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SCHOOL OF EDUCATION



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PLEASE NOTE: **The most complete and current information about the School of Education's programs, courses, faculty, degree requirements, and admission requirements is available on the School of Education web site at <www.soe.umich.edu> or through the School of Education Office of Student Services. Requirements are subject to change. All information is subject to change without notice.**

History and Mission of the School of Education

The School of Education's commitment to education can be traced to the first charter of the "University of Michigania," approved by the territorial government in 1817, which initially gave the University control over the state's entire system of public instruction. Although this arrangement was changed, the links between the University and the state's schools were firmly established. They have remained strong through the years.

In the spring of 1879, the Regents of the University created the Chair of the Science and Art of Teaching, the first full-time, permanent professorial chair in any American college or university devoted exclusively to the preparation of teachers. This regental act recognized the fact that many University students would become teachers and school administrators and that without instruction in education they would not be prepared for their work.

Theories are proven only through application … Change occurs only through action … Real differences are brought about by individuals, not institutions … these are the precepts that guide the School of Education in shaping the School's philosophy and in developing curriculum. Every year, professional educators enroll in advanced degree programs at the School of Education, drawn to U-M from around the country and around the world by the reputation of the University and the School. Students enrolled in the School of Education benefit from close working relationships with faculty, practitioners, and outstanding student colleagues. Collaborative research projects, fieldwork, and community outreach give students abundant opportunities to make connections between theory and practice.

In scholarship, the School of Education incorporates the spirit of inquiry essential to the generation and effective use of knowledge about education. By examining both substantive and methodological problems in education, constructive responses are developed from a research base. They are intended to influence both policy development and practice. Faculty members and students work with scholars from numerous related fields and with practitioners of many backgrounds and interests who are committed to education.

In teaching, the School provides a learning environment emphasizing informed inquiry, multicultural opportunity, educational technology, attention to individual differences, collaboration with others, and commitment to lifelong learning. High priority is placed on the educational growth of students and on enhancement of their potential leadership qualities.

The School is strongly committed to the increasingly complex task of educating teachers. At the same time, it is also strongly committed to preparing students to meet a broad spectrum of other educational needs and opportunities throughout the world. U-M School of Education alumni are well equipped to serve in instructional, administrative, and policy positions in both private and public sector institutions.



Graduate Studies

Graduate students have numerous opportunities to gain practical experience. Faculty members who serve as leaders and consultants to professional, government, and business organizations often include graduate students in their work. In addition, internships and consulting opportunities with colleges, universities, and other educational agencies are available in some programs.

Rackham Degrees: Doctoral Level

Educational Studies Program, with further specializations in:

Dual Degree: Quantitative Methods in Education (Ph.D.) and Statistics (M.A.)
Early Childhood Education*
Educational Administration and Policy
Educational Foundations and Policy
Learning Technologies
Literacy, Language and Culture
Mathematics Education
Science Education
Special Education
Teacher Education

Education and Psychology (a joint degree program with the Department of Psychology)

English and Education (a joint degree program with the Department of English)

Center for the Study of Higher & Postsecondary Education, with further concentrations in:

Academic Affairs and Student Development
Organizational Behavior and Management
Public Policy
Research, Evaluation, and Assessment
Individually Designed Concentration

Rackham Degrees: Master's Level

Educational Studies Program, with further specializations in:

Curriculum Development (M.A.)
Early Childhood Education (M.A.)*
Educational Foundations, Administration, Policy & Research Methods (M.A.)
English Education (M.A.)
Learning Technologies (M.A. or M.S.)
Literacy, Language and Culture (M.A.)
Master of Arts with Elementary Certification (MAC)
Master of Arts with Secondary Certification (MAC)
Mathematics Education (M.A. or M.S.)
Science Education (M.A. or M.S.)
Social Studies Education (M.A.)

Center for the Study of Higher & Postsecondary Education (M.A.), with further concentrations in:

Dual Degree: Education Public Policy & School of Public Policy
Higher Education
Public Policy in Postsecondary Education
Student Development, Support, and Academic Affairs

* The Educational Studies Program has suspended admissions in the Early Childhood Education Specialization until further notice.

Program in
Educational Studies

The broad foci of the Program in Educational Studies (ES) include scholarly inquiry into the educational development of the individual; the teaching-learning process; organizational and administrative theory in education; historical, social, and philosophical foundations of education; and policy analysis and formation. The program offers sequences leading to the M.A., M.S., and Ph.D. degrees, and in limited instances the Ed.S. degree.* Students apply and are admitted to one of the ES areas of specialization. Faculty members are affiliated with one or more of these areas. Students should determine major areas of specialization they wish to pursue and identify those faculty members with whom they wish to study. A list of faculty is available online at <www.soe.umich.edu/directory/faculty.html>.

Students have many opportunities to work with faculty members on research projects. These opportunities range from funded projects for which faculty serve as principal investigators, to research conducted on various programs within the School of Education and non-funded research projects.

**Students are not admitted directly to the Ed.S. programs. Interested individuals should check with the Educational Studies Office for additional information.*

Areas of Career Preparation

The doctoral courses of study in ES are designed for students who are preparing for a variety of leadership positions. The master's courses of study are designed for students who are seeking to improve their skills and/or become specialists in curricular areas. Students typically plan careers in one of four broad fields:

Professorships and research careers — faculty and research positions in university programs, research organizations, or public agencies.

School and agency administration — administrative positions in school systems, educational centers, or agencies.

Educational associations and governmental agencies — administrative and research positions in national, regional, and state agencies, and in professional organizations and associations related to K-12 education.

Teaching — teaching positions in public/private elementary and secondary schools as well as in other educational settings.

Degree Programs

Curriculum Development	M.A.
Early Childhood Education	M.A., Ph.D.
Educational Administration and Policy	Ph.D.
Educational Foundations and Policy	Ph.D.
Educational Foundations, Administration, Policy, and Research Methods	M.A.
English Education	M.A.
Learning Technologies	M.A., M.S., Ph.D.
Literacy, Language and Culture	M.A., Ph.D.
Master of Arts with Certification (Elementary and Secondary)	M.A.
Mathematics Education	M.A., M.S., Ph.D.
Quantitative Methods in Education and Statistics	Dual Degree: Ph.D./M.A.
Science Education	M.A., M.S., Ph.D.
Social Studies Education	M.A.
Special Education	Ph.D.
Teacher Education	Ph.D.

ES Doctoral Programs

The doctoral specializations are intended for educators who aspire to leadership positions that emphasize curriculum development or curriculum supervision and for persons interested in research, postsecondary teaching, or positions within school districts or departments of education. They also prepare graduates to serve as specialists for administrative roles in schools and other educational agencies as well as leaders for policy positions in government, foundations, or universities.

ES Degree Requirements: Doctoral

All doctoral students in the ES program must take a minimum of 60 credit hours beyond the bachelor's degree plus 8 hours of dissertation credits. Most students who do doctoral work take far more than this minimum. Prior graduate work, if applicable, may be counted toward the degree.

All students must meet program and specialization requirements. They must also meet the ES cognate and dissertation requirements. (Credit hours for all courses are given in parentheses.)
Note: Course work requirements are subject to change.

Ph.D. Program Core Requirements:

Core: (16)
- 790 Fundamental Issues in Educational Studies (3)
- 792 Methods in Educational Research: Qualitative (3)
- 793 Introduction to Quantitative Methods in Educational Research (3)
- 898 Professional Development Seminar (4)
- Advanced Research Methods (3)

Cognates: (12)
Dissertation: (8)

Ph.D. Specialization Requirements:

Early Childhood Education (15) The Educational Studies Program has suspended admissions in the Early Childhood Education Specialization until further notice.

- 516 Theory and Practice in Early Childhood Education (3)
- 517 Early Childhood Education: Policy Issues (3)

Select NINE HOURS from the following:
- 501 Literacy and Learning for Typical and Atypical Students: Emergent/Elementary (3)
- 525 Language Development (3)
- 614 Contemporary Issues in Early Childhood Education (3)
- 615 Early Childhood Education Curriculum (3)
- 616 History of Early Childhood Education (3)
- 617 Qualitative Research in Early Childhood Education (3)
- 618 Early Childhood Assessment (3)
- 619 High Risk Infants (3)
- 620 Education of Young Children with Special Needs (3)
- 638 Internship and Directed Field Experience (3)
- 639 Field Experience in English Language Arts and Special Education (2-3)
- 655 Directed Research in Educational Studies (1-6)
- 733 Reading and Writing Development of Young Children (3)

Electives: (17)

Educational Administration and Policy (12)

751 The Social Context of Schooling (3)
752 Organization Theory and Research in Education (3)
753 Analysis of School Effectiveness (3)
754 Education and Public Policy (3)

Electives: (20)

Educational Foundations and Policy (24)

Select NINE HOURS from the following:
632 Reading in the Anthropology of Education (3)
641 History of American Education (3)
642 Philosophy of Education (3)
643 Sociology of Education (3)
644 Comparative and International Education (3)
645 Education and Cultural/Multicultural Studies (3)
646 Educational Policy Analysis (3)

TWO SEMESTERS of the following (six hours total):
747 Topics in Foundations and Policy (3)

THREE SEMESTERS of the following (all should be taken with the same faculty member; nine hours total):
847 Advanced Studies in Foundations and Policy (3)

Electives: (8)

Learning Technologies (24)

Core: (12)
601/SI639 Learning Technologies across the Content Areas (3)
626/SI638 Principles of Software Design for Learning (3)
727 Research Methods in Cognition and Technology (3)
750 Learning and Social Cognition in Science and Technology (3)

Learning and Cognition (3)
708 Cognition and Instruction in Classrooms (3)*
709 Motivation in the Classroom (3)*
710 Learning, Thinking, and Problem Solving (3)*
** Prerequisite: EDUC 606 or equivalent. Please check with CPEP office.*

Learning Technologies Substantive Concentration (13-19)
Consult with advisor.

Literacy, Language, and Culture (15-19)

Core: (12)
700 Foundation in Literacy (3)
703 Historical Perspectives on Literacy Research (3)
704 Contemporary Perspectives on Literacy Research (3)
706 Literacy Seminar: Issues in Research on Literacy (3)
(Can be elected more than once)

Electives: (3-6)
505 Literacy and Learning for Typical and Atypical Students: Middle/High School (3)
509 Literacy and Learning for Typical and Atypical Students: Transition/Adult (3)
525 Language Development (3)
621 Teaching Writing in the Elementary and Secondary Schools (3)
733 Reading and Writing Development of Young Children (3)

Mathematics Education (15)

506 Computing Technology in the Mathematics Classroom (3)
611 Mathematics Instruction in the Elementary School (3)
612 Mathematics Instruction in the Secondary School (3)
711 Seminar: Mathematics Education (3)
809 Curriculum Theory and Practice (3)

Electives: (17)

Recommended courses:

613 Current Issues in Mathematics Education (3)
708 Cognition and Instruction in Classrooms (3)
709 Motivation in the Classroom (3)
714 Technology and Mathematics Education (3)

NOTE: The equivalent of a master's degree in mathematics is required for secondary concentration; the equivalent of a bachelor's degree in mathematics is required for elementary or middle school concentration.

Quantitative Methods in Education/Statistics (Ph.D./M.A.)

Quantitative Methods in Education Core Requirements (3):

EDUC 793: Spirit of requirement fulfilled in Master of Arts in Statistics
Advanced Research Methods: Spirit of requirement fulfilled in Master of Arts in Statistics

Quantitative Methods in Education Specialization Requirements (13 minimum):

BIOSTAT 617/SOC 717/STATS 580 Theory and Methods of Sample Design (3)
BIOSTAT 652 Design of Experiments (3)
BIOSTAT 695 Analysis of Categorical Data (3)
BIOSTAT 851/STATS 642 Linear Statistical Models (3)
BIOSTAT 890/STATS 640 Multivariate Statistical Models (3)
707 Psychometric Theory: Classical and Latent Trait Models (3)
737 Topics in Educational Studies/Design & Analysis of Longitudinal Multilevel Research (3)
737 Topics in Educational Studies/Causal Inferences in Social Science (3)
795 Quantitative Methods for Non-Experimental Research (3)
890 Multilevel Methods in Social Research (3)
STATS 402 Introduction to Statistics and Data Analysis (4)
STATS 406 Introduction to Statistical Computing (4)
STATS 425 Introduction to Probability (3)
STATS 426 Introduction to Mathematics Statistics (3)
STATS 503 Applied Multivariate Analysis (3)
STATS 504 Seminar on Statistical Consulting (3)
IOE560/STATS & MGT SCI 603/STATS 550 Bayesian Decision Analysis (3)
STATS 710 Special Topics: Topics in Mathematical Statistics (3)
STATS 7111 Special Topics: Topics in Mathematical Statistics (3)
PSYCH 726/SOC 726 Multivariate Analysis (3)

Quantitative Methods in Education Electives (19 elected in Education):

Students must indicate the area of Substantive Concentration. Please check with advisor for concentration areas available.

Quantitative Methods in Education Cognates (12):

STATS 500 Applied Statistics I (3)
STATS 501 Applied Statistics II (3)
BIOSTAT 601 Probability and Distribution Theory (4)
BIOSTAT 602 Biostatistical Inference (3)

Quantitative Methods in Education Preliminary Examination (1 minimum)
Contact Educational Studies Program office (1225 SEB) when you are ready to begin the preliminary examination process.

NOTE: at least one reader of the qualifying examination must be from Statistics.

Master of Arts in Statistics (26 minimum)
Master of Arts in Statistics Core Requirements (13)
STATS 500 Applied Statistics I (3)
STATS 501 Applied Statistics II (3)
BIOSTAT 601 Probability and Distribution Theory (4)
BIOSTAT 602 Biostatistical Inference (3)
Master of Arts in Statistics additional statistics courses (6)
Requires two graduate-level courses from Statistics; recommended courses are:
STATS 406 Introduction to Statistical Computing (4)
STATS 503 Applied Multivariate Analysis (3)
STATS 504 Seminar on Statistical Consulting (3)
BIOSTAT 617/SOC 717/STATS 580 Theory and Methods of Sample Design (3)
STATS 711 Special Topics (3)
Master of Arts in Statistics additional statistics courses (3)
Requires one graduate-level course from another unit; recommended courses are:
707 Psychometric Theory: Classical and Latent Trait Models (3)
737 Topics in Educational Studies: Design & Analysis of Longitudinal, Educational & Multilevel Data (1-3)
737 Topics in Educational Studies/Causal Inferences in Social Research (3)
795 Quantitative Methods for Non-Experimental Research (3)
890 Multilevel Methods in Social Research (3)
PSYCH 988/SOC 988 Advanced Seminars in Social Psychology (1-5)
Master of Arts in Statistics Cognates (4 minimum)
Courses must be elected in another unit; i.e., Education, Psychology, Sociology.

Science Education (12)

At the completion of the Science Education specialization, doctoral students must have the equivalent of a master's degree in science for secondary education or at least 20 credit hours in science for elementary or middle school.
830 Historical and Philosophical Roots of Science Education (3)
831 Theory and Research on Learning and Instruction in Science (3)
832 Theory and Research on the Development of Expertise in Science Teaching (3)
833 Theory, Research, and Use of Technological Tools in Science Education (3)
Electives: (20)

NOTE: Students must elect one course in the psychology of learning and one course in curriculum studies.

Special Education

Required courses (24):
525 Language Development (3)
734 Sociohistorical Contexts of Special Education (3)
735 Theory and Research in Special Education (3)
736 Atypical Cognitive and Social Development (3)
738 Instructional Interventions for Atypical Learners: Theory and Research (3)
739 Developmental Variations in Reading Acquisition (3)

One course from the following:
643 Sociology of Education (3)
645 Education and Cultural/Multicultural Studies (3)
One course from the following:
708 Cognition and Instruction in the Classroom (3)
720 Social Psychology of Education (3)
721 Human Development and Schooling (3)
722 Models of Teaching and Classroom Instruction (3)
Electives: (8)

Teacher Education (15):

772 Contexts for Teacher Education (3)
773 Issues in Teacher Education (3)
774 Pedagogy in Teacher Education (3)
775 Teacher Development (3)
776 Advanced Topics in Teacher Education (3)
Electives: (17)

Other Doctoral Requirements: Preliminary Examination

Part A is a **scholarly paper** that is of sufficient length, depth and complexity to demonstrate that the student is able to frame a significant and worthwhile problem, select a method or methods of research appropriate to the resolution of the problem, employ this method or methods properly, and present the entire effort in writing that is both clear and cogent. A student must elect EDUC 655 for 3 credit hours when writing the scholarly paper. Contact the Educational Studies Program Office to complete the paperwork associated with Part A.

Part B is a **written examination** consisting of a number of questions or assignments designed to assess the breadth and depth of the student's understanding of his or her specialty area as well as the place of this specialty field within the larger domain of education. Examples of assignments include an essay review of a book or books, an annotated syllabus for an advanced graduate course, a review of a research proposal, or an analytical review of a body of literature. A student must be registered the term Part B is taken. Typically, a student registers in EDUC 990 for 1 credit hour. Contact the Educational Studies Program Office to complete the paperwork associated with Part B.

ES Master's Programs

The master's degree specializations are designed for educators who wish to focus on a content area, such as mathematics education, science education, or social studies education; for those whose career goals are to become curriculum development or instructional improvement specialists; and for those who wish to become educational administrators in K-12 school systems. The master's programs also serve as preliminary preparation for those educators wishing to pursue advanced training at the doctoral level for entry into careers as scholars of education and university teachers.

Certification Endorsements

Students may pursue certification as teachers in the State of Michigan through some of the specializations. In other cases, students may pursue one of the M.A. sequences as well as teacher certification. Students electing this option must apply to the Horace H. Rackham School of Graduate Studies for admission to the graduate program, and to the School of Education for admission into the teacher education program. Careful program planning is

required to complete such a course of study expeditiously.

Alternatively, students may apply to the Master of Arts with Certification (MAC) program for certification in elementary or secondary education. The MAC program is a carefully planned program of studies leading to certification and a M.A. degree, and must be completed in one calendar year of study. Detailed information about this program may be found in the MAC section of the *Bulletin*.

In addition to these programs, endorsement is available in Reading and Library Media. In these cases, certification requirements are combined with graduate degree programs. In rare circumstances, students may be admitted as non-degree students in order to complete certification requirements in these areas. Specific requirements for these certificates may be obtained from the Educational Studies Office.

ES Degree Requirements: Master's

Master's level students in ES must take a minimum of 30 credit hours beyond the bachelor's degree. Some students may be expected to take additional courses depending upon their area of concentration or their previous studies. All students must meet program core requirements and the ES cognate and concentration requirements. (Credit hours are given in parentheses.)
NOTE: Course work requirements are subject to change

Program Core Requirements:

Core: (6)
649 Foundational Perspectives on Educational Reform (3)
695 Research and Educational Practice (3)
Cognates: (6)

Specialization Requirements:

Curriculum Development (9)

604 The School Curriculum (3)
609 Curriculum Development and Evaluation (3) or equivalent, as determined by adviser
701 Seminar: Curriculum Issues (3) *or*
809 Curriculum Theory and Practice (3)
Electives: (9)

Early Childhood Education (15) **The Educational Studies Program has suspended admissions in the Early Childhood Education Specialization until further notice.**

516 Theory and Practice in Early Childhood Education (3)
517 Early Childhood Education: Policy Issues (3)
Select NINE HOURS from the following:
501 Literacy and Learning for Typical and Atypical Students: Emergent/Elementary (3)
525 Language Development (3)
614 Contemporary Issues in Early Childhood Education (3)
615 Early Childhood Education Curriculum (3)
616 History of Early Childhood Education (3)
617 Qualitative Research in Early Childhood Education (3)
618 Early Childhood Assessment (3)
619 High Risk Infants (3)
620 Education of Young Children with Special Needs (3)

638 Internship and Directed Field Experience (1-6)
639 Field Experience in English Language Arts and Special Education (2-3)
655 Directed Research in Educational Studies (1-6)
733 Reading and Writing Development of Young Children (3)

Electives: (3)

Educational Foundations, Administration, Policy and Research Methods

You must choose one of the following concentrations and fulfill the master's degree requirements for that concentration.

- Foundational Perspectives on Education and Schooling
- Policy and Practice in School Administration
- Research Methods

Core requirements: (6)

One course from the following:
649 Foundational Perspectives on Educational Reform (3)
790 Fundamental Issues in Educational Studies (3)

One course from the following:
695 Research and Educational Practice (3)
793 Introduction to Quantitative Methods in Educational Research (3)

Concentration Requirements: (15)

NOTE: At least nine hours must be taken in a single concentration. The additional six hours may be selected in the same concentration (if offered) or one or both of the other concentrations.

Foundational Perspectives on Education and Schooling
641 History of American Education (3)
642 Philosophy and Politics of Education (3)
643 Sociology of Education (3)
645 Education and Cultural/Multicultural Studies (3)
646 Educational Policy Analysis (3)

Policy and Practice in School Administration
551 Organizational Analysis of Schools (3)
552 Instructional Leadership in Schools (3)
555 Financial and Legal Policies for Schools (3)

Research Methods
637 Practicum in Assessment (3)
705 Quantitative Evaluation of Educational Programs (3)
792 Methods in Educational Research: Qualitative (3)
793 Introduction to Quantitative Methods in Educational Research (3)

NOTE: if you elected 793 as a core requirement, you may not use it as concentration credit.
795 Quantitative Methods in Non-experimental Research (3)

English Education (9)

500 Foundations of Literacy (3)
505 Literacys Curriculum, Instruction and Assessment: Middle/Secondary (3)
699 Implications of Research on Effective Instruction and Classroom Learning (3)

Electives: (12)

Required cognates:

Engl 570 Research in Composition (3)

Learning Technologies (15)

Core: (9)

600 Applications of Learning Theories to Technology-Rich Learning Environments (3)
603 Classroom-Based Evaluation of Learning Technology (3)
605 Internship in Learning Technologies (3)

Required cognates: (6)

NOTE: Cross-listed or meet together graduate courses with Education can be elected to fulfill the cognate requirement.

601/SI 639 Learning Technologies across the Content Areas (3)
626/SI 638 Principles of Software Design for Learning (3)

Electives: (9)

NOTE: 605 and 805 may be taken multiple times for credit.

506 Computing Technology in the Mathematics Classroom (3)
602 Instructional Gaming (3)
708 Cognition & Instruction in Classrooms (3)
714 Technology and Mathematics Education (3)
718 Distributed Learning (3)
728 Practicum in Learning Technology Design (3)
729 Culture, Design and Technology (3)
750 Learning and Social Cognition in Science and Technology (3)
758 Leadership, Learning Organizations and Technology (3)
779 Technology and Teaching Learning (3)
805 Advanced Topics in Learning Technologies (3)
833 Theory, Research and Use of Technological Tools in Science Education (3)

Literacy, Language and Culture (18)

500 Foundations of Literacy (3)
501 Literacy, Curriculum, Instruction and Assessment: Primary/Elementary (3)
505 Literacy, Curriculum, Instruction and Assessment: Middle/Secondary (3)
525 Language Development (3)
638 Internship and Directed Field Experience (3)
696 Consultation and Collaboration (3)

Master of Arts with Certification-Elementary (MAC-Elementary) (33)

401 Developmental Reading and Writing Instruction in the Elementary School (3)
403 Individualizing Reading and Writing in the Elementary Classroom (3)
431 Teaching of Social Studies in the Elementary School (3)
510 Teaching and Learning (3)
518 Workshop on Teaching Mathematics (3)
528 Workshop on the Teaching of Science (3)

604 School Curriculum (3)
649 Foundational Perspectives on Educational Reform (3)
650 Reflective Teaching Field Experience (12)
695 Research and Educational Practice (3)

Two cognate courses (3 credits each)

For most students, the summer cognate course is MATH 485: Mathematics for Elementary School Teachers

Master of Arts with Certification-Secondary (MAC-Secondary) (28)

___ Teaching Methods (3) (students will elect the methods course appropriate to their teaching major)
402 Reading and Writing in Content Areas (3)
490 Topics in Professional Education (3)
504 Teaching with Technology (3)
606 Developmental and Psychological Perspectives on Education (3)
649 Foundational Perspectives on Educational Reform (3)
650 Reflective Teaching Field Experience (12)
655 Directed Research in Educational Studies (1-3)
695 Research and Educational Practice (3)

Mathematics Education (15)

NOTE: A minimum of six hours in mathematics is required, with more expected for secondary school concentration. Students may fulfill this requirement through the election of cognates.

412 Mathematics Instruction in the Middle School (3)
506 Computing Technology in the Mathematics Classroom (3)
604 School Curriculum (3)
611 Mathematics Instruction in the Elementary School (3) *or*
612 Mathematics Instruction in the Secondary School (3)
640 Independent Study in Educational Studies (2)

NOTE: A written project on a topic approved by the student's adviser is required of all students.

898 Professional Development Seminar (1)

Electives: (3)

Science Education (9)

Select NINE HOURS from the following:

830 Historical and Philosophical Roots of Science Education (3)
831 Theory and Research on Learning and Instruction in Science (3)
832 Theory and Research on the Development of Expertise in Science Teaching (3)
833 Theory, Research, and Use of Technological Tools in Science Education (3)

Electives: (9)

Social Studies Education (9)

604 School Curriculum (3)
635 Research in the Social Studies (3)
636 Recent Developments in the Social Studies (3)

Electives: (9)

The Center for the Study of
Higher and Postsecondary Education

The Center for the Study of Higher and Postsecondary Education (CSHPE) offers Ph.D. and M.A. degree sequences, including a dual Master's degree with the University of Michigan, Gerald R. Ford School of Public Policy. The Center's primary missions are to generate and apply knowledge; to advance the role of higher education in supporting the public good; and to improve institutional practice. Program priorities include integrating theory and practice, maintaining strong interdisciplinary relationships, fostering high quality research, and sponsoring activities that enhance leadership development.

CSHPE provides a setting for faculty scholarship and research, and its research assistantships are a major source of research practicum experience and dissertation work for doctoral students. Faculty and students are active participants in national conferences, research seminars, and colloquia. Many individuals hold elected offices in national associations and are active reviewers for scholarly journals.

The Center maintains a close relationship with other graduate programs within the School and, through joint faculty appointments and co-sponsorship of scholarly projects, maintains links with the University's Center for Research on Learning and Teaching, Institute for Social Research and Center for Afro-American and African Studies. Some faculty also hold joint appointments with the University administration. The strong relationships with other units on campus as well as the Society for College and University Planning and the Great Lakes College Association, which have their offices in Ann Arbor, serve to enrich the Center's degree programs by providing opportunities for student involvement in research, administrative practice, and teaching at the college level.

CSHPE graduate programs are designed to prepare you for a leadership role in shaping the future of higher education. You will learn how to integrate individual, organizational and policy dynamics. You will develop an awareness of your own role and abilities as a change agent. You will learn how to communicate what you know to broad audiences and constituencies. And, as a successful graduate you will have the ability to make a substantive, meaningful difference in the world of education through a career in administration, research or policy making.

Areas of Career Preparation

The Ph.D. sequence prepares students for scholarly, administrative, and policy leadership careers, while the M.A. program is designed primarily for entry- and mid-level positions. The graduate concentrations are designed to enhance students' overall understanding of higher education as a field of study and professional practice and to facilitate their development of specialized expertise. Graduates typically plan careers in one of three general areas:

College and university administration: Administrative responsibilities in public and private four-year colleges and universities as well as community colleges.

Professorships and research careers: Faculty and research positions in higher, postsecondary, and related research organizations or agencies.

Public policy in higher and postsecondary education: Administrative and research positions in institutions; national, regional, or state government; systems offices; professional organizations and associations; consortia; regional and coordinating bodies; and accrediting agencies.

Graduates typically enter administrative positions in universities, liberal arts colleges, community colleges, and state or national public policy agencies. An increasing number are accepting positions in research or as university professors in higher and postsecondary education. Still others assume a wide variety of leadership roles in colleges and universities, in the professions, and in business, foundations, and government organizations.

CSHPE Degree Requirements: Doctoral

The Ph.D. program is designed for individuals primarily interested in a scholarly emphasis within the field of higher and postsecondary education.

Areas of Inquiry and Doctoral Concentrations

Four intellectual foci reflect the faculty's scholarly interests and expertise and serve as the basis for certain core requirements as well as for advanced concentration options in higher and postsecondary education. Ph.D. concentrations are available in the following four areas:

Academic Affairs and Student Development encompasses research on academic programs and curriculum; student learning, development, and change; teaching and research processes; student access, adjustment, and achievement in higher education; college and university faculty; and administrative academic leadership.

Organizational Behavior and Management is comprised of scholarship on the organizational structures and dynamics of higher education administration, governance, leadership, planning, and resource allocation, including budgeting, institutional research, and policy analysis.

Public Policy includes studies of the social, economic, and political factors that affect postsecondary institutions, particularly the impact of local, state, and federal policies on students, faculty, and other constituencies.

Research, Evaluation, and Assessment focuses on institutional research, educational evaluation, program review, and the assessment of teaching and learning.

In addition to these four areas, students may propose an *Individually Designed Concentration* within the bounds of CSHPE faculty expertise.

Students with a scholarly interest in community colleges are encouraged to take the Ph.D. in one of the four concentration areas and to focus on community college issues in their research.

Core Requirements

661 History and Philosophy of Postsecondary Education
662 Proseminar in Higher Education

Concentration Requirements

Typically, Ph.D. students complete at least 12 hours of concentration course work. The following advanced courses have been particularly useful to students preparing for dissertations and careers related to each of the concentration areas. The core and foundation courses are prerequisites for most concentration courses. However, with permission of an adviser, some of these courses may be counted toward fulfillment of the concentration requirement. In consultation with their advisers, students should select courses from the following lists:

Academic Affairs and Student Development

762 Curriculum in Postsecondary Education (prerequisite for Academic Affairs and Student Development concentration)
860 Technology in Higher Education
861 Human Resource Development in Postsecondary Education
862 Community College Governance and Administration
863 Planning, Analysis, and Institutional Research
864 The American College Student
865 Evaluation and Assessment in Postsecondary Education
866 The College and University Professor
867 Current Topics in Postsecondary Instruction
868 Philosophy of Academic Leadership
873 Race, Ethnicity, and Gender in Higher Education
874 Law and Higher Education
878 Professional Education in Colleges and Universities

Organizational Behavior and Management

761 Postsecondary Institutions as Complex Organizations (prerequisite for Organizational Behavior and Management concentration)
763 Financial Management and Strategy in Postsecondary Education (prerequisite for Organizational Behavior and Management concentration)
860 Technology in Higher Education
861 Human Resource Development in Postsecondary Education
862 Community College Governance and Administration
863 Planning, Analysis, and Institutional Research
865 Evaluation and Assessment in Postsecondary Education
868 Philosophy of Academic Leadership
873 Race, Ethnicity, and Gender in Higher Education
874 Law and Higher Education
875 Managing Change and Quality in Higher Education Institutions
879 Capital Financing, Asset Management, and Fund Raising in Higher Education
880 Case Studies in Higher Education Management

Public Policy

764 Public Policy in Postsecondary Education (prerequisite for Public Policy concentration)
860 Technology in Higher Education
863 Planning, Analysis, and Institutional Research
870 International and Comparative Higher and Continuing Education
871 National Economic and Financial Issues in Postsecondary Education
872 State Government and Higher Education
873 Race, Ethnicity, and Gender in Higher Education
874 Law and Higher Education
881 Public Policy Research and Analysis in Postsecondary Education

Research, Evaluation, and Assessment

860 Technology in Higher Education
863 Planning, Analysis, and Institutional Research
864 The American College Student
865 Evaluation and Assessment in Postsecondary Education
866 The College and University Professor
867 Current Topics in Postsecondary Instruction
873 Race, Ethnicity, and Gender in Higher Education
875 Managing Change and Quality in Higher Education Institutions
881 Public Policy Research and Analysis in Postsecondary Education

Individually Designed Concentration

Doctoral students who desire an alternative to the four established concentration areas may propose an Individually Designed Concentration by preparing a formal request within one year of initial enrollment. The request should include a description of the proposed concentration, a rationale statement, and a proposed course sequence. The Individually Designed Concentration should combine work in CSHPE with work in other departments equivalent to the regular CSHPE core and research requirements. The cognate sequences must constitute a coherent set of courses, seminars, or independent study projects. Similarly the research practicum (Ph.D.), comprehensive qualifying examination, and dissertation must focus on topics or experiences related to the proposed concentration. The formal request must be approved by the student's adviser and the CSHPE director.

Program Research Preparation Requirement

Students who receive advanced degrees in higher education should have a broad understanding of research approaches and methods and their applications in higher education. The overall goal is to develop the competence required of scholars in their particular areas of inquiry. Typically, students will fulfill the research requirement as follows:

Statistics (two graduate-level courses): Course work in experimental and non-experimental design and multivariate techniques constitutes part of the base requirement. The EDUC 793 and 795 course sequence is strongly recommended, as it is designed specifically to develop expertise with statistical techniques commonly used in educational research. However, other equivalent courses may be substituted. A list of University of Michigan graduate statistics courses that are offered in other departments and may be taken to meet this requirement is available in the *CSHPE Handbook*.

Qualitative Methods (one graduate-level course): Courses that familiarize students with qualitative approaches to research are offered by faculty in the School of Education, by various academic departments on campus, and by the Institute for Social Research. EDUC 794 Qualitative Methods provides an overview of qualitative research in education, whereas other courses focus on qualitative studies in the social sciences or history.

Dissertation-Related Research Methods Course (at least one graduate-level course): Students are required to take at least one graduate course on methods of inquiry or statistics that is related to their area of concentration and/or dissertation research. *NOTE*: Students concentrating in Research Evaluation and Assessment are required to take a second methods course related to their area of interest.

Research Design in Higher and Continuing Education (EDUC 765): This course is designed specifically for doctoral students in higher education. Students examine and critique different approaches to research that predominate within the field, and ultimately they design a study that may be used as their practicum or as part of their dissertation research. This course is a capstone of sorts, and faculty recommend that students take it after they have completed their CSHPE core and concentration requirements and a significant portion of their statistics and methods course work.

Research Practicum (EDUC 767): Before they are admitted to candidacy and undertake their dissertation projects, doctoral students must demonstrate their ability to design and conduct research. This involves participation in scholarly activity that typically culminates in a published research article or a refereed research paper that is presented at a professional conference. The project may be an independent study conducted with faculty supervision or a part of a faculty member's ongoing research for which the student assumes primary responsibility. In the case of articles or presentations prepared jointly with faculty or other students, the student's role is expected to be that of an equal co-author. The practicum provides both an opportunity to directly experience the research process prior to the dissertation and a chance to gain entrance to professional networks that are important to students' career development. Students can submit for faculty review single-authored higher education-related research that was completed prior to enrollment, and a waiver of the practicum requirement may be given based on this review.

Cognates

Many of the issues pursued by higher education researchers are important to scholars in other disciplines and professional fields as well. For example, higher education researchers share interests in organizational climate, decision-making processes, political power, individual development, learning, and leadership with their colleagues in psychology, sociology, economics, and public policy, to name but a few areas of common interest. Consequently, the theoretical frameworks and research methods used to examine issues are often shared or transported across disciplinary lines. And frequently, elements of different theories are synthesized to create interdisciplinary frameworks and models that are more appropriate to the phenomenon of interest. For these reasons, cognate courses are required and should be chosen to develop conceptual knowledge and perspectives.

Students derive the most benefit from course work in one or two closely-related disciplines or fields that share

some common theoretical base and methods of inquiry. Although courses from a previous master's degree program may be used to fulfill the cognate requirement, students usually find it is advantageous to do additional cognate work that is related to their current programs of study and their proposed research areas. *NOTE:* Students in the Research Evaluation and Assessment concentration may elect to take one of the two required advanced research courses as part of their cognate requirement, as long as the course is offered by a unit other than the School of Education.

Comprehensive Qualifying Examination

EDUC 899 Comprehensive Qualifying Examination (CQE), is taken after students complete at least 36 hours of course work that includes all core and concentration courses and three of the research courses (EDUC 765, 793, and 795). Typically, students wait until they have finished their cognate requirements as well, and often they do not take the CQE until they have completed all requirements except the dissertation.

Working with a faculty reading committee, students formulate a question that focuses on a current issue or problem in higher and postsecondary education. The question builds on the students' course work and related experience and provides an opportunity to (a) demonstrate a broad knowledge of higher and postsecondary education; (b) examine an important issue or problem in the field that is related to their areas of expertise and interest; (c) critique, analyze, and synthesize related literature; and (d) develop new conceptual perspectives on the focal topic of the examination.

The CQE question is prepared by students during the semester immediately preceding the one in which they write their responses. The response is a 50-75 page paper that is completed independently within an eight-week period. Students register for three hours of EDUC 899 during the term they write their papers but only after their questions are approved by the faculty readers.

Dissertation (At least one term of candidacy enrollment)

A Ph.D. dissertation is expected to address a research question that has theoretical and conceptual significance and adds to the body of knowledge about higher education. The dissertation should reflect an understanding of related theory, research design, analytic methodology, and the practical significance of the topic studies. Intensive case study, comparative research, or evaluative design as well as theoretical research studies are appropriate.

CSHPE Degree Requirements: Master of Arts

A Master of Arts in higher and postsecondary education is offered as preparation for entry- or mid-level positions in colleges and universities, professional associations, and various government and non-government agencies concerned with higher education policy. Graduates of the master's degree program are expected to have a broad understanding of the field of higher education and specialized knowledge and experience in a selected area of practice.

A distinct feature of the Center's master's degree program is the interaction among students with different professional backgrounds, interests, and career goals. Master's students enroll in many common courses and, as they work together on assignments and discuss issues in and out of class, they come to appreciate and understand the multiple frames of reference that may be brought to bear on higher education decision-making. At the time of graduation, students typically find they are prepared to assume key roles within higher education administrative units such as student affairs, financial aid, development, community relations, etc. However, they also welcome the challenge of new roles that bridge established administrative and practice areas such as residence life and academic affairs or institutional research and student affairs.

Concentration Areas and Program Goals

Students work with their faculty advisers to formalize their professional interests and to create programs of study that are relevant to their career goals. The curriculum is structured to provide individuals with a general understanding of higher education as a field of practice and inquiry as well as with specialized expertise in four general areas:

Student Development, Support, and Academic Affairs: for individuals preparing for positions in academic and student affairs who must understand students' social, psychological, and academic development as well as the various forms of social, economic, and academic support provided by campuses to enhance student growth and achievement.

Public Policy in Postsecondary Education: for students interested in gaining professional positions in organizations concerned with higher education policy issues, such as state or federal government agencies, professional associations, or specialized offices within colleges and universities.

Higher Education: for those interested in a comprehensive understanding of the field or in exploring the field as an area of scholarly inquiry.

The faculty believe that graduates of the master's program, whatever their eventual specialization, should be knowledgeable about different aspects of higher education as a field of practice and inquiry. Students also should have opportunities to exchange views with fellow students who are pursuing a variety of professional interests and careers. Hence, the course requirements are designed to provide a general introduction to the field, knowledge of theories that underlie different areas of practice, and opportunities to reflect on issues that predominate within and across these areas.

Through their core requirement course work, all students in the master's degree program become acquainted with historical events in the evolution of US higher education, persistent issues in the field, organizational structures and functional areas within colleges and universities, and the psychosocial development of students. Through their concentration requirements, they develop specialized expertise within higher education, and through their cognate requirements, they develop expertise in related disciplines and fields. Since decision-making within and outside postsecondary institutions is increasingly supported with data, students are expected to develop through the research requirement an understanding of basic statistics and design issues that should be taken into account by researchers as well as those who interpret and use the data. Through the administrative practicum, course work is supplemented with ongoing career-relevant practice that students analyze and critique based on their knowledge of higher education and related fields.

Core Requirements

561 Introduction to Higher Education
662 Psychological Bases of Postsecondary Education

Concentration Requirements

The following lists identify advanced courses that have been particularly useful to students preparing for careers related to student development, support, and academic affairs; public policy in postsecondary education; community college administration; and those seeking a general understanding of higher education as a field. In consultation with their advisers, students should select from these recommended courses.

Student Development, Support, and Academic Affairs

563 The Community College
665 Management of Student Affairs and Support Services
670 Financial Management in Nonprofit Organizations
761 Postsecondary Institutions as Complex Organizations
762 Curriculum in Postsecondary Education
764 Public Policy in Postsecondary Education

860 Technology in Higher Education
861 Human Resource Development in Postsecondary Education
863 Planning, Analysis, and Institutional Research
864 The American College Student
865 Evaluation and Assessment in Postsecondary Education
866 The College and University Professor
868 Philosophy of Academic Leadership
870 International and Comparative Higher and Continuing Education
873 Race, Ethnicity, and Gender in Higher Education
874 Law and Higher Education
878 Professional Education in Colleges and Universities

Public Policy in Postsecondary Education

761 Postsecondary Institutions as Complex Organizations
762 Curriculum in Postsecondary Education
764 Public Policy in Postsecondary Education
860 Technology in Higher Education
863 Planning, Analysis, and Institutional Research
865 Evaluation and Assessment in Postsecondary Education
871 National Economic and Financial Issues in Postsecondary Education
872 State Government and Higher Education
874 Law and Higher Education
881 Public Policy Research and Analysis in Postsecondary Education

Higher Education

563 The Community College
665 Management of Student Affairs and Support Services
670 Financial Management in Nonprofit Organizations
761 Postsecondary Institutions as Complex Organizations
762 Curriculum in Postsecondary Education
763 Financial Management and Strategy in Postsecondary Education
764 Public Policy in Postsecondary Education
860 Technology in Higher Education
861 Human Resource Development in Postsecondary Education
862 Community College Governance and Administration
863 Planning, Analysis, and Institutional Research
864 The American College Student
865 Evaluation and Assessment in Postsecondary Education
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868 Philosophy of Academic Leadership
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872 State Government and Higher Education
873 Race, Ethnicity and Gender in Higher Education
874 Law and Higher Education
875 Managing Change and Quality in Higher Education Institutions
878 Professional Education in Colleges and Universities
879 Capital Financing, Asset Management, and Fund Raising in Higher Education
880 Case Studies in Higher Education Management
881 Public Policy Research and Analysis in Postsecondary Education

Cognates

Many of the issues pursued by higher education researchers are important to scholars in other disciplines and professional fields as well. For example, higher education researchers share interests in organizational climate, decision-making processes, political power, individual development, learning, and leadership with their colleagues in psychology, sociology, economics, and public policy, to mane but a few areas of common interest. Consequently, the theoretical frameworks and research methods used to examine issues are often shared or transported across disciplinary lines. Frequently, elements of different theories are synthesized to create interdisciplinary frameworks and models that are more appropriate to the phenomenon of interest. For these reasons, cognate courses are required and should be chosen to develop conceptual knowledge and perspectives.

Students derive the most benefit from course work in one or two closely related disciplines or fields that share some common theoretical base and methods of inquiry.

Research Preparation Requirement

Students in the master's program are expected to develop an understanding of research approaches and methods and their application in higher education with the overall goal of developing the capacity to critically review professional literature and to interpret the results of inquiries that utilize a variety of research methods.

Typically, students enroll in EDUC 695, which is designed specifically for master's students and provides an overview of research methods used in educational inquiries. However, EDUC 793 is required of public policy students and may be substituted for EDUC 695 by any student who desires more intensive statistical preparation.

Administrative Practicum

Students are encouraged to be involved in professional practice that is related to their career goals throughout their programs of study. EDUC 777 is a special seminar designed for master's students that provides an environment in which they reflect upon their contemporary experiences and consider the implications for their field of practice as well as their own professional development and careers. Students typically begin work as soon as they arrive on campus in the fall term. However, they enroll in EDUC 777 during the winter term of their first year, after a period of adjustment during which they settle into their positions and begin to take on assignments.



The Combined Program in
Education and Psychology

The Combined Program in Education and Psychology offers a Ph.D. focused on development, learning, and motivation in school contexts. Faculty and students conduct research in school settings that describes development and learning and improves learning through instructional interventions. This research includes studies of effective instruction, classroom and school organizations, learning and cognitive development, motivation, and socio-emotional development. In the content areas, learning and instruction in literacy, mathematics, and science are of interest. Since the program is an independent, interdepartmental unit, students have a unique opportunity to work with faculty members in both the LSA Psychology Department and the School of Education.

Areas of Career Preparation

The doctoral degree sequence is designed to prepare students for careers in research and teaching in academic and nonacademic settings. These include:

Professorships: faculty and research positions in a college or university setting.

Research careers: research positions in organizations and agencies concerned with educational and psychological problems, or positions coordinating research in public school districts.

Government service: positions with governmental agencies that fund research projects or supervise their implementation.

Degree Requirements

All students take a common set of courses in the Combined Program in Education and Psychology. These include a two-semester seminar that introduces students to the faculty of the School of Education and the Psychology Department, an advanced issues seminar in educational psychology, an informal set of meetings on professional socialization in the field, and three courses in statistics and research methods. In addition, students must take two to three core courses in both education and psychology. Education courses focus on the psychological foundations of education, including a) cognition and instruction; b) learning, thinking, and problem solving; c) motivation in classrooms; d) human development and schooling; e) social psychology; and f) models of teaching and instruction. Psychology courses include an introductory seminar and two courses selected from a designated list of courses in the developmental, social, organizational, personality, cognitive/perception, and biological/comparative areas. Students also take additional courses tailored to their own interests and needs. Course listings, with numbers, prerequisites, and descriptions, are in this publication, the LSA *Bulletin*, and on the web.

Students must complete three additional major requirements: All students do a first-year research project, supervised by a program faculty member; as a prerequisite to doctoral candidacy students complete two candidacy papers focused on their area of interest/expertise; and after advancing to doctoral candidacy all students must complete a scholarly research dissertation.

Application Information

Applications for the fall term should be submitted by January 1. Potential students should have undergraduate training in both psychology and education and preferably will have majored in one. Some research and/or teaching experience is recommended. Detailed information about the program, requirements, and application procedures are available from:

Combined Program in Education and Psychology
1406 School of Education Bldg.
610 East University Ave.
Ann Arbor, MI 48109-1259
Phone: (734) 647-0626
Fax: (734) 615-2164
Internet: www.soe.umich.edu/admissions/graduate/cpep
Email: cpep@umich.edu

The Joint Ph.D. Program in
English and Education

The Joint Ph.D. Program in English and Education (JPEE) prepares students with prior teaching experience to assume significant professional roles in English education as scholar-teachers and as leaders in the field. Research traditions and methods appropriate to study in the discipline of English are emphasized, as well as those customarily followed in the study of educational issues. JPEE is interdisciplinary; students typically take a broad range of courses, some outside the fields of English and education. Many JPEE students focus their course work on issues of literacy as these are raised by the study of literature or language, various theories and pedagogies, reading and writing, or by the study of the social and psychological processes involved in uses of literacy.

Areas of Career Preparation

Traditionally, graduates of the program have obtained positions in university English or education departments. Recently, graduates have been hired to play important roles in writing programs and in teacher preparation programs; some have found supervisory positions in school districts, non-teaching positions in government, or positions as researchers-writers with consulting firms. Applicants may request a list of placements.

Admission Criteria

An applicant must present an undergraduate record demonstrating broad preparation in English or in areas appropriate to the degree program, with a grade point average indicating the abilities and habits necessary to achieve a strong record of graduate study at the U-M. Applicants also need a master's degree in English or education. Detailed admission information is available from the program office.

Doctoral Degree Requirements

Courses: Students are required to take a minimum of four to six graduate courses in English and a like number in education. The interdisciplinary nature of the Joint Program in English and Education provides for flexibility in course selection and specialization. Approximately 36 hours are required beyond the master's degree.

Foreign Language Requirement: Students must attain advanced competence in one foreign language, or basic competence in two, the study of which will meet the student's educational and professional goals. Students are encouraged to fulfill the language requirement as early as possible after enrollment in order to gain its maximum educational benefit.

Examinations: Students take three major examinations — two before candidacy and one during the dissertation stage. The first, a special topic paper, requires original work as well as demonstration of competence in an area of inquiry. The second, a theorization of learning, provides an opportunity for students to synthesize their interdisciplinary work. The third is the prospectus for the dissertation.

Program Information

Research Opportunities: Possibilities for research assistantships vary according to program availability and student expertise. They may include research with the Center for Research on Learning and Teaching or work on other faculty research projects.

Support: Every student accepted into the program receives a graduate teaching assistantship, which includes health benefits, tuition remission, and a stipend. Teaching assistantships for program students may be in the English Department's Composition Program or the School of Education. Some students receive fellowships that do not require teaching.

Detailed information about the program, requirements, and application procedures are available from:

Joint Program in English and Education
2014 School of Education Bldg.
610 East University Ave.
Ann Arbor, MI 48109-1259
Phone: (734) 763-6643
Internet: www.soe.umich.edu/admissions/graduate/jpee
Email: jpee-info@umich.edu

Master of Arts with

Certification (MAC) - Elementary

Overview of the Program

The Master of Arts with Certification-Elementary Program (ELMAC) is designed for individuals who have previously earned bachelor's degrees and who want to change careers and become elementary teachers. Through this intensive program of academic courses and supported fieldwork, students earn Michigan elementary teacher certification (K-5 with optional 6-8 endorsements in major and minor areas) and a Master of Arts degree in a 12-month, 4-term period.

The ELMAC program is an intensive, full-time program that begins in late June and runs through June of the following year. Students take a full course load in Summer, Fall, Winter, and Spring terms while also participating in fieldwork in elementary schools throughout the school year. Applicants who are accepted into the ELMAC program have experiences working with children, strong academic backgrounds, and firm commitments to their professional development as educators. Due to the high demands of the program, ELMAC students are usually not employed in outside part- or full-time work during the program.

Structure

Cohorts: The MAC program utilizes cohorts, with the aim of developing a sense of community among the students in the program. Groups, or cohorts, of approximately 25 students work closely with each other and with cohort faculty. While the required course work is the same in each cohort, the cohorts differ in a number of ways—the composition of their faculty, the location of their field and student teaching placements, and the sequence of the required course work. Program faculty make cohort placement decisions, with attention paid to creating and promoting diversity of experiences and backgrounds within each cohort.

Field Work: Students regularly work with children in school classrooms in their field placements. ELMAC students work with children in elementary schools with urban and/or working-class characteristics. In these school districts, students, working in the company of experienced cooperating teachers, learn to teach children from a range of social, cultural, economic, and linguistic backgrounds. As they learn more about educational theories and practices, ELMAC students gradually take on more and more responsibility for teaching, culminating in a full-time lead teaching period of three to four weeks. During lead teaching students are responsible for planning and teaching in all subject matter areas.

Course Work*.:* ELMAC students take methods courses in the major subject areas, foundation courses, student teaching and related seminars, and two cognate courses. The cognates and curriculum and research courses are required for the Masters degree; all other courses are required for certification. All ELMAC students take the following courses:

401 Developmental Reading and Writing Instruction in the Elementary School (3)
403 Individualizing Reading and Writing Instruction in Elementary Classrooms (3)
431 Teaching of the Social Studies in the Elementary School (3)
510 Teaching and Learning (3)
518 Workshop on Teaching Mathematics (3)
528 Workshop of the Teaching of Science (3)
604 The School Curriculum (3)
649 Foundational Perspectives on Educational Reform (3)
650 Reflective Teaching Field Experience (3)
695 Research and Educational Practice (3)

Two cognate courses (3 credits each)

For most students, the summer cognate course is MATH 485: Mathematics for Elementary School Teachers

Academic Majors, Minors and Cognates

The State of Michigan requires that each teacher candidate have no less than one academic major and minor or two majors. A large array of major and minor possibilities, falling within State of Michigan certification rules, are possible, and applicants will consult on major/minor possibilities in the course of the application/admission process. In addition, students must complete general studies requirements in the areas of creative arts, humanities, mathematics, natural sciences, and social sciences. For more information about these requirement, please see the *Teacher Education: Elementary Program* section later in the *Bulletin*. Due to the intensive nature of the ELMAC program, students should complete required major and/or minor and/or general studies courses prior to the ELMAC year. However, it may be possible to complete one course for the major or minor by taking it as a cognate course in the fall term of the program. Candidates must plan with advisors to make sure that all course work requirements can be met.

In addition to School of Education and ELMAC program requirements, all Rackham master's students are required to elect and successfully complete two cognate courses. A cognate is defined as a graduate level course offered outside the School of Education. Cognate courses give ELMAC students an opportunity to interact with students and faculty from other units throughout the university and to share what they learn with members of their ELMAC group. Most ELMAC students take Math 485: Mathematics for Elementary School Teachers for their summer cognate course and choose another course for their fall cognate.

Professional Preparation

ELMAC students develop the professional and personal knowledge, dispositions, and skills to be teachers who engage diverse children in thoughtful subject matter learning. Further they become teachers who engage with colleagues in the critical examination of their work in schools and of the role of schools in society; teachers who work towards positive change in schools and classrooms. Through course work and a range of field experiences, ELMAC students develop the reflective tools to think deeply about and improve their own teaching practices, to learn in the company of colleagues, and to work to improve the education of all children.

The purpose of fieldwork being included throughout students' time in the program is to provide students with an opportunity to inquire into a range of questions about teaching and learning and about the contexts of schools as they begin to build a teaching practice in the company of experienced colleagues. Three to seven ELMAC students are placed with cooperating teachers in each school in which the program works. Students are supported by field instructors and cooperating teachers who regularly offer them feedback on their developing practices and encourage them to inquire into the variety of ways to meet the needs of a broad range of learners.

The Year at a Glance

It is important to note that the ELMAC program does not generally follow the U-M calendar: in Summer and Fall terms ELMAC classes begin earlier than the University calendar indicates and, in Spring term, ELMAC classes end earlier than does the University calendar. However, the U-M calendar is followed with regard to scheduled breaks and holidays.

Students begin the program during the final week of June with an orientation day and then take a full load of three courses for the summer term. Beginning in late August, students meet with their assigned cooperating teachers prior to the start of school and assist them with preparations for the school year. Students begin their fall term of pre-student teaching on the first day that teachers return to school work several days a week in one classroom through December. In addition to fieldwork and seminar sessions, they also take two education courses and a cognate course on campus during the fall term.

The winter term begins with the month of January spent in course work on campus. The course hours for the three winter classes are concentrated in January and then completed in weekly sessions throughout February and March. Students return to the field every morning and all day on Tuesdays and Thursdays in February and March.

During this time they gradually take on more responsibility for planning and teaching. In April, all winter term course work is finished and students "lead teach" in their field placement classrooms for the entire month. Working in consultation with their cooperating teachers, they plan and teach in all subject matter areas during this lead teaching time. During the spring term, students complete their fieldwork during the mornings and take two more courses to complete their program. ELMAC students finish their master's degree and certification program in mid-June.

Teacher Certification

The State of Michigan allows teachers with elementary certification to teach in self-contained classrooms in grades K-8. Those with elementary certification may also teach in their academic major or minor in grades 6-8 if they take, and pass, the state-required subject area tests. Students who successfully complete the ELMAC program are recommended to the State of Michigan for a provisional teaching certificate. This certificate is valid for a period of six years.

For additional information, please see the *Legal Requirements for Teaching in Michigan* section found later in the *Bulletin*.

Master of Arts with
Certification (MAC) - Secondary

Overview of the Program

A major goal of the MAC program is to help individuals develop as thoughtful, critical, reflective, inquiring educators who are prepared both to teach in schools as they currently exist and to be agents of change for schools as they might be. An integral part of the MAC program is gaining a deeper understanding of what it means to be an effective teacher by reflecting on one's practice as an educator and learner. MAC students are encouraged to think about their goals, values, beliefs, and assumptions about education as a foundation for exploring the craft of teaching. Students are also encouraged to think about schools in their broader social, cultural, political, and historical contexts. Students participate in experiences that are crafted to facilitate their development as confident, effective teachers who will be able to meet the challenges facing today's educators and initiate needed changes in public schools and classrooms. The program addresses both the barriers to school change and the prospects for meaningful reform.

Structure

Cohorts: The MAC program utilizes cohorts, with the aim of developing a sense of community among the students in the program. Groups, or cohorts, of approximately 25 students work closely with each other and with cohort faculty. While the course work requirements are the same for each cohort, the cohorts differ in a number of ways—the composition of their faculty, the location of their field and student teaching placements, the sequence in which they take the required course work and the ways the faculty implement the curriculum. Cohort placement decisions are made with the idea of promoting diversity by including students with a wide variety of backgrounds and experiences.

Field Experience: Program-long involvement with, and experiences in, schools is central to the program and its curriculum. MAC students are placed in a variety of schools and school districts throughout southeastern Michigan. These sites afford students the opportunity to work with youth from different racial backgrounds (e.g.,

some schools have predominantly one racial group whereas others are more diverse) and from a range of socioeconomic backgrounds (e.g., working class to affluent).

Faculty in the MAC program make field placement decisions. Placements are determined by a number of factors: teaching interests, the academic major in which a student is seeking certification, and the availability and location of mentors in particular teaching majors. For those students interested in an urban experience, the MAC B cohort offers an opportunity to teach in the Detroit Public Schools. **If you are interested in teaching in an urban setting, please indicate it in your program application.**

Course work: Over the course of twelve months, MAC students take a number of courses in the School of Education, all of which are required for the master's degree and/or teacher certification. These courses are:

402 Reading and Writing in Content Areas (3)
490 Topics in Professional Education (3)
504 Teaching with Technology (3)
606 Developmental and Psychological Perspectives on Education (3)
649 Foundational Perspectives on Educational Reform (3)
650 Reflective Teaching Field Experience (12)
655 Directed Research in Educational Studies (1-3)
695 Research and Educational Practice (3)

Plus one of the following methodology courses:

413 Teaching Secondary School Mathematics (3)
422 Teaching Science in the Secondary School (3)
432 Teaching Secondary Social Studies (3)
440 Teaching of English (3)
D431 German Teaching Methods (3)
D455 Teaching Spanish/Application of Linguistics (3)
D456 Teaching French/Application of Linguistics (3)

Academic Majors, Minors and Cognates

To be certified by the State of Michigan, secondary teachers are required to have a major and a minor or two majors. Students in the MAC program can choose from the majors and minors indicated in the box to the right.

In addition to the courses required by the School of Education, all Rackham master's degree-seeking students, which includes students in the MAC program, are required to elect and successfully complete two cognate courses. A cognate is defined as a graduate level course offered outside the School of Education. Cognate courses give MAC students an opportunity to interact with students and faculty from other units throughout the university. MAC students typically choose courses that meet both the cognate requirements and any major/minor or distribution courses requirements they may need to complete.

Academic Majors	Academic Minors
Biology	Anthropology
Chemistry	Biology
Earth Science	Chemistry
Economics	Computer Science
English	Earth Science
Environmental Studies	Economics
French	English
Integrated Science*	French
German	German
History	History
Latin	Latin
Mathematics	Mathematics
Physics	Physics
Political Science	Political Science
Psychology**	Psychology
Social Studies	Russian
Sociology**	Social Studies
Spanish	Sociology
	Spanish

* Must elect a specific area of science as minor

** May be elected as 2nd majors only

Professional Preparation

An important feature of the 12-month MAC program is allowing program faculty to integrate most of the School's required courses into a series of interconnected topics. Rather than taking education courses during a single term, the content of these courses is taught across several terms. It permits the faculty to transcend traditional term time constraints and teach topics when they are most beneficial to MAC students.

The program is also designed so students are able to make strong connections between theory and practice. Issues related to curriculum, instruction, assessment, classroom management, philosophy, psychology, history, and the social context of education are interwoven throughout the program and connections are made between the students' day-to-day experiences in schools and assigned readings, discussions, projects, and assignments. School and classroom issues are discussed as they arise, and faculty members offer various perspectives for understanding these issues and their relation to current educational research and practice. Continuous attention is paid to studying the adult and youth cultures in a variety of schools throughout southeastern Michigan with an eye to understanding the various factors that shape teaching and learning.

The Year at a Glance

The MAC program is a twelve-month program covering four terms. Its curriculum is intensive, and students are expected to complete 40 credits to earn both a master's degree and teacher certification. It is important to note that the MAC program does not generally follow the University of Michigan calendar - in Summer and Fall terms MAC classes begin earlier than the University calendar indicates and, in Spring term, MAC classes end earlier than does the University calendar.

Summer Term (June – August)

The term begins with orientation and moves quickly into a very busy class schedule. MAC students participate in two courses during the summer term. The first is a seminar-like course that typically meets four afternoons a week. The topics of this course are designed to build a foundation that will permit students to be successful throughout the rest of the program. Students examine the broader social, cultural, political, and historical contexts of education. The second course, EDUC 504, Teaching with Technology, is devoted to exploring and applying technology in educational contexts. MAC students participate in this course once a week usually on Friday. MAC students also participate in a summer externship several mornings a week. The externship allows students to learn about important issues in a less structured setting. The summer term is intense in nature and students are strongly discouraged from any type of summer employment.

Fall Term (September – December)

The fall term is the beginning of the field placement experience and begins with the schedules of the school districts in which MAC students are placed. This generally means MAC students begin ay least one week before other students enrolled at the University of Michigan. Students spend two full days a week observing and participating in their mentor teachers' classrooms. In addition to working with their mentors, students also visit other school districts in the region. On the same days students are in the field, they attend university courses in the late afternoon/early evening. Once again, the topics for the classes may be drawn from a number of courses, such as EDUC 402, EDUC 490, EDUC 606, EDUC 649, and EDUC 695. On the remaining days of the week, students are enrolled in content-specific methodology courses, EDUC 504, and their two cognate courses. During the fall term students enroll for 18 credits.

Winter Term (January–April)

Beginning sometime in January, students in the MAC program are fully immersed in their student teaching, taking on the schedule of the mentor teacher they worked with throughout the fall term, meaning students are usually in schools all day five days a week. There are also two late afternoon classes during the week. Just as in the summer and fall, the content of the courses is integrated. During the winter term students enroll for 18 credits.

Spring Term (May-June)

Because of the integrated nature of the program and the increased number of courses in the summer, fall, and winter terms, Spring term is abbreviated. While student teaching continues until the end of the public school calendar, all other course work is concluded by the end of May. The only course that is taken during the spring term is EDUC 655, Directed Research in Educational Studies, which ranges from one to three credits.

Teacher Certification

The State of Michigan allows teachers with secondary certification to teach in their major or minor in grades 7-12. Students who successfully complete the MAC program are recommended to the State of Michigan for a provisional teaching certificate. That certificate is valid for a period of six years.

For additional information, please see the *Legal Requirements for Teaching in Michigan* section found later in the *Bulletin*.



Academic Policies and Procedures

Graduate Application Procedures

Students pursuing master's or doctoral degrees in education enroll in the Horace H. Rackham School of Graduate Studies with a specialization in education. The *Application Form for Rackham School of Graduate Studies* may be obtained online at <www.rackham.umich.edu/Admis/> or from the Office of Student Services.

Graduate admission applicants should contact their program of interest in the School of Education directly to obtain complete information about program requirements. Prospective students also are encouraged to visit the School of Education to discuss their educational plans and career goals with program faculty members and staff.

Application Forms

Applicants to the School of Education must complete the *Application Form for Rackham School of Graduate Studies*. Please refer to the **Application Checklist** for specific instructions of where to send your application.

Application Checklist

This checklist is designed to assist you in completing your application for admission to a graduate program. The following materials must be submitted to the Rackham Graduate School Admissions Office:

- *Rackham* pages of the graduate application
- Admissions Conduct Code Form
- Application Fee and Payment of Application Fee Form

The following materials must be submitted to the School of Education Office of Student Services:

- Department pages of the graduate application
- Two official transcripts from each institution attended. If applying to the MAC program, three official copes are required.
- Statement of purpose
- Three letters of recommendation
- GRE scores
- Supplemental application form for CSHPE applicants
- Elementary or Secondary Course Work Evaluation for MAC applicants
- Statement and Certification of Finances for international applicants

Statement of Purpose

Special care should be taken in preparing the statement of purpose, since program admission committees consider the statement of purpose as a critical part of the application. Try to make this concise, well organized, and positive. Address your academic and career goals. The statement of purpose is to be sent to the School of Education Office of Student Services.

Transcripts

Two official transcripts are required from all previous undergraduate and graduate course work from all colleges and universities attended, including all University of Michigan and U-M extension graduate study centers. If you are applying to the MAC Program, you must submit three copies. Send transcripts to the School of Education Office of Student Services.

Graduate Record Examination

All degree applicants are required to submit the results of the General Test (verbal, quantitative, and analytical) of the Graduate Record Examination (GRE). Although current test scores are preferred, reports up to five years old will be accepted. The GRE scores are to be sent to the School of Education Office of Student Services. Register for the GRE early so your results are available by the application deadline. Results of the computerized test take approximately 10 working days to arrive. Contact:

Graduate Record Examinations
Educational Testing Service
P.O. Box 6004
Princeton, New Jersey 08541-6004
(609) 771-7670
GRE Online: www.gre.org

Letters of Recommendation

Applicants to the Educational Studies (ES) and the Center for the Study of Higher and Postsecondary Education (CSHPE) programs are required to submit three letters of recommendation in support of their admission application. Forms are provided in the application packet and are available online at <www.rackham.umich.edu/Admis/>. These recommendations are to be sent directly to the School of Education Office of Student Services.

Center for the Study of Higher and Postsecondary Education Supplemental Application

Applicants to the CSHPE program must submit the CSHPE supplemental application to the School of Education Office of Student Services. Applications are available from the School of Education Office of Student Services or online at <www.soe.umich.edu/oss/02PDF/cshpesup.pdf>.

Elementary or Secondary Course Work Evaluation

MAC applicants must submit an Elementary or Secondary Course Work Evaluation form to the School of Education Office of Student Services. Forms are available from the School of Education Office of Student Services or online at <www.soe.umich.edu/oss/02PDF/02ELCWE.pdf> (elementary) or at <www.soe.umich.edu/oss/02PDF/02SECWE.pdf> (secondary).

Statement and Certification of Finances

International applicants must submit this form to the School of Education Office of Student Services. Forms are included in the application packet for international students or are available online at: <www.rackham.umich.edu/Admis>.

Admission

Admission Deadlines

Current information about the admission deadlines when applications and ***all*** supporting documents for Educational Studies and the Center for the Study of Higher and Postsecondary Education admissions are due at the School of Education Office of Student Services is available online at <www.soe.umich.edu> or by contacting the office directly.

Types of Admission

The University of Michigan has several categories of admission status. They vary depending upon a student's academic background and educational goals. They are **Regular, Conditional and Non-Candidate for Degree (NCFD).** Detailed information is available online at: <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/admissionreadmit.html>.

Graduate Admission Process

- Applicant submits *Rackham* required pages and application fee to the Rackham Graduate School and submits *department* pages with supporting documents to the School of Education Office of Student Services (OSS), indicating specialization in School of Education.
- After processing by OSS, the Admission Committee in the program of the student's choice reviews the application and makes admission decision
- OSS sends appropriate notification to student and the Rackham Graduate School.
- Successful applicant receives admission letter from Rackham indicating term of admission and requesting response to admission offer.
- Student notifies Rackham and OSS of intent to enroll.
- Admitted student may be required to submit official transcripts for nay additional course work not yet reported.
- Admitted student enrolls for term specified in Rackham admission letter or requests consideration for enrollment in either of the two subsequent full terms.

Notification of Admission

Students are notified by mail of the status of their applications. After notification of admission from the School of Education, the Horace H. Rackham School of Graduate Studies will send an admission letter to the student. The Rackham *Bulletin* and *Handbook* are available online at <www.rackham.umich.edu/StudentInfo/Publications> and in the Rackham Admissions Office.

Admission is granted for a specific term and year. If the student does not enroll that term, admission is canceled and the application and supporting materials are placed on inactive status. Upon written request, admission may be deferred up to the following two full terms. After one full year without enrollment, a new application and fee must be submitted.

Readmission

Non-Candidate for Degree or Master's Student Only: Students in the Rackham School of Graduate Studies who have not been enrolled for a 12-month period must apply for readmission through the School of Education Office of Student Services. Acceptance is dependent upon program approval and upon availability of space and facilities for the term in which readmission is desired. Students seeking readmission and a change of field or change of degree level must adhere to regular admission deadlines and criteria and will need full program review.

Doctoral Precandidate or Candidate: Students who are precandidates must register at least one term every calendar year. Students who fail to register during a calendar year are made inactive and must apply for readmission. Students who have achieved candidacy must register for eight hours of dissertation credit in one term or four hours in a half term, once every two years. Students who fail to make this candidacy registration (995) are made inactive and must apply for readmission.

Students who become inactive have an academic hold placed on their records and are not able to register until they are readmitted. Readmission applications for precandidates or candidates are reviewed three times each year: October, February, and May. Students should refer to the written instructions outlining the necessary steps required for this process that are available in the School of Education Office of Student Services.

Change of Degree/Change of Field

Students who wish to change their degree level or their field within the Horace H. Rackham School of Graduate Studies, and who have registered as Rackham graduate students within a 12-month period, must apply for this change. Application materials are available in the School of Education Office of Student Services. Such students must adhere to regular admission deadlines and will need full program review.

Registration

Students obtain information on registration from the *University of Michigan Schedule of Classes*, which may be obtained from the School of Education Office of Student Services or by viewing the University of Michigan web site at <www.umich.edu/~regoff>. All Rackham graduate students who have not been enrolled for 12 consecutive months must apply for readmission in order to register. Students who have been on detached study do not need readmission, providing they have not been away for longer than 12 months.

Students are assigned advisers by their respective programs. Students must consult their advisers for approval of course elections. NCFD students are not assigned advisers but must have course elections approved by the program chairs.

Registration must be completed during specified registration days. Information about registration via Wolverine Access is available online at <wolverineaccess.umich.edu> and is included in the *University of Michigan Schedule of Classes,* available from the School of Education Office of Student Services. Students who do not meet registration deadlines will be required to pay a late fee and will need to make special arrangements to register.

Information on Residency Classification for Admission & Tuition Purposes

The most current information regarding residency classification, including filing deadlines, documentation that must be included, and the appeal process is available online at <www.umich.edu/~regoff/resreg.html>.

It is the student's responsibility to read the University Residency Classification Guidelines and to apply for admission and register under the proper residency classification. Students are encouraged to consult with staff in the Residency Classification Office if they have questions or need assistance.

Fees and Costs

The most current information about the costs to attend the University of Michigan are available online at <www.umich.edu/~regoff/tuitmenu.html>.

Financial Aid

The University of Michigan has various types of financial assistance available for qualified students. Students should begin in November to investigate financial aid possibilities for the following academic year. Many of the financial aid programs have application deadlines in January. Below is a list of offices in the University that can provide information about financial aid. Each listing includes a description of some of the aid available through that office.

For general financial aid information, visit the web at <www.soe.umich.edu> or contact the School of Education Office of Student Services. Students may be awarded financial assistance at the time of admission to a School of Education graduate program. Students are encouraged to begin both the admission and the financial aid consideration processes as early as possible. Students will be considered for all types of aid for which they are eligible.

Office of Financial Aid

Information about the following aid programs is available from the Office of Financial Aid. The status of federal aid programs, such as the Federal Perkins Loan, Work-Study Program, and Federal Direct Stafford Loan, is uncertain from year to year, and both the amount of aid available and ceilings for aid to individual students vary. Please see the Contact Section on how to reach the office.

Federal Perkins Loan: These loans are provided by federal funds. Interest due at the rate of five percent begins nine months after the borrower ceases to be at least a half-time student. Please contact the Office of Financial Aid for current guidelines.

Work-Study Program: This form of employment provides financial assistance through employment on campus or with certain off-campus agencies. Student wages are met by a combination of federal funds and employer contributions. Every effort is made to place students in jobs related to their skills, interests, and fields of study.

Federal Direct Stafford Loan: Complete information and instructions for application are available through the Office of Financial Aid.

Horace H. Rackham Fellowships and Recruitment Office

The Rackham Fellowships and Recruitment Office administers and has information on the following aid programs. Please see the Contact Section on how to reach the office.

Rackham Predoctoral Fellowships: These fellowships are granted to students who have been admitted to doctoral candidacy. A student may be granted such a fellowship only once. Preference is given to superior students who will move vigorously toward completion of doctoral requirements. The appointment is for two and one-half terms. The student is expected to be enrolled full-time throughout the award period. Fellowships provide full tuition plus fees, a monthly stipend, and benefits.

Application forms are available from the School of Education Office of Student Services. Applications are returned to the Office of the Dean, where they are reviewed by a School of Education faculty committee that nominates a maximum of five students to the Rackham School of Graduate Studies. Competition is University-wide.

Levi L. Barbour Scholarships: These scholarships are awarded to Oriental women of high academic and professional caliber. An Oriental is defined as a native of an Eastern country in the region extending from Turkey on the west to Japan and the Philippines on the east. Each scholarship is available only to a woman who is not a permanent resident of the United States, whose spouse is not a permanent resident of the United States, and who intends to return to her native country upon completion of her studies. The student must be in residence during the tenure of the award and must already have completed at least two full terms of graduate work at this University. Each award is for an academic year of two terms beginning with the fall term. Full tuition fees and a stipend for the academic year are provided. For application materials, contact the School of Education Office of Student Services.

School of Education Office of Student Services

The School of Education Office of Student Services has information on the award and fellowship programs described below.

School of Education Fellowships: The School of Education offers a combination of scholarship and/or assistantship financial aid to graduate students with outstanding academic records and potential. This aid is designed to attract students who are new to the degree level or new to the University of Michigan. Aid may be in the form of tuition, a stipend, an assistantship, or all three. The application to the Rackham School of Graduate Studies serves as the application for this fellowship.

School of Education Master's Degree Tuition Assistance Fellowships: Newly admitted students who are enrolled for at least six credit hours in the School of Education master's degree program (excluding MAC and NCFD students) may be awarded fellowships based on their undergraduate records and their potential for a high level of achievement in graduate studies. Students initially must be nominated by their program for the award. A maximum of $5,000 per student can be awarded over the course of the master's degree program.

School of Education Scholar's Award: The fellowships are supported by the School of Education and the Spencer Foundation and awarded to promising doctoral students whose interests are in teaching and learning and who aspire to academic careers as educational researchers. The fellowships are awarded for up to four years and provide full tuition waiver and benefits for fall and winter terms, and a combination of salary and stipend distributed over 12 months.

School of Education Scholar's Award: The awards are supported by the School of Education and the Rackham Graduate School to assist an entering doctoral student in education who is a member of one of the following ethnic minority groups: African American (Black), Native American (American Indian), Hispanics/Latinos/Latinas, Asian Americans, as well as women and men of any racial background in fields where their gender group is significantly underrepresented. The awards are for up to five years and provide full tuition waiver and benefits for fall and winter terms, and a combination of salary and stipend distributed over 12 months.

Master's Rackham/Education Scholar's Award: This award is given to assist an entering master's student in education who is a member of one of the following ethnic minority groups: African American (Black), Native American (American Indian), Hispanics/Latinos/Latinas, Asian Americans, as well as women and men of any racial background in fields where their gender group is significantly underrepresented. The award provides up to three full semesters of partial tuition, health insurance, and a monthly stipend.

Rackham Nontraditional Fellowship Program: Applicants' educational careers must have been interrupted for at least five years and meet the University's guidelines for Michigan resident tuition.

Graduate Student Assistantships: Assistantships are generally initiated by individual application. Most graduate assistantships are governed by a Graduate Employee Organization contract. Opportunities are posted in *Sigma*, a School of Education weekly publication, on School of Education bulletin boards, or in program offices.

Veterans Administration

The Veterans Administration administers medical care for veterans and their dependents as well as other benefits, including compensation, educational benefits, pension, housing quarters, and counseling. Inquiries may be sent to:

Michigan Veterans Trust Fund
Board of Trustees, Ottawa Street Building
North Tower, Third Floor
P.O. Box 30026
Lansing, Michigan 48909
www.michigan.gov/dmva

Planning Your
Graduate Degree Program

As a graduate student at the University of Michigan School of Education, you will need to be familiar with the Rackham School of Graduate Studies web site and the Rackham Student Handbook. The general web site is <www.rackham.umich.edu>.

Doctoral Degrees

Rackham Doctoral Degree Requirements

A more complete and current description of doctoral degree requirements can be found in the Rackham *Graduate Student Handbook of Policies and Procedures* available from Rackham or on the web at <www.rackham.umich.edu/StudentInfo/Publications/GSH>.

Residence. Residence comprises the minimum number of hours a student must take on the Ann Arbor campus. The Graduate School requires that doctoral students complete a minimum of 18 hours of course work on the Ann Arbor campus. These 18 hours may be elected on a part-time basis.

Professional Experience. Admission requirements for many doctoral programs include specific professional experience. Since program admission standards vary, students should contact program offices for specific details.

Transfer of Credit. Transfer of credit does not take place at the doctoral level.

Cognate Requirement. The School of Education's cognate requirement may exceed that of the Graduate School. The number of hours required varies by program area. Cognate courses are non-education graduate level courses that can be elected at the University of Michigan or another university. Students are required to submit official transcripts for courses not elected at the University of Michigan. **Education courses that are cross-listed with another U-M department or meet together can be counted for cognate credit.**

Time Limit. The Horace H. Rackham School of Graduate Studies, through which graduate degrees in education are awarded, has a policy requiring that doctoral work be completed within seven years of initial enrollment in a doctoral program. Rackham's guidelines indicate that a student should achieve candidacy within approximately four years of first enrollment and complete the degree in no more than seven years. A student may petition for additional time to complete requirements. One extension of time may be granted for a maximum of three years. A student can obtain complete information regarding the entire petition process from the School of Education Office of Student Services.

Qualifying/Preliminary Examination. Before admission to candidacy, students must pass an examination on their knowledge of special and related fields. Detailed information regarding the type of examination and dates the examination may be taken are available from each program office. A student must be enrolled during the semester in which the examination is taken.

School of Education policy allows a student two attempts to pass the examination. Changing the field or program within education does not automatically grant a student additional attempts. A student who wishes to attempt the exam a third time must petition the School of Education Graduate Affairs Committee for permission. Any request to take the exam a third time must be accompanied by a recommendation from the program and from the student's adviser. Denial of such a petition usually terminates the student's doctoral studies in the School of Education.

Candidacy. Candidacy is achieved when all required courses have been completed, the examination has been passed, and the dissertation is the only outstanding requirement to be completed. The student must notify the Office of Student Services of the term in which he or she plans to achieve candidacy; submission of a doctoral worksheet is also required. Since candidacy is achieved at the beginning of the term, notice must be given no later than one term prior to the desired candidacy term. Deadline dates for candidacy are available in the Office of Student Services or online at: <www.rackham.umich.edu/OARD/candidacydeadlines.html>. Doctoral worksheets can be obtained from the program offices or the Office of Student Services.

Rackham Fee Total (RFT) Requirements

Doctoral students enrolled in the Rackham School of Graduate Studies must accumulate a minimum number of fee credits to be recommended for candidacy and to receive the doctoral degree. Please refer to the Rackham web site at <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/doctoral.html>.

Courses that are counted toward fulfillment of specific School or program requirements, but do not appear on the Rackham transcript, do not fulfill the RFT requirement. For example, the School may count a course from a non-Rackham master's program toward meeting program requirements but not toward the RFT requirement.

Dissertation Committees

The dissertation committee is charged with supervision of a candidate's dissertation activities. The entire committee is intended to be a resource upon which the candidate can draw throughout the period of the dissertation research and writing. In searching for committee members, it is useful to seek faculty who have areas of expertise that the chairperson may not possess, who are sufficiently interested in the problem area to be investigated that they will be eager to participate as the inquiry proceeds, and who will provide support yet challenge the student to the limits of his or her ability. A packet of information about forming the dissertation committee and the necessary forms are available from the School of Education Office of Student Services.

School of Education Guidelines and Procedures

In addition to the requirements of the Rackham School of Graduate Studies, the School of Education maintains the following policies concerning dissertations and dissertation committees. Please refer to the Rackham web site at <www.rackham.umich.edu/OARD/pdf/disscommitteeguidelines.pdf>. Students should also consult their advisers regarding additional School and program requirements. Forms and specific written policies and procedures can be obtained from the School of Education Office of Student Services.

1. The dissertation committee must consist of four members. The doctoral dissertation committee shall be chaired by a regular member of the eligible graduate faculty of the School of Education who holds an academic appointment in the student's program. The School of Education Dean's Office and the chair of the student's program may jointly approve a School of Education faculty member for this role from outside the particular program recommending the degree by certifying that the proposed chairperson has special competency or expertise for the role.

2. The student must submit the School of Education's form for nomination of the dissertation committee and the form for proposal approval to the School of Education Office of Student Services.
3. When completion of the final draft is near, the student and dissertation chair will schedule a pre-oral/last data committee meeting to review the draft. The student will provide each member with a copy of the final draft at least three weeks before the meeting. At this meeting, any concerns or questions about the research, methodology, data, or presentation will be discussed and revisions (if needed) will be outlined. The committee will then meet in Executive Session to satisfy itself that the student is ready to present an oral defense and will agree specifically on what, if any, changes are to be made before the defense. If satisfied that the dissertation is ready to be defended, all dissertation committee members will sign the School of Education's internal form, **Authorization of Dissertation for Rackham Pre-Dissertation Defense Meeting and Oral Defense**, indicating that the student is ready for the Rackham Pre-Dissertation Defense Meeting and the oral defense.

Use of Human Subjects in Research

While opportunities abound for research leading to significant improvement in the quality of human life, careful attention to the responsibility for the rights and welfare of participants in this research is vital both for the participants themselves and for the University to maintain freedom to undertake responsible research involving human subjects. At the University of Michigan, the Behavioral Sciences Institutional Review Board (IRB) is charged with reviewing all planned research involving human subjects *prior to initiation of the research*. School of Education faculty and students must observe the guidelines identified by the IRB. Please refer to the following web site for detailed information, <www.irb.research.umich.edu/IRB_Behavioral/IRB_Behavioral.html>.

Master's Degrees

Through the Horace H. Rackham School of Graduate Studies, the School of Education offers two master's degrees: the Master of Arts and the Master of Science. The master's programs prepare professionals for careers that range from working with computer technology in education to training as school administrators. Through graduate study, students gain competency in combining theory and practice.

Upon formal admission to a program area, a student is assigned a faculty adviser. Students are encouraged to meet with their advisers early to plan their program of study for degree completion. Every student must comply with certain regulations and requirements of both the School of Education and the Horace H. Rackham School of Graduate Studies. The following items apply to all master's-level students.

- Undergraduate courses do not count toward fulfilling any part of the student's graduate program. Some students pursuing teacher certification and a graduate degree concurrently may elect some undergraduate courses to fulfill certification requirements. These undergraduate courses may count only toward fulfilling certification requirements.
- The School of Education's cognate course requirement may exceed that of the Graduate School. The number of hours required varies by program area. Cognate courses are graduate-level courses elected in a department outside of the School of Education (e.g., Psychology and Sociology), courses cross-listed with Education, or courses that meet together.
- A master's-level student must fulfill an on-campus residence requirement. The Graduate School requires a student to elect one-half of the required hours on the home campus.

- When appropriate, a maximum of six graduate credits may be transferred. The student may request to transfer six credit hours not previously counted toward a degree or certificate. Please see the Rackham web site regarding the transfer of credit at: <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/TransferCredit.html>.
- A student's academic record must reflect a cumulative overall grade point average of B (5.00) or better for the degree to be conferred. The grade point average is calculated on graduate-level courses elected and completed for credit that are graded with letter grades of A+ through E.
- A student must complete all work toward the master's degree within six consecutive years from the date of first enrollment in the program.
- Some specializations require a thesis. A thesis does not reduce the total hour requirement of the degree program. The thesis must be read by the student's adviser and one other program faculty. In addition, the program chair must approve the final copy. The approved thesis should be submitted to the School of Education Office of Student Services. The thesis will be forwarded to the program office.

Transfer of Credit

The Horace H. Rackham School of Graduate Studies provides for the transfer of graduate credit to master's degree programs. Credit may be transferred only if it is to be used to meet degree requirements. Credit may not be transferred for the purpose of consolidating records. The Graduate School does not allow doctoral students literally to transfer credit, although programs may count previously completed courses toward fulfilling specific requirements. Please refer to the Rackham web site at: <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/TransferCredit.html>.

Diploma Application

To be considered for the awarding of a master's degree, a student must submit a degree/diploma application to the Office of Academic Records and Dissertations, 110 Rackham, no later than four weeks after the first day of classes in the full term in which the diploma is sought. Students meeting these deadlines will be named in the commencement program and will be able to receive the diploma immediately following approval of the final degree list, usually seven or eight weeks after commencement. A degree/diploma application may be obtained from the School of Education Office of Student Services.

Students whose diploma applications are received in the Graduate School after the deadlines but before the last day of classes may still be considered for graduation that term, but their applications cannot be handled as expeditiously as those received earlier. Students filing late should therefore expect not to be named in the commencement program; they should expect that their audit of requirements will be delayed; and they should expect to receive their diplomas as late as two to three months after commencement.

Students whose diploma applications are received in the Graduate School after the last day of classes (in a full term or in the summer half-term) will not be considered for graduation that term; rather, they must wait for the next graduation.

All students should file diploma applications as early as possible in the term during which they are reasonably certain of completing degree requirements. If a student fails to complete all requirements during the term in which he or she files the diploma application, a new diploma application must be completed.

Master's students are required to submit a worksheet to the School of Education Office of Student Services during the term in which they plan to graduate. Worksheets may be obtained from the program office or the Office of Student Services.

Doctoral students will submit a diploma application at the time of their Post Dissertation Defense Meeting in the Office of Academic Records and Dissertations of the Graduate School. They do not follow the same deadlines as master's students.

Student Rights and Standards of Conduct

Students enrolled in or taking courses in the School of Education are expected to demonstrate the highest standards of personal integrity and to conduct themselves as professionals. Similarly, students should expect faculty members to be persons of integrity who apply the principles of honesty, fairness, respect, and trust that characterize the professional/academic community. Please refer to the Rackham web site at <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/PerfConduct.html>.

Academic Grievance Procedures

In order to examine questions or disagreements concerning matters of conduct, the School of Education has established Student Petition, Grievance, and Discipline Procedures. Information concerning these procedures is available in the School of Education Office of Student Services.

The grievance procedures of the Rackham Graduate School provide informal and formal address of grievances for Rackham students. Please refer to the Rackham web site at <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/APPB.html.

Doctoral and Master's Grading Procedures

Graduate students are graded by the letter grade system (A, B, C, D, E), except for designated courses. Grades of + and – may be given. Grade point average (GPA) is calculated by dividing Michigan Honor Points (MHP) by the Michigan Semester Hours (MSH). An average grade of B, or 5.00, is required to remain in good standing. Grades of D or E cannot satisfy any degree requirement of the Rackham School of Graduate Studies. Please refer to the Rackham web site at <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/registration.html>.

A student whose GPA falls below a B in a given term is placed on probation the following term. A student whose GPA falls below a B for two successive terms may, with permission of the program chairperson, be granted a final term during which the GPA must be brought up to a B. A student whose GPA falls below a B for three successive terms is required to withdraw from the University. Please refer to the Rackham web site at <www.rackham.umich.edu/StudentInfo/Publications/GSH/html/registration.html>.



Graduate Studies
Contact Information

School of Education

Office of Student Services
610 East University Avenue, Room 1033
Ann Arbor, Michigan 48109-1259
Phone: (734) 764-7563
Fax: (734) 763-1495
Internet: www.soe.umich.edu.oss
Email: ed.grad.admit@umich.edu

Educational Studies Program
610 East University Avenue, Room 1225
Ann Arbor, Michigan 48109-1259
Phone: (734) 763-9497
Fax: (734) 615-1290
Internet: www.soe.umich.edu/admissions/graduate/ma
www.soe.umich.edu/admissions/graduate/phd
Email: ed.studies.info@umich.edu

Center for the Study of Higher & Postsecondary Education
610 East University Avenue, Room 2117
Ann Arbor, Michigan 48109-1259
Phone: (734) 764-9472
Fax: (734) 764-2510
Internet: www.soe.umich.edu/admissions/graduate/cshpe
Email: cshpe.info@umich.edu

Combined Program in Education and Psychology
610 East University Avenue, Room 1400
Ann Arbor, Michigan 48109-1259
Phone: (734) 647-0626
Fax: (734) 615-2164
Internet: www.soe.umich.edu/admissions/graduate/cpep
Email: cpep@umich.edu

Joint Program in English and Education
610 East University Avenue, Room 2014
Ann Arbor, Michigan 48109-1259
Phone: (734) 763-6643
Fax: (734) 615-6524
Internet: www.soe.umich.edu/admissions/graduate/jpee
Email: jpee-info@umich.edu

Master of Arts w/Certification
610 East University Avenue, Room 1228
Ann Arbor, Michigan 48109-1259
Phone: (734) 615-1528
Fax: (734) 647-9158
Internet: www.soe.umich.edu/admissions/certification/mac
Email: mac.program@umich.edu

University of Michigan

Horace H. Rackham School of Graduate Studies

915 East Washington
Ann Arbor, Michigan 48109-1070
Internet: www.rackham.umich.edu

Office of Academic Records and Dissertations
Room 110
Phone: (734) 763-0171
Email: OARD.questions@umich.edu

Office of Fellowships and Student Recruitment
Room 122
Phone: (734) 764-8119 or (800) 521-2830
Email: flwships@umich.edu

Office of Graduate Admissions
Room 106
Phone: (734) 764-8129
Fax: (734) 647-7740
Email: rackadmis@umich.edu

University Housing Office
1011 Student Activities Building
Ann Arbor, MI 48109-1316
Phone: (734) 763-3164
Fax: (734) 764-6806
Internet: www.housing.umich.edu
Email: housing@umich.edu

Office of Financial Aid (OFA)
515 East Jefferson Street, Room 2011
Ann Arbor, MI 48109-1316
Phone: (734) 763-6600
Fax: (734) 647-3081
Internet: www.finaid.umich.edu
Email: financial.aid@umich.edu

Office of the Registrar
500 S. State Street, Room 1010
Ann Arbor, MI 48109-1382
Phone: (734) 764-6280
Fax: (734) 936-3148
Internet: www.umich.edu/~regoff
Email: registrar@umich.edu

Other Contact Information

Graduate Record Examinations
Educational Testing Service
P.O. Box 6004
Princeton, New Jersey 08541-6004
Phone: (609) 771-7670
Fax: (609) 771-7905
Internet: www.gre.org

International Credit Evaluators

Educational Credentials Evaluators, Inc.
P.O. Box 17499
Milwaukee, WI 53217
Phone: (414) 289-3400
Fax: (414) 289-3411
Internet: www.ece.org
Email: eval@ece.org

IERF-Credentials Evaluation Services
P.O. Box 3665
Culver City, CA 90231
Phone: (310) 258-9451
Fax: (310) 342-7086
Internet: www.ierf.org
Email: info@ierf.org

World Education Services, Inc.
P.O. Box 745
Old Chelsea Station
New York, NY 10113
Phone: (212) 966-6311
Fax: (212) 739-6100
Internet: www.wes.org
Email: info@wes.org

Undergraduate Studies and Certification

Individuals who wish to learn to teach at the University of Michigan's School of Education while completing their Bachelor of Arts or Bachelor of Science degree may do so at the Elementary or Secondary level in an array of school subjects (see specific programs for the subject areas in which one can seek teacher certification). Individuals with interests in Music, Physical Education, Dance, or Library Media may seek teacher certification at the K-12 level.

The same options are available to those individuals who have already obtained a bachelor's degree and are seeking: 1) teacher certification only, as a Special Undergraduate student; 2) a second bachelor's degree in Education; or 3) teacher certification in conjunction with a graduate-level degree.

Successful completion of the School's teacher education requirements, which meet and exceed the minimum requirements established by the State of Michigan, leads to recommendation to the Michigan Department of Education for a provisional teaching certificate.

Principles and Purposes of the Teacher Education Program

Our mission in the teacher education programs at the University of Michigan-Ann Arbor is to prepare people for teaching in public schools. The program emphasizes intensive, guided experience in a variety of urban, suburban, and rural K-12 classrooms, in conjunction with a carefully designed sequence of professional course work drawing on some of the best in current and historical educational thought and research. Exceptional preparation in the academic disciplines provides a sturdy foundation, while educational studies concentrate on making powerful connections between learners and subject matters. Habits of critical reflection, learning from practice, engagement with fundamental ideas, questions, and processes in the fields of study, and tailoring instruction to the strengths and needs of the students are stressed throughout. Students of all ages are understood to learn best when they are actively involved in their own learning and in the construction of understanding. The program aims to prepare beginning teachers who are capable of, and committed to, a lifetime of inquiry in teaching and to a powerful education for *all* students in our diverse society.

Organization of the Teacher Education Program

The program is sequenced and structured so that concurrent experiences are complementary and successive experiences build upon prior ones. Faculty collaborate in the design of projects and organization of curriculum to maximize the educational impact of particular courses and field experiences, which thus become parts of an interconnected whole. Each term, the sequential program enables students to both take on new objects of inquiry and to build upon prior investigation of the 'enduring elements' of teaching practice: learners, worthwhile content, and teachers themselves, all situated in contexts of classroom, school, culture, and society.

Practicum experiences in area schools are provided each term. The focus and expectations of each practicum are designed in conjunction with concurrent course work. Students conduct both structured and informal study of learners, subject matter experiences, and teachers and teaching — in context — each term. Over the course of their successive placements, students take on gradually increasing instructional responsibility, culminating in the final term of student teaching. Student teaching is a full time commitment during which candidates for certification reach further into inquiry and practice than at any previous time.

Students progress through the program in cohorts, in order to promote cooperation, curiosity, diversity of perspective and openness within emergent learning communities. Practicum assignments are made in pairs. Student teaching placements are made singly. However, student teachers meet and study in small seminar groups. Cooperating teachers and field instructors take a hands-on approach to helping beginners learn and continue learning how to balance worthwhile aims for K-12 students, personal and professional growth, and the intricate challenges of teaching practice.

Faculty

Teacher Education faculty include national leaders in literacy, mathematics education, science education, social studies, English language arts, and foundations of education. A number are known nationally and internationally for their research in learning, teaching, and learning to teach. Some conduct research in area schools while teaching in the program and most draw on their own experiences as K-12 teachers. A number are actively involved in issues of educational policy and assessment. Inquiry aimed at improving one's own practice is not only taught to teacher education students but modeled in the professional lives of faculty. All are committed to providing intellectually challenging instruction attuned to the practical demands and complexities of teaching—and ultimately aimed at the improvement of educational opportunities for all K-12 students. A steady infusion of current research and a dynamic faculty culture enrich teacher candidates' experience in the School of Education.

Teacher Education:

Elementary Program

Overview

The elementary program prepares individuals for teaching in self-contained classrooms in grades K – 8 and, if they pass state-mandated tests in their academic major and minor, in subject-specific classrooms, grades 6-8. The program is designed to provide students with a coherent, structured, four term-long experience; one in which each term builds, explores, and expands upon previously acquired knowledge, beliefs, and ideas. Students applying to the elementary program preferably bring a desire and interest in exploring and teaching all subject areas relevant to the elementary classroom *and* a desire to engage young people of all backgrounds, interests, and success levels with the subject matter and in schools.

The Program at a Glance

The elementary program is an intensive, sequenced four-term program of professional study based upon a strong academic foundation. Typically, elementary candidates begin the professional sequence after completing two years, or 54 credits, of general studies. All students accepted into the elementary teacher education program must transfer to the School of Education to complete their undergraduate degree and certification.

All students begin in the fall term and are expected to complete the program in two consecutive years. The number of credits required to successfully complete the professional program is significant and individuals interested in elementary education should plan carefully prior to, and upon, entering the program, so they may finish in a timely manner. Each term, students will have a practicum, or field work, experience entailing up to six hours per week in area school classrooms. The final term is student teaching and it is an intensive, full-time commitment.

Academic & Liberal Arts Preparation

General Studies Requirements Students are required to take nine hours in each of the following five areas of study.	
Creative Arts	Two of the following three courses: Ed 427 Art Methods, Ed D408 Music Methods, PE 336 or 354 Physical Education Methods, and sufficient electives to meet the requirement
Humanities	English composition, philosophy, one elective
Mathematics	Math 385 (fall), 489 (winter), one elective
Natural Sciences	A minimum of three hours in each of the following: biological science, physical science, earth science
Social Sciences	US history (History 160 or 161), introductory psychology, one elective designated SS in the LSA *Bulletin*
Please refer to the School of Education web site at <www.soe.umich.edu>.	

Academic Majors and Minors

Academic Major and Minor	
Language Arts	Major: 36 credits Minor: 24 credits
Science	Major: 36 credits Minor: 24 credits
Social Studies	Major: 36 credits Minor: 24 credits
Mathematics	Major: 30 credits Minor: 20 credits
Fine Arts	Major: not available Minor: 24 credits

Whereas the general studies courses selected provide a foundational understanding, the student's major and minor develop a depth of understanding and provide a systematic study of two organized bodies of knowledge. In doing these studies, students begin to gain an understanding of the multiple ways in which knowledge in a field may be organized and represented and how that organization influences further understanding.

In order for students to develop both the breadth and depth of understanding necessary to teach in the elementary school, it is crucial that the core requirements and the major and minor comprise a sequential, coherent program of study rather than an accumulation of courses scattered across a number of departments. To facilitate this coherence, the School of Education suggests that students work closely with their academic advisor in the Office of Student Services. Additionally, the School of Education has developed guidelines for students to use in fulfilling their academic requirements. These are available from the Office of Student Services and on the web at: <www.soe.umich.edu/oss>.

Language Arts

The Language Arts major and minor requirements are currently under review. Please consult with a School of Education advisor before making any arrangements to meet the requirements of this major and/or minor.

Science

All hours from the core requirements will count towards major/minor credits. Majors are required to complete one advanced methods course (Ed 428) in science during their directed teaching semester. These hours will apply toward the major.

Strand one: Biological Sciences

Select one course on plants and one course on animals from the following; ecology courses count as either: Bio 100, 101, 102, 104, 107, 108, 130, and 225; NRE 301 and 110; Physiol 101; Anthro 161.

Strand two: Geological/Space Sciences

Select one course focused on the Earth and one course on outer space from the following; meteorology courses count as Earth-focused (Note: You need three 1-credit courses to count as one course here.): Geol 103, 105, 106, 107, 108, 111, 113, 120, 125, 130, 222, and 283; Phys 112; Astr 101 or 111, and 102 or 112; and AO&SS/Geol 123.

Strand three: Physical Sciences

Select Physics 420 and one course in chemistry from the following: Chem/AOSS 105, Chem 106, and Chem 108/Phys 119. Additional electives may include: Phys 103, 104, 105, 106, 115

Social Studies

Some hours from the core requirements could count towards major/minor credits; i.e., US history course and elective (if a history, political science, geography or economics course). Majors are required to complete one advanced methods course (Ed 438) in social studies during their directed teaching semester. These hours will apply toward the major.

Specified **major** requirements include the following:

History:

160 and 161

Political Science:

101 and 111

Economics:

101 and an additional three credits

Geography:

Two geography courses must be taken; it is **strongly advised** that one of these be Geography 310 *or* NRE 256.

Specified **minor** requirements include the following:

History:

160 and one elective

Political Science:

111 and one elective

Economics:

101 and one elective

Geography:

One course, preferably Geography 310 *or* NRE 256

Mathematics

All hours from the core requirements will count towards major/minor credits; i.e., Math 385, 489 and one elective. Majors in mathematics must elect Math 497. Minors are strongly encouraged to elect Math 497. Majors are also required to complete one advanced methods course (Ed 412) in mathematics during their directed teaching semester. These hours will apply toward the major.

Majors and Minors:

Math 385 and 489.

Calculus:

Select at least one course from the following: 115, 116, and 215.

Electives:

Select from the following: Math 105, 127, 128, 147, 431, and 399; Statistics 100 and 350; and other electives as advised.

Fine Arts

Some hours from the core requirements could count towards major/minor credits. Students will elect eight hours from two of the three strands, and the remaining eight hours may be from any of the three strands. Students are strongly encouraged to select course work from all three strands. The intent is to give a depth of understanding in the fine arts rather than a concentration in only one area.

Strand one: Visual Art

Art 101, 111, 113, 114, 115, 205, 121, 131, 171, and 191; Afro-American Studies 360 and 361.

Strand two: Performing Arts:

Dance 102, 112, and 241; Theatre and Drama 101, 211, 234, and 235; Music 110, 221, 341, 407, 421, and 462; Afro-American Studies 342 and 465; and American Culture 490.

Strand three: Classical Studies and History:

Classical Studies 222, 435, and 436; Afro-American Studies 204; Art History 102, 151, 212, 260, 272, 284, 292, and 394; and Music History 413 and 478.

Professional Preparation Program

For the first three terms, students move through the undergraduate elementary program as members of cohorts. Cohorts are typically comprised of 25-29 students. The cohort model is intended to provide opportunity for shared experiences and the development of a network of colleagues that illuminates the multiple perspectives different individuals bring to the field of education. University faculty and staff interact with the cohorts on an ongoing basis to encourage and support this development.

Each semester, the focus of the professional coursework changes and adds to students' evolving base of knowledge and understanding. In the first term, students focus on issues of early and emerging literacy, educational psychology, and study elementary education in relation to learners, teaching, curriculum, and the professional responsibilities and obligations of elementary teachers. In the second semester, an emphasis on literacy continues, while Social Studies methodology is introduced and explored. Additionally, students take a foundations course in which they are introduced to the history, philosophy, and sociology of American public schooling. In the third semester, the teaching methodology of both Math and Science are introduced and explored.

The fieldwork taken concurrently with course work each term both informs and is informed by what is being explored and examined in the university classroom. Students are placed in classrooms in pairs, encouraging a shared field experience that allows reflection on a common source of understanding that can be used as a basis for discussions and assignments. Students typically spend six hours per week in each of the first three terms of the program in classrooms, doing course work observations, lesson instruction, and assisting, tutoring, co-teaching, and planning with cooperating teachers and their university partners.

The teacher education program is working to establish and promote partnerships with a limited number of schools. These schools have made a commitment to collaborate in the education of future teachers and they educate children who encompass a wide range of socioeconomic and academic backgrounds, as well as reflecting the racial and cultural diversity characteristics of our society and of public schools today. Such partnerships support strong and coherent educational experiences and thus are an important part of the program. Because of this, students in the elementary program should expect to be placed in schools and school districts in or near Ann Arbor.

Please note: Teacher Education students are responsible for arranging transportation to their field placements. Students are typically able to arrange car pools during practicum and public transportation is a possibility for some placement sites. However, a significant majority of our students find that having individual transportation is essential for student teaching. The School is not responsible for finding or arranging transportation.

Professional Education Courses

All professional education courses should be completed prior to directed teaching with the exception of the advanced methods course. Students must elect professional education courses for elementary certification in the following order:

First Term

Ed 307 *Practicum in Teaching Methods* (2)
Ed 391 *Educational Psychology and Human Development* (3)
Ed 401 *Developmental Reading and Writing Instruction in the Elementary School* (3)
Ed 406 *Teaching in the Elementary School* (3)

Additionally, students elect the following:

Math 385 *Math for Elementary School Teachers* (3)
One or more of the Creative Arts Methods courses (3 each): Art, Music, or Physical Education

Second Term

Ed 307 *Practicum in Teaching Methods* (2)
Ed 392 *Education in a Multicultural Society* (3)
Ed 403 *Individual Reading and Writing Instruction in the Elementary School* (3)
Ed 431 *Teaching of the Social Studies in the Elementary School* (3)

Additionally, students elect the following:

Math 489 Math for Elementary and Middle School Teachers (3)

Third Term

Ed 307 *Practicum in Teaching Methods* (2)
Ed 411 *Teaching Elementary School Mathematics* (3)
Ed 421 *Teaching of Science in the Elementary School* (3)

Fourth Term

Ed 301 *Directed Teaching in the Elementary Grades* (12)
Ed 303 *Problems and Principles of Elementary Education* (1)
Ed 408, 412, 428, OR 438 (3)
This course focuses on the enduring dilemmas and problems of practice. (The content and/or requirements of this course may change during the academic year)



Teacher Education:

Secondary Program

Overview

The secondary program prepares candidates for teaching in grades 7 - 12. A strong background in the subject areas in which the candidate intends to teach is essential, as is the breadth of outlook provided by cross-disciplinary and general studies. Candidates must select an academic major and an academic minor (or a double-major) from a large set of disciplines taught at the University of Michigan and recognized as school subjects by the State of Michigan. Professional preparation including student teaching is oriented towards the major subject area and the general responsibilities common to all secondary teachers. Students applying to the secondary program preferably bring a deep attachment to their discipline *and* a desire to engage young people of all backgrounds, interests, and level of success with the subject matter and in school.

The Program at a Glance

The secondary program is an intensive, sequenced, three-term program of professional studies based upon a strong academic foundation. Typically, secondary candidates begin the professional sequence after they have earned 54 or more of their general education, major, and minor credits. An individual's term of entry into the program is determined by his or her academic major.

When applying for admission to our secondary teacher education program, students have the option of transferring to the School of Education to complete their undergraduate degree and certification or to remain in their current unit for their degree and complete certification only through the School of Education.

Students register for eight Education credits in each of their first two terms and these terms each include practicum experiences entailing up to 6 hours per week in schools. The final term is student teaching, an intensive, full-time commitment.

General Studies

Students pursuing a degree from the School of Education are required to take 12 hours in each of three areas of study: Humanities, Natural Science, and Social Science. If students are remaining in another academic unit, they are required to take eight hours in each of the three areas for certification as well as fulfilling their specific unit's distribution requirement.

Courses in the LSA *Bulletin* designated Humanities (HU or LR) meet the humanities requirement and may be listed in a variety of programs and departments. This is true, as well, for courses meeting the natural science (NS) and social science (SS) requirement. Courses in each area must be chosen from at least two different departments.

The following School of Education requirements can be fulfilled through the cross-disciplinary general studies requirements discussed above:

1. All teachers must have effective written communication skills; therefore, a course in English composition (English 125 or equivalent) must be completed successfully. All students, including transfer students, will be held to the guidelines of the University's English Composition Board. Further information concerning writing assessment is available from the Sweetland Writing Center in Angell Hall. Courses selected to fulfill this requirement will count toward the humanities core requirement as well.
2. One course in introductory psychology (Psych 111 or 112 or the equivalent) is required. Psych 111 will count toward the social science core requirement but will not meet major and minor requirements in social studies. Psych 112 will count toward the natural science core requirement but will not meet major and minor requirements in the sciences.

Academic Majors and Minors

Most students preparing to teach in secondary schools complete one teaching major and one teaching minor from the list in the accompanying chart:

With an advisor's approval, students may complete two majors, two majors and a minor, or a major and two minors, although methods courses, practicum, and student teaching are usually elected in only one subject.

Credit applied to a teaching major/minor may not be applied again to a related major/minor. For example, if credit for a biology course has been included in the Biology major/minor, the credit may not then be included in the General Science major/minor.

Michigan Tests for Teacher Certification (MTTC)

In addition to successfully completing the Secondary teacher education program, students must pass the Michigan Tests for Teacher Certification in both their major(s) and minor(s), in order to be recommended to the State of Michigan for teacher certification.

Academic Majors	Academic Minors
Biology	Anthropology
Chemistry	Biology
Dance (K-12 Major)	Chemistry
Earth Science	Computer Science
Economics	Earth Science
English	Economics
Environmental Studies	English
French	French
General Science	General Science
German	German
History	History
Latin	Latin
Mathematics	Mathematics
Music (K-12 Major)	Physical Education
Physical Education (K-12 Major)	(Grades 7-12 only)
Physics	Physics
Political Science	Political Science
Psychology*	Psychology
Social Studies	Russian
Sociology*	Social Studies
Spanish	Sociology
	Spanish

* May be elected as 2nd majors only

Professional Preparation

In their first term in the program, students begin by taking the foundations course, which explores the history, philosophy, and sociology of American public schooling. At the same time, they are also learning the core fundamentals of literacy pertinent and relevant across subject areas. These two courses inform, and are informed by, their concurrent field experience. In the field, students focus their study on how individual K-12 students learn from, and interact with, the school environment and with particular subject matter. Students then use their developing understanding to begin some initial study of teachers' practice within their particular subject areas.

In the second term, the subject area methods course and the educational psychology course are taken only with peers in one's general subject area, so as to provide the opportunity to continue exploring and understanding more deeply what it means to teach one's subject area to 7-12 students. Again, the concurrent field experience both informs and is informed by this course work.

Throughout the first two terms, a student's cohort plays an important role. Cohorts are typically comprised of no more than 20 students and their use is intended to provide the opportunity for shared experiences and the development of a network of colleagues that illuminates the multiple perspectives different individuals bring to the subject area and to the field of education. University faculty and staff interact with the cohorts on an ongoing basis to encourage and support this development.

During the field experience opportunities, students are placed in classrooms in pairs, encouraging a shared field experience that allows reflection on a common source of understanding that can be used as a basis for discussions and assignments. Students typically spend six hours per week, over the course of the term, in classrooms, doing course work observations and lesson instruction, and assisting, tutoring, co-teaching, and planning with cooperating teachers and their university partner.

The teacher education program is working to establish and promote partnerships with schools that have made

a commitment to collaborate in the education of our future teachers. These schools educate youth who represent a wide range of socioeconomic and academic backgrounds, as well as reflecting the racial and cultural diversity characteristic of our society and of public schools today. Such partnerships support strong and coherent educational experiences, and ordinarily, students will be placed in one of several districts that offer such support to our students.

Please note: Teacher Education students are responsible for arranging transportation to their field placements. Students are sometimes able to arrange ride shares during practicum and public transportation is a possibility for some placement sites. However, a significant majority of our students find that having individual transportation is helpful during practicum and essential for student teaching. The School is not responsible for finding or arranging transportation. Students should not assume placement will be possible in Ann Arbor.

Required coursework

Students should consult with a student advisor in the Office of Student Services to clarify the term in which they will start the teacher education program.

The chart below illustrates the two possible sequences that students follow through the teacher education program. Please keep a few important facts in mind:

1. The program requires 3 sequential terms to complete; and
2. The course sequence a student follows is determined by her/his major:
   - Students with majors in a foreign language, Math, or the sciences must elect the *Winter* cohort sequence.
   - Students with a major in Physical Education must elect the *Fall* cohort sequence.
   - Students with majors in English, the social studies, or Music may request *either* the Fall or Winter cohort sequence, but due to the large numbers of students in these subject areas, we cannot guarantee your preferred cohort sequence.

Students with a major in Dance or those seeking certification in Library Media should consult their programs and an Office of Student Services advisor to determine which cohort will best fit their course of study.

Fall Cohort sequence (30 credits total)
English, social studies, physical education, music

Fall	Winter	Fall
ED 392 (3) ED 402 (3) Practicum I/ ED 307 (2) (or, if applicable, alternative field experience in home dept.)	Subject Matter Methods (3) ED 391 (3) Practicum II/ ED 307 (2) (or, if applicable, alternative field experience in home dept.)	Student Teaching/ ED 302 (10) Student Teaching Seminar/ ED 304 (4)
8 credits	8 credits	14 credits

Winter Cohort sequence (30 credits total)
English, dance*, foreign language, math, science, social studies, Library Media*, music

Fall	Winter	Fall	Winter
	ED 392 (3) ED 402 (3) Practicum I/ ED 307 (2) (or, if applicable, alternative field experience in home dept.)	Subject Matter Methods (3) ED 391 (3) Practicum II/ ED 307 (2) (or, if applicable, alternative field experience in home dept.)	Student Teaching/ ED 302 (10) Student Teaching Seminar/ ED 304 (4)
	8 credits	8 credits	14 credits

Teacher Education:

K-12 Majors

Students who complete a teaching major in one of the following fields will be eligible to teach the major in kindergarten through 12th grade (K-12). Most students seeking initial certification with a major in dance, music, or physical education complete the secondary program requirements, including the general studies course work, a secondary level minor, and the appropriate professional sequence.

Information on the requirements for an Elementary Provisional Certificate with a K-12 major in one of the four fields above may be obtained from the Office of Student Services.

An endorsement in Library Media or Reading may be completed only by certified teachers.

Dance

Major: Students whose major interest is dance will audition and enroll in the School of Music and complete the dance program for the Bachelor of Fine Arts degree. For the K-12 certification curriculum, see the School of Music *Bulletin* – Dance Department.

Library Media (Library & Information Services)

Major: Graduate program only. Students may pursue the endorsement only program (30 credits) or the full master's degree program with endorsement (48 credits). If an initial provisional certificate is being pursued, then the methods course SI 641/Ed D575 must be elected as Ed D575. In this case, the credits will not count in the major. Current requirements for both programs are listed below:

Endorsement Only (30 semester hours):

SI 501 (3)
SI 616 (2)
SI 620 (3)
SI 624 (3)
SI 640 (3)
SI 643 (3)
SI 647 (3)
SI 666 (3)
SI 690 (2)
SI 641 or Ed D575 (2)
One elective as advised (3)

Full Master's Degree with Endorsement (48 semester hours):

Those courses listed above plus:

SI 502 (3)
SI 503 (3)
SI 504 (3)
SI 690 (3).

NOTE: In the master's degree program, SI 690 must be elected for three credits. SI 511 (3) is also advised. At least six credits of practical engagement program (PEP) points as advised. Electives as advised.

Reading

The primary audience for the Reading endorsement program is practicing K-12 teachers who wish to pursue their studies in the areas of reading and writing. Pre-kindergarten and post-secondary teachers may also find this program beneficial. Students completing the program will be eligible to receive the K-12 Reading endorsement. In addition to program requirements, students must also successfully pass the Michigan Test for Teacher Certification (MTTC) in Reading to be recommended for the endorsement.

Although this program is not designed for individuals without experience in education, it may be possible for individuals to gain sufficient preparation to enter the program through prerequisite course work and other independent experiences. This program requires three terms of full-time study to complete.

Required course work includes:

EDUC 500
EDUC 501
EDUC 505
EDUC525
EDUC 639 (4 credits)
EDUC 649
EDUC 695
EDUC 696
as well as six term hours of approved cognate course work.

Music

Major: Students whose major interest is music will enroll in the School of Music and complete one of the sequences in music education or one of the special sequences (e.g., in string or wind instruments) that also lead to certification. These sequences include a major of 40 credits in music performance (voice, instruments, conducting, and ensemble) and a minor of at least 24 credits in the history and theory of music. The music education program is described in the School of Music *Bulletin* and the *Silent Adviser.*

Physical Education

Major: 44 credits as listed below. In addition to the 44 required credits, Eng 125, Eng 225, Phys 125, Math 105, and Psych 111 or PSYCH 350 must also be completed.

MVS 110 (3)
MVS 340 (4)
PE 252 (3) or MVS 250 (3)
PE 254 (3)
PE 310 (5)
PE 316 (2)
PE 331 (3) or MVS 330 (4)
PE 332 (3) or MVS 320 (4)
PE 336 (3)
PE 349 (3)
PE 350 (3)
PE 353 (3)
PE 425 (3)
Electives as advised (1-3)

Teacher Education:
Student Teaching

An application for student teaching must be completed at the beginning of the term prior to the desired student teaching term.

Prerequisites to Student Teaching

To be eligible to enroll in student teaching, students must meet a number of prerequisites. These include:

1. Attainment of senior status (84 credits completed).
2. A minimum 2.0 grade point average in the overall GPA as well as in both the teaching major and minor. Only University of Michigan courses will be used to compute GPAs.
3. Completion of all Education courses with a grade of 'C' or better, plus a grade of 'S' in each term of Ed 307.
4. Students must have successfully passed the Basic Skills test of the Michigan Test for Teacher Certification *at least one term* prior to student teaching.
5. Students must have completed the majority of course work toward their teaching major and minor. Each case is subject to review.

Students seeking *Elementary* certification, elect the following courses during the student teaching term:

1. EDUC 301: Directed Teaching in the Elementary Grades (12 credits)
2. EDUC 303: Problems and Principles of Elementary Education (1 credit)
3. EDUC 408, 412, 428, OR 438 (3 credits)

Students seeking *Secondary* certification:

1. Students completing majors in English, the foreign languages, Mathematics, the sciences, and the social studies elect the following courses during the student teaching term:
   a. EDUC 302: Directed Teaching in the Secondary School (10 credits)
   b. EDUC 304: Problems and Principles of Secondary Education (4 credits)
2. Students completing a K-12 major in Physical Education elect the following courses during the student teaching term:
   a. PHYSED 415: Directed Teaching in Physical Education (12 credits)
   b. PHYSED 414: Directed Teaching Seminar for (2 credits)
3. For students completing a K-12 major in Music or Dance, please consult the School of Music *Silent Adviser* or the *Bulletin*, which is available online at <www.music.umich.edu/admissions/student_handbook/handbook_0/handbook.htm>.

Student teaching is a full-time endeavor. Student teachers spend the entire school day, five days a week, for the duration of the student teaching term, in their placement classroom. Due to the intense nature of student teaching, the program strongly advises against outside employment during this term. Additionally, no more than 17 credits may be elected during the student teaching term without permission from the Teacher Education Petition Committee *prior to the start of the student teaching term*.

Degrees and
Teacher Certification

The School of Education awards two degrees at the undergraduate level: the Bachelor of Arts in Education (A.B.Ed.) and, for those students who have completed at least 60 credits in natural sciences, the Bachelor of Science in Education (B.S.Ed.) may be elected.

Students typically enter the program at the beginning of their junior year or after completing a bachelor's degree. Those individuals seeking teacher certification at the elementary level must transfer to the School of Education, while those seeking secondary certification may choose to transfer to the School of Education or to remain in their home units. K-12 certification in Music Education, Physical Education, Library Media, or Dance requires individuals to remain in their respective home units.

Bachelor's Degree Requirements

Students will be recommended by the faculty for graduation from the School of Education after meeting the following conditions:

1. Completion of the general studies requirement (See specific programs for details).
2. Completion of elementary or secondary teacher education program requirements.
3. Completion of a minimum of 130 hours of course work.
4. Attainment of a 2.0 grade point average, overall and in each teaching major(s) and minor(s). NOTE: GPA is calculated using only courses elected at the University of Michigan.

Further information on application procedures may be obtained from the School of Education Office of Student Services or see the web at <www.soe.umich.edu> for additional information.

Second Bachelor's Degree Requirements

A student with a bachelor's degree who wants to earn a second bachelor's degree must do the following:

1. Qualify for admission to the University of Michigan, the School of Education, and the elementary or secondary teacher certification program.
2. Earn the first bachelor's degree in a field other than Education at a four-year institution accredited by a regional commission, such as the North Central Association of Colleges and Schools or the Commission on Institutions of Higher Education.
3. Seek completion of an approved School of Education degree and certification program.
4. Apply for and gain written permission from the School of Education to earn a second bachelor's degree.

The School of Education is not obligated to approve a program for a second degree simply because a student completes the requirements specified below. The degree program must include a course of study prepared and approved by the advisor. This course of study will include the following minimum requirements:

1. All School of Education degree requirements, including a minimum of 46 credits at the University of Michigan for students seeking elementary certification and 36 credits for those seeking secondary certification in addition to credits necessary for the first degree; at least 40 credits for elementary certification and 30 credits for secondary certification must be School of Education course work.
2. All requirements for the Michigan teaching certificate in the chosen field, including any grade point average and any residency requirements specified for that certificate.
3. For those seeking Secondary teacher certification, at least two courses appropriate for the academic major/minor must be taken at the University of Michigan.

Please understand that these are the minimum requirements; some individuals may be required to do more than what is indicated here. Completion of the above requirements is also subject to approval by the faculty.

Further information on application procedures may be obtained from the School of Education Office of Student Services or see the web at <www.soe.umich.edu> for additional information.

Joint Bachelor's Degree: School of Education and College of Literature, Science, and the Arts (LSA)

Any student who wishes to earn two degrees concurrently, one from the School of Education and one from LSA, must arrange their joint degree program through the School of Education Office of Student Services and the LSA Office of Academic Actions. This program is considered an individualized joint degree program by LSA.

Information on the application process must be obtained from these two offices and *written* permission from both schools is required to earn the two degrees.

Further information on application procedures may be obtained from the School of Education Office of Student Services or see the web at <www.soe.umich.edu> for additional information.

Joint Bachelor's Degree: School of Education and Division of Kinesiology

Any student who wishes to consider earning two degrees concurrently, one from the School of Education and one from the Division of Kinesiology, must arrange their joint degree program through the School of Education Office of Student Services and the Division of Kinesiology Office of Student Services.

Information on the application process must be obtained from these two offices and *written* permission from both schools required to earn two degrees.

Further information on application procedures may be obtained from the School of Education Office of Student Services or see the web at <www.soe.umich.edu> for additional information.

Teacher Certification Only

The certification only option is available for two kinds of students:

1. Those for whom seeking a second bachelor's degree is not a viable or realistic option (a Student Advisor in the Office of Student Services can help individuals determine if this option is the correct choice). The student would then be admitted to the School of Education as a 'Special Undergraduate.'
2. Students who have already been admitted to one of the School of Education's graduate level (non-MAC) programs.

Further information on application procedures may be obtained from the School of Education Office of Student Services or see the web at <www.soe.umich.edu> for additional information.

Teacher Certification Requirements

The following requirements must all be satisfied in order for the School of Education to recommend a candidate for a Michigan provisional teaching certificate:

1. Compliance with the School's Criminal Background policy (Please find this information in the succeeding section of the *Bulletin.*
2. Completion of a minimum of 130 credit hours of course work.
3. Completion of all required education courses in residence on the Ann Arbor campus unless otherwise approved by the Teacher Education Petition Committee or the Director of Teacher Education.
4. Completion of teaching major and minor requirements as described elsewhere in this *Bulletin* (see specific program for details).
5. Completion of all practical and student teaching with a grade of 'S' or Satisfactory. Completion of all education courses with grades of 'C' or higher.

6. A grade point average of 2.0 overall and in the teaching major(s) and minor(s) based on courses elected at the University of Michigan.
7. Completion of a minimum of 45 credits of general studies courses for elementary certification and 24 credits for secondary certification as described elsewhere in this *Bulletin* (see specific program for details).
8. Completion, if applicable, of all degree requirements.
9. Successful passage of applicable Michigan Tests for Teacher Certification (see specific program for details).

Upon successful completion of all program and degree requirements, teacher candidates will be recommended to the State of Michigan for a provisional teaching certificate. This certificate is valid for a period of six years.

The term before a student expects to finish the teacher certification program, he or she must arrange an appointment with staff in the Office of Student Services to have a final record audit to determine eligibility for certification and to complete a certificate application.

In addition, a student completing a degree from the School of Education must submit a diploma application at this time. A diploma application may be used for one graduation date only. A change in graduation date requires submission of a new diploma application. A student completing a degree in another unit must comply with the graduation requirements and deadlines of that unit.

If a waiver or substitution of any requirement has been approved by the School of Education Undergraduate/ Petition Committee or by an authorized student advisor, the student must submit written permission for the waiver or substitution to the Office of Student Services no later than the fourth week of the final term in attendance.

The degree and initial certificate are granted at the end of the winter term (April/May), summer term (August), or fall term (December) during which all requirements have been completed. The University of Michigan grants the degree and recommends the granting of the certificate by the Michigan State Board of Education.

Legal Requirements for
Teaching in Michigan

Criminal Background Check Policy

The School of Education at the University of Michigan—Ann Arbor prepares prospective teachers to qualify for initial teaching certification by the State of Michigan and to attain a high standard of pedagogical responsibility for the children and young people they will teach. The School of Education seeks to devote its resources to those candidates who have the best prospects of achieving initial certification, attaining high standards, and serving the complex and diverse needs of students today. Therefore the School of Education has instituted a policy regarding criminal background checks for prospective teachers.

This policy is consonant with state and school district policies in Michigan and elsewhere regarding the licensure and employment of persons with criminal histories. The Michigan Legislature has stated, in Public Act 97 of the Public Acts of 1995, that "…conviction of a crime…is considered to be reasonably and adversely related to the ability of the person to serve in an elementary or secondary school."

It is therefore School of Education policy that, beginning with those admitted in Fall 2000 or later, if an applicant to, or a student in, a program leading to teacher certification (provisional certification, renewal of certificate, or professional certificate) has a felony or misdemeanor conviction on his/her record one or more of the following may occur, depending upon review of the circumstances and the nature of the offense:

a) The applicant or student may be denied admission, have her/his admission revoked, may be dismissed from the program, or may be advised to withdraw;

b) The student may be permitted to continue in the teacher education program, with the understanding that:
   i. a school or school district may refuse to allow the student access to its schools and/or classrooms for required field experiences, including student teaching;
   ii. the State of Michigan may refuse to issue the student a teaching certificate, despite his/her successful completion of the teacher education program; or
   iii. the State of Michigan may issue the student a teaching certificate upon successful completion of the program but schools or school districts, considering a criminal conviction as part of an individual's qualifications for teaching, may not hire the individual.

Because of these possible outcomes, the School of Education requires all applicants to declare criminal convictions when applying to any program leading to teacher certification at the University of Michigan and to submit to a criminal background check upon admittance. This check must be completed before the student is permitted program sanctioned entry to any school setting. Additionally, a student is expected to notify the Office of Student Services immediately should a criminal conviction occur during her/his tenure in the program.

For further details or if you wish to schedule an appointment with an Academic Advisor, please contact the Office of Student Services at (734) 764-7563.

Certification

The following regulations governing certificate validity, renewal of Provisional Certificate, Professional Certificate, and second level of certification have been passed by the Michigan State Board of Education and compiled in the book, Administrative Rules Governing the Certification of Michigan Teachers. A copy of the state code is available for examination in the Office of Student Services.

Provisional Certificate

A qualified person shall complete an application for provisional certification within five years after certification requirements have been met. Upon successful completion of the teacher certification program, a student is eligible to be granted a Michigan Provisional Certificate by the State Board of Education.

In October 1988, Act 339 of the Public Acts of 1988 was passed by the state Legislature. This act authorizes the collection of fees for teacher/administrative certification. The state will send the applicant a remittance statement along with information on how to pay the required fee. The date of issuance for the certificate will be determined by the State Department of Education based on when the fee is paid.

The Provisional certificate is valid for six years from the year of issuance and expires on June 30 of the sixth year. The date of expiration is on the front of the certificate.

Renewal of the Provisional Certificate

A candidate may apply for a renewal of the Provisional Certificate if he or she holds an expired certificate, or a candidate may apply after April 1 of the calendar year in which the certificate will expire. An applicant must have completed a minimum of 10 credits in a planned program to be eligible for the first renewal and 18 credits in a planned program to be eligible for the second renewal. A planned program is defined as an advanced course of study applicable to the applicant's professional development and must be planned by an approved Michigan teacher training institution or completed in a master's degree program accredited by the National Council for the Accreditation of Teacher Education (NCATE), if completed in another state. In most instances, a planned program is considered to be a graduate degree program at the University of Michigan.

The credits applied to a renewal must have been earned after the issuance of the original certificate. Graduate course work completed before issuance of the original certificate may not be applied to a renewal unless an approved advanced degree (e.g., a master's) was earned. If an approved advanced degree was earned before or concurrent with completion of the requirements for the original Provisional Certificate, additional credit is not required for a renewal.

- Correspondence credit is not acceptable for a renewal.
- Teaching experience is not required for a renewal.
- A certification fee applies to the renewal of the Provisional Certificate.

The approved Michigan teacher education institution where the applicant completes the planned 10 to 18 credits or has earned an approved master's degree is the institution that will make the recommendation for the renewal, regardless of which institution made the recommendation for the original certificate. If the required 10 to 18 credits were completed in a master's program accredited by NCATE in another state, the applicant must contact the teacher preparation and certification unit of the Michigan Department of Education for instructions regarding application for a renewal. This procedure is not handled by universities or colleges in the state of Michigan.

Each renewal of a Provisional Certificate is valid for three years (expires June 30 of the third year). A maximum of two renewals is allowed. However, an employing Michigan public or private school may sponsor a teacher for additional renewals if all of the credits for a full Vocational Authorization, Professional, or Occupational Education Certificate have been completed. Given the maximum of renewals allowed by state code, it is strongly recommended that a renewal not be requested unless a valid teaching certificate is required for a position. The state code does not allow for more than two renewals of a Provisional Certificate if all of the requirements for a full Vocational Authorization, Professional, or Occupational Education Certificate have not been met.

University of Michigan Restrictions Governing Renewal of Certificate

To be recommended by the University of Michigan-Ann Arbor for the first renewal of a Provisional Certificate, the applicant must have completed 10 graduate-level credits (400 level or above) in a planned program with an earned grade of 'C' or better in each course. The majority of the credits (six or more) must have been completed through the University of Michigan-Ann Arbor. A planned program is defined as an advanced course of study applicable to the applicant's professional development, and at the University of Michigan a planned program is almost always a graduate degree program. For exceptions and additional information, contact the Office of Student Services.

To be recommended by the University of Michigan-Ann Arbor for the second renewal, the applicant must have completed 18 graduate-level credits (400 level or above) in a planned program with an earned grade of C or better in each course. The majority of the credits (10 or more) must have been completed through the University of Michigan-Ann Arbor or through the University of Michigan Extension Service.



Admission Procedures

The following section describes the process of admission to the teacher education programs; admission to University schools and colleges to complete additional majors and minors, reading methods courses, Renewal Certificates, and Professional Education Certificates; admission to the School of Education for non-certification courses; readmission regulations; and change of program rules.

Elementary and Secondary Teacher Certification Programs

All students seeking teacher certification must apply for admission to the elementary or secondary teacher certification program. Application procedures vary depending on whether admission to a degree program in the School of Education is desired in addition to admission to one of the certification programs. Students must be admitted to or enrolled in a University school or college at the time of admission to a certification program. Students who are not enrolled in the University or who plan to change academic units should note that the application for admission to one of the schools or colleges is different from the application for admission to the elementary or secondary certification program. All students accepted into the elementary teacher education program must transfer to the School of Education to complete their undergraduate degree and certification.

Junior standing (a minimum of 54 credits) is required at the time of enrollment in one of the certification programs. Undergraduate students, post-degree students, and graduate students may apply for admission. Many students, especially those in secondary education, remain in other academic units of the University while pursuing teacher certification. This is particularly true of graduate students, of students enrolled in the College of Literature, Science, and the Arts whose concentration is similar to the teaching major for secondary certification (e.g., English, French, Spanish), and of students in music and physical education. In these cases, students may earn their degrees from their primary unit and their certification through the School of Education.

Taken into account in the decision for admission are the applicant's potential for success in teaching and the availability of places in the programs. Space in the certification programs is limited and in demand. While the application materials provide more specific guidance, the general criteria for admission include the following:

1. A minimum 2.5 overall grade point average (however, successful applicants typically have a 3.0 GPA or greater). Particular attention is given to grades in courses required for teacher certification, such as courses in the major and minor, courses meeting the English composition requirement, and courses for distribution.
2. Commitment to teaching, for which experience with children as a tutor, camp counselor, teacher's aide, etc., or relevant coursework such as Ed 310 (Service Learning), Soc 389 (Project Community), Psych 211 (Project Outreach), Psych 306 (Project Outreach – Group Leading), Psych 307 (Direct Experiences with Children), etc., may be indicators.
3. Three letters of recommendation from persons capable of addressing the applicant's ability and potential to become a successful teacher, including willingness to accept responsibility, ability to show initiative, and intellectual capacity. Letters of recommendation should be carefully chosen: one letter must be from a professor or other university instructor from the area of study in which the applicant wishes to complete his or her major. This letter should address the quality of the applicant's engagement with and understanding of the subject matter.
4. A personal goal statement that includes information on the student's commitment to education as a career, experience working with children (see above), and information that reflects the applicant's intellectual curiosity and reflective disposition. Additionally, applicants are asked to explain their choice of major (secondary applicants) or how they plan to teach all subjects, even those of less interest or strength, equally well to their K-8 students (elementary).
5. American College Test (ACT) or Scholastic Aptitude Test (SAT) scores.

Admission Deadlines and Procedures

Admission to teacher certification programs occurs once each year for fall term only, except in those instances noted below. For current deadline dates, please contact the Office of Student Services or visit the web at <www.soe.umich.edu>.

Music majors follow the admission deadlines and procedures established by the Department of Music Education in the School of Music. Teacher certification requirements for music majors are explained in the School of Music *Silent Adviser* and the *Bulletin*, which is available online at <www.music.umich.edu/admissions/student_handbook/handbook_0/handbook.htm>.

Physical education and Library Media majors may apply for winter term admission as well as for fall admission if space is available. For current deadline date, please contact the Office of Student Services or visit the web at <www.soe.umich.edu>.

Special Undergraduates and Second Bachelors

Individuals who have earned bachelor's or higher degrees from state-approved teacher training institutions accredited by a regional commission, such as the North Central Association of Colleges and Schools, may apply for admission as 'special undergraduates' to the School of Education to complete certification.

Individuals who have earned bachelor's degrees from four-year institutions accredited by a regional commission in a field other than education may need to apply for admission to complete a second bachelor's degree and certification. This will be determined on an individual basis dependent on the applicant's previous course work.

Additional Certification

Additional Teaching Majors and Minors. The additional majors and minors offered by the University are listed in the elementary, secondary, and K-l2 sections on majors and minors. Teachers certified by the State of Michigan who wish to add a major or a minor to their certificates must be admitted to or enrolled in one of the schools or colleges of the University. Exceptions to this policy must be approved by an appropriate student advisor and staff in the Office of Student Services. Admission is permitted any term. In most cases, a teacher will apply for admission to the School of Education as a special student. Admission to the Horace H. Rackham School of Graduate Studies is required to complete graduate-level majors and minors. Additional information is available from the Office of Student Services.

Certification majors and endorsements are offered at the graduate level in Library Media and Reading. Additional information is available from the School of Education Office of Student Services.

The Office of Student Services must appraise the credentials of each applicant and must have recommended required courses before the student enrolls. The 'Course Work Evaluation' application form may be obtained from the Office of Student Services.

Reading Methods Courses for the Professional Education Certificate. Teachers certified by the State of Michigan who wish to elect approved 400-level reading methods courses to satisfy the requirement in reading for the Professional Education Certificate may apply for admission to the School of Education any full or half term. Such teachers must have fulfilled all other academic requirements for the Professional Education Certificate described previously. If all other requirements have not been met, or if an approved 500-level reading methods course is to be elected, admission to the Horace H. Rackham School of Graduate Studies is necessary to complete the planned program for the Professional Education Certificate.

Renewal Certificate and Professional Education Certificate. A student admitted to the Horace H. Rackham School of Graduate Studies may elect courses to complete the academic requirements for renewal of the Michigan Provisional Certificate or for the Professional Education Certificate in consultation with a student advisor in the School of Education.

Readmission to Teacher Certification and/or the School of Education

An undergraduate student who has not been enrolled in the School of Education for 12 months must apply for readmission through the Office of Student Services. If previously enrolled in another school or college of the University, the student must follow the readmission policies of that unit and the student is subject to the readmission policy of the teacher certification program.

The Director of Teacher Education will determine eligibility for readmission if a student has not been enrolled in the elementary or the secondary teacher certification program for 12 months or more. A student readmitted to the elementary or the secondary teacher certification program may follow the certification requirements in effect either at the time of the initial admission to the program, if the necessary course work is available, or at the time of readmission, with two exceptions: the case in which a certification requirement specifically stipulates that it must be met after a certain date regardless of a student's date of admission, and the case in which six or more years have elapsed since initial enrollment in the University, whether or not the student has been enrolled continuously. In both cases, the student must comply with all curriculum changes that have occurred during the given period. In addition, a student must review the content of course work completed before the time of readmission with a student advisor to determine what additional course work is required.

Change of Program/Unit

When a student wishes to change from the secondary certification program to the elementary certification program, or vice versa, or to change the primary major in the secondary education program, that student is subject to the admission guidelines and requirements of the desired program. The change may take effect in any term if space is available in the program. The student must contact the Office of Student Services regarding procedures necessary for such a change.

A student in good standing admitted to the elementary or the secondary teacher certification program for a fall term and enrolled in another University of Michigan-Ann Arbor school or college may apply to transfer to the School of Education any term. In some cases a student may begin the certification program while enrolled in a bachelor's degree program in another unit and decide to change degree program and unit to receive a School of Education degree with the teaching certificate. In other cases a student may begin the certification program while enrolled in a degree program in another unit and then complete the degree but not the certification requirements. The student then must contact the School of Education in order to become a special/undergraduate student for enrollment in the term following graduation to complete the outstanding certification requirements.



Academic Policies and Procedures

Enrollment

Advisers. Each student in the secondary teacher certification program has an assigned certification faculty adviser. The list of advisers is available in the Office of Student Services. Certification students must plan their academic programs in consultation with their advisers. In some cases a student may have two certification advisers, if the teaching major and minor are in substantially different areas (e.g., mathematics and physics).

Course Load. Twelve credits are considered a minimum academic load for the full term, with six credits the minimum load for the half term. A maximum of 18 credits may be elected in any one full term without special permission. Only students of superior scholarship may elect more than 18 credits, and then only with approval of their adviser. Students who wish to elect more than 17 credits during their term of directed teaching must petition the Undergraduate/Certification Committee for permission. Petition information may be obtained from the Office of Student Services.

Registration. Completion of registration procedures is required before a student attends classes or uses University facilities. Late registration fees are assessed according to deadlines established by the University Registrar's Office and published in the University *Schedule of Classes*, which is available online at <www.umich.edu/~regoff/latereg.html>.

Changes in Enrollment

Adding and Dropping Courses. After the third week of a full term or the second week of a half term, additions to a class schedule require written support from the instructor of the course. Such requests, with documentation, are to be filed with the Office of Student Services. Late elections are viewed as a serious matter and will be approved only under extraordinary circumstances. Students who make program changes during the first three weeks in a full term and during the first two weeks in a half term will receive a full refund of fees paid and will be assessed the full fee appropriate to the new elections. After these deadlines, the higher of the two fees will be assessed.

School of Education students wishing to drop a course after the sixth week of a full term or after the third week of a half term but before the last day of the term must complete a late drop petition. The petition forms are available in the Office of Student Services. The student must seek written recommendations both from the instructor of the course to be dropped and from his or her assigned adviser. The student must then see an adviser in the Office of Student Services. A decision concerning the petition will then be made by the adviser in the Office of Student Services, based on faculty policies concerning late drops.

An approved withdrawal is designated on the transcript as W (withdrawal). Neither credits nor honor points are earned. The W notation is a chronological record indicating that the course was dropped after the third week of the term (or after the second week of the half term). It is posted on the transcript regardless of a student's reasons for requesting the withdrawal.

Drops late in the term are seen by the School as a very serious matter and should be requested only in such extreme circumstances as the following:

1. Incorrect course placement due to University error.
2. The content of a course differing significantly from that described by the instructor at the beginning of the term.
3. A change in the student's educational goals or objectives that may result in a drastic change of program or a cross-campus transfer.
4. Demonstrable personal conflict with the instructor.
5. Severe personal health problems.
6. Other severe, unpredictable problems that would adversely affect the student's ability to complete the course.

In all cases the student is required to present appropriate evidence to support the request.

Any course dropped without permission will be recorded as an unofficial withdrawal, designated on the transcript as ED. An ED is computed into the term and cumulative grade point average as an E, if the course was elected for a letter grade.

Disenrollment. A student who has registered early for a term and later decides not to return to the University must notify the Office of Student Services of plans to cancel the registration. The most current information is available online at <www.umich.edu/~regoff/disenrol.html>.

Withdrawal. A student who wishes to withdraw from the University after a term has begun must contact the Office of Student Services regarding procedures for official withdrawal. The most current information is also available online at <www.umich.edu/~regoff/termwd.html>.

Petitions

Given valid reasons, a student may petition or appeal matters involving School of Education policies and procedures or the teacher certification program requirements. The petition should state the request and present clear supporting reasons. Petition forms are available from the Office of Student Services. A committee will obtain relevant information from the student's academic file and will consult with appropriate faculty members, usually including the certification adviser. The action on the petition will then be communicated to the student in writing by the committee with copies to the Office of Student Services. The petitioner may appeal the above action by submitting additional written evidence. The committee may affirm, reverse, or modify the earlier action. The decision on an appeal is communicated to the student in writing with a copy to the Office of Student Services.

Grades and Honor Points

The School of Education records grades by letter but computes averages using honor points. For evaluation, grades are given honor points as shown in the box.

Grade	Honor Points	Grade	Honor Points
A+	4.0	C+	2.3
A	4.0	C	2.0
A–	3.7	C–	1.7
B+	3.3	D+	1.3
B	3.0	D	1.0
B–	2.7	D–	0.7
		E	0.0

The honor points earned for a course are calculated by multiplying the number of credits for which the course was elected by the honor point value of the grade received in the course. The grade point average is obtained by dividing the total number of honor points earned by the total number of credits elected with honor points:

$$\frac{\text{total number of honor points}}{\text{total number of credits elected with honor points}} = \text{grade point average}$$

Grade Point Average Policy

Every student is required to have a minimum grade point average (GPA) of 2.0 in each of the student's majors and minors immediately prior to the term in which student teaching is completed and at the time of certificate recommendation. The GPA is calculated by using all applicable University of Michigan courses in the respective majors and minors that appear on the official University of Michigan transcript.

Courses in which low grades were received may not be selectively excluded in calculating the GPA, even if a course has been repeated subsequently with a higher grade earned. In addition, the grade in an applicable course completed after a major or minor has been fulfilled will affect the calculated grade point average. For example, consider a student who has a GPA of 2.0 in a social studies major and who has fulfilled all of the credit and content requirements for the major. If the student then elects a history course and earns a grade of C– or less, the grade point average will fall below 2.0. This student will then not be eligible to student teach or to obtain the

certificate without taking additional University of Michigan course work in social studies and earning a grade high enough to raise the GPA to 2.0 or above. Grades in non-University of Michigan courses do not affect the GPA. However, a grade of C or better is required in any non-University of Michigan course approved for a major or minor.

Additional Transcript Notations

CR/NC (Credit/No Credit): If the instructor of a mandatory credit/no credit course believes that the amount and quality of a student's work is such that it deserves credit, *CR* (credit) is posted on the transcript. If the instructor believes that a student's work does not justify the awarding of credit, *NC* (no credit) is posted on the transcript. Courses designated *CR* earn credit but no honor points. Courses designated *NC* earn neither credit nor honor points. Credit/no credit courses are not included in grade point average calculations.

ED (Unofficial Drop): Courses dropped without permission will be designated on the transcript with a grade of *ED*. The *ED* is figured into the grade point average as an E.

I (Incomplete): Students are expected to complete their courses and submit all course work on time. A student may, at the discretion of the instructor, receive a notation of *I* for a course in which a small amount of the work remains unfinished at the end of the term. All unfinished work must be submitted to the instructor within four weeks after the beginning of the next full or half term in which the student is enrolled. The instructor then has 10 days following the 4-week deadline or 10 days following an approved extended deadline to submit the grade to the Office of the Registrar.

If the student fails to complete the work to the instructor's satisfaction and within the four-week time limit, the *I* grade will automatically lapse to a grade of E, and no credit will be granted for the course. Students who are unable to complete the outstanding course work by the incomplete deadline may, with the instructor's permission, request an extension of the limit through the Office of Student Services.

NR (No Report): A notation of *NR* on the transcript indicates that the instructor has failed to report a grade. If the *NR* is not resolved within four weeks after the beginning of the next term or half term in which the student is enrolled, the notation will automatically be changed to an E.

P/F (Pass/Fail): Upper-division students in good academic standing may elect a total of four courses outside the School of Education on a pass/fail basis, but no more than one per term. (See the section on Pass/Fail Option.)

QH (Questionable Hours): A grade posted on the transcript preceded by a *QH* notation indicates that there is a question about the number of hours elected. *QH* appears when a student has elected a course for a number of credits that differ from the number for which the instructor has reported the grade.

S/U (Satisfactory/Unsatisfactory): If the instructor of a mandatory satisfactory/unsatisfactory course believes that the amount and quality of a student's work is such that it deserves credit, *S* is posted on the transcript. If the instructor believes a student's work does not justify the awarding of credit, *U* is posted on the transcript. Courses designated *S* earn credit but no honor points. Courses designated *U* earn neither credit nor honor points. Satisfactory/unsatisfactory courses are not included in grade point average calculations. Grades of *S* and *U* are given for School of Education field-based courses. Students may not petition for any other grade.

VI (Visitor): This notation is given for a course not elected for credit. The student must pay regular course fees, attend classes, and complete all course work assigned by the instructor. In order to audit a course officially, the student must obtain the signatures of the instructor and the faculty adviser on the election worksheet. The student is subject to the same registration policies as those governing the pass/fail option. (See the section on Pass/Fail Option.)

W (Withdrawal): This notation is a chronological record indicating that the course was officially dropped after the third week of the full term or after the second week of the half term.

X (Absent from Examination): Final examinations are given in accordance with the schedule published in each term's U-M *Schedule of Classes* available online at <www.umich.edu/~regoff/timesched>. Students who miss the final examination but have completed all other work for a course will receive a notation of *X*. Policies for resolving an *X* grade are the same as those for an *I* grade. (See the section on Incompletes.)

Repetition of Courses: A student repeating a course in which any grade of A+ through D– was previously earned will receive honor points but no additional credit. The course appears on the transcript with the notation Repetition. Repetition of a course in which an E grade was originally earned produces both credits and honor points. Repetition of a course in which an F or *U* grade was originally earned produces credit only. In all such cases, the first election and grade earned remain on the transcript. The grades earned by repetition of courses are not averaged and posted as a single entry; they are posted as separate elections.

Course Credit and Repetition Limitations: In general, the School of Education honors the credit and repetition limitations set for courses offered by other units of the University of Michigan and published in their bulletins. Thus, credit toward graduation and certification will not be granted for:

1. A course that is repeated beyond the maximum credits published in the unit's official *Bulletin.*
2. A course if credit has been granted for another course that precludes election of the second course (e.g., credit for Psychology 112 will not be granted if credit for Psychology 111 has been granted).

Exceptions to this policy may be considered only if specifically provided for in this *Bulletin* or in other official supplementary documents.

Special Types of Credit

English Composition Board Tutorials: School of Education students will not receive credit toward the degree for more than two completed elections of the English Composition Board tutorial courses, ECB 100-109. None of the credit for the tutorial course(s) will count toward the fulfillment of any of the School of Education requirements other than the total credits required for graduation (130). An ECB tutorial cannot be taken again for credit once competency for English 125 or the equivalent is achieved, or once the course English 125 or the equivalent has been passed. English Composition Board tutorials are graded credit/no credit.

Independent Study: School of Education students are allowed no more than a total of 10 credits of independent study toward the degree. (Correspondence courses are excluded from this restriction. See the section below on Extension and Correspondence Courses.) Of the 10 credits of independent study, no more than six credits in education and no more than four credits in any single department outside education will be counted. No more than four credits (with adviser approval) may be used to meet any one general studies category requirement. Independent study courses in LSA are designated Independent in the LSA *Bulletin*. The undergraduate-level independent study courses in the School of Education are Ed 310 and Ed 320. A student must have achieved a minimum overall grade point average of 3.0 to enroll in Ed 320. Ed 310 and 320 may each be elected for a maximum of six credits.

Pass/Fail Option: An optional pass/fail grading pattern may be elected by students, subject to the conditions listed below. This option permits students to broaden the range of their educational experience by exploring disciplines and courses in various schools and colleges. Education courses may not be elected on a pass/fail basis.

Students may elect one non-education course each term on a pass/fail basis under the following guidelines:

1. The student must be in good standing (a minimum cumulative grade point average of 2.0).
2. A maximum of four non-education courses may be elected on a pass/fail basis, no more than one per term. This does not include courses offered on a mandatory credit/no credit or satisfactory/unsatisfactory basis.
3. A change in grading pattern for a course is not permitted after the first three weeks of the full term or after the first two weeks of the half term. The grading pattern must be indicated on the election worksheet and on the official class schedule printout.
4. Credit but no honor points will be granted for a passed course.
5. Instructors will report grades as usual, A+ through E. The University's Office of the Registrar will then translate the grades as follows:
   a. A grade of A+ through C– shall be entered on the transcript as P (pass for credit).
   b. A grade of D+ or lower shall be entered on the transcript as F (fail no credit).

Academic Standing and Academic Discipline

Students must remain in good academic standing and maintain an overall grade point average of at least 2.0 in order to be considered eligible for student teaching, for graduation from the School of Education, and for recommendation for teacher certification. At the end of each term the records of all School of Education students whose grade point average for the term or overall has fallen below 2.0 are reviewed for possible academic discipline.

In any decision involving academic discipline, the student's academic career and promise, as well as extenuating circumstances, are considered. Each student subject to academic discipline is dealt with on an individual basis. Parents are not notified of disciplinary action.

Letter of Concern: A student may be sent a letter of concern if his or her grade point average for the term is below 2.0 but the cumulative average remains above 2.0.

Probation: A student whose cumulative grade point average falls below 2.0 will be placed on academic probation. Students placed on probation will be informed of their probationary status by a letter outlining the terms of their probation and asking them to participate in academic counseling. Students on probation are expected to raise their overall grade point average to 2.0 or at least to make substantial progress toward reducing their honor point deficit during their next term of residence in the School of Education.

Dismissal: A student may be dismissed from the School if he or she is on probation and is not making adequate progress toward achieving a 2.0 overall grade point average.

Out-of-Residence Credit

Approval from the student's adviser is required for the election of any course out-of-residence. The permission form is available in the Office of Student Services.

University students who wish to attend other accredited colleges and universities in Michigan as guest students are asked to use a Uniform Guest Application form, which is available online at <www.lsa.umich.edu/saa/information/ formsinfosheets/out-of-res.pdf>. It is the student's responsibility to contact the institution where the course work is to be elected to secure appropriate admissions information, including time schedule information and application forms. A student is admitted according to the procedures of the institution where the course work is sought.

Students must check with the student adviser in the Office of Student Services to ascertain the transferability and equivalencies for courses to be elected off-campus. This verification is important since not all course work elected at other academic institutions is acceptable for credit toward the degree and/or certification requirements of the School of Education. The LSA transfer guidelines are not necessarily the same as the guidelines of the School of Education. The School of Education has final approval for transfer credit for certification/degree requirements.

When the courses are completed, an official copy of the transcript must be requested and forwarded to the Office of Student Services. It is the student's responsibility to determine procedures for requesting transcripts and to pay any fees associated with the request.

Credit is awarded for courses taken out-of-residence if the following criteria are met:

1. The course is comparable in content and in number of contact hours to courses offered at the U-M and the course is considered acceptable for credit toward the School of Education degree and/or for certification credit.
2. The course is passed with a grade equivalent to a C or better.
3. An official transcript from the other institution or from the University of Michigan Extension Service is received by the Office of Student Services. An adjustment of credit is then made.

Students may transfer a maximum of 94 credits from another accredited four-year institution.

Policy regarding the use of two-year college credit is as follows:

1. *Toward School of Education degree:* Two-year college credit (e.g., community college credit) transferable to U-M may be applied toward School of Education bachelor's degree requirements only until a student has

completed 62 credits toward the associate's degree program. After completion of 62 credits, two-year college credit may not be used to satisfy School of Education requirements and may not be transferred as credit toward the School of Education degree program.

2. *Toward certification requirements*: Any two-year college credit duly transferred to a U-M transcript may be applied toward certification requirements until the student has completed 62 credits toward an associate's degree program. In the case of postdegree special students in the School of Education, two-year college credit is not transferred to a U-M transcript and may not be used toward certification.

Credit earned at other academic institutions by students in degree programs in the School of Education, with the exception of course work completed at the U-M Dearborn and Flint campuses, is posted on the transcript without honor points (i.e., grades). It is considered out-of-residence credit and is subject to the School's residence credit policy.

Seniors who are electing their final credits out-of-residence must contact the Office of Student Services regarding their plans, including the anticipated date of graduation.

Student Academic Conduct

The case of each student whose academic or nonacademic conduct is deemed unsatisfactory is reviewed in accordance with School of Education disciplinary procedures. Deception by students for personal gain or other unprofessional behavior is contrary to the standards of the academic community and is subject to discipline. Student academic misconduct includes but is not limited to:

Cheating: Using unauthorized notes, study aids, or information from another student or student's paper on an examination; altering a graded work after it has been returned, then submitting the work for regrading; allowing another person or agency to do one's work and to submit the work under one's own name; or submitting the same paper to different instructors without prior permission.

Plagiarism: Submitting a piece of work (for example, an essay, a research paper, or an assignment) that in part or in whole is not entirely the student's own work without attributing those same portions to their correct sources.

Fabrication: Presenting data in a piece of work that were not gathered in accordance with the guidelines defining the appropriate methods for collecting or generating data and including a substantially inaccurate account of the method by which the data were gathered or collected.

Aiding and abetting dishonesty: Providing materials or information to another person with knowledge that the materials or information will be used improperly.

Falsification of records and official documents: Altering documents affecting academic records; forging signatures of authorization or falsifying information on an official academic document, election form, grade report, letter of permission, letter of recommendation, petition, or any document designed to meet, or to exempt a student from, an established School or University academic regulation.

Harassment: Assaulting, threatening, disrupting, or interfering with the work or study of a member of the faculty or staff or a student at the School.

Discrimination and discriminatory harassment: Behavior by students that is prohibited under the University's Policy on Discrimination and Discriminatory Harassment by Students in the University Environment. Copies of the policy are available in 1111 School of Education Building or from the Affirmative Action Office, 4004 Wolverine Tower.

Unprofessional conduct: Shall include but not be limited to bringing faculty, students, children, or other clients in a field setting in contact with illegal or harmful substances, inappropriate language, or conditions harmful to learning, health, or safety; neglecting duties and responsibilities required by a field assignment; exposing the student to embarrassment or disparagement; and using professional relationships with students for private advantage including sexual harassment.

Conversion: Taking or destroying the property of the School or its faculty, staff, or students.

Student Records

Student files are maintained in the School of Education Office of Student Services. Students have the right to review all materials in their University files except:

1. Medical and/or professional counseling records that are used only for treatment. (These may be reviewed by a physician or another appropriate professional of choice.)
2. Financial information submitted by parents.
3. Confidential letters and recommendations that were placed in the files before January 1, 1975, and that were used only for the purpose for which they were intended.
4. Confidential letters of recommendation concerning admission, employment, or honorary recognition, or any materials for which the student has signed a waiver of access.
5. Notes made by a faculty or administrator that are in the sole possession of that person and are not shared with others.

A student who wishes to examine his or her records on file in the Office of Student Services may schedule an appointment to review the materials.

Fees and Financial Aid

The most current information about the costs to attend the University of Michigan are available online at <www.umich.edu/~regoff/tuitmenu.html>.

Financial Aid

The University of Michigan has various types of financial assistance available for qualified students. Students should begin in November to investigate financial aid possibilities for the following academic year. Many of the financial aid programs have application deadlines in January. Below is a list of offices in the University that can provide information about financial aid. Each listing includes a description of some of the aid available through that office.

For general financial aid information, visit the web at <www.soe.umich.edu> or contact the School of Education Office of Student Services. Students may be awarded financial assistance at the time of admission to a School of Education graduate program. Students are encouraged to begin both the admission and the financial aid consideration processes as early as possible. Students will be considered for all types of aid for which they are eligible.

Office of Financial Aid

Information about aid programs is available from the Office of Financial Aid, <www.finaid.umich.edu>. The status of federal aid programs, such as the Federal Perkins Loan, College Work Study Program, and the Federal Direct Stafford Loan, is uncertain from year to year. Both the amount of aid available and ceilings for aid to individual students vary.

Teacher Preparation Merit Scholarship

This scholarship is for students pursuing teacher certification while enrolled in the School of Education. Eligible students are undergraduates admitted to the School of Education, Rackham students in the School of Education, or non-candidate for degree students in education. A student must be full time and a U.S. citizen or permanent resident. At least two awards are granted each year, with one reserved for a minority student. The scholarship is for full tuition and an optional hourly job for up to five semesters. The application deadline has been mid-April; check with the Office of Student Services for the exact deadline.

Undergraduate Studies
Contact Information

School of Education

Office of Student Services
610 East University Avenue, Room 1033
Ann Arbor, Michigan 48109-1259
Phone: (734) 764-7563
Fax: (734) 763-1495
Internet: www.soe.umich.edu
Email: ed.undergrad.admit@umich.edu

Teacher Education
610 East University Avenue, Room 1228
Ann Arbor, Michigan 48109-1259
Phone: (734) 615-1528
Fax: (734) 647-9158
Internet: www.soe.umich.edu/programs/certification
Email: ed.studies.info@umich.edu

University of Michigan

College of Literature, Science, and the Arts
500 S. State St., Room 2522
Ann Arbor, MI, 48109-1382
Phone: (734) 764-0322
Fax: (734) 764-2697
Internet: www.lsa.umich.edu
Email: ugadmiss@umich.edu

Division of Kinesiology
Office of Student Services
401 Washtenaw Ave., Room 3745
Ann Arbor, MI 48109-2214
Phone: (734) 764-4472
Fax: (734) 764-2697
Internet: www.kines.umich.edu

Office of Financial Aid (OFA)
515 East Jefferson Street, Room 2011
Ann Arbor, MI 48109-1316
Phone: (734) 763-6600
Fax: (734) 647-3081
Internet: www.finaid.umich.edu
Email: financial.aid@umich.edu

Office of the Registrar
500 S. State Street, Room 1524
Ann Arbor, MI 48109-1382
Phone: (734) 764-6280
Fax: (734) 936-3148
Internet: www.umich.edu/~regoff
Email: registrar@umich.edu

School of Music
1100 Baits Dr, Room 2290
Ann Arbor, MI 48109-2085
Phone: (734) 764-0593
Fax: (734) 763-5097
Internet: www.music.umich.edu

Transcript Office (to order all U-M transcripts)
500 S. State St, Room 555
Ann Arbor, MI 48109-1382
Phone: (734) 763-9066
Fax: (734) 764-5556

University Housing Office
1011 Student Activities Building
Ann Arbor, MI 48109-1316
Phone: (734) 763-3164
Fax: (734) 764-6806
Internet: www.housing.umich.edu
Email: housing@umich.edu

General Information

Code of Student Conduct

All University of Michigan students are responsible for upholding the community standards expressed in the Statement of Student Rights and Responsibilities, which sets forth standards of non-academic conduct by students and a judicial process for resolving complaints of alleged violations of the standards. If a student is alleged to have participated in behavior that violates both the professional standards of the School of Education and the standards of the Statement of Student Rights and Responsibilities, the School may choose to resolve the allegations either through the School's procedures or through the procedures outlined in the document "University Policies Affecting Students." This document, which is administered by the Office of Student Conflict Resolution, can be found on the web at <www.umich.edu/~oscr/policyindex.html>.

Office of Services for Students with Disabilities

The University of Michigan complies with federal and state laws that affect qualified persons with disabilities. It is the policy and practice of the School of Education to provide equitable educational opportunities in all programs and activities, including internships or field placements, for students with documented disabilities. Students with disabilities who require academic adjustments are encouraged to contact their instructors at the beginning of the semester to discuss their specific needs. The University's office of Services for Students with Disabilities (SSD) provides assistance regarding academic, economic, social, and recreational activities to students who have documented disabilities. For information about the SSD is available on the web at <www.umich.edu/~sswd/ssd>, via mail at SSC, G-625 Haven Hall, Ann Arbor, MI 48109-1045, or via voice/TYY at (734) 763-3000. Students with disabilities may also contact the School of Education Office of Administrative Services, 1111 SEB, Ann Arbor, MI 48109-1259, (734) 763-4288).

Academic Calendars

University of Michigan Academic Calendars are available on the web at <www.umich.edu/~regoff/calendar/calmenu.html>.

Campus Safety

Each year, the University of Michigan prepares an "Annual Security Report." The report contains detailed information on campus safety and security policies, procedures, and programs, including information on: emergency services, security telephone numbers, sexual assault policy, stalking laws, handling obscene phone calls, sexual harassment policy, dealing with workplace violence and threats, police agencies, health services, counseling services, safe transportation after dark, safety tips, and alcohol and drug policies and programs. The report also includes statistics concerning crimes on campus. If you would like to receive a complete copy, please call the University of Michigan Department of Public Safety at (734) 763-3434. Additional information about campus safety are available at on the web at <www.umich.edu/~safety/reports.html>.

The President's Letter on Diversity

Welcome to the University of Michigan, one of our country's great public universities. One of the many reasons I am thrilled to be part of this university community is because of its long-standing commitment to diversity. I firmly believe that we can learn some of life's most important lessons from each other. The more varied the perspectives represented, the richer our education. Our differences-whether they be the academic questions that engage us, age, economic background, gender, or race, to name just a few-bring a buoyancy to our campus community and help create the intellectual vitality that makes Michigan internationally renowned.

Since its founding more than one hundred and eighty years ago, the University has aspired to provide an outstanding education to a diverse student population. Former President James B. Angell, in his 1879 commencement address, said, "Good learning is always catholic and generous. … It frowns on caste and bigotry. It spurns the artificial distinctions of conventional society. It greets all comers whose intellectual gifts entitle them to admission to the goodly fellowship of cultivated minds. It is essentially democratic in the best sense of that term."

Several years ago, Michigan's faculty, through the University Senate, reaffirmed its commitment "to recruiting and maintaining a culturally and racially diverse student body and faculty that are representative of contemporary society, and to assuring that these diverse influences are respected and incorporated into the structure of the University."

I am proud to belong to an academic community that historically has embraced diversity and is as committed today to this ideal as it was during the days of President Angell. I invite you to join me in supporting Michigan's ongoing efforts to promote an appreciation of and openness to the viewpoints and contributions of others.

Sincerely,

Mary Sue Coleman
President

Administration and Faculty

Regents of the University

David A. Brandon, Ann Arbor
Laurence B. Deitch, Bloomfield Hills
Daniel D. Horning, Grand Haven
Olivia P. Maynard, Goodrich
Rebecca McGowan, Ann Arbor
Andrea Fischer Newman, Ann Arbor
S. Martin Taylor, Grosse Pointe Farms
Katherine E. White, Ann Arbor
Mary Sue Coleman, *ex officio*

Executive Officers of the University

Mary Sue Coleman, President
Paul N. Courant, Interim Provost and Executive Vice President for Academic Affairs
E. Royster Harper, Vice President for Student Affairs
Marvin Krislov, Vice President and General Counsel
Daniel Little, Chancellor, University of Michigan-Dearborn
Juan E. Mestas, Chancellor, University of Michigan-Flint
Lisa M. Rudgers, Vice President for Communications
Lisa A. Tedesco, Vice President and Secretary of the University
Fawwaz T. Ulaby, Vice President for Research
Cynthia H. Wilbanks, Vice President for Government Relations & Interim Vice President for Development

Administrative Officers of the School of Education

Karen K. Wixson, Dean
Eric Dey, Associate Dean
Jeffrey Mirel, Associate Dean
Henry O. Meares, Assistant Dean
Virginia Richardson, Chair, Educational Studies
Sylvia Hurtado, Director, Center for the Study of Higher and Postsecondary Education
Paul Pintrich, Chair, Combined Program in Education and Psychology
Anne Ruggles Gere, Chair, Joint Program in English and Education

Faculty of the School of Education

A complete and current listing of faculty members appears on the School of Education's web site at: <www.soe.umich.edu/faculty.html>.

School of Education Course Descriptions

Courses are listed here in numerical order. The number and name of the courses are given in bold face type, followed by credit hours in parentheses and prerequisites in italics. School of Education courses appear in the University *Schedule of Classes* under division numbers 201, 206, and 208.

Education (EDUC)

301. Directed Teaching: Elementary (3-12) *Prerequisites: 307(6), 391, 392, 401, 403, 406, 411, 421, 431. Students must satisfy other requirements, such as grade point average, described in this School of Education* Bulletin.
Develops the special knowledge and competencies required of nursery and elementary school teachers through observation and teaching in school classrooms under the joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to seven hours during the school day. Open only to seniors, special students, and graduate students who have been admitted to the teacher education program.

302. Directed Teaching: Secondary. (1-12) *Prerequisites: 307, 391, 392, and appropriate methods course. Students must satisfy other requirements, such as grade point average, described in this School of Education* Bulletin.
Guides observation and teaching in secondary school classrooms, as well as involvement in other roles of the secondary school teacher, under the joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to seven hours during the school day. Open only to seniors, special students, and graduate students who have been admitted to the teacher education program.

303. Seminar: Problems and Principles of Elementary Education. (1) *Must be elected concurrently with 301.*
Draws upon experiences in elementary directed teaching; considers characteristics and experiences of pupils in the school, classroom environment, teaching competencies and professional responsibilities, school curriculum and policies, and administrative/organizational problems. Open only to students who are enrolled in 301 and who are thereby observing and teaching in the regular classroom.

304. Seminar: Problems and Principles of Secondary Education. (2) *Must be elected concurrently with 302.*
Draws upon resources found in the directed teaching environment; considers problems and issues in four broad areas: students in the school, the teacher's professional responsibilities, curriculum understandings, and administrative/organizational problems. Open only to students enrolled in 302.

307. Practicum. (1-7) *Prerequisite: Permission of instructor. May only be elected concurrently with an elementary field-based block or concurrently with a secondary methods course.*
Provides students with supervised opportunities to integrate theory and practice by working with teachers in classrooms or other field settings.

310. Independent Study. (1-6, may be elected more than once, for a maximum of 6 hours; if 320 is elected, the maximum is 6 hours in total for degree) *Prerequisites: Permission of instructor, junior standing, undergraduate students only.*
Comprises supervised reading, research, or other inquiry regarding education.

314. (PE 414) Directed Teaching Seminar: Physical Education. (1-2) *Prerequisite: PE 444.*
Drawing on the directed teaching experience, this seminar is designed to explore the theory and practice of physical education as students apply them in their directed teaching environments.

315. (PE 415) Directed Teaching in Physical Education. (6-12) *Prerequisites: PE 444 and 307.*
Designed to provide practical experience and to develop teaching competencies under the joint supervision of University and K-12 school personnel. Students are placed in elementary and secondary classroom situations.

317. Observation and Participation in Educational Settings. (1-8) *Prerequisite: Permission of instructor.*
Provides an opportunity for supervised observations of and participation with children and adolescents in educational settings.

320. Honors Independent Study. (1-6, may be elected more than once, for a maximum of 6 hours; if 310 elected, maximum is 6 in total for degree)
Prerequisites: Permission of instructor and minimum overall GPA of 3.0, junior standing, undergraduate students only.
Comprises supervised reading, research, or other inquiry regarding education.

362. Interactive Communications and Simulations. (4)
Introduces the use of computer-conference mediated role-playing simulations and related activities featuring a worldwide network of middle schools and high schools as a laboratory. Involves a thorough immersion in one exercise which includes guiding secondary school participants in the exercise. Topics may vary from term to term.

391. Educational Psychology and Human Development. (3) *Prerequisites: Psychology 111 and 112 or equivalents.*
Discusses human learning, motivation, and development. Considers evaluation theory, both instructional and psychological, including uses of behavioral objectives, criteria-referenced and norm-referenced tests, and observation skills. Investigates individual differences, emphasizing the exceptional learner and including mainstreaming philosophy and theory.

392. Education in a Multicultural Society. (3)
Presents philosophy, history, and sociology of American education in relation to its contemporary settings. Attends to sociopolitical contexts and to roles of technology in society and schooling. Places special emphasis on multicultural thought and experience in American society.

401. Developmental Reading and Writing Instruction in the Elementary School. (3)
Offers an introduction to the processes of reading and writing development, emphasizing methods and materials for teaching literacy skills in elementary and junior high schools (K-8).

402. Reading and Writing in Content Areas. (3)
Gives basic orientation to the processes of reading and writing, emphasizing methods and materials appropriate to reading and writing instruction within the various subject areas in middle and secondary schools.

403. Individualizing Reading and Writing in the Elementary Classroom. (3)
Explores techniques for assessment of reading and writing skills and for development of individualized instruction in classroom settings; develops strategies for meeting the needs of individual students through the evaluation, utilization, and adaptation of commercial reading materials and through the formation of principles and techniques for producing effective teacher-prepared materials.

406. Teaching in the Elementary School. (3) *Prerequisites: Must be elected concurrently with 307, 391, and 401.*
Studies elementary schooling in relation to learners, teaching, curriculum, and the professional responsibilities and obligations of teachers. Contemporary issues affecting the elementary classroom teacher serve as the specific focus. Taken in conjunction with 307, which facilitate the integration of theory and practice by providing students with the opportunity to work with learners and teachers in classrooms.

408. Literacy Teaching and Learning: An Integrated Language Arts Perspective. (3)
Studies the history of approaches to children's oral and written language learning, with particular focus on literacy (reading, writing, and other symbolic systems), and the psychological and social/cultural development of young children. Explores the history of systems of teaching literacy, with emphasis on formal schooling, and the social/cultural underpinnings of classroom instruction. Contemporary trends in literacy and language arts instruction affecting the elementary classroom are emphasized.

411. Teaching Elementary School Mathematics. (3)
Presents content, methodology, and instructional materials for elementary school mathematics; emphasizes use of knowledge from learning theory, motivation, readiness, evaluation, and individual differences in selecting, organizing, and presenting mathematical content for elementary school children.

412. Mathematics Instruction in the Middle School. (3)
Examines content, methods, and instructional materials for middle and junior high school mathematics (grades 5-9); reviews pertinent research; gives special attention to recently designed curricula, to individual differences, and to classroom management plans.

413. Teaching Secondary School Mathematics. (3) *Prerequisite: Concurrent or previous election of 391 or equivalent.*
Discusses pertinent aspects of recent pedagogical and research literature, as well as new instructional materials, methods, and curricular trends and regarding procedures useful for constructing and improving curricular units.

421. Teaching of Science in the Elementary School. (3)
Explores objectives, methods, and content in elementary school science instruction, emphasizing concept development in several areas of elementary science; refers to pertinent contributions from research; provides opportunity for student preparation of materials for classroom use.

422. Teaching of Science in the Secondary School. (3) P*rerequisite: Concurrent or previous election of 391 or equivalent.*
Briefly surveys the place of science in the secondary school curriculum; works on analysis and evaluation of instructional objectives; considers modern practices in teaching science; examines pertinent contributions from research.

427. Elementary School Art. (2-3)
Presents the tools, materials, and experiences suited to helping the elementary teacher provide an opportunity for the creative growth of children.

428. Theoretical Foundations for the Teaching and Learning of Science in Elementary Schools. (3)
Examines the learning and motivational literature that forms the foundation for sustained inquiry and collaboration in elementary science classrooms. Explores how beliefs of the nature of science influence science teaching. Studies the impact of the use of learning technologies on the teaching and learning of science. Examines national, state and local curriculum standards for the teaching and learning of elementary science. Explores the multicultural and gender literature to develop a framework to provide rich science experiences for all students.

431. Teaching of Social Studies in the Elementary School. (3)
Considers the social studies in elementary school programs: objectives, materials of instruction, organization and content of selected courses of study, special methods and devices, and adaptation of methods to specific school conditions. Presents significant research, reports, and trends of the times.

432. Teaching of Social Studies in the Secondary School. (3) *Prerequisite: Concurrent or previous election of 391 or equivalent.*
Investigates general and specific instructional objectives in the secondary school social studies curriculum, trends in methods, materials and their uses, provisions for individual differences, evaluation of pupil progress, and procedures useful for curriculum construction and improvement. Examines pertinent contributions from research.

438. Disciplinary Foundations for Teaching Social Studies. (3)
Examines national, state, and local curriculum standards for elementary social studies; the relationship between social science disciplines and the elementary curriculum; multicultural perspectives on teaching and learning, and the effects of curricular, instructional, and assessment patterns on children's understanding of social studies concepts and methods. Students also will learn to review and critique studies on social studies teachers' practices and children's learning.

439. Introduction to Special Education. (3)
Focuses on educational and other characteristics and needs of children and youth who deviate from the average or norm in physical, neurological, sensory, emotional, intellectual, social, or communication abilities. Intended especially for the regular classroom teacher.

440. Teaching of English. (3) *Prerequisite: Concurrent election of 307.*
An examination of the practical issues surrounding English instruction in secondary school. Designed for prospective teachers of English.

462. Instructional Simulations. (4) *Prerequisite: Permission of instructor.*
Enables students to apply their academic training and experience in advisory and control roles of ICS (Interactive Communication Simulations). "Hands-on" instruction in and application of computer conferencing, role-play simulations, negotiation, and policy making are offered. Simulation topics vary each term.

490. Topics in Professional Education. (1-6)
Topics concerning professional issues and methods in education. Topics change each term.

500. Foundations of Literacy. (3) *Prerequisite: Graduate standing.*
Provides key theoretical underpinnings to research and instruction in literacy. Investigates current theories of reading/literacy and their historical roots as well as current trends in practice. Ties these trends in practice to the question: "What is typical and atypical development and how does context affect judgments about typicality and atypically?"

501. Literacy Curriculum, Instruction and Assessment: Primary/Elementary. (3)
Focuses on the child in her or his own varying life contexts, including home, school, clinic, and community. Studies the ways individual children who are experiencing literacy problems understand and express their knowledge of literacy within and across these contexts. Uses this portfolio of information in the design of effective interventions and assessments for young children in their classrooms.

503. Learning from Texts in Subject Areas. (3) *Prerequisite: Graduate standing.*
Examines in depth factors involved in learning from subject area textual materials; explores instructional strategies for promoting subject area learning through reading and writing.

504. Teaching with Technology. (3)
Prepares secondary education students to identify and use technologies that are appropriate for their grade levels and content areas. A culminating project is required. Students, in cooperation with field placement mentors, will design an extended unit plan that integrates the use of technology and enact the unit in their classroom placement sites. Students will be encouraged to critically examine links between the use of various technologies and student learning.

505. Literacy Curriculum, Instruction and Assessment: Middle/Secondary. (3)
Enables students to successfully meet the needs of middle and high school students with literacy problems with regard to assessment, instruction, and curriculum development/modification. Attends to the transition from learning to read and write to using reading and writing to learn, the literacy demands of the context areas (science, history, and mathematics), the relationship between in- and out-of-school literacies, and developmentally appropriate technological tools that enhance the learning of students experiencing learning difficulties.

506. Computing Technology in the Mathematics Classroom. (3)
Examines the use of calculators and computers in mathematics instruction, including the effects on the mathematics curriculum.

509. Literacy and Learning for Typical and Atypical Students: Transition/Adult. (3)
Introduces students to the uses and forms of literacy in postsecondary institutions or adult settings. Addresses the issues of literacy teaching, learning, and performance in students' transitions from secondary to postsecondary, from secondary to workplace, and from one workplace setting to another. Emphasis given to students with special needs. Recommended for those who want to work in postsecondary settings in programs designed to meet the academic, workplace, or life literacy needs of adults, and for students who wish to understand the arc of lifelong literacy learning.

510. Teaching and Learning. (3)
Introduces students to current theory and research in the processes of learning and teaching in elementary schools. Focuses primarily on educational psychology; emphasis placed on urban education and diversity. This course is closely tied to 650, which entails an internship in schools in an urban area.

513. Diagnosing Learning Problems in Elementary Mathematics. (2) *Assumes some elementary classroom experience.*
Deals with the nature of learning problems in elementary mathematics and with diagnosis of individual needs in computational, spatial, and affective areas; reviews diagnostic instruments; analyzes common pupil errors taken from actual examples; develops possible alternatives for improving learning and instruction.

514. Teaching in Early Educational Settings. (3)
Presents basic principles of administration, organization, and operation of early education programs including physical setting, schedule and routines, curriculum, and the use of strategies to encourage children's physical, social, emotional, and cognitive.

515. Foundations of Early Childhood Education. (3) *Prerequisite: Admission to ZA endorsement program.*
Focuses on the underlying principles and philosophies of the field of early childhood education and helps students understand the process and reasoning behind practices in the field. Puts programs, curriculum and child development into social, cultural and historical contexts in order for students to understand how young children learn. Examines the role of the teacher as a facilitator of learning by critically examining issues such as reflective teaching, equity in education, parental involvement, and professionalism in the field. Integrates multicultural education, educational technology, and inclusion of children with special needs into the course content and discussions.

516. Theory and Practice in Early Childhood Education. (3)
Provides an overview of behaviorist, constructivist and sociogenic theories and the application to early childhood education settings. Students use narrative specimen records, structured inquiry and case studies to explore relationships between theory and practice.

517. Early Childhood Education: Policy Issues. (3)
Considers a number of issues of concern to the field such as day care, work and family, readiness testing, and poverty and public responsibility. Course is focused on one or two issues each semester.

518. Workshop on Teaching Mathematics. (1-3)
Considers methods and materials for teaching specific mathematics topics, selected grade levels, and specific groups of learners.

522. Improvement of Science Teaching. (3)
Investigates exemplary science teaching strategies in elementary and secondary schools drawn from research and practice; surveys recent curriculum developments and materials, uses of technology, and teaching methods, including evaluation of instruction.

525. Language Development. (3)
Examines issues of language development at various stages across the life span. The phonological, semantic, and syntactic structures of language are studied as well as some issues generally related to later life development, e.g., literacy development, metalinguistic awareness, and discourse patterns.

528. Workshop on the Teaching of Science. (1-6)
Critically examines uses for existing and innovative methods and materials in the teaching of science, emphasizing a laboratory approach. Topics may vary each time the workshop is offered, focusing on one or more areas from elementary school science, junior high science, biology, chemistry, physics, physical science, or earth science.

538. Workshop on Social Studies Teaching. (1-2, may be elected more than once)
Considers current content, methods, and materials related to social studies teaching (K-12).

547. Current Issues in Educational Studies. (3)
Explores scholarship and research relevant to current issues in education. Issues vary by term and faculty.

551. School Organization and the Policy Environment. (3) *Prerequisite: Graduate standing or permission of instructor.*
Reviews important contributions to organization theory and emphasizes their application to the administration of schools. Discusses the structure of organizations, the management of work, and the nature of psychological and interpersonal processes in the workplace.

552. Instructional Leadership in Schools. (3) *Prerequisite: Graduate standing or permission of instructor.*
An examination of alternative approaches to instructional leadership in K-12 schools, with special attention to problems of curriculum development, supervision and evaluation of teaching, assessment of student learning, and the design and implementation of school improvement programs.

553. Administrative Leadership in Schools. (3) *Prerequisite: Graduate standing or permission of instructor.*
The ways in which schools are organized, and the priorities and behaviors of school leaders, have profound implications for how students (and adults) act and learn in schools. This course considers organizational and administrative strategies which school leaders can employ to develop an effective school program. Topics include: organizational structure, resource allocation, student services, staff personnel support, organizational culture and climate, school relations with family and community, and school monitoring and accountability.

555. Financial and Legal Policies for Schools. (3) P*rerequisite: Graduate standing or permission of instructor.*
Examines the role of public policy in the organization, operation, finance, and governance of K-12 schools.

561. Introduction to Higher Education. (3)
Provides an overview of the postsecondary education system in the United States; examines the major features of this system and explores its effects; explores effects of various professional and disciplinary perspectives on the study of postsecondary education viewed as an interdisciplinary field.

563. The Community College. (3)
Presents an intensive examination of the two-year college in the United States. Emphasizes theoretical and practical knowledge regarding public community colleges with comprehensive educational programs, looking especially at their history, philosophy, students, staff, services, and patterns of organization; also considers other types of two-year institutions. Using a problem-centered approach, examines current information pertinent to analysis of national trends among two-year colleges.

600. Applications of Learning Theories to Technology-Rich Learning Environments. (3)
Provides foundational knowledge and understanding about learning theories that inform the design of technology-rich learning environments, including behaviorism, cognitivism and constructivism. Students will engage in authentic activities that link these ideas to practical real-world applications in technology for learning.

601 (SI 639). Learning Technologies Across the Content Areas. (3)
Presents an overview of the principles underlying current uses of technology in K-12 settings. Students are introduced to key projects in learning technologies and the researchers and developers behind these projects. Technology is examined across a range of content areas. Students are also encouraged to develop critical perspectives about the uses of technology for education.

602. Instructional Gaming. (1-4, may be taken up to four times)
Introduces students to the theory and practice of simulation, metaphorical, and literal games; provides extensive exposure to gaming used as a vehicle of instruction in various parts of school curricula; provides opportunities to design games for classroom use, with some attention to problems of evaluation.

603. Classroom Based Evaluation of Learning Technology. (3)
An introduction to needs assessment and formative evaluation as critical tools in the design process for educational materials, software and/or curricula. The course is designed with an emphasis on site-based experiences, to foster the understanding of real-world evaluation and application of technology for learning. If possible, this course should be taken in conjunction with 626.

604. School Curriculum. (3)
Explores foundations for curriculum in elementary, middle, and secondary schools, content trends in each of the subject areas, and effective procedures for school curriculum improvement. Includes such topics as process issues of scope, sequence, and curriculum articulation.

605. Internship in Learning Technologies. (3)
Students enrolling in Internship in Learning Technologies will be paired with area educational institutions where they will focus on solutions to real, ongoing issues and challenges in the uses of technology to support learning. A University instructor and an on-site internship director/mentor will supervise interns. A reflective analytical paper must be completed.

606. Developmental and Psychological Perspectives on Education. (3)
Discusses developmental theories and psychological research and their application to educational problems at the classroom and school levels. Theories and research are presented from cognitive-developmental, cognitive science, social constructivist, and motivational perspectives.

607. Introduction to Educational Measurement and Evaluation. (3) *Prerequisite: Graduate standing at the doctoral level.*
Investigates the development and use of standardized psychological and educational tests in general educational use. Emphasis on criteria for critical evaluation.

608. Curriculum Change. (3)
Deals with recent curriculum changes in the various content areas; unique aspects of change in educational settings, especially in elementary, middle, and secondary schools; theoretical models of the diffusion of innovations; models of change process in educational settings; the political reality of change in education; and the application of general change literature to educational problems. Analyzes studies of curriculum change in educational settings.

609. Curriculum Development and Evaluation. (3)
Examines curriculum planning, design, implementation, and evaluation in elementary, middle, and secondary schools and at the school district level; emphasizes principles and objectives that may underlie these processes and specific practices that may flow from them. Intended for both experienced teachers and administrators.

611. Mathematics Instruction in the Elementary School. (3) *Prerequisites: 411 or equivalent and permission of instructor.*
Presents recent developments in content, methods, and instructional materials for elementary school mathematics; reviews research in mathematics education; applies psychological knowledge to curriculum development and classroom practice.

612. Mathematics Instruction in the Secondary School. (3, may be elected twice)
Presents recent developments in content, methods, and instructional materials for secondary school mathematics; reviews related research; emphasizes critical analysis of national recommendations and experimental materials.

613. Current Issues in Mathematics Education. (3, may be elected twice)
Examines in depth an aspect of mathematics curriculum or teaching methods that is new, controversial, of current interest, or needs modification.

614. Contemporary Issues in Early Childhood Education. (3)
Focuses upon current issues relating to the development of young children in educational settings. Through invitation to professionals in related disciplines, the content is interdisciplinary in nature, focusing research and theory about young children on educational issues. The major focus may change.

615. Early Childhood Education Curriculum. (3)
Explores the relationship between prescriptions for practice and current understanding of children's intellectual and social development. Studies early childhood curriculum in the broader context of curriculum studies—and its concern with issues of race, class, and gender—in the field of education.

616. History of Early Childhood Education. (3)
Reviews principal historical documents and trends in the field, including the work of Froebel, Pestalozzi, Rousseau, Tolstoy, Dewey, and Montessori.

617. Qualitative Research in Early Childhood Education. (3)
Explores the narrative mode—both literary works and qualitative research studies—to situate the study of early education in the lived experience of children, families, and teachers.

618. Early Childhood Assessment. (3)
Introduces key issues and topics, including the meaning of testing and assessment, cautions about using measurement techniques with young children, developmental screening, readiness testing, developmental assessment, and performance assessment.

619. High Risk Infants. (3)
Reviews the development of high risk infants with particular attention given to etiology and sequelae of high risk infants during the first three years of life.

620. Education of Young Children with Special Needs. (3)
Focuses on early identification of handicapping conditions in young children and on models for effective intervention. Designed as an introduction for special education teachers and for teachers of regular nursery, day care, or kindergarten programs.

621. Teaching Writing in the Elementary and Secondary Schools. (3)
Examines in depth factors related to the development and implementation of instructional programs in writing at the elementary and secondary levels; explores specific instructional techniques.

622. Proseminar in Higher Education. (3)
An introductory course designed to acquaint students with contemporary challenges, purposes and studies in higher education. It integrates various elements of the policies, institutions and individuals involved in the postsecondary enterprise.

623. Research on Literacy. (3) *Prerequisite: Graduate standing.*
Reviews issues in reading and writing by analyzing past and current research literature. Students write critical reviews and design research studies.

626 (SI 630). Principles of Software Design for Learning. (3)
Introduction to the process of designing computer-based learning environments. Students work in groups to design and prototype learning environments for real classrooms. Attention is focused on enduring designs are based upon sound pedagogical theory and that learning environments are embedded into curriculum. If possible, this course should be taken in conjunction with 603.

628. Issues in Education Policy. (3)
Students will acquaint themselves with the central problems of making, implementing and doing research on education policy; with the governmental systems in which policy is made and executed and with the influences on those systems; and with some of the important research on these matters and leading problems in that research.

632. Readings in the Anthropology of Education. (3)
Explores various explanatory frameworks (genetics, environment, culture, institution, social structure) for interpreting the lower educational achievement of members of traditionally disadvantaged ethnic, racial, and linguistic groups within American society.

635. Research in the Social Studies. (3) *Prerequisite: Graduate standing.*
Acquaints students with current scholarly research in the social studies and engages them in a critical analysis of this research. Examines areas of needed research and appropriate research methodologies.

636. Recent Developments in the Social Studies. (3) *Prerequisite: Graduate standing.*
Presents recent practice and proposals for change in content, methods, and instructional materials in elementary and secondary schools. Reviews recent national and state trends with emphasis on critical analysis of national recommendations and experimental materials.

637. Practicum in Assessment. (3, may be elected more than once, for a total of 6 credits) *Prerequisite: Graduate standing at the doctoral level.*
Demonstrates application of theory and techniques of assessment to: 1) test and scale construction, 2) testing programs in the schools, or 3) research methodology.

638. Internship and Directed Field Experience. (1-6) *Prerequisite: Graduate standing.*
Enables the student to practice in the field under supervision, achieving greater competence in use of skills in which he or she has been trained. The faculty member under whose direction the work is to be done, or a program coordinator, makes arrangements with the field supervisor, who furnishes a report of the student's work. Partial credit may be obtained for shorter periods or for experience in different locations.

639. Field Experience in English Language Arts and Special Education. (2 or 3)
Provides opportunities to observe and/or work with students in a variety of educational settings.

640. Independent Study in Educational Studies. (l-3, may be elected more than once) *Prerequisite: Graduate standing.*

641. History of American Education. (3)
Survey of the main periods, persons, and themes in American educational history from the 1770s to the present. Gives special emphasis to recent historiographic debates in the field.

642. Philosophy and Politics of Education. (3)
Explores aspects of philosophy that bear upon educational principles, policy making, and practice, according to well-formed theories; supplies examples from notable policies in force and in development today.

643. Sociology of Education. (3) *Prerequisite: Graduate standing.*
Focuses on the role of schooling in reproducing and reinforcing prevailing social, political, and economic relationships and inequities; assesses the potential contradictions between the societal functions of schooling and the professed goals of educators. The course examines sources of educational change, organizational context of schooling, impact of schooling on social stratification, social organization within the school and the classroom, social impact of the formal curriculum, and methods of selection and differentiation in elementary and secondary schools.

644. Comparative and International Education. (3)
Uses an examination of comparative methods to illuminate educational theory and practice in various sociocultural settings around the world. Intended especially for foreign students and others interested in comparative social foundations of education and related policy issues.

645. Education and Cultural Studies. (3)
Provides an introduction to the multidisciplinary field of cultural studies; places special emphasis on the concept of a multicultural society.

646. Educational Policy Analysis. (3)
Provides introduction to basic concepts and processes of policy analysis in education.

647. Everyday Life and Learning. (3)
Theories of learning and of development must appeal to a criterion of some kind, by reference to which genuine learning is distinguished from mere change. This course examines the ways that everyday life has become a topic of serious study, and considers the view of learning that arises from its consideration. The aim is to arrive at a deeper understanding of learning as a human and social phenomenon, and consider how we might foster it, as individuals and as an institution.

648. Schools and the Production of Persons. (3)
Examines both the conceptual and empirical writings of authors who have regarded schools not simply as places of learning, but as sites for the production of persons. A concern with implications for the problems currently facing public schools will orient our inquiry. Readings will draw from psychological, sociological, anthropological, and philosophical perspectives. We will also sample representations of schools in the media.

649. Foundational Perspectives on Educational Reform. (3)
Critically examines selected contemporary reform efforts in education from the perspective of one or more of the foundation disciplines. Aims to develop in the career educator a broader and deeper understanding of the tensions between ideas and practice in dynamic social environments. Graduate course required of all new Educational Studies master's students.

650. Reflective Teaching Field Experience. (1-12) *Prerequisite: Graduate standing.*
Introduces preservice teachers to school settings where observation, inquiry, and participation in the processes of teaching and learning are possible. Provides opportunities for the development of instructional strategies and teaching practices, as well as for inquiry into the contexts of classrooms and schools.

655. Directed Research in Educational Studies. (1-6, may be elected more than once) *Prerequisite: Graduate standing.*
Comprises supervised master's and doctoral research projects; may also be used for supervised work on a master's thesis, education specialist research project, or field study.

657. Practicum in Educational Studies. (1-6, may be elected more than once) *Prerequisite: Graduate standing.*
Enables application of knowledge and theory through supervised field experience. The student, supervising faculty member, and field supervisor design, implement, and evaluate the experience.

658. Workshop in Educational Administration. (1-6, may be elected more than once) *Prerequisite: Graduate standing.*
Considers basic problems in school administration using workshop format and procedures.

661. History and Philosophy of Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Reviews the history and development of higher and continuing education in the United States, with special attention to forces that have shaped its development; examines the history of critical philosophical debates about and issues concerning the nature and role of higher and continuing education.

662. Psychological Bases of Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Examines needs and patterns of intellectual, social, and emotional development among older adolescents and adults, especially as these relate to learning; reviews research on impacts of college and continuing education on student and adult learners.

665. Management of Student Affairs and Support Services. (3) *Prerequisite: Graduate standing.*
Examines institutional strategies for organizing, staffing, and funding the extensive array of programs and services designed to meet students' economic, social, developmental, and academic needs. Also focuses on the nature and purpose of student affairs functions and support services and how they can be effectively managed, coordinated, and integrated with the academic purposes of the institution. Intended for master's students with an interest in student affairs and doctoral students attempting to develop an awareness of this important area of institutional functioning.

670. Financial Management in Nonprofit Organizations. (3) *Prerequisite: Graduate standing or permission of instructor.*
Provides an introduction to financial management and related issues in nonprofit organizations, including colleges and universities, schools, government agencies, and other entities. Topics covered include introduction to nonprofit accounting and control, interpretation of financial statements, financial analysis, budgeting, and financial accountability.

690. Key Conceptions and Critical Issues in Academic Affairs and Student Development. (3) *Prerequisite: Graduate standing.*
Introduces students to concepts and theories that underlie scholarship and frame practice in academic student affairs. Special attention is given to teaching-learning environments and the factors that shape them, such as societal pressures, organizational cultures and structures, and characteristics of the individuals who participate.

691. (Linguistics 691, Anthropology 674, Communications 691, English 691, Psychology 691, Romance Languages and Literatures 691) Literacy: Interdisciplinary Conversations. (3) *Prerequisite: Graduate standing.*
Opportunity for students to work with faculty from several disciplines in considering the nature and uses of literacy. While disciplinary specialization has sharpened the focus of discussions about literacy, this specialization has left too little opportunity for intensive exchange across disciplines and across cultures, and literacy is an area that draws upon and contributes to many disciplines. Course will focus on developing a common language, agenda, and definition of issues in literacy that have been and need to be examined.

695. Research and Educational Practice. (3)
Provides an overview of research methods used in educational inquiry. Enables students to review a variety of research studies done in education, to become familiar with techniques used in their conduct, and to acquire facility in interpreting them.

699. Implications of Research on Effective Instruction and Classroom Learning. (3)
Explores the ways in which research on teaching and research on school learning can be integrated to provide a richer understanding of the teaching-learning process.

701. Seminar: Curriculum Issues. (3) *Prerequisite: Advanced standing.*
Provides opportunity to study curriculum issues on site in elementary, middle, or secondary schools; offers students supervised work on selected national issues, on problems that appear in a particular school, or on problems arising from their own professional practice.

703. Historical Perspectives on Literacy Research. (3)
Critically examines literacy research from historical perspectives, including behavioral and cognitive/metacognitive research paradigms. Historical perspectives are considered in terms of theoretical frameworks, research methods, and implications for curriculum, instruction, and assessment.

704. Contemporary Perspectives on Literacy Research. (3)
Critically examines current perspectives on literacy research in terms of theoretical frameworks, research methods, and implications for curriculum, instruction, and assessment.

705. Quantitative Evaluation of Educational Programs. (3) *Prerequisite: 695 or equivalent.*
Examines how to assess the efficacy of educational programs. In a constrained fiscal environment, there are limitations on the number of programs the public can (or will) support. Thus, it is important to ask, "Does this program really work?" "Is it better than other alternatives for attaining its stated purpose?" The purpose is to develop students' skills in answering such hard questions. Before impacts can be assessed, the program and its aim must be well understood. This raises questions such as "What is this program?" "What is it meant to accomplish?" "Are these goals realistic given the parameters of its definition?"

706. Seminar: Issues in Research on Literacy. (3)
Investigates contemporary issues related to research on literacy. Specific topics vary each time the course is offered.

707. Psychometric Theory: Classical and Latent Trait Models. (3) *Prerequisite: 794 or equivalent.*
Treats advanced issues in measurement theory and practice, including a consideration of the use and misuse of standardized tests in American education.

708. Cognition and Instruction in the Classroom. (3) *Prerequisite: 606 or equivalent.*
Focuses on the development and acquisition of memory, knowledge, and expertise in classrooms from the perspective of cognitive psychology. Considers conceptual change models of learning as well as cognition and instruction in the content areas of reading, writing, mathematics, science, and social studies.

709. Motivation in the Classroom. (3) *Prerequisite: 606 or equivalent.*
Focuses on student motivation in classroom settings and includes discussion of different motivational theories such as attribution, social cognitive, intrinsic motivation, and goal theory. Considers how different characteristics of classrooms influence student motivation to learn.

710. Learning, Thinking, and Problem Solving. (3) *Prerequisite: 606 or equivalent.*
Discusses general models of learning, thinking, and problem solving and their application to education. Presents cognitive psychological and contextual models of intelligence, reasoning, self-regulated learning, and volition. Discusses implications of these models for classroom instruction and school change.

711. Seminar: Mathematics Education. (3, may be elected twice) *Prerequisite: Permission of instructor.*
Critically reviews relevant literature in mathematics education, psychology, curriculum, and teaching; leads to identification of problems for which research is needed.

713. Seminar on Science Education. (3)
Investigates recent research techniques applied to solutions of instructional problems; provides experience in writing grant proposals. Open to students preparing theses or research reports.

714. Technology and Mathematics Education. (3)
Examines modern technologies and their impact on the mathematics curriculum. Focus is on changes that can occur in what is taught and learned (and also what can be assessed) when technologies are used. Students design curricular segments that use technologies and test them with children in classrooms. Includes project-like modules integrating several domains.

715. Special Topics in Education and Psychology. (2-3) *Prerequisite: Permission of instructor.*
Explores topics in education and psychology based on the interests of faculty and students in the program. The topics addressed change each term. Students should consult the office of the Combined Program in Education and Psychology for the current list of offerings each semester.

716. Educational Psychology Proseminar. (2-3) *Prerequisite: Combined Program student standing or permission of instructor.*
(Program students are required to sign up for three credit hours.) An advanced seminar on issues in education—perspectives for psychologists. It is primarily for third- and fourth-year program students and is a required course. The seminar is designed to identify and review issues critical to "educationalists": researchers, those concerned with issues of training, policy specialists, and practitioners. The major focus is to become broadly conversant with the range of issues associated with the study and practice of education and to use this knowledge to analyze and reflect upon those issues. Participants will be encouraged to relate their scholarly interests to matters of practical significance.

718. Distributed Learning (3)
Examines theoretical ideas that inform new distributed learning environments and models that reflect these ideas. Students will construct experimental prototypes based on these ideas and models. Ways in which teaching and learning in new learning environments are both different from and similar to traditional learning environments are also examined.

720. Social Psychology of Education. (3) *Prerequisite: 606 or equivalent.*
Discusses the social psychology of classrooms and schools including a focus on gender, ethnicity, social class, and cross-cultural differences from a psychological perspective. Examines how different social and psychological characteristics of classroom/school environments influence individual achievement, gender-role development, and moral and personal development.

721. Human Development and Schooling. (3) *Prerequisite: 606 or equivalent.*
Discusses cognitive, social, personal, and affective development across the life span from early childhood through college years. Focuses on how school, classroom, and home/family contexts influence the trajectory of individuals' development over the course of schooling.

722. Models of Teaching and Classroom Instruction. (3) P*rerequisite: 606 or equivalent.*
Focuses on general models of teaching and instruction such as process-product research, direct instruction, teaching for understanding, reciprocal teaching and peer instruction, and aptitude-treatment interactions.

723. Field Research Methods. (3) *Prerequisite: Permission of instructor.*
Introduces students to qualitative field research methods. Topics include choosing a site and negotiating entry, taking field notes, converting "raw" notes to "cooked" notes, meaning, making sense of qualitative data, focusing a qualitative study, analyzing qualitative data, computer analysis of qualitative data, validity and reliability in qualitative research, communicating a field study, exploring the relationship of data and theory, and negotiating exit. Students are required to actively engage in gathering data in educational settings.

724. Ethnographic Interviewing. (3) *Prerequisites: 794 and permission of instructor.*
Introduces students to the use of interviewing in ethnographic field work. Topics include effects of gender, ethnicity, and cultural differences on subject-interviewer relationships; ethics of doing interviews; use of interviews in gathering historical data; strategies for interviewing; design of interview questions; methods of analyzing and transcribing interview data; and presentation of interview data in written reports. Students should already have access to a field site and be prepared to gather and analyze data during the course.

725 and 726. Qualitative Approaches to Educational Research I and II. (3) *Prerequisite: Permission of instructor.*
A two-term sequence covering the philosophy and practice of qualitative research, including ethnographic, phenomenological, and interpretive approaches.

727. Research Methods in Cognition and Technology. (3) *Prerequisite: Student standing in Educational Technology Ph.D. program or permission of instructor.*
Studies designs for research in cognition and technology from journals, dissertations, and in-progress projects. Techniques for analyzing data, including verbal protocols, videotapes, computerized log files, and problem solving errors, will be examined, together with their theoretical underpinnings. Each student will design a research study and collect and analyze pilot data from it. These studies can be continued in subsequent courses and may lead to second-year or dissertation projects.

728. Practicum in Learning Software Design. (3)
An advanced-level project course that extends students' understanding of the process of designing pedagogically sound computer-based learning environments. Students will work on designs of their choosing. Student will be expected to complete fully functioning computer-based learning environments.

729. Culture, Design and Technology. (3) *Prerequisite: Graduate standing.*
This course seeks to engage students in considering principles of design and evaluation of learning environments in ways that take into account issues of cultural diversity. In this course we will challenge traditional notions of culture; explore a framework for considering culture in the design of learning environments; analyze cases of design research which explicitly considers issues of culture; and, engage in design and analytical work that explicitly brings attention to culture to the center.

730. Methods of Classroom Research. (3)
Covers methods used to study classroom process and teaching and learning in classrooms including observation, questionnaire, interview, think aloud, and case study. Multimethod designs are discussed, along with how different sources of data, both quantitative and qualitative, can be combined for interpretive purposes. Students develop their own proposals and select methods that are appropriate to the question posed. Usually the questions concern instruction, learning, individual differences, or motivation.

733. Reading and Writing Development of Young Children. (3) *Prerequisite: Graduate standing.*
A review of the development of young children's literacy in the home, the developmental patterns of reading and writing that precede conventional literacy, and how this development may be fostered in early childhood.

734. Sociohistorical Contexts of Special Education. (3) *Prerequisite: Permission of instructor.*
Special education in the United States has a rich history that has been shaped by cultural, institutional and historical situations. This course examines these situations, including the history of educational legislation and litigation that has assumed a prominent role in shaping contemporary special education policy and practice. In addition, the participants in this course will consider the broader sociocultural contexts in which disability exists, both in this country, as well as in other countries.

735. Theory and Research in Special Education. (3)
Provides an analysis of historical and contemporary trends in theory and research in the filed of special education, with particular emphasis on language and learning disabilities. Students are encouraged to evaluate alternative theoretical frameworks for conceptualizing atypical children and to engage in the analytic reading of research in the field of special education.

736. Atypical Cognitive and Social Development. (3) *Prerequisite: 721 or equivalent.*
Explores major paradigms that have been used in conceptualizing an studying atypical cognitive and social development. Societal expectations regarding "typicality" and the role of social institutions in identifying an responding to atypical development patterns will also be explored.

737. Topics in Educational Studies. (1-3) *Prerequisite: Graduate standing.*
Explores new topics in educational studies based on the interests of faculty and students. Topics change each term. Consult the program office for the current list of offerings.

738. Instructional Interventions for Atypical Learners. (3)
Examines how intervention research with high incidence populations (especially students identified as learning disabled) has been influenced by: learning theory, knowledge and beliefs about the causes and courses of atypicality, and knowledge and beliefs about the nature of the teaching/learning relationship.

739. Developmental Variation in Reading Acquisition. (3) *Prerequisite: 525.*
Focuses on processes and knowledge that affect the acquisition of reading skill. The course examines acquisition of reading skill from a number of different perspectives. In addition, some emphasis is placed on the effects of measures of prevention or reading difficulties and early intervention to prevent the development of severe reading disabilities over time.

740. Independent Study: Educational Foundations, Policy, and Administration. (1-3, may be elected more than once) *Prerequisite: Graduate standing at the doctoral level.*
Comprises supervised reading, research, or other inquiry regarding educational foundations and policy or leadership and administration.

741. Topics in History of Education. (1-3)
Examines aspects of the historical development of education; selects certain problems and periods for study each time the course is offered; places emphasis on the historiography of the selected topic.

742. Topics in Sociology of Education. (1-3)
Examines specific problems in the sociology of education; places emphasis on research methods and on the policy implications of research.

743. Topics in Philosophy of Education. (1-3)
Examines selected problems in the philosophy of education; emphasizes modes of inquiry and the application of philosophy to contemporary educational issues.

744. Topics in Comparative and International Education. (1-3)
Examines educational theory and practice in various sociocultural settings around the world; selects certain problems and geographical areas for study each time the course is offered.

745. Education and Cultural/Multicultural Studies: Reconstructing Urban Schooling. (3)
This seminar will explore historical and contemporary efforts to reshape urban schools along democratic and multicultural lines. Graduate students across the University are welcome to enroll.

746. Topics in Educational Policy. (1-3)
Selects an important educational policy or policy area each term for close study and analysis; considers a variety of approaches to educational policy.

747. Topics in Foundations and Policy. (3)
Explores specific new topics in educational foundations and policy based on the interests of faculty and students. Students should consult the program office for current listings and course descriptions each semester.

748. Policy and Practice: School Reform and State Policy. (3)
Examines the relations between educational policy and practice—between state and federal policies and programs on one hand and teachers' classroom work on the other. Studies policies that seek to change instruction as well as policies that regulate school finance, building safety, student transportation, and the like. Focuses particularly on recent state and national school reforms that propose to dramatically improve the intellectual quality of teaching and learning.

750. Learning and Social Cognition in Science and Technology. (3)
Looks at how people learn with an emphasis on current theory, research and classroom practices related to learning and social cognition in science and technology.

75l. The Social Context of Schooling. (3) *Prerequisite: Graduate standing.*
An analysis of how social, cultural, and institutional forces shape the K-12 educational system and the individuals within it. Topics include the changing nature of the family and its effects on schooling, the effects of race, class, gender, and ability on school processes and outcomes, educational attainment, and school-to-work transitions; and public expectations for schools.

752. Organization Theory and Research in Education. (3) *Prerequisite: Graduate standing.*
An examination of recent theory and research on the structure of educational organizations and the behavior of individuals in them. Emphasis is placed on understanding alternative theoretical perspectives and strategies in organization research, and on identifying issues for future research.

753. Analysis of School Effectiveness. (3) *Prerequisite: Graduate standing.*
An analysis of how the social organization of schools affects student learning. Reviews alternative theoretical perspectives on this topic, discusses methodological issues and findings in research on school effectiveness, and considers how research finding can be applied to practical problems of instructional management in schools. Students should complete 794 and 795 (or equivalent course work) before enrolling in this course.

754. Education and Public Policy. (3) *Prerequisite: Graduate standing.*
Examines the role of political processes in the organization and governance of education in the United States, with particular emphasis on the increasingly active roles of state and federal government in the formulation and implementation of public policy for education.

755. Directed Research in Educational Administration and Policy. (1-6, may be elected more than once) *Prerequisite: Graduate standing.*
Supervised research in the areas of administration and policy analysis undertaken as part of a master's or doctoral program.

756. Independent Study: Educational Administration and Policy. (1-3) *Prerequisite: Graduate standing.*
Comprised of supervised reading, research, or other inquiry regarding educational administration, policy, and leadership. May be elected more than once.

757. Practicum in Educational Administration and Policy. (1-6, may be elected more than once) *Prerequisite: Graduate standing.*
Provides an opportunity for application of knowledge and theory of educational administration and policy through participation in case exercises, simulations, and/or supervised laboratory or field experiences.

758. Leadership, Learning Organizations and Technology. (3)
Examines the nature of leadership in schools related to the use of technology. Students are introduced to key issues facing school leaders with respect to technology, including planning for technology, faculty development, acceptable-use policies, safety and equity.

761. Postsecondary Institutions as Complex Organizations. (3) *Prerequisite: Graduate standing.*
Examines colleges, universities, and other formal postsecondary educational institutions, as complex social organizations, through application of basic concepts of organization theory. Discussion focuses on individual, group, organizational, and interorganizational-level variables and approaches to analyzing colleges and universities as complex social organizations.

762. Curriculum in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Deals with the varying conceptualizations of curriculum in a variety of settings and levels. Considers vocational and professional education, general education, and the liberal arts and sciences at both the undergraduate and graduate levels. Explores how the curriculum expresses goals and how it determines staffing and provision of resources.

763. Financial Management and Strategy in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Examines financial management and budgeting practices internal to institutions of higher education. Intended for persons who seek a working knowledge of budget development, financial management, and fiduciary control in colleges and universities.

764 (Public Policy 732 and Political Science 734). Public Policy in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Focuses on legislative and executive policy formulation processes at the state, regional, and national levels. Considers theoretical and conceptual approaches to understanding public policy formation, including the role and function of the major organizational factors at each level and their modes of influence in determining policy for postsecondary education. Examines in depth selected current public policy issues that cut across political levels.

765. Research Design in Higher and Continuing Education. (3) *Prerequisite: Graduate standing at the doctoral level.*
Required of all CSHPE doctoral students. Examines research approaches commonly used in higher and continuing education, and focuses on key issues related to research design, modes of analysis, and causal inferences.

767. Research Practicum in Higher and Continuing Education. (3) *Prerequisite: Permission of instructor.*
Intended primarily for CSHPE Ph.D. students, who are required to have an extensive research practicum. Aids students in preparing a major research article, paper, or other product suitable for publication or professional presentation.

770. Independent Study in Higher and Continuing Education. (1-3, may be elected more than once) *Prerequisite: Permission of instructor.*
Comprises supervised reading, research, or other inquiry regarding higher and continuing education.

771. Topics in Higher and Continuing Education. (1-3, may be elected more than once) *Prerequisite: Graduate standing.*
Explores new topic areas, which may vary each time the seminar is offered, according to mutual interest of a limited number of students with one or more faculty members. Often the seminar is generated by a group of interested students and the resulting material is incorporated into existing courses or leads to development of new courses.

772. Contexts for Teacher Education. (3)
Examines contexts in which preservice teacher education takes place and the rationale for employing those contexts. Explores historical and contemporary debates about the appropriateness of these contexts, examines current research and positions regarding them, and investigates new directions and alternatives. Topics may include the place and nature of university- and school-based teacher education sites; formal and informal learning environments; social, political, and community contexts; and field experiences.

773. Issues in Teacher Education. (3)
Explores scholarship and research relevant to historical and contemporary issues in preservice and inservice teacher education. Issues may include policy, relationship of policy to research and practice, conceptual and programmatic orientations, the cyclical nature of reform, teacher certification, standards and regulations, professionalization, unionization, foundations for teacher development, and professional development.

774. Pedagogy in Teacher Education. (3)
Explores instructional/pedagogical approaches to the preparation of prospective teachers. Presents scholarship and research for critical examination and analysis of methods of educating prospective teachers. Topics may include instructional processes, organizational structures, delivery systems for curriculum, and inquiry and reflection strategies.

775. Teacher Development. (3)
Examines policy, scholarship, and research relevant to the professional development of teachers. Considers the relationship between the means employed and the ends achieved in the preparation of teachers. Topics may include teacher beliefs, teacher socialization, the relationship between psychological development and professional development, and the influence of cultural identity on teacher preparation in a multicultural society.

776. Advanced Topics in Teacher Education. (3)
Examines and investigates issues related to teacher education as a field of inquiry. Explores how current research agendas might be enhanced and new research agendas created. Topics may include themes and issues in teacher education research; research on teacher education programs, curricula, faculty, and students; and research on student knowledge and beliefs.

777. Administrative Practicum in Higher and Continuing Education. (3-6) *Prerequisite: Permission of instructor.*
A seminar dedicated to linking theoretical issues in practice to problems confronted by students in their field settings. Emphasis will be placed on developing critical assessments of current literature, evaluation of practice performance, and the formulation of reflective modes of thought. Students must be placed in a supervised field setting.

778. Advanced Administrative Practicum in Higher and Continuing Education. (3)
Intended primarily for CSHPE Ed.D students, who are required to have a career-related professional practicum. Building on relevant literature in higher education and other fields, students are expected to analyze the successes and failures that they observed in practice and make recommendations for improvement.

779. Technology and Teacher Learning. (3)
Technology's potential contributions to both preservice and inservice teacher learning will be critically examined in this class. Issues include: forms of knowledge required to teach with technology, the uses of technology to prepare to teach, and the uses of technology for on-going professional growth.

790. Fundamental Issues in Educational Studies. (3)
Offers an integrated study of the psychological, social, philosophical, historical, and curricular bases of education through an examination of a small number of issues or themes of profound and lasting importance in educational studies. Graduate course required of all new Educational Studies doctoral students. Should be taken early in the student's program.

791. Methods in Educational Research: Quantitative. (3) *Prerequisite: Graduate standing at the doctoral level or permission of instructor.*
Surveys quantitative methods of inquiry as they are currently used in the study of the contexts, processes and the effects of education. Introduces students to elementary statistics, exploratory data analysis, research design, and/or interviewing, narrative and argument analysis, and interaction and setting analysis.

792. Methods in Educational Research: Qualitative. (3) *Prerequisite: Graduate standing at the doctoral level or permission of instructor.*
Surveys qualitative methods of inquiry as they are currently used in the study of the contexts, processes, and effects of education. Introduces students to elementary statistics, exploratory data analysis, research design, and/or interviewing, narrative and argument analysis, and interaction and setting analysis.

793. Introduction to Quantitative Methods in Educational Research. (3) *Prerequisite: Graduate standing at the doctoral level.*
Surveys quantitative methods of inquiry as they are currently used in the study of the contexts, processes, and effects of education. Introduces students to elementary statistics, exploratory data analysis, research design, and computer-based data analysis methods.

794. Methods in Educational Research: An Integrated Approach. (3) *Prerequisite: Graduate standing at the doctoral level or permission of instructor.*
Surveys quantitative and/or qualitative methods of inquiry as they are currently used in the study of the contexts, processes, and effects of education. Introduces students to elementary statistics, exploratory data analysis, research design, and/or interviewing, narrative and argument analysis and interaction and setting analysis. Students should check with instructor as emphasis may vary.

795. Quantitative Methods for Non-Experimental Research. (3) *Prerequisite: 794 or equivalent.*
A field-based intermediate-level course in research methods that focuses on non-experimental research. Emphasizes application of statistical concepts to current educational problems. Students will examine non-experimental data using SPSS-X software. The course focuses on regression-based methods, including path analysis and analysis of covariance. Recommended for all students planning a quantitative study for the dissertation.

796. Advanced Quantitative Methods for Non-Experimental Research. (3) *Prerequisites: 794 and 795 or equivalent.*
A field-based advanced-level course in research methods that focuses on non-experimental research. The course will emphasize the combination of proper methodology with theoretical considerations to be addressed and characteristics of the data. Application to current educational questions will be emphasized. Several advanced statistical methods, with the appropriate software, will be covered. Recommended for doctoral students specializing in research, measurement, and evaluation.

797. Advanced Quantitative Methods for Experimental Research. (3) *Prerequisites: 794 and 795 or permission of instructor.*
Advanced-level course in research methods, focuses on experimental research. Emphasis on studies for which random assignment to groups is possible. Course emphasizes combination of proper methodology with theoretical considerations. Concentration on experimental design of studies, including randomized block designs, factorial designs, multiple treatment levels, and hierarchical designs. Issues in sampling (simple random, stratified, cluster, etc.) are also treated in some detail, as well as selection of appropriate comparison groups. Application to current educational questions will be emphasized.

805. Advanced Topics in Learning Technologies. (3) *Prerequisite: Graduate standing at the doctoral level.*
Current issues of interest in the field of learning technologies. Check with the Educational Studies Office for current course topics.

809. Curriculum Theory and Practice. (3) *Prerequisite: 604 or equivalent.*
Presents social and psychological foundations of curriculum; examines curriculum issues, trends, and theories; explores continuity and articulation of curriculum. An advanced course for doctoral-level students.

817 (Statistics 817, Psychology 817 and Sociology 810). Interdisciplinary Seminar in Quantitative Social Science Methodology. (1 - 6) *Prerequisite: graduate level courses in Statistics at the level of Stat 500 and 501 or permission of instructor.*
Considers methodological issues that arise in research in the social sciences. Themes for each meeting will arise from on-going research projects at U-M. Visiting researchers will provide a brief account of their aims and data before defining the methodological challenge for which they desire discussion.

830. Historical and Philosophical Roots of Science Education. (3)
Examines the ways in which science education has developed over the last century; looks at the history of science education through an extensive review of significant documents; and considers critically the ways in which changing views of the history, philosophy, and sociology of science have affected, and continue to affect, science education practice and research.

831. Theory and Research on Learning and Instruction in Science. (3)
Discusses past and current issues in research on learning and instruction in science. Focuses on philosophical issues and theoretical frameworks used to understand how students learn science. Examines approaches to empirical work investigating students' learning in classrooms. Students will conduct a small study examining conceptual development that will help them relate the discussions about the applications of research to theory and practice in science education.

832. Theory and Research on the Development of Expertise in Science Teaching. (3)
Discusses theory and research on science teacher learning and development. Examines contemporary and historical frameworks for characterizing teacher learning and development, focusing on teacher knowledge, particularly subject matter and subject-specific pedagogical knowledge. Examines the use of computer-based tools for promoting teacher learning and development. Students will interview teachers regarding their knowledge and beliefs about teaching and learning science, observe their classroom practice, and analyze how knowledge and beliefs influence their practice.

833. Theory, Research, and Use of Technological Tools in Science Education. (3)
Examination of technological tools—such as the microcomputer, analog-to-digital conversion, simulation and video technology—and their use in science education. Designed for graduate students and teachers of junior high, high school, and college science.

835. Independent Study. (1-3, may be elected more than once)

841. Advanced Studies in History and Sociology of Education. (3, may be elected twice) *Prerequisite: 641 or 643.*
Intended for advanced graduate students in educational foundations, provides training and experience in the design and implementation of research projects in the history or sociology of education.

843. Advanced Studies in Educational Philosophy and Comparative/International Education. (3, may be elected twice) *Prerequisite: 642 or 644.*
Intended for advanced graduate students in educational foundations, provides training and experience in the design and implementation of research projects in comparative and international education or in the philosophy of education.

845. Advanced Studies in Cultural/Multicultural Studies. (3, may be elected twice) *Prerequisite: 645.*
Intended for advanced graduate students in educational foundations, provides training and experience in the design and implementation of research projects in cultural/multicultural studies in education.

847. Advanced Studies in Foundations and Policy. (3)
Intended for advanced graduate students in educational foundations and policy; provides training and experience in the design and implementation of research projects in any one of the foundational fields or educational policy.

848. Research Seminar in Educational Foundations. (3, may be elected twice)
Surveys methods employed in educational foundations and policy-related inquiry; identifies state-of-the-art research in the foundations disciplines; includes critiques of student-prepared research designs. Intended for students preparing qualifying examinations, dissertation proposals, or research reports.

849. Research Forum: Educational Foundations. (3) *Prerequisite: Permission of instructor.*
A forum for faculty/student discussion of research designs and specific research projects. Offered occasionally.

859. Advanced Topics in Educational Administration and Policy. (3) *Prerequisite: Graduate standing.*
Analysis of theory and research on topics of special interest in the fields of educational administration and policy analysis.

860. Technology in Higher Education. (3) *Prerequisite: Graduate standing.*
Explores the various uses of technology in higher education, with a focus on the use of technology in teaching, research, and administration. Analyzes how the use of technology affects faculty, students, and others in colleges and universities, with an examination of issues related to student outcomes, faculty incentives, virtual/distance education, equity, intellectual property public policy, and the management of technology. Students will have opportunities for hands-on use of technology.

861. Human Resource Development in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Deals with the responsibility of administrators for faculty and non-faculty personnel matters in institutions with varying types of governance, ranging from collective bargaining to collegial decision-making. Discusses administrators' goals, strategies, and behavioral styles in providing leadership for personnel management. Also discusses administrative responsibility for emerging modes of administration and faculty development and evaluation.

862. Community College Governance and Administration. (3) *Prerequisite: Graduate standing.*
Analyzes the social and organizational context and management issues specifically facing administrators in community colleges; emphasizes the unique aspects of managing publicly supported colleges that are responsive to community needs, provide both transfer and occupational curricula, and serve a diverse student clientele.

863. Planning, Analysis, and Institutional Research. (3) *Prerequisite: Graduate standing.*
Considers the processes by which both long-range and short-range decisions may be made in institutions of higher education ; especially considers the uniqueness of planning, governing, and decision-making processes occasioned by participation of expert and semiautonomous professional employees.

864. The American College Student. (3) *Prerequisite: Graduate standing.*
Examines trends and changes in the characteristics of college students and institutions they attend (cohort changes), research issues related to college impact research (student changes), and emerging theories and methodologies that address the consequences of attending college. The course is intended to provide a broad introduction to conducting research on students in a broad range of developmental and sociological areas.

865. Evaluation and Assessment in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Examines various theoretical and working models for assessment and evaluation in postsecondary education at several levels: assessing student outcomes, reviewing program outcomes, and conducting program and institutional accreditation. Prepares students to design and interpret evaluative research and assessment procedures.

866. The College and University Professor. (3) *Prerequisite: Graduate standing.*
Traces the life cycle and career patterns of the academic person. Analyzes research studies and theories of faculty as people at work in organizations. Examines the training, recruitment, and mobility of faculty; the labor market for academics; and the nature of their work and of their relationships to students, administrators, and colleagues.

867. Current Topics in Postsecondary Instruction. (3) *Prerequisite: Graduate standing.*
A seminar focused on issues and topics in student development and learning as they relate to instruction in postsecondary institutions. Topics vary and reflect what is of current importance in the field of higher education.

868. Philosophy of Academic Leadership. (3) *Prerequisite: Graduate standing. CSHPE core.*
Furnishes the opportunity for each student to identify and defend a set of principles that will guide his or her action as an academic administrator on the fundamental issues of higher and continuing education. Analyzes classic philosophical works and applies them to such issues as right of access to postsecondary education, the nature of a liberal education, the participation of colleges and universities in social issues, and ethical obligations in research.

870. International and Comparative Higher and Continuing Education. (3) *Prerequisite: Graduate standing.*
Investigates problems facing postsecondary education and other educational efforts internationally, using comparative methods and other pertinent techniques; different topics, such as adult literacy, cross-cultural transfers, and ways of reaching diverse populations, may be treated each time the course is offered.

871. National Economic and Financial Issues in Postsecondary Education. (3) *Prerequisite: Graduate standing.*
Examines some broad economic and financial forces and issues that affect postsecondary education, including general economic conditions, tax policy, sources of funds, tuition policy, student financial supports, investments, and federal legislative, appropriations, and regulative processes. Attends especially to issues that reflect major federal roles, such as student aid and research policy and support. Outlines the major sources of information on federal legislation and appropriations and on the economic and financial issues addressed in the seminar.

872. State Government and Higher Education. (3) *Prerequisite: Graduate standing.*
Examines state-level executive, legislative, and appropriations processes and related issues with respect to postsecondary education; highlights the important influence of each state's context and characteristics on its politics and on the nature of its higher education system, currently and in emerging forms; views the structure, role, and impact of varying forms of state-level coordination, and considers state-level planning, institutional control, appropriations and budgeting, program review and approval, licensure, employment policy, and other processes for coordinating postsecondary education. Outlines the major sources of information on state-level legislation and appropriations and on the major issues addressed in the seminar.

873. Race, Ethnicity and Gender in Higher Education. (3) *Prerequisite: Graduate standing.*
Provides a view of the sociological and psychological issues affecting African Americans, Asian Americans, Latinos/as (Hispanics), Native Americans, and women in higher education. Topics include the racial and gender stratification of the higher education system and the emergence of institutions that serve special populations, a critical review of research on minority and women's achievement, research on women and minority faculty, campus race relations, and controversies in the policies and discourse regarding cultural diversity.

874. Law and Higher Education. (3) *Prerequisite: Graduate standing.*
Explores basic legal theories and their application in higher education, using the case method of study and discussion; covers such topics as constitutional mandates of due process and equal protection, nondiscrimination in employment and educational programs, privacy and openness, tenure and academic freedom, contractual obligations, and program discontinuance.

875. Managing Change and Quality in Higher Education Institutions. (3) *Prerequisite: Graduate standing.*
Examines the organizational literature on innovation and change and on approaches to quality improvement in higher education institutions. Focus is on managing institutional response to major external forces for change and on quality improvement in academic and administrative functional areas. Inter-institutional, institution-wide, and intra-institutional strategies and approaches are considered.

876. Program Design and Adult Learning. (3) *Prerequisite: Graduate standing.*
Explores the relationship between particular forms of program design and their impact on and consequences for adult learning and adult learners, with particular attention to the variety of institutional settings, both formal and informal, in which adult learning takes place. Assesses program design in terms of patterns of participation, motivation for participation, and outcomes of participation.

878. Professional Education in Colleges and Universities. (3) *Prerequisite: Graduate standing.*
Analyzes education for the professions provided by colleges and universities, professional associations, and other private or governmental organizations. Includes such topics as roles of professions, professional socialization, external and internal forces shaping education programs, needs of professional practitioners, methods of instructional delivery, and management of continuing professional education activities. Draws from current research and University resources to develop a profile of issues and trends across professional occupations.

879. Capital Financing, Asset Management, and Fund Raising in Higher Education. (3) *Prerequisite: Graduate standing. CSHPE core.*
Exposes students to operations related to the capital financial structure of colleges and universities, asset management, capital budgeting, and fund raising and development. Intended as an advanced seminar for doctoral students considering a career, or requiring specialized training, in the finance component of higher education administration.

880. Case Studies in Higher Education Management. (3) *Prerequisite: Graduate standing. CSHPE core.*
A seminar for advanced doctoral students that requires the integration and utilization of a wide array of concepts, theories, and approaches to complex institutional problems and issues. The course utilizes case study analysis and discussion to enhance students' skills in organizational analysis, problem solving, and management. Case studies are selected to cover a variety of academic and administrative issues at various institutional levels. An exercise in case writing is required to enhance students' ability to learn about organizational issues and to gain experience in the pedagogical design and use of case studies.

881. Public Policy Research and Analysis in Postsecondary Education. (3) *Prerequisite: Graduate standing. CSHPE core.*
A seminar for advanced doctoral students that focuses on the identification, analysis, and report preparation related to a major public policy issue. The seminar stresses the dynamics and strategies of policy analysis in a complex policy arena, the various approaches to policy research, and the integration of varied data sources and analytical techniques. Students typically work in policy teams and develop a policy report and/or recommendations appropriate to the policy issue addressed.

890. Multilevel Methods in Social Research. (3) *Prerequisite: 795 or other regression-based course.*
The major phenomenon of interest in educational research is the learning of individual students. Because learning (a) implies change over time, and (b) occurs in organizational settings, two troublesome methodological problems persist in the social sciences: how to measure change and how to accommodate the grouped nature of the phenomenon (also referred to as the unit of analysis problem). In a sense, the problems share a common cause, since traditional statistical techniques are inadequate to model the hierarchical nature of both phenomena. This advanced course in quantitative methods introduces students to the analytic situations in which multilevel methods are ideal, trains students in the use of the statistical program Hierarchical Linear Models (HLM), and provides experience in multilevel analysis. Students must possess skill in multivariate data analysis through regression.

895. The Logic of Inquiry. (3) *Prerequisite: 695 or equivalent.*
Reviews and analyzes assumptions that underlie and support the various methods used to study educational phenomena. Considers question-finding and ways of linking research questions to appropriate methods.

898. Professional Development Seminar. (1, may be elected up to four times)
Introduces students to current scholarly and professional issues within specific specialization areas. Designed to create and sustain a program of academic research.

899. Comprehensive Qualifying Examination for the Ph.D. and Ed.D. (3) *Prerequisite: 24 CSHPE credits.*
An examination in which the student conducts an intensive, in-depth analysis of a current issue or problem in higher and postsecondary education. The examination is designed to provide the student with the opportunity to demonstrate a broad knowledge of higher and continuing education, to analyze and synthesize related literature and research, to develop a conceptual framework for the problem and to show how it can be applied to research (Ph.D.) or practice (Ed.D.). This is a student-designed examination directed by a faculty committee and taken after the student has completed at least 24 hours of program course work.

965. Dissertation Research Seminar in Higher and Continuing Education. (1, may be elected more than once) *Prerequisite: Graduate standing as advanced doctoral student.*
Offers guidance and discussion of dissertation research projects.

990. Dissertation, Precandidacy. (1-8, full term; 1-4, half term) *Prerequisite: Graduate standing as advanced doctoral student.*
For dissertation work by doctoral students not yet admitted to the status of candidate.

995. Dissertation, Candidacy. (8, full term; 4, half term) *Prerequisite: doctoral candidate.*
Election for dissertation work by doctoral students who have been admitted to candidacy status.

Behavior Science in Education (EDBEHAVR)

C800. (Psych 861) Proseminar in Education and Psychology. (3) P*rerequisites: Graduate standing and permission of instructor.*
This first semester of the proseminar encourages discussions of current topics in educational psychology with emphasis on classroom learning, motivation, and psychoeducational assessment. Invited speakers from education, psychology, and related departments present on their current research. A major focus of the course is on research methods and helping students initiate and complete their first-year research projects.

C801. (Psych 862) Proseminar in Education and Psychology. (3) *Prerequisites: Graduate standing and permission of instructor.*
This second semester of the proseminar is a continuation of first semester discussions of current topics in educational psychology with emphasis on classroom learning, motivation, and psychoeducational assessment. A major focus of the course is on research methods and helping students initiate and complete their first-year research projects. (Effective fall 1993, this course counts as a core course in education for program students due to increased focus on the acquisition of a knowledge base in the content areas of the field.)

Cross-Listed Courses

Curriculum and Instruction (EDCURINS)

The following courses are cross-listed with other departments. The cross-listed number follows the School of Education number. These courses appear as Division 208 in the *Schedule of Classes*. Course descriptions change from time to time. For the most current course description, contact the cross-listed department.

D340. (Mus Ed 340) Choral Techniques and Materials for Secondary Schools. (2) *Prerequisite: Conducting 315.*
Introduces students to vocal techniques suitable for adolescent voices and effective rehearsal procedures. Examines music currently being used in secondary schools and helps students develop criteria for selecting appropriate materials. Observations of school choirs are included. To be taken by music education majors and minors.

D341. (Mus Ed 341) General Music in Elementary Schools. (3) *Prerequisites: Permission of instructor, admission to professional sequence in music education, and concurrent election of D349.*
Presents current materials and techniques for effectively teaching general music to elementary students. Utilizes lectures, group discussion, peer teaching, readings, and demonstrations. To be taken by music education majors and minors.

D342. (Mus Ed 342) Teaching General Music in Secondary Schools. (2) *Prerequisite: Permission of instructor.*
Introduces philosophies, objectives, and organization of secondary general music classes. Examines and evaluates materials currently in use. Utilizes lecture-demonstrations, peer teaching, readings, group discussion, and films. To be taken by music education majors and minors.

D345, D346. (Mus Ed 345, 346) Directed Teaching of Vocal Music in Elementary Schools. (2 each) *Prerequisite: Permission of instructor.*
Designed to provide practical experience and to develop teaching competencies through supervised observation and teaching in elementary school classrooms under joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to six hours during the school day. Open to seniors and graduate students who have been approved for the teacher certification program and whose application for directed teaching has been accepted. Students must satisfy other requirements—consult with School of Music. Course elections during any term of directed teaching are limited to 14 credits.

D347, D348. (Mus Ed 347, 348) Directed Teaching of Vocal Music in Secondary Schools. (2 each) *Prerequisites: Permission of instructor and one course in English composition.*
Designed to provide practical experience and to develop teaching competencies through supervised observation and teaching in secondary school classrooms under joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to six hours during the school day. Open to seniors and graduate students who have been approved for the teacher certification program and whose application for directed teaching has been accepted. Course elections during any term of directed teaching are limited to 14 credits.

D349. (Mus Ed 349) Music Education Practicum. (1-4) *Prerequisites: Permission of instructor, admission to professional sequence in music education, and concurrent election of D372.*
Provides the student with the opportunity to integrate teaching theory and practice by working with learners in classrooms or other field settings. Supervision of the experience is provided by the course instructor.

D350. (Dance 350) The Teaching of Dance. (3)
Introduces the philosophies and objectives of, and specific materials for, the teaching of contemporary dance, as well as providing practical experience in developing teaching competencies.

D370. (Mus Ed 370) Fundamentals of Teaching String Instruments. (2) *Prerequisites: Permission of instructor and concurrent election of Violin 111.*
Introduces philosophies and objectives of, as well as materials and group methods for, teaching string instruments in elementary and secondary schools.

D371. (Mus Ed 371) Teaching Band Instruments. (2) *Prerequisites: Permission of instructor and admission to teacher certification program.*
Woodwind, brass, and percussion pedagogy for school music programs.

D372. (Mus Ed 372) Fundamentals of Teaching Band Instruments. (2) *Prerequisite: Permission of instructor.*
Introduces philosophies and objectives of teaching band instruments in elementary and secondary schools and also covers materials and group methods for such instruction. Includes development of visual and aural diagnostic skills, verbal association skills, and performance skills associated with the development of a comprehensive instrumental music program.

D375, D376. (Mus Ed 375, 376) Directed Teaching of Instrumental Music in Elementary Schools. (2 each) *Prerequisite: Permission of instructor.*
Designed to provide practical experience and to develop teaching competencies through supervised observation and teaching in elementary school classrooms under joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to six hours during the school day. Open to seniors and graduate students who have been approved for the teacher certification program and whose application for directed teaching has been accepted. Students must contact the School of Music in regard to other requirements. Course elections during any term of directed teaching are limited to 14 credits.

D377, D378. (Mus Ed 377, 378) Directed Teaching of Instrumental Music in Secondary Schools. (2 each) *Prerequisite: Permission of instructor.*
Designed to provide practical experience and to develop teaching competencies through supervised observation and teaching in secondary school classrooms under joint supervision of University and public school personnel. Requires a daily uninterrupted block of four to six hours during the school day. Open to seniors and graduate students who have been approved for the teacher certification program and whose application for directed teaching has been accepted. Students must contact the School of Music in regard to other requirements. Course elections during any term of directed teaching are limited to 14 credits.

D380. (Dance 380) Directed Teaching of Dance in Elementary and Secondary Schools. (1-12)

D408. (Mus Ed 408) Teaching of Music by Elementary School Teachers. (2)
Designed to help elementary teachers learn the fundamentals of music and to provide specific and practical suggestions for teaching music skills to children. Students are actively engaged in making music and in learning to teach music. To be taken by general elementary teachers.

D421. (Latin 421) Teaching of Latin. (3; 2 hours in summer) *Prerequisites: Permission of instructor, junior standing in Latin.*

D431. (German 431) Teaching Methods. (3) *Prerequisite: Senior/certification candidate.*
Designed to provide students with an understanding of the theoretical foundations of the teaching of German as a foreign language. The major approaches to foreign language teaching are discussed with particular emphasis on approaches that focus on communicative language learning/learning for proficiency. Emphasis is placed on the practical application of theories of language learning and teaching to the German language classroom. There will be a final written paper, and participants in the course are expected to give several short oral papers. Teaching assistants enrolled for this course must also participate in the five-day orientation workshop provided by the department prior to the start of the fall term.

D437. (Russian 410) Teaching of Russian. (2) *Prerequisite: Permission of instructor.*
Required for teaching assistants and instructors of Russian. This course provides a broad range of data, theory, and techniques designed to make Russian teaching as effective as possible. Specific topics include the A-L method, teaching for proficiency, and other theoretical approaches; how to improve students' pronunciation; types of drills and exercises (oral and written); teaching aids and specialized reference works; and tips on maintaining student interest. This course will be conducted in quasi-seminar fashion. Each member of the class will also give periodic demonstrations of teaching methods, and, as a final exam, will be required to teach a one-hour class.

D444. (PE 444) Methods of Teaching of Physical Education K-12. (4) *Concurrent election of Ed 307.*
Studies the specific foundation of teaching methods, content, organization, and evaluation of physical education programs in schools.

D446. (Mus Ed 446) Teaching Music in the Urban Environment. (1-2) *Prerequisite: Permission of instructor.*
Presents teaching strategies and multicultural materials that are effective in teaching general music in grades 5-9, with special attention given to competencies needed for successful teaching in urban settings.

D449. (Mus Ed 449) Music in Early Childhood. (2)
Designed to provide specific and practical suggestions for teaching music to children from nursery through second grade. Students are actively engaged throughout the course in making music and learning to teach music.

D455. (Spanish 413) Teaching Spanish/Applications of Linguistics. (3) *Prerequisite: Spanish 361 and 362, or 275 and 276.*
Principles of phonological, morphological, syntactic, and semantic analyses applied to the teaching of Spanish.

D456. (French 438) Topics in Learning and Teaching French. (3) *Prerequisite: French 232, and 2 courses numbered between French 250 and 299.*
Study of theories of language acquisition, teaching methods and practical applications to the learning and teaching of language, literature and culture.

D474. (Nat Res and Envir 481) Foundations of Environmental Education. (3) *Prerequisite: One course in English composition.*
Provides a conceptual and philosophical understanding of the field of environmental education with special emphasis on philosophy of environmental education, general evolution of educational thought, attitude formation and change, values and teaching, handling of controversy and problem-solving, principles of program development, strategies for developing and implementing programs, international environmental education, program evaluation, information transfer, and development and education.

D481. (Mus Ed 481) Marching Band Techniques. (2) *Prerequisite: Ensemble 347.*
Introduction to musical material, techniques, and teaching methods for developing the secondary school marching band.

D482. (Mus Ed 482) Materials for Elementary Instrumental Organizations. (1)
Introduces students to criteria and procedures for evaluation and selection of instructional material and music literature for elementary school instrumental organizations.

D483. (Mus Ed 483) Materials for Secondary Instrumental Organizations. (1)
Introduces students to criteria and procedures for evaluation and selection of instructional material and music literature for secondary school instrumental organizations.

D491. (English 491) Teaching of English—Methods and Practicum. (5) *Concurrent election of English 490 and English 305.*
Offered concurrently in a single block of time for students who plan to teach English in the secondary schools or who wish to explore that possibility. This course is elected concurrently with English 490 as part of a professional semester.

D575. (Lib Sci 575) Digital Resources for Instructional Learning in K-12 Schools. (2)
Examines the teaching-learning functions of the media specialist, including evaluation and selection of curriculum materials, instructional design, and preparation of resource units for use in elementary/secondary classrooms and media centers.

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