacy. The aptitude test shall include ability to read and interpret educational literature, ability to analyze educational problems, proficiency in written English, and other aptitudes considered to be indicative of appropriate ability. Rules governing the qualifying and final examinations are the same as those for the Ph.D.

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 rec-

ommendation 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 THE EXTRAMURAL DIVISION . . . Courses in the extramural program are available to students interested in part-time study. These include regular on-campus offerings, scheduled for the convenience of students able to commute to the campus, and off-campus courses in outlying centers located to suit the convenience of a sufficient number of students to warrant the offering. Graduate credit may be earned in these courses and is recorded in the Registrar's Office. A candidate for an advanced degree in Cornell University may have such credit applied toward requirements for the degree on recommendation of his special committee. Candidates for degrees in other institutions should be guided by the regulations in those institutions.

Residence credit toward advanced degrees in Cornell University may be earned through extramural registration as follows:

1. A candidate registered extramurally for fewer than six semester hours a term in courses given on the campus during the regular academic year may accumulate residence credit by such work, on recommendation of his special committee, up to a maximum of one term or three summer sessions. For such work in the amount of six or more semester hours a term, maximum residence credit will be allowed as for work done in summer sessions.

2. A candidate registered extramurally in courses given at off-campus centers authorized by the University may accumulate residence credit, on recommendation of his special committee, up to a maximum of two summer sessions.

3. Residence credit earned by extramural work will be recorded only in blocks of six semester hours, each such block being regarded as the equivalent of one summer session of residence credit.

Students who wish to register for these courses should apply to the Director of the Division 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:

Three hundred dollars in the College of Arts and Sciences.

Three hundred 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.

FEES PAYABLE BY GRADUATE STUDENTS...

A Tuition Fee of \$150 a term is to be paid by all students registered in the Graduate School with major concentration in subjects within the state-supported colleges of the University; all others must pay a fee of \$225 a term. This fee 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 the recommendation of the Dean.

3. Graduate students who have satisfactorily completed the requirements of residence for the degree but who remain in residence while working on their theses or while doing other work in contemplation of a degree.

4. In addition to students exempt under the charter of the University from the payment of tuition the following, to the extent herein mentioned, shall also be exempt from such payments of fees:

Upon recommendation by the appropriate college dean and by action of the Board of Trustees, for each appointment, waiver of tuition in the Graduate School, and of laboratory and shop fees

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

in the department or line of work in which he is employed, may be made to a member of the teaching or scientific staff subject to the following limitations:

(a) If the salary for the academic year is not greater than \$1600, the tuition fee may be waived entirely;

(b) If the salary is greater than \$1600, but not greater than \$1700, 25% of the tuition will be charged and 75% waived;

(c) If the salary is greater than \$1700, but not greater than \$1800, 50% of the tuition will be charged and the balance waived;

(d) If the salary is greater than \$1800, but not greater than \$1900, 75% of the tuition will be charged and the balance waived;

(e) If the salary is greater than \$1900, no waiver will be made.

The word salary as used above means total pay — that is, base pay plus any bonus.

Graduate assistants on the nine or twelve months basis who are located here during the summer months, who are registered under personal direction for credit in the Graduate School, and who are required to give service in their department or college during that period, may be recommended for waiver of tuition during the Summer Term also under the above limitations. Those who are engaged only in graduate study and not doing productive work for the department during the Summer, may not have their tuition waived. The amount of tuition to which the above percentages will be applied is the prorated amount of the full tuition fee based upon the maximum amount of residence credit that can be earned.

A matriculation fee of \$13**, an administration fee of \$12.50 a term, a health and infirmity 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.

**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 6.

1) RURAL EDUCATION

- a) One \$1400 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 \$1200 and one \$900 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 \$1200 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 \$1200 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 \$900 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) An assistantship to help with details in connection with undergraduate courses, such aid to include preparation of teaching materials, making arrangements for field trips and assisting in class room situations. The stipend is \$900. Candidates having home economics teaching experience and showing promise of leadership in the field of home economics education are given preference. This is a part-time appointment requiring 15 hours of work a week. The appointee may carry 8 to 12 hours of graduate study each term.
- b) An assistantship to help with details in connection with the graduate program, such aid to include preparation of teaching materials, abstracting articles and studies to be used by graduate students, and participation in some class room responsibilities. The stipend is \$900. Candidates should have experience in teaching home economics and should be preparing for a position of leadership in home economics education. This is a part-time appointment and requires 15 hours a week. The appointee may carry 8 to 12 hours of graduate study each term.
- c) An assistantship to serve as adviser in one of the Home Management Apartments. Such work includes living in the apartment for two semesters serving as adviser to resident students, and helping with other details in connection with the Apartments or Home Economics Education. The stipend is \$1000, living quarters, and some meals. A well-rounded undergraduate background in home economics is required as well as some work toward a Master's or Doctor's degree. This is a part-time appointment requiring 20 to 30 hours a week. The appointee may carry 6 to 9 hours of graduate study each semester. Directed by Assistant Professor Carolyn H. Crawford.
- d) A research assistantship in connection with research studies in Home Economics Education. The stipend is \$1400 for the regular year. Candidates should have held a position of leadership in home economics education and should hold a Master's degree. Preference will be given to candidates who have undertaken post-master's study, and who are

working for a doctorate, and who have had experience in research. This is a part-time appointment requiring 20 or more hours a week. The appointee may carry 6 to 9 hours of graduate study each term. Directed by Graduate Staff.

5) TEACHER TRAINING PROGRAM

a) One assistantship is available which provides an income of \$1600 for the academic year.

6) SECONDARY SCHOOL TEACHERS IN TRAINING. Free tuition scholarships are available 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. Some of these scholarships are available to students who have received their undergraduate preparation in institutions other than Cornell.

7) 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 the personal and educational qualifications and experience of each registrant. With the co-operation 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 makes possible a practical upgrading program.

Answering frequent requests for information about trends and demands forms an important part of the Bureau's service. Location of positions, salary range, contract terms, and certification requirements are among the subjects concerning 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 Dean of Men and Dean of Women. Persons not enrolled at Cornell University 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 and films 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.

Programs of Professional Preparation

UNDERGRADUATE PROGRAM FOR SECONDARY SCHOOL TEACHERS

The following program is required of all prospective teachers of secondary-school subjects:

Pre-Professional Studies

Freshman Year

Introduction to the Study of Society..... 3 hours

Sophomore Year

Human Growth and Development..... 6 hours

First selection of prospective teachers

Professional Studies

Junior Year

Educational Psychology 3 hours

Social Foundations of Education..... 3 hours

Second selection of prospective teachers

Senior Year

The Art of Teaching..... 10 hours

Academic subjects, 130

Science, 121, 128, 129

Home Economics, 330, 331

Agriculture, 132, 133 and 135

Fifth Year

Apprentice Teaching 6 hours

Special Problems in Teaching..... 2 hours

Philosophy of Education..... 2 hours

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.

DIRECTED AND APPRENTICE TEACHING . . . The five-year program 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 associated with both the University and local boards of education, that he may learn, firsthand, what is required in handling classroom situations, what is involved in efficient teaching, and what is needed 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 performs 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 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 54 semester hours in Agriculture and Related Science is required. A minimum of 36 of these hours should be distributed in the following broad fields:

	<i>Semester hours</i>
	<i>Minimum</i>
Agricultural economics and farm management	6
Agricultural engineering and farm mechanics	6
Farm animals including dairy and poultry	6
Farm crops chosen from field, vegetable, and fruit crops . . .	6
Soil technology	3
Dairy science	3

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

To assist the student a plan is set up for the use of students and their advisers.

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. For full information consult the *Announcement of the College of Arts and Sciences*.

Preparation in the Teaching Field. The student must select, before the end of the second year of residence, a major field of study. The specific requirements vary somewhat according to the field. For full information consult the *Announcement of the College of Arts and Sciences*.

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 programs below be selected, although other combinations may be arranged to suit individual needs.

English and Speech. In the sophomore year the student takes the course in Great English Writers (English 251-252) and a course in Composition. In the junior year he takes the survey course in American Literature (English 329-330), and in the senior year the course in Shakespeare (English 369-370). He is also expected to take one course in Criticism (which may be Literature 401-402), the course in American Folk-Literature (English 355), and a course in Modern Poetry. The requirement for this special English major is thirty hours after Freshman Composition has been passed. Nine hours of Speech must be included in the related subjects, preferably Speech and Drama 101, 111 or 141, and 333. Students primarily interested in Speech and Drama should major in that department and supplement their training with considerable work in English.

Foreign Language

Latin. Students desiring to prepare themselves to teach Latin in the secondary schools should fulfill the requirements of the major in Classics. A combination may be made between Latin and another field of study which will satisfy the major requirements, and prepare prospective teachers, in both subjects.

Modern Foreign Languages. Students desiring to prepare themselves to teach the modern foreign languages in secondary schools should study carefully the offerings by the Division of Modern Languages and the several departments of literature. Majors are offered, with emphasis as desired by the student either in literature or linguistics, in French, German, Russian, and Spanish. For detailed descriptions of work involved for the completion of the majors in these fields, see announcements of the Department of German Literature, Department of Romance Literature, Department of Russian Literature, and the Division of Modern Languages.

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. As the teaching of mathematics is frequently combined with the teaching of physical science or general science, it is recommended that considerable work be taken in the sciences.

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.

During the fifth year, the prospective teacher of an academic subject may select, under the guidance of his Special Committee, from 15 to 20 hours of advanced courses and seminars in his teaching field.

HOME ECONOMICS

Teachers in public schools... 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 "homemaking 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, School of Industrial and Labor Relations, 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.

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

Credit hours

Family Relationships and Child Study.....	8-12
Part of the work in family relationships may be covered through sociology 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.	

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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 year.

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

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.

Attention is directed also to the various technical offerings in special fields of engineering for technical teachers who may wish to supple-

ment their technological background. See the Announcement of the College of Engineering.

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.

TRAINING DEPARTMENTS IN INDUSTRY . . . The transfer of the work offered at Cornell in Industrial Education to the School of Industrial and Labor Relations has made possible expanded offerings for the preparation of persons for employment in training departments in industry. Undergraduate and graduate students with comprehensive background in the field of industrial and labor relations may elect courses specially designed for such preparation, together with other courses in education which are basic to all types of educational programs. Graduate students may take a major or minor in this field.

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.

Graduate Programs of Professional Preparation

FIELDS OF STUDY FOR GRADUATE STUDENTS

To meet the requirements of the Graduate School candidates for advanced degrees must select a major or minor field of work or a field of concentration. Approved fields for majors in the School of Education are as follows:

Administration	Nature Study — Science Education —
Agricultural Education	Conservation Education
Curriculum	Rural Education and Secondary
Educational Psychology	Education
*Educational and Mental Measurement	Rural Secondary Education
Extension Education	Science Education
Guidance and Personnel Administration	Social Studies Education
*History of Education	Supervision (See Administration)
Home Economics Education	Theory and Philosophy of Education
Industrial Education	Vocational Education

A student may select as a minor any of the above major fields or one of the following:

Education	Educational Method
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In general, candidates for higher degrees in Education are encouraged to take one minor outside the field of education.

The courses recommended in each of these areas, together with a discussion of professional opportunities and requirements, are presented here for the guidance of the student.

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 lists 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 courses are 260 (or 262 or 263), 261, 243 and 276.

*For a Master's degree only.

Principal Courses in Education:

- ILR. 132. Administration of Industrial Education
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 245. Seminar for Principals
- R.E. 246. The Supervision of the Elementary School
- R.E. 260. The Twelve-Grade Principalship
- R.E. 261. Fundamentals of Educational Organization and Administration
- R.E. 262. The Secondary School Principalship
- R.E. 263. The Principalship of the Elementary School
- R.E. 264. Financial Policies and Practices in Public Schools
- R.E. 265. The School Plant
- R.E. 267. The Legal Problems of the School Administrator
- R.E. 268. Seminar in Rural School Administration
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 278. Seminar in Rural Secondary Education
- R.E. 298. Seminar in Rural Educational Leadership
- R.E. 300. Special Studies
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education
- H.E. Ed. 469. Administration and Supervision of Home Economics

Related Courses in Education:

- R.E. 244. Philosophy of Education
- R.E. 247. Seminar in Elementary Education
- R.E. 251. Educational Measurement
- R.E. 253. Introduction to Educational Statistics
- R.E. 282. Educational and Vocational Guidance
- R.E. 290. Rural Secondary Education
- R.E. 295. Comparative Education
- R.E. 299. Research Methods and Techniques in Education
- Psych. 618. Individual Differences
- Psych. 675. Seminar in Human Development and Behavior

*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 |
| 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 | |

*For all related courses in this section, see the Announcement of the Graduate School.

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 those required or elected most frequently in connection with graduate work in agricultural education.

Principal Courses in Education:

- R.E. 194. Principles of Vocational Education
- R.E. 199. Informal Study in Education
- R.E. 230. Seminar in Agricultural Education
- R.E. 231. The Supervision of Vocational Agriculture in The Secondary School
- R.E. 232. Evaluation and Program Planning in Agricultural Education
- R.E. 233. Supervised Farming Programs in Vocational Agriculture
- R.E. 234. Education for Leadership of Farm Youth and Adult Groups
- R.E. 235. The Technical and Professional Preparation of Teachers of Agriculture
- R.E. 236. The Organization and Administration of Vocational Agriculture in the Public Schools
- R.E. 237. Agricultural Curriculum and Courses of Study
- R.E. 238. Materials of Instruction in Vocational Agriculture
- R.E. 239. Instruction in Agriculture for Pre-Vocational Pupils
- R.E. 300. Special Studies
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education

Related Courses in Education:

- R.E. 211. Educational Psychology
- R.E. 214. College Teaching

- R.E. 218. Seminar in Educational Psychology
- R.E. 223. Seminar in Extension Teaching
- R.E. 224. Program Planning in Extension Education
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 251. Educational Measurement
- R.E. 253. Introduction to Educational Statistics
- R.E. 261. Fundamentals of Educational Organization and Administration
- R.E. 262. The Secondary School Principalship
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 282. Educational and Vocational Guidance
- R.E. 283. Counseling Methods
- R.E. 290. Rural Secondary Education
- Ed. 296. History of American Education
- Ed. 297. History of Education in the Modern Period
- R.E. 299. Research Methods and Techniques in Education

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.

CURRICULUM AND METHODS . . . The offerings in curriculum and methods are designed for those who expect to become curriculum directors, supervisors, critic teachers, or administrators. Particular attention is given to the theories underlying curriculum construction and methods of teaching.

Principal Courses in Education:

- R.E. 107. The Teaching of Nature Study and Elementary School Science
- R.E. 121. Method and Procedure in Secondary School Teaching
- R.E. 128. Methods of Teaching Science in Secondary Schools
- Ed. 130. The Art of Teaching
- R.E. 207. Methods and Materials for the Teaching of Science in Secondary Schools
- R.E. 214. College Teaching

- R.E. 223. Seminar in Extension Education
- R.E. 224. Program Planning in Extension Education
- R.E. 237. Agricultural Curriculum and Courses of Study
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 246. The Supervision of the Elementary School
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 284. The Teaching of Occupations and Orientation Classes
- R.E. 285. Occupational and Educational Information
- ILR 83. Curriculum Construction in Industrial and Technical Education
- H.E. Ed. 435. Methods and Materials in Teaching Home Economics
- H.E. Ed. 449. Curriculum Planning in Home Economics

Related Courses in Education:

- R.E. 129. Practice in Teaching Science in Secondary Schools
- R.E. 111. Educational Psychology
- R.E. 117. Psychology of Childhood and Adolescence
- R.E. 138. Planning Units of Instruction in Vocational Agriculture
- R.E. 194. Principles of Vocational Education
- R.E. 228. Seminar in Child Guidance
- R.E. 232. Evaluation and Program Planning in Agricultural Education
- R.E. 233. Supervised Farming Programs in Vocational Agriculture
- R.E. 234. Education for Leadership of Farm Youth and Adult Groups
- R.E. 241. The Preparation of Teachers for Normal Schools and Colleges
- R.E. 247. Seminar in Elementary Education
- R.E. 254. Statistical Instruments in Education
- R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
- R.E. 278. Seminar in Rural Secondary Education
- R.E. 290. Rural Secondary Education
- R.E. 293. Adult Education
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education
- Psych. 618. Individual Differences
- H.E. Ed. 434. Trends in Home Economics Education
- H.E. Ed. 437. Adult Education
- H.E. Ed. 438. Teaching Homemaking to Adults
- H.E. Ed. 446. Teaching Aids
- H.E. Ed. 480. Seminar in Home Economics Education
- H.E. Ed. 481. Supervision in Home Economics

Related Courses in Other Fields:

Shop Work for Rural High School Teachers
 Laboratory Methods in Biology
 Extension Information Methods
 Problems in Rural Community Organization

Social Services to Individuals
 Rural Leadership
 Attitude and Public Opinion Analysis
 Marketing in Vocational Agricultural Education

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 school psychologists and college teachers of educational psychology, and (2) those counselors, 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:

- R.E. 10. Psychology
- R.E. 111. Educational Psychology
- R.E. 112. Educational Psychology
- R.E. 117. Psychology of Childhood and Adolescence
- R.E. 211. Educational Psychology
- R.E. 213. Psychology of Learning in the School Subjects
- R.E. 214. College Teaching
- R.E. 218. Seminar in Educational Psychology
- R.E. 219. Seminar in Personnel Administration
- R.E. 223. Seminar in Extension Teaching
- R.E. 224. Program Planning in Extension Education
- R.E. 228. Seminar in Child Guidance
- R.E. 251. Educational Measurement
- R.E. 253. Introduction to Educational Statistics
- R.E. 254. Statistical Instruments in Education
- R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
- R.E. 282. Educational and Vocational Guidance
- R.E. 283. Counseling Methods
- Psych. 601. Educational Psychology
- Psych. 607. Psychological Tests I
- Psych. 608. Psychological Tests II
- Psych. 618. Individual Differences
- Psych. 675. Seminar in Human Development and Behavior
- Psych. 680. Procedures in Clinical Child Guidance
- Int. Dept. 201-202. Human Growth and Development
- CD & FR 475. Family Life Education

Related Courses in Other Fields: (See announcements in Psychology, Sociology, Zoology, Child Development and Family Relationships, Plant Breeding)

Social Psychology
 Culture and Personality
 Social Anthropology
 Memory and Thinking
 Physiological Psychology of the Senses
 Contemporary Psychology
 The Normal and the Abnormal
 Clinical Psychology
 Psychobiology
 Industrial Psychology
 Work, Fatigue and Efficiency
 Heredity and Eugenics
 Comparative Neurology
 The Individual and the Family
 Experience with Children
 Creative Play in Childhood
 Literature for Children

Principles for Child Guidance
 Child Development
 Family Relationships and Personality Development
 Methods of Child Study
 Marriage
 Exceptional Children in the Family
 Participation in Nursery School
 Seminar in Child Guidance
 The Home and Family Life
 Research in Child Development and Family Relationships
 Seminar in The Family
 Delinquency and Crime
 Genetics
 The Field of Social Work
 Statistics

EDUCATION AND MENTAL MEASUREMENT . . . 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:

- R.E. 251. Educational Measurement
- R.E. 253. Introduction to Educational Statistics
- R.E. 254. Statistical Instruments in Education
- R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
- R.E. 300. Special Studies
- Psych. 607. Psychological Tests I
- Psych. 608. Psychological Tests II
- H.E.Ed. 459. Evaluation in Home Economics Education

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

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.

Because of the varied educational backgrounds of workers in this field, much flexibility is permitted in individual programs arranged in personal counseling with each student.

Principal Courses in Education:

- R.E. 219. Seminar in Personnel Administration
- R.E. 223. Seminar in Extension Education
- R.E. 224. Program Planning in Extension Education
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 244. Philosophy of Education
- R.E. 276. Principles of Curriculum Building
- Ed. 296. History of American Education
- Ed. 297. History of Education in the Modern Period
- R.E. 298. Seminar in Rural Educational Leadership
- H.E. Ed. 434. Trends in Home Economics Education
- H.E. Ed. 435. Methods and Materials in Teaching Home Economics
- H.E. Ed. 437. Adult Education
- H.E. Ed. 438. Teaching Homemaking to Adults
- H.E. Ed. 446. Teaching Aids
- H.E. Ed. 459. Evaluation in Home Economics Education

Principal Courses in Psychology:

- R.E. 211. Educational Psychology
- R.E. 218. Seminar in Educational Psychology
- S.A. 301.—
- 302. Social Psychology
- S.A. 375. Seminar in Social Psychology
- R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
- R.E. 117. Psychology of Childhood and Adolescence
- Psych. 618. Individual Differences
- Psych. 675. Seminar in Human Development and Behavior
- Psych. 301. Contemporary Psychology

Related Courses in Other Fields:

- R.S.O. 208. Systematic Sociology
- R.S.O. 111. Rural Community Organization
- R.S.O. 211. The Rural Community

- R.S.O. 212. Rural Sociology
- R.S.O. 132. Rural Leadership
- R.S.O. 219. Seminar in Community Organization
- S.A. 601. Social Anthropology
- S.A. 431—
- 432. Structure and Functioning of American Society
- Ag.Ec. 151. Public Problems in Agriculture
- Ag.Ec. 181. Land Economics
- Ag.Ec. 138. Taxation
- H.E. 260. Problems in Providing Consumer Goods
- H.E. 410. Economic Problems of Families
- H.E. 130. Economic Conditions in Relation to the Welfare of Families
- Ag.Ec. 160. Food Economics
- R.E. 228. Seminar in Child Guidance
- R.S.O. 218. Seminar: Applications of Sociology to Problems of Rural Society
- Ext. Teach. 103. Extension Organization, Administration, and Policy
- S.A. 210. The Family
- S.A. 602. Culture and Personality

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 meet this need for more competent counselors and personnel administrators in high schools and colleges, business and industrial organizations, government bureaus, and philanthropic and social agencies, the School of Education and other divisions of the University offer a large number of courses as well as a variety of opportunities for supervised experience.

A given student's program of study is planned in consultation with his special committee and in the light of his previous preparation, degree requirements, certification needs, and vocational goal. 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. *For a full description of the opportunities and types of training available in guidance and personnel service, the prospective student should write to the School of Education to request a leaflet entitled, "Programs of Training for Counselors."*

Principal Courses in Education:

- R.E. 117. Psychology of Childhood and Adolescence
- R.E. 211. Educational Psychology
- R.E. 219. Seminar in Personnel Administration
- R.E. 251. Educational Measurement
- **R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
- Ed. 280. Student Personnel Administration
- Ed. 281. Seminar in Student Personnel Administration

- *R.E. 282. Educational and Vocational Guidance
- *R.E. 283. Counseling Methods
- **R.E. 284. The Teaching of Occupations and Orientation Classes
- **R.E. 285. Occupational and Educational Information
- R.E. 289. Supervised Practice in Testing and Counseling
- **Psych. 607. Psychological Tests I
- Psych. 618. Individual Differences
- Psych. 680. Procedures in Clinical Child Guidance

Related Courses in Education:

- ILR 80. Development and Organization of Industrial Education
- R.E. 190. Social Foundations of Education
- R.E. 194. Principles of Vocational Education
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 244. Philosophy of Education
- R.E. 261. Fundamentals of Educational Organization and Administration
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- Ed. 296. History of American Education
- Ed. 297. History of Education in the Modern Period
- R.E. 299. Research Methods and Techniques in Education
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education

Related Courses in Other Fields:

- | | |
|--|---|
| **Labor Conditions and Problems | Job Analysis — Methods and Applications |
| Trade Unionism and Collective Bargaining | The Normal and the Abnormal |
| **Intermediate Economic Theory | Clinical Psychology |
| Dynamics of Personality | Industrial Psychology |
| Introduction to Industrial and Labor Relations | Work, Fatigue and Efficiency |
| Human Relations in Industry | **The Field of Social Work |
| Personnel Management | Social Services to Individuals |
| Statistical Reasoning | Systematic Sociology |
| Family Life Education | **Mental Hygiene |

HISTORY OF EDUCATION . . . Graduate study in the history of education is offered for those students who wish to prepare to teach this subject or who wish to supplement their professional programs in education and other fields.

Principal Courses in Education:

- R.E. 190. Social Foundation of Education
- R.E. 244. Philosophy of Education
- Ed. 292. Seminar in Social Studies Education
- R.E. 295. Comparative Education

- Ed. 296. History of American Education
- Ed. 297. History of Education in the Modern Period
- R.E. 300. Special Studies
- CD & FR 475. Family Life Education

Related Courses in Education:

- R.E. 194. Principles of Vocational Education
- R.E. 209. The Development of Nature and Science Education in the United States
- R.E. 211. Educational Psychology
- R.E. 241. The Preparation of Teachers for Normal Schools and Colleges
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 261. Fundamentals of Educational Organization and Administration
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 282. Educational and Vocational Guidance
- R.E. 290. Rural Secondary Education
- R.E. 291. The Educational Program in Undeveloped Communities
- R.E. 299. Research Methods and Techniques in Education
- ILR 80. Development and Organization of Industrial Education
- H.E. Ed. 479. Research in Home Economics Education
- H.E. Ed. 480. Seminar in Home Economics Education

Related Courses in Other Fields:

The student will be advised in choosing courses from the offerings of the following departments:

History	Sociology
Government	Philosophy
Economics	

HOME ECONOMICS EDUCATION . . . Curricula are planned for experienced persons who wish to better qualify themselves as (a) teachers in secondary schools, including those who wish to earn a permanent teaching certificate in New York State, (b) supervising teachers, (c) supervisors, (d) administrators, (e) extension workers, (f) college teachers, (g) other leaders in Home Economics Education.

Principal Courses in Home Economics Education:

- H.E.Ed. 300. Special Problems for Undergraduate Students
- H.E.Ed. 320. } Extension Education
- H.E.Ed. 321. }
- H.E.Ed. 330. } The Art of Teaching
- H.E.Ed. 331. }
- H.E.Ed. 403. Special Problems for Graduate Students
- H.E.Ed. 407. Thesis and Research

- H.E.Ed. 434. Trends in Home Economics Education
- H.E.Ed. 435. Methods and Materials in Teaching Home Economics
- H.E.Ed. 437. Adult Education
- H.E.Ed. 438. Adult Education (Advanced)
- H.E.Ed. 446. Teaching Aids
- H.E.Ed. 449. Curriculum Planning in Home Economics
- H.E.Ed. 459. Evaluation in Home Economics Education
- H.E.Ed. 469. Administration and Supervision of Home Economics
- H.E.Ed. 479. Research in Home Economics Education
- H.E.Ed. 480. Seminar in Recent Trends in Home Economics Education
- H.E.Ed. 481. Supervision in Home Economics

Related Courses in Education:

- R.E. 106. Outdoor Living
- R.E. 121. Methods and Procedures in Secondary School Teaching
- R.E. 211. Educational Psychology
- R.E. 213. Psychology of Learning in the School Subjects
- R.E. 214. College Teaching
- R.E. 218. Seminar in Educational Psychology
- R.E. 223. Seminar in Extension Teaching
- R.E. 224. Program Planning in Extension Education
- R.E. 228. Seminar in Child Guidance
- R.E. 241. Preparation of Teachers for Normal Schools and Colleges
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 244. Philosophy of Education
- R.E. 261. Fundamentals of Educational Organization and Administration
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 278. Seminar in Rural Secondary Education
- R.E. 282. Educational and Vocational Guidance
- R.E. 283. Counseling Methods
- R.E. 290. Rural Secondary Education
- R.E. 291. The Educational Program in Undeveloped Communities
- Ed. 296. History of American Education
- Ed. 297. History of Education in the Modern Period
- R.E. 298. Seminar in Rural Educational Leadership
- R.E. 299. Research Methods and Techniques in Education
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education
- Psych. 601. Educational Psychology
- Psych. 608. Psychological Tests II
- Psych. 618. Individual Differences
- Psych. 675. Seminar in Human Development and Behavior
- CD & FR 475. Family Life Education

Related Courses in Home Economics:

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

Related Courses in Other Fields:

Culture and Personality	Modern Economic Society
Elements of Journalism	Radio Broadcasting
Extension Organization, Administration, and Policy	Recent American History
Human Relations in Industry	Social Anthropology
International Relationships	Social Psychology
Introduction to Statistical Analysis	The Family
Oral and Written Expression	The Rural Community

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 80. Development and Organization of Industrial Education
 ILR 81. Job Analysis – Methods and Applications
 ILR 83. Curriculum Construction in Industrial Education
 ILR 84. Instructional Materials – Appraisal, Use, and Development
 ILR 130. Supervision of Industrial Education
 ILR 131. Seminar – Current Problems in Industrial Education
 ILR 132. Administration of Industrial Education
 ILR 199. Special Studies
 R.E. 243. Procedures and Techniques in Supervision
 R.E. 244. Philosophy of Education
 R.E. 245. Seminar for Principals
 R.E. 261. Fundamentals of Educational Organization and Administration
 R.E. 276. Principles of Curriculum Building

R.E. 277. Seminar in Curriculum

R.E. 299. Research Methods and Techniques in Education

Related Courses in Education:

R.E. 214. College Teaching

R.E. 251. Educational Measurement

R.E. 253. Introduction to Educational Statistics

R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration

R.E. 282. Educational and Vocational Guidance

R.E. 283. Counseling Methods

ILR 82. Organization of Training in Industry

ILR 88. Instructional Methods in Business and Industry

ILR 133. Seminar — Training Problems in Business and Industry

Related Courses in Other Fields:

ILR 10. Introduction to Industrial and Labor Relations

ILR 43. Labor Union Organization and Management

ILR 44. Human Relations in Industry

ILR 45. Personnel Management

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:

R.E. 106. Outdoor Living

R.E. 107. The Teaching of Nature Study and Elementary School Science

R.E. 108. Field Natural History

R.E. 128. Methods of Teaching Science in Secondary Schools

R.E. 129. Practice in Teaching Science in Secondary Schools

R.E. 202. Nature Literature

R.E. 205. The Teaching of Conservation

R.E. 207. Methods and Materials for the Teaching of Science in Secondary Schools

R.E. 209. The Development of Nature and Science Education in the United States

R.E. 226. Research in Science Teaching

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

Related Courses in Education:

R.E. 211. Educational Psychology

R.E. 213. Psychology of Learning in the School Subjects

R.E. 241. The Preparation of Teachers for Normal Schools and Colleges

R.E. 243. Procedures and Techniques in Supervision

R.E. 251. Educational Measurement

R.E. 261. Fundamentals of Educational Organization and Administration

R.E. 276. Principles of Curriculum Building

R.E. 277. Seminar in Curriculum

R.E. 290. Rural Secondary Education

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

Agriculture

Astronomy

Bacteriology

Botany

Chemistry

Engineering

Entomology

Genetics

Geology

Limnology

Meteorology

Nutrition

Ornithology

Paleontology

Physics

Soils

Wildlife Management

Zoology

RURAL AND 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:

R.E. 214. College Teaching

R.E. 251. Educational Measurement

R.E. 276. Principles of Curriculum Building

R.E. 277. Seminar in Curriculum

Ed. 281. Seminar in Student Personnel Administration

R.E. 282. Educational and Vocational Guidance

R.E. 300. Special Studies

R.E. 401. Problems in Higher Education

Psych. 618. Individual Differences

Psych. 675. Seminar in Human Development and Behavior

Those qualifying for principalships usually take:

R.E. 243. Procedures and Techniques in Supervision

R.E. 261. Fundamentals of Educational Organization and Administration

R.E. 278. Seminar in Rural Secondary Education

R.E. 298. Seminar in Rural Educational Leadership

Related Courses in Other Fields:

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

SOCIAL STUDIES EDUCATION . . . The School of Education offers graduate work for students who wish to prepare themselves for positions of leadership in the field of social studies education. Qualified persons may follow programs designed for prospective teachers or supervisors in secondary schools, junior colleges, teachers colleges, and universities. Each student is encouraged to plan a program according to his needs.

Cornell provides excellent opportunities for study in the social sciences. Students are urged to take full advantage of offerings in these fields.

Principal Courses in Education:

R.E. 244. Philosophy of Education

R.E. 251. Educational Measurement

R.E. 276. Principles of Curriculum Building

Ed. 292. Seminar in Social Studies Education

R.E. 295. Comparative Education

Ed. 296. History of American Education

Ed. 297. History of Education in the Modern Period

R.E. 299. Research Methods and Techniques in Education

R.E. 300. Special Studies

Related Courses in Education:

R.E. 200. Apprentice Teaching

R.E. 211. Educational Psychology

R.E. 214. College Teaching

R.E. 218. Seminar in Educational Psychology

R.E. 241. The Preparation of Teachers for Normal Schools and Colleges

R.E. 243. Procedures and Techniques in Supervision

R.E. 253. Introduction to Educational Statistics

- R.E. 255. Use and Interpretation of Tests in Guidance and Personnel Administration
 R.E. 261. Fundamentals of Educational Organization and Administration
 R.E. 277. Seminar in Curriculum
 R.E. 282. Educational and Vocational Guidance
 R.E. 284. The Teaching of Occupations and Orientation Classes
 R.E. 290. Rural Secondary Education
 R.E. 293. Adult Education
 R.E. 400. Internship in Education
 R.E. 401. Problems in Higher Education
 Psych. 607. Psychological Tests I

Related Courses in Other Fields:

The student in social studies education may wish to select courses from the programs of any of the departments or divisions of the University given below:

History	Geology and Geography
Economics	Industrial and Labor Relations
Government	Philosophy
Sociology	Psychology
English Language and Literature	Speech and Drama

EDUCATIONAL THEORY AND PHILOSOPHY OF EDUCATION

. . . The courses in educational theory are designed to supplement the professional courses in educational practice. They are concerned with the nature and purpose of education as a force in a democratic society. Students who are especially interested in this field are encouraged to select additional courses in philosophy, social theory, psychology, and the history of education.

Principal Courses in Education:

- R.E. 190. Social Foundations of Education
 R.E. 194. Principles of Vocational Education
 R.E. 244. Philosophy of Education
 R.E. 290. Rural Secondary Education
 R.E. 291. The Educational Program in Undeveloped Communities
 R.E. 295. Comparative Education
 Ed. 296. History of American Education
 Ed. 297. History of Education in the Modern Period

Related Courses in Other Fields:

History of Philosophy	History of Political Theory
American Philosophy	Theory of Culture and Social
Modern Philosophers	Organization
History of Philosophical Systems	Culture and Personality
History of Philosophic Ideas	Introduction to International
Social Anthropology	Relationships
Sociological Theory	

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:

- R.E. 107. The Teaching of Nature Study and Elementary School Science
- R.E. 117. Psychology of Childhood and Adolescence
- R.E. 202. Nature Literature
- R.E. 209. The Development of Nature and Science Education in the United States
- R.E. 213. Psychology of Learning in the School Subjects
- R.E. 214. College Teaching
- R.E. 228. Seminar in Child Guidance
- R.E. 246. The Supervision of the Elementary School
- R.E. 247. Seminar in Elementary Education
- R.E. 276. Principles of Curriculum Building
- R.E. 277. Seminar in Curriculum
- R.E. 300. Special Studies
- R.E. 400. Internship in Education
- R.E. 401. Problems in Higher Education

Related Courses in Education, Child Development, and Psychology:

- R.E. 129. Practice in Teaching Science in Secondary Schools
- R.E. 218. Seminar in Educational Psychology
- R.E. 241. The Preparation of Teachers for Normal Schools and Colleges
- R.E. 243. Procedures and Techniques in Supervision
- R.E. 245. Seminar for Principals
- R.E. 251. Educational Measurement
- R.E. 253. Introduction to Educational Statistics
- R.E. 254. Statistical Instruments in Education
- R.E. 263. The Principalship of the Elementary School
- R.E. 295. Comparative Education
- Psych. 275. History of Experimental Psychology
- Psych. 305. Statistical Methods for Psychologists
- Psych. 375. Analysis and Interpretation of Quantitative Data in Psychology
- Psych. 607. Psychological Tests I
- Psych. 608. Psychological Tests II

- C.D. and F.R. 130. Experience with Children
 C.D. and F.R. 140. Creative Play in Childhood
 C.D. and F.R. 150. Literature for Children
 C.D. and F.R. 305. Methods of Child Study
 C.D. and F.R. 310. Principles for Child Guidance
 C.D. and F.R. 315. Child Development
 C.D. and F.R. 475. Family Life Education

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

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

RURAL EDUCATION AND EDUCATION

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

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.

R.E. [106. *OUTDOOR LIVING*. Fall term. Credit two hours. Professor Palmer and Assistant Professor Gordon.] Not given in 1949-1950.

R.E. 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. Assistant Professor Gordon.

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

R.E. 108. *FIELD NATURAL HISTORY*. Fall or spring term. Credit two hours a term. Lecture, T 4.30. Fernow 8. Field work, T 2-3.30. Fall term: Professor Palmer, Spring term: Assistant Professor Gordon.

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.

R.E. 111. *EDUCATIONAL PSYCHOLOGY*. Spring term. Credit three hours. Prerequisite, Human Growth and Development, or permission of the instructor. Not open to freshman. Lectures, M W F 9. Warren 201. Professor Glock. (Same as Psych. 601).

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

R.E. 112. *EDUCATIONAL PSYCHOLOGY*. Fall or spring term. Credit three hours. Fall term, M W F 9. Spring term, M W F 10. Warren 325. 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.

R.E. 117. *PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE*. Fall term. Credit three hours. Prerequisite, a course in elementary or educational psychology, M W F 11. Plant Science 141. Associate Professor Bayne.

R.E. 121. *METHOD AND PROCEDURE IN SECONDARY SCHOOL TEACHING*. Fall term. Credit three hours. T Th 11 and other hours to be arranged.

R.E. 128. *METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS*. Fall term. Credit three hours. Prerequisite or parallel course, Rural Education 121 or Education 130, and permission of the instructor. For seniors and graduate students. Th 2-5.30 and additional hours to be arranged. Associate 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.

R.E. 129. *PRACTICE IN TEACHING SCIENCE IN SECONDARY SCHOOLS*. Fall or spring term. Credit four hours. Prerequisite, Rural Education 128 and permission of the instructor. For seniors and graduate students. Hours to be arranged. Associate Professor Schmidt.

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

Ed. 130. *THE ART OF TEACHING*. Fall term. Credit five hours. T Th 11 and other hours to be arranged. Spring term. Credit five hours. M 4-5.30 and other hours to be arranged. Associate Professor Stutz, Associate Professor Schmidt, Miss DePew, Miss Klee, Mrs. Ocvirk, Mr. Catalfano.

For seniors preparing to teach mathematics, English, social studies, science, languages, or art in the secondary schools. A study of general principles of teaching and of special methods of teaching each of these subjects. Opportunity to observe the work of experienced teachers and to do directed teaching in a secondary school.

R.E. 131. *INTRODUCTION TO TEACHING VOCATIONAL AGRICULTURE*. Spring term. M 2-4:30. Warren 140. Required of juniors and others entering the directed teaching program in the senior or following year. Credit one hour. Staff in Agricultural Education.

A seminar type of class, with observations in nearby departments of agriculture, in preparation of the trainee for the directed teaching at off-campus cooperating school centers.

*R.E. 132. *DIRECTED (PRACTICE) TEACHING OF AGRICULTURE IN THE SECONDARY SCHOOL*. Fall term. Credit six hours. Staff.

The problems of teaching based upon the planning for and participation in class teaching together with supervision of programs of pupils on home farms. With participation in other activities required of and engaged in by the teacher of agriculture.

*R.E. 133. *TECHNIQUES AND MATERIALS IN TEACHING IN VOCATIONAL AGRICULTURE*. Fall term. Credit three hours. Staff.

Skills in teaching agriculture at the junior high school and secondary school levels for both individuals and groups. Selection and use of instructional materials.

*R.E. 134. *THE ORGANIZATION AND DIRECTION OF YOUNG FARMER GROUPS*. Fall term. Credit two to three hours. Staff.

A course planned to meet the needs of young men on farms, as located and organized in local areas. The qualifications and opportunities of all individuals to be evaluated in reference to their placement and progressive establishment in farming and the related-farm occupations of the area. Cooperative relationships with other youth and adult organizations to be emphasized.

*R.E. 135. *EXTRA-CURRICULAR ACTIVITIES OF TEACHERS OF AGRICULTURE*. Fall term. Credit two hours. Staff.

Emphasis will center on the duties and responsibilities of the teacher as adviser to a Future Farmers of America chapter, with participating experience in the local chapter functions.

*R.E. 136. *HISTORY AND PHILOSOPHY OF VOCATIONAL EDUCATION IN AGRICULTURE IN THE SECONDARY SCHOOL*. Fall term. Credit two hours. Staff.

Designed to trace the development of agricultural education in the local area,

*An undergraduate course comprising a part of the fifteen-hour unit program offered at off-campus centers and cooperating secondary schools. This block of courses is open to seniors and others who have completed course R.E. 131 or its equivalent, whose farm experience is adequate and who have permission to register. These courses partially fulfill the eighteen hours required for certification to teach vocational agriculture in New York State.

state and nation, together with the philosophy and underlying principles of vocational education as they relate to and correlate with other fields of education.

R.E. or Ed. 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: M W F 11. Warren 201. Professor Moore, Associate Professor Stutz.

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

R.E. 194. *PRINCIPLES OF VOCATIONAL EDUCATION*. Spring term. Credit two hours. Open to graduate students and others who have permission to register. Warren 140. Associate Professor Smith.

R.E. 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.

R.E. or Ed. 200. *APPRENTICE TEACHING*. 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.

[R.E. 202. *NATURE LITERATURE*. Fall term. Credit two hours. Open to seniors and graduate students interested in science and science teaching. Alternate years. Assistant Professor Gordon.] Not given in 1949-1950.

R.E. 203. *RESEARCH AND WRITING IN NATURE AND CONSERVATION EDUCATION*. Spring term. Credit two hours. T Th 10. Professor Palmer.

Designed to improve the interpretation of Natural History and the expression of interpretations through the written word. Each student should prepare a publishable article in this course.

[R.E. 205. *THE TEACHING OF CONSERVATION*. Spring term. Credit two hours. Professor Palmer.] Not given in 1949-1950.

R.E. 207. *METHODS AND MATERIALS FOR THE TEACHING OF SCIENCE IN SECONDARY SCHOOLS*. Spring term. Credit two hours. Registration by permission only. Hours to be arranged. Fernow 8. Associate 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.

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

R.E. or Ed. 210. *SPECIAL PROBLEM IN TEACHING*. Fall or spring term. Credit two hours. Members of the staff.

A critical study of some phase of teaching undertaken during the period of apprentice teaching.

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

For mature students with teaching experience.

R.E. 213. *PSYCHOLOGY OF LEARNING IN THE SCHOOL SUBJECTS*. Fall term. Credit two hours. S 9-10.30. E. Roberts 223. Associate Professor Bayne.

R.E. 214. *COLLEGE TEACHING*. Fall term. Credit two hours. M 7-9 p.m. Warren 101. Members of the staff.

Designed for those who plan to teach in colleges.

R.E. 218. *SEMINAR IN EDUCATIONAL PSYCHOLOGY*. Spring term. Credit two hours. Stone 309. Professor Glock.

R.E. 219. *SEMINAR IN PERSONNEL ADMINISTRATION IN EDUCATIONAL INSTITUTIONS*. Spring term. Credit two hours. Open to graduate students in education. Th 4-6. Roberts 492. Professor Winsor.

A study of the problems of human relations in educational institutions. The methods and principles of recruitment, selection, placement, maintenance, organization, and government of staff and employees are analyzed.

R.E. or Ed. 220. *PHILOSOPHY OF EDUCATION*. Credit two hours. Offered for an eight-week period during the spring term at such times as will not interfere with the student's apprentice teaching. Time and place of meeting to be arranged.

For fifth-year students in preparation for secondary school teaching under the five-year program. A coordinating course in the professional sequence designed chiefly to develop a critical appreciation of teaching enterprise. It centers, therefore, upon the question of values in education and calls for examination and judgment of aims and content from that standpoint. Every student is required to undertake a study in valuation of the teaching enterprise in his own field of specialization.

R.E. 223. *SEMINAR IN EXTENSION EDUCATION*. Spring term. Credit two hours. T 4-5.30. Stone 309. Professor Leagans.

R.E. 224. *PROGRAM PLANNING IN EXTENSION EDUCATION*. Fall term. T 4-5.30. Stone 309. Professor Leagans.

R.E. 226. *RESEARCH IN SCIENCE TEACHING*. Fall or spring term. Credit one or two hours a term. M 12.00. Fernow 8. Professor Palmer, Associate Professor Schmidt, and Assistant Professor Gordon.

Special problems in science teaching.

R.E. 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. W 4-6. Martha Van Rensselaer G-58. Professor Waring.

R.E. 230. *SEMINAR IN AGRICULTURAL EDUCATION*. Spring term. Credit two hours. W 4-6. Warren 140. Professor Olney. For students whose progress in graduate study is satisfactory.

[R.E. 231. *THE SUPERVISION OF VOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOL*. Spring term. Associate Professor Smith. Credit two hours.] Not given in 1949-1950.

R.E. 232. *EVALUATION AND PROGRAM PLANNING IN AGRICULTURAL EDUCATION*. Spring term. Credit two or three hours. M 4.15-6 and special trips to be arranged. Warren 201. Associate Professor Hoskins.

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

R.E. 233. *SUPERVISED FARMING PROGRAMS IN VOCATIONAL AGRICULTURE*. Fall term. Credit two to three hours. M 2-5 and special trips to be arranged. Warren 140. Professor Olney.

Field studies of programs in nearby schools, with critical study of the basic concepts, the development and the future needs for such programs.

R.E. 234. *EDUCATION FOR LEADERSHIP OF FARM YOUTH AND ADULT GROUPS*. Fall term. Credit two or three hours. M 7.15-9. Stone 309. Associate Professor Hoskins.

Designed for leaders in the fields of agricultural education and for organizers of comprehensive programs of adult education. A consideration of the objectives and trends in educational and social-economic problems in rural areas.

[R.E. 235. *THE TECHNICAL AND PROFESSIONAL PREPARATION OF TEACHERS OF AGRICULTURE*. Fall term. Credit three hours. Should follow course 211 or its equivalent. Professor Olney.] Not given in 1949-1950.

R.E. 236. *THE ORGANIZATION AND ADMINISTRATION OF VOCATIONAL AGRICULTURAL EDUCATION IN THE PUBLIC SCHOOLS*. Spring term. Credit three hours. T Th 11-12.30. Warren 140. Professor Olney.

Designed for persons who will be responsible for the development of vocational agriculture programs at the local, county, state, and national levels. A copy of the state plan for Vocational Education for his state should be available for use by the student.

[R.E. 237. *COURSE OF STUDY IN VOCATIONAL AGRICULTURE*. Fall term. Credit two hours. Associate Professor Hoskins.] Not given in 1949-1950.

R.E. 238. *MATERIALS OF INSTRUCTION IN VOCATIONAL AGRICULTURE*. Spring term. Open to students with experience in teaching vocational agriculture. Credit two hours. Associate Professor Smith.

Evaluation, selection, adaptation, and organization of instructional materials appropriate for use in teaching vocational agriculture classes.

[R.E. 239. *INSTRUCTION IN AGRICULTURE FOR PRE-VOCATIONAL PUPILS*. Spring term. Credit two hours. Associate Professor Smith.] Not given in 1949-1950.

[R.E. 241. *THE PREPARATION OF TEACHERS FOR NORMAL SCHOOLS AND COLLEGES*. Spring term. Credit two hours. Professor Moore.] Not given in 1949-1950.

R.E. 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.

R.E. 244. *PHILOSOPHY OF EDUCATION*. Spring term. Credit two hours. S 9-10.40. Warren 140. Professor Moore.

For mature students, preferably with teaching experience.

R.E. 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.

R.E. 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.

[R.E. 247. *SEMINAR IN ELEMENTARY EDUCATION*. Spring term. Credit two hours. Professor Moore.] Not given in 1949-1950.

R.E. 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. Stone 309. 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.

R.E. 253. *INTRODUCTION TO EDUCATIONAL STATISTICS*. Spring 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.

[R.E. 254. *STATISTICAL INSTRUMENTS IN EDUCATION*. Spring term. Credit two hours. Professor Bayne.] Not given in 1949-1950.

R.E. 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 4-6. Stone 309. Professor Winsor.

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

[R.E. 260. *THE TWELVE-GRADE PRINCIPALSHIP*. Credit two hours.] Not given in 1949-1950.

R.E. 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. Candidates for a state administrative certificate are expected to register also for course R.E. 400.

R.E. 262. *THE SECONDARY SCHOOL PRINCIPALSHIP*. Spring term. Credit two hours. Th 2-4. Warren 201. Assistant Professor Elliott.

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.

[R.E. 263. *THE PRINCIPALSHIP OF THE ELEMENTARY SCHOOL*. Credit two hours. Professor Moore.] Not given in 1949-1950.

R.E. 264. *FINANCIAL POLICIES AND PRACTICES IN PUBLIC SCHOOLS*. Fall term. Credit two hours. Prerequisite, 261 or the equivalent. S 11-12.30. 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.

R.E. 265. *THE SCHOOL PLANT*. Spring term. Credit two hours. Prerequisite, course 261 or equivalent. S 11-12.30. E. Roberts 223. Professor Butterworth.

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

[R.E. 267. *THE LEGAL PROBLEMS OF THE SCHOOL ADMINISTRATOR*. Credit two hours. Mr. ———.] Not given in 1949-1950.

R.E. 268. *SEMINAR IN RURAL SCHOOL ADMINISTRATION*. Spring term. Credit two hours. W 4.15-5.45. ———. Professor Butterworth.

Topic to be announced.

R.E. 269. *SEMINAR IN CITY SCHOOL ADMINISTRATION*. Spring term. Credit two hours. S 9-10.30. ———.

Current problems in the organization and administration of a city school system.

R.E. 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 Elliott.

A consideration of the major problems, principles, and techniques in determining educational objectives, curriculum, scope and content in elementary and secondary schools.

R.E. 277. *SEMINAR IN CURRICULUM*. Fall term. Credit two hours. Prerequisite, R.E. 276 or equivalent. S 9-11. Warren 101. Assistant Professor Elliott.

An analysis and appraisal of modern curriculum practices in the public schools. Planned for experienced teachers, administrators, supervisors, and curriculum specialists.

R.E. 278. *SEMINAR IN RURAL SECONDARY EDUCATION*. Spring term. Credit two hours. S 11-12.30. Warren 140. Assistant Professor Elliott.

Identification and analysis of the fundamental problems of secondary education with a view to appraisal of trends.

Ed. 280. *STUDENT PERSONNEL ADMINISTRATION*. Fall and spring terms. Graduates only. Credit two hours a term or four hours with laboratory work. 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. Dean Lucile Allen, Dean Frank C. Baldwin, and assistants.

Study of counseling and counseling techniques, organization of social program, student activities, health program, orientation, housing, and financial aid as related to personnel administration.

Ed. 281. *SEMINAR IN STUDENT PERSONNEL ADMINISTRATION*. Fall and spring term. Graduates only. Credit two hours. Students will be admitted upon consultation with the instructor. Dean Lucile Allen and assistant.

R.E. 282. *EDUCATIONAL AND VOCATIONAL GUIDANCE*. Fall term. Credit two hours. For graduate students only. T 4.15-6. Warren 125. Associate 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.

R.E. 283. *COUNSELING METHODS*. Spring term. Credit four hours. For graduate students only. Prerequisite, course 255 or its equivalent. T Th 4.15-6. Warren 240. Associate Professor Nelson.

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

R.E. 284. *THE TEACHING OF OCCUPATIONS AND ORIENTATION CLASSES*. Spring term. Credit two hours. M 4.15-6. Warren 240. Associate 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.

R.E. 285. *OCCUPATIONAL AND EDUCATIONAL INFORMATION*. Fall term. Credit four hours. T Th 1. Field trips on Wednesday afternoons. Stone 309. Associate 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.

R.E. 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. For advanced graduate students only. Hours for observation and practice to be arranged. W 5. Associate Professor Nelson.

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

R.E. 290. *RURAL SECONDARY EDUCATION*. Fall term. Credit three hours. Primarily for graduate students. M W 4-5.30. Stone 309. Assistant Professor Elliott.

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

R.E. 291. *THE EDUCATIONAL PROGRAM IN UNDEVELOPED COMMUNITIES*. Spring term. Credit two hours. T 4-5.30. Warren 340. Assistant Professor Elliott.

Attention is focused upon the principles that should govern the planning of educational programs for undeveloped communities. Several different countries are called upon for illustrations.

Ed. 292. *SEMINAR IN SOCIAL STUDIES EDUCATION*. Spring term. Credit as arranged. T 4.15. Associate Professor Stutz.

A course designed for resident or extramural students who are working on special problems in social studies education.

[R.E. 293. *ADULT EDUCATION*. Credit three hours. Associate Professor Hoskins.] Not given in 1949-1950.

[R.E. 295. *COMPARATIVE EDUCATION*. Fall term. Credit two hours. Professors Butterworth and Moore.] Not given in 1949-1950.

Ed. 296. *HISTORY OF AMERICAN EDUCATION*. Spring term. Credit three hours. For seniors and graduate students. Prerequisite, consent of the instructor. T Th S 10. Associate Professor Stutz.

A study of educational developments in the United States from the seventeenth century.

Ed. 297. *HISTORY OF EDUCATION IN THE MODERN PERIOD*. Fall term. Credit three hours. T Th S 9. Associate Professor Stutz.

A survey of education from the beginning of the seventeenth century to the present, with emphasis on public education and on consideration of social and economic developments affecting education in Western Europe.

R.E. 298. *SEMINAR IN RURAL EDUCATIONAL LEADERSHIP*. Spring term. Credit three hours. T Th 11-12.30. Stone 309. Professor Butterworth 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.

R.E. 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 7.15-9 p.m. Stone 309. Associate Professor 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.

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.

R.E. 400. *INTERNSHIP IN EDUCATION*. Fall and spring terms. Credit two to six hours as arranged. Members of the faculty.

Opportunity for apprentice or similar practical experience on the graduate level in administration, agricultural education, guidance, personnel administration, supervision, and other types of professional service in education.

R.E. 401. *PROBLEMS IN HIGHER EDUCATION*. Spring term. Credit two hours. T 4.15-5.45. Plant Science 141. Professor Butterworth, Professor Petry, and others.

A seminar dealing with faculty and student personnel problems, and with the organization, curriculum, administration, physical plant, and financing of institutions of higher education, including junior colleges, community colleges, and institutes.

CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

CD & FR 475. *FAMILY LIFE EDUCATION* (at the College and Secondary Levels). Spring term. Credit three hours. T Th 11-12.30. Van Rensselaer 121. Professor Rockwood.

This course is designed to meet the needs of men and women who are interested in a functional approach to family life education at the college and secondary school levels. Among the topics to be considered are: developments in family life education in the past thirty years and present status of the movement; philosophy and emphasis in programs of family life education at the college and secondary school levels; problems related to the planning and conduct of courses in marriage and family relationships; research and teaching; the teacher as a counselor; professional preparation.

For other courses in this department, see the Announcement of the College of Home Economics.

HOME ECONOMICS EDUCATION

H.E. Ed. 110. *HOMEMAKING EDUCATION AND THE COMMUNITY*. Fall and spring terms. Credit one hour.-----, Department Staff. Associate Professor Helen Hoefer, coordinator.

This course is offered to help the student who is planning to be a homemaker to understand the place in which she may serve in educational programs in her community. It will also give her a basis for understanding ways in which Home Economics serves all members of the family. It may help her in making a vocational choice.

Opportunity will be given to observe homemaking programs which are being conducted by the extension service, public schools, and other educational agencies.

H.E. Ed. 300. *SPECIAL PROBLEMS FOR UNDERGRADUATE STUDENTS*. Fall and spring terms. Credit and hours to be arranged. Department Staff.

For students recommended by advisers and approved by the head of the department and the instructor in charge for independent, advanced work not otherwise provided in the department.

H.E. Ed. 320. *EXTENSION EDUCATION*. Fall and spring terms. Credit two hours. Open to juniors and seniors preparing for 4-H Club or home demonstration work. This course must precede Extension Education 321. Discussion period, F 2-4. Room 3M11. Mrs. Hoefer.

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

H.E. Ed. 321. *EXTENSION EDUCATION*. Fall and spring terms. Credit eight hours. Mrs. Hoefer. Supervised field experience for one-half of the term in a selected county and conference periods for one-half of the term. Prerequisite, Extension Education 320. During this term students will take Homemaking Apartments 302. Students live

in the Homemaking Apartments for seven weeks and in the county in which they are doing extension work for seven weeks.

Students are assigned to cooperating counties where opportunity is provided to work with the county extension staff and to gain experience in 4-H Club and/or home demonstration work. They live in the county and work under the direction and guidance of the local extension agents. A member of the college staff supervises this field experience. Students observe, assist, and participate in the program of the county extension groups. They should gain experience in teaching 4-H 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. Assistant Professor Moser, coordinator, assisted by Associate Professor Patterson, Assistant Professor Crawford, Mrs. Bateman, Miss Elliott, and cooperating teachers.

Student teachers have an opportunity to study the community and the place of home economics in the total educational program of the community. They observe and participate in community activities in the total school program, and in the Home Economics program.

330. Fall and spring terms. Credit two hours. This course must precede Home Economics Education 331. Discussion period. T Th 8. Room 3M11.

Field work one-half day a week. Students visit schools for the purpose of studying homemaking programs, furnishings, and equipment.

331. Fall and spring terms. Credit eight hours. Directed teaching for one-half of the term and general conferences throughout the term. Hours to be arranged. Room 301. This course is a continuation of Home Economics Education 330. During this term the student registers for only one other course, Homemaking Apartments 302. Students live in the Homemaking Apartment for one-half of the term and in the communities in which they teach for the other half of the term.

Student teachers are assigned to cooperating schools within a reasonable distance of Ithaca. They live in the communities and work under the guidance of the local homemaking teachers and under the supervision of the Home Economics Education Staff.

H.E.Ed. 403. *SPECIAL PROBLEMS FOR GRADUATE STUDENTS*. Fall and spring terms. Credit and hours to be arranged. Department Staff.

For graduate students recommended by their chairmen and approved by the instructor in charge for independent advanced work.

H.E. Ed. 407. *THESIS AND RESEARCH*. Fall and spring terms. Credit and hours to be arranged. Registration with permission of the chairman of the graduate committee and the instructor. Professor Hutchins, Associate Professors Hoefer and Patterson, Assistant Professor Blackwell, Crawford, and Moser.

H.E.Ed. 435. *METHODS AND MATERIALS IN TEACHING HOME ECONOMICS*. Fall term. Credit two hours. Professor Hutchins. T 4-6. Room 121. Preregistration required.

Provides opportunity for graduate study of methods of teaching home economics and for observation in the field. Designed for secondary school teachers, extension workers, college teachers, supervisors, and other leaders. Estimated cost of field trips, \$3.

H.E.Ed. 437. *ADULT EDUCATION*. Fall and spring terms. Credit two or three hours. Associate Professor Patterson. M 4 and other hours to be arranged. Room 124. Preregistration required.

Planned for administrators, supervisors, extension agents, and teachers. Attention

is focused on finding educational needs, planning programs and learning experiences for adults, leadership, promotion, philosophy and evaluation in adult education. Opportunity is provided for participation in adult education activities. Time must be planned for observation. Estimated cost of transportation, \$3 to \$5.

H.E.Ed. 438. *TEACHING HOMEMAKING TO ADULTS*. Fall and spring terms. Credit two or three hours. Associate Professor Patterson. T 10 and other hours to be arranged. Room 124. Preregistration required.

Planned for students specializing in adult homemaking education. An advanced course which usually follows Adult Education 437. Experienced students may register by permission of the instructor without 437.

Provides opportunity for experimentation with teaching materials and methods for adults. Attention is given to discussion, demonstrations, home visits, use of the radio, films, recordings and other procedures for groups and non-group teaching. Opportunity is provided for observation of and participation in adult programs. Estimated cost of transportation, \$3 to \$5.

H.E.Ed. 449. *CURRICULUM PLANNING IN HOME ECONOMICS*. Spring term. Credit two or three hours. Field work is required. Assistant Professor Blackwell. S 10. Room 124. Preregistration required.

Designed for students with teaching experience in schools, colleges, and the extension service. Provides opportunities for evaluation of home economics curricula and for development of curriculum materials.

Courses in general education and child development are desirable bases for this course. Estimated cost of field trips, \$3.

H.E.Ed. 459. *EVALUATION*. Fall term. Credit two hours. Assistant Professor Blackwell. Hours to be arranged. Room 121. Preregistration required.

Designed to acquaint secondary school and college teachers, extension workers, and educational research workers with techniques in appraising student progress and in over-all appraisal of educational programs. Provides opportunities for work on individual problems concerning construction and use of evaluation instruments.

[469. *ADMINISTRATION OF HOME ECONOMICS*. Spring term. Credit two hours. Professor Hutchins.] Not given in 1949-1950.

[479. *RESEARCH IN HOME ECONOMICS EDUCATION*. Credit two hours.] Not offered in 1949-1950.

480. *SEMINAR IN HOME ECONOMICS EDUCATION*. Spring term. Credit one hour. W 4-6. Room 124. Department Staff. Preregistration required.

[481. *SUPERVISION IN HOME ECONOMICS*. Credit two hours.] Not offered in 1949-1950.

INDUSTRIAL AND TECHNICAL EDUCATION

Note: At the time this material goes to press certain changes in course offerings in industrial and technical education are under consideration. Students are requested to refer to the 1949-1950 catalogue of the School of Industrial and Labor Relations for details concerning these possible changes.

I&LR 80. *DEVELOPMENT AND ORGANIZATION OF INDUSTRIAL EDUCATION*. Fall term. Credit two hours.

An overview course giving attention to factors which brought about the demand for industrial training; influence of leaders in industry, labor, education, and social work; scope and content of current programs in industrial arts, vocational and technical education; groups served; methods of instruction in common use; influence of legislation. Course will cover industrial education in the public schools and training within industry.

I&LR 81. *JOB ANALYSIS — METHODS AND APPLICATIONS.* Fall term. Credit two hours.

A study of the development, uses, and limitations of job analysis, and its application to training, service rating, and job evaluation. The course will cover the economic and social factors involved in the application of job analyses; qualifications of an analyst; methods of conducting analyses; development of skill in making job analyses; and outgrowths such as job descriptions, job specifications, and job schedules.

I&LR 82. *ORGANIZATION OF TRAINING IN INDUSTRY.* Spring term. Credit two hours.

A study of purposes underlying the establishment of plant training programs; patterns of organization, administration, and operation; out-of-plant supplementary educational facilities; sources and qualifications of plant training personnel; and types of programs such as orientation, on-the-job training, apprenticeship, supervisor and executive training, and out-of-hours courses.

I&LR 83. *CURRICULUM CONSTRUCTION IN INDUSTRIAL EDUCATION.* Spring term. Credit two hours.

A study of principles and procedures of curriculum and course of study development for industrial and technical schools and for training programs in industry. The course will include discussion of the objectives of secondary education as related to curriculum; technological and social changes and their impact on curriculum; basic principles of curriculum construction based upon analysis; controls which influence curriculum; evaluation of curriculums.

I&LR 84. *INSTRUCTIONAL MATERIALS — APPRAISAL, USE, AND DEVELOPMENT.* Fall term. Credit two hours.

A study of the various types of instructional materials such as textbooks, information and job sheets, and audio-visual aids; the conditions under which the various types are effective; methods of use; sources and costs; and the processes involved in developing instructional materials for specific purpose.

I&LR 88. *TRAINING METHODS IN BUSINESS AND INDUSTRY.* Fall term. Credit two hours.

Study of instructional methods used in on-the-job training, organized classes in technical and other subjects, and in conferences of various types. Special emphasis will be placed on group discussion as used in symposium, conferences, and panels; and the use of these in business and industry. Students will be expected to lead group discussions on current topics and problems.

I&LR 131. *SEMINAR — CURRENT PROBLEMS IN INDUSTRIAL EDUCATION.* Spring term. Credit two hours.

A graduate seminar dealing with problems of special importance in the field of industrial and technical education at the present time. Discussion will include such problems as technical institute education, work experience training for youth, integration of industrial and general education, training for semi-skilled occupations, area schools, and current legislation affecting industrial education.

I&LR 133. *SEMINAR — TRAINING PROBLEMS IN BUSINESS AND INDUSTRY.* Spring term. Credit two hours.

A graduate seminar dealing with problems of current interest in training departments in business and industry. The topics discussed will include such problems as shifting emphases on kinds of programs and levels of workers to be served, patterns of administration and operation of training programs, recent developments in training techniques, and evaluation methods and procedures.

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

Directed research in special problems.

PSYCHOLOGY

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

Other qualified students may be admitted by consent of the instructor.

Psych. 607. *PSYCHOLOGICAL TESTS I*. (Tests of intelligence and specific aptitudes). Fall term. Credit three hours. Not open to sophomores. Prerequisite, a course in psychology and a course in statistics, or consent of the instructor. T Th S 9. Professor Freeman.

Basic psychological principles in the construction and use of individual and group tests of intelligence and specific aptitudes; theories of the nature of mental abilities; fields of application; intensive study of selected individual scales. Demonstrations in administering and interpreting individual scales.

Psych. 608. *PSYCHOLOGICAL TESTS II*. (Tests of personality and social behavior). Spring term. Credit three hours. Prerequisite, Psych. 607 or consent of the instructor. T Th S 11. Professor Freeman.

Basic psychological principles in the construction and use of personality rating scales, personality inventories, projective techniques, and situational tests. Demonstrations.

Psych. 618. *INDIVIDUAL DIFFERENCES*. Spring term. Credit three hours. Prerequisite, Psych. 607 or equivalent or consent of instructor. T Th 2-3.15. Professor Freeman.

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

Psych. 675. *SEMINAR IN HUMAN DEVELOPMENT AND BEHAVIOR*. Spring term. Credit two hours. For seniors and graduate students. Consent of the instructor is required. M 4-6. Professor Freeman.

Recent experimental and clinical materials and theories. Educational implications.

Psych. 680. *PROCEDURES IN CLINICAL CHILD GUIDANCE*. Fall term. Credit three hours. Prerequisite, Psych. 607 or its equivalent. Primarily for graduate students. All students must have consent of the instructor. M 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.

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 departments of Zoology and Psychology:

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 201 is prerequisite to course 202. Course 201—Fall term: Lectures, T Th 10; Recitation, M 8, T 8, 9, 11, 12, Th 8, F 8, 10, 11. Mr. Papez. Course 202—Spring term: Lectures, T Th 10; Recitations, T 8, T 9, Th 9, Th 11, F 8, 10, S 10. Mr. Freeman.

SCHOOL OF EDUCATION

The aim of this course is to integrate information about structural, physiological, behavioral, and intellectual 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*, the *Directory of 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, Department of Hotel Administration, New York State Veterinary College, School of Nutrition, School of Education, Department of Military Science and Tactics, Summer Session, Annual Report of the President.

Correspondence regarding these publications should be addressed to

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