



Cornell University

Announcements

Education

1971-72

CORNELL UNIVERSITY ANNOUNCEMENTS

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Cornell Academic Calendar

	1970-71*
Registration, new students	Th, Sept. 10
Registration, continuing and rejoining students	F, Sept. 11
Fall term instruction begins, 7:30 a.m.	M, Sept. 14
Citizenship recess:	
Instruction suspended, 1:10 p.m.	S, Oct. 24
Instruction resumed, 7:30 a.m.	Th, Nov. 5
Thanksgiving Day, a holiday	Th, Nov. 26
Christmas recess:	
Instruction suspended, 4:30 p.m.	T, Dec. 22
Instruction resumed, 7:30 a.m.	M, Jan. 4
Fall term instruction ends, 1:10 p.m.	S, Jan. 9
Independent study period begins, 2:00 p.m.	S, Jan. 9
Final examinations begin	W, Jan. 13
Final examinations end	W, Jan. 20
Interession begins	Th, Jan. 21
Registration, new and rejoining students	Th, Jan. 28
Registration, continuing students	F, Jan. 29
Spring term instruction begins, 7:30 a.m.	M, Feb. 1
Spring recess:	
Instruction suspended, 1:10 p.m.	S, Mar. 27
Instruction resumed, 7:30 a.m.	M, Apr. 5
Spring term instruction ends, 1:10 p.m.	S, May 15
Independent study period begins	M, May 17
Final examinations begin	M, May 24
Final examinations end	T, June 1
Commencement Day	M, June 7
Eight-week Summer Session registration	M, June 21
Eight-week Summer Session begins	M, June 21
Six-week Summer Session registration	W, June 30
Six-week Summer Session begins	Th, July 1
Summer Session examinations begin	Th, Aug. 12
Summer Session examinations end	F, Aug. 13
Summer Session ends	F, Aug. 13

* The dates shown in the Academic Calendar are subject to change at any time by official action of Cornell University.

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The courses and curricula described in this *Announcement*, and the teaching personnel listed herein, are subject to change at any time by official action of Cornell University.



Cornell University

Education at Cornell

Education at Cornell is organized to facilitate research, teaching, and service. Several administrative units emphasize the University-wide concern for scholarly study of education.

This *Announcement* is concerned primarily with the Field of Education in the Graduate School and with the courses of instruction offered by the Department of Education in the New York State College of Agriculture and the Department of Community Service Education in the New York State College of Human Ecology.

The Field is concerned with both the scholarly study of educational topics and the advancement of education as a profession. Students may emphasize the improvement of teaching a particular subject, the theory and practice of a functional educational specialization, or the application of a relevant discipline to problems of education. Graduate work at Cornell is highly individualized. Each student plans his program with the advice of a Special Committee selected by him.

Graduate students working in general or professional degree programs are encouraged to avail themselves of the curricular and scholarly resources of the University. Degree candidates are expected to develop competence in educational research and to associate with the faculty in continuing research projects.

Undergraduates interested in becoming teachers follow degree programs in their respective colleges or schools.

Students with strong backgrounds in liberal education and a thoughtful commitment to education will find opportunities to work closely with faculty members in individualized programs featuring courses, seminars, independent study, and practical experiences.

Graduate Programs

Agricultural Education

The graduate program in agricultural education prepares the student for positions in teaching, research, supervision, and administration in public schools, technical schools, and colleges and universities, as well as for specialized positions as teacher-educators in agricultural education and as administrators in vocational education. Graduates may also follow careers in state and federal education agencies or in overseas educational programs. Candidates may study for the M.S., M.A.T., M.P.S., Ed.D., or Ph.D. degree.

Students may concentrate on aspects of agricultural education such as administration, curriculum, research, supervision, or teacher education. At the Master's level, prior experience as a teacher of agriculture is desirable but not required. For doctoral candidates, a minimum of three years prior experience in teaching, administration, or supervision is recommended.

Opportunities for programs tailored to individualized needs and interests characterize the graduate program in agricultural education. Candidates are encouraged to take a significant part of their course work in related fields of study which will contribute to their professional goals.

Research training and experience will be gained through participation in studies on a local, state, or national basis. Many research projects are supported by state and national agencies or organizations.

Recent countrywide expansion in programs of vocational education affords many good career opportunities for specialists in agricultural education. Cornell graduates of this program hold positions in all the career fields previously described.

For further information, apply to the Chairman, Division of Agricultural Education, Stone Hall.

Curriculum and Instruction

The graduate program in curriculum and instruction is devoted to study of the curriculum and its relation to instruction at all levels. Research includes analysis of teaching behavior, investigation of cognitive processes in instruction, theories of curriculum organization, and development of instructional materials.

Programs of study prepare students for faculty positions in colleges and universities, or as instructional administrators in public schools. Certification as instructional administrator: curriculum may be obtained.

Candidates for the Doctor of Philosophy or Doctor of Education degrees may elect appropriate minors in an academic teaching field, in supporting disciplines, and in Education.

The Master of Arts and Master of Science degree programs offer *experienced* teachers the opportunity to study curriculum and instruction generally, plus advanced study in a teaching field. Certification as a teacher may be completed concurrently.

Students who have experience in general elementary or certain secondary

fields will find Curriculum and Instruction the most suitable major area for advanced study.

For further information, apply to the Chairman, Division of Curriculum and Instruction, Stone Hall.

Educational Administration

Graduate students in educational administration are offered a broad, varied curriculum in the social sciences that relates to educational administration. Each student will work out an individualized, coordinated program with the help of his advisers. Emphasis is placed throughout upon independent study and research rather than the routine accumulation of course credits.

Instruction is conducted in a variety of ways. Courses in the social sciences develop the theoretical concepts upon which the art of administration is based. Internships and supervised field experiences emphasize technical and human skills. Study in educational administration integrates theory with the practical by means of case studies, simulation, specialized courses, and seminars.

Graduates accept positions as professors of educational administration or as administrators of school systems, two- and four-year colleges, and universities. New York State approved certification programs are offered to prepare persons for field roles in educational administration. Successful completion of a prescribed program insures certification in New York State if experience requirements are also met.

For further information, apply to the Chairman, Division of Educational Administration, Stone Hall.

Educational Psychology and Measurement

Educational psychology is a behavioral science. Its concepts and principles comprise the body of knowledge relevant to the improvement of classroom learning. Many disciplines including anthropology, child development, psychology, and sociology contribute to educational psychology through research findings on the nature of growth and development, cognition, motivation, social interaction, and personality.

The need for more educational psychologists well trained in the basic disciplines and in the newer patterns of educational research has been highlighted by the present nationwide emphasis on educational problems. Competent educational psychologists who have a strong background in the liberal arts and who have a broad understanding of the behavioral science fields and of the process of education, are being sought for positions in teaching and research in colleges and universities. Individuals who possess a thorough knowledge of educational measurement, research design, and statistical analysis, as well as a facility for using the tools of electronic data processing, are in great demand. Training in these subjects may be received in this division.

Programs in educational psychology and measurement emphasize human learning and its measurement. Students minor in at least one of the related

8 Educational Research Methodology

sciences and enroll in the courses of various departments of the University, such as the Departments of Psychology or Human Development and Family Studies in addition to those offered in Education. These experiences provide for a solid background in the basic disciplines as well as for personal contacts with faculty and students in other departments of the University. The Master's or the Ph.D. degree may be earned. Preference in admissions will be given to doctoral degree applicants or Master's degree applicants who intend to continue work for the doctorate.

The present research interests of personnel in the division include the following:

- The measurement of cognitive abilities, particularly the measurement of those skills and understandings which are interdisciplinary in nature

- The determination of the relationships of learner and teacher characteristics to differential success in learning from various structured tasks

- The development of an understanding of how children acquire reading skills

- The study of learning, transfer, and forgetting simple verbal materials

- The design and research phases of the development of instructional materials

Opportunities for research and teaching assistantships are varied. Students in educational psychology may receive appointments not only in their division but also in other units of the University.

At the present time, no school psychology program is offered.

For further information, apply to the Chairman, Division of Educational Psychology, Stone Hall.

Educational Research Methodology

The task of educational research methodology is to appraise scientifically generative ideas, methods, products, and values by describing and explaining them, by identifying their limitations and advantages, by clarifying underlying presuppositions, and by projecting judgments about the likely consequences of their use in the context of educational research. Programs for students who major in this subject are aimed at those who enjoy mathematics or the philosophy of science and who are interested in applying analytical methods to problems of education.

Programs in educational research methodology are varied but almost always include the study of techniques of measurement, applied statistics, methods of program evaluation, and conceptual problems in educational inquiry. Students may minor in a large number of appropriate subjects and are encouraged to make use of the total course and research resources of the University.

There are an increasing number of employment opportunities for educational research methodologists. In addition to the usual university teaching positions, research methodologists are employed by state and local agencies, national research and development laboratories, and private and nonprofit industries developing educational materials. Many are involved

in evaluating the effectiveness of new educational programs which are being instituted at all levels of education.

For further information, apply to the Chairman, Division of Educational Research Methodology, Stone Hall.

Extension and Continuing Education

The curriculum in extension and continuing education, leading both to the Master of Science and Doctor of Philosophy degrees, is designed to prepare administrators, supervisors, training specialists, and research scholars for leadership positions in community and junior colleges, four-year colleges and universities, cooperative and university extension systems, public schools, and other continuing education agencies, both in the United States and abroad. The central objective is to develop creative professional leaders who can initiate, organize, and effectively execute such programs in differing economic, cultural, physical, and institutional environments. Major focus is on helping students understand the nature and role of the continuing education process at the adult level and how to utilize it effectively as the activating force in planned programs of economic and social change.

The curriculum is highly interdisciplinary. Individual study plans are developed through personal counseling. The theory, technology, principles, and methodology central to the adult education process are covered in divisional graduate courses and seminars. Concepts gained from these studies form a nucleus around which students integrate studies in a number of supporting disciplines which further their understanding of problems encountered in programs of planned change through the education of adults.

Among faculty and student research interests are the structure of extension and other continuing education organizations for adults, the design of programs, communication processes, leadership of adult education agencies, staffing, professional training, and evaluation of programs.

Graduates typically accept or return to positions of leadership in a wide range of adult education agencies including community colleges, extension systems, professors and researchers in colleges and universities, public schools, and other continuing education institutions, both in the United States and abroad.

In addition to meeting standards of the Graduate School, applicants usually must have had successful experience in extension or other continuing education agencies; leadership ability as evidenced by positions held, promotions, and recommendations; and sound reasons for undertaking graduate study in this field. For further information, write to the Chairman, Division of Extension and Continuing Education, Stone Hall.

Guidance and Student Personnel Administration

Programs in guidance and student personnel administration, leading to a Master of Arts, Master of Science, or doctoral degree, are appropriate for those who wish to prepare for positions in counseling, in college student personnel administration, or in related university teaching and research.

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The Master's degree program in student personnel administration may be designed to prepare individuals for professional positions in higher education, including two-year colleges, or for further graduate study. Students major in guidance and personnel administration and have a minor in an area of study that supports their major interests. In addition to providing for rigorous academic study, the program includes practicum experience. Each applicant should possess a strong undergraduate academic background and a professional commitment to college student personnel work.

A program of professional preparation, approved by the New York State Education Department, is available for men and women who wish to become school counselors. The graduate courses required for both provisional and permanent certification are offered during the academic year and in the summer. Students who are admitted to the Graduate School may meet certification and Master's degree requirements concurrently.

In most states, two years of teaching experience are prerequisite for certification in guidance. Students who wish to become certificated to serve as counselors in public schools should have met at least part of the experience requirement before they begin a program of preparation for counseling.

Men and women who complete the program and meet all other certification requirements are qualified to accept positions as junior and senior high school counselors, directors of guidance, teacher-counselors, coordinators of pupil personnel services, and shared counselors in districts having boards of cooperative educational services. Some of our graduates, after working as counselors for several years, have returned to Cornell to pursue a doctoral program in guidance and personnel administration.

A student who wishes to embark upon a program leading to the doctorate will be helped to plan a sequence of courses that are appropriate for him, taking into consideration degree requirements, the student's previous preparation, and his vocational objective. In addition to work in guidance and personnel administration, he will have a minor in some branch of psychology, and a second minor selected in consultation with the chairman of his Special Committee who will represent the major.

Inquiries concerning all programs should be addressed to the Chairman, Programs in Guidance and Personnel Administration, Stone Hall.

History, Philosophy, and Sociology of Education

All doctoral students will be expected to have or develop an acquaintance with the following three areas in this field and to choose one for an area of specialization: history of education, philosophy of education, and educational sociology.

Ordinarily about half of a candidate's program will include study in one or more of the following disciplines: history, philosophy, sociology, government, and economics. One minor for the doctorate must be outside the Field of Education.

Areas of faculty and student study and research include structure of subject matter, analysis of educational concepts, fundamental assumptions

in educational research, history of American education, critical thinking, relation of philosophy and education, rhetoric, logic in teaching, nature of theory in education, and educational aims.

Doctoral graduates from this division typically accept appointments as college and university professors, although a few begin work directly in educational research for public agencies or businesses. For those preparing for college teaching, a practical experience is provided, including teaching, student evaluation, and course syllabus development. For those preparing primarily for a research position, relevant research experience is also provided.

For further information apply to the Chairman, Division of History, Philosophy, and Sociology of Education, Stone Hall.

Home Economics Education

In home economics education, offered by graduate faculty in the Department of Community Service Education in the College of Human Ecology, students may plan programs leading to the M.S., M.A.T., Ph.D., or Ed.D. degrees. A thesis is required for all degrees except the M.A.T. (See p. 15 for details about the M.A.T. program.) The basic program offered in this area is planned with consideration to the professional goals of students which presently include educational and social action roles both within and outside the educational system.

Professional opportunities include teaching and other types of group leadership, research, supervision, and administration. Employers include schools and colleges; cooperative extension; social agencies and community action organizations that serve the disadvantaged; youth organizations; consumer service divisions of major industries; and state, national, and international agencies and organizations concerned with human services. Programs in which graduates are most commonly employed are in home economics, health, consumer education, and other areas related to human ecology.

The central focus of study is the analysis of education as an instrument for effecting change, with special emphasis on improving the quality of life for individuals and families. In consultation with his Special Committee, each student plans a program of courses and seminars related to his particular concern and selected from the various schools and colleges of the University as well as the Department of Community Service Education. Current departmental research projects are concerned with the effectiveness of paraprofessionals in working with low-income families, the efficacy of curriculum designed to prepare the disadvantaged for the dual roles of homemaker and wage earner, women's education and the development of community health, and anomie and socioeconomic status among adolescents.

A program designed for experienced secondary-school teachers preparing for positions in home economics teacher education includes a series of seminars and an internship. Graduate students following this program participate in home economics education courses for undergraduates who are

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preparing to teach home economics at the secondary-school level. These graduate students develop teaching materials, work with undergraduates on special projects, participate in the clinical analysis of teaching via micro-teaching, evaluate the undergraduates' progress, and supervise several student teachers. Students have the opportunity to confer with city and state supervisors and with college administrators and also to visit other colleges to study student teaching programs.

Assistantships are available in the Department of Community Service Education to provide financial support as well as relevant professional experiences. The Department has new and excellent facilities for teaching, research, and experimentation with educational technology. Cooperative relationships are maintained with schools and a variety of other institutions and agencies concerned with human services in local and large urban centers for observation, participation, and research.

For further information write to the Chairman, Department of Community Service Education, College of Human Ecology.

Science and Environmental Education

Undergraduate and graduate programs in the area of science and environmental education prepare students for careers in elementary-school teaching (science), secondary-school science teaching, college science teaching, teacher preparation and supervision, nature and conservation education, and research in learning theory as applied to science education. Candidates may earn the degree of Master of Science, Master of Arts in Teaching, or Doctor of Philosophy.

Candidates for an advanced degree, particularly those seeking the doctorate, can plan a degree program that will prepare them for college science teaching positions. Normally such a program will require further science courses and advanced education courses designed to strengthen teaching effectiveness. The candidate is advised to have some elementary- or secondary-school experience or the equivalent before beginning a graduate teaching degree program.

Experienced teachers who are interested in the improvement of classroom teaching at precollege levels find special opportunities in supervision and teacher preparation. The work may be at local, state, or national levels in public or private education. Many other nations of the world seek such services, too. The work usually requires special studies of new curricula, methods of teaching, guidance and evaluation, and supervision and administration, together with studies in the sciences and humanities.

Cornell's distinguished history in nature and conservation education is reflected in the large number of its graduates who are now leaders in scientific nature study, conservation education, and natural history writing. A growing awareness of our natural resources, together with an increasing need to enjoy them while using them wisely, has contributed to a steady increase of job opportunities in these fields.

Teachers and others with strong interests in nature and conservation education who hold Bachelor's degrees may follow Master's or doctoral degree programs that lead to teaching and administrative careers in public or private conservation departments or organizations, Audubon societies, interpretive nature programs, and extension work. In addition to upgrading a secondary school teaching certificate, graduate work in these fields can serve as preparation for college teaching.

Research projects under way in the division are concerned with natural history, conservation of natural resources, nature interpretation, history of science education, science curriculum developments, and evaluation of science instruction. Graduate students have opportunities to develop research studies that help to clarify problems related to their future careers.

In the past few years, substantial increases in funds for support of research in teaching-learning have been obtained. It is likely that thousands of education research workers will be needed in the last quarter of this century by both public and private education organizations. The Division of Science and Environmental Education is placing increasing emphasis on graduate training to prepare professionals for research in education. A number of teaching and research assistantships and several fellowships are available.

For further information, apply to the Chairman, Division of Science and Environmental Education, Stone Hall.

Graduate Study

The Field of Education is concerned with the scholarly study of a wide range of educational topics. Students may emphasize the improvement of teaching a particular subject, the theory and practice of a functional educational specialization, or the application of a relevant discipline to problems of education.

Graduate work at Cornell is highly individualized, and each student plans his own program with the advice of a Special Committee selected by him. He is encouraged to avail himself of the many curricular and scholarly resources of the entire University. In doing so, he will find opportunities to work closely with faculty members in individualized programs featuring courses, seminars, independent study, and practical experience.

For further information regarding any major subject, inquiries may be sent to the chairman of the division offering work in that major subject. See listing on following pages.

Initial correspondence with any faculty member of the Field of Education may be addressed to him in care of the Secretary, Field of Education, 100 Stone Hall.

ADMISSION REQUIREMENTS. All applicants for admission with majors in Education—M.A., M.S., M.A.T., Ed.D., Ph.D.—who are residents of the United States or Canada and whose native language is English, are required to submit with their application either a score from the Graduate Record

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Examinations Aptitude Test or the scores of both the Miller Analogies Test and the Doppelt Mathematical Reasoning Test. The GRE score is necessary for University fellowship applications. Information regarding the location of test centers can be obtained by writing the Guidance and Testing Center, Olin Hall.

FINANCIAL AID. Information on scholarships, research and teaching assistantships, and fellowships, and application forms may be obtained from the Secretary, Field of Education, 100 Stone Hall, or from the chairman of the division offering work in the major subject the student has selected. Applications for general University fellowships must be received no later than February 1. Applications for assistantships, ESEA Title IV Research Traineeships, and other restricted awards of the Field of Education must be received no later than March 15. Notification of all awards can be expected by April 1.

Students who are awarded graduate assistantships ordinarily spend fifteen hours a week helping with instruction, research, or extension work. Assistants are eligible for residence units in candidacy according to regulations of the Graduate Faculty.

The assistantship stipends vary in amount from \$3,000 to \$3,480, with appointments ranging from nine to twelve months. In the College of Agriculture and the College of Human Ecology tuition is waived for assistantship holders. Tuition is not waived in assistantships from other colleges.

Holders of fellowships and scholarships pursue a full-time course of study and are not required to render service to the University. They may engage in internship experiences.

Graduate students are eligible to apply for loans through the Office of Scholarships and Financial Aid, Edmund Ezra Day Hall, Cornell University. Assistance in obtaining part-time employment, as permitted and limited by regulations of the Graduate School, may be obtained through this Office. Residents of New York State may also obtain information from this Office concerning the Scholar Incentive Program.

Information concerning fellowships and scholarships open to candidates in *all* fields may be found in the *Announcement of the Graduate School: Social Sciences*.

TEACHING EXPERIENCE. The Field of Education requires teaching experience of all graduate students as a part of the requirements for an advanced degree.

GRADUATE DEGREES. Students majoring in the Field of Education may be admitted for either of two types of advanced degrees: the *general degrees* of M.A., M.S., and Ph.D., administered by the Graduate School, and the *professional degrees* of M.A.T. or Ed.D., administered by the Field of Education of the Graduate School.

It is the responsibility of the candidate to become familiar with the various regulations which apply to his degree candidacy and to satisfy them in the proper manner. The general regulations are contained in the *Code of Legislation of the Graduate Faculty*; specific requirements and/or exceptions to the general regulations are found below.

General Degrees

The differences between the general degree programs and those of the professional degrees relate to the manner of meeting residence requirements, the emphasis on research, the specification of hours of credit required, the selection of major and minor subjects, and the program of studies.

Students admitted for the degrees of Master of Arts, Master of Science, or Doctor of Philosophy may either major or minor in the following subjects of study:

Agricultural Education	Guidance and Personnel
Curriculum and Instruction	Administration
Education (Minor subject only)	History, Philosophy, and
Educational Administration	Sociology of Education
Educational Psychology and	Home Economics Education
Measurement	Science and Environmental
Educational Research Methodology	Education
Extension and Continuing	
Education	

LANGUAGE REQUIREMENT. The language requirement for the degree of Ph.D. is left to the discretion of the candidate's Special Committee. There is no language requirement for the M.A. or M.S. degree.

RESIDENCE REQUIREMENT. The Graduate School Faculty requires that each candidate for a Master's degree earn two units of residence, and for the Ph.D. degree, six units of residence. All requirements for these degrees must be completed within four and seven years, respectively, of the time of first registration in the Graduate School.

THESIS REQUIREMENT. Candidates for the M.A., M.S., or Ph.D. degree are required to submit a thesis in fulfillment of the requirements for the degree.

EXAMINATIONS. For the Master's degree, a final examination is required. For the Ph.D. degree, a comprehensive admission to candidacy examination and a final examination are required. Examinations may be oral or both oral and written.

Professional Degrees

Advanced professional degrees in education are designed as preparation for the professions in education. Two professional degrees, Master of Arts in Teaching and Doctor of Education, are awarded.

Master of Arts in Teaching (M.A.T.)

The degree of Master of Arts in Teaching (M.A.T.) is designed for those with a baccalaureate degree, planning to undertake professional preparation in the fifth year. Teaching areas for this degree include agriculture, biology, chemistry, earth science, English, French, home economics, mathematics,

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physics, social studies, and Spanish. Graduates of a teacher-training program ordinarily are not eligible for this degree.

ADMISSION. Applicants must have adequate preparation in their intended teaching field, ability to pursue graduate study, and must give evidence of a serious career interest in teaching.

RESIDENCE. A minimum of two regular semesters and one summer of full-time study or two and two-fifths residence units is required. Residence units may be earned in: (1) academic-year registration, (2) summer registration, and (3) extramural registration. Full-time study will be required in all but exceptional cases.

SPECIAL COMMITTEE. A candidate will select a Special Committee of two or more members of the Graduate Faculty, one of whom will represent the Field of Education and serve as chairman. The chairman normally will belong to one of the teacher preparation specializations. Other members of the Committee are to be selected with the advice of the chairman to give adequate representation of the candidate's program. For a candidate preparing for secondary-school teaching, the teaching field will be represented.

PROGRAM OF STUDIES. The program will be determined by the candidate and his Special Committee. It will include those courses, seminars, and other experiences in the professional area and in the teaching field or fields which are deemed most appropriate for developing competence as a teacher. Each candidate will be required to demonstrate teaching skill in a supervised field experience.

FINAL EXAMINATION. A candidate must pass a final examination conducted by the Special Committee. The examination may be written or oral or both. It shall be comprehensive in nature and designed to evaluate the candidate's knowledge in the teaching field as well as in the theory and practice of teaching.

Doctor of Education (Ed.D.)

Programs for this degree are designed to prepare the candidate for positions of leadership in the educational profession. Positions for which such preparation is available are administrator, coordinator, curriculum specialist, extension specialist, student services specialist, supervisor, and teacher.

ADMISSION TO PROGRAM. Applicants must have completed a minimum of three years of successful experience appropriate to their proposed field of professional service and must show evidence of scholastic ability and other qualifications necessary for successful progress in graduate study, field experience, and professional work.

RESIDENCE. A minimum of five units of residence is required beyond the Bachelor's degree, of which at least three units must be earned in residence at Cornell. Two units of residence beyond the Master's degree or its equivalent must be earned at Cornell in regular terms, consecutive except on petition. No more than two units may be earned through extramural registration or in summer sessions at Cornell or elsewhere.

In addition to meeting residence requirements, a candidate must complete successfully one year of participation in directed field experience (see below).

PROGRAM OF STUDIES. The program of studies must include a minimum of sixty-five credit hours in courses and seminars beyond the Bachelor's degree, of which thirty-five hours shall be completed beyond the Master's degree or its equivalent. It includes advanced work in each of these subjects: educational psychology, history and philosophy of education, educational measurement and statistics, and research in education. At least fifteen hours of credit must be earned in courses other than those in professional education.

The transfer of credit earned in institutions other than Cornell University must be recommended by the Special Committee and approved by the dean of the Graduate School.

DIRECTED FIELD EXPERIENCE. In keeping with the primary emphasis in the program for the Ed.D. degree, a minimum of two consecutive academic terms of full-time experience appropriate to the candidate's field of professional service is required. This directed field experience will follow completion of two units or more of residence at Cornell beyond the Master's degree or its equivalent.

The opportunity for the Field Experience is to be sought by the candidate with the advice and assistance of the Special Committee. The proposed plan must be approved by the Committee as affording those practical experiences needed in acquiring competence in his intended field of professional service.

THESIS. The candidate is required to present a thesis which will give evidence of his ability to apply knowledge to a professional problem. The thesis must satisfy the Special Committee in respect to both professional proficiency and literary quality.

EXAMINATIONS. Two examinations are required: (1) an admission to candidacy examination and (2) a two-part final examination. Although other members of the faculty may be invited to participate in these examinations, the Special Committee alone decides whether the candidate has passed or failed. The admission to candidacy examination is both written and oral and is given before or during the third unit of residence. It has the double purpose of determining the ability of the candidate to pursue further studies and of allowing the Special Committee and the candidate to plan a satisfactory program. The final examination is given by the Special Committee and other members of the faculty who may be invited to attend. The examination must be given in two parts—one part on the field of professional service and core studies in education (examination A), which may be taken at the end of the fourth unit of residence; and a second part on the thesis (examination B), taken after the thesis is approved by the Special Committee. Examination A may be written or oral or both. Examinations A and B may precede or follow the period of directed field experience.

18 Tuition and Fees

Graduate Assistantships, Fellowships, Scholarships, and Financial Aid

A number of graduate assistantships, scholarships, and fellowships are available in the Field of Education. Requests for application forms and additional information concerning any of these opportunities should be addressed to the Field Representative for Education, Stone Hall, Cornell University. Completed applications must be received by March 1. Notification is given by April 1.

Tuition and Fees for Graduate Students

REGISTRATION DEPOSIT. An amount of \$35 must be paid by every applicant for admission after the applicant has received notice of acceptance unless the candidate has previously matriculated as a student at Cornell University. This deposit is used at the time of first registration to pay the matriculation fee, the cost of the chest x-ray, and charge for examination books, and covers certain expenses incidental to graduation if the student receives a degree. The deposit will not be refunded to any candidate who withdraws his application after May 10 or more than fifteen days after his admission approval. This fee is *not* covered by University fellowships, scholarships, or assistantships.

TUITION AND FEES. For detailed information on the amounts of the tuition and the General Fee in the various colleges of Cornell, see the *Announcement of the Graduate School: Social Sciences*.

The General Fee contributes toward the services supplied by the University libraries, health services, and the student union in Willard Straight Hall, and pays a portion of the extra cost of laboratory instruction and general administration.

A graduate student who returns to the University to present his thesis and to take the final examination for an advanced degree, all other work for the degree having been previously completed, shall register as a "Candidate for Degree Only" and pay a fee of \$35. A thesis fee in the amount of \$30 is required of each doctoral candidate at the time of depositing the approved thesis and abstract in final form. This fee covers the cost of preparing a master microfilm of the entire thesis; of publishing the abstract in the bimonthly periodical, *Dissertation Abstracts*; of mailing the thesis and abstract to and from the microfilm publisher; and of binding both copies of the thesis for deposit in the University Library.

SPECIAL TUITION WAIVERS. Upon recommendation by the appropriate dean and after action by the Board of Trustees in the case of each appointment in a state-supported school or college, waiver of tuition in the Graduate School may be made to a member of the teaching or scientific staff whose major field of study is in a state-supported school or college.

Graduate assistants on a nine- or twelve-month basis who reside here during the summer, who are registered for Summer Research for credit in the Graduate School, and who are required to give service in their department or division during that period, may be recommended for waiver

of tuition during the summer period under the above limitations. This waiver of tuition does not apply if the student registers in the Summer Session. 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.

Any student who is to receive less than full residence because of his employment should apply for proration of tuition on forms available at the Graduate School Office. Tuition is based on residence eligibility.

Division of Summer Session and Extramural Courses

A wide variety of credit and noncredit courses involving the faculties of the various schools and colleges of the University is available during the summer under the auspices of the Division of Summer Session. Formal credit courses similar to those given during the regular academic year are offered to graduate students, undergraduates, nondegree students, and high school students accepted for admission by an accredited college. In addition, a variety of specially designed programs is available to serve the needs of special groups by means of institutes, conferences, seminars, and short courses.

Individuals interested in part-time study during the regular academic year may register in on-campus courses through the Division of Extramural Courses, provided they are residents of the Ithaca area and are employed. Individuals are admitted on the basis of their qualifications and earn regular University credit as officially recorded by the Registrar.

Requests for additional information should be addressed to the Director, Division of Summer Session and Extramural Courses, B-20 Ives Hall.

Educational Placement

An Educational Placement Bureau is maintained in the Career, Summer Plans, and Placement Center, 14 East Avenue, for qualified Cornellians who wish to secure professional positions in elementary schools, secondary schools, or colleges and universities.

Services include a permanent file of credentials available throughout each registrant's professional career, and up-to-date information concerning current positions, salary ranges, and certification requirements in each state.

Eligibility for registration in the Bureau is dependent on enrollment in or completion of a regular Cornell program. Credentials containing comprehensive information as to the personal and educational qualifications and experience of each registrant are compiled in conformity with standards established by the Association for School, College, and University Staffing. In order to register students should communicate with the Assistant Director for Educational Placement, Career, Summer Plans, and Placement Center.

Professor L. B. Hixon serves as the certification officer for the University. Further information may be obtained from the Department of Education, Stone Hall.

20 Agricultural Education

Courses of Instruction

Courses may be identified as follows: 100-199, introductory courses, primarily for freshmen and sophomores; 200-299, intermediate courses, primarily for underclassmen; 300-

399, advanced courses, primarily for juniors and seniors; 400-499, primarily for seniors and graduate students; 500-599, primarily for graduate students; 600-699, seminars.

Agricultural Education

Mr. J. P. Bail, chairman; Messrs. A. L. Berkey, H. R. Cushman, W. E. Drake, F. K. T. Tom.

Ed. 331 Introduction to Teaching Agriculture. Spring term. Credit one hour. Required of juniors and others entering the directed teaching program in the senior or following year. M 2-4:25. Mr. Drake.

An introduction to the origin, development, objectives, course of study, and method of teaching agriculture in secondary schools, and to individual experience programs.

Ed. 332 Methods, Materials, and Directed Practice in Teaching Agriculture in the Secondary School. Fall term. Credit nine hours. Staff in agricultural education.

Directed participation in off-campus centers in the specific and related problems of teaching agriculture on the junior and senior high school levels which includes adjustment in the school and community; evaluation of area resources, materials of instruction, and school facilities; organization and development of local courses of study; launching and directing work experience programs; planning for and teaching all-day classes; advising youth organizations; and other problems relating to development of a balanced program for vocational education in agriculture in a local area.

Ed. 433 Special Problems in Agricultural Education. Spring term. Credit one or two hours. S/U grades optional. Graduate and undergraduate. Th 1:25. Mr. Bail and staff.

The purpose is to provide students an opportunity to study individually or as a group selected problems in agricultural education to meet the particular needs of the students.

Ed. 434 Organization and Direction of Out-of-School Programs. Fall term. Credit three hours. Mr. Cushman.

Emphasis will be placed on solving the problems encountered by teachers of agriculture in such phases of the out-of-school program as making arrangements to have a program, determining instructional needs and planning programs of instruction, teaching in groups, giving individual instruction, organizing and advising the local association, and evaluating the out-of-school program.

Ed. 531 Supervision in Agricultural Education. Fall term. Credit two hours. Given in alternate years. Open to students with experience in teaching agriculture or by permission. W 2:30-4:25. Mr. Bail.

The function of supervision, program planning, and supervisory techniques as applied to state programs in agricultural education.

Ed. 532 Advanced Methods and Materials of Teaching Agriculture. Spring term. Credit two or three hours. M 2:30-4:25. Mr. Berkey.

Consideration is given to an analysis of selected teaching techniques and to the selection, preparation, and use of instructional materials in agriculture.

Ed. 533 Planning Courses of Study and Agricultural Experience Programs. Fall term. Credit three hours. M F 1:25-2:55. Mr. Drake.

Guiding principles, objectives, and sources of information will be developed for planning the courses of study and teaching calendar. Consideration will be given to principles, meanings, and functions of agricultural experience programs and how they are planned, developed, and used as a means of instruction.

Ed. 534 Education for Leadership of Youth and Adult Groups. Fall term. Credit two hours. F 1:25-2:30. Mr. Cushman.

Designed for leaders in the field of agricultural education who are responsible for organizing programs. A consideration of the principles involved in organizing and conducting out-of-school programs for young and adult groups.

Ed. 535 Planning and Conducting Programs of Teacher Preparation in Agriculture. Fall term. Credit two hours. Given in alternate years. Mr. Tom.

Open to persons with teaching experience in agriculture who are preparing for or are engaged in the preparation of teachers or related educational service.

[Ed. 536 The Organization and Administration of Agricultural Education. Spring term. Credit two hours. Offered in alternate years. W 2:30-4:25. Mr. Cushman. Not given in 1971-72.

Designed for teachers, high school principals, teacher trainers, supervisors, and

others who are responsible for the administration of agricultural programs or who wish to qualify for this responsibility. Emphasis will be placed on interpreting vocational legislation and on problems of administration at the local and state levels.]

Ed. 539 Evaluating Programs of Agricultural Education. Spring term. Credit two hours. Given in alternate years. Open to students with experience in teaching agriculture or by permission. T 1:25-3:20. Mr. Drake.

Students will study objectives and evaluative criteria and develop criteria and pro-

cedures for evaluation of programs of agricultural education in the secondary schools.

Ed. 630 Seminar in Agricultural Education. Spring term. Credit one hour. S/U grades exclusively. Th 2:30-4:25. Staff.

Recommended for Master's degree candidates who have had teaching experience and doctoral candidates with majors and minors in agricultural education. The seminar will be primarily centered in current problems and research in the field not included in other course work.

Curriculum and Instruction

Miss H. L. Wardeberg, chairman; Messrs. B. B. Adams, J. P. Bail, A. L. Berkey, W. F. Brautigam, W. L. Brittain, R. L. Bruce, R. Davis, W. E. Drake, H. A. Geiselman, D. B. Gowin, Miss Anne LaBastille, Messrs. J. D. Novak, W. J. Pauk, Miss Isabel Peard, Messrs. R. E. Ripple and V. N. Rockcastle.

Ed. 332 Methods, Materials, and Directed Practice in Teaching Agriculture in the Secondary Schools. Fall term. Credit nine hours. Staff in agricultural education.

(See p. 20 for description.)

Ed. 407 The Teaching of Elementary-School Science. Fall term. Credit three hours. Registration by permission. Mr. Rockcastle.

(See p. 30 for description.)

Ed. 408 Methods of Teaching Science in Secondary Schools. Fall or spring term. Credit three hours. Registration by permission. Mr. Brautigam and staff.

(See p. 30 for description.)

Ed. 409 Practice in Teaching Science in Secondary Schools. Fall or spring term. Credit six or twelve hours. Prerequisite: 408 and permission of the instructor. For seniors and graduate students. Hours to be arranged. Mr. Brautigam and staff.

(See p. 31 for description.)

Ed. 444 Teaching of Secondary Mathematics. Spring term. Credit three hours. T Th 4-5:15. Mr. Geiselman.

Useful materials and practical methods for effective teaching of mathematics in the junior and senior high school are presented. Attention will be given to research in mathematics education and to recent proposals for curriculum revision. Special interests of the students will serve as a guide for the further selection of topics.

Ed. 445 Teaching Reading and Study Skills. Spring term. Limited to seniors and graduate students. Credit three hours. Mr. Pauk.

For teachers, administrators, guidance counselors and supervisors. Pertinent research as well as the psychology and philosophy of developmental reading and study skills will be examined. Teaching methods and sample materials for classroom use will be demonstrated and discussed.

Ed. 473 Contemporary Philosophy of Education. Spring term. Credit three hours. M W 12:20-2:20. Mr. Gowin.

Topic for 1971-72: Structure of Knowledge.

Ed. 509 Development of Curriculum in Science. Spring term. Credit three hours. For graduate students interested in elementary, secondary, or college science teaching. Limited to twenty students. M 1:25-4:25. Mr. Novak.

(See p. 31 for description.)

Ed. 533 Planning Courses of Study and Agricultural Experience Programs. Fall term. Credit three hours. M F 1:25-2:55. Mr. Drake.

(See p. 20 for description.)

Ed. 540 The Art of Teaching. Fall and spring term. Credit and hours arranged. S/U grades optional. Students may register only with consent of instructor. Miss Wardeberg.

For students enrolled in teacher education programs.

Ed. 545 The Curriculum of American Schools. Fall term. Credit three hours. Limited to graduate students.

A survey of the basic elements involved in making curriculum decisions, and an examination of contemporary curriculum developments in elementary and secondary schools.

[Ed. 546 Teaching Reading and Language Skills. Fall term. Credit three hours. Not given in 1971-72.

Materials and techniques in teaching the language arts in the elementary schools; special emphasis on the teaching of reading.]

22 Educational Administration

Ed. 547 Seminar in Elementary Education. Fall term. Credit and hours as arranged. S/U grades optional. Miss Wardeberg.

A problems seminar to study current problems and research in the field of elementary education.

Ed. 549 Seminar in the Teaching of Elementary Mathematics. Fall term. Credit three hours. Registration by permission of instructor. Mr. Robert Davis.

This seminar will focus on observing one-

to-one teaching in elementary-school mathematics.

Ed. 565 Supervision of Instruction. Spring term. Credit three hours. Miss Wardeberg. (See p. 22 for description.)

Ed. 645 Seminar in Curriculum Theory and Research. Spring term. Credit three hours. S/U grades optional. Registration by permission of the instructor. T 1:25-3:20. Members of the staff.

Educational Administration

Mrs. Joan R. Egner, chairman; Mr. E. J. Haller, Mr. L. B. Hixon, Miss H. L. Wardeberg.

Ed. 561 Theory and Practice of Administration. Fall term. Credit three hours. W 4-6. Mr. Haller.

The course is keyed to concepts and research findings in the social and behavioral sciences that are basic to the administration of educational organizations. Institutional and individual problems are analyzed from the viewpoint of organizational dilemmas and role conflict.

Ed. 562 The Principalship. Spring term. Credit three hours. Th 2:30-4. Mr. Hixon and staff.

Organized to enable recognition and cognition of the administrative functions essential to effective elementary and secondary schools. Analysis will include the elementary and secondary school as institutions, innovation in organization and curriculum, administration of instructional and non-instructional personnel, and community relationships. Each student will elect to specialize at the elementary or secondary school level for an individually planned program of study.

Ed. 563 Social Context of Educational Administration. Spring term. Credit three hours. W 4-6. Mr. Haller.

The purpose of this course is to familiarize students with environmental and organizational factors influencing contemporary education. Topics include stratification and mobility, socialization processes, social control, professionalization, bureaucratization, and the teaching career. Students concerned with educational administration will consider the administrative implications of topics covered. The course will be organized as a seminar. Students will be expected to conduct and report on a small-scale empirical research project.

Ed. 564 Economic Issues in Education. Fall term. Credit three hours. M 2:30-4. Staff.

Introduction to problems of resource procurement and allocation in education. Attention will be focused on existing and alternative strategies of fiscal support for schools and new management techniques for allocating such resources.

Ed. 565 Supervision of Instruction. Spring term. Credit three hours. T 4-6. Miss Wardeberg.

A basic course in the nature and scope of supervision. Open to those already in supervisory positions, either in school work or elsewhere, and experienced persons aspiring to become supervisors.

Ed. 567 Education Law. Fall term. Credit three hours. T 2:30-4. Mr. Hixon.

Review and analysis of federal and state legislation, court decisions, opinion, and regulations which affect educational institutions.

Ed. 569 Personnel Administration. Fall term. Credit three hours. Th 2:30-4. Mrs. Egner.

Designed to provide an introduction to modern psychological and sociological perspectives of personnel administration. Three purposes are paramount: (1) to acquaint the student with a variety of ways of conceiving the problems of personnel administration, (2) to acquaint the student with relevant research, and (3) to develop facility in the analysis of conceptual schemes and research projects.

Ed. 668 Seminar in Educational Administration. Spring term. Credit three hours. Prerequisite: consent of the instructor. Time to be arranged. Mr. Hixon.

Consideration of problems and policy issues in public schools and higher education.

Educational Psychology and Measurement

Mr. G. W. McConkie, chairman; Messrs. H. G. Andrus, H. Levin, M. D. Glock, J. Millman, A. G. Nelson, R. E. Ripple.

Ed. 110 General Psychology. Fall or spring term. Credit three hours. May not be taken for credit by students who have had Psychology 101 or equivalent. Two lectures, a testing and demonstration period, and one discussion section each week. Lectures and testing period M W F 10:10. Discussion sections Th or F, 8, 9:05, 10:10, 11:15, 12:20, 1:25, 2:30, or 3:35. Mr. McConkie.

A survey of research and theories in the field of psychology. Areas of emphasis include research methods, perception, learning and memory, language and thought, motivation and emotion, individual differences and psychological testing, personality development, and abnormal psychology.

Ed. 411 Educational Psychology. Fall or spring term. Credit three hours. Prerequisite, an introductory course in psychology. Designed for students in teaching programs and/or those interested in the educational process. Freshmen and sophomores not admitted. Enrollment limited to one hundred students. Equivalent of Psychology 103. Fall term, M W F 11:15. Mr. Ripple. Spring term, M W F 9:05. Mr. Glock. Special section for agricultural education majors, time to be arranged. Mr. Glock.

Consideration of the outstanding facts and principles of psychology bearing upon classroom problems. A project in tutoring may be required in the spring term.

Ed. 417 Psychology of Adolescence. Spring term. Credit three hours. Freshmen and sophomores not admitted. Prerequisite: a course in general psychology. Enrollment limited to one hundred students. T Th 1:25-3:20. Mr. Ripple.

A survey of the nature of adolescent growth and development with emphasis on some of the causal factors pertaining to education of adolescents.

Ed. 452 Interpretation of Statistics Used in Education. Fall term. Credit one hour. T 12:20. Will be offered in the spring term only to those students concurrently enrolled in 453, the hour to be arranged. Mr. Millman.
(See p. 24 for description.)

Ed. 453 Introduction to Educational Statistics. Spring term. Credit three hours. Prerequisite: course 452 (may be elected concurrently) or permission of the instructor. T Th 8-9:55. Mr. Millman.

(See p. 24 for description.)

Ed. 511 Educational Psychology. Fall term. Credit three hours. Permission of the instructor required. M W F 11:15. Mr. Ripple.

A basic course in educational psychology for graduate students.

Ed. 551 Educational Measurement. Spring term. Credit three hours. Permission of the instructor required. Hours to be arranged. Mr. Glock.

A study of the construction of achievement tests and the use of aptitude tests, achievement tests, and other measuring instruments in the classification and guidance of pupils and improvement of instruction.

Ed. 555 Use and Interpretation of Tests in Guidance and Personnel Administration. Fall term. Credit three hours. Th 4-6. Mr. Andrus.

Open to students in guidance or personnel administration and to classroom teachers who expect to work with standardized group tests. Deals with the historical development, use, and interpretation of aptitude tests as a basis for guidance and selection in public schools, colleges, and/or industry. Designed to meet the New York State certification for guidance counselors.

Ed. 599 Methods of Educational Inquiry. Fall term. Credit three hours. Prerequisite: one course in statistics or 452 elected concurrently. T Th 2:30-4. Mr. Millman and staff.
(See p. 24 for description.)

Ed. 613 Seminar in Educational Psychology. Fall term. Credit three hours. Permission of instructor required. Hours to be arranged. Mr. Glock.

Topic to be announced.

Ed. 617 Seminar in Learning and Memory. Fall term. Credit three hours. Prerequisite: Psychology 306 or equivalent. Hours to be arranged. Mr. McConkie.

A study of current issues in the learning, retention, and transfer of verbal information.

Ed. 618 Seminar in Educational Psychology. Spring term. Credit three hours. Permission of the instructor required. Hours to be arranged. Mr. Ripple.

Emphasis on theoretical considerations of various areas in educational psychology. Primarily for doctoral students. Not designed for project students earning a Master's degree.

Psych. 103 Educational Psychology. Spring term. Credit three hours. Prerequisite: an introductory course in psychology. Equivalent of 411. Mr. Levin.

24 Extension and Continuing Education

The major facts and principles bearing on educational practice and theory. Human learning, abilities, and group processes as they influence classroom learning will be stressed. Recent educational advances such as new curricula and programmed learning

will be discussed in the light of contemporary psychological theories.

See courses listed in psychology, human development and family studies, anthropology, sociology, and industrial and labor relations for related offerings.

Educational Research Methodology

Mr. J. Millman, chairman; Messrs. R. L. Bruce, R. B. Darlington, D. B. Gowin.

Ed. 452 Interpretation of Statistics Used in Education. Fall term. Credit one hour. T 12:20. Offered in the spring term only to those students concurrently enrolled in 453, hour to be arranged. Mr. Millman.

A brief introduction to the vocabulary and symbolism used in reporting empirical research in education. Both univariate and multivariate statistical procedures will be covered from an intuitive point of view.

Ed. 453 Introduction to Educational Statistics. Spring term. Credit three hours. Prerequisite: course 452 (may be elected concurrently), or permission of the instructor. T Th 8-9:55. Mr. Millman.

A study of common statistical procedures encountered in educational literature and research. The course includes the mathematical bases, computation, and interpretation of univariate and multivariate descriptive and inferential statistics.

Ed. 527 Evaluation for Program Management. Fall term. Credit three hours. S/U grades optional. Mr. Bruce.

(See p. 25 for description.)

Ed. 599 Methods of Educational Inquiry. Fall term. Credit three hours. Prerequisite: one course in statistics or 452 elected concurrently. T Th 2:30-4. Mr. Millman and staff.

An introduction to the methods that underlie the conduct of significant research in education. Emphasis will be placed upon describing and analyzing such procedures as forming concepts, developing educational products, making observations and measurements, performing experiments, building

models and theories, providing explanations, and making predictions. For graduate students in their first year of residence.

Ed. 616 Seminar in Educational Research. Fall term. Credit three hours. Prerequisite: 453 and 599 or permission of the instructor. Time to be arranged. Mr. Millman.

Topic to be announced.

Ed. 698 Practicum in Educational Research. Fall and spring terms. Three to six hours credit per term. Members of the staff.

Participation in a research project under the direction of the principal investigator of said project. Level of responsibility will increase with the experience and capability of the candidate, the eventual goal being his assumption of responsibility for a portion of the research.

Ed. 699 Conceptual Problems in Educational Inquiry. Fall term. Credit three hours. Prerequisite: 599 or equivalent, or permission of instructor. Primarily for doctoral candidates in their second year of residence. W 2:30-4:30.

An examination of such concepts as causation, operationism, validity, reliability, hypothetical construct, generalization, explanation, probability, and hypothetico-deductive method.

CSE 690 Seminar in Evaluation. Spring term. Credit two hours. Miss Blackwell.

(See p. 30 for description.)

Psych. 401 Psychological Testing I. Spring term. Credit four hours. Mr. Darlington.

Psych. 402 Psychological Testing II. Spring term. Credit four hours. Mr. Darlington.

Extension and Continuing Education

Mr. J. Paul Leagans, chairman; Messrs. G. J. Broadwell, R. L. Bruce, A. E. Durfee, Miss I. Imbler.

Ed. 522 Educating for Community Action. Spring term. Credit three hours. Open to

juniors and seniors by consent. W 11:15-1:10; F 11:15. Mr. Bruce.

Emphasis is on the design and execution of the educational aspects of community action programs. The course deals with the identification and statement of educational

goals, selection of teaching strategies, and evaluation of outcomes.

Ed. 523 Administration of Continuing Education Programs. Spring term. Credit three hours. An application of the principles of administration and supervision to the problems of organizing and operating continuing education programs. W 1:25-4:00. Mr. Durfee.

Emphasis is on identifying, describing and analyzing alternative models for planning, organizing, staffing, directing, controlling, and financing an adult education enterprise.

Ed. 524 Designing Continuing Education Programs. Fall term. Credit three hours. An analysis of current theories, concepts, principles, and procedures central in the development of programs for the continuing education of adults. T 1:25-4:00. Mr. Leagans.

Programming is conceptualized as a process of systematic decision making about objectives to be achieved and the design of educative activity to achieve them. In this context, emphasis is placed on such major problems as situation analysis, leadership involvement, need identification, selection of objectives from alternatives, creating support at macro level, organizing program resources at micro level, and planning for program execution.

Ed. 525 Educational Communication. Spring term. Credit three hours. T 1:25-4:00. Mr. Leagans.

Emphasizes the centrality of useful technology and effective communication in continuing education programs. Emerging models of the communication process are reviewed as a framework for analyzing major elements, including communicator credibility, program content, messages, organization and use of transmission channels, message treatment, audience identification, feedback, and the design of operation communication programs.

Guidance and Personnel Administration

Mr. A. G. Nelson, chairman; Messrs. H. G. Andrus, and D. Hedlund.

Ed. 580 Student Culture in the American College. Spring term. Prerequisite: permission of the instructor. Credit three hours. M W 1:25-2:45. Mr. Hedlund.

Study of the student culture in the American college with emphasis on current research.

Ed. 581 Student Personnel Administration. Fall term. Credit three hours. Prerequisite: permission of the instructor. T Th 1:25-2:45. Mr. Hedlund.

Analysis of the objectives, functions, and

Ed. 526 Practicum in Continuing Education. Continuous fall and spring. Credit one to three hours. Open only to graduate majors and minors in extension and continuing education. Hours to be arranged. Staff.

Provides opportunity for students to supplement the formal aspects of their curriculum through systematic participation in an ongoing continuing education program. Each student designs and carries out a planned program with guidance from a supervising faculty member and a cooperating practitioner. A final written report is required. Admission and credit to be assigned are determined by the student's Special Committee. Grades are assigned by the supervising faculty member.

Ed. 527 Evaluation for Program Management. Fall term. Credit three hours. S/U grades optional. Time to be arranged. Mr. Bruce.

Program evaluation is treated as a part of the overall task of making program management decisions. Primary attention is given to educational and other community change programs, but inferences to other program management tasks are possible. The course has three aspects: (1) a series of lecture-discussions; (2) a continuing workshop; and (3) individual student evaluation projects.

Ed. 626 Divisional Seminar. Continuous fall and spring terms. Credit one hour each term. Required of all majors in extension and adult education and open to minors. Time to be arranged. Division staff.

Provides opportunity for divisional students and staff to jointly analyze and reflect on current professional issues. A committee of three students directs the seminar in consultation with other students and the staff.

CSE 411 Introduction to Adult Education. Fall term. Credit three hours. Miss Imbler.

(See p. 28 for description.)

organization of student personnel services in higher education. Emphasis on behavioral science theories supporting student personnel administration.

Ed. 582 Educational and Vocational Guidance. Fall term. Credit two hours. For graduate students only. T 4:15-6. Mr. 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.

26 History, Philosophy, Sociology

Ed. 583 Counseling. Spring term. Credit two hours. For graduate students only. Prerequisite: permission of the instructor. M 4:15-6. Mr. Nelson.

Principles and techniques of counseling with individuals concerning various types of educational, vocational, and social adjustment problems at the high school and college levels.

Ed. 584 Group Techniques in Guidance. Spring term. Credit two hours. Prerequisite: permission of the instructor. T 4:15-6. Mr. Nelson.

Methods and materials for presenting educational and occupational information to students. Theory and practice of group guidance, and counseling in a group setting.

Ed. 585 Occupational and Educational Information. Fall term. Credit four hours. Prerequisite: permission of the instructor. M 4:15-6. Field trips and laboratory, to be arranged. Mr. 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. Practicum exercises.

Ed. 602 Field Laboratory in Student Personnel Administration. Either term. Credit and hours to be arranged. Prerequisite: permission of the instructor. Members of the staff.

Directed field project in student personnel administration.

Ed. 681 Seminar in Student Personnel Administration. Either term. S/U grades optional. Credit as arranged. Prerequisite: permission of the instructor. F 9:05-11. Mr. Hedlund.

Topic varies.

The following courses are not ordinarily offered on campus during the academic year, but they are offered in alternate Summer Sessions, along with many of the courses listed above:

Ed. 586 Organization and Administration of Guidance Programs. Credit two hours.

Ed. 587 Practicum in Measurement and Appraisal for Counselors. Credit two hours.

Ed. 588 Case Studies in Counseling. Credit two hours.

History, Philosophy, and Sociology of Education

Mr. D. B. Gowin, chairman; Mr. E. J. Haller, Miss I. J. Peard, Mr. F. H. Stutz.

Ed. 470 Educational Issues in a Democracy. Either term. Credit three hours. Open to juniors, seniors, and graduate students. Registration in morning sections limited to fifty students; afternoon sections, twenty-five students. M W F 10:10 or T Th 2:30-4. Messrs. Gowin and Stutz. Special honors tutorial is offered by Mr. Gowin.

A critical examination of theories, policies, and practices.

[Ed. 471 Logic in Teaching. Spring term. Credit three hours. Open to graduates and advanced undergraduates. T Th 2:30-4. Not given in 1971-72.

A consideration of definition, explanation, proof, and the structure of subject matter as they bear upon the work of the classroom teacher.]

Ed. 472 Philosophers on Education. Fall term. Credit three hours. For graduates and advanced undergraduates. Admission by consent only. M W 2:30-4. Miss Peard.

Selected writings by such philosophers as Plato, Descartes, Rousseau, and Dewey will be examined in their own right and for the light they throw on the persistent problems in education.

Ed. 473 Contemporary Philosophy of Education. Spring term. Credit three hours. M W 12:20-2:20. Mr. Gowin.

Topic for 1971-72: Structure of Knowledge.

Ed. 563 Social Context of Education. Spring term. Credit three hours. M W 2:30-4. Mr. Haller.

(See p. 22 for description.)

Ed. 574 History of American Education. Fall term. Credit three hours. For graduate students. Seniors admitted with permission of the instructor. M 4-6. Mr. Stutz.

An examination of the role of education in the development of American society.

[Ed. 578 Comparative Education. Fall term. Credit three hours. For graduate students. M 4-6. Mr. Stutz. Not given in 1971-72.

A comparative treatment of several national systems of education from a historical perspective.]

Ed. 598 Education as a Field for Inquiry. Fall term. Credit three hours. For graduate students. W 2:30-4:30.

Designed primarily for students without previous training or experience in the field of education, this course is intended to provide insight into the nature and content of the field to which their research efforts

will be directed. The course will deal with the structure of the educational enterprise, its history, its objectives and the ways it seeks to achieve them, its main concerns, emphases, and sources of strain.

Ed. 670 Seminar in the College and University. Spring term. Credit three hours. S/U grades optional. Hours to be arranged. Mr. Gowin and staff.

Conditions of disciplined inquiry in higher education.

Ed. 671 Seminar: Analysis of Educational Concepts. Spring term. Credit three hours. Admission by consent. W 2:30-4:30.

Ed. 672 Seminar in Educational Classics. Spring term. Credit three hours. Admission by consent. Miss Peard.

Ed. 673 Seminar on Dewey. Fall term. Credit three hours. W 12:20-2:20. Consent of instructor required. Mr. Gowin.

Home Economics Education

Miss K. Rhodes, acting chairman; Messrs. M. Altman, R. Babcock, H. Brenden, Misses S. Blackwell, A. Davey, I. Imbler, Mrs. N. Miller, Miss M. Minot, Mrs. H. Nelson, Miss L. Noble, Mmes. M. Taylor, J. Webb, and J. Wright.

CSE 240 Sophomore Seminar. Fall term. Credit one or two hours. M 2:30. Mrs. Miller.

Analysis of the role of a teacher in formal and informal situations. Determining needs of the adolescent based on biological and social growth and development. Examination of curricula and programs in home economics, health, consumer education, and related areas. Field trips and observations are included. An individual project may be developed for the second credit.

CSE 300 Special Studies for Undergraduates. Fall and spring terms. Credit and hours to be arranged. For special arrangement of course work necessitated because of previous training. Department faculty.

Students prepare two copies of a description of the study they wish to undertake. One, signed by both the instructor directing the study and the head of the department, must be filed with pre-registration materials. The second copy is left with the instructor. Students obtain form to be used from their counselors.

CSE 325 Health Institutions and Agencies as Providers of Family Health Care Services. Spring term. Credit three hours. S/U grades optional. M W 2:30-4:25.

Developments in the health field that affect the availability and kinds of health services are examined. Emphasis is placed on inter-

relationships between institutions and agencies, and the part each can play in prevention, diagnosis, and treatment of disease and disability. Visits to institutions and contacts with local agencies will be made.

Ed. 674 Seminar in History of Education. Spring term. Credit three hours. Admission by consent. M 3:35-5:35. Mr. Stutz.

Topic for 1971-72: Urban education.

Ed. 699 Conceptual Problems in Educational Inquiry. Fall term. Credit three hours. Primarily for doctoral candidates in their second year of residence. Prerequisite: 599 or equivalent, or permission of the instructor. W 2:30-4:30.

An examination of such concepts as causation, operationism, validity, reliability, hypothetical construct, generalization, explanation, probability, and hypothetico-deductive method.

Soc. 341 Educational Sociology.

relationships between institutions and agencies, and the part each can play in prevention, diagnosis, and treatment of disease and disability. Visits to institutions and contacts with local agencies will be made.

CSE 340 Clinical Analysis of Teaching. Fall and spring terms. Credit one hour. Education 411 prerequisite or parallel. W 2:30-4:25. Miss Minot.

Teaching episodes are analyzed in terms of principles of educational psychology. Emphasis is on a clinical analysis of teaching strategies and classroom interaction. Micro-teaching gives students an opportunity to develop technical skills of teaching and to develop self-evaluative ability in the analysis of teaching.

CSE 370 Issues in Social Welfare and the Current Social Work Scene. Spring term. Credit three hours. Open to sophomores, juniors, and seniors. Hours to be arranged. Mr. Altman and Mrs. Webb.

Introduction to the field of social welfare and the various dimensions of social work practice. Subject matter will be handled in three phases: 1) a brief history and philosophy of American social welfare traced from the origins of English poor law, 2) a critical examination of current and significant social welfare issues, and 3) the social work profession. Field observations will be included.

CSE 400 Special Studies for Undergraduates. Fall and spring terms. Credit and hours to be arranged. Department faculty.

For independent study by an individual student in advanced work not otherwise pro-

28 Home Economics Education

vided in the department or for study, on an experimental basis, with a group of students in advanced work not otherwise provided in the department.

Students prepare two copies of a description of the study they wish to undertake. One, signed by both the instructor directing the study and the head of the department, must be filed with pre-registration materials. The second copy is left with the instructor. Students obtain form to be used from their counselors.

CSE 410 The Human Ecologist as a Teacher. Spring term. Credit three hours. M F 1:25 and one hour to be arranged. Mrs. Miller.

Designed for students who plan to be Co-operative Extension agents, dietitians, social workers, home service representatives, youth or adult group leaders, or to undertake other work which will involve teaching in informal situations. Opportunity will be provided for observation and participation in teaching.

CSE 411 Introduction to Adult Education. Fall term. Credit three hours. S/U grades optional. W F 2:30-3:55. Miss Imbler.

Focuses on the broad aspects of adult education, types and scope of adult education programs, philosophy and principles of adult education, and community and organizational factors affecting development of adult programs. Opportunity will be provided for field trips for observation of adult education programs in business and industry and in community organizations and agencies.

CSE 416 The Facilitative Processes and the Helping Relationship. Spring term. Credit three hours. S/U grades optional. Enrollment by permission of instructor; limited to twenty students. F 2:30-4:25. Small group laboratory W 7-9 p.m. Miss Imbler and Mr. Brenden.

Designed for those entering the helping professions, such as education, social services, and health. Concentration will be on theory, research, and training in the facilitative processes in the helping relationship. The model to be used as a basis for training will be that developed by Carkhuff. Training will include use of role playing, dyad and triad skill practice exercises, and aural and video tapes. Each class member will participate in a small group laboratory during which emphasis will be placed upon the development of the facilitative attitudes and skills. Students will collaborate with the instructor in a research project in connection with the course.

CSE 440-441-442 The Art of Teaching. To be taken in two successive terms, 440 in the first and both 441 and 442 in the second. Open to juniors and seniors preparing to teach home economics and related subjects in the public schools. Miss Minot, coordinator,

assisted by Misses Blackwell and Elliott; Mrs. Miller, Mrs. Nelson, Mrs. Taylor, and cooperating teachers.

This sequence of courses involves observation and participation in the home economics program of one or more schools in communities near Ithaca. CSE 440 is offered on a regular schedule throughout each semester, but special scheduling is required for CSE 441 and 442. The instructional resource center is available for independent study throughout the year for all registered students.

CSE 440 The Art of Teaching: Curriculum Development. Fall and spring terms. Credit two hours. T Th 8. Students need one three-hour period between 8 a.m. and 3 p.m. each week for six weeks for the purpose of visiting home economics and related programs in cooperating schools.

Emphasis is on the development of instructional plans that reflect understanding of principles of curriculum development, of adolescents and how they differ, of factors influencing the efficiency of learning, and of current trends in society and human ecology subject matter.

CSE 441 The Art of Teaching: Workshop. Fall and spring terms. Credit two hours. To be scheduled concurrently with 442 and 443. A two-week workshop is conducted at the beginning of the term, and the independent study period is used for directed study related to student teaching. Hours to be arranged.

Consideration is given to major concerns related to teaching at the secondary level; implementation of plans, evaluation, department management, space and equipment, action research, and philosophy of teaching home economics and related subjects.

CSE 442 The Art of Teaching: Student Teaching. Fall and spring terms. Credit six hours. Students teaching full time for six weeks. When vacations of the cooperating school and the University do not correspond, each student is expected to follow the vacation schedule of the former.

Guided student teaching experience with students assigned to cooperating public schools. Student teachers live in the school communities and work under the guidance of both local teachers and Department faculty.

CSE 443 Critical Issues in Education. Fall and spring terms. Credit two hours. Hours to be arranged. To be scheduled concurrently with CSE 441 and 442. Mr. Babcock.

An examination of current issues in education. Analysis of the historical, philosophical, social, and political factors that affect the issues.

CSE 500 Special Problems for Graduate Students. Fall and spring terms. Credit and hours to be arranged. S/U grades optional. For students recommended by their chairman and approved by the instructor in charge for independent advanced work. Department faculty.

CSE 510 Seminar in Adult Education. Fall term. Credit three hours. S/U grades optional. W F 9:05-10:35. Miss Imbler.

The seminar is designed to deal with significant problem areas in adult education such as philosophy of adult education, the teaching-learning process for adults, and special problems of the disadvantaged adult learner. Implications of theory and research in the problem area will be important considerations. One specific problem area will be considered each time the seminar is offered, the particular area to be announced at pre-registration time. The seminar may be repeated with permission of the instructor.

CSE 550 Comparative Aspects of Education and Social Development. Fall term. Credit three hours. S/U grades optional. Permission of instructor is required. M W 1:25-2:55. Miss Rhodes.

Factors related to the development of educational programs for family and community improvement in differing cultures. Analysis of needs and evaluation of methods of approach in countries at varying levels of development.

CSE 570 Seminar in Higher Education. Fall term. Credit three hours. S/U grades optional. Hours to be arranged. Miss Rhodes.

CSE 571-572 The Teacher Educator in Home Economics. For graduate students preparing for teacher education positions involving supervision of student teachers. Permission of the instructors is required. Previous experience in teaching home economics at the secondary level is required for CSE 572. Mrs. Nelson and Miss Minot.

CSE 571 Fall term. Credit three hours. Class hours to be arranged. Also observation and participation in CSE 240 and 440 and several half-day field trips. Mrs. Nelson.

Opportunity is provided for students to develop understanding of teacher education practices by observing and participating in the undergraduate program. Participation involves teaching and individual work with students. Additional experiences include observation of student teachers and of supervisory conferences in student teaching centers.

CSE 572 Spring term. Credit four hours. Hours to be arranged. Observation and par-

ticipation first half of the semester, and weekly half-day or full-day field trips for last half of the semester. Miss Minot.

Seminar is concerned with basic principles of supervision and their application to the preservice education of home economics teachers. Opportunity is provided for observation and participation in CSE 340, 441, and 442, including some teaching in the courses and the supervision of a student teacher.

CSE 579 The Teaching of Home Management in College. Spring term. Credit one to three hours. Permission of the instructor required. Hours to be arranged. Miss Davey. Not offered in 1970-71; will be offered in 1971-72.

CSE 580 Seminar in Community Service Education. Fall and spring terms. Credit one hour. S/U grades exclusively. T 4:00. Department faculty.

An informal seminar for graduate students and faculty. One or two major topics to be considered each term. May be repeated for credit with permission of instructor.

CSE 584 Curriculum Development. Spring term. Credit three hours. For students with professional experience in some aspect of teaching or by permission of the instructor. W F 8:25-9:50. Miss Rhodes.

An examination of the social, psychological, and philosophical bases of curriculum theory with special attention to techniques presently used in curriculum development. Opportunity provided for students to work on individual or group projects related to their interest and expertise.

CSE 590 Evaluation. Fall term. Credit three hours. For high school and college teachers, administrators, extension agents, educational program directors, and research workers. Students without experience in any of these professional positions are admitted by permission of the instructor. T Th 1:25-2:55. Mrs. Nelson.

Basic principles of evaluation studied in relation to specific methods of appraising educational programs or individual achievement. Opportunities will be given for constructing and using evaluation instruments.

CSE 599 Master's Thesis and Research. Fall and spring terms. Credit and hours to be arranged. S/U grades optional. Registration with permission of the student's Committee chairman and the instructor. Department graduate faculty.

CSE 673 Internship and Field Work in Teacher Education. Fall term. Credit two hours. S/U grades optional. Prerequisite: 571 and 572. Hours to be arranged. Miss Minot and Mrs. Nelson.

30 Science and Environmental Education

Involves supervision of student teachers and conferences as needed with college supervisor and cooperating teachers in the schools. Provision made for a follow-up visit to a first-year teacher.

CSE 675 Administration and Supervision Practicum. Spring term. Credit two hours. S/U grades optional. Prerequisite: Ed. 569 or permission of the instructor. F 1:25. Miss Rhodes.

Analysis of principles of supervision and administration in educational institutions through directed observation of the organization of state, city, and college programs concerned with aspects of community service education. Approximate cost of field trips, \$35.

[CSE 690 Seminar in Evaluation. Spring term. Credit two hours. S/U grades optional. Prerequisite: CSE 590 and Ed. 453 or equivalents. Given in alternate years. T Th 3-4:30. Miss Blackwell. Not given in 1971-72.

Opportunity for intensive study of literature concerning selected topics in evaluation, for refinement of appraisal techniques, and for carrying out an evaluative study related to current departmental research.]

CSE 699 Doctoral Thesis and Research. Fall and spring terms. Credit and hours to be arranged. S/U grades optional. Registration with permission of the student's Committee chairman and the instructor. Department graduate faculty.

Science and Environmental Education

Mr. J. D. Novak, chairman; Mr. W. F. Brautigam, Miss Anne LaBastille, Messrs. R. B. Fischer, V. N. Rockcastle.

Ed. 401 Our Physical Environment. Fall or spring term. Credit three hours. Open by permission only to juniors, seniors, and graduate students primarily interested in public school teaching. Limited to eighteen students. Lecture, T 1:25; practical exercises T 2:30-4:25 and one hour to be arranged. Mr. Rockcastle.

A study of the commonplace phenomena and substances in our physical environment, and their use in demonstrating basic scientific principles. Frequent field trips and first-hand examination will be used in studying air, water, soil, light, and sound, as well as some elementary mechanical and electrical devices. Emphasis will be placed on the physical environment as an aid to teaching the physical sciences in the public secondary schools.

Ed. 402 Literature in Conservation and Environmental Education. Spring term. Credit two hours. Open only to students above sophomore rank. T Th 11:15. Mr. Fischer.

An examination of books, periodicals, and reports dealing with historical and present aspects of environmental quality and education. Students are involved in planning and offering the lectures, discussions, and literature reports.

Ed. 403 Environmental and Natural History Writing. Fall term. Credit two hours. Open to students above sophomore rank. T Th 11:15. Mr. Fischer.

For persons who wish to improve their ability to reach and influence others by publishing in magazines and newspapers. The class produces a weekly column for a local newspaper, in addition to other types of

articles. Subject matter, outlets for articles, news releases, posters, newsletters, and brochures are discussed. A working knowledge of biology and ecology is assumed.

Ed. 404-405 Field Natural History. Fall or spring term. Credit three hours. May be taken either term or both terms. Limited to forty students. Lecture, M 10:10. Weekly field trips and lecture, T or F 1:30-4:30. Mr. Fischer.

A methods and materials course devoted to studies of Northeastern plants and animals, their biology, ecology, and their use in the environmental education programs of interpretive centers, schools, and field biology courses. Man's impact on plant and animal communities is stressed.

Ed. 407 The Teaching of Elementary School Science. Fall term. Credit three hours. Registration by permission. Limited to eighteen students. Lecture, W 1:25; practical exercises, W 2:30-4:25 and one other period to be arranged. Mr. Rockcastle.

The content and methods of elementary-school science and nature study, with field work and laboratory experience useful in classroom and camp. Designed particularly for those who are preparing to teach or supervise elementary-school science.

Ed. 408 Methods of Teaching Science in Secondary Schools. Fall or spring term. Credit three hours. Prerequisite: 411 or the equivalent, or concurrent registration. For juniors, seniors, and graduate students without teaching experience. Open to students in science education intending to register for 409; permission of instructor required for all others. Limited to twenty students per section. Fall term Th 1:25-4:25 and hours for observation to be arranged; spring term M or Th 1:25-4:25. Mr. Brautigam.

Consideration of current methodology, newly developed curricula, and materials for teaching science in secondary schools. Attention is given to the aims and goals of science instruction in relation to classroom techniques. Systematic observations in local schools. Use of video tapes, and extensive work with individualized instruction.

Ed. 409 Practice in Teaching Science in Secondary Schools. Fall or spring term. Credit six or twelve hours. Prerequisite: 408 and permission of the instructor. For seniors and graduate students. Hours to be arranged. Mr. Brautigam and staff.

Supervised practice in teaching science in secondary schools, with frequent conferences. Special seminars scheduled in conjunction with practice teaching. Multimedia forms of feedback information concerning the classroom performance will be provided to the practice teacher.

Ed. 505 Nature Center Operation and Programming. Fall term. Credit three hours. Open only to students above sophomore rank. M W F 10:10. Miss LaBastille.

Designed for interpretive naturalists and others who will be responsible for showing persons their place in the environment they share with other organisms, explaining how man's actions affect living things around him, and teaching what can and must be done to preserve the quality of the environment. Course content emphasizes methods of interpreting nature through the nature center program, and includes constructing teaching aids, designing and building nature trails, design and organization of a live museum, cataloging and storing teaching materials, making bulletin board displays, developing interest corners, guiding nature walks, making and presenting slide talks, giving lectures with visual aids, setting up photographic exhibits, and using schoolyard and neighboring teaching resources.

Ed. 507 The Teaching of Science. Fall term. Credit three hours. For graduate stu-

dents interested in elementary, secondary, or college science teaching. Limited to twenty students. M 1:25-4:25. Mr. Novak.

A consideration of learning theory as applied to problems of selection and organization of subject matter, methods of teaching, and instructional innovation. Study of published research relevant to the improvement of science teaching. Course is conducted in a seminar style.

Ed. 508 Nature Center Development and Direction. Spring term. Credit three hours. S/U grades optional. Open only to students above sophomore rank. M W F 10:10. Miss LaBastille.

Providing directors with the managerial skills needed for successful operation of a nature center, the course is organized around techniques such as recruiting, fund raising, publicity, personnel management, brochure production, public relations, allocating funds and budgeting, enlisting local support, liaison with schools, program development, natural area surveys, planning new buildings, adding to existing facilities, and determining staff needs; also, nature center directors as local conservation catalyts.

Ed. 509 Development of Curriculum in Science. Spring term. Credit three hours. For graduate students interested in elementary, secondary, or college science teaching. Limited to twenty students. M 1:25-4:25. Mr. Novak.

Study of new science curriculum programs, including philosophy and rationale of the programs. Observation of classes using new materials. Concentrated study of science curriculum development in the area of individual student's interest. Course is conducted in a seminar style.

Ed. 606 Science Education Seminar. Fall or spring term. Credit one hour. S/U grades exclusively. Required of graduate students who major or minor in this division. M 4:30-6. Miss LaBastille, Messrs. Brautigam, Fischer, Novak, and Rockcastle.

General

Ed. 499 Informal Study in Education. Maximum credit, three hours each term. S/U grades optional. Members of the staff.

This privilege is granted to a qualified junior, senior, or graduate student when approved by an adviser from the Education staff who is personally responsible for the study. Two purposes are sanctioned: (1) to engage in a study of a problem or topic not covered in a regular course; or (2) to undertake tutorial or honors study of an independent nature in the area of the student's research

interests. The program is not designed for study supplementary to a regular course for the purpose of increasing the content and credit allocation of the course.

Ed. 500 Special Studies. Credit as arranged. S/U grades optional. Limited to graduate students working on theses or other research projects. Each registration must be approved by a staff member who will assume responsibility for the work. Members of the staff.

32 General Education

Ed. 594 College Teaching. Spring term. Without credit. Members of the University staff.

Designed for those who plan to teach in colleges and universities. Concepts and methods of teaching, organization of subject matter, motivation, learning, testing, grading, and similar problems are treated.

Ed. 598 Education as a Field for Inquiry. Fall term. Credit three hours. M W 2:30-4. (See p. 26 for description.)

Ed. 599 Methods of Educational Inquiry. Fall term. Credit three hours. Prerequisite: one course in statistics or 452 elected concurrently. T Th 2:30-4. Mr. Millman and staff. (See p. 24 for description.)

Ed. 600 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 educational administration, agricultural education, guidance, personnel administration, supervision, and other types of professional service in education.

Ed. 616 Seminar in Educational Research. Fall term. Credit three hours. Prerequisite: 453 and 599 or permission of the instructor. Time to be arranged. Mr. Millman. Topic to be announced.

Ed. 698 Practicum in Educational Research. Fall and spring terms. Three to six hours credit per term. Mr. Millman and other members of the staff. (See p. 24 for description.)

University Administration

Dale R. Corson, President of the University
Robert A. Plane, University Provost
Mark Barlow, Jr., Vice President for Student Affairs
Lisle C. Carter, Jr., Vice President for Social and Environmental Studies
W. Donald Cooke, Vice President for Research
Lewis H. Durland, University Treasurer
W. Keith Kennedy, Vice Provost
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Paul L. McKeegan, Director of the Budget
Robert D. Miller, Dean of the University Faculty
Steven Muller, Vice President for Public Affairs
Arthur H. Peterson, University Controller
Neal R. Stamp, Secretary of the Corporation and University Counsel

Faculty

(As of December 1, 1970.)

Barry B. Adams, Assistant Professor of English. Ph.D., University of North Carolina
Morton Altman, Assistant Professor, Community Service Education. M.S.W., Columbia University
Howard G. Andrus, Director, Educational-Vocational Guidance Office; Professor of Guidance and Personnel Administration. Ph.D., Cornell University
Robert Babcock, Associate Professor, Community Service Education. Ed.D., Cornell University
Joe P. Bail, Professor and Instructional Materials Specialist in Agricultural Education. Ph.D., Michigan State University
Arthur L. Berkey, Assistant Professor of Agricultural Education. Ph.D., Michigan State University
Sara E. Blackwell, Professor of Community Service Education. Ph.D., University of Minnesota
Walter F. Brautigam, Assistant Professor of Science Education. M.S., Cornell University
Herbert Brenden, Assistant Professor, Community Service Education. Ph.D., Indiana University
W. Lambert Brittain, Professor of Human Development and Family Studies. Ed.D., Pennsylvania State University
George J. Broadwell, Assistant Professor in Cooperative Extension and Associate Director; Assistant Professor of Extension Education. Ph.D., Cornell University
Robert L. Bruce, Associate Professor of Extension Education. Ph.D., Cornell University
Ralph N. Campbell, Professor of Industrial and Labor Relations. M.B.A., Harvard Graduate School of Business Administration
Harold R. Cushman, Professor of Agricultural Education. Ph.D., Cornell University
Richard B. Darlington, Associate Professor of Psychology. Ed.D., University of Minnesota
Alice Davey, Assistant Professor, Community Service Education. M.S., Cornell University
Robert E. Doherty, Professor of Industrial and Labor Relations and Professor of Education. Ed.D., Columbia University
William E. Drake, Professor of Agricultural Education. Ph.D., Michigan State University
Arthur E. Durfee, Professor in Extension Service, Associate Director of Extension, and Professor of Extension Education. Ph.D., University of Chicago
Joan R. Egnor, Associate Professor of Educational Administration. Ed.D., Cornell University
Jean Failing, Professor of Human Ecology, Associate Dean for Undergraduate Instruction. Ph.D., Ohio State University
Richard B. Fischer, Professor of Nature and Science Education. Ph.D., Cornell University
Felician F. Foltman, Professor of Industrial and Labor Relations. Ph.D., Cornell University
Harrison A. Geiselmann, Professor of Mathematics Education. Ph.D., Cornell University
Marvin D. Glock, Professor of Educational Psychology. Ph.D., University of Iowa
D. Bob Gowin, Professor of Educational Foundations. Ph.D., Yale University
Emil J. Haller, Assistant Professor of Educational Administration. Ph.D., University of Chicago
John S. Harding, Professor of Human Development and Family Studies. Ph.D., Harvard University

34 Faculty

- Dalva E. Hedlund, Assistant Professor of Occupational Psychology and Guidance. Ph.D., Colorado State University
- Peter J. Hilton, Professor of Mathematics. Ph.D., Cambridge University
- Lawrence B. Hixon, Professor of Education and Coordinator, Educational Placement. Ed.D., Syracuse University
- Anne LaBastille, Assistant Professor of Science Education. Ph.D., Cornell University
- J. Paul Leagans, Professor of Extension Education. Ph.D., University of Chicago
- Harry Levin, Chairman, Department of Psychology; Kenan Professor of Psychology. Ph.D., University of Michigan
- George W. McConkie, Associate Professor of Psychology and Educational Psychology. Ph.D., Stanford University
- Jason Millman, Professor of Educational Research Methodology. Ph.D., University of Michigan
- Marion Minot, Assistant Professor of Community Service Education. Ph.D., Cornell University
- A. Gordon Nelson, Professor of Counseling Psychology. Ph.D., New York University
- Helen Y. Nelson, Associate Professor of Community Service Education. Ph.D., University of Minnesota
- Benjamin Nichols, Professor of Electrical Engineering. Ph.D., University of Alaska
- Lucinda Noble, Associate Professor of Cooperative-Extension. Ph.D., University of North Carolina at Greensboro
- Joseph D. Novak, Professor of Science Education. Ph.D., University of Minnesota
- Walter J. Pauk, Professor of Education and Director of Reading-Study Center. Ph.D., Cornell University
- Isabel J. Peard, Professor of Education. Ph.D., Cornell University
- Kathleen Rhodes, Acting Chairman, Department of Community Service Education; Professor of Community Service Education. Ph.D., Cornell University
- Richard E. Ripple, Professor of Educational Psychology. Ph.D., University of Wisconsin
- Verne N. Rockcastle, Professor of Nature and Science Education. Ph.D., Cornell University
- Frederick H. Stutz, Professor of History of Education. Ph.D., Cornell University
- Frederick K. T. Tom, Field Representative for Education; Professor of Agricultural Education. Ph.D., Cornell University
- Helen L. Wardeberg, Chairman, Department of Education; Professor of Education. Ph.D., University of Minnesota
- Lyle L. Wicks, Instructional Materials Specialist in Agricultural Education. M.S., Cornell University
- Joan Wright, Assistant Professor, Community Service Education. Ph.D., Cornell University.

Emeritus Professors

- Flora M. Thurston Allen, Professor of Home Economics Education. M.A., Columbia University
- Lynn A. Emerson, Professor of Industrial Education. Ph.D., New York University
- Edwin R. Hoskins, Professor of Education (Agricultural Education). Ph.D., Cornell University
- Margaret Hutchins, Professor of Home Economics Education. Ph.D., Cornell University
- Philip G. Johnson, Professor of Science Education. Ph.D., Cornell University
- Paul J. Kruse, Professor of Education (Educational Psychology). Ph.D., Columbia University
- Clyde B. Moore, Professor of Education. Ph.D., Columbia University
- E. Laurence Palmer, Professor of Education (Nature Study and Science Education). Ph.D., Cornell University
- H. Irene Patterson, Professor of Home Economics Education. M.S., University of Minnesota
- William A. Smith, Professor of Education. Ph.D., Cornell University
- Ethel Waring, Professor of Child Development and Family Relations. Ph.D., Columbia University

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