

College of Education

# UNIVERSITY OF MINNESOTA

BULLETIN

1992-1994



*On the cover:*

Valerie Petersen is a senior in the College of Education. She is majoring in elementary education in the Curriculum and Instruction department, has been recognized for academic excellence, and is a member of the Multicultural Teacher Development Project.

The College of Education is dedicated to increasing the understanding of teaching, learning, and human development in order to improve the education of all individuals.

# Education

## College of Education

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# General Information

## Resources

This biennial bulletin describes College of Education courses, programs, student services, student organizations, and requirements for certificates, degrees, and endorsements. Information about registration procedures, course changes, and new courses is published each quarter and distributed with your registration materials.

## Annual Calendar

The regular academic year comprises three quarters, each about ten weeks long. Fall classes typically begin in late September; winter, in early January; and spring, in late March. Two five-week Summer Session terms run from mid-June through mid-August. Exact calendars are published in the *Class Schedule* each quarter.

## Other Publications

**Class Schedule**—Each quarter this publication lists University day school courses complete with hours, rooms, instructors, prerequisites, registration instructions, tuition and fees, maps, grading definitions, and other pertinent information.

**Bulletins**—In addition to this bulletin, separate bulletins are printed for Continuing Education and Extension, Summer Session, Graduate School, and other University units.

**Campus and Community Information**—Detailed information on the campus and community is available from the Prospective Student Services Office, 230 Williamson Hall, 231 Pillsbury Drive S.E., University of Minnesota, Minneapolis, MN 55455 (612/624-5555) or the Education Student Affairs Office.

**College of Education Degree Programs**—Brochures describing the content and requirements of various academic programs within departments of the College of Education are available from the Education Student Affairs Office.

**College of Education Student Publications**—The Education Student Affairs Office publishes a quarterly newsletter announcing its series of professional development seminars, information about awards and scholarships, and other college information.

## Policies

**Bulletin Use**—The contents of this bulletin and other University bulletins, publications, or announcements are subject to change without notice. University offices can provide current information about possible changes.

**Equal Opportunity**—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 420 S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Patricia A. Mullen, Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547).

**Access to Student Educational Records**—In accordance with regents' policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid

institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, telephone number, dates of enrollment and enrollment termination, college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information only during their terms of enrollment. To do so, they must notify the records office on their campus.

Students have the right to review their educational records. The regents' policy, including a directory of student records, is available for review at the Office of the Registrar, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

**Immunization**—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record form.

The form, which is sent along with the official University admission letter, must be filled out and returned to Boynton Health Service within 45 days of the first term of enrollment in order for students to continue registering for classes at the University. Complete instructions accompany the form.

**Extracurricular Events**—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

## Postal Statement

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## Location

The College of Education is located on the East Bank of the University of Minnesota's Twin Cities campus. Its main administrative offices are in 104 Burton Hall, 178 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-6806). The Education Student Affairs Office is located at 1425 University Avenue S.E., Minneapolis, MN 55414 (612/625-6501).

## Student Services

**Education Student Affairs Office**—The Education Student Affairs Office (ESAO) assists education students and alumni seeking information about college programs. Comprehensive services are provided for prospective students, applicants, enrolled students, and graduates. ESAO works in collaboration with program units to offer a quality student experience. Students are encouraged to make use of available advising resources within the college. ESAO's address is 1425 University Avenue S.E., University of Minnesota, Minneapolis, MN 55414 (612/625-6501).

## General Information

**Accommodations for Students with Disabilities**—In order to accommodate students with disabilities, ESAO advisers are available to meet with students in an accessible location. To make special arrangements, call ESAO at 612/625-6501.

**Academic Advising**—Academic advising is a crucial component of the University's educational mission. Although the approach to advising varies somewhat among the different colleges and departments, these general principles apply:

- Academic advising is available to prospective and currently enrolled students.
- Academic advising addresses students' needs in coursework, program planning, career options, and developmental issues.
- Faculty, professional advisers, and peers are involved in academic advising.

University academic advisers participate in an Academic Advising Network: a forum for sharing information and expertise across colleges and departments. You should expect academic advisers at all levels to assist you in designing and implementing a program of study and related activities that will allow you to achieve your educational goals. Advisers expect you to prepare for program planning sessions by giving careful thought to possible course selections, program schedules, and short- and long-term education and career goals, and to come to appointments with pertinent academic records and materials.

**English Proficiency**—If English is not your native language, you may be required to take the Test of English as a Foreign Language (TOEFL) or the Michigan English Language Assessment Battery (MELAB). To register for the TOEFL, contact the agency that handles TOEFL registration in your country or write to the Educational Testing Service (Box 899, Princeton, NJ 08540 USA) at least 10 weeks before any scheduled test date. If you are already in the Twin Cities area, you may register for the MELAB with the Minnesota English Center, 320 16th Ave. S.E., University of Minnesota, Minneapolis,

MN 55455, or call (612) 624-1503. To register for the MELAB outside the Twin Cities area, contact the English Language Institute, Testing and Certification Division, University of Michigan, Ann Arbor, MI 48109 USA, or call (313) 764-2416.

**Employment Outlook**—Although increasing numbers of the college's graduates choose to pursue educational careers outside the classroom, more than half go into teaching. In recent years there has been considerable publicity about the supply and employability of teachers. There are some shortages of teachers who have certification in a combination of teaching fields (for example, several languages or special education in conjunction with another license), and the great demand for minority teachers from diverse ethnic and cultural backgrounds will continue.

In Minneapolis and St. Paul, the employment situation for teachers is highly competitive. Students who are considering teaching as a career are encouraged to investigate employment opportunities in regions of the United States that are experiencing rapid growth, such as the Rocky Mountain region, the Southwest, the Far West, and some parts of the South. Graduates from the college also work outside the public school classroom in corporate education settings and in a broad range of other occupations. The college's annual placement report, *The Occupational Status Report of Graduates: How Their Careers Began*, is available from the ESAO Placement Office (612/625-5545).

## Financial Aid

Student inquiries about general financial assistance should be directed to the Office of Student Financial Aid, 210 Fraser Hall, University of Minnesota, 106 Pleasant Street S.E., Minneapolis, MN 55455. To receive priority consideration for aid beginning in fall quarter, applications should be filed early in the preceding winter quarter. Graduate students should also consult the

*Graduate School Bulletin* for information about assistantships, fellowships, and scholarships. Students who are interested in advanced graduate study in special education programs should request financial aid information from the special education office, 253 Burton Hall.

**College Financial Aid**—In addition to the financial aid opportunities offered by the University, the College of Education administers several scholarship programs of its own. Details about qualification, and application materials and instructions, may be obtained from department offices or from the information adviser in ESAO (612/625-6501).

### Library Resources

Walter Library, on the east bank campus, houses the education, psychology, and library science collections and is the principal reference resource for students and faculty of the College of Education and the Department of Psychology. Its research collections, which include comprehensive retrospective journal holdings, monographs, and the complete ERIC microfiche file, are considered excellent in quality and scope. The library's staff provides assistance to students in basic research methodology and offers formal instruction to groups and individuals. Computer literature searches are available in a wide range of databases in education and related subjects, including ERIC, Psychological Abstracts, the Comprehensive Dissertation Index, the National Technical Information Service (NTIS), and Exceptional Child Education Resources. A companion facility, the Walter Library Learning Resources Center, maintains class-assigned studies on audiotape, videotape, slides, and film. The Children's Literature Research Collections, also housed in Walter Library, consist of rare books, original manuscripts, and illustrations for children's literature and serve as a unique resource for education students.

LUMINA, the on-line catalog of all books in the University Libraries, currently provides access to 1.9 million records by author, title, subject, and key word. Each record contains all the bibliographic information for each item, as well as where the item is located. LUMINA is accessible from any of the 100 public terminals available throughout the University Libraries, as well as from any home or office equipped with a personal computer and modem.

### Computing Facilities

Five instructional computing laboratories, four computer classrooms, and several smaller student and faculty work areas equipped with computers are available within the college. In addition, the University's academic computing department on the Twin Cities campus offers students more than a dozen public computing laboratories and a free microcomputer telephone helpline.

### College Alumni Society

College of Education alumni may receive benefits from joint membership in the College of Education Alumni Society and the Minnesota Alumni Association. With over 3,100 members, the society is organized to benefit graduates of the college by conducting a variety of professional and social activities each year and by publishing a quarterly college news magazine, *The Link*. For membership information, call Deb Muller, 612/624-2323.

### Glossary of Terms

**Adult special students:** a student designator that lets individuals, who have completed a baccalaureate degree, take courses in the College of Education, even though they have not been formally admitted to a program in the College or the Graduate School.

**Certificate, Teaching:** see "license."

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## General Information

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**Class Schedule:** quarterly list of University day school courses; this publication is used for registration and includes a complete academic calendar, class hours, rooms, instructors, prerequisites, registration instructions, tuition and fees, maps, grading definitions, and other pertinent information. Preliminary class schedules are published in advance of each quarter to allow long-term planning.

**Doctor of Education (Ed.D.):** recognizes satisfactory academic preparation and demonstrated competence for professional activity in the fields of educational administration and vocational education. The Ed.D. is the highest professional degree offered in those fields. Standards and procedures for admission and expectations for scholastic performance are, in general, comparable to those for the Ph.D.

**Doctor of Philosophy (Ph.D.):** recognizes high attainment and ability in special subject fields as demonstrated through required examinations covering both the general and special subject fields and through the preparation and defense of a thesis based on original research and making a significant contribution to knowledge in the student's subject field.

**Endorsement:** a teaching license that is added to an initial/existing license; an endorsement indicates an additional area of expertise beyond the initial teaching license.

**Graduate Record Examination (GRE):** a standardized test administered by the Educational Testing Service and required for admission into an M.A., specialist certificate, Ed.D., or Ph.D. program. Official scores must be sent to the Graduate School office from the testing service.

**Initial licensure:** refers to the first license a student earns. The College recommends state licensure for those students who complete a postbaccalaureate or undergraduate licensure program. Through licensing standards, including the Pre-Professional Skills Tests, states can regulate the teaching industry and provide quality checks for public school teachers.

**In-service:** refers to a teacher who is currently teaching or to an educator who is working in a non-school learning environment.

**Licensure, Vocational:** in addition to requiring a bachelor's degree in business education, the state of Minnesota requires special licensure to teach in certain vocational programs at the secondary and postsecondary levels. Information about these specialized licenses should be obtained from the major adviser.

**Master of Arts (M.A.):** emphasizes research/theory and usually requires a written thesis or extensive research project. Graduate study leading to the M.A. degree is available in most education fields. M.A. candidates are admitted to the Graduate School, not the College of Education.

**Master of Education (M.Ed.):** emphasizes applied coursework for in-service education professionals and usually requires completion of a field-based experience. There are three types of M.Ed. programs: Plan I programs are for licensed teachers who wish to pursue advanced professional study; Plan II programs are for professional personnel in fields not requiring teacher licensure; Plan III programs are for individuals seeking initial licensure through the postbaccalaureate program. The M.Ed. degree is typically more practitioner-based than the M.A. degree. M.Ed. candidates are admitted to the College of Education, not the Graduate School.

**Middle school endorsement:** a teaching license that can be added to an elementary or secondary license, enabling a teacher to teach a subject specialty in a middle-school setting, grades 5-9.

**Postbaccalaureate Programs:** special programs in the College of Education that prepare educators who have completed an undergraduate/baccalaureate degree and who wish to obtain their initial licensure. At the College of Education, these are full-time day programs at the M.Ed. level (Plan III).

**Pre-Professional Skills Tests (PPST):** tests the basic skills of reading, writing, and math. The state of Minnesota requires successful completion of the PPST for all newly licensed teachers.

**Practicum:** sometimes called "clinical experience," a practicum is a school-based activity designed to put theory/methods to use; the hands-on style serves as preparation for student teaching or as advanced work for in-service teachers/educators.

**Pre-service:** designates a teacher who has not yet taught; students in initial licensure programs are often referred to as "pre-service" teachers.

**Specialist certificate:** post-master's programs that allow for the acquisition of additional licenses in specialized areas.

## Information Directory

The first step for prospective, current, or former students seeking general information or direction is the Education Student Affairs Office (ESAO), 1425 University Avenue S.E. (612/625-6501).

Following is a specific, alphabetical list of departments, program areas, and offices where information can be obtained about courses, degree requirements, teaching licensure, and special resources.

### Admission Procedures

Catherine Haugen  
Education Student Affairs Office  
625-6501

### Adult Basic Literacy

Rosemarie J. Park  
175 Peik Hall  
625-5524

### Agricultural Education

Roland L. Peterson  
320M VoTech Building  
624-2221

### Agricultural Extension Personnel Development

Mary Ann Smith  
325M VoTech Building  
624-3010

### Association of Graduate Education Students (AGES)

104 Burton Hall  
625-6806

### Art Education

Margaret DiBlasio  
135 Wulling Hall  
625-7818

### Bilingual Education

Constance L. Walker  
152 Peik Hall  
625-4828

### Business Education

Gary N. McLean  
420 VoTech Building  
624-4901

### Center for Applied Research and Educational Improvement

Jean A. King  
103 Burton Hall  
624-0300

### Center for the Study of Ethical Development

James Rest  
206A Burton Hall  
624-0876

### Center for Early Education and Development (CEED)

Erna Fishhaut  
226 Child Development  
624-3567

### Child Psychology

Richard A. Weinberg  
180 Child Development  
624-3575

### Coaching Endorsement

(Men and Women)  
Diane Wiese-Bjornstal  
223A Cooke Hall  
625-6580

### Communication Disorders

Charles E. Speaks  
115 Shevlin Hall  
624-3322

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## General Information

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### **Community Education**

Rosemarie J. Park  
175 Peik Hall  
625-5524

### **Community Education Administration**

Van D. Mueller  
224 Peik Hall  
624-7093

### **Computer Laboratory (user fee basis)**

Dennis Kern  
66 Eddy Hall Annex  
625-4350

### **Counseling and Student Personnel Psychology**

129 Burton Hall  
624-6827

### **Curriculum and Instruction**

Barbara M. Taylor  
145 Peik Hall

### **Curriculum and Instructional Systems**

Gregory C. Sales  
130 Peik Hall  
624-2034

### **Dean's Office**

Robert H. Bruininks, Dean  
104 Burton Hall  
625-6806

### **Development Office**

David Madson  
203B Burton Hall  
625-1310

### **Early Childhood Education**

Harlan S. Hansen  
338 Peik Hall  
625-4039

### **Economic Education**

Minnesota Council on Economic Education  
Bruce Dalgaard  
1169 Management/Economics Building  
625-4833

### **Education Alumni Society**

100 Morrill Hall  
624-2323

### **Education Student Affairs Office**

1425 University Avenue S.E.  
625-6501

### **Education Student Association (ESA)**

Education Student Affairs Office  
625-2085

### **Educational Policy and Administration**

Department Office  
275 Peik Hall  
624-1006

### **Educational Psychology**

Mark L. Davison  
204 Burton Hall  
624-3543

### **Elementary Education**

125 Peik Hall  
625-6372

### **Elementary Student Teaching**

(Field Experiences)  
235 Peik Hall  
625-5337

### **English Education**

Richard Beach  
359 Peik Hall  
625-3893

### **Family Life Education**

Jerry McClelland  
325R VoTech Building  
624-7271

### **Financial Aid**

*See also Student Scholarships*  
Office of Student Financial Aid  
210 Fraser Hall  
Minneapolis: 624-1690  
St. Paul: 624-1286

### **Graduation Requirements**

(Degree Clearance)  
*See Education Student Affairs Office*

### **Home Economics Education**

Jerry McClelland  
325R VoTech Building  
624-7271

**Human Relations**

Geoffrey Maruyama  
250 Burton Hall  
624-6083

**Industrial Education**

Stephen Miletich  
425J VoTech Building  
624-3004

**Institute on Community Integration**

Scott McConnell  
102 Pattee Hall  
624-6300

**International Development Education**

John J. Cogan  
152A Peik Hall  
625-1896

*or*

R. Michael Paige  
175D Peik Hall  
626-7456

**Kindergarten Education**

Harlan S. Hansen  
338 Peik Hall  
625-4039

**Marketing Education**

James R. Stone, III  
420B VoTech Building  
624-7799

**Mathematics Education**

Peggy House  
360 Peik Hall  
625-6656

**Minnesota Council on Economic Education**

Bruce Dalgaard  
1169 Management/Economics Building  
625-4833

**Minnesota Research and Development Center for Vocational Education**

James M. Brown  
R460N VoTech Building  
624-1214

**Music Education**

Rodney J. Loeffler  
100 Ferguson Hall  
624-4028

**National Center for Research in Vocational Education**

Charles Hopkins  
R350 VoTech Building  
624-1705

**Nursery School, Shirley G. Moore**

Lynn P. Galle  
134C Child Development  
624-5283

**Parent Education**

Jerry McClelland  
325R VoTech Building  
624-7271

**Physical Education**

Robert C. Serfass  
224A Cooke Hall  
625-3351

**Placement**

Education Student Affairs Office  
Richard Wassen  
1425 University Avenue S.E.  
625-6501

**Prekindergarten Education**

Lynn P. Galle  
134C Child Development  
624-5283

**Psychological Foundations of Education**

315 Burton Hall  
624-4540

**Publications**

Gayle Grika  
104 Burton Hall  
625-6806

**Readmission Procedures**

*See Education Student Affairs Office*

**Recreation, Park, and Leisure Studies**

Leo H. McAvoy  
203A Cooke Hall  
625-5887

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## General Information

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### **Recruitment**

Education Student Affairs Office  
625-6501

### **Registration/Student Progress Subcouncil**

Catherine Haugen  
Education Student Affairs Office  
625-6501

### **Remedial Reading and Reading Supervisor Programs**

Barbara Taylor  
330 Peik Hall  
625-2545

### **School Psychology**

James E. Ysseldyke  
354 Elliott Hall  
624-4014

### **Science Education**

Fred N. Finley  
370 Peik Hall  
625-2074

### **Second Languages and Cultures Education**

Diane Tedick  
125 Peik Hall  
625-1081

### **Secondary Education**

*See individual academic fields in this listing*

### **Social Studies Education**

Patricia Avery  
152 Peik Hall  
625-5802

### **Special Education**

Stan Deno  
227 Burton Hall  
624-2342

### **Special Services**

Sue Holmes  
210B VoTech Building  
624-1700

### **Student Organizations**

ESA  
Education Student Affairs Office  
625-6501

### **Student Scholarships (B.S. and M.Ed.)**

*See Education Student Affairs Office*

### **Student Teaching**

*See Elementary Student Teaching or Field Experiences*

### **Teacher Education**

Rosemarie J. Park  
175 Peik Hall  
625-5524

### **Teacher Leadership**

Neil Nickerson  
228 Peik Hall  
624-9347  
*or*  
William Gardner  
136B Burton Hall  
625-2313

### **Training and Development**

Gary N. McLean  
420J VoTech Building  
624-4901

### **Training and Development Research Center**

Richard A. Swanson  
425H VoTech Building  
624-9727

### **Vocational Adult Parent Education**

Jerry McClelland  
325 VoTech Building  
624-3010

### **Vocational Education**

Gary Leske  
210B VoTech Building  
624-1221

### **Vocational Family Life Education**

Jerry McClelland  
325 VoTech Building  
624-3010

College of Education

# Undergraduate Study



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# Undergraduate Study

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## Undergraduate Programs

This section describes undergraduate licensure and nonlicensure programs offered by the college.

Students seeking admission to undergraduate programs awarding the bachelor of science (B.S.) degree complete one or two years of preprofessional work in another college before transferring to the College of Education. Upon completion of their chosen degree program, students may be recommended by the college for teacher licensure.

## Clinical Experience

Students in both licensure and non-licensure programs participate in clinical experiences or internships. For undergraduate licensure students, orientation sessions are sponsored by program areas in the spring quarter before the year in which the student will student teach. Undergraduates planning to student teach during winter or spring quarter must apply through their program area offices during the third week of the quarter before student teaching. Application and registration information for undergraduate student teaching may be obtained from the student's major department. Admission to student teaching is subject to final approval by the college coordinator for field experiences. Students in non-licensure programs should obtain information from their advisers about internships.

## General Admission Guidelines

The faculty and staff of the College of Education welcome applications from all persons regardless of race, religion, color, sex, national origin, handicap, age, veteran status, or sexual orientation. It is the college's policy to give equal consideration to students applying from within and from outside of the University.

Admission to the College of Education is granted on the basis of academic standards and an appraisal of other factors related to the preparation of educators. Students who

plan to enter the College of Education should read carefully the requirements for their chosen program in this section of the bulletin. Students who have not completed the work necessary for admission to a program in the College of Education generally will be expected to complete the prescribed work before admission. It is strongly recommended that students attend an Information Group Meeting before applying to the college. For specific information, call ESAO (612/625-6501).

The following general guidelines are in effect for admission to undergraduate programs in the college:

- Students applying for admission must present a record of success in previous academic work. Admission is competitive and preference is given to applicants who surpass minimum requirements and have strong program-related experience. Specific admission criteria may be obtained from ESAO, 612/625-6501.
- Undergraduate B.S. programs, except elementary education, admit students for initial enrollment during the regular quarters.

The following admission procedures correspond to the various student categories for enrollment:

(1) *Students applying for undergraduate transfer to the College of Education from other divisions of the University* should apply at Student Relations, 150 Williamson Hall, where they will receive a change of college form. Applications may also be submitted to the Office of Admissions and Records, 130 Coffey Hall, St. Paul.

(2) *Students applying for transfer from other colleges or universities* should write for an application for undergraduate admission to the Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455, and should have an official transcript of their previous college work sent to that office from each college they have attended.

## Planning to Transfer?

*Minnesota's public colleges and universities are working to make transfer easier. You can help if you PLAN AHEAD, ASK QUESTIONS, and USE PATHWAYS created by transfer agreements.*

### Preparing for Transfer

If you are currently enrolled in a college or university:

- Discuss your plans with the transfer specialist on your campus.
- Call or visit your intended transfer college. You should obtain the following materials and information:
  - college catalog
  - transfer brochure
  - information on admissions criteria and on materials required for admission (e.g., portfolio, transcripts, test scores). Note that some majors have limited enrollments or their own special requirements such as a higher grade point average.
  - information on financial aid (how to apply and by what date)
- After you have reviewed these materials, make an appointment to talk with an adviser/counselor in the college or program you want to enter. Be sure to ask about course transfer and admission criteria.

If you are not currently enrolled in a college or university, you might begin by meeting with a transfer specialist or an admission officer at your intended transfer college to plan the steps you need to take.

### Understanding How Transfer of Credit Works

- The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of both your sending and your receiving institution can affect the transfer of the credits you earn.

- Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level. "Like" transfers to "like."
- Not everything that transfers will help you graduate. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites, and electives. The key question is, "Will your credits fulfill requirements of the degree or program you choose?"
- If you change your career goal or major, you might not be able to complete all degree requirements within the usual number of graduation credits.

### Applying for Transfer Admission

- Application for admission is always the first step in transferring. Fill out the application as early as you can prior to the deadline. Enclose the application fee.
- Request that official transcripts be sent from every institution you have attended. You might be required to provide a high school transcript or GED test scores as well.
- Recheck to be certain you supplied the college or university with all the necessary paperwork. Most colleges make no decisions until all required documents are in your file.
- If you have heard nothing from your intended college of transfer after one month, call to check on the status of your application.
- After the college notifies you that you have been accepted for admission, your transcribed credits will be evaluated for transfer. A written evaluation should tell you which courses transfer and which do not. How your courses specifically meet degree requirements may not be decided until you arrive for orientation or have chosen a major.
- If you have questions about your evaluation, call the Office of Admissions and ask to speak with a credit evaluator. Ask why judgments were made about specific courses. Many concerns can be cleared up if

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you understand why decisions were made. If not satisfied, you can appeal. See "Your Rights as a Transfer Student" below.

### Your Rights as a Transfer Student

- A clear, understandable statement of an institution's transfer policy.
- A fair credit review and an explanation of why credits were or were not accepted.
- A copy of the formal appeals process.

Usual appeals steps are: 1) Student fills out an appeals form. Supplemental information you provide to reviewers—a syllabus, course description, or reading list—can help. 2) Department or committee will review. 3) Student receives, in writing, the outcome of the appeal. 4) Student can appeal decision to the Education Student Affairs Office.

- At your request, a review of your eligibility for financial aid or scholarships.

*For help with your transfer questions or problems, see your campus transfer specialist.*

### Admission Requirements and Deadlines

Admission to all programs is competitive. To be considered for admission, a student must meet the minimum overall and major grade point average (GPA) requirements as established by each program within the college.

Application deadlines for admission to undergraduate programs in the College of Education are (not all programs admit every quarter; check ESAO for specific program information):

Winter Quarter 1993:	October 15, 1992
Spring Quarter 1993:	January 15, 1993
Fall Quarter 1993:	March 1, 1993
Winter Quarter 1994:	October 15, 1993
Spring Quarter 1994:	January 15, 1994

**Readmission Policy**—Students previously admitted to an undergraduate degree program in the College of Education whose day school registration has been discontinued for two or more consecutive years must

apply for readmission at the Education Student Affairs Office. Applicants will be considered according to admission criteria in effect at the time of reapplication. Readmitted students must meet graduation requirements in effect at the time of readmission. Readmission may be granted for any quarter, as appropriate to individual program planning.

### Transferring into the College of Education

Certain undergraduate program areas allow students to transfer into the College of Education for their sophomore year, while other program areas require that students transfer into the college for their junior year.

**Programs in Which Students Spend the Freshman Year in a College of Liberal Arts**—Students apply for transfer to the following College of Education programs very early in the third quarter of their freshman year and should check admissions requirements of their chosen major in this section of the bulletin.

Industrial Education  
Recreation, Park, and Leisure Studies  
Vocational-Industrial Education

**Programs in Which Students Spend Two Years in a College of Liberal Arts**—Students apply for transfer to the following College of Education programs very early in the third quarter of their sophomore year and should check admission requirements for their chosen major in this section of the bulletin.

Agricultural Education  
Business Education  
Early Childhood Education  
Elementary Education  
Kinesiology  
Marketing Education (non-licensure)  
Mathematics Education (see description in postbaccalaureate section of this bulletin)

### Scholastic Policies and Procedures

**Examination for Credit**—Credit for studies completed before admission or outside of class may sometimes be obtained by special examination. Students who believe that they are as well prepared in the subject matter as

students successfully completing a particular course should apply to the Student Progress Subcouncil, 1425 University Avenue S.E., for a special examination. If the request is approved, the department offering the course will appoint a special faculty committee to administer the examination. There is a fee for each examination.

**Registration Procedures**—Dates for registration in the college and the specific procedures to be followed are announced each quarter in the Official Daily Bulletin column in *The Minnesota Daily*. Students registering in the College of Education should obtain their registration materials and specific instructions for each program area at the Education Student Affairs Office, 1425 University Avenue S.E. Students must register their first quarter of admission.

**Change of Registration**—Students who find it necessary to make program changes should obtain a Course Request form at the registration desk in the Education Student Affairs Office. All changes in registration must be done in person. Students may add courses or change to different courses through the second week of the quarter. After this time, written consent of the instructor and approval of the Student Progress Subcouncil are required to add a course. Before the end of the sixth week of a quarter, students may cancel their registration in any course. After the sixth week, students must obtain written permission from the Student Progress Subcouncil.

Students are not permitted to change the grading system for which they have registered in a course after the second week of classes.

**Change in Major**—Students who wish to change from one major to another or add a major within the College of Education should apply through the Education Student Affairs Office.

**Unsatisfactory Progress**—Students who are not making satisfactory progress in their curriculum may be placed on probation by the Student Progress Subcouncil, which

reviews the overall academic performance of students as well as their performance in major courses. Student Progress staff members in the Education Student Affairs Office, 1425 University Avenue S.E., help students assess their academic status and advise students with respect to their academic progress.

**Licensure Procedures**—Students who plan to teach in Minnesota are expected to apply for teaching licensure when they register for the final quarter of their program. They should obtain an application from the Education Student Affairs Office, attach a money order for the fee (payable to the Commissioner of Education, State of Minnesota), and submit the application and money order to Student Relations, 150 Williamson Hall. All other details are handled by the University, and at the time the degree is awarded, qualified graduates are recommended for the appropriate license to teach in Minnesota schools.

Teaching licenses are awarded by the Minnesota State Board of Education, *not* by the University. All licensure programs described in this bulletin are approved by the State Board of Teaching and are accredited by the National Council for the Accreditation of Teacher Education.

Recommendation for licensure is based on: 1) successful completion of coursework, 2) favorable faculty judgment regarding teaching competence (including successful clinical experience), and 3) meeting minimum standards for the state-required examinations. All students seeking licensure will be required to pass the Pre-Professional Skills Test (PPST) before recommendation for teacher licensure by the College of Education. The PPST tests basic reading, writing, and mathematics. For more information, contact ESAO (612/625-6501).

Students completing a vocational licensure program in agricultural education, business, marketing, home economics, and industrial or vocational education should obtain an application and instructions from the Vocational Licensure department of the

State Department of Education (612/296-0680) and submit this to the state in accordance with their instructions.

### Graduation Requirements

Students who complete the following requirements graduate from the College of Education with a bachelor of science (B.S.) degree and receive, upon application, the recommendation for an appropriate Minnesota teaching license.

**Amount and Quality of Work**—Completion of a minimum of 186 credits (in some specialized curricula the number of credits is more than 186) with a C (2.00) average, including the specified coursework in public health, is required for graduation. All GPA requirements for student teaching, internships, and graduation are computed using University of Minnesota, Twin Cities coursework only. Contact ESAO or the major department for specific requirements for individual majors.

**S-N Grading**—The use of S-N grading is strictly limited by the College of Education. All major coursework must be taken A-F.

**Liberal Education Requirements**—The University of Minnesota believes that all of its students, whatever their majors or professional goals, should have a liberal education. Toward this end, the College of Education, together with all other University units, subscribes to an all-University policy stating the objectives of liberal education and describing the minimum distribution requirements all students must complete.

The University of Minnesota Task Force on Liberal Education has recently recommended changes in these requirements. Students admitted before the change will be allowed to complete the requirements as listed. Be sure to check with the Education Student Affairs Office for any changes.

The University has determined that if liberal education requirements are completed by one college of the University, all other colleges the student may transfer to will accept the courses as completing liberal education requirements.

Listed below are the specific credit distributions required for all education students. Students should be aware that with careful planning some courses required for specific majors may also be used to complete the liberal education requirements. Be sure to consult the individual program area to determine which courses are required. If students complete other coursework for the liberal education requirements, the major and prerequisite courses must still be completed.

**Writing Practice Requirement**—College of Education students must complete the CLA lower level writing practice requirement (Comp 1011) or an approved equivalent. An upper division composition course selected in consultation with an adviser is also required for graduation.

**Distribution Requirements**—Students must complete 48 credits distributed as follows in these four groups:

*Group A. Language, Logic, Mathematics, and the Study of Argument*—8 credits (history and structure of English, foreign language, communication skills, linguistics, rhetoric, logic, mathematics)

*Group B. The Physical and Biological Universe*—12 credits

*Group C. The Individual and Society*—16 credits including Psy 1001 (A minimum grade of C in Psy 1001 is required for education students.)

*Group D. Literary and Artistic Expression*—12 credits (literature, humanities, art, music, dance, theater)

**Professional Requirements**—Professional education courses are reserved for students admitted to College of Education programs. The requirements for these programs are outlined in the curricula section of the bulletin.

**Special Requirements**—State law requires that all candidates for teacher licensure complete coursework in public health and drug education.

A State Board of Teaching regulation requires that all applicants for teacher licensure complete a program in human relations before graduation. Undergraduate students in the College of Education meet a portion of this requirement through methods courses and other experiences and the balance by completing EPsy 5139—Interpersonal and Personality Effects on Learning. The state's requirement for coursework in methods of teaching handicapped and gifted students in regular school settings is met through a combination of the required foundations coursework.

**Residence Requirements**—A minimum of 45 credits in all types of courses must be earned while in residence in the College of Education. Thirty of the last 45 credits of the degree program must be earned in residence. These are minimum residence requirements for the undergraduate degree.

**Transfers**—Once transfer students are admitted to the college, coursework taken at other institutions is subject to approval by the adviser and the Student Progress Subcouncil.

**Degrees with Distinction**—College of Education graduates receive the bachelor of science degree upon completion of their undergraduate program. If they qualify, they may earn their degree with distinction.

Eligibility for graduation with distinction is computed at the time of application for graduation; students need not file a separate application to be considered. To graduate with distinction, a minimum GPA of 3.50 is required for all coursework completed at the University of Minnesota, Twin Cities campus, and 3.60 for all coursework completed at the University in the junior and senior years. A minimum of 45 credits must be completed in residence before the final quarter of the senior year. Credits and grades for the final quarter of work required for the degree and any other subsequent work cannot be included in the computation. *Students with previously completed degrees are not eligible for graduation with distinction.*

**Application for a Degree**—Students should file their application for a degree at 150 Williamson Hall *at least two quarters* before they expect to graduate. In addition, students whose major or minor fields are agricultural education, marketing education, business education, recreation, park, and leisure studies, industrial education, or kinesiology must file with the Student Progress Subcouncil in ESAO a program approved by an adviser.

**Senior Balance Sheet**—The senior balance sheet is mailed to students by the degree clearance staff in the Student Progress unit of ESAO approximately one quarter after they apply for a degree. It lists the required courses completed, the total number of credits earned, and any deficiencies that must be removed before a student may graduate. It is to be used by students and their advisers as a checklist of completed requirements.

## Curricula

### Child Psychology

*Richard A. Weinberg, Director, 180 Child Development*

B.A. and B.S. degrees in child psychology are offered through the College of Liberal Arts and are described in the *CLA Bulletin*. For programs in prekindergarten and kindergarten education, see Elementary Education in this section of the bulletin. Students interested in a postbaccalaureate program in child psychology should see the description for that field under the postbaccalaureate section in this bulletin.

### Curriculum and Instruction

*Barbara M. Taylor, Chair, 125 Peik Hall*

Most of the licensure programs in the Department of Curriculum and Instruction have moved to the postbaccalaureate level, which requires completion of an undergraduate degree before admission to licensure programs. Please check the postbaccalaureate section of this bulletin for information on

## Undergraduate Study

Art Education, Elementary Education, English Education, Mathematics Education, Science Education, Second Languages and Cultures Education, and Social Studies Education.

### Early Childhood Education

This curriculum prepares students for recommendation for licensure to teach in prekindergarten programs through a broad-based early childhood education major. Students seeking admission should inquire at the ESAO for current information on admission procedures. After admission to the College of Education, students are assigned an adviser in the area of early childhood education.

### Major in Early Childhood Education—

Students should take liberal arts coursework for the first two years and apply for admission early in the quarter that they will complete 90 quarter credits. The program may be entered during any regular quarter. The criteria for consideration for admission are:

- Completion of the College of Liberal Arts lower division writing practice requirement, or an approved equivalent, and the general psychology requirement;
- Completion of 90 quarter credits with a grade average of C+ (2.50);
- Completion of all but 12 or fewer credits of items 1 through 7 of the Related Course Requirements below.

The nature and scope of the applicant's prior work with children and an assessment of personal characteristics are also considered. Students should complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin and under Related Course Requirements below, before admission. Appropriate major courses may also be applied toward these requirements. Any electives should be chosen in consultation with an adviser.

### Related Course Requirements

- Spch 1101—Fundamentals of Speech Communication: Oral Communication (4)  
or Spch 1102—Fundamentals of Speech Communication: Communication Process (4)

- Math 1005—Introduction to Elementary Mathematics (4)  
12 credits in science including courses in physical, biological, and earth science  
12 credits chosen from at least two of the following areas: anthropology, economics, geography, history, political science, social science, and sociology  
Mus 1001—Fundamentals of Music (4)  
CPsy 1301—Introductory Child Psychology (4)  
Psy 3801—Introduction to Measurement and Statistical Methods (4) or equivalent  
A concentration of 30 credits in any College of Liberal Arts major, which may include courses in items 1 through 5 above.

### Major and Professional Courses

- Child Growth and Development (minimum 27 credits):*  
CPsy 3331—Introduction to Social Development (4)  
CPsy 5302—Infancy (4)  
CPsy 5345—Language Development (4)  
4 credits in CPsy 3330—Directed Experiences (1-4)  
PE 5134—Perceptual-Motor Development in Childhood (3)  
4 credits in intelligence, learning, or genetics  
4 credits in child psychology
- Child and the Family:*  
CPsy 5336—Development and Personal Relations (4)  
4 credits in family social science (upper division)
- Professional Education (minimum 29 credits):*  
Elem 3376—Nursery-Kindergarten Curriculum I (3)  
Elem 3378—Social Learning in Early Childhood Education (3)  
Elem 3379—Cognitive and Creative Learning in Early Childhood Education (3)  
6 credits in Elem 3604—Student Teaching in the Nursery School (3-6)  
EPsy 5849—Assessment in Infancy and Early Childhood (3)  
EdPA 5090—School and Society (3)  
CISy 5003—Introduction to Computers and Their Uses (1)  
4 credits in special education  
3 credits in art education, music education, or physical education
- Special Requirements for All Students:*  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
PubH 3004—Basic Concepts in Personal and Community Health (5)  
Electives

To graduate, students must complete 186 credits with an overall GPA of 2.50 and an average GPA of 3.00 in both major and professional courses.

**Prekindergarten Teacher Licensure—**  
Students wishing to prepare at the University of Minnesota for careers in early childhood education can meet state licensure requirements through completion of the

**Prekindergarten Teacher Licensure Program.** This is a *licensure* program, not a degree program. It consists of both didactic and practicum training in child development and early childhood education.

Junior or senior undergraduate students from any program within the University, or students who have a four-year degree recognized by the University, may apply for admission to this program. It may be completed in conjunction with a student's undergraduate or graduate program or under adult special status. For more information, contact Lynn Galle, Program Coordinator, 134c Child Development Building, University of Minnesota, 51 East River Road, Minneapolis, MN 55455 (612/624-5283).

**Early Childhood Education** (12-15 credits)

Elem 3376—Nursery School-Kindergarten Curriculum I (3)

or Elem 5376—Current Trends in Early Childhood Education (3)

Elem 3378—Social Learning in Early Childhood Education (3)

Elem 3379—Cognitive and Creative Learning in Early Childhood Education (3)

Elem 3604—Student Teaching in the Nursery School (3-6) (Credit requirement based on student's previous prekindergarten teaching experience)

**Child Psychology** (15 credits)

CPsy 1301—Introductory Child Psychology (4)

or CPsy 5301—Advanced Child Development (4)

4 credits in CPsy 3330—Directed Experiences (1-4)

CPsy 3331—Introduction to Social Development (4)

or 5331—Processes of Socialization of Children (4) (if undergraduate)

CPsy 5336—Development and Interpersonal Relations (4)

CPsy 5343—Introduction to Cognitive Development (4)

or CPsy 5345—Language Development (4)

or CPsy 5349—Children's Learning and Intellectual Skills (4)

**Guided Electives** (minimum 3 credits)

CPsy 5302—Infancy (4)

EPsy 5625—Education of Handicapped Infants and Pre-School Children (4)

Students must also meet, or have met as part of their undergraduate program, these Minnesota Department of Education requirements:

EPsy 5139—Interpersonal and Personality Effects on Learning (4)

PubH 5023—Basic Concepts in Personal and Community Health (5)

One physical education activity course

**Elementary Education**

The curricula outlined below prepare students for recommendation for licensure to teach in elementary schools. After completing the program, students are eligible for recommendation for licensure to teach grades 1-6 in Minnesota. Pre-elementary programs are offered for those who wish to add these endorsements to an elementary teaching license.

Elementary education undergraduate programs have a limited enrollment. Students seeking admission should attend an Information Group Meeting at ESAO, 1425 University Avenue S.E., for current information on admission procedures and assistance in choosing a curriculum. After admission to the College of Education, students will be assigned a faculty adviser in elementary education.

**Major in Elementary Education for Undergraduate Students**—Students should take liberal arts coursework for the first two years and apply for admission to the program after completing 90 quarter credits. The criteria for consideration for admission are:

- Completion of CLA writing practice and general psychology (minimum grade of C) requirement;
- Completion of 90 quarter credits with a grade average of C+ (2.50). Preference will be given to applicants with a GPA above 2.50;
- Completion of all but 12 or fewer credits of items 1 through 5 of the Related Course Requirements below.

Engl 3851, Math 1005, 1006, and one of the courses listed in item 2 of Related Course Requirements below, should be taken before entering the College of Education.

The nature and scope of the applicant's prior work with children and an assessment of personal characteristics and academic skills are also considered. Students must complete the liberal education distribution requirements as detailed at the beginning of

## Undergraduate Study

this section of the bulletin and under Related Course Requirements below. Appropriate major courses may also be applied toward these requirements.

General College students should note the transfer information in the *General College Bulletin*.

For admission to student teaching and for graduation, students must earn a C (2.00) average for the total program and a C+ (2.50) average separately for the major and professional education courses.

### Related Course Requirements

1. Spch 1101—Fundamentals of Speech Communication: Oral Communication (4)  
or Spch 1102—Fundamentals of Speech Communication: Communication Process (4)
2. 12 credits in mathematics. Select one of the following: Math 1008—Trigonometry (4), Math 1111—College Algebra and Analytical Geometry (5), Math 1131—Finite Mathematics (5), Math 1142—Short Calculus (5), Math 1201—Pre-Calculus (5), Math 1211—Calculus I (5), and Math 1005-1006—Introduction to Elementary Mathematics (4 cr each). *Note:* 1005-1006 should be taken *after* completion of course from first group.
3. 13 credits in science including courses in physical and biological sciences
4. 12 credits chosen from at least two of the following areas: anthropology, economics, geography, history, political science, social science, and sociology
5. 12 credits in literary and artistic expression including Mus 1001—Fundamentals of Music (4); ArEd 3001—Survey of Art Activities (4); and at least 4 credits of electives
6. 18 credits in 3xxx and 5xxx courses including Engl 3851—The English Language (4). (Students may also apply PubH 3004, any credits in 1xxx courses in physical and biological sciences in excess of the 13-credit requirement, and credits in mathematics courses numbered 1142 or above toward this requirement.)
7. A concentration of 30 credits in any one of the following fields: anthropology, art, economics, English, a second language, geography, history, humanities, mathematics, music, philosophy, political science, psychology, science, sociology, speech. Courses from items 1 through 6 may be included.
8. Comp 3027—Advanced Expository Writing (4)

### Major and Professional Courses

- Elem 3101—Introduction to Elementary School Teaching (3)  
Elem 5119—Cognition and Learning (4)  
Basic Methods Courses: (Students may apply only two basic methods courses taken outside of the College of Education. Students must complete a minimum of 12 credits of the methods courses before the first quarter of student teaching.)  
Elem 3300—Children's Literature (3)  
Elem 3316—Teaching English in the Elementary School (3)

- Elem 3331—Teaching Reading in the Elementary School (3)  
Elem 3346—Teaching Science in the Elementary School (3)  
Elem 3361—Teaching Social Studies in the Elementary School (3)  
Elem 3391—Teaching Mathematics in the Elementary School (3)  
Elem 5213—Teaching Health in the Elementary School (1)  
6 credits in Elem 3621—Junior Practicum in Elementary Education (1 or 2)  
Minimum of 12 credits in student teaching from Elem 3600, 3601, 3603, 3605, 3606, 3607, 3610  
ArEd 3000—Art of Children (3)  
MuEd 3011—Teaching Music in the Elementary School (4)  
EPsy 3606—Exceptional Students in Regular Classes (2)  
EdPA 5090—The School and Society (3)

### Special Requirements for All Students

- PE 3327—Teaching Physical Education in the Elementary School (3)  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
PubH 3004—Basic Concepts in Personal and Community Health (5)  
Evidence of American Red Cross Standard First Aid and Personal Safety Training

**Electives** to complete 186 credits (students must maintain a 2.50 GPA in major Elem and EdPA courses)

### Kindergarten Endorsement Program—

Students who wish to be licensed for kindergarten teaching are required to complete the following courses with a grade average of C+ (2.50) in addition to the major for undergraduate students or the major for postbaccalaureate students as outlined above:

#### For all students:

- Elem 3603—Student Teaching in the Kindergarten (6)  
CPsy 1301—Introductory Child Psychology (4)

#### For persons without valid Minnesota teaching license:

- Elem 3376—Nursery School-Kindergarten Curriculum I (3)  
Elem 3377—Nursery School-Kindergarten Curriculum II (3)

#### For persons with valid Minnesota teaching license:

- Elem 5376—Current Trends in Early Childhood Education (3)  
Elem 5377—Early Childhood Education: Materials and Resources (3)

### Mathematics Education

See Mathematics Education program in the postbaccalaureate section of this bulletin for information on undergraduate option.

## Educational Policy and Administration

*Karen Seashore Louis, Chair, 275 Peik Hall*

This department offers postbaccalaureate degree work, but undergraduates may use appropriate courses in the curriculum as part of their professional preparation. See *Advanced Study* in this bulletin or the *Graduate School Bulletin* for information on higher education programs, foundation of education programs, international development education, and programs for the preparation of elementary and secondary school principals, superintendents, and directors of special and community education. Some courses of particular relevance might be:

- EdPA 5100—Public School Administration
- EdPA 5201—Formal Organizations in Education
- EdPA 5202—Politics of Education
- EdPA 5224—Legal Implications of Acts by School Boards, Administrators, and Teachers
- EdPA 5260—Introduction to Educational Planning
- EdPA 5280—Introduction to the Economics of Education
- EdPA 5281—Cost Analysis in Educational Evaluation

The area of social and philosophical foundations of education does not currently offer undergraduate degree programs, but does contribute professional education courses basic to teacher preparation programs. Junior and senior students are encouraged to enroll in appropriate foundations courses as part of their professional preparation or in fulfillment of program electives. Courses listed below would be particularly appropriate and useful to students in light of current standards for teacher accreditation.

- EdPA 5090—The School and Society
- EdPA 5101—Historical Foundations of Modern Education
- EdPA 5102—Education Imagery in Europe and America
- EdPA 5131—Comparative Education
- EdPA 5141—Critical Issues in Contemporary Education
- EdPA 5171—Anthropology and Education (same as Anth 5145)
- EdPA 5182—Comparative Philosophies of Education
- EdPA 5190—Sociology of Education (same as Soc 5953)
- EdPA 5209—Education in Future Social Systems

## Educational Psychology

*Mark L. Davison, Chair, 204 Burton Hall*

This department does not offer undergraduate teacher education programs, but junior and senior students are invited to use appropriate courses as part of their professional preparation or in fulfillment of program electives. Several courses in special education listed below would be particularly appropriate and useful to students majoring in elementary or secondary education in light of legislation mandating universal educational opportunities for the handicapped and emphasis on mainstreaming approaches to special education.

The American Sign Language (ASL) program available through the educational psychology department fulfills the CLA requirement for competency in a second language. Information regarding the ASL program can be obtained from the special education program. All candidates for licensure in the education of deaf and hard of hearing children must demonstrate competency in ASL before being recommended for licensure.

- EPsy 5601—Education of Exceptional Children
- EPsy 5608—Parent and Professional Planning for Handicapped Students
- EPsy 5612—Education of Learning-Disabled Children
- EPsy 5620—Introduction to Mental Retardation
- EPsy 5625—Education of Handicapped Infants and Preschool Children
- EPsy 5700—Assessment and Decision Making in Special Education

Undergraduate students are reminded that they may be admitted to an M.A. or M.Ed. program only after they have completed the baccalaureate degree, submitted an application, and been formally accepted into a special education training sequence.

The counseling and student personnel psychology program offers courses for upper division undergraduates and adult special and nonmajor graduate students. These courses acquaint students with important general principles and counseling strategies. They focus on psychological concepts in areas relative to the helping process and on self-development and self-knowledge. The

## Undergraduate Study

courses involve discussions, small group sessions, and individual laboratory experiences. The courses include:

- EPsy 5401—Counseling Procedures
- EPsy 5422—Group Counseling: Principles and Procedures
- EPsy 5430—Foundations of Career Development
- EPsy 5433—Developmental Career Counseling of Women
- EPsy 5434—Counseling Adults in Transition
- EPsy 5461—Cross-Cultural Counseling

Also available are foundation courses basic to teacher preparation programs:

- EPsy 5112—Knowing, Learning, and Thinking
- EPsy 5114—Psychology of Student Learning
- EPsy 5115—Psychology of Adult Learning
- EPsy 5119—Learning and Cognitive Foundations of Education
- EPsy 5130—Personality and Social Development
- EPsy 5139—Interpersonal and Personality Effects on Learning
- EPsy 5150—Social Psychology of Education
- EPsy 5151—Structuring Learning: Social Psychological Approaches
- EPsy 5220—Educational Measurement in the Classroom
- EPsy 5221—Basic Principles of Measurement
- EPsy 5229—Classroom Assessment Methods
- EPsy 5240—Principles and Methods of Evaluation
- EPsy 5260—Introductory Statistical Methods
- EPsy 5281—Introduction to Computer Operations: U of M Systems, SPSS

### Kinesiology and Leisure Studies

*Michael Wade, Director, 110 Cooke Hall*

The School of Kinesiology and Leisure Studies offers programs in kinesiology; physical education; coaching; recreation, park and leisure studies, and sport management. Listed below are requirements for the B.S. degree, minors, special licensure, and certification programs.

#### Physical Activity Program

Physical activity courses in a variety of sport skills are open to all University students who wish to elect them for general education purposes in accordance with the regulations of the college in which they are enrolled. These courses are listed in the *Class Schedule* under Physical Education and numbered under 1500. Many of these courses involve participation requiring high energy expenditure and are considered

highly intensive unless otherwise indicated. It is recommended that students know their health status and any limitations on their ability to participate safely in the activities involved. Students who have questions about their health status should seek advice from a personal physician. See course descriptions later in this bulletin and in the *Class Schedule* for more information about each activity course.

### Kinesiology

**Major in Kinesiology**—The undergraduate program in kinesiology prepares individuals for roles in sports and health clubs, corporate fitness or exercise centers, or serves as a background for postbaccalaureate study in physical education, exercise rehabilitation, exercise physiology, biomechanics, social psychology of sport, motor behavior, or ergonomics and human factors, as well as other human performance contexts. (For information on the postbaccalaureate program in physical education, see the postbaccalaureate section of this bulletin.) Many students have also found the kinesiology degree appropriate as preparation for other health science degrees such as athletic training, physical and occupational therapy, medicine, and nursing. The curriculum includes a background of two years of general liberal education, a core of basic and applied sciences, physical activity skills, and personal support skills relative to coursework that supports individual professional goals along with a practicum experience in various sport, exercise, educational, or public service/workplace settings. Coursework for the undergraduate kinesiology program, the coaching licensure, developmental/adapted licensure, and the physical education licensure are listed under Kinesiology (Kin) and numbered above 1500. Courses that apply to licensure are indicated by the identification Physical Education Licensure (PEL).

Admissions requirements for the kinesiology program include:

- A minimum overall GPA of 2.50.
- Completion of at least 85 quarter credits overall to include the following liberal education coursework, which will partially fulfill the college liberal education requirements for graduation:

Composition 1101 or equivalent coursework  
 Category A: one four-credit course in speech required, one course in mathematics or statistics required  
 Category B: one course each in biology and chemistry  
 Category C: Psychology 1001 (5 credits) and one course (4 credits) from three of the following social sciences—anthropology, history, philosophy, or sociology

- Completion of the following required major coursework:

CBN 1027—Anatomy for Kinesiology Students  
 Five physical activity courses (1 credit each) chosen from at least four of the following areas: aquatics, conditioning/weight training, individual sports, team sports, or dance

- Completion of Kin 1871—Introduction to Kinesiology is desirable.

Subsequent to admission, a C+ (2.50) average in the major is required for kinesiology majors and a 2.80 GPA is required for students entering the Sport Management Certificate Program. This average is computed for all courses and credits listed under the major courses if they have been completed on the Twin Cities campus.

Students completing this curriculum receive the B.S. degree in kinesiology. A total of 186 credits must be completed with a GPA of 2.50 (C+) in the major courses and 2.50 (C+) overall GPA.

Students are required to complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin. Appropriate related and major courses may be applied toward these requirements.

See the section under leisure studies for requirements related to the certificate in sport management.

### *Common Requirements for All Kinesiology Majors*

**Major Courses for All Students** (38 credits)  
 CBN 1027—Anatomy for Kinesiology Students (4)  
 Kin 1871—Introduction to Kinesiology (3)  
 Kin 3111—Mechanics of Movement (3)

Kin 5126—Advanced Psychological and Sociological Dimensions of Physical Activity (3)  
 Kin 3131—History and Philosophy of Kinesiology and Sport (4)  
 Kin 3132—Motor Development (3 cr)  
 Kin 3135—Motor Learning and Human Performance (3 cr)  
 Kin 3150—Introduction to Evaluation (4)  
 Kin 3385—Exercise Physiology (4)  
 Kin 3386—Exercise Physiology (4)  
 Kin 3900—Directed Study (3)  
 Kin 5980—Introduction to Research (3)  
 Elective credits (32-42) in kinesiology and related fields as designated by individual goals. At least 12 credits must be in 3xxx or 5xxx kinesiology courses.  
 Practicum or directed study (15 cr) selected from Kin 3624, 3625, 3900  
 One 3-credit research practicum (3900)

**Special Requirements for All Students** (9 credits)  
 EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
 PubH 3004—Basic Concepts in Personal and Community Health (5)

**Coaching Licensure and Minor**—Two distinct coaching programs are offered: a Minnesota Public Secondary School Coaching licensure program and a coaching minor. Coaching licensure is available to students who are enrolled in, or are making application to, a program that leads to teaching licensure or to persons who already hold a valid Minnesota teaching license. Any College of Education student may apply for a coaching minor, which leads to licensure only for those persons who hold or are eligible for a Minnesota teaching license. Prospective students must apply to the Division of Kinesiology for admission to either coaching program. Application to enroll in Kin 3624—Student Teaching: Coaching requires satisfactory completion of all coaching coursework with a minimum grade average of C+ (2.50). Those who are eligible and successfully complete the courses outlined will be recommended for appropriate licensure for coaching boys and girls interscholastic sports in Minnesota public secondary schools.

**Minnesota Public Secondary School Coaching Licensure** (18 credits required)  
 CBN 1027—Anatomy for Kinesiology Students (4)  
 or Kin 3110—Human Anatomy (3)  
 Evidence of American Red Cross Standard First Aid and Personal Safety Training  
 Kin 3111—Mechanics of Movement (3)  
 or Kin 3115—Physiological Application to Sports (3)  
 or Kin 3386—Exercise Physiology (4)

## Undergraduate Study

- Kin 3114—Prevention and Care of Injuries (3)  
or Kin 5620—Practicum: Prevention and Care of Athletic Injuries (3)  
Kin 3143—Organization and Management of Sport (3)  
Kin 3624—Student Teaching: Coaching (3)

2 credits from:

- Kin 3169—Volleyball Coaching (2)  
Kin 3170—Baseball Coaching (2)  
Kin 3171—Basketball Coaching (2)  
Kin 3172—Football Coaching (2)  
Kin 3173—Golf Coaching (2)  
Kin 3174—Gymnastics Coaching (2)  
Kin 3175—Ice Hockey Coaching (2)  
Kin 3176—Swimming and Diving Coaching (2)  
Kin 3177—Tennis Coaching (2)  
Kin 3178—Track and Field Coaching (2)  
Kin 3179—Wrestling Coaching (2)  
Kin 3371—Soccer Coaching (2)  
or Kin 5740—Workshop: Coaching of Individual, Dual, or Team Sports (min 2)

### Coaching Minor (30 credits required)

- CBN 1027—Anatomy for Kinesiology Students (4)  
or Kin 3110—Human Anatomy (3)  
Evidence of American Red Cross Standard First Aid and Personal Safety Training  
Kin 3111—Mechanics of Movement (3)  
Kin 3114—Prevention and Care of Injuries (3)  
or Kin 5620—Practicum: Prevention and Care of Athletic Injuries (3)  
Kin 3115—Physiological Application to Sports (3)  
or Kin 3386—Exercise Physiology (4)  
Kin 3131—History and Philosophy of Physical Education and Sport (4)  
or Kin 5136—Psychology of Coaching (3)  
Kin 3135—Motor Learning and Human Performance (3)  
Kin 3143—Organization and Management of Sport (3)  
Kin 3624—Student Teaching: Coaching (3)

4 credits from:

- Kin 3169—Volleyball Coaching (2)  
Kin 3170—Baseball Coaching (2)  
Kin 3171—Basketball Coaching (2)  
Kin 3172—Football Coaching (2)  
Kin 3173—Golf Coaching (2)  
Kin 3174—Gymnastics Coaching (2)  
Kin 3175—Ice Hockey Coaching (2)  
Kin 3176—Swimming and Diving Coaching (2)  
Kin 3177—Tennis Coaching (2)  
Kin 3178—Track and Field Coaching (2)  
Kin 3179—Wrestling Coaching (2)  
Kin 3371—Soccer Coaching (2)  
or Kin 5740—Workshop: Coaching of Individual, Dual, or Team Sports (min 2)

### Developmental/Adapted Physical Education

To qualify for licensure in D/APE a student must complete 33-37 credits of coursework (21-22 credits in kinesiology and 12-15 credits in educational psychology) and have a current Minnesota teaching license in Physical Education.

### Kinesiology Courses (21-22 credits)

- Kin 5100\*—Teaching Physical Education for the Handicapped (3)  
Kin 5101\*—Physical Education Activities for the Handicapped (3)  
Kin 5102\*—Practicum: Developmental/Adapted Physical Education (6)  
Kin 5132—Motor Development (3)  
Kin 5163—Developmental Motor Assessment (3)  
Complete *one* of the following:  
Kin 5120—Advanced Biomechanics (4)  
Kin 5122—Applied Physiology (3)  
Kin 5126—Advanced Psychological and Social Dimensions of Physical Activity (3)  
Kin 5134—Perceptual-Motor Development in Childhood (3)  
Kin 5135—Motor Learning and Human Performance (3)  
Kin 5152—Curriculum (3)  
Kin 5385—Exercise for Special Populations (3)

### Educational Psychology (Special Education) Courses (12-15 credits)

Complete *one* of the following:

- EPsy 5601—Education of Exceptional Children (4)  
EPsy 5710\*—Contemporary Services for Persons with Developmental Disabilities (3)

Complete *one* of the following:

- EPsy 5608—Parent and Professional Planning for Handicapped Students (3)  
EPsy 5609\*—Family-Professional Planning for Persons with Severe Handicaps (3)

Complete *two* of the following:

- EPsy 5612—Education of Learning-Disabled Children (3)  
or EPsy 5615—Educational Interventions for Learning Disabilities (3)  
EPsy 5620—Introduction to Mental Retardation (4)  
or EPsy 5621—Methods and Materials for Elementary and Secondary Mentally Retarded Pupils (4)  
EPsy 5622—Program Design for Learners with Severe Handicaps (4)  
EPsy 5625—Education of Handicapped Infants and Preschool Children (4)  
or EPsy 5681—Methods and Materials for Handicapped Infants and Preschool Children (3)  
EPsy 5635—Education of Students with Physical Disabilities (3)  
EPsy 5640—Psychosocial and Educational Aspects of Deafness (3)  
or EPsy 5641—Models of Service Delivery to Students with Hearing Impairments (3)  
EPsy 5656—Educational Needs of Students with Emotional Disturbances or Behavioral Disorders (3)  
EPsy 5670—Introduction to Education of Visually Handicapped Children (3)  
or EPsy 5673—Methods of Teaching Visually Handicapped Children (4)  
EPsy 5705—Behavior Analysis Procedures with Mildly and Moderately Handicapped People (4)

\*A student may qualify for an *Interdisciplinary Certificate in Developmental Disabilities offered through the Institute on Community Integration* by completing the five asterisked courses. For more information, call 612/624-4848.

## Recreation, Park, and Leisure Studies

**Major in Recreation, Park, and Leisure Studies**—This professional degree program prepares individuals to assume leadership, supervisory, or beginning administrative responsibilities in various park, recreation, and leisure service agencies.

For application deadlines, see the undergraduate programs section of this bulletin. Students are not admitted for summer terms. Admission will be based on the following criteria:

- Completion of a minimum of one year of liberal education coursework (at least 45 quarter credits) including the CLA writing practice requirement.
- An overall grade average of at least C (2.00) with preference given to applicants with a higher average.
- Assessment of personal and professional characteristics through recommendations and interviews; preference is given on the basis of an evaluation of the nature and scope of previous recreation and/or related experience.

The curriculum leads to the B.S. degree. The student may elect one of two option areas: 1) leisure services management; 2) therapeutic recreation. Within the leisure services option, students may elect one of four emphasis areas: 1) public parks and recreation; 2) commercial recreation; 3) outdoor recreation/education; 4) sport management. Lists of suggested and required courses to help the student develop an individualized program are available in the divisional office. A preliminary program of coursework should be filed during the second quarter after admission. For graduation, the student must complete a minimum of 186 credits and earn a grade average of C+ (2.50) in coursework with the Rec prefix. A minor is not required of majors in this program.

### Related Course Requirements

Students are expected to complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin. In addition, Spch 1101 is required in group A, and Soc 1001 is required in group C. Students must complete a minimum of 22 credits in group C. Certain emphasis areas require specific courses

to meet these distribution requirements; consult the divisional office for details. The special requirements for graduation from the college also must be completed (see Special Requirements for All Students listed after the major requirements). All majors in the curriculum must complete a minimum of 6 credits in 3xxx or 5xxx courses in AdEd, CPsy, CISy, EdPA, EPsy, or SeEd courses.

### Major Requirements (minimum 92 credits)

- Rec 1520—Orientation to Leisure and Recreation (4)
- Rec 3530—Recreation and Park Areas and Facilities (4)
- Rec 3540—Recreation Programming (4)
- Rec 3550—Park and Recreation Administration (4)
- 15 credits in Rec 3700—Senior Internship (1-15)
- 24 credits in recreation (Rec) courses selected with consent of adviser and related to emphasis area
- 37 credits selected in consultation with adviser and appropriate to emphasis area; no more than three 1xxx courses allowed

### Special Requirements for All Students

- EPsy 5139—Interpersonal and Personality Effects on Learning (4)
- PubH 3004—Basic Concepts in Personal and Community Health (5)
- 3 credits in physical education selected from PE 1001 through 1499

**Electives** to complete 186 credits

### Sport Management Certificate Program—

The Sport Management Certificate Program is offered by the School of Kinesiology and Leisure Studies. This interdisciplinary program is based on an academic concentration that provides students with *specialized* educational and professional preparation required of individuals seeking career options in sport management. The program complements a student's existing academic program in business/management, kinesiology, recreation, or journalism.

Typical careers in sport management include sport organization management (responsibilities include budgeting, accounting, facility management), sport information management (responsibilities include marketing, promotion, and advertising), and exercise and sport science or the "fitness/wellness" industry (responsibilities include testing, evaluating and monitoring exercise and fitness programs). For more information call 612/625-3870 or 612/625-1007.

## Music Education

Vern Sutton, Acting Director, 200E Ferguson Hall

The B.M. in Music Education is offered in the College of Liberal Arts with teaching licensure through the College of Education. There are two undergraduate majors in music education: music education (with concentration in instrumental or choral/general music) and music therapy.

**Precollege Music Preparation**—An extensive background in high school instrumental and/or vocal music ensembles is expected. Private lessons in voice or on a band/orchestral instrument are a very desirable aspect of preparation. Students must meet the School of Music entrance requirements for performance in one of the following areas of applied music: voice, piano, organ, classical guitar (for the choral/general concentration); a standard band or orchestral instrument (for the instrumental concentration); and either of the foregoing for the therapy concentration. Piano lessons as well as beginning level music theory (fundamentals) and music history/literature preparation via classes or individual study with texts, computer programs, and recordings will be advantageous. Conducting and leadership experiences also prove helpful.

**Admission**—Students must complete two years (90 credits) of coursework in music and liberal arts areas before admission to the music education program. A minimum cumulative grade average of C+ (2.50) must be earned in all music coursework. An overall grade average of C (2.00) must be earned for all courses (music and nonmusic).

Students must also complete an interview with a major adviser in music education or music therapy before their applications for admission will be given final consideration.

### Core Curriculum

See *CLA Bulletin* for information regarding courses required of all music students during the first two years of study, as well as general distribution requirements.

### Major requirements in addition to core curriculum in the first two years

Psy 1001—General Psychology (5)

### Music Education majors:

MuEd 1201—Introduction to Music Education (1)

### Music Therapy majors:

MuEd 1801—Introduction to Music Therapy (1)

## Choral/General Music Education Concentration

This program is designed for vocalists, keyboard performers, or classical guitarists desiring to teach choral and classroom music in the elementary and secondary schools. Students completing this program meet the requirements for licensures to teach vocal and classroom music grades K-9 as well as vocal and classroom music grades 5-12 in Minnesota.

### Music Courses

*Applied Music*—Minimum 11 quarters (22 credits) with majors in voice, piano, organ, or guitar

12 credits lower division lessons: MusA 1201—Piano, MusA 1203—Organ, MusA 1204—Voice, or MusA 1223—Guitar

10 credits upper division lessons: MusA 3201—Piano, MusA 3203—Organ, MusA 3204—Voice, or MusA 3223—Guitar

*Secondary Applied Study*—Minimum 6 credits

For non-voice majors: MusA 1404—Voice; Secondary Required (2 or 4 each) or Mus 1160—Voice: Class Lessons (2 each)

For non-keyboard majors: Mus 1151-1152-1153—Piano: Class Lessons (2 each)

For keyboard majors: Mus 1521-1522-1523—Keyboard Harmony (2 each)

*Ensemble*—Minimum of 11 quarters required, to be selected in consultation with the adviser.

Mus 3331—Jazz Improvisation I (2)

### Professional Education Courses

MuEd 3301—Teaching Vocal and General Music, K-4 (4)

MuEd 3302—Teaching Vocal and General Music, Grades 5-12 (4)

MuEd 3322—Techniques of Classroom Instruments (4)

MuEd 3331—Practicum: Music Education (2)

MuEd 3415—Choral Laboratory (4)

MuEd 3650—Student Teaching in Music (12)

EPsy 5119—Learning and Cognition (4)

EPsy 5139—Interpersonal and Personality Effects on Learning (4)

EPsy 5229—Measurement and Assessment (2)

SeEd 5250—Secondary School Teaching (3)

SeEd 5251—Orientation in Secondary Schools (2)

EdPA 5090—School and Society (3)

PubH 3004—Basic Concepts in Personal and Community Health (5)

**Admission to Student Teaching**—Students should meet with their major adviser early in the spring quarter of their junior year to plan the student teaching experience. Each applicant must have completed all profes-

sional education courses (with the exception of EdPA 5090); all major courses in theory, ear training, music history, and secondary applied study; and a minimum of 9 credits in ensembles with a grade average of C+ (2.50) in all major and professional education courses. Grades for ensemble courses are not counted in calculating the grade average. Twelve credits of applied music in 1xxx courses and a minimum of 6 credits in 3xxx courses must be completed in the study of the major instrument or voice.

**Instrumental Music Education Concentration**

This program is designed to prepare students to teach band, orchestra, and general music in the elementary and secondary schools. Students successfully completing the program will meet licensure requirements to teach band grades K-12, orchestra grades K-12, and classroom music grades 5-12 in Minnesota.

**Music Courses**

*Applied Music*—Minimum 9 quarters (18 credits) on principal instrument (standard band or orchestral instrument).  
 12 credits lower division principal lessons (12xx or higher)  
 6 credits upper division principal lessons (32xx)  
 (See *CLA Bulletin* "Applied Music" listings for specific course numbers.)

*Secondary Applied Study*—Minimum 4 credits  
 Students must select one woodwind and one brass instrument as a secondary instrument for study for one quarter each (MusA 14xx, 2 credits/quarter; see *CLA Bulletin* "Applied Music" listings for specific course numbers).

Mus 3331—Jazz Improvisation I (2)

*Ensemble*—Required during 11 quarters of on-campus study (minimum 12 credits) to be selected in consultation with the adviser. Marching band experience is recommended for students whose major performance instrument is brass, woodwind, or percussion. Chamber ensemble experience is required during two quarters of on-campus study (minimum 2 credits).

10 credits from Mus 3410—Concert Band, Mus 1480—Marching Band or Mus 3420—Orchestra (1 each)  
 2 credits from Mus 5360—Woodwind Ensemble, Mus 5380—Brass Choir, Mus 5390—Percussion Ensemble, Mus 3440—Ensemble, Mus 5340—Jazz Ensemble (1 each)

**Professional Education Courses**

MuEd 3302—Teaching Vocal and General Music, Grades 5-12 (4)  
 MuEd 3500—String Techniques I (3)  
 MuEd 3501—String Techniques II (3)

MuEd 3503—Woodwind Techniques (4)  
 MuEd 3504—Brass Techniques (4)  
 MuEd 3505—Percussion Techniques (4)  
 MuEd 3515, 3516—Instrumental Laboratory I, II (4 each)  
 MuEd 3650—Student Teaching in Music (12)  
 EPsy 5119—Learning and Cognition (4)  
 EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
 EPsy 5229—Measurement and Assessment (2)  
 SeEd 5250—Secondary School Teaching (3)  
 SeEd 5251—Orientation in Secondary Schools (2)  
 EdPA 5090—The School and Society (3)  
 PubH 3004—Basic Concepts in Personal and Community Health (5)

**Admission to Student Teaching**—See information given above for *Choral/General Concentration*.

**Major in Music Therapy**

The music therapy program is designed to prepare students to serve in educational and medical environments to influence changes in the behavior of children and adults through music. Upon successful completion of the course of study and the six-month internship, graduates are eligible to become registered music therapists through application to the National Association for Music Therapy (NAMT).

**Music Courses**

*Applied Music*—Minimum 9 quarters (18 credits) selected in consultation with the adviser.  
 6-12 credits at 12xx (principal study in a standard band or orchestral instrument or voice, piano, organ, or guitar)  
 6-12 credits of 14xx (secondary required study) or class lessons  
 (See *CLA Bulletin* "Applied Music" listing for specific course numbers.)

Guitar Proficiency

Mus 3331—Jazz Improvisation I (2)

*Ensemble*—Minimum 9 credits (1 credit/quarter for 9 quarters; 3 quarters primary ensemble, 6 quarters elective ensemble)

**Related Course Requirements**

CBN 3001—Elementary Anatomy (5) or  
 CBN 1027—Anatomy for Physical Education Students (4)  
 Biol 1009—General Biology (5)  
 Psy 3604—Abnormal Psychology (4)

**Behavioral/Social/Health Science; Special Education Courses**

Total of 14 credits required to include:  
 EPsy 5139—Effects on Learning (4)

**Professional Education Courses**

MuEd 3322—Techniques of Classroom Instruments (4)  
 MuEd 3415—Choral Laboratory (4)

## Undergraduate Study

MuEd 3500—String Techniques I (3) *or* MuEd 3501—String Techniques II (3)  
MuEd 3503—Woodwind Techniques (4)  
MuEd 3504—Brass Techniques (4)  
MuEd 3505—Percussion Techniques (4)  
MuEd 3515—Instrumental Laboratory I (4)  
MuEd 3800—Observation in Music Therapy (2)  
MuEd 3801, 3802—Psychology of Music I, II (4 each)  
MuEd 3804—Music Therapy Techniques I (4)  
MuEd 3805, 3806—Music Therapy Techniques II, III (3 each)  
MuEd 3850—Field Experiences: Music Therapy (6; 1-2 cr/qtr)  
MuEd 3851, 3852—Internship: Music Therapy (6 each)  
Courses in dance and dance therapy recommended

**Admission to Internship**—Students should meet with their major adviser early in the spring quarter of their junior year to plan the internship experience. Each applicant must have completed all coursework to be eligible to register for MuEd 3851, 3852. A grade average of C+ (2.50) is required in all related courses and professional education courses, and the student must have satisfactorily completed all field experience requirements.

### Vocational and Technical Education

*George Copa, Chair, 210A Vocational and Technical Education Building, St. Paul*

The Department of Vocational and Technical Education offers programs leading to undergraduate degrees in the following five major fields: agricultural education; business education; industrial education; marketing education; and vocational-industrial education. Postbaccalaureate Teacher Licensure Programs are offered in the following major fields: agricultural education; business and marketing education; home economics education; and industrial education. See description of the major for specializations, options, and programs.

**Undergraduate Focus in Training and Development**—The department also offers a focus at the undergraduate level (as well as the continuing education and master's degree levels) in training and development in industry and business. Students pursuing a degree in any one of the five major fields may also elect to develop this focus by completing the following courses, in

addition to or as a part of the requirements of their major field:

VoEd 5750—Training in Industry and Business (3 or 4 cr)  
VoEd 5760—Organization Development in Industry and Business (3 or 4 cr)  
6 credits in VoEd 5780—Internship: Training and Development (ar)  
3 credits from: VoEd 5762, VoEd 5770, VoEd 5790, BME 5253, Ind 5300  
Other courses to complete 20 credits, to be selected with approval of training and development advisers

Undergraduate students outside of the Department of Vocational and Technical Education will include courses in instructional methods and course development within the Department of Vocational and Technical Education to complete their 20 credits. A training and development professional certificate is awarded to major and nonmajor students completing these requirements.

### Agricultural Education

The undergraduate major in agricultural education, offered jointly by the College of Agriculture and the College of Education, is for students planning to teach agricultural science, horticultural science, agribusiness, agrimarketing, natural resources management, agrimechanics, and agriproduction education in public schools, technical colleges, and community colleges, or for those planning to work in agricultural development and in various agricultural business-related organizations. The program provides comprehensive education for those preparing for teaching; extension work; local, national, and international development; and other professional careers in sales and marketing, financial management, or agricultural production. The program requires a broad study of agriculture and permits emphasis in animal science, crop science, agricultural economics, agricultural business, horticulture, soils, natural resources, environment, and agricultural engineering technology. It also, in the education specialization, offers the special preparation in education necessary to qualify for licensure as a teacher of agriculture and natural resources.

**Admission Procedures**—Students may enter a pre-agricultural education major in the College of Agriculture as freshmen or transfer students. Students must earn 90 credits in the pre-agricultural education major before transferring to the College of Education. Students should apply for admission to the College of Education in the final quarter of their sophomore year. This application may be completed in the Division of Agricultural Education, 320 Vocational Technical Education Building.

Students must complete the application requirements as directed by the Agricultural Education staff.

**The Agricultural Education Specialization**—Students in this specialization will be eligible to teach agricultural production systems, horticulture, natural resources, environmental education, forestry, agribusiness, agriscience, food systems, and agricultural mechanics at the secondary or postsecondary levels and adult farm management education provided they have the appropriate work experience to accompany their degree. In addition, graduates from this specialization may seek employment in agricultural sales, marketing and finance, extension, and production in domestic and international settings.

To be eligible for admission to the agricultural education specialization in the College of Education, students must have a minimum overall GPA of at least 2.50. Students are required to complete the Pre-Professional Skills Test (PPST) before admission. The test evaluates basic reading, writing, and mathematics knowledge.

**The Agricultural Development Specialization**—Students in this specialization will be eligible for a wide range of positions in agricultural development. Students will guide the process of change for improving an individual organization, community, or society within the context of agriculture. Students may seek employment in all the fields listed in the agricultural education specialization except formal teaching situations. This option provides an emphasis

in experiential education in both the production and agribusiness phases of agriculture.

To be eligible for admission to the agricultural development specialization in the College of Education, students must have a minimum overall GPA of at least 2.30.

*Transfer students* who have completed less than two years of college work apply for admission to the College of Agriculture. These students will then apply to the College of Education in the quarter in which they complete their sophomore year.

Transfer students who have completed two or more years of college work apply for admission to the College of Agriculture, Office of Admissions and Records, 130 Coffey Hall, University of Minnesota, 1420 Eckles Avenue, St. Paul, MN 55108. During the first quarter of enrollment in the College of Agriculture, students must apply for admission to the College of Education.

**Student Teaching**—In the agricultural education specialization, students must have an overall GPA of 2.50 to be eligible for student teaching.

**Graduation Requirements**—Students must have an overall GPA of 2.50 to meet graduation requirements in the agricultural education specialization. They must have an overall GPA of 2.30 to graduate with an agricultural development specialization.

**Work Experience**—Students applying for agricultural education licensure must have satisfactory work experience in agricultural production and agribusiness. The Division of Agricultural Education's Occupational Experience Committee evaluates student work experiences. In general, students will be expected to verify at least 2,000 hours of work experience in production and agribusiness agriculture.

**Major Requirements**—Students majoring in agricultural education must complete the requirements listed below in categories A, B, C, and D. Course substitutions in these categories may be made only with the approval of the adviser and the College of

## Undergraduate Study

Agriculture. Changes in categories E and F require the approval of the adviser and the College of Education. Changes in categories G and H may be made with the adviser's recommendation and approval of the Division of Agricultural Education head.

### *Agricultural Education Specialization and Agricultural Development Specialization*

#### **A. Communication, Language, Symbolic Systems—25 credits**

Rhet 1101—Writing to Inform and Persuade (4)  
Rhet 1104—Library Research Methods (1)  
Rhet 1222—Public Speaking (4)  
Rhet 3562—Writing in Your Profession (4)  
Math 1111—College Algebra and Analytic Geometry (5)  
Agri 1200—Computer Applications in Your Profession (3)

Plus one of the following:

Rhet 1151—Writing in Your Major (4)  
Rhet 3254—Advanced Public Speaking (4)  
Rhet 3266—Communication, Discussion in Small Group Decision Making (4)  
One course in statistics

All courses in category A may be selected from equivalent courses offered in other departments or colleges within the University.

#### **B. Biological and Physical Sciences—32 credits minimum**

Chem 1001—General Principles of Chemistry (4)  
or at least one basic chemistry course (4)  
BioC 3001—Elementary Biological Chemistry (4)  
Biol 1009—General Biology (5)  
One course in physics  
ScAg 1500—Basic Biotechnology (3)  
Students must select additional credits of elective courses in biological and physical science to equal 32 credits  
or

Chem 1051—Chemical Principles I (4)  
Chem 1052—Chemical Principles II (4)  
BioC 3001—Elementary Biological Chemistry (4)  
Biol 1009—General Biology (5)  
One course in physics  
ScAg 1500—Basic Biotechnology (3)  
Students must select additional credits of elective courses in biological and/or physical science to equal 32 credits.

#### **C. The Individual and Society—16 credits minimum Required:**

Psy 1001—General Psychology (5)  
Soc 1001—Introduction to Sociology (4)  
or Anth 1002—Introduction to Social and Cultural Anthropology (5)

Recommended Additional Courses:

Soc 1001—Introduction to Sociology (4)  
Soc 1651—Rural Sociology (4)  
Soc 3551—World Population Problems (4)  
Hist 1301—American History (4)  
Hist 1302—American History (4)

Geog 1301—Human Geography (5)  
Geog 1401—Physical Geography (5)  
Anth 1102—Introduction to Social and Cultural Anthropology (5)

Any additional course in anthropology  
Pol 1001—American Government and Politics (5)  
Pol 1025—World Politics (4)  
Pol 3825—The International System (4)  
Phil 1002—Introduction to Philosophy (5)  
Phil 1003—Introduction to Ethics (5)

#### **D. Literature, Humanities, and Fine Arts—12 credits minimum**

Students are encouraged to pursue 12 or more credits in a theme area. However, they may select 12 credits at random from the suggested theme areas. Students may apply up to 5 credits in the performing arts such as music, theater, and studio arts in category D.

### *Agricultural Education Specialization*

#### **Professional Supporting Courses in the Major—48 credits minimum**

#### **E. General Education and Related Courses—15 credits minimum\***

EPsy 5119—Learning and Cognitive Foundations of Education (4)  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
EPsy 5229—Classroom Assessment Methods (2)  
EdPA 5090—School and Society (3)  
PubH 3004—Basic Concepts in Personal and Community Health (5)

#### **F. Agricultural Education—33 credits minimum**

AgEd 1001—Introduction to Agricultural Education (1)  
AgEd 1002—Principles of Career Planning in Agriculture (1)  
AgEd 1003—Personalized Agriculture Career Planning (1)  
AgEd 3029—Directed Experience in Agricultural Education (1)  
AgEd 5010—Rural Education: Philosophy and Leadership (3)  
AgEd 5028—Teaching Methods in Agricultural Education (5)  
AgEd 5031—Clinical Experience in Teaching Agriculture (10)  
AgEd 5049—Agricultural Education for Adults (3)  
AgEd 5061—Program Planning and Evaluation (3)  
AgEd 5071—S.O.E. Planning and Management (3)  
AgEd 5078—F.F.A. Organization and Management (2)

#### **H. Technical Agriculture—65 credits minimum** 14 credits from courses in soil science, plant science, or plant protection

10 credits in animal science

#### **Agricultural Economics/Business—22 credits**

AgEc 1101—Principles of Microeconomics (4)  
AgEc 1102—Principles of Macroeconomics (4)  
BME 3260—Professional Sales Education (3)

At least two of the following:

AgEc 3420—Grain Marketing Economics (4)  
AgEc 3430—Dairy Marketing Economics (3)  
AgEc 3440—Livestock and Meat Marketing Economics (3)  
AgEc 3450—Agricultural Input Marketing (4)

AgEc 5440—Cooperatives and Agribusiness Organizations (4)

AgEc 5480—Futures, Markets, and Prices (4)

At least one of the following:

AgEc 1250—Principles of Accounting (4)

AgEc 3500—Agribusiness Finance (4)

AgEc 3810—Principles of Farm Management (4)

Agricultural Engineering Technology—10 credits minimum

AgEt 1020—Agricultural Shop Metalwork (4)

AgEt 5020—Program Planning and Instructional Methods in Agricultural Mechanics (3)

6 credits in Natural Resources and Environment

Agricultural Education Practicum—3 credits

AgEd 5072—Practicum: Agricultural Business and Industry (3)

## Agricultural Development Specialization

**Professional Supporting Courses in the Major—**  
32 credits minimum

**E. General Education—**3 credits minimum

AdEd 5401—Adult Learning and Development Through the Life Span (3)

**F. Agricultural Education—**29 credits minimum  
Professional—19 credits

AgEd 1001—Introduction to Agricultural Education (1)

AgEd 1002—Principles of Career Planning in Agriculture (1)

AgEd 1003—Personalized Agriculture Career Planning (1)

AgEd 3029—Directed Experience in Agricultural Education (1)

AgEd 5010—Rural Education: Philosophy and Leadership (3)

AgEd 5021—Education Through Extension Methods (3)

AgEd 5023—Extension Methods for Developing Countries (3)

AgEd 5025—Extension Program Planning (3)

AgEd 5055—Methods in Farming Systems Research and Extension (3)

Experiential—10 credits minimum, 20 credits maximum

\*AgEd 3001—Experiential Learning: Production Agriculture (2-8)

\*AgEd 3002—Experiential Learning: Agricultural Business (2-8)

*\*Amount of credit registered for in each course depends on prior experience and the results of diagnostic competency testing. Under some circumstances, additional credits in technical agriculture may be used to substitute for some or all of the experiential learning credits.*

**G. Development—**16 credits minimum

At least 2 courses from the following:

AgEd 3041—Practicum: Agricultural Education Technology (3) (Workshop: Applied International Development Technologies)

AgEc 3070—Agriculture and Economic Growth in Developing Countries (4)

AgEc 5790—World Food Problems (3)

AnPI 3010—Environment and World Food Production (4)

Econ 5401—International Economics (4)

Pol 3477—Political Development (4)

Pol 3835—The International System (4)

At least 2 courses from the following:

AgEc 3006—Applied Macroeconomics: Government and the Economy (4)

AgEc 3007—Applied Macroeconomics: Policy, Trade, and Development (4)

AgEc 3040—Economic Development of American Agriculture (4)

AgEc 3610—Resource Development and Environmental Economics (4)

Econ 5301—Economic Development (4)

Econ 5307—Comparative Economic Systems (4)

FScN 1102—Technology of Food Processing (4)

FScN 1612—Principles of Nutrition (4)

**H. Technical Agriculture—**55 credits minimum

12 credits in plant science and/or plant protection

4 credits in soil science

7 credits in animal science

Agricultural Economics—8 credits

AgEc 1101—Principles of Microeconomics (4)

AgEc 1102—Principles of Macroeconomics (4)

Agricultural Business—13 credits

BME 3260—Professional Sales Education (3)

At least two courses from:

AgEc 3420—Grain Marketing Economics (4)

AgEc 3430—Dairy Marketing Economics (3)

AgEc 3440—Livestock and Meat Marketing Economics (3)

AgEc 3450—Agricultural Input Marketing (4)

AgEc 5440—Cooperatives and Agribusiness Organizations (4)

AgEc 5480—Futures, Markets, and Prices (4)

At least one of the following:

AgEc 1250—Principles of Accounting (4)

AgEc 3500—Agribusiness Finance (4)

AgEc 3810—Principles of Farm Management (4)

5 credits in Agricultural Engineering

6 credits in Natural Resource Management

**I. General Electives—**10 credits minimum

Electives to complete the 198 credits required for graduation with a bachelor of science degree.

## Business Education

Two B.S. degree programs with a major in business education are available. Students may choose to meet the requirements of either program.

1. A program emphasizing *public school teaching*, which leads to a recommendation for the standard license to teach business and office education in Minnesota public schools.
2. A program emphasizing *administrative management and training*, which leads to a professional certificate in training and development with special preparation in

office systems management (which does *not* lead to a recommendation for the standard license to teach business and office education in Minnesota public schools; however, students who complete this program will have the prerequisite business content degree for admission to the University of Minnesota postbaccalaureate teacher education program in business and marketing education).

Students preparing to major in one of the business education programs register for two years in a liberal arts or community college or in the General College. Application for admission to the major may be made in the quarter in which students will have completed 90 credits. These credits should include courses to meet the liberal education distribution requirements and major course requirements. Students are encouraged to plan programs with a business education adviser. An overall GPA of 2.80 or higher is required for admission.

Students who have had previous instruction or experience in keyboarding/typewriting, word processing, office procedures and management, and microcomputer applications may take proficiency examinations for credit or appropriate placement in required courses (see Examination for Credit at the beginning of this section of the bulletin). Students who have had related occupational experience may have the credits required in BME 5359 waived. These matters should be discussed with a major adviser during the first quarter of registration in the College of Education.

All students are expected to complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin. Students are encouraged to apply appropriate related and major courses toward these requirements.

### *Common Requirements for All Business Education Majors*

#### **Related Course Requirements**

Math 1111—College Algebra and Analytical Geometry (5) or equivalent

**Major Courses** (minimum 80 credits)

Acet 1050—Introduction to Financial Reporting (5)

BGS 3004—International Business (4)

BLaw 3058—Introduction to Law, and the Law of Contracts and Sales Contracts (4)

Comp 3032—Preprofessional Writing for Business (4)

Econ 1101—Microeconomics (4)

Econ 1102—Macroeconomics (4-5)

IDSc 1010—Fundamentals of Information Development and Use (4)

IDSc 3030—Information Systems and Information Management (4)

Mgmt 3001—Fundamentals of Management (4)

Mgmt 3002—Psychology of Management (4) *or* IR 3002—Personnel and Industrial Relations (4)

Mgmt 3008—Entrepreneurship and the Smaller Enterprise (4) *or* VoEd 5700—Teaching Entrepreneurship: Small Business Management (4)

Mktg 3000—Principles of Marketing (4)

OMS 1020—Data Analysis and Statistical Inference for Managers (4)

BME 1101—Introductory Word Processing and Transcription (3)

BME 3158—Office Management Techniques and Technology (3)

BME 3159—Word/Information Processing Concepts and Management (3)

BME 5160—Advanced Word Processing Practicum (3)

BME 5310—Introduction to Microcomputer Applications in Business and Marketing Education (3)

BME 5330—Spreadsheet Analysis Using Microcomputers in Business and Marketing Education (3)

BME 5335—Teaching Microcomputer Business Graphics (3)

BME 5345—Data Base Microcomputer Applications (3)

BME 5365—Integrated Microcomputer Applications in Business and Marketing Education (3)

**Professional Education Courses** (minimum 4 credits)

BME 5300—Introduction to Business and Marketing Education Curriculum (4)

**Business Teaching Program**—In addition to the common requirements for all business education majors listed above, business teaching students must complete the courses listed below. A 2.80 GPA in all major and professional courses is required for admission to student teaching and for graduation.

## Vocational Office Education Licensure—

In addition to the possession of a bachelor's degree in business education, the state of Minnesota requires *special licensure* to teach in certain vocational programs at the secondary and postsecondary levels. Information about these specialized licenses should be obtained from the major adviser.

### Professional Education Courses (minimum 40 credits)

- EPsy 5119—Learning and Cognitive Foundations of Education (4)
- EPsy 5229—Classroom Assessment Methods (2)
- EdPA 5090—School and Society (3)
- BME 3300—Teaching Typewriting/Keyboarding (3)
- BME 3302—Teaching Basic Business Subjects (3)
- BME 3303—Teaching Accounting and Data Processing (3)
- BME 5157—Materials and Methods in Office Education (4)
- BME 5353—Curriculum Construction in Business and Marketing Education (4)
- BME 5604, 5605, 5606—Clinical Experience in Business or Marketing Education (4 each)
- VoEd 5300—Philosophy and Practice of Vocational Education (3)

### Special Requirements for All Students

- EPsy 5139—Interpersonal and Personality Effects on Learning (4)
- PubH 3004—Basic Concepts in Personal and Community Health (5)

## Administrative Management and Training Program

In addition to the common requirements for all business education majors listed above, administrative management and training students must complete the following courses. A 2.80 GPA in all major and professional education courses is required for admission to the occupational experience course and to the training and development internship and for graduation.

### Major Courses (minimum 13 credits)

- BME 3161—Records Management (3)
- VoEd 5340—Principles of Supervisory Management (4)
- VoEd 5760—Organization Development in Industry and Business (3-4)

Electives selected in consultation with adviser from business administration, speech communication, technical business education, training and development in vocational education (to complete 13 credit major course total)

### Professional Education Courses (minimum 29 credits)

- BME 5305—Methods in Business and Marketing Education (4)
- BME 5253—Supervisory Training (3)
- BME 5355—Adult Business and Marketing Education Programs (3)
- VoEd 5750—Training in Industry and Business (3-4)

**Electives** selected in consultation with adviser from business and marketing education, curriculum and instructional systems, adult education, vocational and technical education, training and development, internship (to complete 29 credit total)

### Internship (minimum 6 credits)

6 credits in BME 5359—Occupational Experience (1-18) or VoEd 5780—Internship: Training and Development (1-15)

## Industrial Education

The undergraduate major in industrial education allows four options: (1) a focus on public school teaching in industrial education, (2) a focus on technical college teaching in vocational-industrial education, (3) a focus on industrial training, and (4) a focus on industrial supervision.

Students completing option (1) in industrial education with a focus on public school teaching are awarded the B.S. degree, which fulfills the prerequisites for a postbaccalaureate program in industrial education. Completion of the postbaccalaureate program results in a recommendation to the state of Minnesota that the person be granted a license to teach industrial education in grades 5-12 in Minnesota public schools. Students completing option (2) in vocational-industrial education are awarded the B.S. degree and recommended for licensure under the provisions of the Minnesota State Plan for Vocational Education to teach in technical college programs in Minnesota and selected vocational education programs in high schools. Students completing option (3) are awarded the B.S. degree and professional certificate in industrial training and development, but do not receive licensure to teach in Minnesota public secondary and postsecondary schools. Students completing option (4) are awarded the B.S. degree with a concentration in industrial supervision, but do not receive licensure to teach in Minnesota secondary or postsecondary schools. Graduate study is also available in all four options.

## Undergraduate Study

Students applying for admission must have completed 45 quarter credits, including courses in mathematics, physical science, and English. A minimum GPA of 2.50 is required in all previous college-level work to be considered for admission. In addition, students must complete a questionnaire concerning education, work, and other relevant experiences. Application for admission to the vocational-industrial education option requires an applicant to submit verification of sufficient occupational experience in the area in which the applicant intends to teach to be eligible for licensure as a vocational-industrial education teacher in a Minnesota technical college.

Students may elect to pursue courses meeting the requirements for a combination of options. For example, vocational-industrial majors may include a focus on training or supervision in industry as part of their degree. This would require the addition of selected industrial training or supervision courses. Some of the industrial education courses applicable to the B.S. are available off campus through CEE or Special Services.

Students may also arrange to take a number of laboratory courses at the Dunwoody Institute and at metropolitan technical colleges without fees other than those paid at the University. Consent of the adviser must be secured before registration in any off-campus laboratory course.

Students are expected to complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin. Specific required courses can be identified by contacting an industrial education adviser. Other appropriate related and major courses may be applied toward these requirements.

Students who major in industrial education must file an approved program with an industrial education adviser at least two full quarters before the expected date of graduation.

### Related Course Requirements

- Math 1111—College Algebra and Analytic Geometry (5)
- AgET 3030—Introduction to Problem Solving with Computers (4)  
or GC 1571—Introduction to Basic and to Microcomputers (4)
- Spch 1101—Fundamentals of Speech Communication (4)  
or Rhet 1222—Public Speaking (4)
- Phys 1001—The Physical World (4)
- Phys 1005—Physical Laboratory (1)
- Psy 1001—Introduction to Psychology (5)
- Comp 1011—Writing Practice I (5)  
or Rhet 1101—Writing to Inform and Persuade (4)  
or GC 1421—Writing Lab: Personal Writing (4)
- Comp 3032—Preprofessional Writing for Business (4)  
or Rhet 3562—Writing in Your Profession (4)

### Required of all Students: Technical Content—54 credits

Expertise in a technical specialty may be obtained through coursework and/or work experience.

Option 1: Students who do not have related work experience or who are preparing to teach in grades 5-12 in public schools must complete the basic technology content plus 18 credits of advanced technology content.

### Basic Technology Content—35 credits

- Ind 1000—Technical Drawing (3)
- Ind 1001—Technical Design and Product Design (3)
- Ind 1110—Introduction to Production Systems (4)
- Ind 1120—Communication Technology (3)
- Ind 1130—Principles of Energy and Power (4)
- Ind 3010—Construction (3)
- Ind 3011—Manufacturing (3)
- Ind 3020—Graphic Communication (3)
- Ind 3030—Industrial Electronics (3)
- Ind 3031—Industrial Power Systems (3)
- Ind 3032—Transportation Systems (3)

### Advanced Technology Content—18 credits

- Ind 3200—Technical Development: Advanced (maximum 18)
- Ind 5200—Technical Development: Specialized (maximum 18)

Option 2: Applicants who have enough work experience to qualify for a vocational license under the rules of the State Board of Vocational Education may meet the technology requirement by completing 8 credits of basic technology courses selected with the approval of the adviser and may receive up to 45 credits for prior work experience. Those who wish to specialize in industrial training or industrial supervision may select an 18-credit block of electives in their area of specialization with the assistance of an adviser and receive up to 27 additional credits of work experience courses and/or additional industrial education coursework designed to develop technical competence.

## Professional Education Course Requirements for All Students

- Ind 1300—Introduction to Vocational-Industrial Teaching (3) (option 2 only)  
or Ind 1301—Introduction to Vocational-Industrial Teaching (3)
- Ind 5301—Tests in Industrial Subjects (3)
- Ind 5303—Instructional Aids (3)
- Ind 5320—Vocational Guidance (3)
- Ind 5325—Foundations of Industrial Education (3)
- Ind 5330—Industrial Course Construction (3)
- Ind 5344—Facilities and Management (3)
- Ind 5360—Industrial Instruction (3)
- VoEd 5800—Working With Special Needs Students (3)
- EPsy 5139—Interpersonal and Personality Effects on Learning (4)
- PubH 3004—Basic Concepts in Personal and Community Health (5)
- Evidence of American Red Cross Standard First Aid and Personal Safety Training

## Required of Those in the Vocational-Industrial Option

- Ind 1302—Supervised Vocational-Industrial Teaching (3)

## Required of Those in All Options Except Industrial Technology

- Educ 5401—Adult Learning and Development Through the Lifespan (3)

## Required of all students

- 12 credits in Issues, Structures, and Functions of Industry (selected with an adviser)
- General Electives to complete 186 credits

## Marketing Education

The B.S. degree program in marketing education is for persons who want to pursue careers that require sales and marketing and training skills. Students completing the required internship may earn a professional certificate in training and development. The program does *not* lead to a recommendation for a license to teach marketing education in Minnesota public secondary schools; however, students who complete this program will have the prerequisite business content degree for admission to the University of Minnesota postbaccalaureate teacher education program in business and marketing education.

Students preparing to major in marketing education register for their first two years in a liberal arts or community college or in the General College. Application for admission to the major may be made in the quarter in which students will have completed 90 credits. These credits should include courses

to meet the liberal education distribution requirements and major course requirements. Students are encouraged to plan programs with a marketing education adviser. An overall GPA of 2.80 or higher is required for admission.

All students are expected to complete the liberal education distribution requirements as detailed at the beginning of this section of the bulletin. Appropriate related and major courses may be applied toward these requirements.

An overall GPA of 2.80 is required for admission to the internship and for graduation.

## Related Course Requirements

- Math 1111—College Algebra and Analytical Geometry or equivalent (5)

## Major Courses—minimum 88 credits

- Acct 1050—Introduction to Financial Reporting (5)
  - BGS 3004—International Business (4)
  - BLaw 3058—Introduction to Law, and the Law of Contracts and Sales Contracts (4)
  - BME 3260—Professional Sales Education (3)
  - BME 5310—Introduction to Microcomputer Applications in Business and Marketing Education (3)
  - Comp 3032—Professional Writing for Business (4)
  - Econ 1101—Principles of Microeconomics (4)
  - Econ 1102—Principles of Macroeconomics (4-5)
  - IR 3002—Personnel and Industrial Relations (4)
  - IDSc 1010—Fundamentals of Information Development and Use (4)
  - IDSc 3030—Information Systems and Information Management (4)
  - INS 5100—Insurance and Risk Management (4)
  - Jour 3201—Principles of Advertising (4)
  - Mgmt 3001—Fundamentals of Management (4)
  - Mgmt 3008—Entrepreneurship and the Smaller Enterprise (4)  
or VoEd 5700—Teaching Entrepreneurship: Small Business Management (4)
  - Mktg 3000—Principles of Marketing (4)
  - Mktg 3010—Buyer Behavior and Marketing Analysis (4)
  - Mktg 3050—Marketing Communications (4)
  - Mktg 3065—Retail Management (4)
  - OMS 1020—Data Analysis and Statistical Inference for Managers (4)
  - TexC 1641—Introduction to Merchandising (3)
  - VoEd 5340—Principles of Supervisory Management (3)
  - VoEd 5760—Organization Development in Industry and Business (3-4)
- ## Professional Education Courses—minimum 26 credits
- BME 5252—Teaching Promotion (3)
  - BME 5253—Supervisory Training (3)
  - BME 5261—Sales Training (3)
  - BME 5262—Customer Service Training (3)
  - BME 5300—Introduction to Business and Marketing Education Curriculum (4)

## Undergraduate Study

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BME 5305—Methods in Business and Marketing Education (4)

BME 5355—Adult Business and Marketing Education Programs (3)

VoEd 5750—Training in Industry and Business (4)

**Internship**—minimum 6 credits

BME 5359—Occupational Experience (ar)  
or VoEd 5780—Internship: Training and Development (ar)

**Electives** selected in consultation with adviser, from business and marketing education, curriculum and instructional systems, adult education, vocational and technical education, internship (to complete 186 credits)

College of Education

# Postbaccalaureate Study



# Postbaccalaureate Study

## Postbaccalaureate/Master of Education Programs Leading to Licensure

The College of Education teacher education programs have recently been revised to reflect current thinking and research in the field. Most of the initial teacher licensure programs are now at the postbaccalaureate level.

Admission to a postbaccalaureate/master of education (M.Ed. Plan III) program in the College of Education requires an earned bachelor's degree (B.A., B.F.A., or B.S.) in a major field related to the area in which the student wishes to teach. Most postbaccalaureate programs admit students for initial enrollment during Summer Session only (except for agriculture, business and marketing, home economics, and industrial education, which accept students each quarter). This is a full-time program and students are expected to complete it within the scheduled 15 months.

The following programs are at the postbaccalaureate/M.Ed. licensure level.

Agricultural Education  
Art Education  
Business and Marketing Education  
Elementary Education  
English Education  
Home Economics Education  
Industrial Education  
Mathematics Education  
Physical Education  
Science Education  
Second Languages and Cultures with majors in Chinese, ESL, French, German, Hebrew, Japanese, Latin, Russian, Spanish  
Social Studies with emphases in anthropology, economics, geography, history, political science, psychology, or sociology

Upon completing the licensure requirements, students have earned several credits toward the master of education degree.

### Admission

Admission to all programs is competitive. To be considered for admission a student must have an earned B.A., B.F.A., or B.S. degree. Most programs require a minimum overall GPA of 2.80 and a minimum 3.00

GPA in the major; students should contact individual program areas for specific GPA requirements. Enrollment is limited and preference is given to students who surpass the minimum standards and who have strong teaching-related experience.

Applicants for the second languages and cultures program must complete the Modern Languages Association (MLA) language proficiency exam.

Application deadlines for admission to postbaccalaureate programs in the College of Education are:

Winter Quarter:	October 1
Agricultural Education	
Business/Marketing Education	
Industrial Education	
Spring Quarter:	February 1
Agricultural Education	
Business/Marketing Education	
Industrial Education	
Summer Session I:	February 1
Art Education	
Elementary Education	
English Education	
ESL Education	
Mathematics Education	
Physical Education	
Science Education	
Second Languages and Cultures Education	
Social Studies Education	
Summer Session II:	April 1
Agricultural Education	
Business/Marketing Education	
Home Economics Education	
Industrial Education	
Fall Quarter:	July 1
Agricultural Education	
Business/Marketing Education	
Industrial Education	

All students must submit the M.Ed. application and official transcripts of the baccalaureate degree and any subsequent coursework. Applications are available at the Education Students Affairs Office (ESAO), 1425 University Avenue S.E., Minneapolis, MN 55414, (612/625-6501) or at the Office of Admissions, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455. Students are strongly encouraged to attend an introductory information group meeting.

For specific information regarding admission criteria and entrance examinations, contact the admissions unit of ESAO, 1425 University Avenue S.E. (612/625-6501).

## Requirements for the Completion of the Postbaccalaureate Program

Students who complete program requirements receive, upon application, the recommendation for an appropriate Minnesota teaching license from the College of Education, as well as credits toward the M.Ed. degree.

Licensure requirements and M.Ed. requirements vary by program. All students are expected to maintain a minimum overall GPA of 2.80. Students are also expected to maintain continuous registration until licensure requirements are completed. All work submitted for the M.Ed. must be concluded within seven years before graduation. See the Advanced Study section of this bulletin for specific M.Ed. requirements.

**S-N Grading**—The use of S-N grading is strictly limited by the College of Education. See the quarterly *Class Schedule* to determine grading options for each course. No more than 33 percent of the credits for the M.Ed. degree may be taken S-N.

**Professional Requirements**—Professional education courses are reserved for students admitted to approved licensure programs. Requirements for each program are outlined in the curricula section of the bulletin.

**Special Requirements**—State law requires that all candidates for licensure complete coursework in public health and drug education. A State Board of Teaching regulation also requires that all applicants for teacher licensure complete a program in human relations. Students in the College of Education must complete these requirements before being recommended for teacher licensure. These requirements are fulfilled by taking the specified foundation courses outlined in the curricular section of this bulletin.

## Scholastic Policies and Procedures

**Teaching Licensure**—Students should apply for teaching licensure when they register for the final quarter of their program. They should obtain an application from the Education Student Affairs Office, attach a money order for the fee (payable to the Commissioner of Education, state of Minnesota), and submit the application and money order to Student Relations, 150 Williamson Hall. All students must also submit fees to cover the cost of an official University of Minnesota transcript that will be mailed with the application when licensure requirements are completed.

*Note:* Students completing their undergraduate degrees and/or prerequisite coursework at another institution must also submit copies of those transcripts with the license application. The Minnesota Department of Education will not process the application without all transcripts. Failure to submit the transcripts will delay receiving the license.

Teaching licenses are awarded by the Minnesota State Board of Education, not by the University. Recommendation for licensure will be based on: 1) successful completion of coursework, 2) favorable faculty judgment regarding teaching competence (including successful clinical experience), and 3) meeting minimum standards for the state-required examinations. After admission to a postbaccalaureate program and completion of the requirements for licensure of the approved program, the College of Education recommends students for licensure in their field and at their level of specialization. All licensure programs described in this bulletin are approved by the State Board of Teaching and are accredited by the National Council for the Accreditation of Teacher Education.

All individuals seeking initial licensure will be required to pass the Pre-Professional Skills Test (PPST) before recommendation for teacher licensure by the College of Education. The PPST tests basic reading, writing, and mathematics. For more informa-

tion, contact the Education Student Affairs Office (612/625-6501).

Students completing a vocational licensure program in agricultural education, business education, marketing education, home economics education, and industrial education should obtain an application and instructions from the Vocational Licensure Department of the State Department of Education (612/296-2046) and submit according to the instructions.

**Clinical Experience**—Students in the licensure programs participate in clinical experiences throughout their programs. Students work with experienced teachers in local districts to gain experience in actual school settings. Information on these experiences is available from the specific program areas. Approval for the experiences and placement must be obtained from the program areas.

**Degrees Offered**—Students admitted to a postbaccalaureate program leading to initial licensure are admitted as master of education students. While completing the requirements for licensure, students also earn credits toward the M.Ed. degree. The number of earned credits varies by program (see curriculum outline). Students are expected to follow the requirements for the M.Ed. degree as outlined in the Advanced Study section of the bulletin.

**Registration Procedures**—Dates for registration in the college and the specific procedures to be followed are announced each quarter in the Official Daily Bulletin in *The Minnesota Daily*. Students registering in the College of Education should obtain their registration materials and specific instructions for each program area in the Education Student Affairs Office, 1425 University Avenue S.E. Students registering in any specific quarter will receive a Registration Status Notice for the subsequent quarter. This notice specifies the time and date of registration for each student.

**Change of registration**—Students who find it necessary to make changes in their registration may add courses or change to different courses through the second week of the quarter. After this time, written consent of the instructor and approval of the Student Progress Subcouncil are required to add a course. Before the end of the sixth week of a quarter, students may cancel their registration in any course. After the sixth week, students must obtain written permission from the Student Progress Subcouncil.

After the second week of classes, students are not permitted to change the grading system for a course in which they have registered.

*Note:* Any changes in registration may result in different fees. Consult the *Class Schedule* for information on refunds.

**Unsatisfactory progress**—Students must maintain a 2.80 GPA throughout their postbaccalaureate program. Overall academic performance and professional skills are evaluated by the faculty from the program area and the Student Progress Subcouncil.

**Readmission**—Because most postbaccalaureate programs admit a cohort of students once or twice a year, it is expected that the program be completed in 12 to 15 months. Should circumstances require a student to withdraw, a new application must be submitted for readmission consideration.

## Curriculum and Instruction

*Barbara M. Taylor, Chair, 125 Peik Hall*

### Art Education

Twenty weeks of practicum and 10 weeks of student teaching build on principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach visual arts to students in grades K-12.

Postbaccalaureate applicants are admitted to the art education program on the basis of:

- A fully developed knowledge base in visual art to include: 45 credits in studio art, art history, and art criticism; coursework in drawing, painting, or sculpture; proficiency in a wide range of media and material skills, with experience in six or more studio arts; and a broad knowledge of art history and criticism, including Western and non-Western traditions
- Arts-related bachelor's degree with a 2.80 overall GPA and a 3.00 in major coursework
- A pattern of work or volunteer experience with elementary or secondary students, including those of diverse cultures and special populations, preferably in a school setting
- Two letters of recommendation
- A writing sample addressing philosophy of art education
- A portfolio may be requested, depending on the recency of studio coursework

Students are accepted into the program as a cohort once each year (see application deadlines in the general postbaccalaureate introduction); admitted students begin classes in June and continue through August of the following year.

### Foundation Courses

- EPsy 5119\*—Learning and Cognitive Functions of Education (4)  
 EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
 EPsy 5229—Classroom Assessment Methods (2)  
 EdPA 5090—School and Society (3)  
 PubH 5023—Basic Concepts in Personal and Community Health (5)  
 SeEd 5250—Secondary School Teaching (3)

### Major Courses

- ArEd 3600—Student Teaching (12)  
 ArEd 5001\*—Art Media Techniques: Computers and Art Education (3)  
 ArEd 5302\*—Curriculum Innovations (4)  
 ArEd 5306\*—Improving Art Programs in the Schools (4)  
 ArEd 5308—Theory and Practice of Teaching Art in Elementary Schools (4)  
 ArEd 5389\*—Application of Aesthetic Theory in Education (3)  
 ArEd 5600\*—Internship (3)  
 ArEd 5605\*—Practicum (3)  
 SeEd 5251—Orientation in the Secondary Schools (0-2)

\*courses receive M.Ed. credit

Students in the postbaccalaureate program gain a head start toward earning the M.Ed. degree. Once a student is accepted into the college's M.Ed. program, a minimum of 24 postbaccalaureate credits may be applied to that degree. To complete the M.Ed., students must take 21 credits in consultation with their faculty adviser.

## Elementary Education

Twenty weeks of practicum and 10 weeks of student teaching build upon the principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach students in grades 1-6.

Postbaccalaureate applicants are admitted to the elementary education program on the basis of:

- Completion of prerequisites and liberal arts requirements before beginning the program
- 13 credits in language, logic, mathematics, and the study of argument, including English 3851, Math 1005 or 1006, and additional math course, CISY 5003—Introduction to Computers
- 12 credits in science, including courses in the physical and biological sciences
- 16 credits in social sciences, including psychology and two of the following areas: economics, sociology, history, political science, or anthropology
- 12 credits in literary and artistic expression, including Music 1001
- Bachelor's degree with a 2.80 overall GPA
- A pattern of work or volunteer experience with elementary-age students, including those of diverse cultures and special populations, preferably in a school setting
- Evidence of completion of American Red Cross Standard First Aid and Personal Safety Training
- Two letters of recommendation

## Postbaccalaureate Study

- Completion of required writing sample at an Admission Referral Seminar
- Space available

Students are accepted into the program as a cohort once each year (see application deadlines in the general postbaccalaureate introduction); admitted students begin classes in June and continue through August of the following year.

### Fall Quarter

- EPsy 5119\*—Cognition and Learning (4)
- Elem 5000—Introduction to Elementary School Teaching (3)
- Elem 5210—Survey of Children's Literature (3)
- Elem 5211—Applying Instructional Methods-Practicum (2)
- Elem 5316—Teaching and Supervision of English in the Elementary School (3)
- Elem 5331—Teaching and Supervision of Reading in the Elementary School (3)

### Winter Quarter

- ArEd 5308—Art-Content and Methods (4)
- Elem 3391—Teaching Mathematics in the Elementary School (3)
- Elem 5211—Applying Instructional Methods-Practicum (2)
- Elem 5213—Teaching Health in the Elementary School (1)
- Elem 5346—Teaching Science in the Elementary School (3)
- Elem 5361—Teaching Social Studies in the Elementary School (3)
- Kin 3327—Teaching Physical Education in the Elementary School (3)

### Spring Quarter

- Elem 5212—Clinical Experience in Elementary School Teaching (12)

### Summer Sessions

- EPsy 5139\*—Interpersonal and Personality Effects on Learning (4)
- EPsy 5229\*—Classroom Assessment Methods (2)
- EdPA 5090\*—School and Society (3)
- MuEd 3011—Teaching Music in the Elementary School (4)
- PubH 5023—Basic Concepts in Personal and Community Health (5)

\*courses receive M.Ed. credit

Students in the postbaccalaureate program gain a head start toward earning the M.Ed. degree. Once a student is accepted into the college's M.Ed. program, 15

postbaccalaureate credits may be applied to that degree. To complete the M.Ed., students must complete 33 credits in consultation with their faculty adviser.

## English Education

Ten weeks of practicum (winter quarter) and 10 weeks of student teaching (spring quarter) build upon the principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach language arts in the secondary schools.

Postbaccalaureate applicants are admitted to the English education program on the basis of:

- Fully-developed knowledge base in English
- 8 credits of English literature: 4 credits in a survey course and 4 credits in another English literature course
- 12 credits of American literature: 4 credits in a survey course and 8 credits in other American literature courses, to include study of women and minority writers
- 4 credits in the study of Shakespeare
- 4 credits in the English language: Engl 3851—The English Language (4)
- 12 credits in advanced composition: Comp 1027 and 3027 and one course from Comp 3011, 3012, Engl 1101, 1104, 3101, 3104, 5101, 5104, 5108, or Comp 1027 or 3027 and two of the other courses listed above
- 4 credits in speech: Spch 3411 or 5411—Conference Methods
- Electives—8 credits in 3xxx and 5xxx courses chosen from English and humanities, to include work in continental and non-Western authors
- Bachelor's degree with a 2.80 overall GPA and a 3.00 in major coursework
- A pattern of work or volunteer experience with secondary-age students, including those of diverse cultures and special populations, preferably in a school setting

Students are accepted into the program as a cohort once each year (see application deadlines in the general postbaccalaureate introduction).

Admitted students begin postbaccalaureate classes in June and continue through August of the following year. During the summers, students complete prerequisite major coursework in British and American literature, composition, speech, and linguistics. Students who have completed their prerequisites take education foundation courses that include studies in cognition theory; historical, philosophical, and social context of teaching; and physical and biological development.

**Foundation Courses**

- EPsy 5119\*—Learning and Cognitive Functions of Education (4)
- EPsy 5139\*—Interpersonal and Personality Effects on Learning (4)
- EPsy 5229\*—Classroom Assessment Methods (2)
- EdPA 5090—School and Society (3)
- PubH 5023—Basic Concepts in Personal and Community Health (5)

**Fall Quarter**

- SeEd 5250—Secondary School Teaching (3)
- SeEd 5322\*—Teaching Composition in Secondary Schools (3)
- SeEd 5344\*—Teaching Reading in the Content Areas (3)

**Winter Quarter**

- SeEd 5321\*—Teaching Literature in Secondary Schools (3)
- SeEd 5350\*—Current Developments in English Education (3)

**Spring Quarter**

- SeEd 3621—Clinical Experiences and Practica (9)
- \*courses receive M.Ed. credit*

Students in the postbaccalaureate program gain a head start toward earning the M.Ed. degree. Once a student is accepted into the college's M.Ed. program, 22 education postbaccalaureate credits and additional graduate English coursework may be applied to that degree.

**Mathematics Education**

The Mathematics Education program has three options for students:

1. At the end of the junior year, students pursuing a mathematics degree in the Institute of Technology or in the College of Liberal Arts may apply for admission to the College of Education. If accepted, they begin taking education courses in the senior year while completing their own college's degree. Upon receipt of the B.Math. or B.A., students enroll as master of education students in the College of Education. During the fifth year they complete the remaining requirements for teaching licensure.

2. The College of Education continues to offer an undergraduate degree in Mathematics Education, but only as a *non-licensure* program. Students may apply after completing 90 quarter credits with a minimum overall GPA of 2.50 and having completed or have in progress at least the first five quarters of calculus with a 2.50 GPA in those courses. *Students in this program who plan to earn licensure to teach in public junior or senior high schools must also complete a fifth-year postbaccalaureate licensure program.*

3. Applicants who already hold a baccalaureate degree in mathematics should apply directly to the Postbaccalaureate master of education licensure program. Because of the many required courses in mathematics education, students will take at least two years to complete the initial licensure requirements. Depending on the content of the baccalaureate program, additional mathematics may be required.

Students who are completing two-year degrees at a community college should plan to follow track 1 or track 2 described above, by applying to the Institute of Technology, the College of Liberal Arts, or the College of Education in order to complete their baccalaureate degrees.

## Postbaccalaureate Study

### Required Major Courses (B.S. degree)

Two-year calculus sequence: Math 1251, 1252, 1261, 3251, 3252, 3261, 3262 *or equiv*  
 Analysis sequence: Math 5612-5613 *or* 5606-5607  
 Algebra sequence: Math 5245-5246 *or* 5282-5283 (to be completed before beginning MthE program)  
 Geometry sequence: Math 5331-5332 (to be completed before beginning MthE program)

Probability: Math 5679 *or* 5681 *or* Stat 5131  
 Statistics: Stat 5132  
 Combinatorics: Math 5701

*At least four of the following* (12 total credits):  
 Math 5150—Topics in Recreational Mathematics (3)  
 Math 5170—Teaching Problem Solving, Reasoning, and Proof (3)

### Three Options for the Mathematics Major

B.Math (IT degree)	B.A. (CLA degree)	B.S. (Education degree) (non-licensure)
Two-year calculus sequence: Math 1251, 1252, 1261, 3251, 3252, 3261, 3262 (or the equivalent) or honors calculus sequence.	Two-year calculus sequence: Math 1251, 1252, 1261, 3251, 3252, 3261, 3262 (or the equivalent) or honors calculus sequence.	Two-year calculus sequence: Math 1251, 1252, 1261, 3251, 3252, 3261, 3262 (or the equivalent) or honors calculus sequence.
Twelve mathematics courses (48 credits) at the 5xxx level. At least six of the courses must have 5xxx prerequisites.	Ten mathematics course (40 credits) at the 5xxx level. At least five of the courses must have 5xxx prerequisites.	Nine mathematics courses (36 credits) at the 5xxx level and four mathematics education courses (12 credits) at the 5xxx level.
One course in computer science (3xxx level or higher). PASCAL is recommended.	One computer science course. PASCAL is recommended.	One computer science course (PASCAL).
At least three quarters of calculus-based physics sequence with labs: Physics 1251-1252-1253. Fourth quarter, Physics 1254 is recommended.	At least three quarters of calculus-based physics sequence with labs: Physics 1251-1252-1253. Fourth quarter, Physics 1254 is recommended.	At least three quarters of calculus-based physics sequence with labs: Physics 1251-1252-1253. Fourth quarter, Physics 1254 is recommended.
One course in history of mathematics or history of science (included in distribution credits).	One course in history of mathematics or history of science (included in distribution credits).	One course in history of mathematics or history of science (included in distribution credits).

# Mathematics Education

Math 5171—Teaching Probability and Statistics (3)  
 Math 5172—Historical Topics in the Mathematics Class (3)  
 Math 5173—LOGO in the Mathematics Class (3)  
 Math 5174—Interactions of Science and Mathematics (3)  
 Math 5366—Technology-Assisted Mathematics Instruction (3)

Students are also required to complete 8 credits (two courses) of mathematics as part of the M.Ed. program.  
 One year of calculus-based physics with lab  
 One course in computer science (Pascal is recommended)  
 One course in the history of mathematics or the history of science

## Representative Schedule Leading to Teacher Licensure

Yr	Fall		Winter		Spring		Summer	
	Course	Cr	Course	Cr	Course	Cr	Course	Cr
I	Composition	4	Calculus 2	4	Calculus 3	4		
	Calculus 1	4	Lib. Ed.	11-12	Calculus 4	4		
	Lib. Ed.	7-8			CSci	4		
					Lib. Ed.	4		
II	Calculus 5	4	Calculus 6	4	Calculus 7	4	(IT major may	
	Physics	4	Physics	4	Physics	4	need summer	
	Lib. Ed.	7-8	Lib. Ed.	7-8	Lib. Ed.	7-8	math)	
III	Math**	4	Math**	4	Math**	4	(Prefall)	
	Math**	4	Math**	4	Math**	4	MthE 5000	1
	Composition	4	Lib. Ed./elect	8	Lib. Ed./elect	8	MthE 5600	1
	Lib. Ed./elect	4					Computer	0-4
IV	MthE 5010	6	MthE 5020	6	MthE 5030	6	Foundations	
	MthE 5610	3	MthE 5620	3	MthE 5630	3	(EPsy 5139)	4
	Math	4	Math	4	Math	4	(Phy. Devel)	2
	Foundations (SeEd 5250)	3	Foundations (EPsy 5119)	4	Foundations (EPsy 5229)	2	Math	4
							(if needed)	
							Prefall student teaching	3
V	MthE 5040	6*	Student Teaching	12	MthE 5332	3*		
	MthE 5540	3	MthE 5550	3*	Math	4*		
	Student Teaching	6			MthE 5980	3*		
					EdPA 5090	3*		
					Electives			

*\*\*Students are to complete the algebra and geometry sequences before admission to the Mathematics Education program (beginning of Year IV).*

*\*Bachelor's degree expected after Year IV. Courses marked with the asterisk apply to the M.Ed.*

## Science Education

Extensive practicum experience and 10 weeks of student teaching build upon the principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach life science, earth science, or physical science to students in grades 7-12 (middle school/ junior high [grades 5-9] science certification may be added to any of those three areas).

Postbaccalaureate applicants are admitted to the science education program on the basis of:

- A fully developed knowledge base in the life, earth, or physical sciences\*\*
- Bachelor's degree with a 2.50 GPA overall and in major coursework
- A writing sample addressing philosophy of science education and professional goals
- Two letters of recommendation
- A pattern of work or volunteer experience with secondary students, including those of diverse cultures and special populations, preferably in a school setting

*\*\*The complete prerequisite course list is available from the ESAO Admission Unit. State guidelines for content area courses are under revision.*

Students begin the program as a cohort (see application deadlines in the general postbaccalaureate introduction). Due to budget constraints, only one cohort may be offered each year. Contact ESAO to confirm program offering.

### Foundation Courses

- EPsy 5119\*—Learning and Cognitive Functions of Education (4)  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
EPsy 5229—Classroom Assessment Methods (2)  
EdPA 5090\*—School and Society (3)  
PubH 5023—Basic Concepts in Personal and Community Health (5)

### Summer Sessions

During the summer sessions before fall enrollment, students complete foundation coursework and/or any remaining science prerequisites. Before entering the SeEd courses, students must have completed at least 80% of their major science coursework; the remainder is completed during the program.

### Fall or Winter Quarter

- SeEd 5250—Secondary School Teaching (3)  
and SeEd 5251—Orientation in the Secondary Schools (0-2)  
SeEd 5700\*—Science Education for the Middle School (2)  
SeEd 5701\*—Applying Science to the Middle School (2)

### Winter or Spring Quarter

- SeEd 5702\*—Teaching Secondary School Science (4)  
SeEd 5703\*—Applying Science Methods in High Schools (5)

### Spring or Fall Quarter

- SeEd 5704\*—Clinical Experience in Science Teaching (12)  
SeEd 5705\*—Seminar: Reflecting on Clinical Experience in Science Teaching (3)

### Summer Session or Winter Quarter

During the final quarter of enrollment, students complete coursework in foundation courses and SeEd 5390\*—Current Developments in Secondary School Science (3)

*\*courses receive M.Ed. credit*

Students wishing to obtain the M.Ed. degree complete the following additional coursework:

- SeEd 5395—School-Based Projects (3)  
SeEd 5397—Studies in Science Education (3)  
SeEd 5706—Foundations of Science Education (3)

Students in the postbaccalaureate program gain a head start toward earning the M.Ed. degree; 36 credits of the postbaccalaureate program count toward the M.Ed.

## Second Languages and Cultures Education

Student teaching builds on the principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach second languages for grades 7-12 or 1-12 and/or English as a second language (ESL) for grades K-12.

Postbaccalaureate applicants are admitted to the second languages and cultures program on the basis of:

- High level proficiency in a second language as measured by the Modern Language Association exam (see "Language Proficiency") and an oral interview
- Exposure to and use of a second language in communities of native speakers
- Bachelor's degree with a 2.80 overall GPA and a 3.00 in major coursework

- A pattern of work or volunteer experience with secondary students, including those of diverse cultures and special populations, preferably in a school setting
- Superior proficiency in oral and written English for non-native speakers of English

Students are accepted into the program as a cohort once each year (see application deadlines in the general postbaccalaureate introduction). Admitted students begin classes in June and continue through August of the following year. During both summers, students take education foundation courses and, for those seeking ESL licensure, linguistic courses. During the academic year, students enroll for the same four second languages and cultures education courses each quarter.

**Foundation Courses**

- EPsy 5119\*—Learning and Cognitive Functions of Education (4)
- EPsy 5139\*—Interpersonal and Personality Effects on Learning (4)
- EPsy 5229\*—Classroom Assessment Methods (2)
- EdPA 5090\*—School and Society (3)
- PubH 5023—Basic Concepts in Personal and Community Health (5)

**Fall, Winter, and Spring Quarters**

- SeEd 5801\*—Second Language Curriculum (3 each quarter for total of 9)
- SeEd 5802\*—Second Language Instruction (3 each quarter for total of 9)
- SeEd 5803\*—Second Language Research (2 each quarter for total of 6)
- SeEd 5804\*—Clinical Experiences in Second Languages (4 each quarter for total of 12)

*\*courses receive M.Ed. credit*

Those students seeking a foreign language license in grades 1-6 also complete Elem 5319—Teaching Second Languages and Cultures in the Elementary Schools, and Elem 5320—a practicum.

**Language Proficiency**

French, German, and Spanish majors take the Modern Language Association (MLA) exam, a three-hour test analyzing reading, writing, and listening abilities. Passing students proceed to a one-on-one oral interview. Chinese, Hebrew, Japanese, and Russian majors will have their language proficiency individually assessed. Non-native English speakers will have an oral interview and take a writing test in English.

English as a Second Language (ESL) majors can meet the state second language requirement for licensure with two years of college-level foreign language, four years of high-school foreign language, or equivalent language experience through work or study abroad.

Students who wish to teach ESL must complete additional studies, which include:

- Elem 5319—Teaching Second Languages and Cultures in the Elementary Schools
- Ling 5001—Introduction to Linguistics
- Ling 5731—The Structure of English
- Ling 5732—The Structure of English
- Ling 5801—Introduction to Language Learning

These courses are usually completed before entrance or during the first summer.

The postbaccalaureate program is a graduate program, enrolling students in an M.Ed. program. During the first year of teaching, students are responsible for an extensive video critique project and written analysis of their teaching. Successful completion of these projects in consultation with Second Languages and Culture faculty meets final requirements for the M.Ed.

**Social Studies Education**

Twenty weeks of practicum and 10 weeks of student teaching build upon the principles and methods learned in University classes. After successfully completing program requirements, students are recommended for state licensure to teach anthropology, economics, geography, history, political science, psychology, and sociology to students in grades 7-12.

Postbaccalaureate applicants are admitted to the social studies education program on the basis of:

- A fully developed knowledge base in the social sciences
- Bachelor's degree with a 2.80 overall GPA and a 3.00 in social sciences coursework
- Two letters of recommendation
- A pattern of work or volunteer experience with students, including those of diverse cultures and special populations, preferably in a school setting

## Postbaccalaureate Study

- Completion of all prerequisite coursework
- Attendance at an Admission Referral Seminar

Students are accepted into the program as a cohort once each year (see application deadlines in the general postbaccalaureate introduction); admitted students begin classes in June and continue through August of the following year.

### Foundation Courses

- EPsy 5119—Learning and Cognitive Functions of Education (4)  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
EPsy 5229—Classroom Assessment Methods (2)  
EdPA 5090\*—School and Society (3)  
PubH 5023—Basic Concepts in Personal and Community Health (5)

### Fall Quarter

- SeEd 3152—Practicum (1-7)  
SeEd 5152\*—Techniques of Instruction in Social Science (3)

### Winter Quarter

- SeEd 3152—Practicum (1-7)  
SeEd 5150\*—Advanced Methods of Teaching Social Studies (3)  
SeEd 5153\*—New Perspectives in Social Sciences (1-3)

### Spring Quarter

- SeEd 3651—Student Teaching (1-12)  
SeEd 5153\*—New Perspectives in Classroom Instruction (1-3)

### Summer Session

- SeEd 5153—New Perspectives-Preparing for the Profession (3)

\*courses receive M.Ed. credit

Students in the postbaccalaureate program gain a head start toward earning the M.Ed. degree. Once a student is accepted into the college's M.Ed. program, 15 postbaccalaureate credits may be applied to that degree.

### Anthropology Emphasis

**Area Requirement**—A course in anthropology or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

**Anthropology**—minimum 28 credits including:

- Anth 1102—Introduction to Social and Cultural Anthropology (5)
- Anth 3301—Methods and Theory in Archaeology (5)  
or Anth 5145—Anthropology and Education (4)
- Anth 5151—Cultural Change and Development (4)
- One course in cross-cultural studies

One course in human institutions: past, present, and future

One additional 3xxx or 5xxx course

**Supporting Fields**—minimum 29 credits

- Hist 1301, 1302—American History (4 each)
- Pol 1001—American Government and Politics (5)
- One course in each of the areas of economics, geography, history, psychology, and sociology
- One additional 3xxx or 5xxx course
- One additional course to meet major requirement of 60 credits

### Economics Emphasis

**Area Requirement**—A course in economics or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

**Economics**—minimum 32 credits

- Econ 1001—Principles of Macroeconomics (4)
- Econ 1002—Principles of Microeconomics (4)
- Econ 3101—Microeconomic Theory (4)
- Econ 3102—Macroeconomic Theory (4)

One course in each of the following areas as designated in economics listing in the *CLA Bulletin*: economic development, international economics, and industrial organization, public finance, or money and banking

**Supporting Fields**—minimum 26 credits

- Hist 1301, 1302—American History (4 each)
- Pol 1001—American Government and Politics (5)
- One course in each of the areas of anthropology, geography, psychology, and sociology
- One additional 3xxx or 5xxx course
- One additional course taken in economics or one of the supporting fields to meet the major requirement of 60 credits

### Geography Emphasis

**Area Requirement**—A course in geography or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

**Geography**—minimum 35 credits

- Geog 1301—Human Geography (5)
- Geog 1401—Physical Geography (5)
- Geog 3001—Introduction to Geographic Inquiry (4)
- One regional course (4); one course in geographic techniques (4); one additional topic study (4); and two additional 3xxx and 5xxx courses

**Supporting Fields**—minimum 30 credits

- Hist 1301, 1302—American History (4 each)
- Pol 1001—American Government and Politics (5)
- One course in each of the areas of anthropology, economics, psychology, and sociology

### History Emphasis

**Area Requirement**—A course in history or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

**History**—minimum 35 credits

- Hist 1001, 1002, 1003—Introduction to Modern European History Since the Middle Ages (4 each)
- Hist 1301, 1302—American History (4 each)

## Supporting Fields—minimum 26 credits

Pol 1001—American Government and Politics (5)  
One course in each of the areas of anthropology, economics, geography, psychology, and sociology

## Political Science Emphasis

**Area Requirement**—A course in political science or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

## Political Science—minimum 30 credits

Pol 1001—American Government and Politics (5)  
Pol 1025—World Politics (4)  
21 credits in 3xxx and 5xxx courses, including one in each of the following areas as designated in political science listing in the *CLA Bulletin*: political theory, comparative government and politics, international relations, politics and behavior, and American governmental systems and processes

## Supporting Fields—minimum 29 credits

Hist 1301, 1302—American History (4 each)  
One course in each of the areas of anthropology, economics, geography, psychology, and sociology  
Additional social science course to meet major requirement of 60 credits

## Psychology Emphasis

**Area Requirement**—A course in one of the social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

## Psychology—minimum 34 credits

Psy 1004, 1005—Introductory Laboratory Psychology (4 each)  
Psy 3011—Introduction to Psychology of Learning (4)  
Psy 3101—Introduction to Personality (4)  
or Psy 3604—Introduction to Abnormal Psychology (4)  
Psy 3124—Psychology of Individual Differences (4)  
Psy 3201—Introduction to Social Psychology (4)  
Psy 3801—Introduction to Measurement and Statistical Methods (4)  
CPsy 5303—Adolescent Psychology (4)

## Supporting Fields (minimum 26 credits)

Hist 1301, 1302—American History (4 each)  
Pol 1001—American Government and Politics (5)  
One course in each of the areas of anthropology, economics, geography, and sociology

## Sociology Emphasis

**Area Requirement**—A course in sociology or in any of the other social sciences in one of the following areas: Latin America, Asia, or Africa. The course may count toward credit requirements listed below.

## Sociology—minimum 32 credits

Soc 1001—Introduction to Sociology (4)  
One course in each of the following areas as designated in the *CLA Bulletin*: criminology and deviance, social psychology, social change and social movements, social organization, family sociology, and urban or rural sociology  
One additional 3xxx or 5xxx course

## Supporting Fields—minimum 26 credits

Hist 1301, 1302—American History (4 each)  
One course in each of the areas of anthropology, economics, geography, political science, and psychology  
One additional 3xxx or 5xxx course  
One additional course in sociology or one of the social sciences to meet the major requirement of 60 credits

# Kinesiology and Leisure Studies

Michael Wade, Director, 110 Cooke Hall

## Physical Education

Physical education students enter a 12-month postbaccalaureate program integrating educational theory with classroom practice. Ten weeks of practicum and 20 weeks of student teaching build on the principles and methods learned in University classes. Working closely with experienced teachers, prospective teachers observe first hand the daily rewards and pressures of their profession. Upon successful completion of program requirements, students are recommended for state licensure to teach physical education to students in grades K-12.

Admission requirements for the postbaccalaureate program include an overall GPA of 2.80; a major GPA of 3.00; a completed baccalaureate degree in kinesiology, physical education, sport and exercise science, or equivalent, and completion of the Pre-Professional Skills Test (PPST) at levels set by the state of Minnesota.

*Note:* A complete list of prerequisite coursework for entrance into the postbaccalaureate program is available in the Division of Kinesiology office, 224 Cooke Hall.

## Common Requirements for the Postbaccalaureate Program

### Major Courses

Kin 3144—Administration (2)  
Kin 5521—Pedagogy I: Elementary Physical Education (6)  
Kin 5522—Pedagogy II: Secondary Physical Education (6)  
Kin 5151—Curriculum (3)  
Kin 5152—Curriculum Development (3)  
Kin 5561—Clinical Experience I: Physical Education (6)  
Kin 5562—Clinical Experience II: Physical Education (9)  
Kin 5563—Clinical Experience III: Physical Education (9)

## Postbaccalaureate Study

- Kin 5720—Technology Applications in Physical Education (3)  
Kin 5720—Systematic Observation in Physical Education (3)  
Kin 5981—Problems (3)  
EdPA 5090—School and Society (3)  
EPsy 5119—Learning and Cognitive Foundations of Education (4)  
EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
EPsy 5229—Classroom Assessment Methods (2)  
PubH 5023—Basic Concepts in Personal and Community Health (5)

### Vocational and Technical Education

*George Copa, Chair, 210A Vocational and Technical Education Building, St. Paul*

#### Agricultural Education

This program prepares individuals to teach agricultural production systems, horticulture, natural resources, environmental education, forestry, agribusiness, agrimechanics, agriscience, agrimarketing, or food systems at the secondary or postsecondary and adult levels. This innovative graduate-level program offers students the unique opportunity to become licensed as a teacher of agricultural education while working toward a master of education degree.

The program is for students holding a baccalaureate degree with a variety of professional and educational backgrounds. Degrees may be held in agricultural economics, plant and animal science, soil science, horticulture, natural resources, soil and water resource management, agricultural industry and marketing, animal and plant systems, science in agriculture, agribusiness management, agricultural engineering, food science, or other degrees with similar content. Students:

- may enroll any quarter and complete the licensing program over a 12-15 month period
- spend one quarter (winter) full-time in schools completing a clinical experience in which they apply theories and methods to the classroom situation
- are licensed to teach after completing the licensing requirements in the program and can begin their teaching career immediately,

provided they meet the work experience required for licensure

Students are expected to have at least 50 credits in technical agriculture coursework in plant science, soil science, animal science, agricultural economics, and agricultural engineering. If students do not have the required coursework in agriculture, they may meet the requirement before, during, or following the teacher education sequence. They are also expected to have at least 30 credits in the biological and physical sciences. In addition to the degree, they must meet the following criteria:

- A minimum overall GPA of 2.80
- Completion of an admission essay and personal data form
- Three letters of recommendation
- A personal interview with an adviser in the Division of Agricultural Education

**Licensure**—to teach agriculture in Minnesota, students need:

- Verification of 2,000 hours of work experience in production agriculture and agribusiness
- Completion of the licensing requirements of the program

**Program Components**—Students may begin courses whenever their schedules permit. After completion of the one-year core, they are recommended for licensure. Students then have the option of working toward completion of an M.Ed. degree by enrolling for Year Two while they are employed as teachers.

#### Program of Study

The following program is recommended for students who want to study at a full-time pace. The first year focuses on the completion of teacher licensure requirements within a 10-month period.

##### Fall Quarter

- AgEd 5028—Teaching Methods in Agricultural Education (5)  
AgEd 5049—Agricultural Education for Adults (3)  
AgET 5020—Planning and Managing Agricultural Engineering Technology Problems (3)  
EPsy 5119—Learning and Cognitive Foundations of Education (4)  
Pre-Professional Skills Test (PPST)

### Winter Quarter

- AgEd 5031—Clinical Experience in Teaching Agriculture (10)  
 AgEd 5072—Practicum: Agricultural Business and Industry (3)  
 AgEd 5078—FFA Organization and Management (2)

### Spring Quarter

- AgEd 5010—Rural Education: Philosophy and Leadership (3)  
 AgEd 5061—Program Planning and Evaluation (3)  
 AgEd 5071—Supervised Occupational Experiences in Agriculture (3)  
 EPsy 5139—Interpersonal and Personality Effects on Learning (4)  
 EPsy 5229—Classroom Assessment Methods (2)

### Summer Session I

- EdPA 5090—School and Society (3)  
 PubH 5023—Basic Concepts in Personal and Community Health (5)

The second year of the recommended program focuses on completion of the master of education degree concurrent with a first year teaching experience. Postbaccalaureate students may apply for an M.Ed. by successfully completing the following courses along with an exit interview and a master of education final oral examination.

- AgEd 5081—Current Issues for the Beginning Agriculture Teacher (3)  
 AgEd 5087—Mentorship for Beginning Agriculture Teachers (6)  
 AgEd 5095 Integrating Paper (3)

An extended program of study is recommended for those students who want to enter the postbaccalaureate program at a part-time pace to accommodate employment and/or family life. Students may start the program in any quarter.

### Business and Marketing Education

The business and marketing education postbaccalaureate program is designed for individuals who hold baccalaureate degrees with a business or marketing content major and want to become licensed teachers. This graduate-level program offers two options for licensure. Option I provides preparation to teach business in positions that require standard licensure. Option II provides preparation to teach in secondary or postsecondary sales and marketing positions that require vocational licensure. Through

this innovative program, students integrate educational theory with classroom practice. Classes may be pursued full- or part-time.

Admission to the program requires a bachelor's degree, earned at an accredited institution, with a business or marketing content major (e.g., accounting, business administration, office systems management, marketing, retail management, hospitality management). Applicants should have completed coursework in economics, business communications, and each of the foundation areas of business: accounting, business organization and management, marketing, business law, industrial relations or personnel, information systems, international business, and entrepreneurship. Before completing the program, business education students should demonstrate competence in advanced keyboarding and microcomputer applications, including word processing, spreadsheets, databases, and business graphics. Marketing education students should demonstrate competence in marketing: selling, promotion, pricing, purchasing, marketing, information management, product/service planning, distribution, financing, and risk management before completing the program. Competence may be demonstrated by submission of transcripts verifying prior coursework or the completion of appropriate courses identified by the program adviser. Applicants with limited content deficiencies may be admitted to the program and allowed to make them up before program completion.

To be considered for admission, applicants should provide information indicating:

- Completion of a bachelor's degree with a related business or marketing major from an accredited institution
- A minimum overall GPA of 2.80

**Licensure**—Candidates who successfully complete the required related and major courses specified in the selected program option and who score at or above the minimum level on the Pre-Professional Skills Test (PPST) will be recommended for

licensure. In Option I the recommendation will be to the Board of Teaching for a Minnesota *standard teaching license* in business education. In Option II the recommendation will be for a Minnesota *vocational teaching license* in marketing education. Licensing in both business and marketing education is possible by completing the courses and prerequisites of both options. Interested students should consult with an adviser. One of the state requirements for a vocational teaching license is occupational experience related to the teaching field. At the time of the license application, candidates will be asked to verify related occupational experience sufficient to meet current licensure requirements. Information about related occupational experience requirements should be obtained from a major program adviser.

**M.Ed. Degree**—A field-based project is required for the M.Ed. Upon completion of the field-based project requirement, candidates will be awarded the master of education degree by the College of Education.

### **Vocational Business and Office**

**Licensure**—The state of Minnesota requires special licensure to teach in certain business vocational programs at the secondary and postsecondary levels. Information about these special licensure requirements should be obtained from a major program adviser.

**Course Requirements**—Students are expected to complete the following course and clinical experience requirements in Option I or Option II:

**Related Courses for Options I and II** (minimum of 18 credits)

- EPsy 5119—Learning and Cognitive Functions of Education (4)
- EPsy 5139—Interpersonal and Personality Effects on Learning (4)
- EPsy 5229—Classroom Assessment Methods (2)
- EdPA 5090—School and Society (3)
- PubH 5023—Basic Concepts in Personal and Community Health (5)

**Major Courses for Options I and II** (minimum 27 credits)

- BME 5300—Introduction to Business and Marketing Education Curriculum (4)
- BME 5353—Curriculum Construction in Business and Marketing Education (4)
- BME 5603, 5604, 5605, 5606—Clinical Experience in Business and Marketing Education (4 each)
- VoEd 5300—Philosophy and Practice of Vocational Education (3)

**Major Courses for Option I for Business Education** (minimum 13 credits)

- BME 5151—Research and Methods in Teaching Typewriting/Keyboarding (3)
- BME 5152—Research and Methods in Teaching the Basic Business Subjects (3)
- BME 5157—Materials and Methods for Office Education (minimum 9 credits)
- BME 5162—Research and Methods in Teaching Accounting and Data Processing (4)

**Major Courses for Option II for Marketing Education** (minimum 9 credits)

- BME 5201—Clinical Methods in Marketing Education (4)
- VoEd 5310—Advising Vocational Student Organizations (2)
- VoEd 5330—Coordination Techniques in Cooperative Education (3)

**Field-Based Project for Options I and II** (minimum 6 credits)

- BME 5600—Field-Based Projects in Business and Marketing Education (1-12)

*Note:* Students are expected to complete the majority of prerequisite, related, and major coursework before enrolling in the clinical experience.

### **Home Economics Education**

Home Economics Education offers: 1) a postbaccalaureate teacher licensure program; 2) an education collateral that complements majors in the College of Human Ecology; and 3) courses and advising to qualify students for additional Minnesota educator licenses.

### **Vocational Home Economics/Family Life Education Postbaccalaureate Program**

This program prepares individuals to teach home economics in secondary schools, with an emphasis on family life education. The full-time program runs from summer through the academic school year to the end of the following summer. Upon completing the program, students are qualified for a consumer homemaking secondary vocational teaching license in Minnesota and will have earned credits applicable to the master of education (M.Ed.) degree in home econom-

ics education. The application deadline is February 1 for the cycle beginning the following June.

Criteria for admission include:

- A completed baccalaureate degree (In addition, the following minimum number of quarter credits in the following areas must be completed: 15 credits in family studies, 20 credits in human development, 12 credits in family resource development and management, and 15 credits in contexts of the family. These credits may be earned in a baccalaureate program or in preparation for admission to this postbaccalaureate program.)
- A minimum GPA of 2.80 in undergraduate coursework
- A 75% completion rate of undergraduate coursework.
- Completion of additional procedures as specified by the Division of Home Economics Education

### Course Requirements

HEEd 5110—Orientation to Teaching Home Economics (3)

HEEd 5511—Home Economics Instruction in Secondary Schools (5)

HEEd 5512—Clinical Seminar: The School Setting (4)

HEEd 5513—Clinical Seminar: Educational Practice (4)

HEEd 5514—Clinical Seminar: Teaching (12)

15 to 18 credits of specified educational foundations courses; a list of courses is available from advisers.

Students are expected to participate in secondary school activities in late August and early September.

**Education Collateral**—The education collateral is available to students in the College of Human Ecology and enables them to develop beginning educator competencies to complement and enhance their studies in their majors. Students develop the ability to plan, deliver, and evaluate sound educational programs in work and community settings. See the *College of Human Ecology Bulletin* for more information.

### Minnesota Educator Licenses

Completion of the vocational home economics/family life education postbaccalaureate program leads to licensure in Minnesota. In addition, there are other teaching roles

requiring a license in the state. Licenses for which students can qualify while studying for a degree or by taking additional courses related to home economics education include:

*Teacher Coordinator License*—for home economics teachers wishing to prepare for positions as coordinators of service occupations programs in secondary schools;

*Family Life Educator Endorsement*—for elementary and secondary teachers who hold a license and primarily want to teach family life education;

*Adult Vocational Parent Education License*—for professionals who teach adults about parenting in programs funded with vocational and/or community education funds;

*Family Education Parent Educator License*—for professionals who teach adults about parenting in programs funded with community education funds.

Detailed information about courses qualifying students for these licenses may be obtained from the Division of Home Economics Education, 325 Vocational and Technical Education Building, St. Paul, MN 55108.

### Industrial Education

The postbaccalaureate program is designed to allow applicants with bachelor's degrees to become licensed teachers for grades 5-12. Applicants must have completed a baccalaureate degree from an accredited college or university and must make up any deficiencies in undergraduate work using the B.S. in Industrial Education specialization for industrial technology teachers described in this bulletin as the standard. To be considered for admission, applicants must have a minimum overall GPA of 2.80 in all previous undergraduate college-level work. In addition, students must complete a standardized test and a questionnaire concerning education, work, and other relevant experiences. The Pre-Professional

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## Postbaccalaureate Study

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Skills Test *may be taken after admission, but must be completed before enrolling in courses.*

Each person who enrolls in the postbaccalaureate program must also enroll in an M.Ed. program. The program will incorporate the credits and activities needed for licensure as a K-12 technology education teacher plus other requirements for an M.Ed. in Industrial Education. However, a person will be recommended for teacher licensure upon completing all of the requirements of the state of Minnesota and may complete the additional requirements for the M.Ed. later. For courses to be applied to an M.Ed., they must be at the 5xxx level or higher and must be approved by an M.Ed. adviser.

### *Postbaccalaureate Program Requirements Beyond Those Specified in the B.S. Degree Program*

#### **Foundation Courses**

EdPA 5090—School and Society (3)

EPsy 5119—Learning and Cognitive Functions of Education (4)

EPsy 5139—Interpersonal and Personality Effects of Learning (4)

EPsy 5229—Classroom Assessment Methods (2)

IND 5516—Curriculum Development in Technology Education (4)

PubH 5023—Basic Concepts in Personal and Community Health (5)

#### **Clinical Experiences**

Students must complete the foundation courses before entering the clinical experiences courses.

HEEd/IND 5512—Clinical Seminar—The School Setting (4)

HEEd/IND 5514—Clinical Seminar—Student Teaching (12)

#### **Additional Studies for the M.Ed.**

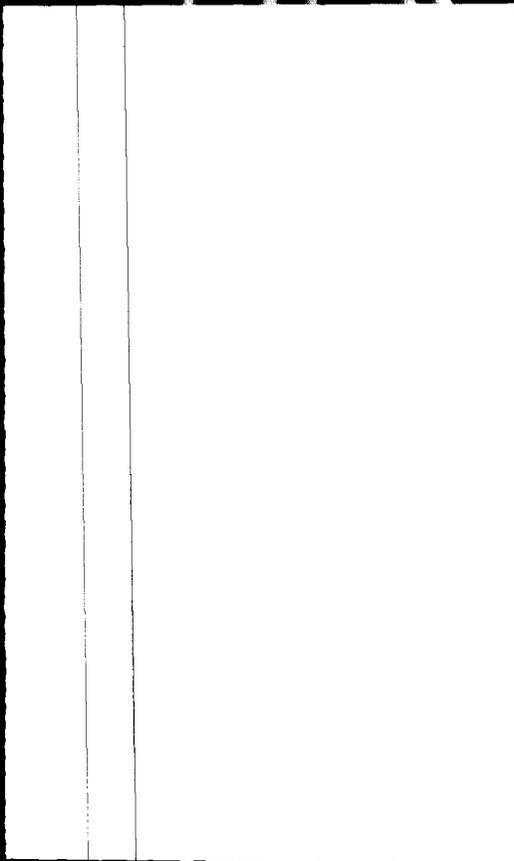
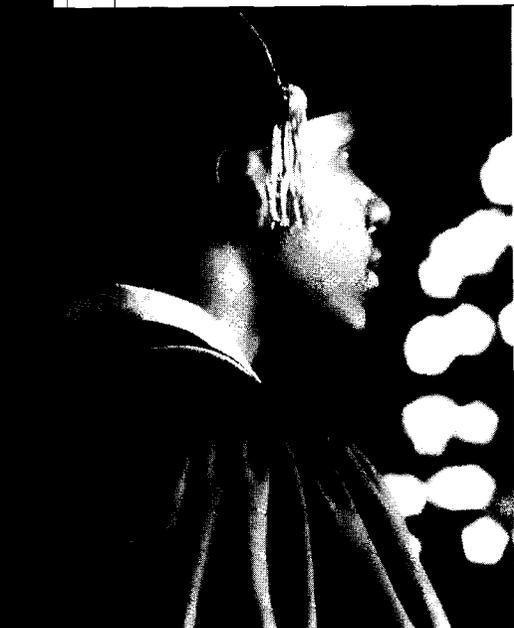
Ind 5305—Critical Issues in Industrial Education (3)

Ind 5900—Field-Based Projects in Industrial Education or equivalent (6)

VoEd 5900—Using Vocational Education Research, or equivalent (3)

College of Education

# Advanced Study



# Advanced Study

Graduate programs receive a major emphasis in the College of Education. These programs continue the development of school personnel and prepare students for a wide range of specializations. The college offers a professional degree, the master of education (M.Ed.), intended primarily to help teachers and other professionals improve their skills. Programs offered through the Graduate School lead to the M.A., Ph.D., and Ed.D. degrees, and to the specialist certificate in school administration, college teaching, counseling, supervision of curriculum and instruction, and other specialized fields.

This section of the bulletin contains basic information about the professional and graduate degrees and brief descriptions of the specific programs. Students interested in a particular program should contact the appropriate department in the college or obtain the *Graduate School Bulletin* for further information.

## Master of Education Degree

There are three types of M.Ed. programs. Plan I programs are for licensed teachers who wish to pursue advanced professional study; Plan II programs are for professional personnel in fields not requiring teacher licensure. These in-service M.Ed. degree programs do not prepare students for initial licensure. Plan III programs are initial licensure programs. Program descriptions for Plan III are found in the postbaccalaureate M.Ed. section of this bulletin.

Plan I and II M.Ed. programs are quite flexible. Each student's program is planned with an adviser. All programs require a minimum of 45 credits of study distributed among coursework, independent study, seminars, internships, workshops, and school-based experiences.

Applications for admission to all fields should be made to the College of Education through the Office of Admissions, 240 Williamson Hall, University of Minnesota, 231 Pillsbury Drive S.E., Minneapolis, MN 55455. Admission criteria include graduation from an accredited college or university with an appropriate undergraduate major or

specialization, department approval of the application, and concurrence of the college.

Application deadlines for admission to the college's Plan I and II M.Ed. programs are:

October 1 for the following winter quarter  
February 1 for the following spring quarter  
April 1 for the following summer sessions I and II  
July 1 for the following fall quarter

The following master of education degree programs are offered by the College of Education:

### *Plan I (for licensed teachers)*

Agricultural Education  
Art Education  
Business/Marketing Education  
Curriculum and Instructional Systems  
Developmental/Adapted Physical Education  
Early Childhood Education  
Elementary Education  
English Education  
Home Economics Education  
Industrial Education  
Mathematics Education  
Music Education  
Physical Education  
Science Education  
Second Languages and Cultures Education  
Social Studies Education  
Special Education  
Teacher Leadership

### *Plan II (for nonlicensed professional personnel or those with vocational licensure)*

Adult Education  
Agricultural Education  
Business/Marketing Education  
Community Education Administration  
Curriculum and Instructional Systems  
Home Economics Education  
Industrial Education  
Recreation, Park, and Leisure Studies  
Science Education  
Vocational Education

Following admission to an M.Ed. program, the student and adviser design a proposed program suited to the student's needs and interests. The proposed program is then submitted to a department committee for approval. The approved program with all necessary documentation is then submitted to the Student Progress Subcouncil in the Education Student Affairs Office, 1425 University Avenue S.E., Minneapolis, MN 55414.

No more than 12 credits may be included from an institution other than the University of Minnesota, provided they are appropriate to the program. No more than 40% of the degree coursework may be completed before

admission to the program. There is no limitation on the number of credits that can be taken through Continuing Education and Extension, provided they are appropriate to the program. Individual program areas may modify the above guidelines to allow fewer credits permitted in the program from other institutions or from CEE. All work submitted for the degree must be concluded within seven years before graduation. No more than one-third of the credits may be completed on an S-N grading option. A minimum GPA of 2.80 is required for graduation. Students should apply for graduation at 150 Williamson Hall early in the quarter in which they plan to complete work for the degree. Specific program information may be obtained from the Education Student Affairs Office.

## Graduate School

Graduate programs at the University of Minnesota are administered by the Graduate School. Applications for admission to these programs are made to the Graduate School Office, 309 Johnston Hall, University of Minnesota, 101 Pleasant Street S.E., Minneapolis, MN 55455.

**Master of Arts Degree**—Graduate study leading to the M.A. degree is available in most education fields. This degree is offered under two plans: Plan A, requiring a thesis, and Plan B, which substitutes additional coursework and special project(s) for the thesis.

A master's degree program ordinarily takes from four to six quarters in residence to complete. After completing 15 credits, and ordinarily not later than the third quarter of registration (the second year for the longer programs), students file with the Graduate School an official program for the degree (Plan A or Plan B). The student lists all coursework, completed and proposed, that will be offered in fulfillment of degree requirements. The Graduate School does not require foreign language study, but departments may determine language requirements for specific major programs. Specific program requirements are listed in the *Graduate School Bulletin*.

**Specialist Certificate**—Programs leading to the specialist in education certificate are available in several education fields. The specialist certificate requires completion of a minimum of 90 credits. All first-year students must meet regular admission, coursework, and examination requirements for the master of arts degree, and should specify the master degree as their degree objective on the application form. The first year of the specialist program usually consists of completion of the M.A. degree. The two-year program must be completed within a period of 12 years. A decision regarding continuation beyond the master's degree in a specialist program will depend on an evaluation of performance in meeting the M.A. requirements. Within several education fields the specialist certificate is offered with the following emphases:

- Counseling
- Elementary School Administration
- General Curriculum Supervision (Grades 7-12)
- General Educational Administration
- Mathematics Education
- School Psychological Services
- Secondary School Administration
- Special Education
- Special Education Administration

For details of program requirements, consult the *Graduate School Bulletin*.

**Doctor of Education Degree**—The University awards the doctor of education (Ed.D.), its highest professional degree in the fields of educational administration and vocational education, in recognition of satisfactory academic preparation and demonstrated competence for professional activity in those fields.

Standards and procedures for admission and expectations for scholastic performance are comparable to those for the Ph.D. A major part of the program must be conducted in full-time residence, including at least one continuous academic year at advanced stages of the program. Rules and procedures for the Ph.D. governing examinations, candidacy, time limits, appointment of committees, and the thesis for the Ph.D. apply in general to the Ed.D.

**Doctor of Philosophy Degree**—This degree is awarded chiefly in recognition of high attainment and ability in a special subject field as demonstrated by passing required examinations covering both a candidate's general and special subject fields and by preparing and defending a thesis that is based on original research and that makes a significant contribution to knowledge in the student's subject field.

Candidates for the doctoral degree must register in the Graduate School for at least seven full-time quarters of graduate study in approved subjects and thesis research and writing. Consult the *Graduate School Bulletin* for specific program requirements.

### Adult Special

A person who has already completed a baccalaureate degree and wishes to take courses but who has not been formally admitted to a program in the College of Education or the Graduate School may be admitted as an adult special student in the College of Education. Graduates of the College of Education need not apply for admission as an adult special student; they need only secure registration materials at the Education Student Affairs Office, 1425 University Avenue S.E. All others should obtain the adult special application form from the Education Student Affairs Office and secure approval and additional information from that office. Those who have previously been admitted as adult special students and who now wish to enroll in a degree program must apply for admission to the specific program. Students should be aware that there is a limit on the number and type of adult special credits that may be transferred to a Graduate School or M.Ed. program.

Admission to adult special status allows registration in 1xxx-, 3xxx-, and 5xxx-level courses in which the student has the appropriate prerequisites or class standing. Courses numbered 8000 to 8999 are not routinely available to adult specials. Exceptions to allow adult specials entry into 8xxx-level courses are rare; questions should be addressed to the Graduate School, 306 Johnston Hall.

## Curricula

### Child Psychology

Graduate study is available in several areas of child psychology. Students interested in the Ph.D. degree program should apply for admission to the director of admissions, Institute of Child Development, and to the Graduate School, specifying the major as child psychology. Students are rarely admitted for a terminal M.A. degree. Consult the *Graduate School Bulletin* for details about admission requirements for the M.A. and Ph.D. degree programs. See also the section below for details of the M.Ed. program in early childhood education.

### Communication Disorders

The Department of Communication Disorders in the College of Liberal Arts, through the Graduate School, offers graduate programs leading to the master of arts degree in communication disorders with emphasis in either speech-language pathology or audiology, and to the Ph.D. degree with emphasis in speech-language pathology, speech science, audiology, or hearing science. Graduate students who complete the M.A. degree in speech-language pathology or audiology meet the academic and clinical practicum requirements for the American Speech-Language-Hearing Association Certificate of Clinical Competence. For more information, contact the Department of Communication Disorders, 115 Shevlin Hall, University of Minnesota, 164 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/624-3322).

### Community Education

Three program areas within the College of Education cooperate to offer graduate-level study to those interested in the design, implementation, evaluation, and administration of community schools and community education programs. Students may prepare for leadership roles in community education through any of the three areas: adult education, educational administration, or

recreation, park, and leisure studies. Students plan programs designed to develop both theoretical and practical competencies. Courses appropriate to community education are drawn from these areas as well as from other areas within the College of Education and other units of the University.

**Community Education Administration**—The master of education program is flexible, anchored largely in the major components of clinical process used in community education programs. It combines coursework, independent study, workshops, and community education-based experience to provide postbaccalaureate clinical training in organization and management of programs for those who plan to become community

education directors or administrators or who have career aspirations in community education.

**Teacher Leadership**—The M.Ed. program in Teacher Leadership, offered jointly by the Department of Educational Policy and Administration and the Department of Curriculum and Instruction, is designed to increase a teacher's ability to take on the expanded roles and responsibilities of educators in Minnesota and across the country. The program focuses on three areas: 1) teacher practice, 2) contemporary educational issues, and 3) leadership. With guidance from faculty advisers, students choose 45 credits distributed across the three areas.

### Advanced Study Programs in Education

The following chart identifies areas in education in which master of education (M.Ed.), master of arts (M.A.), and doctor of philosophy (Ph.D.) programs are available. In addition, the doctor of education (Ed.D.) degree is offered with a major in vocational education or educational administration. Also offered are specialist certificate programs in mathematics education, general curriculum supervision (grades 7-12), counseling, school psychological services, special education, and several levels of educational administration.

M.Ed. programs are described in detail in this section of the bulletin. Students interested in M.A., Ph.D., Ed.D., and specialist programs should consult the department and the *Graduate School Bulletin*.

Field or Emphasis	M.Ed.	M.A.	Ph.D./Ed.D.
Adult Education	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Agricultural Education	yes	Agricultural Education	Education (General Education Aspects of the Vocational Field) or Vocational Education
Art Education	yes	Art Education	Education (Curriculum and Instruction)
Business Education	yes	Business Education	Education (General Education Aspects of the Vocational Field) or Vocational Education
Child Psychology	no	Child Psychology	Child Psychology
Community Education Administration	yes	See field or emphasis	See field or emphasis
Continuing and Community Education	no	Education, Adult (Curriculum and Instruction) or Educational Administration or Recreation, Park, and Leisure Studies	See field or emphasis
Counseling and Student Personnel Psychology	no	Educational Psychology (Counseling and Student Personnel Psychology)	Educational Psychology (Counseling and Student Personnel Psychology)
Curriculum and Instructional Systems	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Early Childhood Education	yes	See Child Psychology or Elementary Education	See Child Psychology or Education* (Curriculum and Instruction)
Education	no	See field or emphasis	See field or emphasis

# Advanced Study

Field or Emphasis	M.Ed.	M.A.	Ph.D./Ed.D.
Educational Administration	no	Educational Administration	Educational Administration
Educational Psychology	no	See field or emphasis	See field or emphasis
Elementary Education	yes	Elementary Education	Education* (Curriculum and Instruction)
English Education	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Foreign Languages (see Second Languages)			
Higher Education	no	Education (Higher Education)	Education (Higher Education)
Home Economics Education	yes	Home Economics Education	Education (General Education Aspects of the Vocational Field) or Vocational Education
Industrial Education	yes	Industrial Education	Education (General Education Aspects of the Vocational Field) or Vocational Education
International Development Education	no	Education (Curriculum and Instruction)	See field or emphasis
Marketing Education	yes	Marketing Education	Education (General Education Aspects of the Vocational Field) or Vocational Education
Mathematics Education	yes	Mathematics Education	Education (Curriculum and Instruction)
Music Education	yes	Music Education	Education* (Curriculum and Instruction)
Physical Education	yes	Kinesiology	Kinesiology
Developmental/Adapted Physical Education	yes	not offered	not offered
Psychological Foundations of Education	no	Educational Psychology (Psychological Foundations of Education)	Educational Psychology (Psychological Foundations of Education)
Reading Education	no	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Recreation, Park, and Leisure Studies	yes	Recreation, Park, and Leisure Studies	Education (Recreation, Park, and Leisure Studies)
School Psychology	no	Educational Psychology (School Psychology)	Educational Psychology (School Psychology)
Science Education	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Second Languages and Cultures Education	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Social and Philosophical Foundations of Education	no	Social and Philosophical Foundations of Education	Education (Social and Philosophical Foundations of Education)
Social Studies Education	yes	Education (Curriculum and Instruction)	Education (Curriculum and Instruction)
Special Education	yes	Educational Psychology (Special Education)	Educational Psychology
Teacher Education	no		Education* (Curriculum and Instruction)
Teacher Leadership	yes	not offered	not offered
Vocational Education	yes	See field or emphasis	Vocational Education

\*Admission to the Ph.D. in these areas has been suspended. For more information, contact the director of graduate studies in Curriculum and Instruction.

## Curriculum and Instruction

This department offers graduate-level study in all of its program areas. See the specific areas below for descriptions of advanced programs: adult, community, and continuing education; adult basic and continuing education endorsement; advanced career teacher program in elementary education; art education; curriculum and instructional systems; early childhood education; elementary education; mathematics education; middle school endorsement; remedial reading and reading supervisor endorsement; secondary academic fields of English education, mathematics education, science education, second languages and cultures education, and social studies education; and teacher education.

**Adult, Community, and Continuing Education**—Graduate-level study is offered to those interested in the design, implementation, and evaluation of educational programs for adults. Students can prepare for teaching, program development, and administrative roles in a wide variety of institutions, organizations, and agencies that offer training and education for adults. Students may develop programs in the general area of adult education. Within this program they may also concentrate on one of the following areas: adult literacy education, community education, continuing education of the professional, continuing education of older adults, and training and development. Course descriptions in this area are listed under the heading Education: Adult and Teacher (AdEd) and related areas in the next section of this bulletin.

An M.Ed. program in adult education is available for those who design, administer, and evaluate educational activities for adults as well as those who teach adults. This Plan II degree program is specifically for persons who are not required to hold teaching licensure as a condition of employment.

### Adult Basic and Continuing Education—

A 35-credit teaching license is available for those who wish to teach adult literacy but do not have an elementary or secondary teaching license. All coursework is applicable to the M.Ed. in Adult Education. Students wanting the M.Ed. degree must apply separately for admission to the program.

#### Adult Education Coursework (minimum 15 credits)

AdEd 5104—Survey of Adult Education (3)

AdEd 5310—Designing the Adult Education Program (3)

AdEd 5401—Adult Learning and Development Through the Life Span (3)

AdEd 5411—Strategies for Teaching Adults (3)

AdEd 5901—Introduction to Community Education (3)

EdPA 5603—International Education and Development (3)

#### Literacy Coursework (minimum 9 credits)

AdEd 5201—Introduction to the Undereducated Adult (3)

AdEd 5202—Adult Literacy: Diagnosis and Prescription (3)

AdEd 5203—Adult Literacy: Methods and Materials (3)

AdEd 5204—Reading in Work Settings (3)

#### Minimum of 3 credits from:

EPsy 5434—Counseling Adults in Transition (3)

EPsy 5115—Psychology of Adult Learners (3)

EPsy 5433—Developmental Career Counseling of Women (3)

EPsy 5461—Cross Cultural Counseling (3)

#### Field Experience

8 credits including:

Observing in multicultural settings (4)

Teaching adults (if less than 180 hours teaching experience with adults) (4)

#### Additional Requirements for getting a teaching license in Minnesota

Pre-Professional Skills Test (PPST)

EPsy 5135—Workshop in Human Relations (2-6)

or a course approved by the State Department of Education (a list of approved courses is available from the State Department of Education)

PubH 3003—Drug and Alcohol Education (2)

For more information, contact Rosemarie J. Park, 175 Peik Hall, 159 Pillsbury Drive S.E., Minneapolis MN 55455, or call 612/625-5524.

### Advanced Career Teacher (ACT)

#### Program in Elementary Education—This

36-credit program is for teachers who have completed a master's degree (M.A. or M.Ed.) in elementary education and wish to pursue a guided program of post-master's study. Students may select one of the following emphases in the ACT program:

Developmental/Generalist  
Language Arts/Literature  
Mathematics/Science  
Reading/Language Arts  
Reading/Mathematics Remedial Instruction.

Each emphasis includes major field (elementary education) coursework made up of core courses and electives, as well as work in related areas and a practicum or field study.

Criteria for admission include completion of a master's (M.A. or M.Ed.) degree with emphasis in elementary education from an accredited institution; a grade average of B (3.00) in the master's degree; and a desire to continue professional growth. For specific descriptions of each emphasis contact the Director of Graduate Studies, Department of Curriculum and Instruction, 145 Peik Hall, University of Minnesota, 159 Pillsbury Drive S.E., Minneapolis, MN 55455.

**Art Education**—The M.Ed. program in art education helps teachers improve their teaching skills. Secondary teachers applying for the program should have an undergraduate major in art education. Elementary teachers must have completed 27 credits in art and art education for admission to the program. A general description of the master of education degree is at the beginning of this section of the bulletin. All programs are individually planned to meet the needs and interests of the student.

**Course Requirements for Licensed Art Teachers in Secondary Schools** (minimum 45 credits)

ArEd 5389—Application of Aesthetic Theory in Education (3)  
ArEd 5900—Professional Problems (3)  
14 credits from studio art, art history, and/or art education  
9 credits in education courses outside the major  
Electives—16 credits selected with the consent of an adviser

**Course Requirements for Elementary School Teachers** (minimum 45 credits)

36 credits in art, art education, and electives selected with the consent of an adviser  
9 credits in education courses outside the major

Students interested in graduate study in art education should see the *Graduate School Bulletin* or contact the Graduate School for details about programs.

**Curriculum and Instructional Systems**—

An M.Ed. program is available for those who design, implement, and evaluate technology-based educational experiences. A total of 45 credits is required. A general description of the requirements appears at the beginning of this section of the bulletin.

For information about the M.Ed. emphasizing curriculum systems, contact program area faculty.

**Required Coursework**

*Instructional Design* (minimum 3 credits)

CISy 5201—Systems Approach to the Design of Instruction (3)  
CISy 5209—Principles and Procedures in Designing Instruction (4)

*Curriculum Design* (minimum 3 credits)

CISy 5600—Introduction to Curriculum Systems (3)  
CISy 5605—Principles and Procedures in Designing Curriculum (3)

*Technology* (minimum 6 credits)

CISy 5003—Introduction to Computers and Their Uses (1)  
CISy 5004—Introduction to Interactive Video Instruction (1)  
CISy 5006—Introduction to Instructional Computer Programming (3)  
CISy 5205—Computer-Based Instruction: Introduction to Design (3)  
CISy 5206—Microcomputer Uses in Elementary Classrooms (3)  
CISy 5207—Interactive Video Instruction (4)  
CISy 5208—Computer-Based Tools for Teachers (3)  
CISy 5212—Computer-Based Instruction: Design and Development (3)  
CISy 5216—Computer-Based Instructional Simulations (3)  
CISy 5218—Computer-Based Instructional Games (3)

*Learning and Cognition* (minimum 6 credits)

Examples include:  
EPsy 5112—Knowing, Learning, and Thinking (4)  
EPsy 5113—Introduction to the Psychology of Instruction (3)  
EPsy 5114—Psychology of Student Learning (3)  
EPsy 5115—Adult Learning and Educational Practice (4)  
EPsy 5118—Individual Differences and Educational Practice (4)  
EPsy 5150—Social Psychology of Education (4)

*Practicum*

3 credits of CISy 5509—Directed Individual Study (1-6)

**Suggested Coursework** (minimum 24 credits)

*Measurement*

EPsy 5220—Educational Measurement in the Classroom (4)  
or EPsy 5221—Basic Principles of Measurement (3)

**Evaluation**

EPsy 5240—Principles and Methods of Evaluation (3)

**Instructional Psychology**

EPsy 5113—Introduction to Psychology of Instruction (3)

Students select further coursework for areas such as the training and development sequence in vocational education, adult education, educational administration, psychology, management, and computer science to complement work in instructional systems.

Programs leading to the M.A. and Ph.D. degrees are offered through the Graduate School. Studies in curriculum and instructional systems prepare students as college or university teachers, public school curriculum directors or coordinators, and instructional designers in higher education, business and industry, the health fields, and as educational technologists.

**Early Childhood Education**—The M.Ed. program in early childhood education is for the preschool and kindergarten teacher who wants to acquire expertise in a number of different curricular areas as well as in child growth and development. A general description of the master of education degree appears at the beginning of this section of the bulletin.

**Course Requirements** (minimum 48 credits)

30 credits from child psychology and elementary education with a minimum of 12 credits in child psychology and 12 credits in elementary education, including Elem 5376, 5377, 5378

18 credits to be selected in consultation with an adviser

**Elementary Education**—The M.Ed. program in elementary education has three primary objectives: (1) to help elementary school teachers improve their teaching skills, (2) to help elementary school teachers develop additional decision-making skills needed to select instructional materials and teaching strategies appropriate to their current teaching situations, and (3) to assist elementary school teachers in functioning effectively in school decision-making and evaluation processes. A general description of the master of education degree is at the beginning of this section of the bulletin.

**Course Requirements** (minimum 48 credits)

Elem 5100—Elementary School Curriculum (3)

Elem 5107—Diagnosis and Treatment of Learning Difficulties (3)

Elem 5300—Literature for the Elementary School (3)

Elem 5316—Teaching and Supervision of English in the Elementary School (3)

Elem 5337—Beginning Reading Instruction (3)

or Elem 5338—Teaching Reading in the Intermediate Grades (3)

Elem 5350—Elementary School Science: Materials and Resources (3)

Elem 5602—Practicum: Improvement of Teaching (3)

Elem 5361—Teaching Social Studies in the Elementary School (3)

3 credits in MthE 5101—Workshop: Elementary School Mathematics (1-12)

6 credits to be selected in consultation with an adviser from elementary or mathematics education from Elem 5108, 5145, 5315, 5347, 5317, 5334, 5339, 5362, 5363, 5376; MthE 5102, 5321

15 credits in nonpedagogical courses (related fields) to be selected in consultation with an adviser

Programs leading to the M.A. and Ph.D. degrees emphasizing areas of study in elementary education are offered through the Graduate School. These graduate programs prepare teachers at an advanced level for classroom work or prepare the several specialists in elementary education such as the supervisor, consultant, principal, teacher educator, or teacher of special classes. Requirements for the M.A. and Ph.D. degree programs are described in the *Graduate School Bulletin*. Applicants should have completed an undergraduate program leading to licensure for elementary school teaching. In applying for admission to the Graduate School, applicants should indicate the specific area of interest within elementary education they wish to emphasize. Classroom teachers, supervisors, consultants, and teacher educators major in elementary education for the M.A. degree or education for the Ph.D. degree. Prospective elementary school principals major in educational administration for the M.A. or Ph.D. degree, and their programs include work in elementary education with special emphasis on the improvement of instruction. Special-class teachers take substantial amounts of work in educational psychology in addition to that required in elementary education.

**Mathematics Education**—The M.Ed. program in mathematics education is intended to help teachers improve their ability to operate as skilled professionals in the classroom, to develop skills important in the selection of instructional materials and strategies, and to function effectively in decision-making and evaluation processes within the school and community. Special features of the program include emphasis on improvement of classroom instruction, exposure to current trends and issues in mathematics education, program components designed to accommodate individual needs, and an opportunity for a practicum experience in the public schools.

A teaching license (with major in mathematics or in elementary education with a supporting field in mathematics) and two years mathematics or elementary teaching experience are required for admission.

**Course Requirements, Secondary Level** (minimum 45 credits)

Mathematics education (minimum 18 credits)  
MthE 5312—Teaching and Supervision of Mathematics in the Secondary School (3)

MthE 5322—Materials Laboratory for Secondary School Mathematics Instruction (3)

MthE 5332—Current Trends and Issues in Secondary School Mathematics Instruction (3)

3 credits in MthE 5980—Directed Studies (3-9)

Minimum of 12 credits in a supporting field in mathematics

Minimum of 6 credits in a supporting field in secondary education including one course in general curriculum to be selected with the approval of the adviser

Electives to complete 45 credits

**Course Requirements, Elementary Level** (minimum 45 credits)

Mathematics education, minimum 18 credits including:

MthE 5311—Teaching and Supervision of Mathematics in the Elementary School (3)

MthE 5321—Materials Laboratory for Elementary School Mathematics Instruction (3)

MthE 5331—Current Developments in Elementary School Mathematics Instruction (3)

3 credits in MthE 5980—Directed Studies (3-9)

Minimum of 12 credits in a supporting field in mathematics

Minimum of 6 credits in a supporting field in elementary education including Elem 5100

Electives to complete 45 credits

Graduate programs leading to the master of arts degree in mathematics education, specialist certificate in mathematics education, and doctor of philosophy degree in

education with an emphasis in mathematics education are available. See the *Graduate School Bulletin* for details on admission and program requirements.

**Middle School Endorsement**—A teacher completing this program is recommended for licensure to teach the subject matter in grades 5-8 in a middle school. Two programs are available: one for licensed elementary teachers, the other for licensed secondary teachers. Each program has specific course requirements at the 5xxx level, divided between designated core courses and elective courses in a subject area specialization or in general elementary curriculum. Included is a required teaching experience component at an appropriate grade level within a middle school setting. The middle school endorsement program does not prepare individuals for initial licensure.

### Elementary Licensed Teachers

#### Core Requirements

AdEd 5190—The Learning Environment (2)

or EdPA 5167—The American Middle School (3)

AdEd 5191—Thematic Instruction (2)

Elem 5107—Learning Difficulties (3)

CPsy 5303—Adolescent Psychology (4)

Subject area specializations are available in English/language arts, mathematics, science, and social studies. Requirements in each area are:

**English/Language Arts Education** (core requirements plus 15 credits in English/language arts)

SeEd 5175—Secondary Remedial Reading Instruction (3)

SeEd 5320—Literature for Adolescents (3)

SeEd 5321—Teaching Literature in Secondary Schools (3)

SeEd 5322—Teaching Writing (3)

SeEd 5344—Teaching Reading in the Content Areas (3)

Practicum

**Mathematics Education** (core requirements plus 19-21 credits in mathematics/mathematics education)

MthE 5313—Teaching and Supervision of Mathematics in the Middle School (4)

\*Math 1201—Pre-calculus (5)

\*Math 5005—Diversity of Mathematics (4)

\*Math 5006—Diversity of Mathematics (4)

\*Math 5007—Diversity of Mathematics (4)

or 2 credits from MthE 5150 to MthE 5160

Practicum

\*Students with academic concentrations in mathematics should meet with their advisers to plan substitute courses.

**Science Education** (core requirements plus 18 credits in science/science education)

Elem 5350—Elementary School Science: Resources and Materials (3)

\*Life Science (5)

\*Earth Science (5)

\*Physical Science (5)

Practicum

*\*Courses planned in consultation with middle school science adviser***Social Studies Education** (core requirements plus 18 credits in social studies)

One course in social studies and the middle school learner (4)

SeEd 5164—Global Education: Content and Process (3)

or SeEd 5227—Teaching About the Newspaper in the Classroom (3)

Practicum

The remaining 11 credits planned in consultation with an adviser

**Secondary Licensed Teachers****Core Requirements**

Secondary teachers who hold licensure in English/language arts, mathematics, science, or social studies:

AdEd 5190—The Learning Environment (2)

or EdPA 5167—The American Middle School (3)

AdEd 5191—Thematic Instruction (2)

Elem 5107—Learning Difficulties (3)

CPsy 5303—Adolescent Psychology (4)

Students seeking licensure in the various fields must also complete the following instruction and elementary school methodology courses:

**Secondary English/language arts teachers**

Elem 5300—Children's Literature (3)

Elem 5315—Teaching Writing in the Elementary School (3)

Elem 5316—Teaching and Supervision of English (3)

Elem 5338—Teaching Reading in the Intermediate Grades (3)

SeEd 5175—Secondary Remedial Reading Instruction (3)

Practicum

**Secondary mathematics teachers**

SeEd 5344—Teaching Reading in the Content Areas (3)

or Elem 5338—Teaching Reading in the Intermediate Grades (3)

Elem 5334—Reading Difficulties (3)

or SeEd 5175—Secondary Remedial Reading Instruction (3)

MthE 5355—Mathematics for Slow Learning Children (3)

or MthE 5345—Mathematics for Gifted Children (3)

MthE 5313—Teaching and Supervision of Mathematics in the Middle School (4)

MthE 5150-5160—Special topics courses (2)

Practicum

**Secondary science teachers**

Elem 5338—Teaching Reading in the Intermediate Grades (3)

SeEd 5175—Secondary Remedial Reading Instruction (3)

Elem 5350—Elementary School Science: Resources and Materials (3)

Elem 5347—Workshop: Curriculum Implementation in the Elementary School (3)

or Elem 5351—Integrating Health (3)

Practicum

**Secondary social studies teachers**

SeEd 5344—Teaching Reading in the Content Areas (3)

or Elem 5338—Teaching Reading in the Intermediate Grades (3)

Elem 5334—Reading Difficulties (3)

or SeEd 5175—Secondary Remedial Reading Instruction (3)

One course in social studies and the middle school learner (4)

Elem 5164—Global Education: Content and Process (3)

or Elem 5227—Teaching About the Newspaper in the Classroom (3)

Practicum

For more information, call the various program areas that offer middle school endorsement.

**Remedial and Developmental Reading and Reading Supervisor Endorsement—**

Coursework is available at the postbaccalaureate level leading to recommendation as an elementary remedial reading teacher; secondary remedial reading teacher; secondary developmental reading teacher; and reading consultant, supervisor, or coordinator. To be recommended for the remedial or developmental endorsement, the student must have a valid Minnesota teaching license, have at least two years of teaching experience at the appropriate level, and complete the requisite coursework. The reading consultant, supervisory, or coordinator endorsement requires a master's degree, three years of teaching including one year as a reading teacher, and the requisite coursework.

**Secondary Education—M.Ed.** programs for secondary school teachers are offered in English education, mathematics education, science education, second languages and cultures education, and social studies education. See the specific fields below for program descriptions.

A secondary school teacher interested in completing the M.A. degree in education should apply for admission to the Graduate School, specifying the major as education with a specific area of interest (e.g., science education). For mathematics education, the M.A. major is mathematics education. For the Ph.D. degree in secondary education, the major should be specified as education with a specific area of interest indicated. See the *Graduate School Bulletin* for details about admission requirements.

### *English Education*

The M.Ed. program in English education is open to licensed teachers with a major in a language arts area. The program offers a variety of courses designed to benefit teachers in their work in the schools.

#### **Course Requirements** (minimum 45 credits)

Four courses from the following:

- SeEd 5176—Classroom Research in English Education and Reading (3)
- SeEd 5659—School-Related Projects in Language Arts (3)
- SeEd 5321—Teaching Literature in Secondary Schools (3)
- SeEd 5322—Teaching Writing (3)
- SeEd 5344—Teaching Reading in the Content Areas (3)

Three courses from the following:

- SeEd 5175—Secondary Remedial Reading Instruction (3)
- SeEd 5179—Foundations of the Teaching of English (3)
- SeEd 5194—Perspectives on English Studies in the Schools (3)
- SeEd 5320—Literature for Adolescents (3)
- SeEd 5323—Diagnosing and Assessing Writing in the Schools (3)
- SeEd 5326—Teaching Film and Television (3)
- SeEd 5350—Current Developments in English Education (3)
- SeEd 5404—Language, Culture, and Education (4)
- SeEd 5604—Perspectives on Literacy (3)

Candidates are required to complete a 3-credit project (SeEd 5659).

Electives—in consultation with their adviser, candidates select 5xxx-level relevant elective coursework to complete the 45 credits required.

Transfer courses—candidates may transfer 8 credits of graduate-level coursework from other institutions; transfer courses must be taken within seven years from time of completion of the program.

### *Mathematics Education*

An M.Ed. program in mathematics education is offered. See the heading Mathematics Education above for program details.

### *Science Education*

Two M.Ed. programs are offered in science education. The Plan I program is for classroom teachers and its goal is to improve instruction. Areas of special emphasis are pedagogical training and the practical application of knowledge in the classroom. The program offers the teacher an opportunity to combine scholarly activity with practical classroom experience.

The Plan II program is for individuals who either work or plan to work at nature centers, museums, zoos, or other sites at which science is taught. Individuals entering this program need not be licensed to teach science in elementary or secondary schools.

#### **Course Requirements** (minimum 45 credits)

One course in current developments in science teaching  
One course in research foundations of science teaching  
Electives—39 credits selected with the consent of the adviser from any or all of the following: school-based projects, science, education including science education, and other disciplines. Advisers have a list of recommended courses.

### *Second Languages and Cultures Education*

The M.Ed. program in second languages and cultures education is offered for licensed teachers interested in improving classroom instruction and curricula. The program, which provides a variety of coursework as well as school-based experience, is planned with a needs assessment group (NAG) composed of the student's adviser(s), the student's department chair or school principal, and the student.

#### **Course Requirements** (minimum 45 credits)

- SeEd 5186—Alternatives in Second Language Education (3)
  - SeEd 5189—Planning and Assessing Second Language Curriculum (4)
  - SeEd 5219—Reading and Writing in a Second Language (4)
  - SeEd 5385—Planning and Assessing Second Language Instruction (4)
- Minimum of 3 credits in SeEd 5185—School- and Professional-Based Experiences in Second Languages and Cultures (1-12)  
Minimum of 3 credits in other education courses

Minimum of one 4- or 5-credit course in the student's chosen language

Minimum of 3 credits in a liberal arts course or courses

Electives—21 credits selected in consultation with the student's needs assessment group

### *Social Studies Education*

The M.Ed. program in social studies is for classroom teachers interested in improving instruction.

**Course Requirements** (minimum 45 credits)

SeEd 5150—Advanced Methods of Teaching the Social Studies (3)

Minimum of 3 credits in SeEd 5151—School-Based Projects in Social Studies Education (1-12)

SeEd 5152—Techniques of Instruction in Social Studies (3)

One course in general curriculum

3 credits in the social sciences

Electives—27 credits selected with the consent of an adviser

**Teacher Education**—Persons interested in the study and design of training programs for both preservice and in-service teachers can select from a core of coursework that addresses this topic. Teacher education courses are described under the heading Education (Educ) in the next section of this bulletin. Related coursework is available in adult education, higher education, and curriculum and instructional systems.

## **Educational Policy and Administration**

This department offers graduate and professional work leading to the M.Ed. and M.A. degrees, specialist in education certificate, and Ed.D. and Ph.D. degrees administered within the education programs identified below. For more information, contact Director of Graduate Studies, 275 Peik Hall, University of Minnesota, 159 Pillsbury Drive S.E., Minneapolis, MN 55455.

**Educational Administration**—The graduate programs in educational administration prepare personnel for administrative and supervisory positions in schools and other educational settings. Other programs include preparation for leadership positions

in community education and in regional, state, and federal educational agencies, as well as in professional and union groups.

**Higher Education**—The graduate program in higher education offers an interdepartmental major in education (emphasizing higher education) at the M.A. or Ph.D. level. The Ph.D. program focuses on the application of knowledge in the sciences of human behavior and organization to key problems in postsecondary education. Among the central concerns of faculty and students in the program are federal and state postsecondary policy, faculty development, institutional functioning and effectiveness, professional socialization, student development, academic program planning and evaluation, and institutional leadership. An M.A. program is also available for students whose professional goals may be met at that level. Courses with a higher education focus are listed under the headings Educational Policy and Administration (EdPA) and Educational Psychology (EPsy) in the next section of this bulletin. These courses are for specialists in a variety of academic and professional disciplines as well as those whose majors have a higher education emphasis.

**Social and Philosophical Foundations of Education**—The core of this program of graduate study is education as a sociocultural phenomenon. Course offerings and research opportunities focus on concepts and methods for understanding the role and status of education in society. This view of education is reflective; the study of education is approached through humanistic and social science methodologies. Students may plan programs leading to the M.A. degree in social and philosophical foundations of education and to the Ph.D. degree in education. Students may focus their study on broad foundational and policy issues in education, the history of education, the philosophy of education, the sociology of education, alternative social and educational futures, the anthropology of education, or

combinations of these. Programs include courses specific to the degree focus, including courses in related disciplines, as well as required general foundations courses.

### **International Development Education—**

This program gives U.S. and international students the opportunity to systematically study the relationship between education and development. International students acquire theoretical knowledge and research skills to address research questions about education and development in their own nations. U.S. students are prepared in terms of theoretical knowledge and research methods to serve in development education projects outside of the United States or work with government agencies, foundations, or private voluntary organizations with international interests. The program is available at the graduate level as an M.A. degree in education.

### **Educational Psychology**

This department offers graduate and professional programs leading to the M.A., M.Ed., and Ph.D. degrees in several areas in counseling and student personnel psychology (school counseling, counseling psychology, college student personnel work), psychological and methodological foundations of education, school psychology, and special education. Students who plan a major or minor in one of these areas should apply for admission to the Graduate School and to the appropriate unit within the department, and should plan their program in consultation with an adviser in their chosen area. Although students apply and are admitted to concentrate their study primarily in one area, all students are expected to attain a level of competence in certain studies in the foundations area, including research methodology. For specific courses and requirements, see the *Graduate School Bulletin*.

### **Counseling and Student Personnel**

**Psychology—**Graduate study leading to the master's degree, specialist certificate, or Ph.D. degree. The master's degree program offers preparation in counseling for careers

in a variety of areas including school counseling, higher education, community agencies, and business and industry. Preparation includes coursework in counseling theory and psychological foundations as well as supervised practice in educational and community settings.

The doctoral program, approved by the American Psychological Association, prepares counseling psychologists for work in educational and community settings. The major is in educational psychology with a minor or related field generally selected from psychology, family social science, education, or sociology. Preparation includes clinical practice and supervised experience in school, college, university, educational, or community programs. It also includes coursework in psychology of learning, statistics, personality development, measurement, social psychology, and individual and group counseling. Doctoral students will have advanced courses in statistics and measurement in their programs and complete research projects, and may become involved in instruction.

### **Psychological Foundations of Education—**

This area of graduate study offers instruction in statistics, research methodology, program evaluation and measurement, learning and cognition, computer applications, personality, human relations, and social psychology. Graduate students are expected to acquire broad competence in educational psychology and specialized knowledge and skills in one of the areas of concentration.

**School Psychology—**Two graduate programs are offered: a five-year program leading to a Ph.D. degree and a three-year program leading to a master's degree/specialist certificate. The Ph.D. program trains individuals for work in school, clinic, or university settings as psychologists, administrators, researchers, or teachers. The master's degree specialist certificate program trains individuals to work as psychologists in schools or community agencies. A strong interdepartmental emphasis allows Ph.D. students to choose

among majors in child psychology, psychology, and educational psychology. The curriculum includes courses in learning, personality, child psychology, learning difficulties, prevention and intervention strategies, diagnostic and remedial procedures, statistics and measurement, specialized research techniques, and special education. All students work in a school and clinic as part of their practicum experience; students also take a one-year internship in a school or community/hospital mental health agency. The program is approved by the American Psychological Association. Applicants seeking admission to the program must fulfill all general standards and requirements of the Graduate School.

**M.Ed. Degree Programs**—This fifth-year program in the College of Education emphasizes improvement in professional knowledge and skill, in contrast to the emphasis on research and theory in the M.A. program. Sequences leading to recommendation for state licensure in an area of handicap may be incorporated.

**Special Education**—All programs in special education require admission to the Graduate School or the College of Education. In addition, the faculty has its own admission procedure. Inquiries about application deadlines, admission and advising procedures, Minnesota licensure requirements, and training sequences should be directed to the special education program admissions office, 227 Burton Hall.

Students in any college who are at least juniors may take 5xxx courses such as EPsy 5601—Education of Exceptional Children, to obtain an overview of school programs for children with special needs; however, recommendation for state licensure requires that students be admitted *formally* to a special education program *after* earning a baccalaureate degree. In addition, all students must possess or earn the equivalent regular teaching license.

Applications to all endorsement programs are competitive. The following information is used to make admission decisions: (a) grades in pre- and postbaccalaureate courses, (b) quality and amount of experience teaching children with and without disabilities, (c) strength of recommendations, and (d) quality of autobiographical statement submitted.

While special education programs provide instruction to educators of exceptional children, this unit also gives major emphasis to mainstreaming and other outreach activities. Teaching specialties are organized according to the specificity and severity of children's needs. Students in all programs receive a basic orientation to special education that prepares them for subsequent concentration in the specific licensure programs for teaching persons with hearing impairment, visual impairment, physical and other health impairments, and severe/profound disabilities, and in the interrelated licensure programs dealing with persons who have learning disabilities, emotional/behavioral disturbances, and mild/moderate mental disabilities. Professional preparation opportunities are also available for special education administrators and for persons working with culturally different children and youth.

**Interdisciplinary Studies in Developmental Disabilities**—The interdisciplinary certificate program in developmental disabilities offers specialized training for educators, human services professionals, community members, and students in a variety of majors. By combining the certificate program with their majors or their fields of expertise, trainees enhance their abilities to serve individuals with developmental disabilities.

The program is offered through the Institute on Community Integration in the Department of Educational Psychology. The institute is nationally recognized for its research, training, and technical assistance work and its commitment to the belief that

individuals with developmental disabilities should have access to the necessary services enabling them to live, work, play, attend school, and build relationships in their communities. For further information, call 612/624-4848.

**Supervision and Administration of Special Education Programs**—The faculties in special education and educational administration, through the Graduate School, offer programs that lead to the specialist certificate in special education or the doctorate in educational administration with a major emphasis in administration of special education programs. These programs combine coursework in general school administration and supervision with specialized courses and internships or other practical experiences for students who plan to serve as directors, coordinators, supervisors, or consultants in special education programs. Admission to these programs requires completion of the master's degree, special licensure, and experience in some area of special education.

**Developmental/Adapted Physical Education**—Licensure programs in developmental/adapted physical education for grades K-12 are offered for both the undergraduate major and M.Ed. programs. Requirements are listed under Physical Education and Recreation in both the Programs and Advanced Study sections of this bulletin.

### **Kinesiology and Leisure Studies**

In the School of Kinesiology and Leisure Studies, programs are available leading to the M.Ed. degree in physical education and in recreation, park, and leisure studies. The Plan I program is for physical education teachers. The Plan II program is for non-licensed professional workers in recreation, park, and leisure studies. Both are based on an extension of the undergraduate major and provide continuing education for the in-service professional or teacher. Major

objectives are to help the individual function more effectively in his or her present role; to provide opportunities for both refresher experiences in areas previously studied and retraining in new areas; and to offer a structure for working toward a degree and at the same time to meet requirements for licensure renewal.

Graduate study leading to the M.A. degree is offered with a major in recreation, park, and leisure studies or in kinesiology. The major in recreation, park, and leisure studies also provides for an emphasis in community education. The Ph.D. degree is offered with a major in kinesiology, or with a major in education with an emphasis in recreation, park, and leisure studies. Application for admission to these programs should be made to the Graduate School. For requirements and course offerings for these degrees, consult the *Graduate School Bulletin*.

**Physical Education**—The M.Ed. program in physical education improves instructional competencies of the licensed teacher. Two options are available: general preparation or a concentration in physical education leading to licensure for developmental/adapted physical education in Minnesota. In addition to the general admission requirements, students are expected to have an overall grade average of at least C+ (2.50) in undergraduate coursework. A general description of the master of education degree appears at the beginning of this section of the bulletin.

#### **Course Requirements for M.Ed. in Physical Education** (minimum 45 credits)

At least 30 credits in physical education including 3 credits in Kin 5981—Problems (ar)

Kin 5980—Research Methodology (3)

Electives—no more than 15 credits

*Note:* Courses taken for the Licensure in Developmental/Adapted Physical Education may be applied toward completion of the M.Ed. See information under major Kinesiology for licensure requirements.

**Recreation, Park, and Leisure Studies—**

The master of education program in recreation is for nonlicensed professional workers. Students may concentrate in one of the areas of outdoor recreation, public parks and recreation, therapeutic recreation, sport programs, and commercial recreation. Students are expected to have a baccalaureate degree in recreation or a related area, including appropriate courses in psychology, sociology, and natural sciences. A written statement should be submitted with the application indicating the reason for seeking admission, specifying an area of interest, and stating experience of the applicant in the field of recreation. Adequate skill proficiency in the selected area of concentration is required for admission to the program.

**Course Requirements** (minimum 45 credits)  
24-36 credits in recreation, park, and leisure studies including 3-9 credits in Rec 5630 or 5640  
6-9 credits in education courses outside of recreation  
Electives—15 credits selected in consultation with adviser

**Music Education**

The master of education program in this field is for teachers wishing to increase their knowledge and strengthen their skills in music and education. The program includes courses in applied music, music theory, music history, music education, and education, selected with the approval of an adviser. A general description of the master of education degree appears at the beginning of this section of the bulletin.

**Course Requirements** (minimum 45 credits)  
15 credits in music education  
6 credits in education courses outside the major  
15 credits in music  
6 credits of electives  
3 credits in MuEd 5970—Independent Study (culminating project)

Graduate programs leading to the M.A. and Ph.D. degrees are offered. See the *Graduate School Bulletin* for details.

**Vocational and Technical Education**

The Graduate School offers M.A. programs with majors in agricultural education, business and marketing education, home economics education, industrial education, and education with emphasis in vocational education; Ph.D. programs with a major in education with an emphasis in vocational education; and Ed.D. programs with a major in vocational education. The Ph.D. program is for persons preparing for positions requiring research production. In contrast, the Ed.D. program prepares persons for leadership positions in which applying research is a major expectation. Specializations available within the doctoral programs include agricultural education, business education, extension education, home economics education, industrial education, international vocational education and training, marketing education, training and development, and comprehensive vocational education. See the *Graduate School Bulletin* for details.

M.Ed. programs are offered in agricultural education, business and marketing education, home economics education, industrial education, and vocational education. A concentration in training and development in industry and business is also available.

**Agricultural Education—**Two types of M.Ed. programs are available. Plan I is for licensed teachers of agriculture. Plan II is for nonlicensed professional workers such as extension workers, employees of public service agricultural agencies, educational directors of agricultural industries, and others whose primary responsibility is agricultural education; candidates must have at least one year of professional experience in agriculture before the degree is awarded.

Students interested in the M.Ed. should submit an application for admission to the Office of Admissions, 240 Williamson Hall.

### **Course Requirements for Licensed Teachers—Plan I** (minimum 45 credits)

- 18 credits in education, with a minimum of 12 credits in agricultural education including AgEd 5095—Integrating Paper (3)
- 23 credits in technical agriculture and other appropriate areas
- Electives—4 credits

### **Course Requirements for Nonlicensed Professional Workers—Plan II** (minimum 45 credits)

- 18 credits in education, with a minimum of 12 credits in agricultural education including AgEd 5095—Integrating Paper (3)
- 23 credits in technical agriculture and other areas selected with the consent of an adviser
- Electives—4 credits

For information on Graduate School programs, consult the *Graduate School Bulletin* and the director of graduate studies in this division.

A Master of Agriculture program, offered through the College of Agriculture, is for teachers seeking professional development. Students who choose the applied social science specialization may select an agricultural education adviser. Details about requirements for the degree program can be obtained from the College of Agriculture.

**Business and Marketing Education**—Two types of M.Ed. programs are available. Plan I is for licensed teachers who wish to pursue advanced professional study. Plan II is for persons preparing for an occupation within the business field that does not require teaching licensure such as training and development, midmanagement, and entrepreneurship.

A GPA of 2.80 is required for graduation.

### **Course Requirements—Plan I, Option I** (minimum 45 credits)

- BME 5353—Curriculum Construction in Business and Marketing Education (4)
- VoEd 5900—Using Vocational Education Research (3)
- BME 5340—Trends and Issues in Business and Marketing Education (3)
- Two business or marketing education methods courses
- Minimum 6 credits and no more than 12 credits selected from BME 5600—Field-Based Projects in Business and Marketing Education (1-12), VoEd 5780—Internship: Training and Development (max 15) or BME 5900—Directed Study in Business and Marketing Education (1-6)

- 4 credits from business administration, economics, agricultural economics, technical training and development in vocational education, or technical business and marketing education

Electives selected with the consent of an adviser

### **Course Requirements—Plan II** (minimum 45 credits)

Minimum 6 credits and no more than 12 credits selected from BME 5600—Field-Based Projects in Business and Marketing Education (1-12), 5780—Internship: Training and Development (max 15) or BME 5900—Directed Study in Business and Marketing Education (1-6)

- BME 5340—Trends and Issues in Business and Marketing Education (3)
- BME 5353—Curriculum Construction in Business and Marketing Education (4)
- VoEd 5900—Using Vocational Education Research (3)
- Minimum 12 credits in courses in BME or VoEd consistent with stated career objective and selected in consultation with adviser
- Electives selected with consent of adviser

For information on Graduate School programs, consult the *Graduate School Bulletin* and the director of graduate studies in this division.

**Home Economics Education**—Two types of M.Ed. programs are available. Plan I is for licensed home economics teachers. Plan II is for nonlicensed professional workers in home economics education. It is possible, with careful planning, to complete requirements for the family life endorsement program or the parent education licensure programs as part of an M.Ed. (see Home Economics Education under Vocational and Technical Education in the preceding postbaccalaureate study section of this bulletin). A general description of the M.Ed. degree is at the beginning of this section of the bulletin. Interested students should submit an application for admission to Office of the Registrar, University of Minnesota, 150 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455.

### Requirements—Plans I and II (minimum 45 credits)

18 credits in home economics education

6 credits in education outside the major

15 credits in home economics courses such as design, family social science, food science and nutrition, youth studies, and textiles and clothing, or in child development

Electives—6 credits selected with consent of adviser

For information about the postbaccalaureate teacher licensure program, see the Home Economics Education section of the postbaccalaureate study section of this bulletin.

For information on Graduate School programs, consult the *Graduate School Bulletin* and the director of graduate studies in this division.

**Industrial Education**—The M.Ed. in industrial education is designed for two populations. The first includes licensed industrial education teachers who have an undergraduate degree in industrial education or people working on a postbaccalaureate program in industrial education. The second includes people who have an undergraduate degree in a content field related to their vocational teaching license or an undergraduate degree consistent with industrial training or industrial supervision. For admission, students must have a GPA of 2.25 overall and 2.50 in the undergraduate major. A GPA of 2.80 is required for graduation. Students are also expected to provide a one-page goal statement and résumé.

### Foundation Courses (6 credits)

Ind 5305—Critical Issues in Industrial Education (3)

Ind 5325—Foundations of Industrial Education (3)

### Specialization (15 credits)

A minimum of 6 credits of industrial instruction courses is required for those without undergraduate degrees in industrial education.

### Research (9 credits)

Ind 5900—Field-Based Projects in Industrial Education (1-6) or equivalent

VoEd 5900—Using Vocational Education Research (3) or equivalent

### Electives (15 credits)

Courses must be at the 5xxx level; 9 credits must be from College of Education courses.

For more information on Graduate School programs, consult the *Graduate School Bulletin* and the Director of Graduate Studies in this division.

**Vocational Education**—Two types of M.Ed. programs are offered. Specializations are available in vocational education administration, extension education, training and development, international vocational education and training, and vocational special needs. Plan I is for licensed vocational educators who wish to pursue advanced professional study. Plan II is for professionals who are not licensed as vocational educators, but seek additional preparation or more depth through a program largely, though not exclusively, focused on professional practice. A general description of the master of education degree is at the beginning of this section of the bulletin.

### Requirements—Plans I and II (minimum 45 credits)

Minimum 18 credits in Plan I, and 24 credits in Plan II, in courses offered by the Department of Vocational and Technical Education, selected in consultation with adviser

Specified courses:

VoEd 5300—Philosophy and Practice of Vocational Education (3)

or VoEd 5400—Education for Work (3)

VoEd 5900—Using Vocational Education Research (3)

6 credits of field-based study or internship

6-12 credits focusing on professional interests of the student

A maximum of 9 credits in field-based projects, problem courses, independent study, and internship

Electives selected with consent of adviser

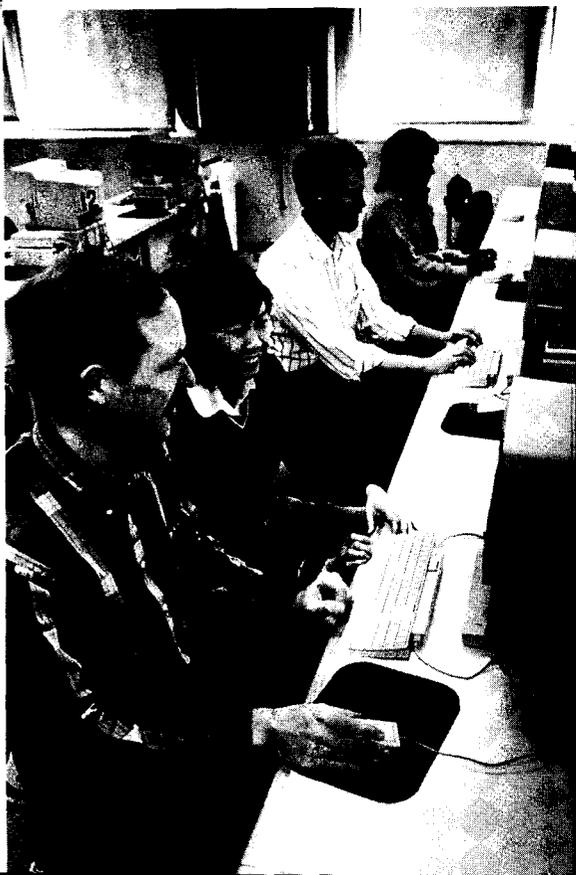
For information on Graduate School programs, consult the *Graduate School Bulletin* and the department director of graduate studies.

**Concentration in Training and Development**—Students pursuing an M.Ed. degree with a major in agricultural education, business education, home economics education, industrial education, and marketing education, as well as adult special students, may also achieve a concentration in training and development in industry and business by completing the requirements for the certificate in training and development.

**Certificate in Training and Development**—A professional certificate is awarded to adult special students who complete a minimum of 20 credits including course requirements listed on page 28 under the heading Undergraduate Focus in Training and Development.

College of Education

# Course Descriptions



# Course Descriptions

This section contains descriptions of the courses offered in the College of Education. The *Class Schedule*, published just before the registration period each quarter, lists the days, hours, locations, grading options, and instructors.

## Course Numbering System

1000 to 1999—Courses primarily for freshmen and sophomores

3000 to 3999—Courses primarily for juniors and seniors

5000 to 5999—Courses for juniors, seniors, adult specials, and graduate (including M.Ed.) students

8000 to 8999—Courses for graduate students only

## Course Symbols

, In prerequisite listings, comma means “and.”

† All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence.

§ credit will not be granted if credit has been received for the course listed after this symbol.

¶ Concurrent registration is allowed or required in the course listed after this symbol.

# Registration Override Permit, completed and signed by the instructor, is required for registration.

Δ Registration Override Permit, completed and signed by the department offering the course, is required for registration.

□ Registration Override Permit, completed and signed by the college offering the course, is required for registration.

H Honors course (follows the course number)

PEL Physical Education Licensure (see Kinesiology and Leisure Studies)

When no department prefix precedes the number of a course listed as a prerequisite, the prerequisite course is in the same department as the course being described.

## Child Psychology (CPsy)

### 1301. INTRODUCTORY CHILD PSYCHOLOGY.

(4 cr, §3309, §5301; prereq 5 cr intro psych)  
Introduction to the science of child behavior; review of theories and research.

### 3303. ADOLESCENT PSYCHOLOGY.

(4 cr, §5303; prereq 5 cr intro psych)

Physical, cognitive, and social development during adolescence.

### 3308. RESEARCH METHODS IN CHILD PSYCHOLOGY.

(4 cr; prereq 1301, Psy 1004)  
Techniques used in study of child development; emphasis on collection, organization, and analysis of data.

### 3309. INTRODUCTORY CHILD PSYCHOLOGY FOR THE SOCIAL SCIENCES.

(4 cr, §1301, §5301; prereq Psy 1001)  
Science of child behavior; review of theory and research. For majors in psychology, sociology, and related disciplines; not suggested for child psychology majors.

### 3313. PSYCHOLOGY OF ATYPICAL CHILDREN.

(4 cr, §5313; prereq 1301 or equiv)  
Problems of research, assessment, and behavior associated with atypicality; evaluation of research in areas of major concern for sensory, language, intellectual, and physical deviation.

### 3330. DIRECTED EXPERIENCES.

(4 cr; prereq 1301 or equiv, Psy 1004)  
Intellectual and/or social development of children, adolescents, or adults as individuals, members of families, or peer groups. Options include active participation with an age group or training in research methods, including both experimental and observational techniques.

### 3331. INTRODUCTION TO SOCIAL DEVELOPMENT.

(4 cr, §5331; prereq 1301 or equiv)  
Development of social relations and personality: research, methodology, and contrasting theoretical perspectives. Survey of findings on interpersonal relationships, the concept of self, prosocial and antisocial behavior, and acquisition of social roles.

### 3343. INTRODUCTION TO COGNITIVE DEVELOPMENT.

(4 cr; prereq 1301, 3308 or Psy 1005)  
Development of cognitive processes emphasizing research, methodology, and contrasting theoretical perspectives. Introduction to research and theory in developmental psychology necessary to understand course material.

### 3360H. HONORS SEMINAR: CURRENT RESEARCH IN DEVELOPMENTAL PSYCHOLOGY.

(2 cr; prereq 1301 or equiv)  
Introduction to ongoing research programs, preparation for independent research (thesis research if honors major), discussion of career opportunities, other topics. Required for honors majors. Normally taken in the junior year.

**3960. SENIOR PROJECT IN CHILD PSYCHOLOGY.** (1-4 cr [max 4 cr]; prereq 1301, #, sr status)

A major review of the literature in a current topic area of child psychology.

**3980. DIRECTED INSTRUCTION.** (1-4 cr [max 4 cr])

Undergraduates serve as teaching assistants in courses they have successfully completed for credit.

**5301. ADVANCED CHILD DEVELOPMENT.** (4 cr, §1301, §3309; prereq 5 cr intro psych; primarily for nonmajors)

Theory and research in child development with emphasis on perception, language, learning, cognition, personality, and social development in children.

**5302. INFANCY.** (4 cr; prereq 1301 or #)

Perceptual, motor, emotional, social, and cognitive development during the first two years of life; the developing infant in its social and physical environment.

**5303. ADOLESCENT PSYCHOLOGY.** (4 cr, §3303; prereq 5 cr intro psych)

See 3303.

**5304. INTRODUCTION TO MATURITY AND AGING.** (4 cr; prereq 1301 or equiv)

Empirical and theoretical issues in developmental psychology of maturity and aging; survey of perceptual-motor, cognitive, and social-psychological changes from young adulthood to old age.

**5305. MULTIDISCIPLINARY PERSPECTIVES ON AGING.** (4 cr, §Educ 5440, §HSU 5009, §PA 5414, §SW 5024, §SAHP 5009, §Soc 5960)

Multidisciplinary introduction to aging and the aging process.

**5310. TOPICS IN CHILD PSYCHOLOGY.** (1-4 cr; prereq 1301)

Selected topics in the general content area.

**5311. INTRODUCTION TO DEVELOPMENTAL PSYCHOPATHOLOGY.** (4 cr, §3311; prereq 1301 or equiv, 3308 or Psy 1005)

Theories and research strategies for investigating origins and course of disordered behavior in children and adults, including description, etiology, development.

**5313. PSYCHOLOGY OF ATYPICAL CHILDREN.** (4 cr, §3313; prereq 1301 or equiv)

See 3313.

**5315. INTRODUCTION TO MENTAL RETARDATION.** (4 cr, §EPsy 5620; prereq 1301 or equiv)

Psychological and educational problems related to the mentally retarded.

**5319. INTRODUCTION TO CHILD CLINICAL PSYCHOLOGY.** (4 cr; prereq 12 cr in psych, educ psych, sociology, or child psych)

Survey of assessment and intervention procedures of child clinical psychology in clinical and community settings. Primarily for students not majoring in clinical psychology.

**5322. MOTOR DEVELOPMENT.** (3 cr, §Kin 5132; prereq Kin 3132 or #)

Development aspects of motor skill acquisition from birth to physical maturity.

**5329. GENETICS, ETHOLOGY, AND DEVELOPMENT.** (4 cr; prereq 1301 or equiv)

Survey of evolutionary theory, behavioral genetics applied to understanding of development of human behavior: formation of species-typical adaptive behavior and individual differences in infancy, childhood, adolescence.

**5330. DIRECTED EXPERIENCES WITH CHILDREN.** (4 cr; prereq 1301, 3309 or #)

Intellectual and/or social development of children as individuals or members of peer groups. Experiences offered in case study, social behavior, cognitive stimulation of children.

**5331. PROCESSES OF SOCIAL DEVELOPMENT.** (4 cr, §3331; prereq 1301 or equiv)

Processes of individual change from infancy through adolescence and development of capacities for and influences of social relations; research, methodology, and the theoretical perspectives.

**5332. CROSS-CULTURAL CHILD DEVELOPMENT.** (4 cr; prereq 4 cr in child psych)

Interdisciplinary cross-cultural survey of theories and research on similarities and differences in cognitive, perceptual, socioemotional, and personality development, with emphasis on child-caretaker relations and Asian and Hispanic cultures.

**5334. CHILDREN AND YOUTH IN SOCIETY.** (4 cr; prereq 4 cr in child psych)

Child development principles relative to social policy decision making; application of theories and findings to such issues as media influences, mainstreaming, day care, child abuse, and effects of peers.

**5336. DEVELOPMENT AND INTERPERSONAL RELATIONS.** (4 cr, §5339; prereq 1301 or equiv, 3308 or Psy 1005, 3331 or 5331)

Processes and functions of interactions with parents and peers; analysis of theory and research on developmental changes and influences.

**5341. PERCEPTUAL DEVELOPMENT.** (4 cr; prereq 1301, 3308 or Psy 1005 or #)

Perceptual learning and the development of sensory and perceptual processes.

**5343. COGNITIVE DEVELOPMENT.** (4 cr; prereq 1301, 3308 or Psy 1005 or #)

Development of cognitive processes; discussion of relevant theory, research literature, and methodology.

**5345. LANGUAGE DEVELOPMENT.** (4 cr; prereq 1301, 3308 or Psy 1005 or #)

Development of structure and function of language; factors influencing development; methodological problems, language scales, theories.

**5349. CHILDREN'S LEARNING AND INTELLECTUAL SKILLS.** (4 cr, §3347; prereq 1301, 3343 or #)

Current research on learning, problem solving, intellectual performance in children; practical applications.

## Course Descriptions

**5970. DIRECTED STUDY IN CHILD PSYCHOLOGY.** (Cr ar; prereq #)  
Independent reading.

**5990. DIRECTED RESEARCH IN CHILD PSYCHOLOGY.** (Cr ar; prereq #)  
Individual empirical investigation.

### For Graduate Students Only

(For description, see *Graduate School Bulletin*)

**8304. RESEARCH METHODS IN CHILD PSYCHOLOGY**

**8310. SEMINAR: HISTORY OF CHILD DEVELOPMENT**

**8320. SEMINAR: CURRENT ISSUES IN TEACHING DEVELOPMENTAL PSYCHOLOGY**

**8325. DEVELOPMENTAL NEUROPSYCHOBIOLOGY**

**8327. ETHOLOGY OF CHILD BEHAVIOR**

**8329. GENETICS AND DEVELOPMENT**

**8333. ADVANCED SOCIAL DEVELOPMENT I**

**8334. CHILD DEVELOPMENT, SOCIAL POLICY, AND LEGAL VIEWS**

**8341. ADVANCED PERCEPTUAL DEVELOPMENT**

**8343. ADVANCED COGNITIVE DEVELOPMENT I**

**8345. ADVANCED LANGUAGE DEVELOPMENT**

**8347. ADVANCED COGNITIVE DEVELOPMENT II**

**8360. SEMINAR: DEVELOPMENTAL PSYCHOLOGY**

**8605. DEVELOPMENTAL PSYCHOPATHOLOGY**

**8606. NEW APPROACHES TO PSYCHOPATHOLOGY IN CHILDREN AND ADOLESCENTS**

**8970. INDEPENDENT STUDY**

**8990. RESEARCH PROBLEMS**

## Curriculum and Instruction

### Art Education (ArEd)

**3000. ART OF CHILDREN.** (3 cr)  
Children's artistic development from infancy through adolescence; theoretical explanations of child art; implications for general learning.

**3001. SURVEY OF ART ACTIVITIES.** (4 cr; not open to art educ majors)  
Introduction to pictorial expression, design, and the function of art in the social environment.

**3020. CONTEMPORARY CRAFTS.** (4 cr)  
Materials, equipment, design criteria, and techniques for textile, wood, metal, and ceramics.

**3110. CURRICULUM DEVELOPMENT IN ART.** (3 cr; prereq educ student)  
Rationales and methods for development and evaluation.

**3120. NEWER MEDIA IN ART CURRICULUM.** (3 cr; prereq 3110)  
Development of art curriculum and support materials with emphasis on photography, filmmaking, video and sound production.

**3130. COMMUNITY AND SCHOOL RESOURCES IN ART CURRICULUM.** (3 cr; prereq 3110)  
Methods for using school and community resources.

**3200. FIELD EXPERIENCES IN ART EDUCATION.** (3-9 cr; prereq educ student)  
Art education experiences in the school and community.

**3309. INDEPENDENT STUDY.** (1-4 cr [max 4 cr]; prereq #)  
Individual exploration and study of basic types of art expression with the opportunity for in-depth professional research and creative involvement in one area of interest.

**3600. STUDENT TEACHING AND SUPERVISION OF ART.** (3, 6, or 12 cr; prereq 3120, 3130, sr in art educ, SeEd 3150, Elem 3101; ¶3610)  
Observations, participation, supervisory experiences with various types and levels of art classes.

**3610. TEACHING ART IN THE SCHOOLS.** (3 cr; prereq ¶3600)  
Methods and media for teaching art in elementary and secondary schools.

**3800. CURRENT TRENDS IN ART EDUCATION.** (3 cr; prereq 3120, 3130)  
Issues and trends, current practices, recent research.

**5001. ART MEDIA TECHNIQUES.** (1-12 cr [max 12 cr])  
Lectures, demonstrations, discussions, critique sessions exploring and learning various techniques and processes in creativity; handling specific media. Each offering focuses on a single topic.

**5020. ADVANCED CONTEMPORARY CRAFTS.** (4 cr; prereq 3020 or #)  
In-depth experiences in a variety of craft techniques, including ceramics, fibers, jewelry, and metal design with emphasis on design analysis, understanding of materials, and mastery of processes.

**5201. INTRODUCTION TO ART THERAPY.** (3 cr)  
Examination of the history and current conceptions of art therapy.

**5302. CURRICULUM INNOVATIONS IN ART EDUCATION.** (4 cr)  
Study and analysis of innovations, evaluation of materials for teaching units and projects.

**5303. ART PROGRAMS FOR EXCEPTIONAL LEARNERS.** (4 cr)  
Development and evaluation of art teaching units and projects for learners of all ages.

**5308. THEORY AND PRACTICE OF TEACHING ART IN ELEMENTARY SCHOOLS.** (4 cr)

Study of art concepts, skills, and processes appropriate for elementary school; methods of art instruction, and children's production of and responses to art.

**5310. HISTORY OF AMERICAN ART EDUCATION.** (3 cr)

Development of art as subject matter in curriculum; relation to traditions in art and in schooling; comparison of change within social, political, and economic contexts.

**5316. INTERCULTURAL EDUCATION THROUGH ART.** (3 cr)

Approaches to international understanding through recognition of aesthetic contributions of diverse peoples to American life.

**5318. ART EDUCATION IN EUROPE.** (3 cr)

Current practices, problems, and achievements in art education in Western Europe compared with practices in American art education.

**5386. IMPROVING ART PROGRAMS IN THE SCHOOLS.** (4 cr; prereq tchg exper or #)

Critical examination of present art programs in the schools.

**5389. APPLICATION OF AESTHETIC THEORY IN EDUCATION.** (3 cr)

Contemporary theories of art; their psychological and philosophical foundations. Open to teachers, supervisors, and administrators concerned with art in general education at all levels.

**5600. INTERNSHIP.** (3-9 cr; prereq #)

Professional assignment for degree candidates under joint supervision of departments and cooperating agency.

**5605. PRACTICUM.** (3-9 cr; prereq #)

Independent project under direction; gathering data, developing proposals, experimenting with evaluating innovative practices.

**5900. PROFESSIONAL PROBLEMS.** (3 cr; prereq MED student, #)

Independent study for M.Ed. candidates integrating learning from art education, art, and education.

**For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

**8300. RESEARCH IN ART EDUCATION**

**8306. SEMINAR: ART EDUCATION**

**8900. PROBLEMS: ART EDUCATION**

**Curriculum and Instructional Systems (CISy)**

**5000. INTRODUCTION TO INSTRUCTIONAL SYSTEMS.** (1 cr)

Introduction to major theories and areas of research relevant to instructional design.

**5003. INTRODUCTION TO COMPUTERS AND THEIR USES.** (1 cr)

Introduction to computer technology in instruction: hardware, software, terminology, word processing, and instructional applications. Intended for students with no background in computing.

**5004. INTRODUCTION TO INTERACTIVE VIDEO INSTRUCTION.** (1 cr)

Introduction to the use of videodiscs and related technologies; hardware, software, terminology, and applications in instruction.

**5006. INTRODUCTION TO INSTRUCTIONAL COMPUTER PROGRAMMING.** (3 cr; prereq 5003 or #)

Introduction to designing computer-based instructional programs through programming. Students need not have a mathematics or science background.

**5080. INTRODUCTORY EDUCATIONAL TECHNOLOGY METHODS.** (1-6 cr; no more than 3 cr may be applied to CISy or MA or PhD program)

Introduction to educational technology (hardware and software) systems. Techniques for evaluating and selecting hardware and software to meet instructional needs. Strategies and techniques for integrating educational technology to meet curricular goals and objectives.

**5100. CURRICULUM AND INSTRUCTIONAL SYSTEMS WORKSHOP.** (1-3 cr [max 9 cr])

Special topics courses in the design, development, implementation, and evaluation of curricular and instructional systems.

**5201. SYSTEMS APPROACH TO DESIGN OF INSTRUCTION.** (3 cr; prereq 5000 or #)

Instructional materials design in accordance with systems principles, including design of a specific unit of courseware.

**5205. COMPUTER-BASED INSTRUCTION: INTRODUCTION TO DESIGN.** (3 cr; prereq 5006 or #)

Examination of computer uses in education and training; models for designing computer-based instruction with particular emphasis on interface design.

**5206. MICROCOMPUTER USES IN ELEMENTARY CLASSROOMS.** (3 cr, §Elem 5140)

Use of microcomputers to enhance instruction; applications in language arts, mathematics, science, social studies; evaluation of available programs.

**5207. INTERACTIVE VIDEO INSTRUCTION.** (4 cr; prereq 5004 and 5201 or 5205 or 5209 or #)

Videodiscs and related technologies; design and development of interactive instruction.

**5208. COMPUTER-BASED TOOLS FOR TEACHERS.** (3 cr; prereq 5003 or 5206 or #)

The use of microcomputers for instructional material generation, record keeping, and classroom management tasks in K-12 classrooms.

## Course Descriptions

### **5209. PRINCIPLES AND PROCEDURES IN DESIGNING INSTRUCTION.** (4 cr; prereq 5000)

Major models of instructional development; generic components; design models; review of instructional design and learning environments.

### **5212. COMPUTER-BASED INSTRUCTION: DESIGN AND DEVELOPMENT.** (3 cr; prereq 5205 or #)

Design and development of a computer-based instruction package, including documentation and support materials.

### **5216. COMPUTER-BASED INSTRUCTIONAL SIMULATIONS.** (3 cr; prereq 5212 or #)

Design, implementation, and evaluation of instructional computer-based simulations.

### **5218. COMPUTER-BASED INSTRUCTIONAL GAMES.** (3 cr; prereq 5212 or #)

Design, implementation, and evaluation of instructional computer-based games.

### **5509. DIRECTED INDIVIDUAL STUDY.** (1-6 cr [max 6 cr]; prereq #)

Review of literature in research and theory of instructional systems.

### **5600. INTRODUCTION TO CURRICULUM SYSTEMS.** (3 cr)

Exploration of principles of curriculum design, forces influencing goals and curriculum planning, curricular trends and issues, traditional and emergent curriculum designs, current proposals for change, and a model for curriculum planning.

### **5605. PRINCIPLES AND PROCEDURES IN DESIGNING CURRICULUM.** (3 cr)

Systematic curriculum planning; development of models for planning, formulation of plans, and outlining a curriculum design for an educational setting.

### **5700. CURRICULUM PLANNING PROCESSES.** (4 cr; prereq 5600 or 5605 or Elem 5100)

Analyzing models for planning; designing a curriculum system; employing the system to produce plans to develop curriculum.

### **5800. SUPERVISION OF SECONDARY AND POSTSECONDARY INSTRUCTION.** (3 cr; prereq 5600)

Achievement of appropriate teaching expectations focusing on problems of personnel responsible for their improvement.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8100. CURRICULUM AND INSTRUCTION CORE: CURRICULUM**

### **8102. CURRICULUM AND INSTRUCTION CORE: TEACHING**

### **8305. INSTRUCTIONAL DELIVERY SYSTEMS**

### **8307. DESIGNING INSTRUCTIONAL MATERIALS: RESEARCH AND THEORY**

### **8411. ADVANCED DESIGNS IN COURSEWARE: COMPUTER**

### **8412. ADVANCED DESIGNS IN COURSEWARE: VIDEO**

### **8416. CURRICULUM AND INSTRUCTIONAL SYSTEMS SEMINAR**

### **8501. PROBLEMS: CURRICULUM AND INSTRUCTIONAL SYSTEMS**

### **8600. SEMINAR: CURRICULUM IMPLEMENTATION AND CHANGE**

### **8610. CURRICULUM LEADERSHIP**

### **8620. THE DOMAIN OF CURRICULUM THEORY AND RESEARCH: ALTERNATIVE PARADIGMS AND RESEARCH METHODS**

### **8700. CURRICULUM AND INSTRUCTIONAL SYSTEMS FIELD EXPERIENCE**

### **8800. PROBLEMS: SECONDARY SCHOOL SUPERVISION**

## **Education: Adult and Teacher (AdEd)**

### **5103. ADULT EDUCATION WORKSHOP.** (1-12 cr [max 12 cr], §Educ 5103; prereq practicing adult educator or #)

Study of topic appropriate to the activities and interests of the participants.

### **5104. SURVEY OF ADULT EDUCATION.** (3 cr, §Educ 5104; prereq sr)

General concepts in the field; literature, objectives, history, philosophy, research, institutions, issues and problems.

### **5110. THE STATUS AND ROLE OF WOMEN IN AMERICAN SOCIETY.** (4 cr, §Educ 5110)

The role of women in American history; perceptions of women in literature and art; attention to women in social studies curricula; human sexuality; male and female character—nature and/or nurture; choices of family and career.

### **5191. THEMATIC INSTRUCTION FOR MIDDLE SCHOOLS.** (2 cr, §Elem 5191, §SeEd 5291)

Logical and contextual relationships among mathematics, science, and social studies as taught in middle schools.

### **5201. INTRODUCTION TO THE UNDEREDUCATED ADULT.** (3 cr, §Educ 5201)

Issues in literacy education, characteristics, problems, individual differences of the undereducated adult learner; traditional and innovative approaches for working with adults in literacy programs.

### **5202. ADULT LITERACY: DIAGNOSIS AND PRESCRIPTION.** (3 cr, §Educ 5202; prereq #)

Application of diagnostic information, instruments, and techniques to learning difficulties of adults in reading and mathematics programs.

**5203. ADULT LITERACY: METHODS AND MATERIALS.** (3 cr, §Educ 5203; prereq Elem 5331 or #)

Teaching literacy skills to adults: basic theories, approaches, overview of methods and materials for implementation.

**5204. READING IN WORK SETTINGS.** (3 cr, §VoEd 5204, §Educ 5204)

Overview of concepts involved in integrating reading instruction into vocational training programs and work settings: diagnosis and methods of assessing needs of vocational students and workers on a job; techniques for building needs into training programs.

**5205. FIELD EXPERIENCE IN ADULT EDUCATION.** (4-8 cr [max 8 cr], §Educ 5205; prereq #)

Supervised fieldwork practice and seminars; presentations and evaluations of adult education practice.

**5301. DESIGNING THE ADULT EDUCATION PROGRAM.** (3 cr, §Educ 5301)

Designing and implementing educational programs for adults: concepts, theories, determining needs, educational objectives, learning experiences, and evaluating outcomes.

**5401. ADULT LEARNING AND DEVELOPMENT THROUGH THE LIFE SPAN.** (3 cr, §Educ 5401)

Physiological, social, and cultural bases of adult behavior; motivation, socialization, personality change as applied to education of adults.

**5411. STRATEGIES FOR TEACHING ADULTS.** (3 cr, §Educ 5411)

Identification, classification, and analysis of techniques used in teaching adults.

**5440. MULTIDISCIPLINARY PERSPECTIVES ON AGING.** (4 cr, §Educ 5440, §CPsy 5305, §HSU 5009, §PA 5514, §SW 5024, §SAHP 5009, §Soc 5960)

Multidisciplinary introduction to aging and the aging process.

**5501. CONTINUING EDUCATION AND THE PROFESSIONS.** (3 cr, §Educ 5501)

Review of literature; analysis of philosophies, issues, and trends; emphasis on integrating personal growth, professional needs, and statutory requirements in continuing education programs.

**5603. INTERNATIONAL EDUCATION AND DEVELOPMENT.** (3 cr, §Educ 5603)

Contemporary theories relating formal and nonformal education to national development in social, cultural, political, and economic sectors; alternative conceptualizations and theoretical perspectives on education and development.

**5605. RESEARCH TOPICS: INTERNATIONAL DEVELOPMENT EDUCATION.** (3 cr, §Educ 5605)

Empirical research conducted in developing societies relating formal and nonformal education to national development in social, cultural, political, and economic sectors.

**5607. APPLIED INTERNATIONAL DEVELOPMENT EDUCATION.** (3 cr, §Educ 5607)

Educational innovations designed to promote national development in selected developing nations; educational case studies in the context of such objectives; conceptualizations of the role of education in development, outcomes.

**5901. INTRODUCTION TO COMMUNITY EDUCATION.** (3 cr, §Educ 5901)

Exploration and investigation of school, park, and recreation joint and individual programs, and relationship to community education; introduction to administration of such programs.

**For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

**8100. RESEARCH IN ADULT EDUCATION****8284. PROBLEMS: TEACHER EDUCATION****8286. PROFESSIONAL EDUCATION OF TEACHERS****8302. PROBLEMS: ADULT EDUCATION****8603. SEMINAR: INTERNATIONAL DEVELOPMENT EDUCATION****8605. PROBLEMS: INTERNATIONAL EDUCATION RESEARCH****Elementary Education (Elem)****3300. CHILDREN'S LITERATURE.** (3 cr)

Materials for children's reading in the elementary school program.

**3316. TEACHING ENGLISH IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3100, 3101, Engl 3851)

Development of language power in elementary school in relation to all activities of the school day.

**3331. TEACHING READING IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3100, 3101)

Emphasis on comprehensive elementary school program; reading readiness, word recognition techniques, development of basic study skills, word meanings, comprehension abilities, and interest and taste in reading.

**3346. TEACHING SCIENCE IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3100, 3101, 10 cr in natural science)

Objectives, content, materials, philosophy, and methods of instruction and evaluation; practical applications.

**3361. TEACHING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3100, 3101)

Content and philosophy of the social studies program; methods of instruction and problems.

**3376. NURSERY SCHOOL-KINDERGARTEN CURRICULUM I.** (3 cr; prereq 3100)

Objectives of the kindergarten; use of literature; appropriate creative activities in the areas of art, dramatics, music; planning of learning activities.

## Course Descriptions

### **3378. SOCIAL LEARNING IN EARLY CHILDHOOD EDUCATION.** (3 cr; prereq CPsy 1301 or 5301)

Theoretical bases of social and physical development and implications and applications to curriculum planning for young children.

### **3379. COGNITIVE AND CREATIVE LEARNING IN EARLY CHILDHOOD EDUCATION.** (3 cr; prereq CPsy 1301 or 5301)

Developmental approach to planning cognitive, language, and creative curriculum.

### **3391. TEACHING MATHEMATICS IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3100, 3101, Math 1005, 1006)

Principles of learning pertinent to the modern program of mathematics in primary and elementary grades; objectives, content, philosophy, instructional materials, and methods of instruction and evaluation.

### **3600. STUDENT TEACHING IN THE ELEMENTARY SCHOOL: HALF-DAY.** (6 cr; prereq 12 cr methods, Δ)

Five half-days a week of supervised teaching and observing in elementary school.

### **3603. STUDENT TEACHING IN THE KINDERGARTEN.** (6 cr; prereq 6 cr elem student tchg, Δ)

Five half-days each week in supervised teaching and observation in public or private schools.

### **3604. STUDENT TEACHING IN THE NURSERY SCHOOL.** (3-6 cr; prereq approval of major adviser and director of student tchg)

Three to five half-days each week in supervised teaching in the nursery school.

### **3607. STUDENT TEACHING IN ELEMENTARY SCHOOL: FULL DAYS.** (12 cr; prereq 18 cr methods, Δ)

Five full days each week teaching and observing in elementary school.

### **3610. PRE-FALL STUDENT TEACHING: FULL DAYS.** (3 cr; prereq 9 cr methods, Δ)

Observing and teaching during the beginning of the school year; begins with fall semester opening of public schools and continues until University classes begin.

### **3621. JUNIOR PRACTICUM IN ELEMENTARY EDUCATION.** (1 or 2 cr [max 6 cr]; prereq elem educ major)

Supervised observation and participation in classroom and related school activities; a pre-student teacher exploratory experience.

### **3900. DIRECTED STUDY.** (1-3 cr [max 6 cr]; prereq elem major, Δ)

Analysis of specific instruction; curricular, organizational, and operational situations or problems in elementary education.

### **5000. INTRODUCTION TO ELEMENTARY SCHOOL TEACHING.** (3 cr, §3101, ¶5211; prereq elem educ major or CLA music educ major or □)

Introduction to the elementary school; curriculum, organization, instruction, management, and professional decision making.

### **5100. ELEMENTARY SCHOOL CURRICULUM.** (3 cr; prereq 3101)

Selection and organization of subject matter for courses; methods, problems, and findings of research by subjects.

### **5101. WORKSHOP: PROGRAMS AND PROCEDURES OF CURRICULUM DEVELOPMENT.**

(1-3 cr; prereq elem tchg exper, #)

Leadership in procedures; operational processes; major considerations in planning and organizing; interpersonal relationships, and evaluation of improvement programs.

### **5102. PREPARATION OF CURRICULUM MATERIALS.** (3 cr; prereq 5100 or SeEd 5113 or CISy 5600)

Selecting and organizing units, courses of study, and curriculum guides and writing materials, individually and in groups.

### **5107. DIAGNOSIS AND TREATMENT OF LEARNING DIFFICULTIES.** (3 cr)

Diagnosis of pupil difficulty; development and prevention; tests as aids to teaching; following up a testing program, socioemotional problems associated with learning difficulties.

### **5108. SUPERVISION AND IMPROVEMENT OF INSTRUCTION.** (3 cr; prereq 9 cr in education)

Functions and duties of a supervisor; techniques; analysis of classroom activities.

### **5109. SUPERVISORY STRATEGIES IN PLANNING, OBSERVING, CONFERENCING.** (3 cr; prereq #)

Overview of the responsibilities of the supervising teacher; material development and practice in basic supervisory skills and functions.

### **5140. MICROCOMPUTER USES IN ELEMENTARY CLASSROOMS.** (3 cr, §CISy 5206)

Use of microcomputers to enhance instruction; applications in language arts, mathematics, science, social studies; evaluation of available programs.

### **5141. USING LOGO IN THE CLASSROOM.** (3 cr, §MthE 5173; prereq CISy 5003 or equiv)

Using LOGO in the elementary and middle grades to develop skills in thinking, planning, and logic; applying fundamental mechanics and philosophy of LOGO using turtle graphics; developing classroom materials.

### **5145. CLASSROOM MANAGEMENT.** (3 cr, §SeEd 5145; prereq tchg or admin exper or #)

For teachers, administrators, and support staff working in elementary school programs: focus on management of student behavior, of instruction as it relates to student behavior, and of teacher organizational tasks in the classroom.

### **5164. GLOBAL EDUCATION: CONTENT AND PROCESS.** (3 cr, §SeEd 5164)

Designed to help classroom teachers and administrators assess current methods and materials and select appropriate evaluation instruments by examination of existing content and methods in global education.

**5191. THEMATIC INSTRUCTION FOR MIDDLE SCHOOLS.** (2 cr, §AdEd 5191, §Educ 5191, §SeEd 5291)

Logical and contextual relationships among mathematics, science, and social studies as taught in middle schools.

**5210. SURVEY OF CHILDREN'S LITERATURE.** (3 cr; prereq educ student or #)

Techniques of and materials for teaching with children's literature in the elementary school.

**5211. APPLYING INSTRUCTIONAL METHODS.** (2 cr each offering [max 4 cr])

Supervised experience in elementary school classrooms.

**5212. CLINICAL EXPERIENCE IN ELEMENTARY SCHOOL TEACHING.** (12 cr)

Supervised classroom teaching in an elementary school.

**5213. TEACHING HEALTH IN THE ELEMENTARY SCHOOLS.** (1 cr; prereq elem postbac student or #)

Techniques of and materials for teaching health at the elementary level.

**5225. THE MULTICULTURAL GENDER-FAIR CURRICULUM.** (4 cr, §SeEd 5225)

Planning for development and implementation of a multicultural and gender-fair perspective in elementary and secondary classrooms. Developing individual teacher goals, exploring professional issues, and acquiring resources and teaching strategies for successfully exploring new perspectives.

**5227. TEACHING ABOUT THE NEWSPAPER IN THE CLASSROOM.** (1-3 cr [max 4 cr], §SeEd 5227)

Institution of the newspaper; useful instruction strategies, curriculum development techniques, and teaching materials.

**5300. LITERATURE FOR THE ELEMENTARY SCHOOL.** (3 cr)

Evaluative survey of books for children; research related to children's reading interests; selection of literature.

**5305. SURVEY OF SPECIAL COLLECTIONS IN CHILDREN'S LITERATURE.** (3 cr; prereq 5300 or #)

Content and accessibility of collections that relate to the creation of books; emphasis on possibilities and methods for interpreting the content of the collections to children.

**5315. TEACHING COMPOSITION IN THE ELEMENTARY SCHOOL.** (3 cr; prereq postbac or MEd or grad student)

Theory and research dealing with the writing process and application to development of an elementary school writing curriculum.

**5316. TEACHING AND SUPERVISION OF ENGLISH IN THE ELEMENTARY SCHOOLS.** (3 cr; prereq 3316 or elem tchg exper)

Improvement of instruction, study of trends in English education.

**5318. CREATIVE WRITING FOR AND BY CHILDREN.** (3 cr [max 6 cr]; prereq 3300 or 3316 or elem tchg exper or #)

Language arts in the elementary school for experienced teachers, supervisors, graduate students, and college instructors; emphasis on creative aspects of the writing of children's literature and the children's own writing.

**5319. TEACHING SECOND LANGUAGES AND CULTURES IN ELEMENTARY SCHOOLS.** (3 cr)

Methods and materials: development of oral and written communication; consideration of alternatives in program format; preparation of materials; global awareness and cross-cultural experience; assessment of children's language; children's literature, games, songs; development of units and lessons.

**5320. PRACTICUM: TEACHING SECOND LANGUAGES AND CULTURES IN ELEMENTARY SCHOOLS.** (3 cr; prereq 5319 or ¶5319, #)

Minimum of three hours weekly of supervised teaching and observation in elementary schools.

**5331. TEACHING AND SUPERVISION OF READING IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 9 cr in educ)

Objectives, materials, and teaching procedures; current practices and curricula; class and individual projects.

**5334. READING DIFFICULTIES.** (3 cr; prereq 5331 or SeEd 5344)

Causes, prevention, and correction; remedial practices useful to the classroom teacher, school counselor, and reading specialist.

**5335. CLINICAL DIAGNOSIS OF READING DIFFICULTIES.** (3 cr; prereq 5334)

Relationship to psychological factors and clinical remedial correction.

**5336. CLINICAL PRACTICE IN REMEDIAL TEACHING.** (3 cr; prereq 5334 or 5107, #)

Remedial tutoring of individual children who have difficulty in school learning.

**5337. BEGINNING READING INSTRUCTION.** (3 cr; prereq 3331 or elem tchg exper or #)

For teachers and specialists interested in initial teaching procedures; compares alternative methods of beginning instruction; emphasis on readiness programs, test-grouping patterns, language factors, and intensive instruction procedures to prevent reading failure.

**5338. TEACHING READING IN THE INTERMEDIATE GRADES.** (3 cr; prereq 3331 or elem tchg exper or #)

For teachers and specialists interested in problems of teaching reading beyond the decoding stage; emphasis on comprehension strategies, basic study skills, reading in the content areas, and using literature in the reading program.

**5339. WORKSHOP: CURRICULUM IMPLEMENTATION IN ELEMENTARY SCHOOL READING.** (1-9 cr [max 9 cr]; prereq elem tchg exper or #)

Analysis of new instructional materials, techniques, recent trends, and innovations in elementary reading instruction.

## Course Descriptions

### **5346. TEACHING SCIENCE IN THE ELEMENTARY SCHOOL.** (3 cr; prereq elementary tchg exper or #)

Materials, resources, and methods of teaching science at the elementary level.

### **5347. WORKSHOP: CURRICULUM IMPLEMENTATION IN ELEMENTARY SCHOOL SCIENCE.**

(1-3 cr [max 12 cr]; prereq elem tchg exper)  
Offered in summers with focus on a single program for each offering: treating concept foundations, goals, and teaching and evaluation procedures.

### **5348. WORKSHOP: OUTDOOR SCIENCE EDUCATION.** (3 cr; prereq elem tchg exper)

Classroom and fieldwork activities dealing with models, materials, and methods in the outdoor setting; consideration of broad topics such as ecological relationships, cyclic processes, and change as well as more specific topics such as rocks and minerals, plants and animals, and stargazing.

### **5349. ELEMENTARY SCHOOL SCIENCE: CURRICULUM AND SUPERVISION.** (3 cr)

Program foundations including elements from philosophy, psychology, the science disciplines; design of in-school curriculum improvement models; program evaluation; pupil reporting procedures.

### **5350. ELEMENTARY SCHOOL SCIENCE: MATERIALS AND RESOURCES.** (3 cr)

Experiences in the use of educational materials and media common to the teaching of modern elementary school science.

### **5352. TEACHING GEOLOGY IN ELEMENTARY SCHOOLS.** (3 cr; prereq admission to educ grad program or #)

Methods of teaching geology in the elementary school, including hands-on activities, demonstrations, audiovisuals, and field trips.

### **5361. TEACHING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL.** (3 cr; prereq 3101 or equiv)

Content and organization of social studies programs; programs of understanding, improving the learning situation, and effective use of materials.

### **5363. WORKSHOP: CURRICULUM IMPLEMENTATION IN ELEMENTARY SCHOOL SOCIAL STUDIES.** (Cr ar [max 9 cr]; prereq elem tchg exper, #)

Analysis of new instructional materials and recent curriculum developments in the field; training in innovative instructional procedures.

### **5376. CURRENT TRENDS IN EARLY CHILDHOOD EDUCATION.** (3 cr; prereq tchg exper in kindergarten or primary or #)

Continuing needs of children in our changing culture; current practices and recent research.

### **5377. EARLY CHILDHOOD EDUCATION: MATERIALS AND RESOURCES.** (3 cr; prereq 3377 or 5376, tchg exper)

Experience in the selection and use of commercial and teacher-made educational materials and media common to early childhood education programs.

### **5378. CONTEMPORARY PROGRAMS FOR YOUNG CHILDREN.** (1-3 cr [max 3 cr]; prereq MEd student in early childhood educ)

Child growth and development aspects of preschool children in light of need for curriculum intervention programs; current trends, program evaluation, recent research.

### **5602. PRACTICUM: IMPROVEMENT OF TEACHING.** (3 cr; prereq MEd student in elem educ)

Elementary school classroom teaching project designed to improve specific teaching skills, planned by student and approved and directed by student's adviser as part of M.Ed. program.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8300. RESEARCH IN SPECIAL COLLECTIONS OF CHILDREN'S LITERATURE**

### **8316. RESEARCH IN ENGLISH COMPOSITION IN ELEMENTARY SCHOOLS**

### **8317. RESEARCH IN SKILL DEVELOPMENT IN SPELLING, HANDWRITING, AND LISTENING**

### **8331. RESEARCH FOUNDATIONS FOR READING INSTRUCTION**

### **8332. RECENT RESEARCH IN READING**

### **8333. SEMINAR: READING RESEARCH AND INSTRUCTION**

### **8346. RESEARCH FOUNDATIONS OF ELEMENTARY SCHOOL SCIENCE TEACHING**

### **8347. THE ELEMENTARY SCHOOL SCIENCE PROGRAM: ARTICULATION AND COORDINATION**

### **8363. SEMINAR: ELEMENTARY SOCIAL STUDIES EDUCATION**

### **8916. PROBLEMS: TEACHING ENGLISH**

### **8931. PROBLEMS: TEACHING READING**

### **8961. PROBLEMS: TEACHING SOCIAL STUDIES**

### **8976. PROBLEMS: TEACHING KINDERGARTEN**

### **8991. PROBLEMS: IMPROVEMENT OF INSTRUCTION**

## **Mathematics Education (MthE)**

**5000. SURVEY OF K-12 MATHEMATICS CURRICULA.** (1 cr; prereq math educ student or #; ¶5600 required; does not apply to MEd or grad programs)  
Introduction to goals, content, materials, philosophy, and instructional methods of the mathematics programs.

**5010. TEACHING MATHEMATICS: ARITHMETIC STRUCTURES.** (6 cr, §5081; prereq 5000, math educ student or #; ¶5610 required; does not apply to MEd or grad programs)  
Pedagogy, content, and instructional strategies for teaching arithmetic. Content and issues relevant to the K-8 mathematics curriculum. Instructional materials and technology appropriate for secondary school arithmetic.

**5020. TEACHING MATHEMATICS: ALGEBRAIC STRUCTURES.** (6 cr, §5082; prereq 5010, 5610, math educ student or #; §5620 required; does not apply to MEd or grad programs)

Pedagogy, content, and instructional strategies for teaching algebra. Content and issues relevant to the algebra curriculum. Instructional materials and technology appropriate for algebra.

**5030. TEACHING MATHEMATICS: GEOMETRIC STRUCTURES.** (6 cr, §5083; prereq 5020, 5620, math educ student or #; §5630 required; does not apply to MEd or grad programs)

Pedagogy, content, and instructional strategies for teaching geometry. Content and issues relevant to the geometry curriculum. Instructional materials and technology appropriate for geometry.

**5040. TEACHING MATHEMATICS: ADVANCED TOPICS.** (6 cr; prereq 5030, 5630, math educ student or #; may be applied to MEd or grad programs)

Pedagogy, content, and instructional strategies for teaching advanced topics: trigonometry, analysis, calculus, probability, statistics, discrete mathematics. Content and issues relevant to the advanced mathematics curriculum. Instructional materials and technology appropriate for advanced mathematics.

**5081. TEACHING SECONDARY SCHOOL**

**ARITHMETIC.** (3 cr; prereq math educ major or minor, Math 5081 or §5081 or #)

Survey of concepts, principles, and processes of the secondary school pre-algebra curriculum; learning difficulties, teaching strategies and alternatives; mathematical foundations of pre-algebra topics.

**5082. TEACHING ALGEBRA.** (3 cr; prereq math educ major or minor, Math 5082 or §5082 or #)

Survey of concepts, principles, and processes of the secondary school algebra curriculum; learning difficulties, teaching strategies and alternatives; mathematical foundations of algebra topics.

**5083. TEACHING GEOMETRY.** (3 cr; prereq math educ major or minor, Math 5083 or §5083 or #)

Survey of concepts, principles, and processes of the secondary school geometry curriculum; learning difficulties, teaching strategies and alternatives; mathematical foundations of geometry topics.

**5101. WORKSHOP: ELEMENTARY SCHOOL MATHEMATICS.** (1-12 cr [max 12 cr]; not open to math educ majors)

Modern trends, methods, and materials used to convey mathematical ideas.

**5102. WORKSHOP: MATHEMATICS EDUCATION.** (1-12 cr [max 12 cr])

Issues, materials, and instructional techniques focusing on a single current topic of particular relevance to secondary school and college mathematics teachers.

**5150. TOPICS IN RECREATIONAL MATHEMATICS.** (3 cr; prereq educ or grad student or #)

Survey including magic squares; palindromes, repunits, repdigits from number theory; geometric dissections, topological recreations, cryptarithms; uses as problem solving modes in mathematical classrooms.

**5151. CALCULATOR USE IN THE ELEMENTARY AND MIDDLE SCHOOL.** (1-3 cr [max 3 cr]; prereq educ or grad student or #)

Structure and function of handheld calculators. Materials and instructional techniques for integrating calculators into daily lessons; evaluating commercial materials; examining research on the use of the calculator in instructional settings.

**5152. GEOMETRY FOR PRIMARY GRADES.**

(1-3 cr [max 3 cr]; prereq educ or grad student or #)

Geometric content and pedagogy for primary grades. Levels of geometric thought, formation of spatial abilities; early childhood concepts from topology, transformational geometry, Euclidean geometry, and applications; dimensional models, construction, planal tessellations.

**5153. GEOMETRY IN THE INTERMEDIATE**

**GRADES.** (1-3 cr [max 3 cr]; prereq educ or grad student or #)

Instructional approaches and physical materials related to teaching informal and intuitive geometric concepts in the intermediate and middle school grades. Fundamental concepts of measurement and geometric relationships in one, two, and three dimensions; measurement systems; estimation; geometric figures and their properties; transformations and symmetry; congruence and similarity.

**5155. RATIONAL NUMBER CONCEPTS AND PROPORTIONALITY.** (1-3 [max 3 cr]; prereq educ or grad student or #)

Relationships between the role of rational number concepts and the development of proportional reasoning skills. Psychological, instructional, and pedagogical issues concerned with the development of these conceptual areas.

**5157. PROBABILITY AND STATISTICS IN THE ELEMENTARY SCHOOL.** (1-3 cr [max 3 cr]; prereq educ or grad student or #)

Emerging role of probability and statistics in the elementary school. Principles for systematic observation and techniques for collecting, organizing, representing, and interpreting data.

**5160. DEVELOPING LEADERSHIP IN ELEMENTARY MATHEMATICS.** (1-3 cr [max 3 cr]; prereq educ or grad student or #)

Current developments in the psychology and pedagogy of mathematics education as they relate to the evolving nature of mathematics education objectives. Emerging role of technology in the mathematics curriculum. Effective techniques for developing supervisory abilities.

**5170. TEACHING PROBLEM SOLVING, REASONING, AND PROOF.** (3 cr; math educ or grad student or #)

Fundamental concepts and principles of problem solving, reasoning, and proof. Emphasis on activities and applications appropriate for junior and senior high classes. Pedagogical experiences to prepare teachers to teach problem solving, reasoning, and proof in classrooms.

## Course Descriptions

**5171. TEACHING PROBABILITY AND STATISTICS.** (3 cr; prereq math educ or grad student or #; at least one math course in probability or statistics or combinatorics recommended)

Fundamental concepts and principles of probability. Emphasis on activities and applications appropriate for junior and senior high school classes. Pedagogical experiences to prepare teachers to integrate quantitative literacy accurately and effectively in classrooms.

**5172. HISTORICAL TOPICS IN THE MATHEMATICS CLASSROOM.** (3 cr; prereq math educ or grad student or #)

Historical underpinnings of school mathematics content and methodology. cross-cultural contributions in the development of mathematical ideas; development of lessons, activities, and materials for school use.

**5173. LOGO IN THE MATHEMATICS CLASSROOM.** (3 cr; prereq CIsy 5003 or equiv, math educ or grad student or #)

Using LOGO in the mathematics classroom to develop skills in thinking, planning, and problem solving; LOGO philosophy and the use of microworlds; using advanced features as well as turtle graphics; developing classroom materials.

**5174. INTERACTIONS OF SCIENCE AND MATHEMATICS.** (3 cr, §SeEd 5274; prereq math educ or sci educ student or #)

Unifying concepts and central themes common to mathematics and physical science. Emphasis on developing understanding of fundamental concepts and principles, problem solving in an interdisciplinary environment, and laboratory activities appropriate for junior and senior high school classes.

**5301. INSTRUCTIONAL LEADERSHIP IN ELEMENTARY SCHOOL MATHEMATICS.** (3 cr; prereq #; not open to math educ majors)

Current trends in methods, materials, content, and evaluation; program development and research; intended for supervisors and principals.

**5311. TEACHING AND SUPERVISION OF MATHEMATICS IN THE ELEMENTARY SCHOOL.** (3 cr; prereq Elem 3391 or #)

Present practices and trends in methods, evaluation, and diagnosis; objectives, psychology, and philosophy related to improvement of instruction.

**5312. TEACHING AND SUPERVISION OF MATHEMATICS IN THE SECONDARY SCHOOL.** (3 cr; prereq math tchg exper or #)

Methods, materials, and curriculum development; principles of learning; review of research; preparation and evaluation of tests, units, and materials of instruction.

**5313. TEACHING AND SUPERVISION OF MATHEMATICS IN THE MIDDLE SCHOOL.** (4 cr; prereq elem or sec school licensure)

Mathematics objectives, concepts and principles, skills and processes; instructional alternatives including calculators and microcomputers; applications of mathematics to individual differences; evaluation techniques to improve instruction and learning in middle school.

**5321. MATERIALS LABORATORY FOR ELEMENTARY SCHOOL MATHEMATICS INSTRUCTION.**

(3 cr; prereq 5311 or Elem 3391 or #)  
Printed and programmed materials, audiovisual techniques of using mathematical devices and instruments.

**5322. MATERIALS LABORATORY FOR SECONDARY SCHOOL MATHEMATICS INSTRUCTION.** (3 cr; prereq 5312 or #)

Sources and types of materials; laboratory projects and techniques of using mathematics devices and instruments, visual aids, and community resources.

**5331. CURRENT DEVELOPMENTS IN ELEMENTARY SCHOOL MATHEMATICS INSTRUCTION.** (3 cr; prereq 5311 or #)

Contemporary literature, trends and experimentation with content; criteria for program evaluation.

**5332. CURRENT TRENDS AND ISSUES IN SECONDARY SCHOOL MATHEMATICS INSTRUCTION.** (3 cr; prereq 5312 or #)

Recent developments in mathematics curriculum and instructional alternatives; issues in teaching and learning; providing for special student needs; program planning and evaluation.

**5345. MATHEMATICS FOR GIFTED CHILDREN.** (3 cr; prereq 5311 or Elem 3391 or #)

Curriculum and methods of instruction for academically talented children; development of enrichment units; source material for teachers.

**5355. MATHEMATICS FOR SLOW LEARNING CHILDREN.** (3 cr; prereq 5311 or Elem 3391 or #)

Units of instruction emphasizing mathematical concepts essential for vocational competence; experimental materials and methods designed to improve performance of low achievers.

**5366. TECHNOLOGY-ASSISTED MATHEMATICS INSTRUCTION.** (3 cr; prereq CIsy 5006 or equiv, math educ or grad student or #)

Technology, including computers, programmable and graphing calculators, and video, as instructional tools in mathematics; design and evaluation of technology-based mathematics lessons; the effect of technology on the mathematics curriculum; managing the technology-enriched classroom.

**5540. SEMINAR: TEACHING SECONDARY MATHEMATICS.** (3 cr; prereq 5030, math educ student or #; ¶5640 required; does not apply to MEd or grad programs)

Analysis of half-day student teaching. Development of observational, classroom management, and communication skills. Application of instructional techniques from MthE 5010, 5020, 5030, and 5040.

**5550. SEMINAR: REFLECTIVE TEACHING OF MATHEMATICS.** (3 cr; prereq 5540, 5640, math educ student or #; ¶5650 required; applies to MEd for licensure students only)

Analysis of full-day student teaching. Integration of major theoretical positions with clinical perspectives to clarify the relationship between theory and practice. Application of instructional techniques from previous mathematics education courses.

**5600. INTRODUCTION TO MATHEMATICS EDUCATION.** (1 cr; prereq math educ student or #; ¶5000 required; does not apply to MEd or grad programs)

Supervised observation and participation in classroom and related school activities; a pre-fall exploratory experience.

**5610. CLINICAL EXPERIENCES IN TEACHING ARITHMETIC.** (3 cr; prereq 5600, math educ student or #; ¶5010 required; does not apply to MEd or grad programs)

Observation and participation in arithmetic classes. Supervised microteaching and peer teaching. Development of observational, classroom management, and communication skills. Application of instructional techniques from MthE 5010.

**5620. CLINICAL EXPERIENCES IN TEACHING ALGEBRA.** (3 cr; prereq 5610, math educ student or #; ¶5020 required; does not apply to MEd or grad programs)

Classroom observation integrates clinical observations, microteaching, peer teaching, laboratory activities, and seminar discussions. Emphasis on developing instructional strategies appropriate for teaching algebra.

**5630. CLINICAL EXPERIENCES IN TEACHING GEOMETRY.** (3 cr; prereq 5620, math educ student or #; ¶5030 required; does not apply to MEd or grad programs)

Observation of and participation in geometry classes. Supervised microteaching and peer teaching. Development of observational, classroom management, and communication skills. Application of instructional techniques from MthE 5030.

**5640. HALF-DAY STUDENT TEACHING IN MATHEMATICS.** (6 cr; prereq 5030, 5630, math educ student or #; ¶5540 and enrollment in math educ postbac program required; does not apply to MEd or grad programs)

Student teaching in secondary mathematics classes.

**5650. FULL-DAY STUDENT TEACHING IN MATHEMATICS.** (12 cr; prereq 5540, 5640, math educ student or #; ¶5550 and enrollment in math educ postbac program required)

Student teaching in secondary mathematics classes.

**5680. PRACTICUM IN MATHEMATICS EDUCATION.** (3-9 cr [max 9 cr]; prereq #)

Supervised experience in teaching or related work in school.

**5980. DIRECTED STUDIES IN MATHEMATICS EDUCATION.** (3-9 cr [max 9 cr]; prereq #)

Survey of recent literature; design and preparation of reports on special problems.

### For Graduate Students Only

(For description, see *Graduate School Bulletin*)

**8500. THEORY AND CLASSICAL RESEARCH IN MATHEMATICS EDUCATION**

**8570. RESEARCH IN MATHEMATICS EDUCATION**

**8590. SEMINAR: MATHEMATICS EDUCATION**

**8680. INTERNSHIP: MATHEMATICS EDUCATION**

**8980. PROBLEMS: MATHEMATICS EDUCATION**

### Secondary Education (SeEd)

**3151. DIRECTED STUDY.** (1-9 cr; prereq Δ)

Analysis of specific instructional, curricular, organizational, and operational situations or problems in secondary education.

**3152. PRACTICUM: SECONDARY EDUCATION.**

(1-7 cr [max 7 cr]; prereq educ student, Δ)

Pre-student teaching experience to enable students to develop teacher competencies; supervised observation and participation in classroom and related school activities.

**3348, 3349, 3350. TEACHING SOCIAL STUDIES IN THE SECONDARY SCHOOL.** (3 cr each; prereq social studies major)

**3356. TEACHING SECONDARY SCHOOL**

**SCIENCE.** (2 cr; prereq jr, 5 cr intro psych, ¶3155)

Procedures in selecting and organizing materials and in teaching secondary school science.

**3357. TEACHING SECONDARY SCHOOL**

**SCIENCE.** (4 cr; prereq sci educ major or minor and for majors, 3356, ¶3152)

Procedures in selecting and organizing materials for teaching secondary school science.

**3600. STUDENT TEACHING.** (Cr ar; prereq Δ)

Supervised teaching for students wishing to elect credits in student teaching in addition to regular requirements.

**3621. DIRECTED EXPERIENCES IN TEACHING ENGLISH.** (6-9 cr; prereq 5350, #)

**3631. STUDENT TEACHING IN SECOND LANGUAGES.** (3, 6, 9, or 12 cr; S-N only)

**3641. STUDENT TEACHING IN SOCIAL STUDIES.** (3 to 15 cr [max 15 cr]; prereq 3350, sr)

**3651. STUDENT TEACHING IN SCIENCE.** (1, 3, 6, 9, or 12 cr; prereq sr, 3357, 4 cr in 3152; for minors, 3357, #)

**5122. TEACHING CULTURE: THEORY AND**

**APPLICATION.** (4 cr; prereq postbac or grad student)

Analysis of the concept; related factors and materials for use in the classroom; culture shock; empathy; culture conflict, awareness, learning.

**5145. CLASSROOM MANAGEMENT.** (3 cr, §Elem 5145; prereq sec tchg or admin exper or #)

For teachers, administrators, and support staff working in secondary school programs: focus on management of student behavior, of instruction as it relates to student behavior, and of teacher organizational tasks in the classroom.

## Course Descriptions

### **5150. ADVANCED METHODS OF TEACHING THE SOCIAL STUDIES.** (3 cr)

Advanced methods for social studies teachers; prerequisite to other graduate level courses in social studies education.

### **5151. SCHOOL-BASED PROJECTS IN SOCIAL STUDIES EDUCATION.** (1-12 cr [max 12 cr])

Opportunity to work individually or in teams on curricular, instructional, or evaluation problems within the school.

### **5152. TECHNIQUES OF INSTRUCTION IN SOCIAL STUDIES.** (3 cr)

Analysis of teaching strategies and contemporary curriculum materials in the social studies; techniques of instruction useful in inquiry; strategies of analysis; classroom behavior and evaluation; required of M.A., M.Ed., and Ph.D. candidates.

### **5153. NEW PERSPECTIVES IN THE SOCIAL STUDIES.** (1-3 cr [max 12 cr])

Issues, materials, and instructional techniques related to current topics of particular relevance to social studies teachers.

### **5164. GLOBAL EDUCATION: CONTENT AND PROCESS.** (3 cr, §Elem 5164)

Designed to help classroom teachers and administrators assess current methods and materials and select appropriate evaluation instruments by examination of existing content and methods in global education.

### **5167. ECONOMIC EDUCATION PROGRAMS.**

(1-3 cr; prereq Econ 1002 or equiv)

Conceptual framework of economic education through analyzing its research, objectives, philosophy, scope, and curricular sequence.

### **5175. SECONDARY REMEDIAL READING INSTRUCTION.** (3 cr; prereq 5344 or Elem 5331)

Principles and techniques for developing and conducting programs for secondary students seriously deficient in reading skills.

### **5176. CLASSROOM RESEARCH IN ENGLISH EDUCATION AND READING.** (3 cr)

Review and analysis of current studies; design and analyses for school-based research.

### **5184. COMPUTER COURSEWARE EXAMINATION, DEVELOPMENT, AND OTHER MATERIALS EVALUATION IN SECOND LANGUAGES.**

(4 cr)

Review of computer use in second language learning; evaluation of tools of access based on proficiency concept-grammars, readers; development and use of evaluation criteria and authoring systems to develop sample courseware.

### **5185. SCHOOL- AND PROFESSIONAL-BASED EXPERIENCES IN SECOND LANGUAGES AND CULTURES.** (1-12 cr [max 12 cr]; prereq MEEd students only)

Opportunity for teachers to work together on curricular, instructional, or evaluation problems; internship experiences; participation in professional activities.

### **5186. ALTERNATIVES IN SECOND LANGUAGE EDUCATION.** (3 cr)

Overview of curricula and instruction in various settings: elementary, secondary, open, free, suburban, and center city schools; bilingual programs, colleges, community colleges, universities, and adult programs including teacher preparation.

### **5189. PLANNING AND ASSESSING SECOND LANGUAGE CURRICULUM.** (4 cr)

Development of competencies in curriculum and materials construction; application to lessons, units, modules, courses, levels of instruction in ongoing programs of second language acquisition in schools.

### **5191. WORKSHOP: TEACHING OF SECOND LANGUAGES AND CULTURES.** (1-10 cr [max 10 cr])

Related specifically to the needs of the in-service teacher; topics, location, and duration will be highly flexible.

### **5194. PERSPECTIVES ON ENGLISH STUDIES IN SCHOOLS.** (3 cr)

Nature, development, and future direction; evaluation of the "given-ness" of English studies in the context of widespread ambiguities of tradition, class, and culture.

### **5216. FOUNDATIONS OF BILINGUAL EDUCATION.** (4 cr)

Development of bilingual schooling in the United States: history, social and political impact, implications of congressional and judicial decisions related to language minority populations, current policy as it affects programs serving populations with limited English proficiency.

### **5218. ASSESSMENT OF LEARNERS WITH LIMITED ENGLISH PROFICIENCY.** (4 cr)

Social, political, and educational context. Evaluation vs. research and implications for bilingual schooling, curriculum development, and materials section; existing methods for assessment of language proficiency and academic achievement.

### **5219. READING AND WRITING IN A SECOND LANGUAGE.** (4 cr)

Reading comprehension and composing processes in a second language; relationship between first and second language comprehension and composing processes, reading and writing, and culture and reading comprehension and writing; politics of literacy; assessment of second language literacy.

### **5220. PARENT INVOLVEMENT IN BILINGUAL EDUCATION.** (2 cr)

Nature of parent and community involvement; role of family and community in education of language minority children; actualizing parent potential and participation in classrooms and schools.

### **5225. THE MULTICULTURAL GENDER-FAIR CURRICULUM.** (4 cr, §Elem 5225)

Planning for development and implementation of a multicultural and gender-fair perspective in elementary and secondary classrooms. Developing individual teacher goals, exploring professional issues, and acquiring resources and teaching strategies for successfully exploring new perspectives.

**5227. TEACHING ABOUT THE NEWSPAPER IN THE CLASSROOM.** (1-3 cr [max 4 cr], §Elem 5227)

Institution of the newspaper; articulation of a series of useful instructional strategies, curriculum development techniques, and teaching materials.

**5250. SECONDARY SCHOOL TEACHING.** (3 cr; prereq educ or CLA music educ student or #; ¶5251 or regis in an approved area practicum)

Teaching in the secondary school; curricular, instructional, managerial, leadership, and professional functions.

**5251. ORIENTATION IN THE SECONDARY SCHOOLS.** (0-2 cr; ¶5250)

Supervised observation in classroom and related school activities.

**5274. INTERACTIONS OF SCIENCE AND MATHEMATICS.** (3 cr, §MthE 5174; prereq math educ or sci educ student or #)

Unifying concepts and central themes common to mathematics and physical science. Emphasis on developing understanding of fundamental concepts and principles, problem solving in an interdisciplinary environment, and laboratory activities appropriate for junior and senior high school classes.

**5291. THEMATIC INSTRUCTION FOR MIDDLE SCHOOLS.** (2 cr, §AdEd 5191, §Educ 5191, §Elem 5191)

Logical and contextual relationships among mathematics, science, and social studies as taught in middle schools.

**5320. LITERATURE FOR ADOLESCENTS.** (3 cr) Reading and analysis of fiction and nonfiction; methods for critically assessing quality and appeal; appropriate for secondary English and social studies teachers and librarians.**5321. TEACHING LITERATURE IN SECONDARY SCHOOLS.** (3 cr)

Current theory and methods of instruction; research and response to literature and reading; adolescent literature; growth assessment; curriculum design and evaluation.

**5322. TEACHING WRITING.** (3 cr)

Historical and contemporary context; analysis of composing processes; prewriting and revision; audience analysis; comprehension and coherence; selected problems in assigning and evaluating writing.

**5323. DIAGNOSING AND ASSESSING WRITING IN SECONDARY SCHOOLS.** (3 cr; prereq educ jr or sr or grad)

Application of theory and research on composition instruction to analysis of diagnosis of writing samples; evaluation of writing using written or conference feedback; large group writing assessment using different rating scales; development of assignments and curriculum materials for writing instruction.

**5326. TEACHING FILM AND TELEVISION.** (3 cr)

Current theory and methods of teaching critical response to film and television; techniques, genres, history, economics; integration and use of short film and Super-8 filmmaking with English and social studies teaching in the classroom.

**5344. TEACHING READING IN CONTENT AREAS.** (3 cr)

Methods of accommodating student abilities and facilitating reading in regular content classes.

**5350. CURRENT DEVELOPMENTS IN ENGLISH EDUCATION.** (1-6 cr [max 12 cr])

New instructional approaches, new materials, current issues and problems in English and language arts education. Each offering will focus on a single topic or issue.

**5351. DIRECTED STUDY.** (Cr ar [max 6 cr]; prereq educ or grad student, #)

Individual or group work on curricular, instructional, or evaluation problems.

**5382. SECOND LANGUAGE TESTING, ASSESSMENT, AND EVALUATION.** (3 cr)

Language proficiency assessment, English as a second language, bilingual education; oral interviews; testing communicative abilities; standardized language measures; building test items; evaluating programs; aptitude and attitude measurement.

**5385. PLANNING AND ASSESSING SECOND LANGUAGE INSTRUCTION.** (4 cr)

Identifying and assessing teaching competency; use of videotapes, simulation, and analysis to develop concept of teaching as a continuing process from planning through evaluation.

**5390. CURRENT DEVELOPMENTS IN SECONDARY SCHOOL SCIENCE TEACHING.** (3 cr; prereq 3356, 3357 or equiv undergrad courses or exper in sci tchg)

Curricula, methods, materials of instruction, evaluation.

**5394. WORKSHOP: SCIENCE EDUCATION.**

(1-12 cr [max 12 cr])

Analysis of issues, materials, and instructional techniques on current topics of relevance to secondary school and college science teachers. Each offering will focus on a single topic for varying credit.

**5395. SCHOOL-BASED PROJECTS IN SCIENCE EDUCATION.** (1-12 cr [max 12 cr]; prereq MEd student in sci educ)

Individual or group work on curricular, instructional, or evaluation problems and projects applicable to school situations.

**5397. STUDIES IN SCIENCE EDUCATION.** (3 cr, §8887; prereq MEd student, #)

Improvement of science teaching through application of research findings.

**5398. SCIENCE EDUCATION ASSESSMENT.** (3 cr; prereq sci educ grad student or #)

Strategies for specifying science education outcomes and techniques for assessing them.

**5404. LANGUAGE, CULTURE, AND EDUCATION.** (4 cr, §Spch 5404)

Psychological and social-psychological perspectives for the study of language-communication; dimensions of language variation (dialects, codes, registers); implications for program development and instructional practices.

## Course Descriptions

**5604. PERSPECTIVES ON LITERACY.** (3 cr; prereq jr or sr or grad)  
Sociocultural and sociolinguistic perspectives emphasizing problematic status of traditional concepts of literacy and education for literacy.

**5659. SCHOOL-RELATED PROJECTS IN LANGUAGE ARTS.** (1-6 cr [max 6 cr]; prereq MEd student in English educ)  
Individual or group work on curricular, instructional, or evaluation problems and projects applicable to school situations.

**5700. SCIENCE EDUCATION FOR THE MIDDLE SCHOOL.** (2 cr; prereq sci educ student or #)  
Planning effective science education for middle school students.

**5701. APPLYING SCIENCE EDUCATION TO THE MIDDLE SCHOOL.** (2 cr; prereq sci educ student or #; ¶5700 required)  
Teaching science education in the middle school.

**5702. TEACHING SECONDARY SCHOOL SCIENCE: A CONSTRUCTIVIST APPROACH.** (4 cr; prereq 5700, 5701; admission to postbac sci educ program or #; ¶5703 required)  
Methods of secondary school science teaching.

**5703. APPLYING SCIENCE METHODS IN HIGH SCHOOLS.** (4 cr; prereq 5700, 5701, postbac student or #; ¶5702 required)  
Analyzing and conducting effective science teaching.

**5704. CLINICAL EXPERIENCE IN SCIENCE TEACHING.** (6 or 12 cr; prereq 5702, 5703, #; ¶5705 required)  
Supervised experiences in science teaching at a secondary school.

**5705. SEMINAR: REFLECTING ON CLINICAL EXPERIENCE IN SCIENCE TEACHING.** (3 cr; prereq 5702, 5703, #; ¶5704 required)  
Reflections and issues related to clinical experience in teaching science.

**5706. FOUNDATIONS OF SCIENCE EDUCATION.** (3 cr; prereq admission to MA or MEd or PhD in educ)  
Analyzing present practices in light of historical and philosophical foundations of science education.

**5801. SECOND LANGUAGE CURRICULUM.** (3 cr each qtr [total 9 cr])  
The nature of school and second language curriculum; a variety of curricular orientations and their implications for instruction and evaluation.

**5802. SECOND LANGUAGE INSTRUCTION.** (3 cr each qtr [total 9 cr])  
Year-long experience developing skills for selecting, organizing, and providing effective second language learning opportunities through observation, practice, and reflection.

**5803. SECOND LANGUAGE RESEARCH.** (2 cr each qtr [total 6 cr])  
Year-long experience exploring second language research issues, developing research skills, and implementing an actual classroom-based project.

**5804. CLINICAL EXPERIENCES IN SECOND LANGUAGES.** (4 cr each qtr [total 12 cr])  
Year-long teaching and learning experience in both elementary and secondary second language instructional settings.

### For Graduate Students Only

(For description, see *Graduate School Bulletin*)

**8188. INFORMATION SOURCES AND RESEARCH IN SECOND LANGUAGE LEARNING AND TEACHING**

**8362. RESEARCH IN SOCIAL STUDIES**

**8387. SEMINAR: SECOND LANGUAGE EDUCATION**

**8801. PROBLEMS: TEACHING SOCIAL STUDIES**

**8871. PROBLEMS: CURRICULUM CONSTRUCTION**

**8887. RESEARCH FOUNDATIONS OF SECONDARY SCHOOL SCIENCE TEACHING**

**8893. SEMINAR: ADVANCED TOPICS IN ENGLISH-LANGUAGE ARTS EDUCATION**

**8894. PROBLEMS: SECOND LANGUAGES AND CULTURES EDUCATION**

**8895. READINGS IN ENGLISH EDUCATION**

**8896. PROBLEMS: TEACHING ENGLISH**

**8898. READINGS IN SECOND LANGUAGES AND CULTURES EDUCATION**

**8899. SEMINAR: RESEARCH IN SCIENCE EDUCATION**

### Educational Policy and Administration (EdPA)

**5090. SCHOOL AND SOCIETY.** (3 cr, §3090, §SPFE 5090; prereq sr or postbac student in educ or CLA music educ major or □)  
Readings in social science and philosophy relevant to thinking about the role of school in a changing American society.

**5099. DIRECTED STUDY.** (Cr ar [max 9 cr], §SPFE 5099; prereq #)  
Individual or group work on topics or problems in social and philosophic foundations of education.

**5100. PUBLIC SCHOOL ADMINISTRATION.** (3 cr, §EdAd 5101; not open to majors in educ admin; prereq 9 cr in educ)  
Organization, administration, and general support of public schools in state and local school districts.

**5101. HISTORICAL FOUNDATIONS OF MODERN EDUCATION.** (3 cr, §SPFE 5101)  
Background course for all other courses in the history and philosophy of education. Analysis and interpretation of important elements in modern education derived from the Greeks, the Romans, the Middle Ages, and the Renaissance.

**5102. EDUCATION IMAGERY IN EUROPE AND AMERICA.** (3 cr, §SPFE 5102)

Images and ideas of education expressed in the visual arts of Western civilization (antiquity to 20th century) in relation to concurrent educational thought and practice; symbolism, myth, propaganda, didacticism, genre, caricature.

**5103. SUPERVISION AND ADMINISTRATION OF SPECIAL EDUCATION.** (3 cr, §EPsy 5660, §PsyS 5160, §EdAd 5103; prereq #)

Procedures in establishing and improving educational programs for exceptional children.

**5104. INTERAGENCY COOPERATION FOR AT-RISK POPULATIONS.** (3 cr, §EPsy 5714, §VoEd 5806)

Overview of interagency planning issues and practices for educational and human service organizations. Topics focus on the transition of students from school to work and community living, infant and preschool services, and use of locally based planning teams to achieve enhanced service coordination.

**5110. PERSONAL TIME MANAGEMENT AND ADMINISTRATION.** (2 cr, §EdAd 5110)

Application of proven practical and pragmatic techniques to problems of personal and administrative scheduling, organizing, delegating, prioritizing; handling interruptions and meetings; doing the distasteful and difficult; increasing self- and staff productivity; developing new concepts and techniques of management.

**5120. HISTORY OF CHILDHOOD EDUCATION.** (3 cr, §SPFE 5120)

Childhood education in Western civilization; emphasis on images, symbols, ideas important to educational theory and practice in home and school.

**5125. YOUTH IN MODERN SOCIETY.** (4 cr, §Soc 5952, §SPFE 5125)

Youth in advanced societies and as a social entity; functions and roles in industrial society, family, education, politics and government, economy and work, welfare, and religion; organizations, social movements, and subcultures; empirical research and cross-cultural perspectives.

**5127. WORKSHOP: POLICY DEVELOPMENT FOR SCHOOL MANAGERS.** (3 cr, §EdAd 5127)

Elements of feedback control applied to policy development and implementation in education; policies for instructional management, personnel administration, and fiscal control; implementation plans and procedures for analysis of policy impact.

**5128. WORKSHOP: EDUCATIONAL ADMINISTRATION.** (1-6 cr, §EdAd 5128)

Opportunities through laboratory approach for experienced administrators to concentrate their study on common administrative and supervisory problems.

**5130. LEADERSHIP DEVELOPMENT SEMINAR.** (3 cr, §EdAd 5130)

Assessment and development of skills required of the educator in the areas of planning, decision making, and human relations; introduction to contemporary issues in educational administration.

**5131. COMPARATIVE EDUCATION.** (3 cr, §SPFE 5131)

European, Asiatic, and American systems and philosophies of education; possibilities of international education.

**5139. LABORATORY IN DECISION MAKING.** (3 cr, §EdAd 5139)

Contribution of recent research and theory to effective administration; analysis of administrative behavior in realistic settings and relations of administration to human behavior.

**5140. ADMINISTRATION OF EARLY EDUCATION PROGRAMS.** (3 cr, §EdAd 5140)

Issues and skills relevant to an administrator who directs a preschool program or the student planning a leadership position in early education.

**5141. CRITICAL ISSUES IN CONTEMPORARY EDUCATION.** (3 cr, §SPFE 5141)

Introduction to ideas involved in current theory and practice.

**5142. MINORITIES IN HIGHER EDUCATION.** (3 cr; prereq #)

Access and equity issues related to the participation of minority populations in American institutions of higher education. Emphasis on analyzing educational status of minority students and faculty in two- and four-year colleges as presented in research literature.

**5155. HISTORY OF WESTERN EDUCATIONAL THOUGHT.** (3 cr, §SPFE 5155)

Major educational classics of Western civilization; Plato, Aristotle, Cicero, Quintilian, Montaigne, Milton, Locke, Rousseau, and others.

**5156. HISTORY OF IDEAS IN AMERICAN EDUCATION.** (3 cr, §SPFE 5156)

Readings in American political, economic, and social development related to education; reference to the emerging system of public education. Recommended as background for 5170 but not a prerequisite.

**5167. THE AMERICAN MIDDLE SCHOOL.** (3 cr, §EdAd 5167)

Sources of the movement; purposes, functions, and limitations; fundamental problems, types, and curricular implications of reorganization.

**5170. AMERICAN PRAGMATISM AND EDUCATION.** (3 cr, §SPFE 5170)

Analysis and interpretation of the educational philosophy of pragmatism (experimentalism); readings from Dewey, Kilpatrick, Bode, Counts, Childs, and others.

**5171. ANTHROPOLOGY AND EDUCATION.** (4 cr, §Anth 5145, §SPFE 5171)

Cross-cultural perspectives in examining educational patterns, the implicit and explicit cultural assumptions underlying them; methods and approaches to cross-cultural studies in education.

## Course Descriptions

### **5173. CASE STUDIES FOR POLICY RESEARCH.**

(3 cr; prereq educ or grad student or #)

Introduction to the use of qualitative case study research method and its application to questions of educational practice. Class project required. Emphasis on design of studies that employ open-ended interviewing as primary data collection technique.

### **5174. FIELD METHOD FOR THE STUDY OF**

**EDUCATION.** (4 cr, §SPFE 5174; prereq 5171 or SPFE 5171 or Anth 5145 or 5144 or 1502)

Practice in aspects of field methodology below the level of full field study; detailed reading; analysis of studies in anthropology and education for methodological content.

### **5175. SYSTEMS THINKING FOR INNOVATIVE PROFESSIONALS.**

(3 cr, §5175, §SPFE 5175)  
Fundamental aspects of creative systems analysis and thinking. Basic visual model of learning systems and their relationship to innovative thinking and practice. Students develop systems skills applicable to the evolution of their own profession.

### **5176. ETHNOGRAPHIC RESEARCH SKILLS**

**LABORATORY.** (2 cr, §SPFE 5176; prereq §5174 or SPFE 5174)

Introduction to processes of creating evaluative design; supervised practice in data analysis, use of theory, proposal writing, reporting.

**5180, 5181. SEMINAR: ADMINISTRATION OF SPECIAL EDUCATION.** (3 cr each qtr, §EdAd 5180-5181, §EPsy 8760-8761; prereq 5103, EdAd 5103 or EPsy 5660 or #)

Problems of administration and organization of special education programs.

### **5182. COMPARATIVE PHILOSOPHIES OF EDUCATION.**

(3 cr, §SPFE 5182)

Examination of competing philosophies of education.

### **5190. SOCIOLOGY OF EDUCATION.**

(4 cr, §Soc 5953, §SPFE 5190)

Advanced studies in the social aspects of education including the school as a socialization process, the social structure of education, the role of the school in social change.

### **5200. DESIGN AND MANAGEMENT OF EDUCATION SERVICES.**

(3 cr, §EdAd 5200)  
Educational services offered by schools, hospitals, industries, government agencies; contemporary technology, roles, authority systems, communication networks; resource-policy relationships, evaluation and management of activities of clients and staff members.

### **5201. FORMAL ORGANIZATIONS IN EDUCATION.**

(3 cr, §EdAd 5201, §EdAd 8201)  
Introduction to classical and current theories of organizational behavior and administration in education. Leadership and control, communication, conflict, the effects of educational environments, organizational design and change, and organizational effectiveness.

**5202. POLITICS OF EDUCATION.** (3 cr, §EdAd 5202, §EdAd 8202, §SPFE 5202, §SPFE 8202)

Social science findings, concepts, and methods used to consider political context of educational administration; public school policy making by local and state governments; role of administrators.

### **5204. FINANCING ELEMENTARY AND SECONDARY SCHOOLS.**

(3 cr, §8210, §EdAd 5210)  
Value assumptions and educational finance policy, economic factors, sources and characteristics of educational revenue, state and local distribution systems, federal support, urban/rural variations, institutional financing alternatives.

### **5209. EDUCATION IN FUTURE SOCIAL SYSTEMS.**

(3 cr, §5212, §SPFE 5209)  
Interdisciplinary inquiry into problems of social specialization and generalization; projections and analysis of long-range (30 years or more) social and technological trends related to education.

### **5210. SOCIAL FORECASTING AND EDUCATIONAL FUTURES.**

(3 cr, §SPFE 5210)  
Application of social sciences in their academic and applied dimensions to formal education, including a social-scientific and systems orientation toward communities; emphasis on short-range social and educational planning—near-present to a few years hence.

### **5211. SOCIAL DESIGN AND EDUCATIONAL FUTURES.**

(3 cr, §SPFE 5211)  
Medium-range interdisciplinary approach to community design and analysis emphasizing formal education systems in community context; focus upon new neighborhoods, towns, experimental cities and subcultural enclaves in rural and urban settings emphasizing time period from several years to three decades hence.

### **5212. SCHOOL BUDGETING.**

(3 cr, §8212, §EdAd 5212)  
Concepts and skills involved in preparing financial budgets for public schools; competency in translating educational programs into budgetary systems, anticipating revenue receipts, planning expenditures, and techniques for preparing balanced budget.

### **5213. FINANCIAL RESOURCE MANAGEMENT.**

(3 cr, §8213, §EdAd 5213)  
Concepts and skills involved in management of financial resources in public schools; performance exercises related to public school accounting systems, purchasing, controller function, and reporting and interpreting school financial data.

### **5214. SCHOOL MANAGEMENT INFORMATION SYSTEMS.**

(3 cr, §8214, §EdAd 5214)  
Basic techniques required to generate, maintain, and make accessible the computer-based management information system in education.

### **5215. THE ELEMENTARY SCHOOL PRINCIPALSHIP.**

(3 cr, §EdAd 5215, §EdAd 8215)  
Problems in elementary school administration and the principal's role of leadership.

**5216. RECENT RESEARCH IN ELEMENTARY SCHOOL ADMINISTRATION.** (3 cr, §EdAd 5216, §EdAd 8216; prereq 5215 or EdAd 5215)  
Pertinent research literature.

**5222. INTRODUCTION TO POLICY RESEARCH.** (3 cr)

Examination of political, philosophical, environmental, and methodological issues that accompany policy research in education; applicability of quantitative and qualitative methods.

**5223. LAW AND THE HANDICAPPED.** (2-4 cr, §EPsy 5605, §PsyS 5105)

Analysis of recent litigation and legislation; emphasis on implementation of right to education, right to treatment, labeling, due process, and related issues.

**5224. LEGAL IMPLICATIONS OF ACTS BY SCHOOL BOARDS, ADMINISTRATORS, AND TEACHERS.** (3 cr, §EdAd 5224, §EdAd 8224)

Constitutional, statutory, and common law bases of school administration; principles growing out of fundamental legal procedures.

**5225. EDUCATIONAL POLICY AND THE LAW.** (3 cr, §EdAd 5225, §EdAd 8225)

Analysis of court decisions, statutes, and administrative regulations related to equality of educational opportunity and equal protection under the law.

**5226. EDUCATIONAL FACILITIES PLANNING.** (3 cr, §EdAd 5226, §EdAd 8226)

Planning educational facilities for public and private school systems and institutions of higher education.

**5227. PUBLIC SCHOOL PERSONNEL PROGRAMS.** (3 cr, §EdAd 5227, §EdAd 8227)

Selection, assignment, evaluation, and development of school personnel; salary and conditions of service; policies of administrative, instructional, and noninstructional personnel.

**5240. SEMINAR: CLINICAL EXPERIENCES IN EDUCATIONAL ADMINISTRATION.** (1-9 cr, §8240, §EdAd 8240)

For educational administration majors engaged in clinical experiences.

**5246. COMPUTERS IN EDUCATIONAL POLICY AND ADMINISTRATION.** (3 cr)

Hands-on microcomputer introduction to computers and software applications for administrative/policy tasks in educational institutions.

**5250. AMERICAN HIGHER EDUCATION.** (4 cr, §EdAd 5250, §Educ 5250, §HiEd 5250)

American higher and postsecondary education in historical and contemporary perspective; special emphasis on societal and political demands on higher education system, consequent changes in its forms and functions.

**5260. INTRODUCTION TO EDUCATIONAL PLANNING.** (3 cr)

Principles, tools, and emerging issues in higher and elementary/secondary education settings, including decision-making models, strategic planning, forecasting, program planning, and short-range planning.

**5264 THE SECONDARY SCHOOL PRINCIPALSHIP.** (3 cr, §EdAd 8264, §EdAd 5264)

Role of the principal: qualifications, duties, and problems, including current issues and factors of staff and student relationships.

**5265. ADMINISTERING THE HIGH SCHOOL PROGRAM.** (3 cr, §EdAd 8265, §EdAd 5265)

Emphasis on the principal as instructional leader; practices and procedures used in building a master schedule; analysis and evaluation of the school program and services.

**5266. PRINCIPAL-CONSTITUENT DECISION MAKING.** (3 cr, §EdAd 5125)

For school administrators and those preparing for administrative positions in educational institutions; focus on administrator's role in large group, small group, and dyadic interaction decision making; role playing, simulation, and case study analysis.

**5267. GROUP DYNAMICS AND SHARED DECISION MAKING.** (3 cr, §EPsy 5155, §PsyF 5170)

Concepts and theories applied to educational problems and settings; laboratory sessions to make applications and develop skills in group behavior.

**5268. EDUCATIONAL ADMINISTRATION FOR ACADEMIC EXCELLENCE.** (3 cr; prereq affiliation with Renaissance school)

Laboratory for school leaders to concentrate on common administrative and supervisory problems of improving academic performance of students and teachers. Principles successful in motivating for academic excellence.

**5272. PROBLEMS: EDUCATIONAL ADMINISTRATION.** (1-3 cr per qtr, §8272, §EdAd 8272)

For superintendents and principals qualified to make intensive studies of a school system.

**5274. TWO-YEAR POSTSECONDARY INSTITUTIONS.** (3 cr, §EdAd 5274, §VoEd 5274)

Present status, development, functions, organization, curriculum, and trends in postsecondary but nonbaccalaureate institutions.

**5280. INTRODUCTION TO THE ECONOMICS OF EDUCATION.** (4 cr, §EdAd 5280, §SPFE 5180)

Economic impact of education on educational markets, prices and production relationships, distribution of income, and investment and cost-benefit analysis in education.

**5281. COST ANALYSIS IN EDUCATIONAL EVALUATION.** (3 cr)

Use and application of cost-effectiveness, cost-benefit, cost-utility, and cost-feasibility in evaluation of educational problems and programs.

**5292. THE LAW AND POSTSECONDARY EDUCATIONAL INSTITUTIONS.** (3 cr, §EdAd 5292, §HiEd 5292)

Analysis of court opinions and federal regulations affecting postsecondary institutions.

## Course Descriptions

### **5420. LEADERSHIP AND ADMINISTRATION OF STUDENT AFFAIRS.** (3 cr, §EPsy 5420)

Scope, administration, coordination, and evaluation of programs in college and university student affairs.

### **5540. SEMINAR: THE COLLEGE STUDENT.** (3 cr, §EPsy 5451, §HiEd 5540, §PsyS 5540; prereq 6 cr in psych or educ psych)

Psychology and sociology of college students; research concerning diversity of populations, vocational development of students; student society, culture, mental health, underachievement, dropouts, values and attitudes; relevant research methods.

### **5601. INTERNATIONAL EDUCATION: TOPICS IN CLASSROOM PRACTICES AND PROCEDURES.**

(1-12 cr [max 12 cr], §AdEd 5601, §Educ 5601; prereq tchg licensure, #)

Educational practices in a designated country, region, or cultural group; impact of social and cultural features; organization, school structures, classroom practices, and delivery of educational services; potential for implementation in the United States.

### **5603. INTERNATIONAL EDUCATION AND DEVELOPMENT.** (3 cr, §AdEd 5603, §Educ 5603)

Contemporary theories relating formal and nonformal education to national development in social, cultural, political, and economic sectors; alternative conceptualizations and theoretical perspectives on education and development.

### **5605. RESEARCH TOPICS: INTERNATIONAL DEVELOPMENT EDUCATION.** (3 cr, §AdEd 5605, §Educ 5605)

Empirical research conducted in developing societies relating formal and nonformal education to national development in social, cultural, political, and economic sectors.

### **5607. APPLIED INTERNATIONAL DEVELOPMENT EDUCATION.** (3 cr, §AdEd 5607, §Educ 5607)

Educational innovations designed to promote national development in selected developing nations; educational case studies in the context of such objectives; conceptualizations of the role of education in development and outcomes.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8170. SEMINAR: RESEARCH METHODS IN ANTHROPOLOGY AND EDUCATION**

### **8220. QUANTITATIVE FOUNDATIONS FOR MANAGEMENT METHODS**

### **8221. QUANTITATIVE MODELS FOR PROGRAM ANALYSIS AND RESEARCH**

### **8223. QUANTITATIVE TECHNIQUES FOR DECISIONMAKING**

### **8228. PROBLEMS: HIGHER EDUCATION**

### **8229. SEMINAR: HIGHER EDUCATION**

### **8230. SEMINAR: DISSERTATION RESEARCH IN HIGHER EDUCATION**

### **8234. SEMINAR: EDUCATIONAL FINANCE**

### **8237. SEMINAR: THEORY AND RESEARCH IN EDUCATIONAL LAW**

### **8238. SEMINAR: THEORY AND RESEARCH**

### **8241. SEMINAR: INTERNSHIP IN EDUCATIONAL ADMINISTRATION**

### **8242. SEMINAR: PUBLIC SCHOOL PERSONNEL PROGRAMS**

### **8247. SEMINAR: SCHOOL DISTRICT POLITICS**

### **8248. SEMINAR: METROPOLITAN SCHOOL GOVERNANCE**

### **8250. THE HIGHER EDUCATION INSTITUTION: ORGANIZATION AND ENVIRONMENT**

### **8251. DEVELOPMENT AND EVALUATION OF ACADEMIC PROGRAMS**

### **8252. INSTRUCTION AND LEARNING IN HIGHER EDUCATION**

### **8255. LEADERSHIP AND ADMINISTRATION IN HIGHER EDUCATION**

### **8257. FINANCING HIGHER EDUCATION**

### **8260. SEMINAR: SOCIAL AND PHILOSOPHIC FOUNDATIONS OF EDUCATION**

### **8261. PROBLEMS: HISTORY AND PHILOSOPHY OF EDUCATION**

### **8268. SEMINAR: SOCIAL AND EDUCATIONAL FUTURES**

### **8270. PROBLEMS: ELEMENTARY SCHOOL ADMINISTRATION**

### **8271. PROBLEMS: SECONDARY SCHOOL ADMINISTRATION**

### **8273. FIELD STUDY**

### **8340. POLICY SYSTEMS IN EDUCATION**

### **8341. ANALYSIS OF EDUCATION POLICY SYSTEMS**

### **8603. SEMINAR: INTERNATIONAL DEVELOPMENT EDUCATION**

### **8605. PROBLEMS: INTERNATIONAL EDUCATION RESEARCH**

## **Educational Psychology (EPsy)**

**1601. AMERICAN SIGN LANGUAGE I.** (5 cr)  
Fundamentals of American Sign Language (ASL) as a second language. Emphasis on varieties of sign language and sign language practices, questions, commands, and simple sentences. Receptive and Expressive sign vocabulary building.

**1602. AMERICAN SIGN LANGUAGE II.** (5 cr; prereq 1601 or #)  
Fundamentals of American Sign Language (ASL) as a second language beyond the basic level. Emphasis on locatives, classifiers, and temporal and distributional aspects. Receptive and Expressive sign vocabulary building at the conversational level.

**1603. AMERICAN SIGN LANGUAGE III.** (5 cr; prereq 1602 or #)

Expands on the conversational use of American Sign Language (ASL) as a second language, including grammar, deaf culture, short stories, and narratives. Receptive and Expressive use of ASL at the conversational level.

**1604. WORKSHOP: DEVELOPING EDUCATIONAL AND HUMAN SERVICE PROGRAMS.**

(Cr ar, §PsyS 1304)

Concepts, issues, practices; development of educational and psychological support services in school and human service settings. For persons in paraprofessional positions.

**3601. AMERICAN SIGN LANGUAGE IV.** (5 cr; prereq 1603)

Conversational use of American Sign Language (ASL) and culturally significant topics relating to the deaf community, complex use of ASL, grammatical features, and vocabulary expansion. Comprehension and expression of jokes, dialogues, and stories.

**3602. AMERICAN SIGN LANGUAGE V.** (5 cr; prereq 3601)

Common conversational use of American Sign Language (ASL) and culturally significant topics relating to the deaf community. Idiomatic use of sign language in conversation and expansion of vocabulary. Comprehension and expression of common conversational topics and idiomatic expressions.

**3603. CULTURAL PERSPECTIVES OF DEAFNESS.** (5 cr; prereq 1603)

Introduction to the deaf community's social norms, values, and folklore. International integration of social, religious, athletic, literary, and scholarly institutions.

**5110. INTELLIGENCE.** (3 cr, §PsyF 5147)

Theories of intelligence; its development; implications for educational practices and psychological research.

**5111. PSYCHOLOGY AND PEDAGOGY OF READING.** (3 cr, §PsyF 5148)

Physiological, psychological, and linguistic factors influencing beginning and fluent reading; implications for instruction.

**5112. KNOWING, LEARNING, AND THINKING.** (4 cr, §PsyF 5152)

Principles of human information processing; issues in memory and thought; discussion of mental operations in comprehension and understanding; analysis of intellectual structures supporting problem solving in applied settings.

**5113. INTRODUCTION TO THE PSYCHOLOGY OF INSTRUCTION.** (3 cr, §PsyF 5153)

Survey of psychological factors in design of instruction; performance criteria, strategy, and sequence in research contexts; development and implementation activities in instructional techniques, technologies, and delivery systems; psychological processes relevant to measures of effectiveness in teaching-learning environment.

**5114. PSYCHOLOGY OF STUDENT LEARNING.**

(3 cr, §PsyF 5182)

Survey of psychological methods and principles; models of the learner; topics in development, creativity, intelligence, and motivation; implications for teaching and curriculum design in preschool, elementary, and secondary education; professional training with children and adolescents as clients.

**5115. PSYCHOLOGY OF ADULT LEARNING.** (4 cr, §PsyF 5183)

Survey of psychological methods and principles in human learning; models of the adult learner, topics in motivation, creativity, achievement, intelligence; implications for teaching and curriculum design in higher education, continuing education, and professional training.

**5116. BEHAVIOR ANALYSIS IN EDUCATION.**

(4 cr, §PsyF 5149)

Practical applications of reinforcement theory; behavior analysis, precision teaching, programmed instruction.

**5117. PROBLEM SOLVING AND DECISION MAKING.** (4 cr, §PsyF 5570)

Literature from decision research contrasted with literature in problem solving from cognitive psychology and psychology of information processing; improvement in decision making through consideration of training, allocation of work, and decision aids.

**5119. LEARNING AND COGNITIVE FOUNDATIONS OF EDUCATION.** (4 cr; prereq educ student;

one prior course in psych recommended; A-F only)

Principles of development, learning, cognition, individual differences, classroom management, instructional delivery, and related topics and their applicability to instruction and the organization of curricular materials.

**5130. PERSONALITY AND SOCIAL DEVELOPMENT.** (3 cr, §PsyF 5162; prereq 5 cr intro psych)

Major concepts and research findings in adjustment and development, with special emphasis on educational implications.

**5135. WORKSHOP IN HUMAN RELATIONS.** (6 cr, §PsyF 5305; S-N only)

Experientially based course including simulation activities, curriculum writing, and supervised practice in basic human relation skills, emphasizing individual, cultural, and ethnic differences and their implications for educational practice.

**5139. INTERPERSONAL AND PERSONALITY EFFECTS ON LEARNING.** (4 cr; prereq sr or postbac

in educ or CLA music educ major or □, at least one

course in psych; A-F only)

Major theories and research on schooling as it relates to human relations, small groups, face-to-face relations, and individual personality and social development.

**5150. SOCIAL PSYCHOLOGY OF EDUCATION.** (3 cr, §PsyF 5170)

Concepts and theories applied to educational problems and settings; laboratory sessions to make applications and develop skills in group behavior.

## Course Descriptions

### **5151. STRUCTURING LEARNING: SOCIAL PSYCHOLOGICAL APPROACHES.** (3 cr, §PsyF 5172)

How to use cooperation, competition, and individualization to affect learning climate and cognitive and affective outcomes of instruction.

### **5154. ORGANIZATIONAL DEVELOPMENT AND CHANGE.** (3 cr; prereq 5150 or PsyF 5170 or equiv)

Review of theory and research procedures and methods for changing organizations; special reference to educational organizations.

### **5155. GROUP DYNAMICS AND SHARED DECISION MAKING.** (3 cr, §EdPa 5267, §PsyF 5170; 5150 recommended)

Review of theory and research on group dynamics. Laboratory experiences to make applications to and develop skills in leading small groups.

### **5200. SPECIAL TOPICS: PSYCHOLOGICAL FOUNDATIONS.** (3-6 cr [max 9 cr])

Analysis of psychological and methodological concepts relevant to current educational practice.

### **5220. EDUCATIONAL MEASUREMENT IN THE CLASSROOM.** (4 cr, §PsyF 5120)

Principles and methods for construction, evaluation, and improvement of classroom measures; techniques for describing results statistically; use of measurement in evaluating instruction and student performance; assignment of grades.

### **5221. BASIC PRINCIPLES OF MEASUREMENT.**

(3 cr, §PsyF 5121; prereq 5260 or 8260 or PsyF 5110 or 8110)

Fundamental concepts, principles, and methods in educational and psychological measurement; educationally useful properties of tests; types and uses of derived scores; factors influencing reliability and validity.

### **5222. MODERN MEASUREMENT THEORY AND PRACTICE.** (3 cr; prereq 5221, 8260, 8261 or equiv)

Introduction to practices such as item banking; test scoring equipment; and theories of test items analysis, reliability, and validity.

### **5229. CLASSROOM ASSESSMENT METHODS.**

(2 cr; concurrent student participation in practice tchg or similar field exper recommended; A-F only)

Concepts and techniques necessary for effectively diagnosing learning problems and assessing educational outcomes. Emphasis on constructing teacher-made assessment devices that are efficient, technically sound, and directly relevant to classroom decision making.

### **5240. PRINCIPLES AND METHODS OF EVALUATION.** (3 cr, §PsyF 5125)

Introductory course in program evaluation; theory; practical examples; purpose, roles, program descriptions, and evaluation strategies.

### **5243. PRACTICUM: SURVEY AND OBSERVATIONAL RESEARCH METHODS.** (3 cr; prereq 5220 or 5221 or equiv)

Planning, development, implementation, analysis, and reporting of survey and observational methods including questionnaires, interviews, and various observational techniques.

### **5246. EVALUATION COLLOQUIUM.** (1 cr [max 6 cr]; S-N only)

Informal seminar of faculty and students interested in problems of evaluation.

### **5260. INTRODUCTORY STATISTICAL METHODS.** (4 cr, §PsyF 5110)

Techniques for organizing and presenting data; descriptive indices of central tendency, variability, and bivariate correlation/regression; procedures for making inferences concerning means and proportions.

### **5261. APPLIED MATRIX AND VECTOR CONCEPTS.** (1 cr, §PsyF 5111; S-N only)

Introduction to concepts and operations; applications in multiple regression, factor analysis of variance.

### **5262. STATISTICAL COMPUTING USING MINITAB.** (2 cr, §PsyF 5112; prereq 5260 or PsyF 5110 or equiv; S-N only)

Practical experience using time-sharing computer language MINITAB; applications of introductory statistical methods and concepts to data files.

### **5280. COMPUTER PROGRAMMING: PASCAL.** (3 cr, §PsyF 5330; prereq sr)

Computer as a tool for research in behavioral sciences. Pascal is taught for both micro and mainframe; laboratory experience.

### **5281. INTRODUCTION TO COMPUTER OPERATIONS: U OF M SYSTEMS, SPSS.** (1 cr, §PsyF 5333; S-N only)

Procedures for operation of batch and interactive computers; emphasis on statistical packages for social sciences (SPSS).

### **5400. WORKSHOP: COUNSELING PSYCHOLOGY.** (1-6 cr [max 12 cr])

For counselors, teachers, and administrators. Aspects of intervention theory in relation to psychological principles; counseling, career development, assessment, psychological education, and consultation.

### **5401. COUNSELING PROCEDURES.** (3 cr, §PsyS 5110)

For persons whose professional work includes counseling and interviewing; not for licensure as school counselor. Emphasis on counseling relationship and principles of interviewing; case studies, role playing, and demonstration.

### **5417. CLINICAL USE OF TESTS IN PSYCHOLOGICAL SERVICES.** (3 cr; prereq 5260 or PsyF 5110 or Psy 3801, 5221, PsyF 5121 or Psy 5862 or #)

Psychological theories related to test interpretation and counseling process; critical review and selection of standardized tests.

### **5422. GROUP COUNSELING: PRINCIPLES AND PROCEDURES.** (3 cr, §PsyS 5320; prereq course in counseling theory)

Basic principles of group dynamics related to group counseling process; emphasis on developing concepts, attitudes, and skills. Theory and laboratory experiences included.

**5430. FOUNDATIONS OF CAREER DEVELOPMENT.** (3 cr, §PsyS 5210)

Introduction to theory, research, practice; examination of concepts of work, work values, career and career education; application of theory and research to career guidance practice in educational, industrial, and community agency settings.

**5431. CAREER DEVELOPMENT: THEORY AND COUNSELING APPLICATIONS.** (3 cr, §PsyS 5331)

Provides students in counseling and allied fields with background. Emphasis on counseling skills; work and other life values, counseling process, planning and decision making, information and employment trends, sex equity in career options, needs of specific groups.

**5432. CAREER DEVELOPMENT PROGRAMS AND ORGANIZATIONAL CHANGE.** (3 cr, §PsyS 5332;

prereq 5430 or 5431 or PsyS 5210 or PsyS 5331 or equiv or #)

Provides knowledge and skills to create and implement programs for a variety of populations and settings; a life-roles concept integrated with systematic model of program development; consultation process, organizational intervention, and race, age, and gender issues.

**5433. DEVELOPMENTAL CAREER COUNSELING OF WOMEN.** (3 cr, §PsyS 5310)

Counseling skills and interventions to facilitate career development of girls and women at different life stages; sex role system, female socialization and stereotyping; facts, myths, and trends regarding women's changing roles in technological society; issues of sexism in strategies and programs.

**5434. COUNSELING ADULTS IN TRANSITION.** (3 cr)

Theoretical and empirical knowledge to provide bases for analyzing adaptation to transitions; applications of counseling interventions and training in coping skills to cases of life change.

**5451. SEMINAR: THE COLLEGE STUDENT.** (3 cr, §PsyS 5540, §HiEd 5540; prereq 6 cr psych or educ psych)

Psychology and sociology of college students; research concerning diversity of populations, vocational development of students, student society, culture, mental health, underachievement, dropouts, values and attitudes; relevant research methods.

**5461. CROSS-CULTURAL COUNSELING.** (3 cr, §PsyS 5505; prereq #)

Effect of cross-cultural and cross-national differences in counseling processes.

**5542. PRACTICUM IN GROUP COUNSELING.** (1-6 cr [max 6 cr]; prereq 5422 or PsyS 5320 or equiv)

Supervised practice in counseling several groups, preferably in setting in which student intends to work. Emphasis on systematic evaluation of progress through direct observations and tapes and on skill development in interpersonal perception, communication, and research.

**5600. CHILDHOOD LANGUAGE DEVELOPMENT: CLASSROOM IMPLICATIONS.** (3 cr, §PsyS 5100)

Recent trends and findings in study of language acquisition; classroom implications for education of exceptional children.

**5601. EDUCATION OF EXCEPTIONAL CHILDREN.** (4 cr, §PsyS 5101)

Introduction to field of special education for classroom teachers and other school personnel.

**5602. COMPUTER TECHNOLOGY IN SPECIAL EDUCATION.** (3 cr)

Research on applying computer technology to special education in light of learning theory, principles of effective instruction, and instructional needs of special education populations.

**5604. TRANSITION FROM SCHOOL TO WORK AND COMMUNITY LIVING FOR PERSONS WITH SPECIAL NEEDS.** (4 cr, §PsyS 5104)

Organization and design of training programs to promote independent living, vocational and community adjustment of persons with disabilities and other at-risk populations; curriculum materials, methods, and organizational strategies for adolescent and adult learners, families, and community service providers.

**5605. LAW AND THE HANDICAPPED: IMPLICATIONS FOR EDUCATION.** (2-4 cr, §EdPA 5223, §PsyS 5105)

Analysis of recent litigation and legislation; emphasis on implementation of right to education, right to treatment, labeling, due process, and related issues.

**5608. PARENT AND PROFESSIONAL PLANNING FOR HANDICAPPED STUDENTS.** (3 cr, §PsyS 5108)

Study and demonstration of constructive approaches to cooperative planning and implementation of education programs by parents, teachers, and persons involved with children who have special needs.

**5609. FAMILY-PROFESSIONAL PLANNING FOR PERSONS WITH SEVERE HANDICAPS.** (3 cr)

Interdisciplinary course examining the needs of families including children with severe handicaps; emphasis on life cycle needs, service issues, programs of support from infancy through adult years, services from different agencies, disciplines, professional requirements, and responsibilities in serving families.

**5612. EDUCATION OF LEARNING-DISABLED CHILDREN.** (3 cr, §PsyS 5112)

Analysis of considerations in design and conduct of services for learning-disabled children; approaches to their education.

**5615. EDUCATIONAL INTERVENTIONS FOR LEARNING DISABILITIES.** (3 cr; prereq 5612 or PsyS 5112)

Planning, implementing, evaluating academic programs for students with disabilities in written and spoken language, quantitative concepts, and cognitive skills required for learning.

**5620. INTRODUCTION TO MENTAL RETARDATION.** (4 cr, §CPsy 5315, §PsyS 5120; prereq 5601 or PsyS 5101 or #)

Issues that relate to educational practices; community planning; educational philosophy, administration and organization, programming.

## Course Descriptions

**5621. METHODS AND MATERIALS FOR ELEMENTARY AND SECONDARY MENTALLY RETARDED PUPILS.** (4 cr, §PsyS 5121; prereq 5601 or PsyS 5101 or equiv)

Curriculum content, materials, and methods of instruction for educable mentally retarded children; preparation of units and development of teaching aids.

**5622. PROGRAMS AND CURRICULA FOR LEARNERS WITH SEVERE HANDICAPS.** (4 cr)

Elementary and secondary school program design and curricula for learners with severe handicaps. Emphasis on preparing children and youth for integrated, normalized community environments in domestic, leisure, and vocational domains. Discussion of developmentally appropriate programming. Structured observation of learners with severe handicaps required.

**5624. BIOMEDICAL ASPECTS OF PHYSICAL IMPAIRMENTS.** (3 cr, §PsyS 5124)

Selected information in genetics; anatomy, physiology, and kinesiology; central and peripheral nervous system; prenatal, perinatal, and postnatal development; physically disabling conditions; and management and educational procedures.

**5625. EDUCATION OF HANDICAPPED INFANTS AND PRESCHOOL CHILDREN.** (4 cr, §PsyS 5125; prereq 5601 or 5620 or PsyS 5101 or PsyS 5120 or #)

Issues, problems, and practical applications in designing strong programs for young children with all types of handicapping conditions.

**5626. INSTRUCTION FOR LEARNERS WITH SEVERE HANDICAPS.** (4 cr; prereq 5622, 5700 or §5700)

Data-based strategies for school and nonschool instruction including basic measurement principles; assessment, design, implementation, and evaluation of instruction; concept and task analysis; natural and instructional cues, corrections and consequences.

**5635. EDUCATION OF STUDENTS WITH PHYSICAL DISABILITIES.** (3 cr, §PsyS 5135; prereq 5601 or PsyS 5101 or #)

Characteristics and abilities; methods and materials for training; observation of teaching situations; personal consultation in addition to class hours.

**5636. EDUCATION OF MULTIHANDICAPPED LEARNERS WITH SENSORY IMPAIRMENTS.** (3 cr; prereq 5601)

Characteristics of learners with visual and auditory impairments. Design of instructional programs to remediate or circumvent disabilities, including the use of prosthetic devices. Consideration of related areas of performance that may be affected by sensory impairments.

**5640. PSYCHOSOCIAL AND EDUCATIONAL ASPECTS OF DEAFNESS.** (3 cr, §PsyS 5140)

Historical and current societal perceptions of the deaf; analysis of effects and patterns of auditory impairment on children and adults; intelligence, personal and social adjustment, effect of psychological processes on acquiring language, speech, and speechreading skills.

**5641. MODELS OF SERVICE DELIVERY TO STUDENTS WITH HEARING IMPAIRMENTS.** (3 cr, §PsyS 5141)

Systems of programmatic support for infants, children, and youth with hearing impairments; educational delivery models, curriculum and material adaptation, and consultation skills.

**5643. LANGUAGE FOR HEARING-IMPAIRED CHILDREN.** (4 cr, §PsyS 5143; prereq 5640 or PsyS 5140)

Functional language development in communicatively handicapped persons; overview of language curricula and programming strategies, pertinent research and models of instruction for use in educational environment.

**5644. LANGUAGE PROGRAMMING FOR CHILDREN WITH HEARING IMPAIRMENTS.** (3 cr, §PsyS 5144)

Programs and practices focusing on the development of language in infants, children, and youth with hearing impairments; comparative study of language development of hearing impaired and hearing persons.

**5645. TEACHING SPEECH TO THE HEARING IMPAIRED I.** (3 cr, §PsyS 5145)

Survey of speech methodologies in teaching auditorily impaired children; major emphasis on teaching specific sounds, articulation, voice, and sentence rhythm, stressing intelligibility of speech. Demonstration and practice with individuals and groups of auditorily impaired children.

**5646. READING AND INSTRUCTIONAL PRACTICES WITH HEARING-IMPAIRED STUDENTS.** (4 cr)

Knowledge and skills required to assess, plan, and implement instruction for individuals with hearing impairments. Emphasis on theoretical and pragmatic issues in reading and writing skill acquisition, curricular adaptations, and effective instructional approaches used with hearing-impaired learners.

**5647. AURAL AND SPEECH PROGRAMMING FOR CHILDREN WITH HEARING IMPAIRMENTS.** (4 cr, §PsyS 5147)

Fundamentals of speech and hearing mechanisms; survey of instructional practices, technology-based assistive devices to develop auditory and speech skills. Strategies to adapt to the classroom acoustic environment.

**5648. MODES OF COMMUNICATION FOR THE HANDICAPPED.** (3 cr, §PsyS 5148)

Theoretical and applied study of selection and application of alternative communication modalities; assessment and development of modes, including gestures, speech reading, cued speech, sign systems, form boards, and Bliss-symbolics.

**5651. MANAGING PROBLEM BEHAVIOR IN THE CLASSROOM.** (3 cr, §PsyS 5151)

Typical patterns of problem behavior in classroom settings; relationships to teacher mental health; simulation of methods for prevention and management.

**5656. EDUCATIONAL NEEDS OF STUDENTS WITH EMOTIONAL DISTURBANCES OR BEHAVIORAL DISORDERS.** (3 cr)

Preparation for specialists: educational characteristics, educational intervention, teaching of social behavior, legal and ethical issues.

**5657. EDUCATIONAL INTERVENTIONS FOR STUDENTS WITH EMOTIONAL DISTURBANCES OR BEHAVIORAL DISORDERS.** (3 cr; prereq 5656)

Preparation for specialists: assessment and planning procedures, interagency cooperation, career preparation and transition for EBD students.

**5660. SUPERVISION AND ADMINISTRATION OF SPECIAL EDUCATION.** (3 cr, §PsyS 5160, §EdPA 5103)

Procedures in establishing and improving educational programs for exceptional children.

**5670. INTRODUCTION TO EDUCATION OF VISUALLY HANDICAPPED CHILDREN.** (3 cr, §PsyS 5170)

Educational programs, services, and resources for blind and partially seeing children; historical background; philosophy; sociological and psychological problems.

**5671. LITERARY BRAILLE.** (3 cr, §PsyS 5171; prereq 5670 or PsyS 5170)

Mastery of literary Braille code; analysis of specialized equipment emphasizing use of Braille writers, slates, and computers for Grade 2 Braille transcription.

**5672. ADVANCED BRAILLE.** (3 cr, §PsyS 5172; prereq 5671 or PsyS 5171)

Mastery of Nemeth Code of mathematics, introduction to foreign languages, computer notation and consideration of Braille textbook formats and techniques; consideration of music Braille.

**5673. METHODS OF TEACHING VISUALLY HANDICAPPED CHILDREN.** (4 cr, §PsyS 5173; prereq 5670 or PsyS 5170)

Principles of preparation, selection, and effective use of instructional materials; adaptation of school environment; utilization of family, school, and community resources.

**5674. ORIENTATION AND MOBILITY TECHNIQUES FOR VISUALLY IMPAIRED STUDENTS.** (3 cr, §PsyS 5174)

Introduction to basic techniques to gain skills in pre-cane techniques, orientation to learning environment, construction of mobility maps; consideration of cane, guide dog, and telescopic aids to mobility.

**5675. STRUCTURE AND FUNCTION OF THE EYE: EDUCATIONAL IMPLICATIONS.** (3 cr, §PsyS 5175)

Ophthalmological and educational considerations of anatomy and physiology of the eye and visual tract, vision screening and visual efficiency.

**5676. MANAGEMENT OF LOW VISION.** (3 cr; prereq 5675 or #)

Advanced course requiring competence in evaluation and use of low vision aids; evaluating and managing cognitive, psychosocial, and physical needs of students; consideration of parent, teacher, and student counseling.

**5680. EDUCATION OF THE DISADVANTAGED.**

(3 cr, §PsyS 5180; prereq 12 cr psych or educ psych or sociology)

Educational needs of children handicapped by behavior related to deficiencies of physical and/or cultural environment; adaptations of educational programs.

**5681. METHODS AND MATERIALS FOR HANDICAPPED INFANTS AND PRESCHOOL CHILDREN.** (3 cr, §PsyS 5181; prereq 12 cr educ or #)

Methods, materials, conceptual models for maximizing educational development of young children with all types of handicapping conditions.

**5700. ASSESSMENT AND DECISION MAKING IN SPECIAL EDUCATION.** (3 cr, §PsyS 5200)

For teachers and other educational personnel. Identifying needs of handicapped students; planning, monitoring, evaluating instructional programs; practice in use of standardized devices and development of clinical measures for handicapped students.

**5701. PRACTICUM: SPECIAL EDUCATION.** (Cr ar; prereq #)

Supervised experience in teaching or related work in schools or other agencies serving exceptional children.

**5702. WORKSHOP: SPECIAL EDUCATION.** (Cr ar; prereq #)

Laboratory approach; provides opportunities for school personnel to study specific problems related to special education.

**5703. PRACTICUM EXPERIENCE: SPECIAL EDUCATION.** (Cr ar; prereq #)

Supervised experience in teaching or related work in schools or other agencies serving exceptional children.

**5704. WORKSHOP: INTERVENTIONS AND PRACTICES IN EDUCATIONAL AND HUMAN SERVICE PROGRAMS.** (Cr ar)

Concepts, issues, and practices; development of educational and psychological support services in school and human service settings. For practicing professionals.

**5705. BEHAVIOR ANALYSIS PROCEDURES WITH MILDLY AND MODERATELY HANDICAPPED PEOPLE.** (4 cr, §PsyS 5305; prereq 5116 or PsyF 5149 or Psy 5017 recommended)

Behavioral approaches to improving academic and personal-social behavior of mildly and moderately handicapped people in mainstream and resource programs.

**5709. COGNITIVE AND SOCIAL IMPAIRMENTS OF LEARNERS WITH SEVERE HANDICAPS.** (3 cr; prereq 5622)

Normal functioning within these domains; nature of deficits and developmental delays and differences; associated deficits in related curriculum areas; design of instruction to enhance performance in functional instructional domains.

## Course Descriptions

### **5710. CONTEMPORARY SERVICES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES.** (3 cr)

Survey course focusing on the characteristics and service needs of persons with substantial developmental disabilities using multi-disciplinary approaches. Addresses changing concepts, models of services, issues related to promoting the independence, productivity, and integration of persons with developmental disabilities into the community.

### **5714. INTERAGENCY COOPERATION FOR AT-RISK POPULATIONS.** (3 cr, §EdPA 5104, §VoEd 5806)

Overview of interagency planning issues and practices for educational and human service organizations. Topics focus on the transition of students from school to work and community living, infant and preschool services, and use of locally based planning teams to achieve enhanced service coordination.

### **5849. ASSESSMENT OF THE PRESCHOOL CHILD.** (3 cr, §PsyS 5549; prereq statistics or measurement or grad course in assessment)

Review of assessment of children ages 0-5 from developmental perspective; overview of normal and abnormal development; issues and techniques in cognitive, social, and emotional assessment; early education programs.

### **5900. INDEPENDENT STUDY.** (Cr ar [max 12 cr]; prereq #)

Independent study in areas of special interest to students.

### **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8111. KNOWLEDGE AND SKILL**

### **8113. PSYCHOLOGY OF COMPREHENSION AND READING**

### **8115. PSYCHOLOGY OF INSTRUCTION**

### **8129. RESEARCH PROBLEMS: LEARNING AND COGNITION**

### **8130. PERSONALITY DEVELOPMENT AND SOCIALIZATION**

### **8131. DEVELOPMENT OF MORAL-POLITICAL JUDGMENT AND PROGRAMS IN VALUE EDUCATION**

### **8149. RESEARCH PROBLEMS: PERSONALITY**

### **8150. PSYCHOLOGY OF CONFLICT RESOLUTION**

### **8153. SOCIAL AND PSYCHOLOGICAL INFLUENCES ON INDIVIDUAL BEHAVIORS**

### **8169. RESEARCH PROBLEMS: SOCIAL PSYCHOLOGY**

### **8210. METHODS IN EDUCATIONAL RESEARCH**

### **8220. ADVANCED THEORY OF MEASUREMENT**

### **8221. THEORY OF PSYCHOLOGICAL SCALING**

### **8239. PROBLEMS: MEASUREMENT**

### **8245. SEMINAR: SPECIAL TOPICS IN EDUCATIONAL EVALUATION**

### **8247. INTERNSHIP: EVALUATION**

### **8259. PROBLEMS: EVALUATION**

### **8260, 8261, 8262. STATISTICAL METHODS**

### **8263. DESIGN AND ANALYSIS OF EXPERIMENTS**

### **8264. MULTIPLE REGRESSION ANALYSIS**

### **8265. FACTOR ANALYSIS**

### **8266. ANALYSIS OF RESULTS FROM NONEXPERIMENTAL RESEARCH**

### **8279. PROBLEMS: STATISTICS FOR STUDENTS IN EDUCATION AND PSYCHOLOGY**

### **8280. STATISTICAL COMPUTING USING SPSSX**

### **8289. RESEARCH PROBLEMS: COMPUTER APPLICATIONS**

### **8402. INDIVIDUAL COUNSELING: THEORY AND PROCEDURES**

### **8403. SOCIAL/CULTURAL CONTEXTS OF COUNSELING: THEORY AND PROCEDURES**

### **8404. GROUP COUNSELING: THEORY AND PROCEDURES**

### **8410. SEMINAR: COUNSELING ETHICS AND PROFESSIONAL DEVELOPMENT**

### **8411. SEMINAR: ADVANCED COUNSELING RESEARCH**

### **8412. SEMINAR: ADVANCED COUNSELING THEORY**

### **8420. COLLEGE STUDENT PERSONNEL WORK—FOUNDATIONS AND SCOPE**

### **8431. MASTERS SEMINAR: COUNSELING AND STUDENT PERSONNEL PSYCHOLOGY**

### **8450. PSYCHOLOGICAL ASPECTS OF COUNSELING SUPERVISION**

### **8502-8503-8504. COUNSELING PRACTICUM I, II, III**

### **8505. FIELD PLACEMENT IN COUNSELING AND STUDENT PERSONNEL PSYCHOLOGY**

### **8510. INTERNSHIP: COUNSELING AND STUDENT PERSONNEL PSYCHOLOGY**

### **8513-8514-8515. COUNSELING PRACTICUM: UNIVERSITY COUNSELING SERVICES**

### **8520. COUNSELING PRACTICUM: ADVANCED**

### **8521. PRACTICE IN STUDENT PERSONNEL WORK**

8603. SERVICES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES: RESEARCH AND POLICY ANALYSIS

8612. CURRENT ISSUES IN LEARNING DISABILITIES

8620. PSYCHOLOGICAL THEORY AND RESEARCH IN MENTAL RETARDATION

8621. FUNCTIONAL ANALYSIS OF BEHAVIOR IN THE MENTALLY RETARDED

8651. THEORIES OF EDUCATING DISTURBED CHILDREN

8652. RESEARCH IN EDUCATION OF DISTURBED CHILDREN

8702. SEMINAR: SPECIAL EDUCATION

8706. BEHAVIORAL RESEARCH WITH HANDICAPPED STUDENTS

8725. SOCIOCULTURAL THEORY AND RESEARCH ON HANDICAPPING CONDITIONS

8760, 8761. SEMINAR: ADMINISTRATION OF SPECIAL EDUCATION

8770. INTERVENTION STRATEGIES FOR PERSONS WITH DEVELOPMENTAL DISABILITIES: INTERDISCIPLINARY PERSPECTIVES

8810. ASSESSMENT IN SCHOOL PSYCHOLOGY I

8811. ASSESSMENT IN SCHOOL PSYCHOLOGY II

8812. ASSESSMENT IN SCHOOL PSYCHOLOGY III

8815. THEORIES AND METHODS OF INSTRUCTIONAL INTERVENTION

8816. SCHOOL CONSULTATION AND INTERVENTION PLANNING

8817. SCHOOL PSYCHOLOGICAL INTERVENTIONS: AFFECTIVE DOMAIN

8820. SEMINAR: RESEARCH IN SCHOOL PSYCHOLOGY

8821. SEMINAR: SCHOOL PSYCHOLOGY

8831. PRACTICUM: SCHOOL PSYCHOLOGICAL SERVICES

8832. CLINICAL PRACTICE IN SCHOOL PSYCHOLOGY

8840. INTERNSHIP: SCHOOL PSYCHOLOGICAL SERVICES

8841. INTERNSHIP: INSTRUCTION AND SUPERVISION IN SCHOOL PSYCHOLOGY

8853. NEW APPROACHES TO PSYCHOPATHOLOGY IN CHILDREN AND ADOLESCENTS

8900. RESEARCH PROBLEMS

8905. LANDMARK ISSUES AND GREAT CONTROVERSIES IN EDUCATIONAL PSYCHOLOGY

8910. DIRECTED STUDY

## Kinesiology and Leisure Studies

Activity courses in physical education are offered on successive levels in each of the following areas:

Aquatics  
Conditioning  
Dual sports and activities  
Individual sports and activities  
Team sports

The beginning courses, listed first in numerical order, require no prerequisite. For courses at more advanced levels, prerequisites are indicated, but students with skills or experience in a given area may start with one of the more advanced offerings rather than register for the prerequisite course. Advisers in Cooke Hall will aid students who have questions about the appropriate level for registration. The S-N option is available for all PE courses numbered through 1499.

Students who do not attend the first and/or second meeting of a class for which enrollment is limited forfeit their place. If a class in which enrollment is limited is closed at the time of registration, a student may report to the first class meeting to ask about possible cancellations.

All courses involve participation requiring a high energy expenditure and are to be considered intensive except archery, bowling, golf, and posture and individual exercise, which involve a lower level of energy expenditure and are considered moderately intensive. It is recommended that students know their health status and any limitations on their ability to participate safely in the physical activities involved in the course in which they plan to register. Students who have questions about their health status should seek advice from a personal physician.

## Course Descriptions

### Physical Education (PE)

**1004. DIVING, SPRINGBOARD.** (1 cr; prereq 1007 or #)

Elementary entry into water, teaching diving at the beginning level, basic dives.

**1007. SWIMMING.** (1 cr; prereq non-swimmer)

For the beginner including breathing, floating, treading water, elementary back stroke, side stroke, and front crawl.

**1008. WATER POLO.** (1 cr)

Introduction to and practice of skills through drills and game situations.

**1014. CONDITIONING.** (1 cr)

Improvement of physical fitness through running, circuit training, and progressive exercise.

**1015. WEIGHT TRAINING.** (1 cr)

Fundamentals including techniques, theory, and individualized exercise prescription.

**1016. POSTURE AND INDIVIDUAL EXERCISE.**

(1 cr; moderate intensity)

Individually prescribed exercises for increased muscular strength, improvement of posture and weight control.

**1029. HANDBALL.** (1 cr)

Basic fundamentals of skills and shots; rules and game strategy.

**1031. SABER FENCING.** (1 cr)

Development of physical and perceptual skills for fencing; techniques of the saber; history, rules, practical bout experience.

**1032. BADMINTON.** (1 cr)

Emphasis on fundamental skills, rules, etiquette, and strategy for both singles and doubles.

**1033. FOIL FENCING.** (1 cr)

Developing necessary physical and perceptual skills; history, rules, and practical bout experience included.

**1034. JUDO.** (1 cr)

Basic skills including falls, hold-downs, chokes, throwing and counter techniques.

**1035. KARATE.** (1 cr)

Emphasis on learning basic stances, blocks, and attacks; hand and foot techniques.

**1036. RACQUETBALL.** (1 cr)

Fundamentals of skills and shots; rules and game strategy.

**1037. SQUASH RACQUETS.** (1 cr)

Fundamental strokes and rules with game situations emphasized.

**1038. TENNIS.** (1 cr)

Fundamental strokes of service, forehand and backhand drives, and volley; court positions and strategy for singles and doubles; rules, terminology, etiquette.

**1041. CYCLING.** (1 cr; prereq supply own bicycle)

Basic skills; physiological and mechanical principles; maintenance, safety, training.

**1042. ORIENTEERING.** (1 cr)

Fundamental skills including land navigation, terrain analysis, fitness.

**1044. SELF-DEFENSE.** (1 cr)

Fundamental skills; development of basic techniques and values from active participation in physical activity.

**1048. BOWLING.** (1 cr; moderate intensity)

For the beginning student. Fundamentals of stance, approach and delivery, scoring, bowling terminology, and etiquette.

**1050. GOLF.** (1 cr; moderate intensity)

Fundamentals; grip, stance, and swing; etiquette and rules.

**1053. ICE SKATING.** (1 cr)

Basic techniques: forward stroking, backward stroking, stops and turns.

**1056. NORDIC (CROSS-COUNTRY) SKIING.** (1 cr)

Basic techniques; participation in exercise and conditioning program preparatory to skiing.

**1057. SKIING.** (1 cr)

Basic skills in skiing and safety; care and purchase of equipment.

**1059. TRACK AND FIELD.** (1 cr)

Fundamentals and strategy in sprint, distance, and field events.

**1060. TUMBLING AND FLOOR EXERCISE.** (1 cr)

Development of basic skills.

**1067. BASKETBALL.** (1 cr)

Fundamentals of offense and defense; elementary team play and game strategy.

**1070. ICE HOCKEY.** (1 cr; prereq 1053 or equiv)

Basic skills of goal tending, individual and team defensive and offensive techniques and conditioning.

**1072. SOCCER.** (1 cr)

Strategy, rules, and fundamentals emphasized through drills and team play; basic techniques and ball skills, introduction to laws of the game, and experience in match play.

**1073. SOFTBALL.** (1 cr)

Fundamental skills and tactics: throwing, catching, batting, running, basic conditioning, and game play.

**1074. VOLLEYBALL.** (1 cr)

Fundamental skills and rules of volleyball; basic team play and strategy.

**1107. SWIMMING.** (1 cr; prereq ability to swim 100 yards)

Deep water skills, elementary back stroke, side stroke, front crawl, back crawl, elementary diving, and distance swimming.

**1133. FENCING.** (1 cr; prereq 1033 or equiv)

Review of fundamentals, with major emphasis on tournament strategy and compound attack.

**1135. KARATE.** (1 cr; prereq 1035 or equiv)

Advanced development of basic skills plus beginning practice of Kumite (basic sparring), introduction to first kata (form).

**1136. RACQUETBALL.** (1 cr; prereq 1036 or equiv)  
Advanced techniques and shots in context of game strategy.

**1138. TENNIS.** (1 cr; prereq 1038 or equiv)  
Improvement of basic skills, increased emphasis on single and doubles strategy and competitive play.

**1154. FIGURE SKATING.** (1 cr; prereq 1053 or equiv)  
Emphasis on basic school figures.

**1157. SKIING.** (1 cr; prereq 1057 or equiv)  
Individual and small group instruction to develop advanced skills.

**1160. TUMBLING AND FLOOR EXERCISE.** (1 cr; prereq 1060 or equiv)  
Intermediate skills.

**1174. VOLLEYBALL.** (1 cr; prereq 1074 or equiv)  
Review of fundamental and advanced skills including offensive and defensive strategy and competitive play.

**1205. SCUBA AND SKIN DIVING.** (1 cr; prereq 1107 or equiv)  
Initial course. University of Minnesota card of certification issued to those successfully completing the course.

**1306. ADVANCED LIFEGUARDING.** (1 cr; prereq ability to swim 440 yds)  
Focus on knowledge and skills necessary to save own life or life of another.

**1410. WATER SAFETY INSTRUCTOR.** (2 cr; prereq current American Red Cross Advanced Lifesaving Certificate and have or concurrently acquire ARC First Aid and CPR Certificate)  
Advanced lifesaving technique and teaching strategies.

**1415. THEORY AND PRACTICE OF WEIGHT TRAINING AND CONDITIONING.** (2 cr; prereq 1014, 1015 or #)  
Advanced development of skills, techniques, knowledge, and understanding.

**1497. DIRECTED STUDY.** (1-6 cr; prereq 3 cr physical educ, Δ)  
For the nonprofessional student who wishes to study a topic or problem under tutorial guidance.

## Kinesiology (Kin)

Courses numbered above 1500 apply to undergraduate, licensure, and certification programs in kinesiology and are listed under kinesiology in the Class Schedule. All courses that can be applied to licensure programs in coaching, developmental/adapted physical education, and physical education are designated with Physical Education Licensure (PEL). Students taking courses with a high level of energy expenditure should check with a personal physician if they are unsure of their capacity to perform the required activities.

**1871. INTRODUCTION TO KINESIOLOGY.** (3 cr; prereq physical educ major)  
Professional and disciplinary dimensions of studying physical activity; theoretical application to human movement.

**1990. DIRECTED STUDY.** (1-6 cr; prereq Δ)  
For students majoring or minoring in physical education who wish to study a topic or problem under tutorial guidance.

**3111. MECHANICS OF MOVEMENT.** (3 cr; prereq CBN 1027) (PEL)  
Structure of the body, principles and mechanics of bodily movements.

**3114. PREVENTION AND CARE OF INJURIES.** (3 cr; prereq 31110 or CBN 1027) (PEL)  
Policies for conditioning athletes in interscholastic and intercollegiate sports; safety controls.

**3115. PHYSIOLOGICAL APPLICATION TO SPORTS.** (3 cr, §3385, §3386, §PubH 3385, §PubH 3386; prereq Physl 3051 or #) (PEL)  
Muscular contraction for strength development programs; contributions of training programs to endurance, speed, and skill acquisition; influence of training on the cardiovascular system; fatigue and recovery; early season training, pregame meals and ergogenic aids in athletics. Required for the Minnesota Coaching Endorsement.

**3131. HISTORY AND PHILOSOPHY OF KINESIOLOGY AND SPORT.** (4 cr)  
Introductory description and interpretation of development of physical education and sport from primitive to 20th-century civilization.

**3132. MOTOR DEVELOPMENT.** (3 cr, §3112)  
Physical growth and development at all ages of childhood and adolescence; relationship of physical growth and psychomotor skill acquisition to cognitive and affective factors.

**3135. MOTOR LEARNING AND HUMAN PERFORMANCE.** (3 cr; §3113)  
Motor growth and development of children, adolescents, and adults with emphasis on sociopsychological factors.

**3143. ORGANIZATION AND MANAGEMENT OF SPORT.** (3 cr; prereq 2 cr coaching course) (PEL)  
Principles, policies, and procedures involved in the coaching of interscholastic sports.

**3144. ADMINISTRATION.** (2 cr, §3120; prereq kinesiology major, sr) (PEL)  
Overview of objectives, content of organizations, evaluation and trends in administration of physical education for the elementary and secondary schools.

**3150. INTRODUCTION TO EVALUATION.** (4 cr)  
Selection, evaluation, construction, and administration of tests; administration of sports skill and motor ability tests for elementary and secondary school levels.

**3169. VOLLEYBALL COACHING.** (2 cr; prereq 1174 or #) (PEL)  
Professional preparation emphasizing philosophies, skills, strategies, and responsibilities.

## Course Descriptions

### **3170. BASEBALL COACHING.** (2 cr) (PEL)

Techniques of playing each position, batting, coaching runners, and team play; study of rules; officiating methods and practice; organization of practices.

### **3171. BASKETBALL COACHING.** (2 cr) (PEL)

Techniques, styles of offense and defense, conditioning and handling of players.

### **3172. FOOTBALL COACHING.** (2 cr) (PEL)

Techniques and orientation, strategy, generalship, styles of offense and defense, methods of organizing practices and handling players.

### **3174. GYMNASTICS COACHING.** (2 cr) (PEL)

Analysis of elementary through advanced stunts in tumbling, floor exercise, and on trampoline, side horse, parallel bars, still rings, and long horse; emphasis on teaching and techniques. Aspects of legal liability, budget, scheduling, regulations, training, research; purchase and care of equipment and constructing gymnastics gymnasiums.

### **3175. ICE HOCKEY COACHING.** (2 cr) (PEL)

Techniques of and orientation to coaching high school hockey; planning and conducting practices, team offense and defense; drills to develop individual skills; conditioning.

### **3176. SWIMMING AND DIVING COACHING.** (2 cr) (PEL)

Instruction in and practice of the basic techniques used in competitive swimming and diving; rules and regulations governing staging of competition.

### **3177. TENNIS COACHING.** (2 cr) (PEL)

Techniques and orientation, methods and organization; emphasis on high school and college levels; coverage of coaching techniques, analysis of strokes, and organization of practice sessions.

### **3178. TRACK AND FIELD COACHING.** (2 cr; prereq 1654 or 1059 or #) (PEL)

Techniques of performance in all standard events; methods of coaching; organization of track meets; study of rules; officiating methods and practice.

### **3179. WRESTLING COACHING.** (2 cr) (PEL)

Analysis of the moves, combinations, and sequences; training, safety, and health features; administrative responsibilities of the coach; review of the literature.

### **3310. ATHLETIC TRAINING LABORATORY.** (1 cr; prereq 3114)

Thirty hours of practical experience in the training room under supervision.

### **3327. TEACHING PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL.** (3 cr; prereq elem educ major) (PEL)

Overview of the elementary physical education program; primarily a laboratory course, with participation in representative physical education activities for children; opportunities for observation of children, microteaching, skill analysis, and group discussion.

### **3371. SOCCER COACHING.** (2 cr; prereq 1072 or #) (PEL)

Styles, systems, training techniques, psychological aspects of soccer; fundamental approaches and tactics in coaching soccer.

### **3385. EXERCISE PHYSIOLOGY.** (4 cr, §PubH 3385; prereq CBN 1027 or equiv)

Physiological considerations of the human organism including nature and functions of the cell, transport, energy production, body fluids, and introductory aspects of nervous, circulatory, and muscular functions with reference to exercise.

### **3386. EXERCISE PHYSIOLOGY.** (4 cr, §PubH 3386; prereq 3385 or equiv) (PEL)

Physiological considerations of the human organism including nature and function of the kidney, regulation of water and acid balance, function of hormones, exercise and heart and lung function; special reference to acute and chronic effects of training on cardiorespiratory systems.

### **3624. STUDENT TEACHING: COACHING.** (3 cr; prereq Δ) (PEL)

Student coaching experience under the supervision of a mentor coach. Required of candidates for coaching licensure or minor.

### **3625. SUPERVISED PRACTICAL EXPERIENCE.**

(1-12 cr [max 12 cr]; prereq Δ)

On-the-job experience under a specialist in the particular area of study.

### **3900. DIRECTED STUDY.** (1-12 cr [max 12 cr])

Self-directed study preceded by classroom study and possession of basic competence.

### **5100. TEACHING PHYSICAL EDUCATION FOR THE HANDICAPPED.** (3 cr; prereq #) (PEL)

Introduction to the role of physical education in the education of the handicapped individual, emphasizing understanding, principles of organization, administration, curriculum, supervision, and evaluation.

### **5101. PHYSICAL EDUCATION ACTIVITIES FOR THE HANDICAPPED.** (3 cr; prereq 5100 or EPsy 5601) (PEL)

Adaptation of methods, materials, and physical activities to meet the needs of the physically, mentally, or emotionally atypical student applied to specific handicaps in selected activity areas.

### **5102. PRACTICUM: DEVELOPMENTAL/ ADAPTED PHYSICAL EDUCATION.** (1-6 cr [max 6 cr]; prereq 5100, 5101 or #) (PEL)

Observation of and participation in physical education instruction for students with disabilities; includes seminar component for discussion of current issues in developmental/adapted physical education and exchange of ideas and problems.

### **5111. SPORT FACILITIES.** (3 cr)

Planning of areas and facilities for physical education and athletics, with emphasis on current trends and problems in the field.

**5120. ADVANCED BIOMECHANICS.** (4 cr; prereq biomechanics, 3111 or #) (PEL)

Principles of mechanics applied to human movement, analysis of motor skills, application to individual projects.

**5121. CONTRIBUTIONS OF BASIC SCIENCE TO KINESIOLOGY.** (3 cr)

Recent research in related physical sciences; applications in selected areas.

**5122. APPLIED PHYSIOLOGY.** (3 cr; prereq 3386 or equiv or #) (PEL)

Application of concepts in human physiology to exercise physiology, sports training, and physical activities with particular reference to respiratory and cardiovascular systems.

**5124. HUMAN FACTORS PHYSIOLOGY.** (3 cr)

In-depth view of concepts, problems, and issues associated with ergonomic improvements to the design and operation of human work space. Appraisal and evaluation of existing ergonomic tools and methodologies. Hands-on experience in critiquing and redesigning existing systems, principles necessary for designing more efficient future systems.

**5126. ADVANCED PSYCHOLOGICAL AND SOCIOLOGICAL DIMENSIONS OF PHYSICAL ACTIVITY.** (3 cr)

Advanced insight into the substance, nature, and significance of these dimensions of physical activity; focus on current research, issues, and trends as well as potential practical contributions.

**5132. MOTOR DEVELOPMENT.** (3 cr, §5131, §CPsy 5322; prereq 3132 or #) (PEL)

Development aspects of motor skill acquisition from birth to physical maturity.

**5135. MOTOR LEARNING AND HUMAN PERFORMANCE.** (3 cr, §5130; prereq 3113 or 3135 or #) (PEL)

Mechanisms of human motor skill learning; emphasis on theories of motor learning and control of movement, motor memory, and individual differences.

**5136. PSYCHOLOGY OF COACHING.** (3 cr) (PEL)

Physiological aspects of coaching at all age and skill levels, including leadership and communication skills, motivation, and mental skills training for performance enhancement.

**5140. BIOMECHANICS OF SPORT SAFETY.** (3 cr; prereq undergrad kinesiology)

Forces and torques developed in sports activities; tolerances of the human body; techniques for preventing injury; design of protective equipment.

**5141. NUTRITION FOR EXERCISE AND PHYSICAL PERFORMANCE.** (3 cr; §HEEd 5412; prereq 3115 or FScN 1612 or FScN 3600 or equiv)

Application of basic nutritional principles to active populations, current issues related to dietary modifications for the possible improvement of physical performance, and strategies for educating clientele about nutrition and physical performance.

**5151. CURRICULUM.** (3 cr; prereq sr, 3322, 3323 or #) (PEL)

For students without previous experience in curriculum; objectives, content, organization, evaluation, and trends.

**5152. CURRICULUM DEVELOPMENT.** (3 cr; prereq 5151 or #) (PEL)

Trends, issues, and problems at selected levels of interest: elementary, secondary, junior college; for experienced teachers.

**5170. FOUNDATIONS OF KINESIOLOGY.** (3 cr; prereq grad or MEd student)

Establishing guidelines for individual and group professional action; examining pertinent social forces, educational philosophies, and general ethics.

**5371. SOCIOLOGY OF SPORT.** (4 cr, §Soc 5371)

Sport within and among societies and nations; social organizations: socioeconomic development, contemporary structure, personnel, fans; relationship to other institutions: economy, education, family, government, religion; social differentiation: status, ethnicity, sex, age; careers; ethical and social problems: honesty and violence.

**5375. COMPETITIVE SPORT FOR CHILDREN AND YOUTH.** (3 cr)

Cognitive, behavioral, and biological factors affecting competitive sport participants from early childhood through high school. Emphasis on translating sport science research into practical applications for youth sport coaches, teachers, and administrators.

**5380. COMPUTER APPLICATIONS IN KINESIOLOGY.** (3 cr; prereq kinesiology major or #)

Examination of the potential uses of computers in testing and research; introduction of such topics as hardware selection, interfacing of computers and data acquisition devices, and management of data for analysis and presentation.

**5385. EXERCISE FOR SPECIAL POPULATIONS.**

(3-6 cr; prereq undergrad-level physiol or biol; A-F only)

Problems associated with exercise for persons with various conditions or diseases such as arthritis, cancer, diabetes, mental disorders, obesity, old age, or paralysis. Recommended exercise prescriptions and potential benefits for special populations.

**5387. DETECTION AND PREVENTION OF CORONARY HEART DISEASE.** (4 cr; prereq 3386 or equiv or #)

Introduction to causes, detection, and prevention of major cardiovascular diseases emphasizing risk factor identification and modification, role of exercise in prevention, and measurement and interpretation of exercise electrocardiograms.

**5388. EXERCISE TESTING, CONDITIONING, AND CARDIAC REHABILITATION.** (4 cr; prereq 3386 or equiv, 5387 or #)

Administration and interpretation of exercise tests, cardiopulmonary resuscitation, and exercise prescription; survey of exercise programs for apparently healthy adults and CHD patients; familiarization with principles for establishment of intervention and rehabilitative programs.

## Course Descriptions

### **5389. PRACTICAL EXPERIENCE IN GRADED EXERCISE TESTING, PRESCRIPTION, AND DIRECTION.** (3-6 cr [max 6 cr]; prereq 5388 or #)

Supervised on-site training in testing, prescription, and direction of programs for adults.

### **5455. RECREATIONAL SPORTS.** (3 cr, §Rec 5455)

Analysis of recreational sports programming and participation. In-depth review of recreational sports—its foundations, programs, and operational considerations.

### **5460. FOUNDATIONS OF SPORT MANAGEMENT.** (3 cr, §Rec 5460; prereq recreation or kinesiology major or #)

Principles of sport management and fitness, including theories and techniques in marketing, administration, and management of sport enterprises. Organizational theory and policy with practical examples of sport management skills and strategies.

### **5510. WOMEN IN SPORT AND LEISURE.** (3 cr, §Rec 5510)

Examination of historical, cultural, philosophical, and socio-psychological factors that have shaped the growth and development of women's involvement in sport and leisure, as well as obstacles preventing further involvement.

### **5521. PEDAGOGY I: ELEMENTARY PHYSICAL EDUCATION I.** (6 cr; prereq student in postbac tchr prep program)

Class planning, structuring, communicating, and management; evaluating the role of the K-6 physical educator in diverse settings.

### **5522. PEDAGOGY II: SECONDARY PHYSICAL EDUCATION II.** (6 cr; prereq student in postbac tchr prep program)

Class planning, structuring, communicating, and management; evaluating the role of the grade 6-12 physical educator in diverse settings.

### **5561. CLINICAL EXPERIENCE I: PHYSICAL EDUCATION.** (6 cr; prereq 5521, 5522, admission to postbac physical educ licensure program or #) (PEL)

Supervised observation and teaching in school physical education.

### **5562. CLINICAL EXPERIENCE II: PHYSICAL EDUCATION.** (9 cr; prereq 5561, admission to postbac physical educ licensure program or #) (PEL)

Supervised observation and teaching in school physical education.

### **5563. CLINICAL EXPERIENCE III: PHYSICAL EDUCATION.** (9 cr; prereq 5562, admission to postbac physical educ licensure program or #) (PEL)

Supervised teaching in school physical education.

### **5620. PRACTICUM: PREVENTION AND CARE OF ATHLETIC INJURIES.** (3 cr; prereq CBN 1027 or equiv)

Overview of problems (recognition, principles, responsibilities) related to athletic injuries in secondary and college programs; demonstration and practice in training techniques and familiarity with use of instruments for athletic rehabilitation.

### **5720. TOPICS IN PHYSICAL EDUCATION.** (1-12 cr [max 12 cr]; prereq #)

Current issues as they relate to physical education and sport.

### **5740. WORKSHOP: COACHING OF INDIVIDUAL, DUAL, OR TEAM SPORTS.** (1-12 cr [max 12 cr])

Instruction at the advanced level including analyses of skills, game strategies, specific techniques of coaching, and methods of training and conditioning.

### **5750. ATHLETICS IN CONTEMPORARY SOCIETY.** (3-9 cr; prereq sr or grad student)

Contemporary issues; background on organizational and management problems of interscholastic and intercollegiate athletics. Each offering will focus on a current problem.

### **5860. LEGAL ASPECTS OF SPORT AND PHYSICAL ACTIVITY.** (4 cr, §Rec 5860; prereq 3143 or Rec 3550 or 5460)

Survey of legal considerations involved in sport and physical activity programs in schools, colleges, and the private sector.

### **5980. RESEARCH METHODOLOGY.** (3 cr, §Hlth 5980; prereq educ or grad student) (PEL)

Methods and design for research in health, kinesiology, and recreation.

### **5981. PROBLEMS.** (Cr ar; prereq MEd candidate, #) (PEL)

Focus on teaching of physical education.

### **5983. READINGS: KINESIOLOGY.** (Cr ar [max 9 cr] prereq educ or grad student)

Independent study under tutorial guidance.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8126. SEMINAR: PSYCHOLOGICAL AND SOCIOLOGICAL DIMENSIONS OF PHYSICAL ACTIVITY**

### **8128. PSYCHOLOGY OF SPORT**

### **8132. SEMINAR: MOTOR DEVELOPMENT**

### **8135. SEMINAR: MOTOR LEARNING AND HUMAN PERFORMANCE**

### **8320. SEMINAR: BIOMECHANICS**

### **8381. LABORATORY RESEARCH TECHNIQUES**

### **8382. BIOMECHANICS: RESEARCH TECHNIQUES**

### **8607. COMPARATIVE PHYSICAL EDUCATION AND SPORT**

### **8980. GRADUATE RESEARCH SEMINAR**

### **8981. RESEARCH PROBLEMS**

### **8985. SEMINAR: CONTEMPORARY PROBLEMS**

**Recreation, Park, and Leisure Studies (Rec)**

**1520. ORIENTATION TO LEISURE AND RECREATION.** (4 cr)

Examination of the history and development of the park and recreation movement; sociological, economical, psychological, and political considerations of leisure and recreation in contemporary societies; orientation to the professional field.

**1540. CAMP COUNSELING.** (4 cr)

Practical experience in all phases of camping; introduction to camping and outdoor education for prospective counselors.

**1600. LEADERSHIP IN SOCIAL ACTIVITIES.**

(3 cr)  
Techniques of leadership in social games, parties, dances, outings.

**3150. LEADERSHIP IN OUTDOOR RECREATION.**

(3 cr; prereq 1520, rec major)  
Identity and scope of outdoor recreation programs.

**3210. THERAPEUTIC INFORMATION FOR RECREATORS.**

(3 cr; prereq Anat 1004 or Anat 1027, Phar 5210, Δ)  
Survey of physical disability, limitations, treatment, and health serving agencies.

**3530. RECREATION AND PARK AREAS AND FACILITIES.**

(4 cr; prereq 1520, rec major or Δ)  
Basic principles of planning leisure facilities; effective application of standards in planning, design, and construction.

**3540. RECREATION PROGRAMMING.**

(4 cr; prereq 1520, rec major or Δ)  
Principles of program planning and leadership in all aspects of recreation.

**3550. PARK AND RECREATION ADMINISTRATION.**

(4 cr; prereq 3530, 3540 or #)  
Principles and practices in the delivery of park and recreation services.

**3700. SENIOR INTERNSHIP.**

(1-15 cr; S-N only; prereq sr, rec major or minor, Δ)  
Supervised experiences in selected agencies.

**3900. DIRECTED STUDY.**

(3 cr [max 9 cr]; prereq rec majors only, Δ)  
Self-directed study preceded by classroom study and possession of basic competence.

**5100. FOUNDATIONS OF RECREATION.**

(3 cr, §8120; prereq MEd or adult special or grad student)  
Investigation of the historical, sociological, and educational bases of the recreative use of leisure time in contemporary society.

**5160. CONSERVATION OF PARK RESOURCES.**

(3 cr; prereq 1520 or 5100 or Δ)  
Environmental considerations in relation to recreation and leisure services.

**5180. EMPLOYEE RECREATION SERVICES.**

(3 cr; prereq 1520 or 5100 or Δ)  
Survey of history, development, and management patterns of employee recreation services in business, government, and industry.

**5190. COMMERCIAL RECREATION.**

(3 cr; prereq 3550 or Δ)  
Survey of scope and development of profit-making recreation agencies, facilities, and services.

**5210. INTRODUCTION TO THERAPEUTIC RECREATION.**

(3 cr; prereq 1520 or §5100, rec major or Δ)  
Relationship of recreation to special populations; milieu and interdisciplinary approaches in the delivery of services.

**5220. THERAPEUTIC RECREATION SERVICES.**

(5 cr; prereq 5210 or Δ)  
Recreation services for the ill, disabled, and other special populations.

**5230. RECREATION AND PERSONS WITH DEVELOPMENTAL DISABILITIES.**

(4 cr; prereq 5210, 5220 or #)  
Issues relating to leisure services for persons with mental retardation problems; approaches to programming in the institution and in the community.

**5235. LEISURE AND MENTAL HEALTH.**

(4 cr; prereq 5210 or #, Psy 3604 or 5604, Δ)  
Exploration and application of concepts of mental health and mental illness to leisure services delivery in institutional and community settings.

**5240. RECREATION AND AGING.**

(4 cr; prereq 3540 or 5100 or Δ)  
Leisure problems of the aging citizen; modification of program activities; investigation of community resources; trends and developments in recreation planning.

**5250. FINANCING LEISURE SERVICES.**

(3 cr; prereq 3550 or Δ)  
Methods and techniques of financing operations and capital improvements in public park and recreation agencies and nonpublic community leisure services; sources of revenue, budgeting procedures.

**5255. LEISURE EDUCATION FOR SPECIAL POPULATIONS.**

(3 cr; prereq 5220, PsyS 5110 or EPsy 5260 or #, Δ)  
Instruction, counseling, and other methods of education for awareness of leisure, self-in-leisure, leisure-related problem solving and decision making, and access to leisure services.

**5270. COMMUNITY LEISURE SERVICES AND PERSONS WITH DISABILITIES.**

(4 cr; prereq 1520, rec and park major or Δ)  
Exploration and application of concepts and techniques of normalization and least restrictive environment strategies to leisure service delivery in community settings for range of individuals with handicaps.

## Course Descriptions

### **5299. CLIENT ASSESSMENT AND PROGRAM EVALUATION IN THERAPEUTIC RECREATION.**

(4 cr; prereq 5220 or Δ)  
In-depth study and application of approaches to therapeutic recreation, client assessment and program evaluation.

### **5300. FOUNDATIONS OF OUTDOOR EDUCATION.**

(3 cr; prereq sr, 1520 or 5100 or #)  
Investigation of the philosophical, historical, and educational foundations of outdoor education.

### **5310. PROGRAMMING IN OUTDOOR EDUCATION.**

(4 cr; prereq 5300 or #)  
Methods, materials, and setting appropriate for developing and conducting outdoor education and environmental interpretation programs; emphasis on development of practical skills.

### **5350. WILDERNESS OUTDOOR PROGRAMMING.**

(4 cr; prereq 3150 or #)  
Exploration of leisure and educational resources of wilderness and management of wilderness-based outdoor recreation and outdoor education programs.

### **5455. RECREATIONAL SPORTS.**

(3 cr)  
In-depth analysis of processes and benefits of recreational sports programming and participation.

### **5460. FOUNDATIONS OF SPORT MANAGEMENT.**

(3 cr, §Kin 5460; prereq recreation or kinesiology major or #)  
Principles of sport management and fitness, including theories and techniques in marketing, administration, and management of sport enterprises. Organizational theory and policy with practical examples of sport management skills and strategies.

### **5510. WOMEN IN SPORT AND LEISURE.**

(3 cr)  
Examination of historical, cultural, philosophical, and socio-psychological factors that shaped the development of women's involvement in sport and leisure.

### **5630. PRACTICUM: THERAPEUTIC RECREATION.**

(3-9 cr; prereq rec MEd or grad student)  
Supervised experiences in program operation; administrative and supervisory duties.

### **5640. PRACTICUM: LEISURE SERVICES.**

(3-9 cr; prereq rec MEd or grad student)  
Supervised experiences in program operation; administrative and supervisory duties.

### **5695. PRACTICUM: SPORT MANAGEMENT.**

(3-9 cr, §PE 5695; prereq 5455)  
Theory and application of principles in developing and managing sport programs, including supervised experiences in program operation.

### **5750. LEGAL ISSUES IN LEISURE SERVICES.**

(4 cr; prereq 3550 or Δ)  
Broad study of basic legal considerations in the delivery of leisure services in public and private sectors.

### **5860. LEGAL ASPECTS OF SPORT AND PHYSICAL ACTIVITY.**

(4 cr, §Kin 5860; prereq 3550 or 5460 or Kin 3143)  
Survey of legal considerations involved in sport and physical activity programs in schools, colleges, and the private sector.

### **5900. WORKSHOP: CONTEMPORARY ISSUES IN LEISURE SERVICES.**

(1-12 cr [max 12 cr]; prereq Δ)  
Contemporary issues emphasizing administrative and supervisory functions for recreation and allied professionals; individual offerings focus on special issues and/or professional groups.

### **5980. INTRODUCTION TO RESEARCH.**

(3 cr, §PE 5980; prereq MEd or grad student or Δ)  
Basic techniques; emphasis on social research methodology; survey of present status of recreation and park research.

### **5981. PROBLEMS.**

(Cr ar; prereq MEd or MA student or Δ)  
Focus on conduct of recreation programs.

### **5983. READINGS: RECREATION.**

(1-3 cr; prereq MEd or grad student or Δ)  
Independent study under tutorial guidance.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8310. SEMINAR: RECREATION AND PARK ADMINISTRATION**

### **8320. SEMINAR: THEORETICAL PERSPECTIVES OF LEISURE BEHAVIOR**

### **8370. SEMINAR: ADMINISTRATIVE PROBLEMS IN THERAPEUTIC RECREATION**

### **8380. SEMINAR: ADMINISTRATIVE PROBLEMS IN RECREATION AND PARKS**

### **8980. RESEARCH PROBLEMS**

### **8981. RESEARCH PROBLEMS**

## **Music Education (MuEd)**

Other 3xxx-level music education courses, including those in music therapy, can be found in the *CLA Bulletin*.

### **1201. INTRODUCTION TO MUSIC EDUCATION.**

(1 cr)  
Orientation to various areas and levels of music teaching through observation and school-centered experiences.

### **1801. INTRODUCTION TO MUSIC THERAPY.**

(1 cr)  
Survey exploring methods, materials, and applications of music therapy in various clinical settings with emphasis on field observations.

### **3011. TEACHING MUSIC IN THE ELEMENTARY SCHOOL.**

(4 cr; prereq Mus 1001, elem educ major)  
For non-music majors; methods and materials in teaching singing, rhythm, music reading, creativity, classroom instruments, fundamentals, appreciation in K-6.

### **5111. RESEARCH IN MUSIC EDUCATION: BIBLIOGRAPHY.**

(3 cr)  
Sources, materials, and techniques.

**5112. RESEARCH IN MUSIC EDUCATION: TECHNIQUES.** (3 cr)

Methods and techniques employed in investigating and reporting music education problems; review of significant research.

**5115. RESEARCH IN MUSIC EDUCATION: MEASUREMENT.** (3 cr; prereq #)

Current status in music testing; principles; survey of evaluative, accountability, and testing materials in music.

**5211. PHILOSOPHIES OF MUSIC EDUCATION.** (3 cr)

Analysis and interpretation of philosophies of music and education; objectives, trends, curriculum, evaluation.

**5214. PSYCHOLOGICAL FOUNDATIONS.** (3 cr; prereq #)

Analysis and interpretation of psychologies of music and education as applied to the teaching of music.

**5217. HISTORICAL FOUNDATIONS OF MUSIC EDUCATION.** (3 cr; prereq #)

Analysis and interpretation of important elements in modern music teaching derived from the past.

**5313. INFLUENCE OF MUSIC ON YOUTH BEHAVIOR.** (3 cr)

Study of the ways music influences human behavior, with emphasis on effects of commercial styles on children and youth.

**5432. THE ADOLESCENT SINGING VOICE.** (3 cr; prereq upper div clearance in voice for voice major or 6 cr applied voice for non-voice major)

Principles of voice pedagogy in teaching adolescent singers; survey of resource materials for the teacher and opportunity to apply principles and techniques in a directed teaching setting.

**5441. READING AND STYLISTIC INTERPRETATION OF CHORAL MUSIC.** (3 cr)

Teaching singers to read and interpret music of representative periods and styles of composition.

**5504. ADVANCED STRING INSTRUMENT TECHNIQUES.** (3 cr)

Research reports, lecture-demonstrations; performance by class members and school-age laboratory groups.

**5611. TECHNIQUES AND MATERIALS: MUSIC AND RELATED ARTS.** (3 cr; prereq #)

Teaching music to reflect the major developments of Western culture.

**5613. TEACHING MUSIC LITERATURE.** (3 cr; prereq #)

Principles, methods, and materials for teaching music history (appreciation) in grades K-12.

**5615. TEACHING MUSIC READING.** (3 cr; prereq #)

Objectives; materials, research, teaching procedures, evaluation; class and individual projects; emphasis on general music class approach.

**5621. SUPERVISION AND ADMINISTRATION OF SCHOOL MUSIC.** (3 cr; prereq #)

Analysis and evaluation of instructional, supervisory, and administrative techniques; readings, new trends.

**5647. TECHNIQUES AND MATERIALS: PERCUSSION.** (3 cr; prereq #)

Contemporary approaches to teaching in elementary, junior high, and senior high school; emphasis on performing techniques; playing of teaching materials, solo and ensemble repertoire.

**5651. TECHNIQUES AND MATERIALS: INSTRUMENTAL ENSEMBLES.** (3 cr)

Survey of solo, chamber, and larger wind ensemble music and use in teaching instrumental music at pre-collegiate level.

**5655. NEW DIMENSIONS IN MUSIC EDUCATION.** (3 cr)

Study of contemporary music education through analysis of recent curricular trends and current issues.

**5657. TECHNIQUES AND MATERIALS: INSTRUMENTAL CONDUCTING.** (3 cr)

Basic conducting and rehearsal techniques for school bands and orchestras; selection of instrumental materials; organization of school ensembles, elementary and secondary.

**5666. MICROCOMPUTERS IN THE MUSIC CLASSROOM.** (3 cr)

Using the microcomputer to enhance instruction; materials for theory, ear training, composition, electronic music; developing a data base for music libraries, instrument inventories, budgets.

**5669. CONDUCTING THE MUSICAL SHOW.** (3 cr)

Rehearsal techniques, coordination of singing actors and instrumental accompaniment, conducting the pit orchestra; laboratory performance and listening activities focused on traditions and trends in the musical theater.

**5750. WORKSHOP: MUSIC EDUCATION.** (1-12 cr [max 12 cr])

Selected topics in music education. Each offering focuses on a single topic.

**5801. INFLUENCE OF MUSIC ON BEHAVIOR.** (4 cr; prereq music therapy major or grad with music therapy emphasis or #)

Methods and principles of the behavioral sciences as they relate to music therapy.

**5804. MUSIC IN THERAPY.** (3 cr; prereq music educ or music therapy grad or #)

Survey of principles and methods related to public school, hospital, and other community mental health and education settings; observation and laboratory sessions.

**5821. HISTORY OF MUSIC THERAPY.** (3 cr)

Historical development of profession; outstanding persons and their contributions; incorporation of technique in increasing number of treatment populations.

**5831. MUSIC FOR EXCEPTIONAL CHILDREN.** (3 cr; prereq #)

Trends; methods and materials for a functional program of singing, playing, rhythm, listening, and creative activities for mentally and physically handicapped and gifted pupils.

## Course Descriptions

### **5970. INDEPENDENT STUDY.** (1-4 cr; prereq educ or grad student)

Independent study project organized by the student in consultation with the appropriate instructor.

### **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8281-8282-8283. SEMINAR: HISTORICAL, PHILOSOPHICAL, AND PSYCHOLOGICAL ISSUES**

### **8990. RESEARCH PROBLEMS**

## **Vocational and Technical Education**

### **Agricultural Education (AgEd)**

#### **1001. INTRODUCTION TO AGRICULTURAL EDUCATION.** (1 cr)

Orientation to employment and service; qualifications of teachers, survey of preparatory offerings; the program in Minnesota.

#### **1002. PRINCIPLES OF CAREER PLANNING IN AGRICULTURE.** (1 cr)

Self-assessment and analysis of interests, skills, abilities, values, and life goals. Analysis of various agricultural occupations, employment potential, and demands in relation to employee expectations for work. Industries will be examined using information interviews.

#### **1003. PERSONAL AGRICULTURE CAREER PLANNING.** (1 cr; prereq 1002)

Develop personal career plans based on an individual assessment of 14 learner objectives plus various aptitude, value, and personality trait inventories. Individual plans will reflect information obtained in interviews with firms about various occupations.

#### **1010. HISTORY AND PHILOSOPHY OF VOCATIONAL AND COMMUNITY EDUCATION.** (3 cr)

Analysis and interpretation; alternative value positions involving social, economic, and related community variables.

#### **3001. EXPERIENTIAL LEARNING: PRODUCTION AGRICULTURE.** (1-14 cr [max 14 cr]; prereq #; S-N only)

Experiential learning in a production agriculture business. Planned, organized, monitored, and evaluated based on a pre-experience diagnosis of learning prerequisite to higher level courses in technical agriculture.

#### **3002. EXPERIENTIAL LEARNING: AGRICULTURAL BUSINESS.** (1-14 cr [max 14 cr]; prereq #; S-N only)

Experiential learning in an agricultural non-farm business. Planned, organized, monitored, and evaluated based on a pre-experience diagnosis of learning required to meet competency expectations for persons employed in agricultural businesses.

#### **3029. DIRECTED EXPERIENCE IN AGRICULTURAL EDUCATION.** (1-3 cr)

Observation of the activities of teachers of agriculture; familiarization with the staff, the curriculum, and the physical facilities and equipment in a department of vocational agriculture with opportunity to participate in the functions of a teacher.

#### **3041. PRACTICUM: AGRICULTURAL EDUCATION TECHNOLOGY.** (1-3 cr [may be repeated for max 5 cr])

Individualized study packages of one credit each of technology in agriculture, horticulture, off-farm agriculture, agricultural mechanics, adult and beginning farmer programs, youth organizations, program evaluation, and visual aids.

#### **5000. PROFESSIONAL EXPERIENCE PROGRAM.** (4 cr; prereq #; S-N only; not for grad cr; Extension regis only)

Professional experience in agribusiness firms or government agencies gained through supervised practical experience; evaluative reports and consultations with faculty advisers and employers.

#### **5010. RURAL EDUCATION: PHILOSOPHY AND LEADERSHIP.** (3 cr, §1010)

Philosophical foundations of the rural school; responsibilities of schools to the local community; development of rural educational systems; responsibility of the school to the individual; current delivery of rural education for developing community leadership programs.

#### **5021. EDUCATION THROUGH EXTENSION METHODS.** (3 cr, §HEEd 5021; prereq grad or #)

Methods and techniques of formal and nonformal education used by Extension Service and other organizations.

#### **5023. EXTENSION METHODS FOR DEVELOPING COUNTRIES.** (3 cr, §HEEd 5023)

Role, training, organization, and techniques of production specialists for agricultural production.

#### **5024. EXTENSION HISTORY AND PHILOSOPHY.** (3 cr, §HEEd 5024)

Origin, philosophy, historical development, objectives, and organizational structure of the Extension Service.

#### **5025. EXTENSION PROGRAM DEVELOPMENT.** (3 cr, §HEEd 5025)

Planning, implementing, and evaluating the program development process.

#### **5026. EXTENSION ADMINISTRATION.** (3 cr, §HEEd 5026; prereq #)

Administration of the Extension Service organization at the county, area, and state levels.

#### **5027. PRACTICUM: EXTENSION EXPERIENCES.** (2-9 cr [max 9 cr], §HEEd 5027)

Observation of and participation in activities of Extension Service staff at county and state levels; familiarization with staffing, program planning and development, and educational and administrative functions.

**5028. TEACHING METHODS IN AGRICULTURAL EDUCATION.** (5 cr; prereq SeEd 3155 or ¶SeEd 3155)

Methods used in teaching agriculture in public schools; use of media, principles of learning, problem solving, test construction, classroom management and specific practice in problem-solving teaching techniques; use of competency-based individualized instruction as a medium for course presentation and a model for teaching methods.

**5031. CLINICAL EXPERIENCE IN TEACHING AGRICULTURE.** (10 cr; prereq jr, 5028; S-N only)

Developing individual supervised agriculture experience programs, contacting parents, program analysis of community needs, conducting classes, community activities, FFA, and case studies.

**5032. HIGH SCHOOL CURRICULUM IN AGRICULTURE.** (3 cr; prereq 10 cr educ)

Philosophy, organization, and administration of instruction in agriculture departments in secondary schools.

**5034. PROCEDURES IN TEACHING AGRICULTURE.** (3 cr)

New developments in methodology; assessment of innovations and procedures; consideration of various levels of instruction.

**5035. METHODS AND PRACTICES IN TEACHING POST-HIGH SCHOOL AGRICULTURE.** (3 cr)

Problems unique to area vocational-technical school and junior college teaching; improving the ability to organize and present subject matter.

**5041. WORKSHOP: AGRICULTURAL EDUCATION TECHNOLOGY.** (1-6 cr [max 6 cr])

New understandings, techniques, and materials in animal science, plant science, horticulture, soil science, agricultural mechanics, forestry, natural resources, youth organization, visual aids, and occupational exploration.

**5042. AGRICULTURAL MECHANICS.** (1-3 cr [max 12 cr])

Technical and managerial information, techniques, and materials. Designed to facilitate participant's instructional planning, resource development, and instruction. Topic to be identified with each offering.

**5043. FARM MANAGEMENT.** (1-3 cr [max 12 cr])

Application of agricultural economics theory, principles, techniques, and materials. Designed to facilitate participant's instructional planning, resource development, and instruction. Topic to be identified with each offering.

**5049. AGRICULTURAL EDUCATION FOR ADULTS.** (3 cr; prereq 6 cr in ag and applied econ, AgEd 5010 or #)

Organization and implementation of systematic education programs for beginning and established farmers; organization of local programs to meet needs of production agriculture in areas of enterprises, agricultural mechanics and management; development of continuing programs.

**5051. ENTERPRISE ANALYSIS.** (3 cr; prereq #)

Analyzing the farm business as a basis for identifying problems; planning learning experiences to improve farm management at the high school, young farmer, and adult levels.

**5052. FARM BUSINESS MANAGEMENT EDUCATION.** (3 cr; prereq 5049 or #)

Administration, organization, and operation of farm business management education programs for adults; development and use of curriculum materials based on farm business record data.

**5055. METHODS IN FARMING SYSTEMS RESEARCH AND EXTENSION.** (3 cr, §HEEd 5055, §Agro 5055)

Methodology for integrating research and extension programs designed to identify and solve farm family system problems using interdisciplinary and holistic approaches.

**5056. APPLICATION OF FARMING SYSTEMS RESEARCH AND EXTENSION.** (3 cr; prereq 5055 or HEEd 5055)

Seminar and fieldwork projects; sondeos and on-farm trials conducted.

**5061. PROGRAM PLANNING AND EVALUATION.** (3 cr; prereq sr)

Developing a program of agricultural education in a community school, integration with total school program, administrative relationships, techniques and use of program evaluation in planning.

**5071. SUPERVISED OCCUPATIONAL EXPERIENCES IN AGRICULTURE.** (3 cr)

Organization and administration of an occupational experience program in agriculture for high schools and area schools.

**5072. PRACTICUM: AGRICULTURAL BUSINESS AND INDUSTRY.** (1-3 cr [max 9 cr]; prereq 5071 or #)

Observation, study, and experience in agricultural business and industry; application to educational problems in agriculture.

**5078. FFA ORGANIZATION AND MANAGEMENT.** (2 cr)

Development of FFA (vocational agribusiness education student organization) knowledge and organization; integration of activities into the curriculum; management of chapter operations.

**5080. ORGANIZATION AND MANAGEMENT.** (3 cr; prereq #)

Administrative structure and function of subcollegiate programs.

**5081. CURRENT ISSUES FOR THE BEGINNING AGRICULTURE TEACHER.** (1-3 cr [max 3 cr]; prereq #)

Teaching methods, organizing learning resource materials, managing classroom and laboratory learning activities, curriculum planning and organization, managing discipline situations, school and community relationships for the beginning teacher.

## Course Descriptions

### **5082. CURRENT ISSUES IN AGRICULTURAL EDUCATION.** (1-3 cr [max 9 cr]; prereq #)

Emphasizes study and clarification of current issues, strategies of response, implications of response actions, and related leadership roles.

### **5085. CAREER DEVELOPMENT IN AGRICULTURAL EMPLOYMENT.** (3 cr)

Methods and materials in teaching career development for agricultural industries.

### **5087. MENTORSHIP FOR BEGINNING AGRICULTURE TEACHERS.** (6 cr at 2 cr per qtr, continuous regis required in 3 consecutive qtrs; prereq less than 2 yrs exper as ag tchr, ¶5081, #)

One year program of professional development during the induction year of teaching agriculture in the public schools. Emphasis on solving problems, dealing with issues and concerns of new teacher, and making a smooth transition into the teaching profession.

### **5088. MENTORING BEGINNING AGRICULTURE TEACHERS.** (3 cr; prereq #)

Professional development training for experienced teachers who serve as mentors for beginning teachers of vocational agriculture. Emphasis on dealing with problems, concerns, and issues of teachers during their critical period of induction into the teaching profession in applied settings.

### **5090. INDEPENDENT STUDY.** (1-3 cr; prereq sr or #)

Topics may be chosen to permit study of areas within education or to supplement areas of inquiry not provided in the regular course structure.

### **5095. INTEGRATING PAPER: MASTER OF EDUCATION.** (3 cr; prereq MEd student in ag educ)

Preparation of a paper dealing with students in agricultural education applied to professional responsibilities.

### **5128. METHODS OF TEACHING.** (3 cr; prereq non-ag educ major and/or #)

Methods of teaching agriculture or related subjects; developing competencies in planning, organizing, implementing, and evaluating instruction with practice in instructional techniques.

### **5129. CURRICULUM PLANNING.** (3 cr; prereq 5128 or ¶5128, non-ag ed major and/or #)

Methods and procedures in planning a curriculum to teach within a specific subject matter area; curriculum construction for use in native country setting.

### **5130. EFFECTIVE TEACHING IN A COLLEGE OF AGRICULTURE.** (3 cr; prereq 1 yr grad study in ag or #)

Various approaches to effective teaching. Development of a personal teaching philosophy; practice in employing types of instructional improvement activities. Primarily for the student who plans to teach in a college of agriculture.

### **5244. TOPICS IN PROGRAM PLANNING FOR EXTENSION EDUCATION.** (1-6 cr [max 9 cr])

Effective extension educational programming in relation to situation and needs analysis; coordination of content, people, methodology; specific aspects in development of program models; managing resources available.

### **5245. TOPICS IN ADMINISTERING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §HEEd 5245)

Issues and current literature; focus on personnel hiring and supervision, financial management, leadership styles, long-range planning; application of theory to administrative practice.

### **5246. TOPICS IN TEACHING AND DELIVERING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §HEEd 5246)

Teaching techniques involving media, telecommunications, computers, group process methods, experiential learning in extension education settings.

### **5247. TOPICS IN EVALUATING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §HEEd 5247)

Overall evaluation design; issues in choosing quantitative versus qualitative evaluation methods; developing skills and conceptual frameworks to apply theory to extension settings.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8001. RESEARCH IN AGRICULTURAL EDUCATION**

### **8020. SEMINAR: AGRICULTURAL EDUCATION**

### **8091. FIELD PROBLEMS**

### **8303. SEMINAR: GRADUATE STUDIES REVIEW**

## **Business and Marketing Education (BME)**

### **1101. INTRODUCTORY WORD PROCESSING AND TRANSCRIPTION.** (3 cr; prereq intermediate typewriting or equiv)

Introduction to software for personal and business applications; projects using basic editing and printing capabilities; machine transcription.

### **3158. OFFICE MANAGEMENT TECHNIQUES AND TECHNOLOGY.** (3 cr, §5158)

Present and future management principles, financial management, personnel, communications, systems, and environment.

### **3159. WORD/INFORMATION PROCESSING CONCEPTS AND MANAGEMENT.** (3 cr, §5159)

Personnel and organization in industry; input and output hardware; implementing word processing systems.

### **3161. RECORDS MANAGEMENT.** (3 cr, §5161)

Managing business records; examining business records creation, maintenance, protection, and disposition.

### **3260. PROFESSIONAL SALES EDUCATION.** (3 cr, §5260)

Higher-order selling competencies reflecting client-centered and problem-solving abilities.

### **3300. TEACHING TYPEWRITING/KEYBOARDING.** (3 cr; prereq 1502 or ¶1502 or equiv)

Objectives, content, methods, materials, and evaluation.

**3302. TEACHING BASIC BUSINESS SUBJECTS.** (3 cr)

Developments in content and methods of teaching nonvocational business subjects.

**3303. TEACHING ACCOUNTING AND DATA PROCESSING.** (3 cr)

Methods, materials, curriculum, and principles of learning pertinent to accounting and data processing.

**5151. RESEARCH AND METHODS IN TEACHING TYPEWRITING/KEYBOARDING.** (3 cr)

Applying research findings to classroom methodology and materials development.

**5152. RESEARCH AND METHODS IN TEACHING THE BASIC BUSINESS SUBJECTS.** (3 cr)

Applying research findings to classroom methodology in general business, economics, introduction to business, business law, and consumer education.

**5153. CONSUMER EDUCATION: CURRICULUM, METHODS, AND MATERIALS.** (3 or 4 cr, §HEEd 5153)

Objectives, content, curricular organization, teaching methods, materials, and evaluation methods for the elementary, secondary, postsecondary, and adult levels.

**5157. MATERIALS AND METHODS IN OFFICE EDUCATION.** (3 cr)

Recent research and developments in teaching office procedures, the preparatory and related classes for cooperative office education, and the advising of vocational office education student organizations. Implementing word processing systems.

**5160. ADVANCED WORD PROCESSING PRACTICUM.** (3 cr)

Completion of projects using advanced editing and printing capabilities.

**5162. RESEARCH AND METHODS IN TEACHING ACCOUNTING AND DATA PROCESSING.** (4 cr, §5150, §5350)

Applying current research findings to teaching methodology and curriculum and materials development; computerized accounting applications.

**5163. TEACHING KEYBOARDING AND WORD PROCESSING IN ELEMENTARY AND MIDDLE SCHOOLS.** (3 cr)

Implementing computer keyboarding and word processing in elementary and middle schools. Effective teaching strategies; expected learner outcomes; evaluation methods; criteria for selecting hardware and software; managing and organizing computer labs.

**5201. CLINICAL METHODS IN MARKETING EDUCATION.** (4 cr, §5304; prereq educ or grad student)

Applying learning theories to practice. Field-based observation and discussion of applied learning theories; developing unit and lesson plans; demonstrating specific teaching methods pertinent to marketing education.

**5252. TEACHING PROMOTION DISPLAY.** (3 cr)

Materials and methods; practice in using equipment.

**5253. SUPERVISORY TRAINING.** (3 cr; prereq VoEd 5340 or equiv)

Problems, practices, programs, issues, and methodologies related to preparing trainers of supervisors in business, office, and marketing occupations.

**5261. SALES TRAINING.** (3 cr)

Introduction to strategies and techniques useful in developing effective sales people.

**5262. CUSTOMER SERVICE TRAINING.** (3 cr)

Overview of customer service strategies used by successful organizations and training practices used to develop customer-orient personnel.

**5305. APPLIED METHODS: MARKETING EDUCATION.** (4 cr)

Applying, practicing specific methods pertinent to marketing content categories; constructing a complete unit and teaching five one-hour sessions in school or laboratory setting.

**5310. INTRODUCTION TO MICROCOMPUTER APPLICATIONS IN BUSINESS AND MARKETING EDUCATION.** (3 cr)

Instructional uses of microcomputers; representative business and marketing education applications, including word processing, databases, spreadsheets, and graphics.

**5330. SPREADSHEET ANALYSIS USING MICROCOMPUTERS IN BUSINESS AND MARKETING EDUCATION.** (3 cr; prereq 5310 or equiv)

Introduction to use of spreadsheet software; instructional applications in business areas.

**5335. TEACHING MICROCOMPUTER BUSINESS GRAPHICS.** (3 cr; prereq 5310 or equiv)

Representative microcomputer-based business graphics software packages; use for making instructional presentations; use of simulated projects to teach applications in business and marketing classrooms.

**5340. TRENDS AND ISSUES IN BUSINESS AND MARKETING EDUCATION.** (3 cr [max 6 cr])

Identification, analysis, and discussion of recent issues and trends.

**5345. DATA BASE MICROCOMPUTER APPLICATIONS.** (3 cr; prereq 5310 or equiv)

Introduction to use of data base software; instructional applications in business areas.

**5351. ORGANIZATION AND ADMINISTRATION OF BUSINESS AND MARKETING EDUCATION.** (4 cr)

Organization and administrative structure in the United States; objectives, programs, practices, teacher selection and supervision, evaluative criteria for business and marketing education departments.

**5353. CURRICULUM CONSTRUCTION IN BUSINESS AND MARKETING EDUCATION.** (4 cr)

Content identification, program organization, preparation of instructional objectives, guidelines for selection and development of instructional materials.

## Course Descriptions

### **5355. ADULT BUSINESS AND MARKETING EDUCATION PROGRAMS.** (3 cr)

Identifying and training instructors to teach adults in business and marketing classes in technical colleges, extension programs; course and program evaluation, planning and promoting classes.

### **5359. OCCUPATIONAL EXPERIENCE.** (1-18 cr)

Observation and employment experiences in business offices or marketing businesses; weekly seminars on applications to teaching and guidance of high school and post-high school students.

### **5360. PROGRAM DEVELOPMENTS IN BUSINESS AND MARKETING EDUCATION.** (1-6 cr)

Developments emerging from research and local, state, and national programs and projects. Content will vary with each offering.

### **5361. BUSINESS OBSERVATION AND SEMINAR.** (3-9 cr)

Current operating practices and career opportunities in business and industry combining planned experiences in work environments and related seminars.

### **5363. TEACHING DESKTOP PUBLISHING.** (3 cr; prereq 5310 or equiv)

Strategies for teaching page layout and design, creating text and graphics, merging files, printing, and equipment and software requirements.

### **5365. INTEGRATED MICROCOMPUTER APPLICATIONS IN BUSINESS AND MARKETING EDUCATION.** (3 cr; prereq 5160, 5310, 5330, 5335, 5345 or equiv)

Advanced business and marketing computer applications integrating business and word processing, spreadsheets, business graphics, and database software.

### **5370. SPECIAL TOPICS IN INSTRUCTION.** (1-6 cr)

Planning and providing content, evaluating instruction. Topics vary with each offering.

### **5380. SPECIAL TOPICS IN CURRICULUM.** (1-6 cr)

Content development and evaluation of curriculum and curriculum materials. Topics vary with each offering.

### **5390. SPECIAL TOPICS IN TECHNICAL UPDATING.** (1-6 cr)

Technological and procedural changes in business content. Topics vary with each offering.

### **5600. FIELD-BASED PROJECTS IN BUSINESS AND MARKETING EDUCATION.** (1-12 cr [max 12 cr])

Individual or group work on curricular, instructional, developmental, or evaluative problems and projects applicable to local school or business situations.

### **5603. CLINICAL EXPERIENCE IN BUSINESS OR MARKETING EDUCATION.** (4 cr; prereq Δ)

Required school-based experience for students in teacher education programs in business or marketing education.

### **5604. CLINICAL EXPERIENCE IN BUSINESS OR MARKETING EDUCATION.** (4 cr; prereq Δ)

See 5603.

### **5605. CLINICAL EXPERIENCE IN BUSINESS OR MARKETING EDUCATION.** (4 cr; prereq Δ)

See 5603.

### **5606. CLINICAL EXPERIENCE IN BUSINESS OR MARKETING EDUCATION.** (4 cr; prereq Δ)

See 5603.

### **5900. DIRECTED STUDY IN BUSINESS AND MARKETING EDUCATION.** (1-6 cr [max 6 cr]; prereq Δ)

Opportunity for individual learning experiences not covered by regular courses.

## For Graduate Students Only

(For description, see *Graduate School Bulletin*)

### **8300. SEMINAR: RESEARCH IN BUSINESS, MARKETING, AND ECONOMIC EDUCATION**

### **8600. INTERNSHIP: BUSINESS AND MARKETING EDUCATION**

### **8900. PROBLEMS: BUSINESS AND MARKETING EDUCATION**

## Home Economics Education (HEEd)

### **3910. EDUCATIONAL METHODS FOR HOME ECONOMISTS AND RELATED PROFESSIONALS.** (3 cr; prereq jr and non-home econ educ majors)

For home economists and related professionals whose work includes educating people; development of skills necessary to organize, implement, and evaluate presentations and programs for individual clients as well as groups.

### **5001. SPECIAL TOPICS.** (1-6 cr)

Study of topic not covered by available courses.

### **5003. INTERNSHIP: COMMUNITY/WORK**

**SETTINGS.** (3-12 cr [max 12 cr]; prereq #; max 3 credits applied to MEd and MA programs)

Planned work experience focusing on educational competencies in these settings; students assume defined responsibilities of the position.

### **5021. EDUCATION THROUGH EXTENSION METHODS.** (3 cr, §AgEd 5021; prereq grad or #)

Methods and techniques of formal and nonformal education used by Extension Service and other organizations.

### **5023. EXTENSION METHODS FOR DEVELOPING COUNTRIES.** (3 cr, §AgEd 5023)

Extension methods to promote the rapid adoption of improved practices.

### **5024. EXTENSION HISTORY AND PHILOSOPHY.** (3 cr, §AgEd 5024)

Origin, philosophy, historical development, objectives, and organizational structure of the Extension Service.

### **5025. EXTENSION PROGRAM DEVELOPMENT.** (3 cr, §AgEd 5025)

Planning, implementing, and evaluating the program development process.

**5026. EXTENSION ADMINISTRATION.** (3 cr, §AgEd 5026; prereq #)  
Administration of the Extension Service organization at the county, area, and state levels.

**5027. PRACTICUM: PLACEMENT FOR EXTENSION EXPERIENCES.** (2-9 cr [max 9 cr], §AgEd 5027)

Observation of and participation in activities of Extension Service staff at county and state levels; familiarization with staffing, program planning and development, and educational and administrative functions.

**5055. METHODS IN FARMING SYSTEMS RESEARCH AND EXTENSION.** (3 cr)

Methodology for integrating research and extension programs designed to identify and solve farm family system problems using interdisciplinary and holistic approaches.

**5100. SERVICE OCCUPATIONS EDUCATION.** (3 cr [max 12 cr], §5331)

Development of occupational programs; exploration of career opportunities; identification of competencies for career clusters; development of objectives, learning experiences, and appraisal procedures; preparation of teaching materials; licensure course for instructors.

**5153. CONSUMER EDUCATION: CURRICULUM, METHODS, AND MATERIALS.** (3 or 4 cr, §BME 5153)

Objectives, content, curriculum organization, teaching methods, materials, and evaluation methods for the elementary, secondary, postsecondary, and adult levels.

**5244. TOPICS IN PROGRAM PLANNING FOR EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §AgEd 5244)

Effective extension educational programming in relation to situation and needs analysis; coordination of content, people, methodology; specific aspects in development of program models; managing resources available.

**5245. TOPICS IN ADMINISTERING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §AgEd 5245)

Issues and current literature; focus on personnel hiring and supervision, financial management, leadership styles, long-range planning; application of theory to administrative practice.

**5246. TOPICS IN TEACHING AND DELIVERING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §AgEd 5246)

Teaching techniques related to concepts of use of media, telecommunications, computers, group process methods, experiential learning in extension education settings.

**5247. TOPICS IN EVALUATING EXTENSION EDUCATION.** (1-6 cr [max 9 cr], §AgEd 5247)

Overall evaluation design; issues in choosing quantitative vs. qualitative evaluation methods; developing skills and conceptual frameworks to apply theory to extension settings.

**5300. HOME ECONOMICS CURRICULUM.** (3 cr)

Examination of research and literature; development of units of study and programs at elementary and secondary levels; production and evaluation of materials.

**5310. METHODS IN TEACHING HOME ECONOMICS: ATTITUDES, VALUES, AND KNOWLEDGE.** (3 cr)

Derivation of theory for educational method from relevant research; application to educational objectives, strategies, and student motivation.

**5315. EVALUATION: THEORETICAL AND TECHNICAL ASPECTS.** (3 cr)

Collecting and interpreting evidence related to achievement of objectives, emphasizing higher levels of cognition and affective behaviors.

**5320. ADULT EDUCATION IN HOME ECONOMICS.** (3 cr)

Planning a community program; teaching procedures; special problems.

**5321. INTERNATIONAL PERSPECTIVES IN HOME ECONOMICS EDUCATION.** (3 cr)

Examination of the field (formal and nonformal) around the world; commonalities and differences in purpose, problems, history, methods of delivery, and context of home economics.

**5404. INTRODUCTION TO EARLY CHILDHOOD FAMILY EDUCATION PROGRAM.** (1 cr)

Concept and philosophy of such programs as basis for program implementation.

**5405. CHILD DEVELOPMENT AND PARENT EDUCATION.** (1-4 cr [max 12 cr])

Objectives, content, curriculum organization, teaching methods, materials, and evaluation approaches for teaching youth and adults about social, cultural, psychological, economic, and technical aspects of child development, parenting, and parent-child interaction.

**5406. SPECIAL TOPICS IN PARENT AND FAMILY EDUCATION.** (1-6 cr)

Study of issues and current literature focused on emerging topics relevant to parent and family education.

**5407. FAMILY LIFE EDUCATION.** (1-4 cr [max 12 cr])

Objectives, content, curriculum development, methods, materials, and evaluation approaches for teaching diverse groups of youth and adults family life concepts including current research in communication, relationships, sexuality, self-esteem, and decision making.

**5408. EDUCATION FOR WORK-FAMILY RELATIONSHIPS.** (3 cr)

Examination of interactions between work and family with focus on educational applications for youth and adults.

**5409. GROUP METHODS FOR PARENT AND FAMILY EDUCATION.** (2 cr)

Methods and theories applied to development of skills for leading parent and family education groups.

## Course Descriptions

**5500. PROSEMINAR: HOME ECONOMICS EDUCATION.** (2 cr; required of all new grads)  
Relation of the processes and standards of rational thought to professional competence and the goals of a graduate program of study.

**5510. ORIENTATION TO TEACHING HOME ECONOMICS.** (3 cr; prereq postbac student in home econ educ or #)  
Critical analysis of home economics and the teaching of home economics; identification of practical problems encountered by families; development of a personal orientation toward becoming a home economics teacher.

**5511. HOME ECONOMICS INSTRUCTION IN SECONDARY SCHOOLS.** (5 cr; prereq 5510)  
Examination of curriculum perspectives and development of curriculum, instructional methods, and student evaluation for home economics in secondary schools.

**5512. CLINICAL SEMINAR: THE SCHOOL SETTING.** (4 cr, §Ind 5512; prereq postbac student or #)  
Examination of and experience with the school as a social-political setting, the role of vocational education in the school, the relation between adolescent development and curriculum, and the patterns of organizational and interpersonal communication within the school.

**5513. CLINICAL SEMINAR: EDUCATIONAL PRACTICE.** (4 cr, §Ind 5512; prereq HEEd/Ind 5512)  
Development of curriculum and instructional materials for school classrooms and laboratories and the conducting of research in school settings.

**5514. CLINICAL SEMINAR: TEACHING.** (12 cr, §Ind 5512; prereq HEEd/Ind 5512, 5513 or #)  
Teaching experience in a public school setting.

**5600. PRACTICUM: ADULT EDUCATION.** (1-9 cr; prereq #)  
Individual field assignments under supervision.

**5900. READINGS IN HOME ECONOMICS EDUCATION.** (1-3 cr; [max 12 cr]; prereq #)  
Independent study under tutorial guidance.

**5920. DIRECTED STUDIES.** (1-6 cr; prereq #)  
Opportunity for individualized learning experience in areas not covered by regular courses.

### For Graduate Students Only

(For description, see *Graduate School Bulletin*)

**8520. SEMINAR: HISTORY AND PHILOSOPHY OF HOME ECONOMICS EDUCATION**

**8530. SEMINAR: HOME ECONOMICS EDUCATION**

**8900. PROBLEMS: HOME ECONOMICS EDUCATION**

### Industrial Education (Ind)

**1000. TECHNICAL DRAWING.** (3 cr)  
Overview of technical drawing principles and applications of business and industry; laboratory experience in mechanical and PC-CAD production of working drawings.

**1001. TECHNICAL DESIGN AND PRODUCT DEVELOPMENT.** (3 cr)  
Introduction to principles and concepts of industrial research and development; laboratory experience in technical illustration, design methodology, and product development; environmental, societal, and entrepreneurial issues.

**1110. INTRODUCTION TO PRODUCTION SYSTEMS.** (4 cr)  
Introduction to principles, methods, materials, and processes of industrial production. Laboratory experience in producing, processing, and testing industrial materials and products.

**1120. COMMUNICATION TECHNOLOGY.** (3 cr)  
Instruction and laboratory experience in communication technology, including photography, video, wire communication, recording and storage systems, printing, and computer applications to communication.

**1130. PRINCIPLES OF ENERGY AND POWER.** (4 cr)  
Instruction and laboratory investigations in fundamentals of mechanical, fluid, and electrical power.

**1300. INTRODUCTION TO INDUSTRIAL EDUCATION TEACHING.** (2 cr; for fr and those contemplating the major)  
Objectives, programs, and teaching career options of industrial education.

**1301. INTRODUCTION TO VOCATIONAL-INDUSTRIAL TEACHING.** (3-6 cr [max 6 cr])  
Techniques for the occupationally certifiable individual who plans to enter the field of vocational teaching; required for initial state vocational licensure.

**1302. SUPERVISED VOCATIONAL-INDUSTRIAL TEACHING.** (3 cr; prereq #)  
Supervised teaching on the job for beginning teachers.

**1604. INDUSTRIAL MATERIALS AND MEASUREMENT.** (3 cr)  
Instruction and laboratory experiences in the identification, characteristics, layout, and measurement of manufacturing and construction materials including ceramics, metals, plastics, and woods.

**1624. PHOTOGRAPHY.** (3 cr)  
Study and application of basic photographic principles relating to black-and-white or color photography.

**3010. CONSTRUCTION.** (3 cr; prereq 1110)  
Introduction to principles, concepts, and techniques in civil, commercial, and residential construction. Laboratory experience in planning, designing, organizing, producing, and testing structures.

## **3011. MANUFACTURING.** (3 cr; prereq 1110)

Manufacturing concepts, principles, and applications. Instruction and laboratory experience in automated manufacturing, including computer-integrated manufacturing and robotics. Design, operation, and management of manufacturing systems and products.

## **3020. GRAPHIC COMMUNICATION.** (3 cr)

Instruction and laboratory experience surveying graphic communication/printing technology, including layout and design, typography, process camera, halftones, four-color process, computer graphics, electronic publishing, and image transfer via offset lithography and screen printing.

## **3030. INDUSTRIAL ELECTRONICS.** (3 cr; prereq 1130)

Instruction in and laboratory investigation of electronics as found in residential, commercial, and industrial settings.

## **3031. INDUSTRIAL POWER SYSTEMS.** (3 cr; prereq 1130)

Instruction in and laboratory investigation of applying and controlling mechanical, fluid, and electrical power in commercial and industrial settings.

## **3032. TRANSPORTATION SYSTEMS.** (3 cr)

Instruction in and laboratory investigation of transporting people, material, and energy.

## **3200. TECHNICAL DEVELOPMENT: ADVANCED.**

(1-6 per regis [max 18 cr]; prereq 1000, 1001, #)  
Individualized advanced technical development in construction, graphic communication, manufacturing, power and energy, and transportation.

## **3400. INDUSTRIAL TECHNOLOGY IN SOCIETY.** (3 cr)

Nature and effects on individuals and society investigated through laboratory experiences, field trips, guest industrialists, values clarification, discussion of readings.

## **3750. INDUSTRIAL PRACTICES AND PROCESSES.** (3 cr; prereq #)

An organized series of field trips to representative industrial plants preceded by classroom study and investigation.

## **3900, 3901. INDEPENDENT STUDY.** (3 cr per qtr, prereq #)

Self-directed study, preceded by classroom instruction in basic research procedures.

## **5000. OCCUPATIONAL EXPERIENCE.** (1-5 cr [max 15 cr]; prereq #)

Supervised employment in industry. credits allowed derived from ratio of 100 clock hours of supervised work experience to each credit given to the student.

## **5123. SPECIAL TOPICS IN COMMUNICATIONS.** (1-6 cr)

Study of a topic not covered by available courses.

## **5133. SPECIAL TOPICS IN MANUFACTURING.** (1-6 cr)

Study of a topic not covered by available courses.

## **5143. SPECIAL TOPICS IN POWER AND ENERGY.** (1-6 cr)

Study of a topic not covered by available courses.

## **5153. SPECIAL TOPICS IN TRANSPORTATION.** (1-6 cr)

Study of a topic not covered by available courses.

## **5200. TECHNICAL DEVELOPMENT: SPECIALIZED.** (1-6 cr per regis [max 18 cr]; prereq Δ)

Integrating specialized technical instruction in advanced and emerging areas into industrial education courses.

## **5300. INDUSTRIAL SURVEYS.** (3 cr)

Practices and techniques for studying instructional needs to establish or improve industrial courses in schools and industry.

## **5301. TESTS IN INDUSTRIAL SUBJECTS.** (3 cr)

Development, performance evaluations, work attitude evaluations, student progress reporting systems.

## **5303. INSTRUCTIONAL AIDS.** (3 cr; prereq educ or grad student)

Planning, construction, use.

## **5305. CRITICAL ISSUES IN INDUSTRIAL EDUCATION.** (3 cr; prereq educ or grad student)

Identification, analysis, and discussion of major current problems in the field.

## **5306. INDUSTRIAL EDUCATION WORKSHOP.**

(1-6 cr; prereq tchg exper, #)  
Areas of concentration vary with each offering.

## **5309. CONFERENCE LEADING FOR INDUSTRY.** (3 cr; prereq #)

Purposes, advantages, and limitations of method; techniques of procedure; experience in planning, leading, and evaluating conferences and in writing summaries.

## **5320. VOCATIONAL GUIDANCE.** (3 cr)

Self-assessment, use of occupational and labor market information, job-seeking skills, work and work satisfaction. For industrial teachers and trainers in school and industrial settings.

## **5325. FOUNDATIONS OF INDUSTRIAL EDUCATION.** (3 cr)

History, objectives, development, and current practices of the field.

## **5330. INDUSTRIAL COURSE CONSTRUCTION.** (3 cr; prereq educ or grad student)

Principles and techniques; experience in planning, organizing, and building a teaching guide.

## **5344. FACILITIES AND MANAGEMENT.** (3 cr; prereq 1300 or 5330 or #)

Planning, evaluation, and management of industrial education shop and laboratory facilities.

## **5360. INDUSTRIAL INSTRUCTION.** (3 cr)

Concepts and techniques of instruction in the industrial arts, trade and industrial schools and classes, and training-within-industry programs.

## Course Descriptions

### **5400. INSTRUCTIONAL MATERIALS LABORATORY FOR NONMAJORS.** (3 cr; prereq tchg exper or #)

For students needing manipulative skills and using craftwork activities in their teaching; individual and group projects.

### **5512. CLINICAL SEMINAR: THE SCHOOL SETTING.** (4 cr, §HEEd 5512; prereq postbac student or #)

Examination of and experience with the school as a social-political setting; the role of vocational education in the school, the relation between adolescent development and curriculum, and the patterns of organizational and interpersonal communication within the school.

### **5514. CLINICAL SEMINAR: TEACHING.** (12 cr, §HEEd 5514; prereq Ind/HEEd 5512, 5513 or #)

Teaching experience in a public school setting.

### **5516. CURRICULUM DEVELOPMENT IN TECHNICAL EDUCATION.** (4 cr)

The nature of technical knowledge. Differing conceptions of technology. The structure of thinking in science and technology. Alternative ways of conceptualizing, developing, delivering, and managing technology curricula.

### **5600. INSTRUCTIONAL MATERIALS LABORATORY.** (3-6-9 cr; prereq major, tchg exper or #)

Laboratory and shop experiences with new materials, processes, and equipment; development of complementary instructional materials.

### **5900. FIELD-BASED PROJECT IN INDUSTRIAL EDUCATION.** (1-6 cr [max 12 cr]; prereq 5305, 5325, MEd students only)

Independent or team project designed to study, improve, evaluate, or develop curriculum or instructional materials to improve quality of instruction.

### **5901. INDEPENDENT STUDY.** (1-6 cr; prereq Δ)

Independent inquiry into topics to permit in-depth study of areas in education or to supplement areas not provided in regular course structure.

## **For Graduate Students Only**

(For description, see *Graduate School Bulletin*)

### **8300. LITERATURE OF INDUSTRIAL EDUCATION**

### **8700. RESEARCH SEMINAR**

### **8900, 8901. RESEARCH PROBLEMS**

## **Vocational Education (VoEd)**

### **1200. COURSE CONTENT ANALYSIS WORKSHOP FOR ADULT VOCATIONAL INSTRUCTORS.** (1 cr)

Identification and analysis of adult vocational education course content.

### **1210. COURSE DEVELOPMENT WORKSHOP FOR ADULT VOCATIONAL INSTRUCTORS.** (1 cr; prereq 1200 or prev developed content analysis)

Course planning, including assessment of student needs, development of lesson plans, related materials, learning activities.

### **1220. INSTRUCTIONAL STRATEGIES WORKSHOP FOR ADULT VOCATIONAL INSTRUCTORS.** (1 cr)

Familiarization with and application of instructional methods and techniques for instructing adult learners in vocational education.

### **1230. INSTRUCTIONAL AIDS WORKSHOP FOR ADULT VOCATIONAL INSTRUCTORS.** (1 cr)

Planning for and using community and educational resources and instructional media in adult vocational education.

### **3100. TECHNICAL SPECIALTY WORKSHOP.** (1-3 cr; prereq licensed vocational-technical or practical arts instructor)

Technical updating in occupational areas of vocational education; content varies with each offering.

### **5100. SPECIAL TOPICS IN INSTRUCTION.** (1-6 cr [max 9 cr]; prereq #)

Topics vary with each offering but course covers planning, providing, and/or evaluating instruction.

### **5101. SPECIAL TOPICS IN CURRICULUM.** (1-6 cr [max 9 cr]; prereq #)

Topics vary with each offering but course covers the development and evaluation of curricula and/or curriculum materials.

### **5102. SPECIAL TOPICS IN ADMINISTRATION.** (1-6 cr [max 9 cr]; prereq #)

Topics vary with each offering but course covers leadership and management of vocational education programs.

### **5200. EVALUATION OF LOCAL VOCATIONAL EDUCATION PROGRAMS.** (3 cr)

Procedures and experience in the use of instruments for conducting program evaluations for teachers, administrators, and state department personnel.

### **5204. READING IN WORK SETTINGS.** (3 cr, §Educ 5204)

Overview of concepts in integrating reading instruction into vocational training programs and work settings; diagnosis and methods of assessing needs of vocational students and workers on a job, techniques for building needs into training programs.

### **5274. TWO-YEAR POSTSECONDARY INSTITUTIONS.** (3 cr, §EdAd 5274, §EdAd 8274)

Present status, development, functions, organization, curriculum, trends in postsecondary but nonbaccalaureate institutions.

### **5280. STRESS MANAGEMENT FOR THE VOCATIONAL EDUCATOR.** (1 cr)

Methods and techniques for managing stressful situations in vocational classrooms and laboratories.

### **5281. TORT LIABILITY AND THE VOCATIONAL EDUCATOR.** (1 cr)

Methods and techniques for administrators to use to comply with local requirements of managing vocational education programs.

**5282. COUNSELING ADULTS IN TRANSITION.** (3 cr, §EPsy 5434)

Theoretical and empirical knowledge as base for analyzing adaptation to transitions; applications of counseling interventions, training in coping skills.

**5283. TIME MANAGEMENT FOR THE VOCATIONAL EDUCATOR.** (1 cr)

Concepts, strategies, and skills; particular foci on managing and organizing personal and professional life to support the educational process and environment.

**5284. LEADERSHIP SKILLS FOR VOCATIONAL EDUCATION.** (1 cr)

Applying leadership theory to vocational education, industrial and business settings; management of community development or youth work programs.

**5285. VOCATIONAL PLACEMENT.** (3 cr)

Methods and techniques for designing an effective school-based vocational placement program. Topics will focus on principles of school-based placement, the placement process, and planning the placement program.

**5286. MARKETING OF EDUCATION AND TRAINING PROGRAMS.** (3 cr)

Applying a comprehensive marketing model to the design and delivery of education and training programs to institutions, programs, and specific course offerings. Emphasis on market research, market segmentation, product positioning, alternative marketing mix strategies, and marketing planning.

**5300. PHILOSOPHY AND PRACTICE OF VOCATIONAL EDUCATION.** (3 cr)

Interpretation of the purposes of vocational education in varying socioeconomic contexts; analysis of vocational fields in regard to recipients, practices, legislation, and funding.

**5310. ADVISING VOCATIONAL STUDENT ORGANIZATIONS.** (2 cr)

The value and purpose of vocational student organizations in the curriculum. Tasks of the adviser in designing, operating and sustaining activities to enhance student leadership, personal development, and school to work transition.

**5330. COORDINATION TECHNIQUES IN COOPERATIVE EDUCATION.** (3 or 4 cr, §BME 5352, §HBE 5106, §Ind 5310, §AgEd 5071)

Responsibilities of instructor-coordinator; guidance, selection, placement, supervision, and evaluation of students; articulation of related instruction; training sponsor identification, orientation, development, and evaluation; purposes and management of program.

**5340. PRINCIPLES OF SUPERVISORY MANAGEMENT.** (3 cr)

Introduction to principles of personnel supervision for persons in vocational education, business, industry, or service organizations.

**5400. EDUCATION FOR WORK.** (3 cr; prereq 5300 or #)

Examination of contextual bases underlying education for work; implications for practice.

**5451. MICROCOMPUTER INSTRUCTIONAL UTILITY SOFTWARE.** (2 cr; prereq microcomputer coursework or exper)

Examination of software to aid in preparation of tests, worksheets, learner reports and records, instructional inventory records, and classroom group presentations for vocational educators.

**5452. AUTHORING INSTRUCTION USING MICROCOMPUTERS.** (3 cr; prereq 5450 or equiv or #)

Design and preparation of instructional materials using an authoring language.

**5500. INTRODUCTION TO VOCATIONAL EDUCATION ADMINISTRATION.** (3 cr)

Basic concepts of structure, financing, program planning and evaluation, law and liability, personnel policies, and the management of vocational education programs.

**5600. PLANNING VOCATIONAL EDUCATION.** (3 cr)

Context, definition, methods, and information needs in planning at national, state, and local education agency levels.

**5700. TEACHING ENTREPRENEURSHIP; SMALL BUSINESS MANAGEMENT.** (4 cr)

Methods, organization, curriculum modification, and implementation of education programs.

**5750. TRAINING IN INDUSTRY AND BUSINESS.** (3 or 4 cr)

Appraisal of training function in industry and business; advancement of competencies in analysis, design, development, delivery, and evaluation of training.

**5760. ORGANIZATION DEVELOPMENT IN INDUSTRY AND BUSINESS.** (3 or 4 cr)

Introduction to major concepts, skills, and techniques.

**5762. MANAGEMENT OF CONFLICT.** (2 cr)

Types, sources, and diagnosis of conflict styles; skills and strategies for managing interpersonal, intergroup, and intragroup conflict.

**5770. TRAINING AND DEVELOPMENT.** (1-4 cr)

Developments related to problems; practices; programs; methodologies in training and development. Content will vary with each offering.

**5780. INTERNSHIP: TRAINING AND DEVELOPMENT.** (Cr or [max 15 cr]; prereq 5750)

Students apply and contract for training and development positions in industry and business; individual contracts describe specific training and development responsibilities to be fulfilled during internship.

**5790. STRATEGIC PLANNING: TRAINING AND DEVELOPMENT.** (3 or 4 cr; prereq 5750 or 5760)

Human capital as component of industry and business strategic planning; analysis and articulation of practices.

**5800. WORKING WITH SPECIAL NEEDS STUDENTS.** (3 cr)

Designed to help vocational instructors identify instruction for disadvantaged and handicapped students within regular classroom/laboratory settings.

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## Course Descriptions

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**5801. EDUCATING VOCATIONAL STUDENTS WITH LEARNING DISABILITIES.** (1 cr)

Overview of nature of such students; instructional strategies for meeting their unique needs.

**5802. EDUCATING DISADVANTAGED VOCATIONAL STUDENTS.** (1 cr)

Overview of nature of such students; instructional strategies for meeting their unique educational needs.

**5804. WORK EVALUATION OF SPECIAL NEEDS LEARNERS.** (3 cr)

Overview of techniques, systems, organizations that evaluate such students entering vocational education programs.

**5805. OCCUPATIONAL ANALYSIS FOR VOCATIONAL SPECIAL LEARNERS.** (2 cr)

Overview of techniques, issues, and practices used to analyze and describe jobs and job settings into which vocational special needs learners may be placed or for which vocational training or vocational assessment systems may be developed.

**5806. INTERAGENCY COOPERATION FOR AT-RISK POPULATIONS.** (3 cr, §EdPa 5104, §EPsy 5714)

Overview of interagency planning issues and practices for educational and human service organizations. Topics focus on the transition of students from school to work and community living, infant and preschool services, and use of locally based planning teams to achieve enhanced service coordination.

**5900. USING VOCATIONAL EDUCATION**

**RESEARCH.** (3 cr; prereq admission to grad-level program or #)

Introduction to the role of vocational education research in professional practice, significant problems of practice for research, alternative modes of research, and synthesis and application of the results of research.

**5920. INDEPENDENT STUDY.** (1-6 cr; prereq Δ)

Self-directed study in areas of special interest.

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## For Graduate Students Only

(For description, see *Graduate School Bulletin*)

**8100. VOCATIONAL EDUCATION TUTORIAL**

**8110. COMPARATIVE SYSTEMS IN VOCATIONAL EDUCATION**

**8120. HISTORY AND PHILOSOPHY OF VOCATIONAL EDUCATION**

**8130. CRITICAL ISSUES IN VOCATIONAL EDUCATION**

**8500. SEMINAR: GENERAL EDUCATION ASPECTS OF THE VOCATIONAL FIELDS**

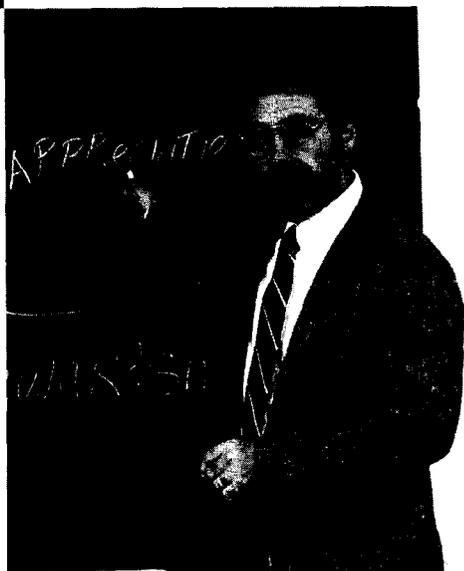
**8810. INTERNSHIP IN VOCATIONAL EDUCATION**

**8910. POSITIVISTIC RESEARCH IN VOCATIONAL EDUCATION**

**8920. INTERPRETIVE AND CRITICAL SCIENCE RESEARCH IN VOCATIONAL EDUCATION**

College of Education

# Administration and Faculty



# Administration and Faculty

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Alan C. Page, Minneapolis  
Mary J. Page, Olivia  
Thomas R. Reagan, Gilbert  
David K. Roe, Minneapolis  
Darrin M. Roshka, Owatonna  
Stanley D. Sahlstrom, St. Cloud  
Ann J. Wynia, St. Paul

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Bob Erickson, Senior Vice President for Finance and Operations  
Ettore Infante, Senior Vice President for Academic Affairs and Provost  
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Anne H. Hopkins, Vice Provost for Arts, Sciences, and Engineering  
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## College of Education

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Dale L. Lange, Professor and Associate Dean  
Judith J. Lambrecht, Professor and Associate Dean  
David J. Madson, Director, Education Development Office

## Faculty

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*196 Child Development*

Patricia J. Bauer  
Geraldine K. Brookins  
William R. Charlesworth  
W. Andrew Collins  
Byron Egeland  
Harold D. Grotevant  
Megan R. Gunnar  
Willard W. Hartup  
Harry M. Hoberman  
Gloria Leon  
Michael P. Maratsos  
Ann S. Masten  
Charles Nelson  
Anne C. Petersen  
Anne D. Pick  
Herbert L. Pick, Jr.  
Maria D. Sera  
Elsa G. Shapiro  
L. Alan Sroufe

James E. Turnure  
Paulus van den Broek  
Richard A. Weinberg  
Carolyn L. Williams  
Albert Yonas

## *Curriculum and Instruction*

*125 Peik Hall*

## **Adult, Community, and Continuing Education**

*175 Peik Hall*

Harlan G. Copeland  
Rosemarie J. Park  
Nancy J. Rohde  
Howard Y. Williams

## **Art Education**

*135 Wulling Hall*

Margaret DiBlasio  
Kerry J. Freedman-Norberg

## **Elementary Education**

*125 Peik Hall*

Patricia Avery  
John J. Cogan  
Fred N. Finley  
Harlan S. Hansen  
Patricia A. Heller  
Robert L. Jackson  
Roger T. Johnson  
Frances P. Lawrenz  
John C. Manning  
Dianne L. Monson  
Robert E. Orton, III  
Margaret Y. Phinney  
Thomas R. Post  
James E. Stochl  
Barbara M. Taylor  
Susan M. Watts

## **Secondary Academic Fields**

*125 Peik Hall*

## *Curriculum and Instructional Systems*

Eugene M. Anderson  
Carol A. Carrier  
Simon R. Hooper  
Gregory C. Sales

## *English Education*

Richard W. Beach  
Michael F. Graves  
Stanley B. Kegler

## *Mathematics Education*

Peggy A. House  
Robert L. Jackson

Robert E. Orton, III  
 Thomas R. Post  
 James E. Stochl

*Science Education*

Andrew Ahlgren  
 Fred N. Finley  
 Patricia Heller  
 Roger T. Johnson  
 Francis Lawrenz

*Second Languages and Cultures (including Bilingual Education)*

Helén L. Jorstad  
 Dalé L. Lange  
 R. Michael Paige  
 Diane J. Tedick  
 Constance L. Walker

*Social Studies Education*

Patricia Avery  
 William E. Gardner

*Educational Policy and Administration*

**Educational Administration**

275 Peik Hall

Gary F. Alkire  
 William M. Ammentorp  
 John J. Cogan  
 Vernon L. Hendrix  
 David R. Johnson  
 Josie R. Johnson  
 Jean A. King  
 Darrell R. Lewis  
 Karen Seashore Louis  
 B. Jeannie Lum  
 Tim L. Mazzoni, Jr.  
 Van D. Mueller  
 Neal C. Nickerson, Jr.  
 R. Michael Paige  
 Charles H. Sederberg  
 Caroline Sotello Viernes Turner  
 KYLA L. Wahlstrom  
 Richard F. Weatherman

**Higher Education**

275 Peik Hall

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 Melissa S. Anderson  
 John J. Cogan  
 Paul E. Johnson  
 Stanley B. Kegler  
 Darrell R. Lewis  
 Karen Seashore Louis  
 R. Michael Paige  
 James R. Rest  
 Caroline Sotello Viernes Turner

**Social and Philosophical Foundations of Education**

275 Peik Hall

Ayers L. Bagley  
 John J. Cogan  
 Marion L. Dobbert  
 Arthur M. Harkins  
 Jean A. King  
 Darrell R. Lewis  
 Karen Seashore Louis  
 B. Jeannie Lum  
 Tim L. Mazzoni, Jr.  
 R. Michael Paige  
 Caroline Sotello Viernes Turner

**International Development Education**

275 Peik Hall

John J. Cogan  
 R. Michael Paige

*Educational Psychology*

204 Burton Hall

V. Lois Erickson

**Counseling and Student Personnel Psychology**

129 Burton Hall

Jerome Beker  
 Henry Borow, emeritus  
 Eli Coleman  
 Moy F. Gum, emeritus  
 L. Sunny Hansen  
 Marvalene Hughes  
 Thomas J. Hummel  
 Dorothy R. Loeffler  
 Ronald P. Matross  
 Patricia R. McCarthy  
 Kevin Nutter  
 James R. Rest  
 John L. Romano  
 Thomas M. Skovholt  
 Martin L. Snoko, emeritus  
 W. Wesley Tennyson, emeritus  
 Kathryn A. Thomas  
 Gloria B. Wood

**Psychological Foundations**

210H Burton Hall

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 Mary Corcoran, emeritus  
 Ernest C. Davenport  
 Mark L. Davison  
 Stanley L. Deno  
 Lynne Edwards  
 Joan Garfield  
 David L. Giese  
 David W. Johnson  
 Paul E. Johnson

Roger T. Johnson  
E. Gary Joselyn  
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Frances Lawrenz  
Donald G. MacEachern  
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Jack C. Merwin, emeritus  
James R. Rest  
S. Jay Samuels  
John E. Stecklein, emeritus  
Robert D. Tennyson  
James S. Terwilliger  
Paulus van den Broek  
Wayne W. Welch

## School Psychology

*N-548 Elliott Hall*

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Sandra L. Christenson  
Byron Egeland  
Scott R. McConnell  
Maynard C. Reynolds, emeritus  
Richard A. Weinberg  
James E. Ysseldyke

## Special Education

*227 Burton Hall*

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Christine E. Espin  
Diane Holte  
Susan C. Hupp  
Marie Knowlton  
Mary McEvoy  
Sallye McKee  
Maynard C. Reynolds, emeritus  
Susan Rose  
John E. Rynders  
James E. Turnure  
Richard F. Weatherman  
Frank B. Wilderson  
Frank H. Wood  
Jennifer York  
James E. Ysseldyke

## Kinesiology and Leisure Studies

*110 Cooke Hall*

### Kinesiology

*224 Cooke Hall*

Allen Burton  
Peter Hancock  
March Krotec  
Art Leon  
Robert C. Serfass  
Lela June Stoner  
Michael Wade  
Diane Wiese-Bjornstal

## Recreation, Park, and Leisure Studies

*203 Cooke Hall*

Bruce D. Anderson  
Mary J. Kane  
Leo H. McAvoy  
John H. Schultz  
Stuart J. Schleien  
Caroline R. Weiss

## Music Education

*100 Ferguson Hall*

Robert L. Borg  
Charles E. Furman  
Paul A. Haack  
Claire W. McCoy  
Stephen W. Schultz

## Vocational and Technical Education

*210 VoTech Building, St. Paul*

## Agricultural Education

*320 VoTech Building, St. Paul*

George H. Copa  
Gary W. Leske  
Curtis D. Norenberg  
Edgar A. Persons  
Roland L. Peterson  
George W. Wardlow

## Business and Marketing Education

*420 VoTech Building, St. Paul*

Charles R. Hopkins  
Judith J. Lambrecht  
Gary N. McLean  
Sherry Schwartz  
James R. Stone, III

## Home Economics Education

*325 VoTech Building, St. Paul*

Jerry C. McClelland  
Jane E. Plihal  
Marilyn A. Rossmann  
Mary Ann Smith  
Ruth G. Thomas

## Industrial Education

*425 VoTech Building, St. Paul*

David C. Bjorkquist  
James M. Brown  
Theodore Lewis  
David J. Pucel  
Richard A. Swanson

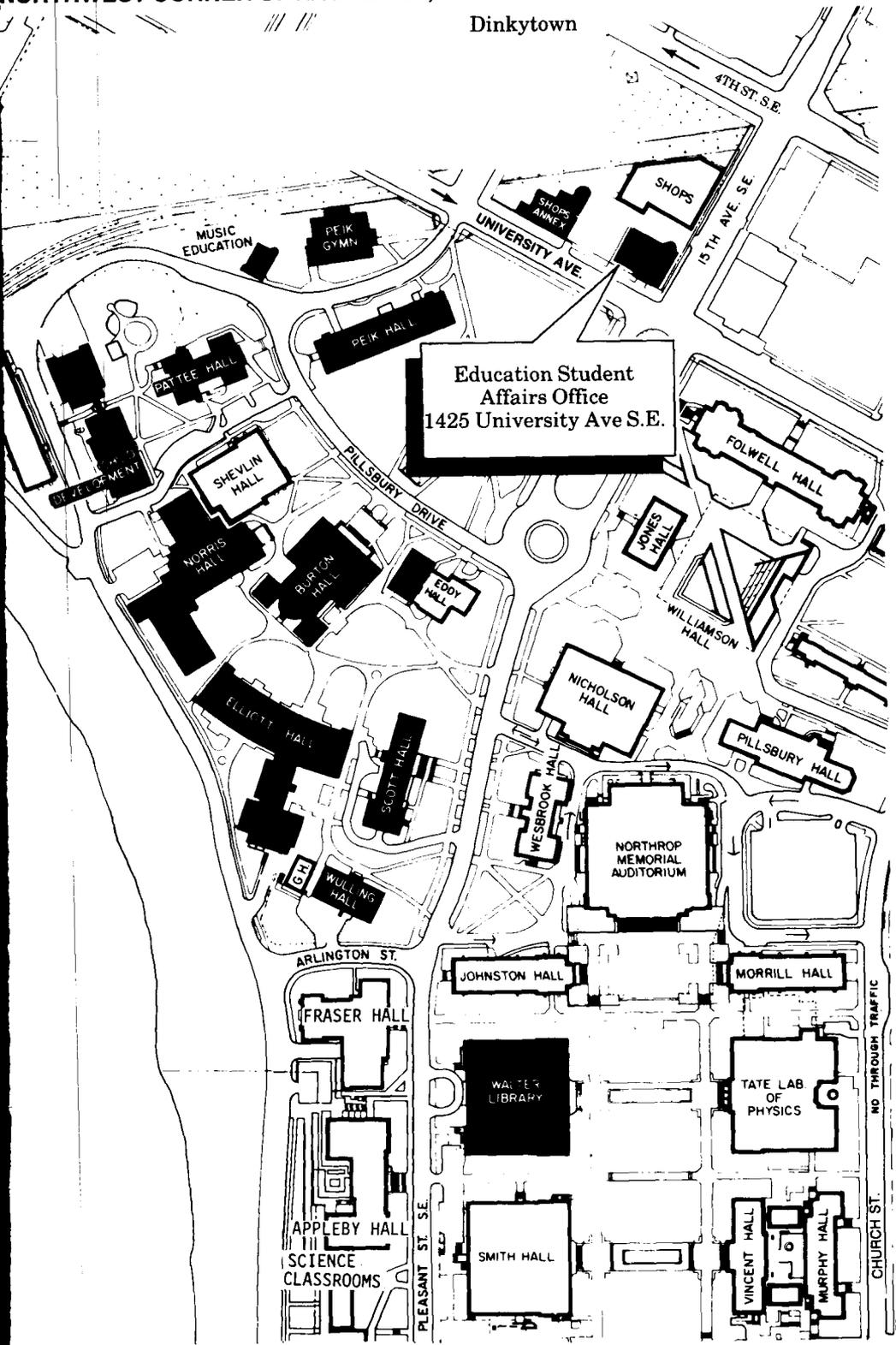
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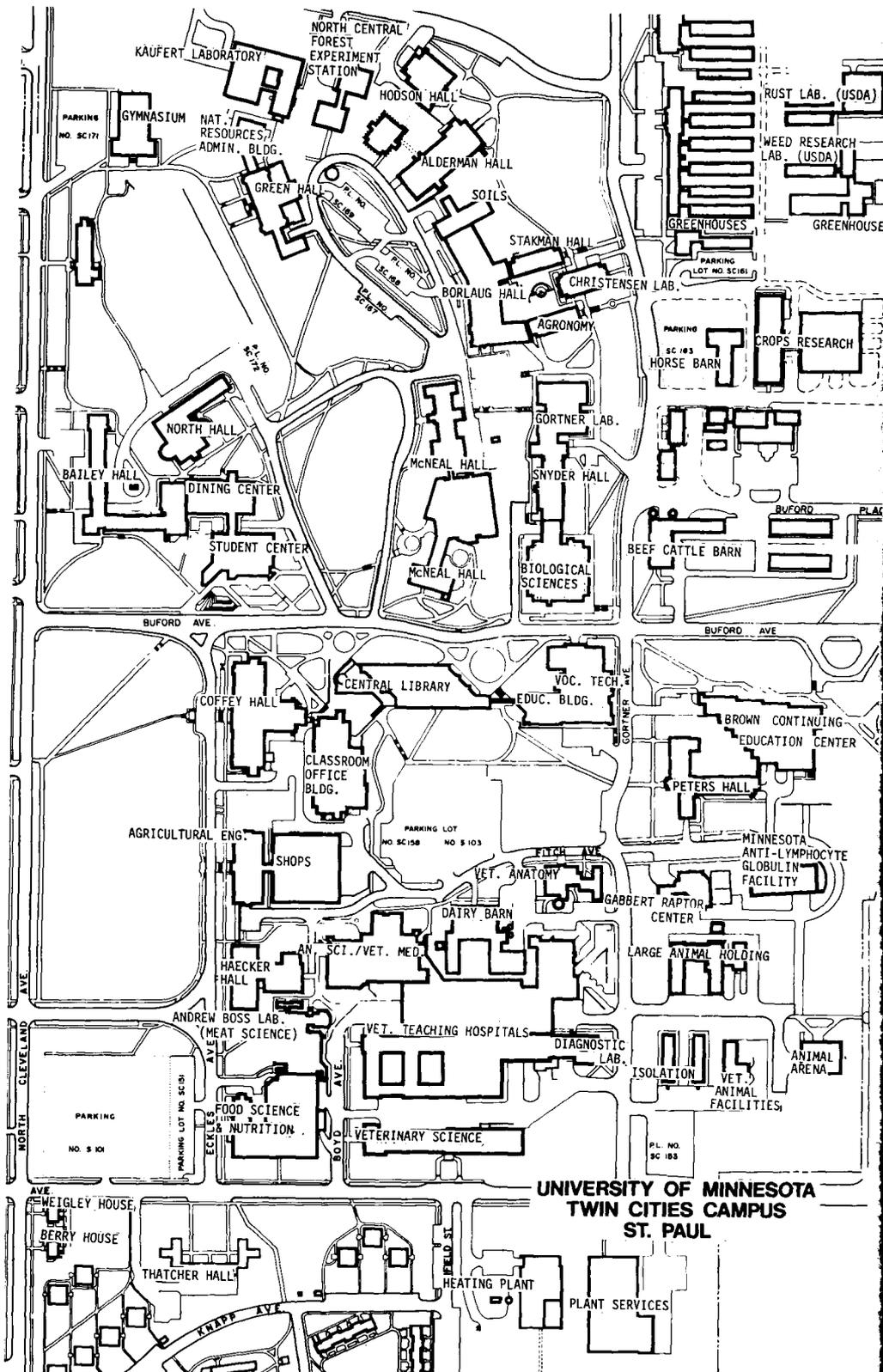
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