Teaching and Learning

Interim chair
• David B. Bills

Undergraduate major: elementary education (B.A., B.S., granted by the College of Liberal Arts and Sciences)
Graduate degrees: M.A.T. in science education; M.S. in science education; Ph.D. in science education; M.A. in teaching and learning; M.A.T. in teaching and learning; Ph.D. in teaching and learning
Faculty: http://www.education.uiowa.edu/teach/people
Web site: http://www.education.uiowa.edu/teach

Department of Teaching and Learning programs prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All licensure programs are approved by the Iowa Department of Education. Undergraduate students pursuing a major in elementary education must meet the College of Liberal Arts and Sciences requirements for the Bachelor of Arts or Bachelor of Science; see the CLAS Academic Policies Handbook.

Teacher Education Program and Licensure/Certification

Undergraduate students must be admitted to the Teacher Education Program (TEP) before they may take required professional education courses. The application for admission should be submitted to the College of Education Office of Education Services. Deadlines for application are March 1 and October 1 for admission to restricted course work in the following semester. Each program reviews applications and chooses a limited number of students for admission.

In order to be considered for admission, students must complete a minimum of 30 s.h. of earned college credit and must have a University of Iowa g.p.a. of at least 3.00 and a cumulative g.p.a. of at least 3.00. Some subject areas have additional admission criteria. A limited number of applicants are accepted into each Teacher Education Program, so a 3.00 g.p.a. does not ensure admission. Admission decisions are based on grade-point average in the major and other criteria relevant to teaching success.

The application process includes submission of an application form, a writing sample, two letters of recommendation, and an Iowa criminal history check request form. Applicants are required to submit PRAXIS I test scores in mathematics, reading, and writing. Scores from either the PRAXIS computer-based tests (C-PPST) or the PRAXIS Pre-Professional Skills Tests (PPST) are accepted. Applicants must have a Designated Institution Score Report with a minimum composite score of at least 522 and a minimum score of 170 on any single portion of the test; or a Praxis Core Test Designated Institution Score Report with minimum scores of 156 in reading, 162 in writing, and 150 in mathematics. Applicants also must provide verification that they have completed a 10-hour volunteer experience in a K-12 classroom setting.

If at any time after admission a student's University of Iowa and/or cumulative g.p.a. falls below 2.70, he or she is placed on probation for one semester. Students who do not attain a 2.70 g.p.a. during the probationary semester are dropped from the TEP. Students should consult a College of Education advisor in their program area or contact the Office of Education Services for more information on admission criteria.

Graduate students who apply to the Graduate College for a teacher licensure program must apply separately for admission to the Teacher Education Program. Deadlines for application to either program are October 1 or March 1 for admission to restricted course work in the following semester. Graduate and postbaccalaureate students may submit scores on the Graduate Record Exam (GRE) General Test instead of PRAXIS I scores. Applicants must have a verbal reasoning and quantitative reasoning composite score of at least 300 on the revised GRE (at least 1080 on the old GRE) and an analytical writing score of at least 3.0.

A limited number of applicants are accepted into each Teacher Education Program, so meeting the Graduate College admission requirements does not ensure admission. Admission decisions are based on grade-point average in the undergraduate major and other criteria relevant to teaching. Upon admission to the TEP, students are assigned an education advisor.

Admission to Student Teaching

Admission to the student teaching semester requires a separate application. Applications must be submitted one year before the student teaching semester. Applicants' credentials and academic and professional progress are reviewed to ensure that a student is qualified for placement in the profession. Verification that a student meets all specific program area requirements is made when the student applies for student teaching.

Consult a College of Education advisor or the Office of Education Services for information about admission and requirements for student teaching in specific licensure programs.

TEP: Elementary Education
(Undergraduate)

• Major in elementary education (Bachelor of Arts, Bachelor of Science)

The College of Education offers the undergraduate major in elementary education for students earning a Bachelor of Arts or a Bachelor of Science degree from the College of Liberal Arts and Sciences. The program prepares students to teach kindergarten through grade 6. In Iowa, the elementary specialization areas are designated as kindergarten through grade 8.

The Bachelor of Arts or Bachelor of Science with a major in elementary education requires a minimum of 120 s.h., including at least 77 s.h. of credit for the major. Students must complete all requirements for graduation from the College of Liberal Arts and Sciences, including the General Education Program. They also must complete all requirements for the elementary education major and the Teacher Education Program (TEP), including student teaching.

As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on two tests: a test that measures pedagogy and a test that measures knowledge of at least one content area. Current requirements are for Praxis II tests that are specific to a student's program. The
tests are required before recommendation for licensure or certification to any state.

The major in elementary education (B.A. or B.S.) requires the following work.

**FOUNDATION COURSES**

Students may complete the foundation courses before being admitted to the major in elementary education, but the courses are not prerequisite to admission to the major.

- **EDTL:3122 Creativity, Imagination, Play, and Human Development through the Arts** 3 s.h.
- **EDTL:4900 Foundations of Special Education** 3 s.h.
- **EPLS:3000 Foundations of Education** 3 s.h.
- **MATH:1120 Logic of Arithmetic** 4 s.h.
- **PSQF:1075 Educational Psychology and Measurement** 3 s.h.

**COURSES FOR THE MAJOR**

**First Semester**
- **EDTL:3002 Technology in the Classroom** 2-3 s.h.
- **EDTL:3103 Assessment for Instructional Planning and Practice** 3 s.h.
- **EDTL:3123 Reading and Responding to Children's Literature** 3 s.h.
- **EDTL:3127 Methods and Materials: Physical Education, Health, and Wellness** 2-3 s.h.
- **EDTL:3190 Orientation to Elementary Education** 1-2 s.h.

**Second Semester**
- **EDTL:3160 Literacy Learning and Teaching I** 3 s.h.
- **EDTL:3163 Methods: Elementary School Mathematics** 2-3 s.h.
- **EDTL:3170 Elementary Classroom Management** 1-3 s.h.
- **EDTL:3174 Elementary Math Practicum** arr.
- **EPLS:4180 Human Relations for the Classroom Teacher** 3 s.h.

**Third Semester**

One of these:
- **EDTL:3154 Teaching and Learning in the Earth Sciences** 3 s.h.
- **EDTL:3158 Teaching and Learning in the Biological Sciences** 3 s.h.
- **EDTL:3159 Teaching and Learning in the Chemical/Physical Sciences** 3 s.h.

All of these:
- **EDTL:3120 Methods and Materials: Music for the Classroom Teacher** 2 s.h.
- **EDTL:3161 Social Studies for the Elementary Classroom Teacher** 3 s.h.
- **EDTL:3164 Literacy Learning and Teaching II** 3 s.h.
- **MATH:1140 Mathematical Basis of Elementary Geometry** 3 s.h.

**Fourth Semester**

One of these:
- **EDTL:3154 Teaching and Learning in the Earth Sciences** 3 s.h.
- **EDTL:3158 Teaching and Learning in the Biological Sciences** 3 s.h.
- **EDTL:3159 Teaching and Learning in the Chemical/Physical Sciences** 3 s.h.

All of these:
- **EDTL:3172 Elementary Reading Practicum** 3-4 s.h.
- **EDTL:4171 Literacy Learning and Teaching III** 3 s.h.
- **STAT:1010 Statistics and Society** 3 s.h.

**STUDENT TEACHING**

Students seeking initial licensure must complete a minimum of 14 s.h. of student teaching.

- **EDTL:4190 Supervised Teaching in the Elementary School: Interactive Phase** 7 s.h.
- **EDTL:4191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase**

**ENDORSEMENTS**

Students have the option of completing an endorsement in one of the following areas: art, English language arts, English as a Second Language (ESL), hearing impaired, mathematics, middle school, music, physical education, reading, science, social sciences (history, social studies), special education (Instructional Strategist I: Mild/Moderate), and speech communication/theatre. Courses in the endorsement area may be taken pass/nonpass if they are offered with the pass/nonpass option. Requirement lists for each endorsement area are available from the Department of Teaching and Learning.

The University of Iowa also offers an added endorsement in talented and gifted education.

**TRANSFER STUDENTS**

Before they student teach, transfer students must complete the following courses at the University of Iowa.

All of these:
- **EDTL:3002 Technology in the Classroom** 2 s.h.
- **EDTL:3190 Orientation to Elementary Education** 1-2 s.h.
- **EDTL:3123 Reading and Responding to Children's Literature** 3 s.h.
- **EDTL:3160 Literacy Learning and Teaching I** 3 s.h.
- **EDTL:3161 Social Studies for the Elementary Classroom Teacher** 3 s.h.
- **EDTL:3163 Methods: Elementary School Mathematics** 2-3 s.h.
- **EDTL:3164 Literacy Learning and Teaching II** 3 s.h.

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Education Services to contact all institutions where they have done professional preparatory work.
TEP: Secondary Education (Undergraduate and Graduate)

The College of Education offers the Teacher Education Program in secondary education for undergraduate students in the College of Liberal Arts and Sciences. Students must complete all requirements for graduation from the College of Liberal Arts and Sciences, including the General Education Program and the requirements for their majors (see College of Liberal Arts and Sciences in the Catalog). They also must complete all requirements of the College of Education’s Teacher Education Program.

Graduate students may be admitted to a program leading to teacher licensure/certification as “certification only” candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in English education, foreign language education, or science education, or an M.A. in social studies (program B).

Licensure/certification requires a major of at least 30 s.h. of course work in one of the secondary school subject areas listed below. Licensure/certification course requirements for each major are available from the Department of Teaching and Learning office. Candidates for secondary school teaching licensure/certification also may receive approval to teach in additional subject areas by completing an approved program of 12-24 s.h. or more of course work in those areas.

As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on two tests: a test that measures pedagogy and a test that measures knowledge of at least one content area. Current requirements are for Praxis II tests that are specific to a student’s program. The tests are required before recommendation for licensure or certification to any state.

The College of Education offers secondary school teacher preparation programs in the following areas.

Art
*Coaching

English
*English as a second language
*Hearing impaired
*Journalism

Mathematics
*Middle school

Music
*Reading

Science, including *physical science, biology, chemistry, *general science, physics, earth science, and 9-12 all science

Social science, including anthropology, economics, geography, history, political science, psychology, and sociology
*All social sciences
*Talented and gifted

World languages—Chinese, French, German, Italian, Japanese, Latin, Spanish
*Available as an additional approval area only; a major in one of the other areas is required for licensure.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Students planning to teach art or music typically complete a program that prepares them for both elementary- and secondary-level licensure.

Secondary teacher preparation programs in mathematics and foreign language also offer a program that leads to licensure/certification as a subject matter specialist in grades K-8. This K-8 licensure/certification is available only in the same subject area as the secondary certification.

For more information and the name of an advisor, contact the Department of Teaching and Learning.

REQUIREMENTS

Undergraduates working toward licensure/certification to teach in secondary schools must complete the following requirements in addition to the requirements of their major. All course work must be completed before student teaching.

One introduction and practicum course in the major field 2-3 s.h.
EDTL:3002 Technology in the Classroom (must be taken during student’s first semester in the college) 2 s.h.
EDTL:3071 Secondary Classroom Management (required for art, mathematics, science, social studies education) 2 s.h.
EDTL:3090 Orientation to Secondary Education (must be taken during student’s first semester in the college) 1 s.h.
EDTL:3095 Teaching Reading in Secondary Content Areas (must be taken during student’s first semester in the college) 1 s.h.
EDTL:4900 Foundations of Special Education 3 s.h.
EPLS:3000 Foundations of Education 3 s.h.
EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.
PSQF:1075 Educational Psychology and Measurement 3 s.h.
One or more methods of teaching courses in the major field 3-9 s.h.
One college-level mathematics course, except MATH:0100, MATH:0300, and MATH:1005 Student teaching 12 s.h.

For initial licensure in all subject areas, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special programs provide experience in districts with diverse populations, including Aldine, Texas (Houston area); Adams County, Colorado (Denver area); Rialto, California; and Clark County, Nevada (Las Vegas area). In most program areas, students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Education Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and February 15 for students planning to student teach the following spring semester.
TRANSFER STUDENTS
Transfer students must complete the following work before they student teach.

EDTL:3002 Technology in the Classroom  2-3 s.h.
EDTL:3090 Orientation to Secondary Education  1 s.h.
EDTL:3095 Teaching Reading in Secondary Content Areas  1 s.h.
Appropriate methods courses
A practicum at the University of Iowa
All course work in the major

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Education Services to contact all institutions where they have done professional preparatory work.

Graduate Programs of Study:
Overview
• Master of Arts in Teaching in science education
• Master of Science in science education
• Doctor of Philosophy in science education
• Master of Arts in teaching and learning
• Master of Arts in Teaching in teaching and learning
• Doctor of Philosophy in teaching and learning

The department offers graduate degree programs in three major areas: elementary education, secondary education, and special education.

Elementary education programs:
Developmental reading (offered in the M.A. in teaching and learning); and Language, literacy, and culture (offered in the Ph.D. in teaching and learning).

Secondary education programs:
Art education (offered in the M.A. in teaching and learning);
Developmental reading (offered in the M.A. in teaching and learning);
English education (offered in the M.A. and M.A.T. in teaching and learning);
Foreign language and English as a Second Language (ESL) education (offered in the M.A., M.A.T., and Ph.D. in teaching and learning);
Language, literacy, and culture (offered in the Ph.D. in teaching and learning);
Mathematics education (offered in the M.A., M.A.T., and Ph.D. in teaching and learning);
Science education (offered in the M.A., M.A.T., and Ph.D. in science education); and
Social studies education (offered in the M.A. and Ph.D. in teaching and learning).

The secondary education area also collaborates with the College of Liberal Arts and Sciences to offer an education option for graduate students earning an M.S. in mathematics; an M.A. and Ph.D. in music with a concentration in music education; and a joint B.A./M.A.T. in science education for undergraduates majoring in biology, chemistry, environmental sciences, or physics. In addition, the area offers an ESL endorsement for individuals who are enrolled in a Department of Teaching and Learning graduate degree program or who are licensed in-service teachers.

Special education:
Special education (offered in the M.A. and Ph.D. in teaching and learning).

Each degree program is described below.

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

REQUIRED PH.D. RESEARCH COURSES
Students admitted to doctoral programs must complete the program’s research requirements.

REQUIRED PH.D. CORE COURSES
All Ph.D. students in the Department of Teaching and Learning must complete one or both of the following Ph.D. core courses, depending upon program requirements.

EDTL:7004 Schooling in the United States  3 s.h.
EDTL:7033 Seminar on Teacher Education  3 s.h.

REQUIRED PH.D. COGNATES
All Ph.D. students in the Department of Teaching and Learning must complete two approved cognate areas as part of their doctoral study plan. Most comprehensive exams in the department are designed to cover the student’s core area plus two cognate areas, so selection of cognate areas is important. Cognates also may enhance students’ employment possibilities, since they represent a minor area of study.

The following list of cognates offered by program areas in the department is not exhaustive; students may select cognates from this list, or they may customize their own cognate areas in consultation with their advisors.

Curriculum Theory and Development
Three of these:
EDTL:4876 Advanced Methods for Teaching and Learning in a Culturally Responsive Classroom  3 s.h.
EDTL:5086 Curriculum Foundations  2-3 s.h.
EDTL:6570 Foundation of School Mathematics Curriculum  3 s.h.
EDTL:7004 Schooling in the United States  3 s.h.
EDTL:7075 Educational Ethnography  3 s.h.
EDTL:7100 Design and Organization of Curriculum  3 s.h.
EPLS:6265 Standards-Based Education and Accountability  3 s.h.
EPLS:6381 Analysis and Appraisal of Curriculum  3 s.h.
PSQF:6255 Construction and Use of Evaluation Instruments  3 s.h.

Foreign Language and ESL Education
Both of these:
EDTL:6400 Fundamentals of Second Language Assessment  3 s.h.
EDTL:6483 Second Language Classroom Learning 3 s.h.  
One of these, chosen in consultation with faculty:  
EDTL:6403 Language Policy and Planning 3 s.h.  
EDTL:6480 Issues in Foreign Language Education 3 s.h.  
EDTL:6484 Reading in a Second Language 3 s.h.  
EDTL:6497 Principles of Course Design for Second Language Instruction 3 s.h.

Gifted Education
Administrative strand—two of these, chosen in consultation with faculty:  
EPLS:4110 Administration and Policy in Gifted Education 2 s.h.  
EPLS:4111 Evaluation of Gifted Programs 1 s.h.  
EPLS:4113 Staff Development for Gifted Programs 1 s.h.  
RCE:4127 Research and Theory in Talent/Giftedness 1 s.h.

Programming strand:  
EDTL:4066 Curriculum Concepts in Gifted Education 3 s.h.  
EDTL:4199 Program Models in Gifted Education 3 s.h.

Psychology strand—two of these, chosen in consultation with faculty:  
RCE:4120 Psychology of Giftedness 3 s.h.  
RCE:4121 Identification of Students for Gifted Programs 3 s.h.  
RCE:4137 Introduction to Educating Gifted Students 3 s.h.  
RCE:5226 Assessment of Giftedness 3 s.h.  
RCE:5237 Seminar in Gifted Education 2-3 s.h.

Global Education
All of these:  
EDTL:6841 Infusing a Global Perspective into the Curriculum 3 s.h.  
EPLS:5104 Education in the Third World 2-3 s.h.  
EPLS:5195 Research in Cross-Cultural Settings 3 s.h.

Language, Literacy, and Culture
Both of these:  
EDTL:7015 Ph.D. Seminar in Language, Literacy, and Culture arr.  
EDTL:7015 Ph.D. Seminar in Language, Literacy, and Culture (topic chosen in consultation with advisor) arr.  
General emphasis—one of these:  
EDTL:7008 Seminar: Research and Current Issues arr.  
EDTL:7008 Seminar: Research and Current Issues (topic chosen in consultation with advisor) arr.  
Elementary emphasis—one of these:  
EDTL:6104 Literature for Children II 3 s.h.  
EDTL:6164 Early Literacy Development and Instruction 2-3 s.h.  
EDTL:6165 Reading and Writing Across Intermediate Grades 3 s.h.  
Secondary emphasis—one of these:  
EDTL:3393 Reading and Teaching Adolescent Literature 3 s.h.  
EDTL:6315 M.A. Seminar: English Education arr.

Mathematics Education
Both of these:  
EDTL:5535 Current Issues in Mathematics Education 1-3 s.h.  
EDTL:7535 Seminar: Research in Mathematics Education arr.

Two of these:  
EDTL:6530 Workshop in School Mathematics 1-3 s.h.  
EDTL:6531 Technology in School Mathematics 2-3 s.h.  
EDTL:6534 Foundations of Mathematics Education 2-3 s.h.  
EDTL:6536 Teaching of Geometry 2-3 s.h.  
EDTL:6539 Teaching of Algebra 2-3 s.h.

Science Education
All of these:  
EDTL:6755 Practices of Inquiry in Science Learning Environments 3 s.h.  
EDTL:6757 Learning in the Science Classroom 2-3 s.h.  
EDTL:6759 Advanced Pedagogy 3 s.h.

Special Education
Three or four of these, depending on requirements of the major program:  
EDTL:7040 Advanced Topics in Teaching and Learning arr.  
EDTL:7945 Current Issues and Trends in Learning Disabilities 3 s.h.  
EDTL:7948 Contemporary Research in Behavioral Disorders 3 s.h.  
EDTL:7953 Seminar: Single Subject Design Research 3 s.h.

Graduate Programs of Study
The Department of Teaching and Learning offers, or jointly administers with departments in the College of Liberal Arts and Sciences, advanced degree programs in the following fields of professional interest: art education; developmental reading; English education; foreign language, second language, and English as a Second Language education; language, literacy, and culture; mathematics education; music education; science education; social studies education; and special education.

M.A.: Art Education
The Master of Arts program in art education requires a minimum of 38 s.h. of graduate credit. The program prepares highly qualified teachers of art for elementary and secondary schools and community colleges. Its strong
academic emphasis helps teachers who are creative artists to become highly literate in the history and language of art.

REQUIREMENTS
The M.A. plan of study includes a total of 18 s.h. in studio art and art history (either 12 s.h. of studio art and 6 s.h. of art history, or 12 s.h. of art history and 6 s.h. of studio art); a total of 8 s.h. in EDTL:6267 Seminar: Current Issues in Art Education; and a total of 12 s.h. in additional course work, specified after a student begins the program.

M.A. students also must complete a studio thesis or a written thesis.

ADMISSION
Applicants to the M.A. program in art education must meet the admission requirements of the Graduate College. They must have completed the equivalent of the minimum course work in art required for a University of Iowa B.A. or B.F.A. in art and must have a license/certificate to teach art. Applications must include a representative portfolio of the applicant's work, consisting of eight slide reproductions of artwork and one example of written work, which may be a paper previously written for a course or an original paper. Deficiencies in undergraduate art or courses recommended for teacher licensure/certification are evaluated following admission so that students can make up required course work concurrent with work for the degree.

M.A.: Developmental Reading
The Master of Arts program in developmental reading requires a minimum of 33 s.h. of graduate credit with thesis or a minimum of 35 s.h. of graduate credit without thesis. The program prepares graduate students for positions as reading specialists in kindergarten and grades 1-12. The required course work develops the skills, knowledge, and competence needed for supervisory, curricular, and remedial teaching positions in reading. The program also builds a background in reading for students who want to specialize further in the area and eventually to teach and/or conduct research at a college or university. Successful completion of this program, combined with one year of successful teaching experience that includes teaching reading as a significant part of the responsibility, qualifies a student for certification as a reading specialist.

The M.A. program in developmental reading requires the following work.

REQUIRED COURSES
All of these:
- EDTL:4171 Literacy Learning and Teaching III 3 s.h.
- EDTL:4394 Methods: Secondary Reading 2-3 s.h.
- EDTL:6164 Early Literacy Development and Instruction 2-3 s.h.
- EDTL:6165 Reading and Writing Across Intermediate Grades 3 s.h.
- EDTL:6171 Advanced Reading Clinic Techniques 2-3 s.h.
- EDTL:6172 Advanced Reading Clinic Practicum 2-3 s.h.
- EDTL:7008 Seminar: Research and Current Issues (Reading) 3 s.h.

One of these:
- PSQF:4106 Child Development 3 s.h.
- PSQF:4130 Early Adolescent Development 3 s.h.
- PSQF:4133 The Adolescent and Young Adult 3 s.h.
- PSQF:6200 Educational Psychology 3 s.h.

Students who have completed educational psychology and/or human growth and development course work relating only to grades K-8 should choose PSQF:4133, or PSQF:6200 from the list above. Those who have completed work relating only to grades 5-12 should choose PSQF:4106 or PSQF:6200.

One of these:
- EDTL:3938 Assessment of Learning Problems 3 s.h.
- PSQF:4150 Introduction to Educational Measurement
- An approved literacy assessment course

One of these:
- EDTL:5086 Curriculum Foundations 2-3 s.h.
- EDTL:6167 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms 3 s.h.
- EDTL:7100 Design and Organization of Curriculum 3 s.h.

One of these:
- EPLS:6383 Supervision and Evaluation 3 s.h.
- EDTL:7165 Reading Clinic: Supervision Thesis (required for thesis option):
- EDTL:6393 Master's Thesis 2 s.h.

ELECTIVES
Students, in consultation with their advisors, may select the remaining required semester hours as electives from areas such as curriculum, supervision, language arts, testing and evaluation, linguistics, or speech pathology.

COMPREHENSIVE EXAMINATION
The comprehensive examination consists of two three-hour exams. Each three-hour exam is based on an aspect of reading or literacy. With agreement of a student's advisor and committee, a comprehensive project may be substituted for the written examination in one or both areas.

ADMISSION
Applicants to the M.A. program in developmental reading must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00; hold an early childhood, elementary, or secondary school teaching certificate; and show evidence of completing two years of successful teaching experience.

M.A.: English Education
The Master of Arts program in English education requires a minimum of 30 s.h. of graduate credit. The program is intended for experienced teachers of English. It provides opportunities for professional development and preparation for department chairs, supervisors of English, and curriculum specialists for secondary schools.

M.A. students specialize in English education and in one or two other areas. The other area(s) may include reading, writing, curriculum, adolescent literature, or
a literary area. Students and their advisors plan the program of study together. The only required course is EDTL:6315 M.A. Seminar: English Education. At the end of the program, students take a comprehensive examination in English education and in their chosen area(s), or they may choose to write a thesis.

Students must maintain a g.p.a. of at least 3.00 while enrolled in the program.

ADMISSION

Applicants to the M.A. program in English education must meet the admission requirements of the Graduate College. They should have taken extensive course work in English and should have taught English for at least two years. Application should be made to the College of Education.

M.A.T.: English Education

The Master of Arts in Teaching program in English education requires a minimum of 45 s.h. of graduate credit. The program is designed for students who have an undergraduate degree in English and few or no professional education courses. Successful completion of the program enables students to receive a credential to teach English in secondary schools.

The M.A.T. program in English education requires the following work.

ENGLISH

All of these:

EDTL:6315/ENGL:6315 M.A. Seminar: English Education arr.
CNW:4355 Approaches to Teaching Writing 3 s.h.
ENGL:3190 Language and Learning 2-3 s.h.
ENGL:3191 Reading and Teaching Adolescent Literature 3 s.h.

Students may take the following English courses as part of the M.A.T. program or as part of their undergraduate program.

A course in Shakespeare
A course in British literature
A course in nonfiction or creative writing, in addition to CNW:4355

EDUCATION

All of these:

EDTL:3002 Technology in the Classroom (must be taken during student's first semester in the college) 2 s.h.
EDTL:3090 Orientation to Secondary Education 1 s.h.
EDTL:4087 Seminar: Curriculum and Student Teaching 1-3 s.h.
EDTL:4091 Observation and Laboratory Practice in the Secondary School arr.
EDTL:4092 Observation and Laboratory Practice in the Secondary School arr.
EDTL:4314 Introduction and Practicum: Secondary English (must be completed before enrollment in EDTL:4315 and EDTL:4394) 3 s.h.
EDTL:4315 Methods: Secondary English 3 s.h.
EDTL:4394 Methods: Secondary Reading 2-3 s.h.
EDTL:4900 Foundations of Special Education 3 s.h.
EPLS:3000 Foundations of Education 3 s.h.
EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.
PSQF:6200 Educational Psychology 3 s.h.

COMPREHENSIVE EXAMINATION

The comprehensive examination involves a series of reflective projects supervised by English education faculty. The projects encompass issues explored throughout the course of study and involve integration of theory and practice.

ADMISSION

Applicants to the M.A.T. program in English education must meet the admission requirements of the Graduate College. They must have been granted a B.A. in English or the equivalent, with an undergraduate g.p.a. of at least 3.00. They also must take the Graduate Record Exam and meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential. Applicants are expected to have no more than 6 s.h. of course work in professional education courses before admission.

ESL Endorsement

An ESL endorsement enables an individual to teach English as a Second Language in K-12 in the state of Iowa. Because teaching endorsements are additional areas of expertise added to a teaching license, applicants must be current students in a Teacher Education Program (TEP) or licensed in-service teachers.

ADMISSION

Each applicant to the ESL endorsement program must submit a one-page essay explaining why he or she wishes to teach ESL; a transcript of all university-level course work; and evidence of having completed two semesters of foreign language beyond the language component of the College of Liberal Arts and Sciences General Education Program or a documented score of “advanced plus” on the oral proficiency interview (OPI) given in the language department. Applicants whose first language is not English must provide evidence of scoring 55 or higher on the Test of Spoken English (TSL) or 26 (Internet-based) on the speaking section of the Test of English as a Foreign Language (TOEFL).

Applicants are admitted to the ESL endorsement program twice a year; application deadlines are October 1 and March 1.

M.A.: Foreign Language and ESL Education

The Master of Arts program in foreign language and English as a Second Language (ESL) education requires a minimum of 33-36 s.h. of graduate credit. The program is designed for students who would like to pursue a foreign language and ESL education specialization in teaching (kindergarten through college) or in related fields (e.g., language laboratory directors, instructional materials designers, or evaluation specialists). It also offers enrichment in foreign language pedagogical
knowledge for practicing teachers. Students may design programs with a special focus.

The program offers three specializations: second languages and ESL education; a target language area (may include language, linguistics, literature, history, geography, or civilization); and a cognate area. The cognate area may be teacher education, reading, instructional design, measurement and statistics, or another area selected in consultation with their advisor.

Students take at least 15 s.h. in second language education course work, 9 s.h. in graduate language or linguistics, and 9 s.h. in the cognate area. They must earn 9 s.h. in courses numbered 5000 or above. Students also must complete a capstone project in consultation with their advisor.

Students must maintain a g.p.a. of at least 3.00 while enrolled in the program. Candidacy for the master's degree is reevaluated annually.

The M.A. program in foreign language and ESL education requires the following work, including these suggested courses.

**FOREIGN AND SECOND LANGUAGES EDUCATION**

Total of 15 s.h.

- EDTL:6400 Fundamentals of Second Language Assessment 3 s.h.
- EDTL:6483 Second Language Classroom Learning 3 s.h.
- EDTL:6497 Principles of Course Design for Second Language Instruction 3 s.h.

At least 6 s.h. from these:

- EDTL:6402 Second Language Program Management 3 s.h.
- EDTL:6403 Language Policy and Planning 3 s.h.
- EDTL:6407 Reading in Non-Roman Scripts 3 s.h.
- EDTL:6408 Designing Materials for Second Language Instruction 3 s.h.
- EDTL:6409 Cultural Curriculum 3 s.h.
- EDTL:6480 Issues in Foreign Language Education 3 s.h.
- EDTL:6484 Reading in a Second Language 3 s.h.

**TARGET LANGUAGE**

In consultation with their advisor, students select at least 9 s.h. of graduate language courses in their area of interest.

**COGNATE AREA**

Students complete at least 9 s.h. of course work chosen in consultation with their advisor.

**MASTER'S EXAMINATION**

Students take a written exam during the semester in which they plan to graduate. The exam covers second language education and the two study areas selected by a student. It is written by the graduate committee, which consists of at least three faculty members, two of whom must be from foreign language education. The candidate and his or her advisor discuss and formalize the exam's content and process eight months before the exam.

**ADMISSION**

Applicants to the M.A. program in foreign language and ESL education must meet the admission requirements of the Graduate College. They must be proficient in English and in another language and must have earned at least 20 s.h. in undergraduate, upper-division foreign language course work. Applicants should submit a statement of purpose explaining their graduate study goals. A g.p.a. of at least 3.00 in undergraduate course work and some experience living, working, and/or studying in the culture of the applicant's chosen target language are preferred. International applicants whose first language is not English must score at least 81 (Internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

**M.A.T.: Foreign Language and ESL Education**

The Master of Arts in Teaching program in foreign language and English as a Second Language (ESL) education requires a minimum of 67 s.h. of graduate credit. The program is designed for superior liberal arts and sciences graduates who have had few or no professional education courses. Successful completion of the program leads to elementary and/or secondary teacher licensure. The M.A.T. is available in Chinese, French, German, Japanese, Latin, and Spanish.

M.A.T. students must complete at least 18 s.h. in graduate course work in the collaborating foreign language department in addition to professional education courses.

The M.A.T. in foreign language and ESL education requires the following work.

**PROFESSIONAL EDUCATION**

All of these:

- EDTL:3002 Technology in the Classroom (must be taken during student's first semester in the college) 2 s.h.
- EDTL:3090 Orientation to Secondary Education (must be taken during student's first semester in the college) 1 s.h.
- EDTL:3095 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college) 1 s.h.
- EDTL:4900 Foundations of Special Education 3 s.h.
- EPLS:3000 Foundations of Education 3 s.h.
- EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.
- PSQF:6200 Educational Psychology 3 s.h.

**FOREIGN LANGUAGE TEACHING**

All of these:

- EDTL:6400 Fundamentals of Second Language Assessment 3 s.h.
- EDTL:6483 Second Language Classroom Learning 3 s.h.
- EDTL:6497 Principles of Course Design for Second Language Instruction 3 s.h.

Total of 21-27 s.h. from these:

- EDTL:4087 Seminar: Curriculum and Student Teaching 1 s.h.
EDTL:4091 Observation and Laboratory Practice in the Secondary School  arr.
EDTL:4092 Observation and Laboratory Practice in the Secondary School  arr.
EDTL:4406 Foreign Language Education Practicum I  3 s.h.
EDTL:4407 Foreign Language Education Practicum II  3 s.h.
EDTL:4416 Learning to Teach Second Languages I  3 s.h.
EDTL:4417 Learning to Teach Second Languages II  3 s.h.

K-12 LICENSURE
The K-12 licensure option requires the following course.
EDTL:4089 Elementary School Special Subject Area Student Teaching  1-4 s.h.

COMPREHENSIVE EXAMINATION
A comprehensive examination is required. The examination reflects candidate's depth and breadth of knowledge in foreign language and ESL education, including but not limited to theory and practice as well as knowledge of and proficiency in the target language and/ or literature of the candidate's choice. The candidate and his or her advisor discuss the exam's content and format eight months before the exam.

ADMISSION
Applicants must meet the admission requirements of the Graduate College. They must have been granted a bachelor's degree with a major or a strong concentration in a second language and must have an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements.

Ph.D.: Foreign Language and ESL Education
The Doctor of Philosophy program in foreign language and English as a Second Language (ESL) education requires a minimum of 80 s.h. of graduate credit. The program provides students with the necessary content-area knowledge and research skills for independent research, program administration, and varied leadership positions in foreign language and ESL education. It is designed for individuals who have demonstrated success in foreign language and ESL teaching and who wish to prepare for positions in academia, government, or the private sector where in-depth knowledge of foreign language educational issues is required.

Most courses for the Ph.D. should be numbered 5000 or above. At least 30 s.h. must be taken in the core area of foreign language education. A student and his or her advisor discuss core area course work and cognate area specializations. A student's progress toward the degree and his or her scholarship development is reviewed by the program's faculty and discussed by the student and his or her advisor each year.

The Ph.D. program in foreign language and ESL education requires the following work. Students may be able to count some courses completed for the master's degree toward the 80 s.h. required for the Ph.D.

REQUIRED COURSES
The program in foreign language and ESL education requires 16 s.h. of course work in research methods. Three courses must be taken from the First Tier requirements, and two courses must be taken from the Second Tier requirements. Students who have little experience with social/behavioral sciences research methods when they enter the program may be advised to take remedial course work in research methods, which will not count toward the 16 s.h. requirement.

FIRST TIER REQUIREMENTS
These courses should be taken in the first two years of study (10 s.h.).
Both of these:
EDTL:7405 Research Methods in Second Language Teaching and Learning  3 s.h.
PSQF:6243 Intermediate Statistical Methods  4 s.h.
One of these:
EDTL:7070 Introduction to Qualitative Methods in Literacy Research  3 s.h.
EPLS:7373 Qualitative Research Design and Methods  3 s.h.
PSQF:7331 Seminar: Educational Psychology I—Current Topics (when topic is qualitative educational research methods)  3 s.h.
RCE:7338 Essentials of Qualitative Inquiry  3 s.h.

SECOND TIER REQUIREMENTS
Two courses from the following, to be chosen in consultation with a student's advisor. These courses should be taken after the First Tier courses have been completed (6 s.h.):
Advanced Qualitative Courses
EDTL:7071 Critical Discourse Analysis in Educational Research  3 s.h.
EDTL:7072 Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting  3 s.h.
EDTL:7073 Ethnographic Methods, Theories, and Texts  3 s.h.
EDTL:7075 Educational Ethnography  3 s.h.
EDTL:7751 Advanced Qualitative Data Analysis  3 s.h.
Advanced Research Design Courses
EDTL:7410 Mixed Methods Research  3 s.h.
PSQF:6265 Program Evaluation  3 s.h.
PSQF:7331 Seminar: Educational Psychology I—Current Topics (when topic is conducting research online)  arr.
Advanced Quantitative Courses
EPLS:6206 Research Process and Design  3 s.h.
EPLS:6209 Survey Research and Design  3 s.h.
EPLS:6370 Quantitative Methods for Policy Analysis  3 s.h.
PSQF:6244 Correlation and Regression  4 s.h.
PSQF:6246 Design of Experiments  4 s.h.
PSQF:6247 Nonparametric Statistical Methods  3 s.h.
In order to qualify to take the comprehensive examination, students must successfully complete the required course work and an extended research activity. After successful completion of the required course work and the research activity, and upon recommendation of the program's faculty, a student is eligible to sit for the comprehensive examination. Completion of the required course work and research activities does not guarantee advancement to the examination.

After passing the comprehensive examination, students consult with their advisor to choose a Ph.D. dissertation committee of at least five faculty members, who approve the dissertation proposal. The student then conducts research under the primary guidance of the advisor.

ADMISSION

Applicants to the Ph.D. program in foreign language and ESL education must meet the admission requirements of the Graduate College. They should have at least two years of experience teaching foreign language or ESL and should hold a master's degree or have completed a significant amount of graduate course work in a foreign language or foreign language education. Applicants must have a g.p.a. of at least 3.00 in graduate course work. International applicants whose first language is not English must score at least 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

Application materials should include a statement of purpose explaining the applicant's professional goals, transcripts of all undergraduate and graduate work, Graduate Record Exam (GRE) General Test scores, a sample of academic writing, and three letters of recommendation.

Ph.D.: Language, Literacy, and Culture

The Doctor of Philosophy program in language, literacy, and culture requires a minimum of 88-90 s.h. of graduate credit. The program brings together scholarly traditions and contemporary theory in literacy and cultural studies. Course work provides a broad background in relevant theoric and research literature and opportunities to conduct original studies that explore the nature of literacy practices both in and out of school. Graduates find employment in university and college teaching, research, curriculum development, and administration of literacy programs.

REQUIRED COURSES

Ph.D. students complete an introductory seminar in language, literacy, and culture; at least 9 s.h. of additional doctoral seminars in the program; approved cognate areas (see "Required Ph.D. Cognates" under "Graduate Programs of Study: Overview" above); and 9-12 s.h. of graduate course work outside the Department of Teaching and Learning with 6 s.h. of those outside the College of Education. Students also earn 10-12 s.h. of dissertation credit.

Students in the Language, Literacy, and Culture Ph.D. program are required to take 18 s.h. in research course work.

Both of these:

EDTL:7070 Introduction to Qualitative Methods 3 s.h. in Literacy Research
PSQF:6243 Intermediate Statistical Methods 4 s.h.

Additional credit hours as outlined below (12 s.h.):
- A sequence of courses that meets the specific research interests of a student, to be selected in consultation
with an adviser and the language, literacy, and culture faculty.

• Credits may be taken in any combination of qualitative, quantitative or other relevant research paradigms.
• Courses may be taken either within or outside of the College of Education.
• It is recommended that students take EALL:5150 Introduction to Educational Research (3 s.h.) early in their programs of study.

In addition, all language, literacy, and culture students must complete one of the following Department of Teaching and Learning core courses.

EDTL:7004 Schooling in the United States 3 s.h.
EDTL:7033 Seminar on Teacher Education 3 s.h.

COMPREHENSIVE EXAMINATION AND DISSERTATION

As students near the completion of their course work, they identify several key strands for review and synthesis. With guidance from their advisors, students prepare for three forms of written and oral exams: they answer take-home questions in two areas of literacy; they submit a substantive issues paper, typically a report of an exploratory study or a review of research literature on a topic of special interest; and they design a syllabus for a literacy course and write a reflective commentary that demonstrates understanding of the relationship between theory and practice.

Following successful completion of all components of the comprehensive exam, students work with a faculty member to develop a proposal for a study that will make an original contribution to the understanding of some aspect of literacy. After the proposal has been approved, students conduct research and report their findings under the primary guidance of a dissertation chair.

For detailed information on the Ph.D. program in language, literacy, and culture, see Our Programs on the Department of Teaching and Learning web site.

ADMISSION

Applicants to the Ph.D. program in language, literacy, and culture must meet the admission requirements of the Graduate College. They should have at least three years of experience teaching or tutoring language or literacy (reading, writing, English, language arts) and should have earned a master's degree in a literacy-related field. Application materials should include a statement of purpose explaining the applicant’s reasons for pursuing graduate study and describing his or her future goals; transcripts of all undergraduate and graduate course work; Graduate Record Exam (GRE) General Test scores; a sample of academic writing; and three letters of recommendation.

Applications for admission and for financial aid are reviewed December 1 each year.

M.A.: Mathematics Education

The Master of Arts program in mathematics education requires a minimum of 32 s.h. of graduate credit. The program provides students with advanced specialization in mathematics and education as a better foundation for K-12 teaching.

REQUIRED COURSES

M.A. students take a minimum of 9 s.h. of course work in mathematics approved by their advisor. They also take a minimum of four courses in mathematics education, which must include EDTL:5535 Current Issues in Mathematics Education and three courses chosen in consultation with their advisor.

Students choose a cognate area, usually enrolling in three or more courses in the area. Suggested areas include educational psychology, educational statistics and measurement, history or philosophy of education, pure or applied mathematics, instructional design and technology, counselor education, curriculum, administration, and special education. Courses are chosen in consultation with a faculty member from their cognate area.

Students also complete a sufficient number of electives in mathematics and education, chosen with the approval of their advisor, to complete 32 s.h. of credit.

COMPREHENSIVE EXAMINATION

Students take three two-hour comprehensive exams: one in mathematics education, the second in mathematics, and the third in their cognate area.

M.S.: Mathematics with Education Option

The Master of Science in mathematics with education option requires a minimum of 24 s.h. of graduate credit. The program prepares licensed/certified teachers with advanced specialization in mathematics and mathematics education. It is administered by the Department of Mathematics (College of Liberal Arts and Sciences).

M.S. students must earn a minimum of 24 s.h. in the Department of Mathematics, including the core master's program for either pure mathematics or applied mathematics as described below. They also must complete two courses in mathematics education.

PURE MATHEMATICS

One of these sequences:

MATH:5200 & MATH:5210 Introduction to Analysis I-II 8 s.h.
MATH:6200 & MATH:6210 Analysis I-II 6 s.h.

One of these sequences:

MATH:5000 & MATH:5010 Abstract Algebra I-II 8 s.h.
MATH:6000 & MATH:6010 Introduction to Algebra I-II 6 s.h.

And:

MATH:5400 General Topology 4 s.h.

APPLIED MATHEMATICS

All of these:

One of these sequences:

MATH:5400 General Topology 4 s.h.

with an adviser and the language, literacy, and culture faculty.

• Credits may be taken in any combination of qualitative, quantitative or other relevant research paradigms.
• Courses may be taken either within or outside of the College of Education.
• It is recommended that students take EALL:5150 Introduction to Educational Research (3 s.h.) early in their programs of study.

In addition, all language, literacy, and culture students must complete one of the following Department of Teaching and Learning core courses.

EDTL:7004 Schooling in the United States 3 s.h.
EDTL:7033 Seminar on Teacher Education 3 s.h.

COMPREHENSIVE EXAMINATION AND DISSERTATION

As students near the completion of their course work, they identify several key strands for review and synthesis. With guidance from their advisors, students prepare for three forms of written and oral exams: they answer take-home questions in two areas of literacy; they submit a substantive issues paper, typically a report of an exploratory study or a review of research literature on a topic of special interest; and they design a syllabus for a literacy course and write a reflective commentary that demonstrates understanding of the relationship between theory and practice.

Following successful completion of all components of the comprehensive exam, students work with a faculty member to develop a proposal for a study that will make an original contribution to the understanding of some aspect of literacy. After the proposal has been approved, students conduct research and report their findings under the primary guidance of a dissertation chair.

For detailed information on the Ph.D. program in language, literacy, and culture, see Our Programs on the Department of Teaching and Learning web site.

ADMISSION

Applicants to the Ph.D. program in language, literacy, and culture must meet the admission requirements of the Graduate College. They should have at least three years of experience teaching or tutoring language or literacy (reading, writing, English, language arts) and should have earned a master's degree in a literacy-related field. Application materials should include a statement of purpose explaining the applicant’s reasons for pursuing graduate study and describing his or her future goals; transcripts of all undergraduate and graduate course work; Graduate Record Exam (GRE) General Test scores; a sample of academic writing; and three letters of recommendation.

Applications for admission and for financial aid are reviewed December 1 each year.

M.A.: Mathematics Education

The Master of Arts program in mathematics education requires a minimum of 32 s.h. of graduate credit. The program provides students with advanced specialization in mathematics and education as a better foundation for K-12 teaching.

REQUIRED COURSES

M.A. students take a minimum of 9 s.h. of course work in mathematics approved by their advisor. They also take a minimum of four courses in mathematics education, which must include EDTL:5535 Current Issues in Mathematics Education and three courses chosen in consultation with their advisor.

Students choose a cognate area, usually enrolling in three or more courses in the area. Suggested areas include educational psychology, educational statistics and measurement, history or philosophy of education, pure or applied mathematics, instructional design and technology, counselor education, curriculum, administration, and special education. Courses are chosen in consultation with a faculty member from their cognate area.

Students also complete a sufficient number of electives in mathematics and education, chosen with the approval of their advisor, to complete 32 s.h. of credit.

COMPREHENSIVE EXAMINATION

Students take three two-hour comprehensive exams: one in mathematics education, the second in mathematics, and the third in their cognate area.

M.S.: Mathematics with Education Option

The Master of Science in mathematics with education option requires a minimum of 24 s.h. of graduate credit. The program prepares licensed/certified teachers with advanced specialization in mathematics and mathematics education. It is administered by the Department of Mathematics (College of Liberal Arts and Sciences).

M.S. students must earn a minimum of 24 s.h. in the Department of Mathematics, including the core master's program for either pure mathematics or applied mathematics as described below. They also must complete two courses in mathematics education.

PURE MATHEMATICS

One of these sequences:

MATH:5200 & MATH:5210 Introduction to Analysis I-II 8 s.h.
MATH:6200 & MATH:6210 Analysis I-II 6 s.h.

One of these sequences:

MATH:5000 & MATH:5010 Abstract Algebra I-II 8 s.h.
MATH:6000 & MATH:6010 Introduction to Algebra I-II 6 s.h.

And:

MATH:5400 General Topology 4 s.h.

APPLIED MATHEMATICS

All of these:
MATH:4060 Discrete Mathematical Models 3 s.h.
MATH:4610 Continuous Mathematical Models 3 s.h.
MATH:4820 Optimization Techniques 3 s.h.
MATH:5600 Nonlinear Dynamics with Numerical Methods 4 s.h.
MATH:5700 Partial Differential Equations with Numerical Methods 4 s.h.
MATH:5800 Numerical Analysis: Nonlinear Equations and Approximation Theory 4 s.h.
MATH:5810 Numerical Analysis: Differential Equations and Linear Algebra 4 s.h.

COMPREHENSIVE EXAMINATION
Students take a comprehensive examination of six hours over the required courses in either pure mathematics or applied mathematics, and education. The examination assesses the candidate's knowledge of mathematics and of the relevance of specific concepts in teaching secondary school mathematics.

ADMISSION
Application should be made to the Department of Mathematics.

M.A.T.: Mathematics Education
The Master of Arts in Teaching program in mathematics education requires a minimum of 49 s.h. of graduate credit. The program is designed primarily for students who decide they would like to become teachers and have already completed a B.S. or B.A. in mathematics. It features advanced work in mathematics along with courses required for certification. It is a means by which students can obtain both a Master's degree and certification. This degree program assumes a student has completed a baccalaureate degree in mathematics equivalent to one that would be completed at the University of Iowa, but has no previous course work in education. More course work may be advised if there are mathematics courses a student has not taken as part of his or her undergraduate mathematics baccalaureate degree program to render their degree equivalent to one from the University of Iowa.

The M.A.T. program in mathematics education requires the following work.

EDUCATION
The first three courses should be taken during the first semester of registration.

EDTL:3002 Technology in the Classroom 2-3 s.h.
EDTL:3090 Orientation to Secondary Education 1 s.h.
EDTL:3095 Teaching Reading in Secondary Content Areas 1 s.h.

All of these:
EDTL:3071 Secondary Classroom Management 2-3 s.h.
EDTL:3532 Introduction and Practicum: Mathematics 3 s.h.
EDTL:3534 Methods: Middle School Mathematics 3 s.h.
EDTL:4535 Methods: High School Mathematics 3 s.h.
EDTL:4900 Foundations of Special Education 3 s.h.
EPLS:3000 Foundations of Education 3 s.h.
EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.
PSQF:6200 Educational Psychology 3 s.h.

The following courses are taken concurrently and constitute the student teaching semester:

EDTL:4087 Seminar: Curriculum and Student Teaching 1-3 s.h.
EDTL:4091 Observation and Laboratory Practice in the Secondary School
EDTL:4092 Observation and Laboratory Practice in the Secondary School

And:
One additional graduate-level mathematics education course in consultation with an advisor

GRADUATE MATHEMATICS REQUIREMENTS
If necessary, courses fulfilling the University of Iowa mathematics major with at least one additional mathematics graduate course (one of the following).

MATH:4050 Introduction to Discrete Mathematics 3 s.h.
MATH:4060 Discrete Mathematical Models 3 s.h.
MATH:4120 History of Mathematics 3 s.h.

COMPREHENSIVE EXAMINATION
The comprehensive exam includes a required two-part Master's level exam in mathematics and mathematics education. At the discretion of the examining committee, this exam may consist of two parts and is both written and oral. The mathematics and mathematics education comprehensive examinations will not duplicate course examinations, but will assess both mathematics education and the mathematics specialization area chosen by a student.

ADMISSION
Applicants to the M.A.T. program in mathematics education must meet the admission requirements of the Graduate College. They also must take the Graduate Record Exam (GRE) General Test and meet all Teacher Education Program (TEP) application requirements. Candidates should have completed a baccalaureate degree program in mathematics equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa. An undergraduate g.p.a. of at least 3.00 is required for admission and must be maintained throughout the enrollment period.

Joint B.A./M.A.T. Mathematics Education
The College of Liberal Arts & Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts in Math plus a Master's degree in Education in as little as five years.

The Combined B.A./M.A.T. (4+1) program provides a seamless process whereby students can progress from undergraduate to graduate status. The usual period of study for both the Bachelor of Arts and the Master's degree is six years. Through careful planning, many of the courses required for the M.A.T. program can be taken during the undergraduate years, creating an opportunity...
to focus the fifth year of study on the comprehensive and student teaching requirements. A sample plan of study is available on the College of Education's web site at Sample B.A./M.A.T. Mathematics Education Schedule.

ADMISSION

Students are eligible to apply to the 4+1 program during their sophomore or junior year if they have a cumulative g.p.a. of at least 3.25 or if they meet special considerations. Application materials must include a completed application to the Teacher Education Program (TEP); two recommendations from University of Iowa faculty; a career plan describing how this program will enhance the student’s scholarly and or career goals; and an unofficial transcript of student’s prior work.

Students who submit completed applications will be notified within 30 days if they have been accepted into the program. The program accepts a limited number of students each year on a competitive basis. Once accepted into the program, a student meets with an advisor to select an advisory committee to plan a course of study.

During the sixth semester, a student in the program who has completed 80 s.h. of undergraduate work and maintained a 3.00 minimum g.p.a. must apply to the Graduate College. Application to the Graduate College must include a completed Graduate College application form; a letter of application/statement of purpose; one additional letter of recommendation from a faculty member in the science major; Graduate Record Exam (GRE) General Test scores; and Test of English as a Foreign Language (TOEFL) test scores for international students.

Students will be granted undergraduate/graduate credit for course work during the seventh semester; they begin paying graduate tuition during the eighth semester until completion of the program. The baccalaureate degree must be conferred at the end of the eighth semester or in the program’s fourth year.

Ph.D.: Mathematics Education

The Doctor of Philosophy program in mathematics education requires a minimum of 80-90 s.h. of graduate credit. The program prepares supervisors, teacher education personnel, community college personnel, and researchers in mathematics education. It is administered by the College of Education. The Ph.D. program in mathematics education requires the following work. Students must update graduate course work done more than 10 years before admission to the program.

REQUIRED COURSES

All Ph.D. students in math education must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed at Ph.D. Research Requirements.

All doctoral students in mathematics education must complete one of the following Ph.D. core courses.

EDTL:7004 Schooling in the United States 3 s.h.
EDTL:7033 Seminar on Teacher Education 3 s.h.

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see "Additional Requirements" below. Ph.D. students in mathematics education must complete a minimum of 24 s.h. of graduate work in the Department of Computer Science, Mathematics, and Statistics and Actuarial Science, as approved by their advisor. Electives are encouraged in the pure mathematics and applied mathematics sequences.

Students who completed their mathematics requirement at another institution must complete at least 6 s.h. of additional course work in mathematics at the University of Iowa, chosen with advisor approval.

Students also must complete at least six courses in mathematics education, including EDTL:5535 Current Issues in Mathematics Education and EDTL:7535 Seminar: Research in Mathematics Education.

ADDITIONAL REQUIREMENTS

Students concentrate in two additional comprehensive examination areas in either the mathematical sciences or education. A minimum of three courses usually are required for a comprehensive examination area, but candidates should consult with faculty members in the areas selected to determine which courses they should take in order to adequately prepare for the examinations.

Students must complete a total of at least 36 s.h. in College of Education courses; this includes the course work listed above. All Ph.D. students must complete an approved cognate area; a partial list of potential cognate areas is available from the M.A. program in mathematics education.

Upon completing the program, a student must have a cumulative g.p.a. of 3.00 or higher on all graduate work in mathematics, all University of Iowa graduate work in mathematics, all graduate work, and all University of Iowa graduate work.

COMPREHENSIVE EXAMINATION

Students take three written comprehensive examinations, one in mathematics education and two in other fields of education or mathematics; an oral examination follows the written examinations.

DISSERTATION

Students must earn 10 s.h. of dissertation credit in EDTL:7493 Ph.D. Thesis. Each candidate completes a dissertation on a research problem in mathematics education. A prospectus of the proposed research must be presented to the dissertation committee before the candidate undertakes the study. Upon completion of the dissertation, the candidate defends the dissertation in an oral examination.

ADMISSION

Applicants to the Ph.D. program in mathematics education must meet the admission requirements of the Graduate College. They must have an undergraduate major in mathematics or the equivalent; a current teaching license/certificate and at least two years of teaching experience are strongly preferred. A faculty review committee makes admission decisions.
M.A.: Music Education

The Master of Arts in music with concentration in music education prepares students for teaching, research, and administrative posts. Graduates find employment as college teachers of music education classes and activities; as band, chorus, and orchestra directors; and as administrators of music departments and schools of music. Some apply their skills in public schools as music supervisors, research and curriculum consultants, and directors of city or district school music programs.

The program is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. Application should be made to the School of Music.

Ph.D.: Music Education

The Doctor of Philosophy in music with concentration in music education prepares students for teaching, research, and administrative posts. Graduates find employment as college teachers of music education classes and activities; as band, chorus, and orchestra directors; and as administrators of music departments and schools of music. Some apply their skills in public schools as music supervisors, research and curriculum consultants, and directors of city or district school music programs.

The program is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. Application should be made to the School of Music.

M.A.T.: Science Education

The Master of Arts in Teaching program in science education requires a minimum of 48 s.h. of graduate credit. The program is designed primarily for graduates of bachelor's degree programs in science who decide that they would like to become teachers. It features advanced work in science along with the courses required for certification, enabling students to earn a master's degree and teaching certification at the same time.

The program assumes students have completed considerable course work in science (at least 56 s.h.) as undergraduates, but no previous course work in education. Students' science course work should be equivalent to that required by the University of Iowa Science Education Program.

The M.A.T. program in science education requires the following work.

PROFESSIONAL EDUCATION FOUNDATION SEQUENCE

All of these:

- EDTL:3002 Technology in the Classroom (must be taken during student's first semester in the college) 2 s.h.
- EDTL:3071 Secondary Classroom Management 2 s.h.
- EDTL:3090 Orientation to Secondary Education (must be taken during student's first semester in the college) 1 s.h.
- EDTL:3095 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college) 1 s.h.
- EDTL:4900 Foundations of Special Education 3 s.h.
- EPLS:3000 Foundations of Education 3 s.h.

EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.
PSQF:6200 Educational Psychology 3 s.h.

Science education courses are taken in the following sequence.

- EDTL:4751 Science Teaching and Practice with Early Learners 2 s.h.
- EDTL:4752 Methods of Teaching Science 3 s.h.
- EDTL:4757 Assessment in the Science Classroom 2 s.h.

These two taken concurrently:

- EDTL:4753 Instructional Issues in Teaching Science 3 s.h.
- EDTL:4779 Secondary School Science Practicum 2 s.h.

These three taken concurrently:

- EDTL:4087 Seminar: Curriculum and Student Teaching 3 s.h.
- EDTL:4091 Observation and Laboratory Practice in the Secondary School 6 s.h.
- EDTL:4092 Observation and Laboratory Practice in the Secondary School 6 s.h.

ELECTIVES

A minimum of one graduate course in biology, chemistry, earth science, or physics is required. Students who have satisfied portions of the required science course work listed above must take additional science course work to meet the minimum requirement of 48 s.h.

COMPREHENSIVE EXAMINATION

Students complete comprehensive examinations before their student teaching semester. Two comprehensive exams, one in science education and one in a science specialization area, are required. Students may not duplicate course examinations in these areas. The science education exam, under the guidance and supervision of the examining committee, consists of two parts, written and oral. Detailed requirements for the science education comprehensive examination are available from the Department of Teaching and Learning office.

ADMISSION

Applicants to the M.A.T. program in science education must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or equivalent in one of the sciences. A g.p.a. of at least 3.00 is required for admission and must be maintained throughout the program. Applicants must meet all Teacher Education Program (TEP) application requirements.

Joint B.A./M.A.T.: Science Education

College of Liberal Arts and Sciences students who want to teach science and are working toward a Bachelor of Arts degree with a major in biology, chemistry, environmental sciences, or physics may apply to the joint Bachelor of Arts/Master of Arts in Teaching program offered by the College of Liberal Arts and Sciences and the College of Education. The joint program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study.
study and by counting up to 18 s.h. of qualifying credit toward both degrees.

B.A. students are admitted to the joint program before their fourth year. They may begin taking education courses during their third year, but they may not earn graduate credit for them until their fourth and fifth years, after they have been admitted to the joint program. Students take 30 s.h. of course work during the fifth year and must complete all remaining requirements for both degrees that year.

**SCIENCE SPECIALIZATION (BROAD FIELD SCIENCE BLOCK)**

The following courses are required for the undergraduate degree in science education at the University of Iowa. They need not be repeated by M.A.T. candidates who need one or more advanced courses in their major science area, or by students from other interdisciplinary science discipline programs that prepare teachers for grades 6-9.

- SIED:4135 The Nature of Science 4 s.h.

Two of these (unless completed during undergraduate study):

- SIED:4102 Societal and Educational Applications of Earth Science and Environmental 3 s.h.
- SIED:4103 Societal and Educational Applications of Biological Sciences 3 s.h.
- SIED:4105 Societal and Educational Applications of Physical Sciences 3 s.h.
- SIED:4106 Societal and Educational Applications of Chemical Concepts 3 s.h.

Education courses required for the joint program are listed under "M.A.T.: Science Education" above. Requirements for the B.A. degree are listed under Biology, Chemistry, Environmental Sciences, and Physics and Astronomy (College of Liberal Arts and Sciences) in the Catalog.

**M.S.: Science Education**

The Master of Science program in science education requires a minimum of 38 s.h. of graduate credit. The program is designed for teachers and supervisors (K-college) and professionals in related fields, such as medical education, college teaching, museum program management, and outreach programs. It is intended to provide experience in understanding teaching and learning and the research processes required to advance the field.

M.S. students complete course work in four areas: science education, education, research, and science. Their individual programs of study are approved by the science education faculty.

The M.S. program in science education requires the following work.

**REQUIRED COURSES**

All of these:

- EDTL:6755 Practices of Inquiry in Science Learning Environments (no substitute for this course) 3 s.h.
- EDTL:6757 Learning in the Science Classroom (no substitute for this course) 3 s.h.
- EDTL:6759 Advanced Pedagogy (no substitute for this course) 3 s.h.

EDTL:7755 Independent Study in Science Education Research (taken twice for 3 s.h. each) 6 s.h.

Two science content courses chosen with the advisor 6 s.h.

A minimum of 13 s.h. chosen from these:

- EDTL:6756 Science Education: The Nature of Science 3 s.h.
- EDTL:6758 Writing in the Science Classroom 3 s.h.
- EDTL:7100 Design and Organization of Curriculum 3 s.h.
- PSQF:4143 Introduction to Statistical Methods 3 s.h.
- PSQF:6200 Educational Psychology 3 s.h.
- PSQF:6220 Quantitative Educational Research Methodologies 3 s.h.
- PSQF:6275 Constructivism and Design of Instruction 3 s.h.
- RCE:7338 Essentials of Qualitative Inquiry 3 s.h.

One additional qualitative or quantitative research methods course chosen in consultation with the advisor

May include one of these:

- EDTL:7004 Schooling in the United States 3 s.h.
- EDTL:7033 Seminar on Teacher Education 3 s.h.

**MASTER OF SCIENCE EXAMINATION**

Students must complete a thesis (EDTL:6393 Master's Thesis), for which they earn 2-4 s.h. of credit. A final oral examination is administered on campus in which the candidate defends his or her thesis. This examination includes a critical inquiry into the purposes, methods, and results of the thesis research investigation.

The final examination is conducted by a committee of no fewer than three members of the graduate faculty. In some cases, the committee must include a member from outside science education; consult the department.

**ADMISSION**

Applicants to the M.S. program in science education must meet the admission requirements of the Graduate College. They should hold an undergraduate major in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis. The department recommends that applicants have teaching licensure/certification unless they are preparing for careers in allied health, museums, or community colleges.

**Ph.D.: Science Education**

The Doctor of Philosophy program in science education requires a minimum of 85 s.h. of graduate credit. The program is designed for individuals who aspire to positions as college and university science educators; major supervisors in national, state, and local systems; teachers in small liberal arts colleges; instructors of general education science courses at major universities; research directors in science education; and professionals in medical and/or allied health education.

The Ph.D. program in science education requires the following work.
REQUIRED COURSES
All Ph.D. students in science education must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed at Ph.D. Research Requirements. Course selections must be consistent with other requirements for the degree.

All doctoral students in science education must complete one or both of the following Ph.D. core courses. Students may not substitute other courses for these.

EDTL:7004 Schooling in the United States 3 s.h.
EDTL:7033 Seminar on Teacher Education 3 s.h.

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see “Required Ph.D. Cognates” under “Graduate Programs of Study: Overview” above.

SCIENCE EDUCATION
All of these (15 s.h.):
EDTL:6754 Theory and Research on Curriculum Materials in Science (no substitute for this course) 3 s.h.
EDTL:6757 Learning in the Science Classroom 3 s.h.
EDTL:6759 Advanced Pedagogy 3 s.h.
Graduate-level science education courses chosen in consultation with advisor 6 s.h.

EDUCATION
All of these (12 s.h.):
EDTL:7100 Design and Organization of Curriculum 3 s.h.
EALL:5150 Introduction to Educational Research 3 s.h.
PSQF:6200 Educational Psychology 3 s.h.
PSQF:6275 Constructivism and Design of Instruction 3 s.h.

RESEARCH IN SCIENCE EDUCATION
Both of these (21 s.h.):
EDTL:7750 Seminar: Science Education (taken three times for 1 s.h. each) 3 s.h.
EDTL:7755 Independent Study in Science Education Research (taken six times for 3 s.h. each) 18 s.h.

SCIENCE AREA
Students complete a family of courses (total of 12 s.h.) in a major science area.

DISSERTATION
Ph.D. students earn 10 s.h. of thesis credit in EDTL:7493 Ph.D. Thesis.

ADMISSION
Applicants to the Ph.D. program in science education must meet the admission requirements of the Graduate College. They should have completed a bachelor's degree in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis; have a cumulative g.p.a. of at least 3.00 on undergraduate and graduate work; and have a combined score of at least 1000 on the verbal and quantitative portions of the Graduate Record Exam (GRE) General Test. Applicants must submit three letters of recommendation; a statement of purpose describing their reasons for pursuing graduate work and their goals for graduate study; and an example of their academic writing.

M.A.: Social Studies Education
The Master of Arts program in social studies education requires 38 s.h. of graduate credit. The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas for classroom teachers, high school department chairs, supervisors, and others interested in advancing their competence in history and the social sciences and greater proficiency in teaching and supervision.

Students choose one of two programs. Program A provides interdisciplinary study in education, history, social science, or related areas for classroom teachers or others interested in advancing their competence in instruction and their subject area. Program B is for individuals who have a bachelor's degree in history or a social science and who wish to obtain a teaching license/certificate while earning the M.A. degree. Program B students must apply to both the Graduate College and the College of Education.

PROGRAM A REQUIREMENTS
Program A students distribute the program's required 38 s.h. among three concentration fields in history and social sciences (or related areas), social studies education, and general education, with at least 9 s.h. in each of three fields. They must earn at least 9 s.h. in courses numbered 5000 or above distributed among the three concentration fields.

Students who choose the thesis option complete a research or investigative problem. If the thesis is research or investigation in history, social science, or a related area, the thesis director is a member of the appropriate department. If the thesis is a comprehensive examination in social studies education, the thesis director is a College of Education faculty member.

PROGRAM A COMPREHENSIVE EXAMINATION
The required comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

PROGRAM B REQUIREMENTS
Program B students should have completed considerable work in the social sciences and/or history as undergraduates. Students in the College of Education's Teacher Education Program for secondary education in social studies may not apply credit they have earned in required licensure courses to the 38 s.h. required for the M.A., even though the credit counts toward state teaching licensure.

Program B students who completed EDTL:4811 Introduction and Practicum: Secondary Social Studies and/or EDTL:4870 Methods: Secondary Social Studies as undergraduate or postbaccalaureate students at the University of Iowa are required to retake these courses during the M.A. program and immediately before student teaching. Required teaching licensure course work
completed at other colleges or universities is reviewed on a case-by-case basis.

Program B students who were accepted to the undergraduate Teacher Education Program before they received a baccalaureate must complete a college-level math course.

For licensure, students admitted to the M.A. in social studies education must complete 30 s.h. in a history or social science area; the 30 s.h. may include previous undergraduate and/or graduate-level course work. Required professional education course work not completed as part of the baccalaureate degree must be completed for licensure.

Students also must complete 15 s.h. in an additional history or social science licensure area; previous undergraduate course work may apply.

Students must complete all of the following professional education courses, unless they completed some of them as part of their bachelor's degree. In such cases, the semester-hour requirement for Program B is reduced accordingly, but it never falls below 38 s.h. All students must take the course work required for meeting all Iowa Department of Education requirements for teacher licensure/certification.

Professional education courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTL:3002</td>
<td>Technology in the Classroom</td>
<td>2 s.h.</td>
</tr>
<tr>
<td>EDTL:3071</td>
<td>Secondary Classroom Management</td>
<td>2 s.h.</td>
</tr>
<tr>
<td>EDTL:3090</td>
<td>Orientation to Secondary Education</td>
<td>1 s.h.</td>
</tr>
<tr>
<td>EDTL:3095</td>
<td>Teaching Reading in Secondary Content Areas</td>
<td>1 s.h.</td>
</tr>
<tr>
<td>EDTL:4087</td>
<td>Seminar: Curriculum and Student Teaching</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:4091</td>
<td>Observation and Laboratory Practice in the College</td>
<td>6 s.h.</td>
</tr>
<tr>
<td>EDTL:4092</td>
<td>Observation and Laboratory Practice in the College</td>
<td>6 s.h.</td>
</tr>
<tr>
<td>EDTL:4811</td>
<td>Introduction and Practicum: Secondary Social Studies</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:4870</td>
<td>Methods: Secondary Social Studies</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:4900</td>
<td>Foundations of Special Education</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:6833</td>
<td>History and Foundations of Social Studies</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:6841</td>
<td>Infusing a Global Perspective into the Curriculum</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:6877</td>
<td>Seminar: Social Studies Education</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EPLS:3000</td>
<td>Foundations of Education</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EPLS:4180</td>
<td>Human Relations for the Classroom Teacher</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSQF:6200</td>
<td>Educational Psychology</td>
<td>3 s.h.</td>
</tr>
</tbody>
</table>

Subject area specialization courses: a minimum of 9 s.h. of course work in history or a social science is required; students should take at least one course taught by the instructor who will serve on the examining committee.

**PROGRAM B COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of three two-hour exams: one on the subject area specialization, one on general professional education, and one on social studies education.

**ADMISSION**

Applicants to the M.A. program in social studies education must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required. Typically, applicants to Program B are expected to hold a secondary teaching license/certificate.

After declaring a social studies education major, M.A. students must maintain a g.p.a. of at least 3.00.

**Ph.D.: Social Studies Education**

The Doctor of Philosophy program in social studies education requires a minimum of 90 s.h. of graduate credit. The program prepares secondary department chairs, supervisors, curriculum directors, teacher education personnel, and college instructors in the social sciences and in social studies education.

The required 90 s.h. of credit includes course work and the dissertation (10 s.h.).

**REQUIRED COURSES**

All doctoral students in the social studies education program are required to complete 16 s.h. of course work focused on research methodology.

This course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQF:6243</td>
<td>Intermediate Statistical Methods</td>
<td>4 s.h.</td>
</tr>
</tbody>
</table>

One of these:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTL:7070</td>
<td>Introduction to Qualitative Methods</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EPLS:7373</td>
<td>Qualitative Research Design and Methods</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>PSQF:7331</td>
<td>Seminar: Educational Psychology</td>
<td>arr.</td>
</tr>
</tbody>
</table>

I—Current Topics (when topic is qualitative educational research requirements)

RCE:7338 Essentials of Qualitative Inquiry | 3 s.h. |

In consultation with advisor, 9 s.h. of research methodology course work appropriate to dissertation design from these:

Qualitative Methodology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTL:7071</td>
<td>Critical Discourse Analysis in Educational Research</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:7073</td>
<td>Ethnographic Methods, Theories, and Texts</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:7410</td>
<td>Mixed Methods Research</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>EDTL:7751</td>
<td>Advanced Qualitative Data Analysis</td>
<td>3 s.h.</td>
</tr>
</tbody>
</table>
EDTL:7774 Qualitative Research with Computer-Aided Qualitative Data Analysis Software 3 s.h.
EDTL:7953 Seminar: Single Subject Design Research 3 s.h.
EPLS:5195 Research in Cross-Cultural Settings 3 s.h.
EPLS:5240 Topics in Education (when topic is introduction to historical methodology) arr.
HIST:7197 The Art and Craft of Historical Writing arr.
HIST:7199 History Workshop: Theory and Interpretation arr.
PSQF:6265 Program Evaluation 3 s.h.
RCE:7444 Qualitative Research in the Multicultural Context 3 s.h.
Quantitative Methodology
EPLS:5176 Demographic Techniques for Educational Research 3 s.h.
EPLS:6206 Research Process and Design 3 s.h.
EPLS:6209 Survey Research and Design 3 s.h.
PSQF:6220 Quantitative Educational Research Methodologies 3 s.h.
PSQF:6244 Correlation and Regression 4 s.h.
PSQF:6246 Design of Experiments 4 s.h.
PSQF:6247 Nonparametric Statistical Methods 3 s.h.
PSQF:6249 Factor Analysis and Structural Equation Models 3 s.h.
PSQF:6252 Introduction to Multivariate Statistical Methods 3 s.h.

Students that want to take a course that is not listed above to receive credit toward their program requirements must obtain prior approval from their advisor and from the social studies education program.

In addition, all Ph.D. students in the Department of Teaching and Learning must complete one or both of the following Ph.D. core courses:

EDTL:7004 Schooling in the United States 3 s.h.
EDTL:7033 Seminar on Teacher Education 3 s.h.

Seminars and courses numbered 5000 or above are required in each of the study areas that constitute the major. Students must take 9 s.h. of required courses in social studies education, including EDTL:6833 History and Foundations of Social Studies Education, EDTL:6841 Infusing a Global Perspective into the Curriculum, and EDTL:6877 Seminar: Social Studies Education.

The remaining course work must be distributed among approved cognate areas (see "Required Ph.D. Cognates" under "Graduate Programs of Study: Overview" above), history, social sciences or related areas, and professional education, depending on a student's background and goals.

COMPREHENSIVE EXAMINATION

Students take three three-hour examinations, one in each of the study areas. Depending on the distribution of course work, the nine hours of written examinations may be rearranged. The Ph.D. examining committee consists of five members, who are selected according to the nature of the student's Ph.D. program and distribution of course work. An oral examination is conducted by the committee following the written exam.

DISSERTATION

Ph.D. candidates must complete a dissertation on a research problem in social studies education. The candidate must present a prospectus of the proposed research to the dissertation committee before undertaking the study. Upon completion, the candidate defends the dissertation in an oral exam.

ADMISSION

Applicants to the Ph.D. program in social studies education must meet the admission requirements of the Graduate College. They must have a bachelor's degree in history, the social sciences, or education; a master's degree in history, the social sciences, or education; a cumulative g.p.a. of at least 3.00; and a combined verbal and quantitative score of at least 310 on the Graduate Record Exam (GRE) General Test. At least two years of teaching experience is strongly preferred. Applicants who did not write a thesis as part of their M.A. must submit seminar papers or field research as equivalents.

M.A.: Special Education

Special education programs are offered in K-8 and 5-12 Instructional Strategist I: Mild/Moderate, and K-12 Instructional Strategist II: BD/LD. These programs are designed to prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All teacher licensure/certification programs are approved by the Iowa Department of Education.

The Master of Arts program in special education requires a minimum of 32 s.h. of graduate credit. The program prepares individuals to deliver appropriate levels of service to students with disabilities at the elementary and secondary levels, in either public or private settings. Applicants with a master's degree and special education certification may request admission in order to obtain an additional area of special education licensure/certification (i.e., professional improvement). Students typically receive licensure/certification in at least one area upon completing the program. Contact the Department of Teaching and Learning for specific program requirements.

ADMISSION

Applicants to the M.A. program in special education must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00 (and/or at least 3.00 on a minimum of 12 s.h. of graduate course work). A combined verbal and quantitative score of at least 1000 on the Graduate Record Exam (GRE) General Test is preferred. Applicants whose first language is not English must score at least 100 on the Test of English as a Foreign Language (TOEFL).

Application materials must include a completed Graduate College application form; copies of official transcripts for all college course work; an official report of Graduate Record Exam (GRE) General Test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.
Ph.D.: Special Education

The Doctor of Philosophy program in special education requires a minimum of 90 s.h. of graduate credit. The program prepares students for teaching and research positions in higher education, and for curriculum, supervisory, and research positions in state and local education agencies. The program permits students to study and practice extensively in their special education interest area and in an interest area outside of special education.

The Ph.D. curriculum includes an emphasis on research skills, all facets of special education, an approved cognate area (see "Required Ph.D. Cognates" under "Graduate Programs of Study: Overview" above), and at least one specialization area.

REQUIRED COURSES

All doctoral students in special education must take EALL:5150 Introduction to Educational Research in addition to the following research requirements:

Quantitative Research Requirements (13 s.h.)
Both of these:
- PSQF:4143 Introduction to Statistical Methods 3 s.h.
- PSQF:6243 Intermediate Statistical Methods 4 s.h.

Two of these:
- EPLS:6206 Research Process and Design 3 s.h.
- PSQF:6220 Quantitative Educational Research Methodologies 3 s.h.
- PSQF:6244 Correlation and Regression 4 s.h.
- PSQF:6246 Design of Experiments 4 s.h.
- PSQF:6247 Nonparametric Statistical Methods 3 s.h.
- PSQF:6249 Factor Analysis and Structural Equation Models 3 s.h.
- PSQF:6252 Introduction to Multivariate Statistical Methods 3 s.h.

Qualitative Research Requirements (6 s.h.)
This course:
- EDTL:7953 Seminar: Single Subject Design Research 3 s.h.

One of these:
- EDTL:7410 Mixed Methods Research 3 s.h.
- EPLS:7373 Qualitative Research Design and Methods 3 s.h.

In addition, all doctoral students in special education must complete one of the following Ph.D. core courses.

- EDTL:7004 Schooling in the United States 3 s.h.
- EDTL:7033 Seminar on Teacher Education 3 s.h.

All Ph.D. students in special education must complete the following courses.

- EDTL:7943 Proseminar: Issues, Trends, and Research in Special Education 3 s.h.
- EDTL:7944 Proseminar: Issues, Trends, and Research in Special Education II 3 s.h.

Students also must complete an interdisciplinary minor in a discipline outside of special education (minimum of 12 s.h.). In addition, they are required to write the comprehensive examination and complete a doctoral dissertation, earning a minimum of 10 s.h. in EDTL:7493 Ph.D. Thesis.

ADMISSION

Applicants to the Ph.D. program in special education must meet the admission requirements of the Graduate College. They must have master's degree or equivalent in special education; those without an M.A. thesis must have completed an equivalent project. Applicants should have a graduate g.p.a. of at least 3.50 and a combined verbal and quantitative score of at least 1000 on the Graduate Record Exam (GRE) General Test. Applicants whose first language is not English must score at least 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants should have at least one year of full-time teaching experience with exceptional children; several years are preferred.

Application materials must include a completed Graduate College application form; copies of official transcripts for all college course work; an official report of Graduate Record Exam (GRE) General Test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

Financial Support

A limited number of teaching assistantships are available for graduate students. Assignments vary. Some involve supervising undergraduate majors enrolled in practicums; some involve teaching sections of undergraduate methods courses and supervising student teachers; others consist primarily of research activities. Graduate assistants may register for a maximum of 12 s.h. of credit per semester. Graduate assistants must register for at least 6 s.h. per semester.

All assistantships are awarded on a competitive basis. Applicants must have been admitted to regular status in the Graduate College and to an advanced program in the College of Education. For information about assistantships, consult the College of Education advisor in the appropriate field.

Courses

Elementary Education, Lower-Level Undergraduate

EDTL:1050 Opportunities in Education 2 s.h.
Introduction for underrepresented students to the teaching profession and its widely varied opportunities; faculty, students, recipients of awards in education; tours of Iowa City schools; reflection on and personal integration of class learning experiences, consideration of future plans.

EDTL:1129 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
Elementary Education, Upper-Level Undergraduate and Graduate

**EDTL:2000 Creativity for a Lifetime** 3 s.h.
Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; integration of teamwork and opportunities for individual growth that allow for personal development; identification of ways for students to be more creative in their own lives and work. Same as ARTS:2000, ASP:2000, RHET:2000.

**EDTL:2821 Oral Interpretation** 3 s.h.
Weekly performances to develop and define communication skills for professional careers in teaching and business; poetry, prose, monologue, storytelling, duo interpretation, reader's theatre, and demonstration speeches. Requirements: for COMM:2821 — g.p.a. of at least 2.30 and minimum 30 s.h. of credit. Same as COMM:2821.

**EDTL:3002 Technology in the Classroom** 2-3 s.h.

**EDTL:3103 Assessment for Instructional Planning and Practice** 3 s.h.
Fundamentals of using assessment data to make instructional planning decisions that preservice educators need in their advanced course work and classrooms; practical application with curriculum-based procedures; emphasis on classroom-based procedures used to make educational decisions to plan instruction for students, particularly those who are experiencing academic difficulty. Requirements: admission to TEP.

**EDTL:3114 Parent-Child Relationships** 3 s.h.
Roles and relationships within and between families, culture, society; identify (family) resources and concerns based on children's development, abilities.

**EDTL:3120 Methods and Materials: Music for the Classroom Teacher** 2 s.h.
Development of music skills, techniques, knowledge of methods and materials for teaching music to young children; for elementary education majors. Requirements: admission to TEP.

**EDTL:3122 Creativity, Imagination, Play, and Human Development through the Arts** 3 s.h.
Different theories related to human development and visual arts; use of visual arts to make meaning out of experience from the time people began making symbolic marks; ways to integrate visual arts into everyday life; cognitive and physical processes involved in making, understanding, and looking at visual art through studio experiences; theories of cognitive development; role of visual art in education; introduction to art production, art history, art criticism, and aesthetics.

**EDTL:3123 Reading and Responding to Children’s Literature** 3 s.h.
Reading and teaching of children's literature; becoming more knowledgeable readers of children's literature; using children's literature in elementary classroom for aesthetic, personal, social, and critical purposes; wide range of literary texts in different genres and multiple ways readers might experience these texts given particular teaching approaches; ways in which readers interact with texts and with each other to make meaning as they read and discuss literature. Requirements: admission to elementary TEP.

**EDTL:3127 Methods and Materials: Physical Education, Health, and Wellness** 2-3 s.h.
Methods, curriculum. Requirements: admission to TEP.

**EDTL:3130 Adaptive Physical Education for the Elementary Classroom Teacher** 2 s.h.
Create and deliver quality, inclusive physical education for students with mental, physical, or emotional disabilities; identify and evaluate the needs of disabled students, plan units and lessons with appropriate modifications for all learners, write an IEP, comply with IDEA in a physical education setting. Prerequisites: EDTL:3127.

**EDTL:3131 Movement Education** 2 s.h.
Movement education as a basis for psychomotor and cognitive development in children; summary of basic growth and motor development; in-depth instruction on theory and application of movement education curriculum, and practice on design and execution of movement education lessons. Prerequisites: EDTL:3127.

**EDTL:3139 American Government and Civics for the Elementary Classroom Teacher** 3 s.h.
Foundations and processes of American government as related to development of civic literacy in elementary students and their teachers; founding documents, legal precedents, social and economic changes throughout American history; research-based teaching and learning processes from social studies education. Requirements: admission to TEP.

**EDTL:3141 Elementary School Mathematics: Number and Operations** 3 s.h.
Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen number and operations content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing number and operations concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3142 Elementary School Mathematics: Geometry and Measurement** 3 s.h.
Problem-solving approach to current trends in math education; current math content knowledge assessed at start and end of course; opportunities to strengthen geometry and measurement content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing geometry and measurement concepts and skills; research-based pedagogical strategies that help children in elementary school develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3143 Methods of Art Education in Elementary Schools** 3-4 s.h.
Application of studio methods to teaching children in Saturday Children's Art Class Program. Same as ARTE:3143.

**EDTL:3146 Elementary School Mathematics: Data/Probability and Algebra** 3 s.h.
Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen data analysis/probability and algebra content knowledge; how grade K-5 children think about and learn math; core ideas of learning, teaching, planning, and assessing data/probability and algebra concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3154 Teaching and Learning in the Earth Sciences** 3 s.h.
Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of earth sciences; essential concepts in earth sciences; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EPLS:3000 and EDTL:3102 and EDTL:3190 and PSQF:1075. Requirements: admission to TEP.

**EDTL:3158 Teaching and Learning in the Biological Sciences** 3 s.h.
Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of biological sciences; essential concepts in biological sciences; instruction to promote learning of essential concepts; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EPLS:3000 and EDTL:3002 and EDTL:3190 and PSQF:1075. Requirements: admission to TEP.

**EDTL:3159 Teaching and Learning in the Chemical/Physical Sciences** 3 s.h.
Meaningful and practical learning experiences that foster elementary science learning environments and engage learners in scientific practices and understanding of physical sciences; essential concepts in physical sciences; instruction to promote student learning of essential concepts; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075. Requirements: admission to TEP.

**EDTL:3160 Literacy Learning and Teaching I** 3 s.h.
Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades K-3; for preservice elementary teachers. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075. Requirements: admission to elementary TEP.

**EDTL:3161 Social Studies for the Elementary Classroom Teacher** 3 s.h.
Individual growth and change due to environment, economy, and technology; focus on developing teacher’s understanding of social and behavioral sciences and how they relate to geography, history, and government in student’s growth toward democratic citizenship; emphasis on need to develop intellectually stimulating curricula based on Iowa Core in behavioral science; lesson and curriculum development from research-based best practices in teaching social studies and driven by Iowa Core goals and objectives; technology as a teaching tool and focus of investigation in today’s society. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075. Requirements: admission to elementary TEP.

**EDTL:3163 Methods: Elementary School Mathematics** 2-3 s.h.

**EDTL:3164 Literacy Learning and Teaching II** 3 s.h.
Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades 3-6; for preservice elementary teachers. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075. Requirements: admission to elementary TEP.

**EDTL:3168 History for the Elementary Classroom Teacher** 3 s.h.
Development of historical literacy in elementary students and their teachers; connecting children to the past using family histories; interactions and patterns in world history; diverse perspectives in U.S. history; using primary sources to investigate state and local history. Requirements: admission to TEP.

**EDTL:3170 Elementary Classroom Management** 1-3 s.h.
EDTL:3172 Elementary Reading Practicum 3-4 s.h.
Experience in teaching literacy to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075.

EDTL:3174 Elementary Math Practicum arr.
Experience in teaching mathematics to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075. Corequisites: EDTL:3163 and EDTL:3170.

EDTL:3175 Elementary Social Studies/Science Practicum 2 s.h.
Experience in teaching social studies and science to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; mentoring and support from supervisor with classroom experience at practicum site; on-site practicum experiences preceded by on-campus seminar with practicum coordinator and supervisors; assignments designed to enrich and augment onsite experiences and tied to student's current methods courses; for preservice teachers. Requirements: admission to TEP.

EDTL:3176 Teaching Elementary School Science 3 s.h.
Advanced science methods for elementary education majors seeking a science specialization.

EDTL:3180 Drama in the Classroom 3 s.h.
Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as THTR:3610.

EDTL:3190 Orientation to Elementary Education 1-2 s.h.
Overview of elementary education expectations, including options for student teaching; classroom observation, lesson planning, performance indicators, INTASC standards, classroom management, information about mandatory child abuse reporting, blood-borne pathogens, professional ethics.

EDTL:3620 Methods and Materials: General Music 3 s.h.
Methods for teaching general music in elementary and secondary schools. Prerequisites: EDTL:3002 and EDTL:3090 and EDTL:3610.

EDTL:4024 Differentiating Projects with Technology 1 s.h.
Use of digital tools to enrich student presentations; PowerPoint slide shows, presentations uploaded to World Wide Web, interactive multimedia presentations via HyperStudio.

EDTL:4026 Reading for High-Ability Students 1 s.h.
Goals and methods of reading instruction, with focus on developmentally appropriate needs of high-ability readers; genres of literature, enriched and accelerated reading curricula, role of reading in social and emotional development of gifted students.

EDTL:4028 Differentiating through Advanced Technology 1 s.h.
Multimedia and web-based tools and utilities that enrich classroom learning and facilitate presentations made by technologically advanced students; production and editing of digital video, computer graphics, advanced web-publishing and communication techniques; skill development.

EDTL:4029 Developing Leadership Skills for Gifted and Talented Students, K-12 1 s.h.
EDTL:4065 Social Studies for High-Ability Learners 1-2 s.h.
Intersection of unique challenges presented by talented students and challenges of designing, implementing, and assessing quality inquiry-based social studies instruction; background in social studies or social studies education not required.

EDTL:4066 Curriculum Concepts in Gifted Education 3 s.h.
Analyzing and refining understanding of curriculum in context of: needs of gifted and talented students, rationale for and implementation of curriculum differentiation, and curriculum principles for and applications to gifted and talented; designed for preservice and inservice educators, as well as those interested in curriculum development, design, and delivery.

EDTL:4081 ePortfolio Production 1-2 s.h.
Experience producing an ePortfolio and uploading it to the Internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser and access to the Internet and to a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as PSQF:4081, EALL:4081, RCE:4081, EPLS:4081.

EDTL:4085 Current Readings and Research in Gifted Education 1 s.h.
Research in the field of gifted education and talent development; applications of research to ensure best practices in providing services and programs for high-ability learners.

EDTL:4096 Topics in Teaching and Learning arr.

EDTL:4153 Gifted and General Education Collaboration 1 s.h.
Need for differentiated learning experiences throughout the school day for gifted students; how classroom teachers and gifted/talented resource teacher collaborate to provide appropriate instructional services to gifted students; collaborative models, planning process, and recommendations for both direct and indirect services. Requirements: access to the Internet.

**EDTL:4171 Literacy Learning and Teaching III** 3 s.h.
Elaborates on content from EDTL:3160 and EDTL:3164; issues in theoretically sound reading and writing assessment, instruction in K-8 classrooms where local, state, and national goals play increasing roles; reading and writing processes; teaching and learning of reading and writing; focus on role of language and conversation in learning, content area reading instructional strategies, classroom-based reading and writing assessment, special issues in teaching, and learning with textbooks. Prerequisites: EDTL:3002 and EDTL:3103 and EDTL:3190 and EPLS:3000 and PSQF:1075.

**EDTL:4190 Supervised Teaching in the Elementary School: Interactive Phase** arr.
Student teaching at the elementary level (K-9). Corequisites: EDTL:4091. Requirements: application to the Office of Teacher Education and Student Services.

**EDTL:4191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase** arr.

**EDTL:4192 Special Area Student Teaching** arr.
Supervised teaching and observation in specific areas of elementary curriculum (see ISIS for areas offered).

**EDTL:4193 Independent Study** arr.
Requirements: senior standing.

**EDTL:4199 Program Models in Gifted Education** 3 s.h.
Development and refinement of preservice and inservice educators' understanding of academic programs; needs of gifted and talented students, including diverse and often underrepresented groups of students; rationale for and implementation of a comprehensive program model for gifted students. Requirements: Internet access.

**Elementary Education, Graduate**

**EDTL:5104 Language Disorders in School-Aged Children** 3 s.h.
Emphasis on elementary grades; usually taken in conjunction with EDTL:4192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors. Same as CSD:5104.

**EDTL:6104 Literature for Children II** 3 s.h.
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as ENGL:6104.

**EDTL:6164 Early Literacy Development and Instruction** 2-3 s.h.
Understanding of early reading and writing experiences; relationship of reading to other communication areas; knowledge of instructional approaches, techniques, materials, assessment procedures; interrelationship of home and school experiences; identification of current and crucial issues and relevant research.

**EDTL:6165 Reading and Writing Across Intermediate Grades** 3 s.h.
Issues in teaching, learning, and assessment of students grades 4-9; fostering positive literate identities, literacy engagement, strategies for reading, writing, and critically responding to texts in a range of genres and formats and across content areas.

**EDTL:6167 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms** 3 s.h.
Theoretical and practical organization of developmentally appropriate curricula and teaching methods to promote learning.

**EDTL:6171 Advanced Reading Clinic Techniques** 2-3 s.h.
Instructional procedures for children and early adolescents with severe learning problems in reading; causes of reading disorders; educational prognosis for severely disabled readers. Corequisites: EDTL:6172.

**EDTL:6172 Advanced Reading Clinic Practicum** 2-3 s.h.
Practice in selecting and using instructional procedures that address the needs and interests of struggling literacy learners, with emphasis on teaching to students' strengths; how to fit clinical teaching techniques into an overall literacy instructional program. Corequisites: EDTL:6171.

**EDTL:6293 Individual Instruction** arr.

**EDTL:6534 Foundations of Mathematics Education** 2-3 s.h.
History of U.S. mathematics education; learning theory applied to teaching, learning mathematics; curriculum design; curriculum/standards and achievement patterns in the United States and other countries; equity; research literature.

**EDTL:6955 Social and Behavioral Interventions** 3 s.h.
Design, implementation, and evaluation of function-based interventions for students with significant behavioral challenges; functional behavior assessment, multi-component intervention design, and single-subject methodology to test effects of intervention in a K-12 school.

**EDTL:7004 Schooling in the United States** 3 s.h.
Governance, finance, and policy structures that have influenced teaching and learning in public schools.

**EDTL:7008 Seminar: Research and Current Issues** arr.

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Review of literature, critical analysis of reported research, and study of current issues and problems for a specific curricular area; topics vary.

**EDTL:7040 Advanced Topics in Teaching and Learning**
Topics vary.

**EDTL:7092 Field Service Project**
Individual field service project in a specific curricular area; for advanced students.

**EDTL:7093 Research Project**
Individual research projects in a specific curricular area; for advanced students.

**EDTL:7100 Design and Organization of Curriculum**
3 s.h.
Major issues, modern selection, sequential arrangement, organization of content; relationship of time allotments to implementation; utilization of instructional equipment; appraisal procedures; staff participation in curriculum development.

**EDTL:7165 Reading Clinic: Supervision**
Arr.
Supervised experience in guiding and improving teacher performance in clinical practicums.

**Secondary Education, Upper-Level Undergraduate and Graduate**

**EDTL:3001 Introduction to Museum Studies**
3 s.h.
Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as SIED:3001, ANTH:3001, MUSM:3001.

**EDTL:3010 Learning in Museums**
3 s.h.
Exploration of the methodology of museum education; institutional objectives that facilitate learning in museum setting; exhibition and program development, didactic materials, and funding strategies. Prerequisites: MUSM:3001. Recommendations: good writing skills. Same as MUSM:3110.

**EDTL:3026 Workshop for Secondary School Journalism/Communication Teachers**
1-3 s.h.
Workshops on journalism/mass media curriculum, audio/video production, photojournalism, publication design, journalistic writing techniques, advising student publications. Same as JMC:3210.

**EDTL:3060 Pre-Intern Fall**
4 s.h.
First course in the Regents collaborative Iowa Teacher Intern License Pathway program. Requirements: admission to the ITILP program.

**EDTL:3061 Pre-Intern Spring**
4 s.h.

**EDTL:3062 Pre-Intern Summer I**
4 s.h.
Third course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: EDTL:3060 and EDTL:3061.

**EDTL:3063 Pre-Intern Summer II**
6 s.h.
Fourth course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: EDTL:3060 and EDTL:3061 and EDTL:3062.

**EDTL:3064 Intern Year**
Arr.
Fifth course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: EDTL:3060 and EDTL:3061 and EDTL:3062.

**EDTL:3071 Secondary Classroom Management**
2-3 s.h.
Characteristics of the classroom environment and their implications for organization and management; concepts and principles teachers can use when thinking about managerial tasks in the classroom; for prospective middle and secondary school teachers. Prerequisites: EDTL:3090. Requirements: admission to TEP.

**EDTL:3090 Orientation to Secondary Education**
1 s.h.
Overview, including options for student teaching, classroom observation, lesson planning, classroom management, performance indicators, INTASC standards, blood borne pathogens, professional ethics.

**EDTL:3095 Teaching Reading in Secondary Content Areas**
1 s.h.
Integration of reading strategies into secondary content areas for teacher candidates in secondary education.

**EDTL:3204 Art Education Studio**
3-4 s.h.
Art training related to processes of elementary, secondary school art teaching; studio methods applied to teaching children, adolescents. Requirements: concurrent enrollment in EDTL:3290 for Teacher Education Program student.

**EDTL:3205 Methods of Art Education in Secondary Schools**
4 s.h.
Art education theory and methods at secondary levels; art curriculum, unit, and lesson planning; evaluation, motivation, instructional materials; observational techniques.

**EDTL:3290 Introduction and Practicum: Art**
2-3 s.h.
Practice of learning from an experienced art teacher in an art classroom and setting; observations in an art classroom side-by-side with experience and insight gained through participating and teaching in the Saturday Art Workshop Program. Requirements: admission to TEP.
EDTL:3382 Language and Learning  2-3 s.h.
How language reflects and constructs learners’ identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3190.

EDTL:3393 Reading and Teaching Adolescent Literature  3 s.h.
Reading and evaluation of literature suitable for junior and senior high school students. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3191.

EDTL:3532 Introduction and Practicum: Mathematics  3 s.h.
Experience designing and teaching lessons with varied instructional intent and use of multiple instructional strategies; study and practice methods of managing classroom learning environment; significant time spent in cooperating schools, on-campus meetings. Requirements: admission to TEP.

EDTL:3534 Methods: Middle School Mathematics  3 s.h.
Subject matter content, teaching and assessment techniques for grades 5-9 math; how students learn mathematics; mathematics curricular planning for all students.

EDTL:3605 Instrumental Techniques  2 s.h.
Same as MUS:3605.

EDTL:3610 Introduction and Practicum: Music  2 s.h.
Experience observing and assisting music teachers and students in elementary or secondary schools; six hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

EDTL:3630 Band Methods and Materials  3 s.h.
High school and elementary school music methods required for teaching certificate; for instrumental music education majors. Same as MUS:3630.

EDTL:3635 Instrumental Conducting  3 s.h.
Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: MUS:3625. Same as MUS:3635.

EDTL:3640 Choral Methods  3 s.h.
Organization, implementation of effective choral music programs for all ages. Same as MUS:3640.

EDTL:3645 Choral Conducting and Literature  3 s.h.
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under EDTL:3645. Prerequisites: EDTL:3640 and MUS:3625. Same as MUS:3645.

EDTL:3660 String Methods and Materials  3 s.h.
Methods for teaching bands in schools. Offered fall semesters. Same as MUS:3660.

EDTL:4021 Science for High Ability Students  1 s.h.
Unique challenges and opportunities confronted by teachers of students with above average ability and interest in science; theory and practice; development of program outlines for science programs.

EDTL:4022 Math Programming for High Ability Students  1 s.h.
Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as PSQF:4122.

EDTL:4025 Differentiated Instruction for the Gifted  1 s.h.
Program options for K-12 gifted students; student abilities and needs linked with various curriculums; case studies, school materials.

EDTL:4032 Middle School Curriculum and Methods  3 s.h.
Junior high and middle school development compared; characteristics of exemplary programs, disciplinary and interdisciplinary trends; variety of teaching methods (group and individual); hands-on activities. Requirements: admission to TEP.

EDTL:4072 Thinking Skills  1 s.h.
Factors involved in teaching thinking skills as a total concept; the relationship of critical and creative thinking; review of published programs.

EDTL:4073 Programming/Curriculum for High Ability Students  1 s.h.
Programming and curriculum for K-12 students identified as gifted or highly able; in-class differentiations, special projects for pull-out programs, facilitating research projects, mentoring in advanced programming.

EDTL:4074 Differentiation at the Secondary Level  1 s.h.
Importance of differentiation for gifted learners in middle school and high school; differentiation through advanced placement programs as well as broader perspectives on differentiation; essentials for differentiation understood and applied to a lesson that will be implemented with students.

EDTL:4077 Seminar: Curriculum and Student Teaching  1-3 s.h.
Discussions, role-playing, group and individual reports, analysis of critical incidents, classroom management, videotapes of student classroom performance pertinent to participants' student teaching experiences. Requirements: student teaching.

EDTL:4089 Elementary School Special Subject Area Student Teaching  arr.
Supervised teaching experience in a single subject in grades 1-6.
EDTL:4091 Observation and Laboratory Practice in the Secondary School
Student teaching experience in performing the duties of regular classroom teachers under supervision of experienced personnel in secondary schools.

EDTL:4092 Observation and Laboratory Practice in the Secondary School
Continuation of EDTL:4091.

EDTL:4314 Introduction and Practicum: Secondary English
Experience observing and assisting English or speech teachers and students in secondary schools; 12 hours per week in the school plus on-campus class meetings.

EDTL:4315 Methods: Secondary English
Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: EDTL:4314. Same as ENGL:4810.

EDTL:4355 Approaches to Teaching Writing
Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Same as CNW:4355.

EDTL:4394 Methods: Secondary Reading
Methods and materials used in teaching developmental reading in all junior and senior high school content areas. Prerequisites: EDTL:4314.

EDTL:4406 Foreign Language Education Practicum I
Skill development for teaching languages in the early grades; curriculum design, test creation, microteaching with inservice teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4416.

EDTL:4407 Foreign Language Education Practicum II
Practice in lesson design, classroom management techniques, evaluation skills during work with inservice foreign language teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4417.

EDTL:4410 Teaching K-12 Second Language Learners
Second language learning and teaching in the multicultural classroom; influence of school setting, societal context. Requirements: admission to TEP.

EDTL:4416 Learning to Teach Second Languages I
Approaches, methods, and techniques of teaching the modalities of listening, speaking, reading, and writing in a second language. Corequisites: EDTL:4406.

EDTL:4417 Learning to Teach Second Languages II
Curriculum design, classroom management, student evaluation, technology, using context to teach culture in second languages. Prerequisites: EDTL:4410 or EDTL:6483. Corequisites: EDTL:4407.

EDTL:4418 ESL Practicum I
Skill development for teaching English as a second language; curriculum design, test creation, microteaching with inservice teachers.

EDTL:4467 Methods for Teaching English to Speakers of Other Languages in K-12 Settings
Exploration of approaches, methods, and practices in teaching English to speakers of other languages in K-12 school settings; communicative and content-based approaches to language learning with practical application of theory and research; issues concerning linguistically diverse learners covered with pedagogical implications; skills in teaching approaches for English language learners; lesson and unit planning, materials evaluation and adaptation, and assessment for placement, diagnosis, exit, and evaluation of English language learners.

EDTL:4468 Instruction of English Language Learners for K-12 Classrooms
Preparation to work with English Learners (ELLs) in K-12 settings; dramatic increase in this population over recent decade; need for teachers to understand sociocultural and linguistic challenges faced by ELLs and their families; proficiency in instructional and differentiation strategies for instructing ELLs; ELL variation and cultural considerations, English language development standards, second language teaching and learning, differentiation for ELLs, effective practice for ELL instruction and assessment; for students in teacher preparation program.

EDTL:4498 Language Structure for Teaching English Language Learners
Exploration of approaches, methods, and practices in teaching English to speakers of other languages in K-12 school settings; communicative and content-based approaches to language learning with practical application of theory and research; issues concerning linguistically diverse learners covered with pedagogical implications; skills in teaching approaches for English language learners; lesson and unit planning, materials evaluation and adaptation, and assessment for placement, diagnosis, exit, and evaluation of English language learners.

EDTL:4535 Methods: High School Mathematics
Subject matter content, teaching and assessment techniques for grades 9-12 math; how students learn mathematics; mathematics curricular planning for all students. Prerequisites: EDTL:3354.

EDTL:4630 Psychology of Music
Cognition of music, affective response, aesthetic response, musical ability. Same as MUS:4630.

EDTL:4640 Introduction to Music Research
Preparation for conducting research on music behavior.
EDTL:4751 Science Teaching and Practice with Early Learners  2 s.h.
Introduction to students, schools, the purpose of schooling children in science, learning theories, science curricula, contemporary science education issues, effective science teaching.

EDTL:4752 Methods of Teaching Science  3 s.h.
Developing, writing, and orally defending a robust research-based framework for teaching science that includes student goals, student actions, content, materials, activities, teaching behaviors and strategies, contemporary learning theories, self-evaluation. Prerequisites: EDTL:4751.

EDTL:4753 Instructional Issues in Teaching Science  3 s.h.
Articulating, experiencing, practicing a research-based framework for teaching science in the real world of students, schools, teaching. Prerequisites: EDTL:4752. Corequisites: EDTL:4779.

EDTL:4757 Assessment in the Science Classroom  2 s.h.
Exploration of ways in which students are assessed in science classrooms; methods used to assess student learning and theoretical backgrounds; formative/summative assessment techniques, including technology-based assessment; development of assessment around three guiding questions: Where are you trying to go? Where are you now? How can you get there?; ways in which assessment theories guide teaching and learning. Requirements: admission to TEP.

Supervised teaching experience in a single subject; secondary school setting.

EDTL:4811 Introduction and Practicum: Secondary Social Studies  3 s.h.
Experience observing and assisting social studies teachers and students in secondary schools; nine hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

EDTL:4870 Methods: Secondary Social Studies  3 s.h.
Analysis of the teaching-learning process; organization of social studies content for teaching purposes; evaluation of learning procedures and new strategies; practicum work includes microteaching, computer-assisted modules, lesson plan development, writing test items.

EDTL:4876 Advanced Methods for Teaching and Learning in a Culturally Responsive Classroom  3 s.h.
Multiculturalism and equity issues in education that support development of resources and lesson activities to appeal to a diverse student body; asynchronous online course for educators in all disciplines who are pursuing licensure or currently teaching in a K-12 classroom, advanced technological literacy not required. Eight weeks. Requirements: successful completion of a methods course in K-12 licensure program.

EDTL:5080 Workshop: Teacher Training for Advanced Placement Courses  1-2 s.h.
Focus on a particular academic content area.

EDTL:5086 Curriculum Foundations  2-3 s.h.
Elementary and secondary background developments in curriculum; definitions, historical perspective, philosophies, theories of knowledge, models, learning theories, directions of development and shaping forces; emphasis on development of a curriculum project. Same as SLA:5501.

EDTL:5535 Current Issues in Mathematics Education  1-3 s.h.
Recent curriculum developments, experimental programs, research relevant to classroom instruction, trends in education that may have a significant impact on mathematics programs.

EDTL:5600 Graduate Music Education Workshop  1 s.h.
For inservice music teachers; topics vary. Same as MUS:5600.

EDTL:5601 Graduate Music Education Workshop II  1 s.h.
Varied topics; for inservice music teachers. Same as MUS:5601.

EDTL:5610 Foundations of Music Education Curricula  3 s.h.
Curriculum development, instructional materials, analysis of current teaching methods and techniques in school music programs; historical foundations of music education.

Secondary Education, Graduate

EDTL:6267 Seminar: Current Issues in Art Education  3-4 s.h.
Analysis of literature in art education and related disciplines. Same as ARTE:6267.

EDTL:6315 M.A. Seminar: English Education arr.
Significant developments in English education; primary and collateral readings. Same as ENGL:6315.

EDTL:6393 Master's Thesis arr.

EDTL:6400 Fundamentals of Second Language Assessment  3 s.h.
How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as SLA:6503.

EDTL:6402 Second Language Program Management  3 s.h.
Preparation for supervising, administering foreign language programs at all levels; for precollege language teachers and graduate students. Same as SLA:6504.
EDTL:6403 Language Policy and Planning 3 s.h.
Sociology and politics of national policies involving language, internationally; development of a research-based policy perspective on language issues in the country in which the student intends to teach.

EDTL:6407 Reading in Non-Roman Scripts 3 s.h.
Theory and practice of reading in languages that use non-Roman alphabets, syllabary, logographic systems; reading in first and second language contexts; instructional and literacy development issues. Prerequisites: EDTL:4171 or EDTL:6484. Same as SLA:6975.

EDTL:6408 Designing Materials for Second Language Instruction 3 s.h.
Critical perspective on creating and using media for second language learning and teaching; research on materials design, development of media. Prerequisites: EDTL:6483. Same as SLA:6505.

EDTL:6409 Cultural Curriculum 3 s.h.
Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as SLA:6970.

EDTL:6480 Issues in Foreign Language Education 3 s.h.
Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as SLA:6500.

EDTL:6483 Second Language Classroom Learning 3 s.h.
Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as ASIA:6483, SLA:6506.

EDTL:6484 Reading in a Second Language 3 s.h.
Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as SLA:6501.

EDTL:6497 Principles of Course Design for Second Language Instruction 3 s.h.
Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as SLA:6502.

EDTL:6530 Workshop in School Mathematics 0-3 s.h.
Recent developments in school mathematics teaching methods and curriculum relevant to a selected issue; one to three weeks of intensive examination, experience.

EDTL:6531 Technology in School Mathematics 2-3 s.h.
Methods, materials, issues, pedagogy, assessment; use, evaluation of technology for mathematics teaching and learning; implications for organization, development of course content.

EDTL:6536 Teaching of Geometry 2-3 s.h.
Current developments in teaching middle school/junior high and high school geometry; selection, organization of content; research on teaching and learning.

EDTL:6539 Teaching of Algebra 2-3 s.h.
Current developments in curriculum and instructional methods in secondary school algebra; classroom use of the history of algebra, use of technologies, implications of current research for the algebra classroom.

EDTL:6570 Foundation of School Mathematics Curriculum 3 s.h.
Elementary and secondary background developments in school and mathematics curriculum; definitions, historical perspective, reform, theories of knowledge, implementation, evaluation, international perspectives, issues in mathematics curriculum.

EDTL:6600 Individual Projects in Music Education 1-2 s.h.
Projects of special concern to individual music teachers in public schools.

EDTL:6754 Theory and Research on Curriculum Materials in Science 3 s.h.
Theoretical perspectives and empirical research on design and use of science curriculum materials; contemporary theoretical assumptions about active and participatory relationships between curriculum materials, teachers, and students in particular institutional contexts; exploration of heuristics for development of effective science curriculum materials and recent research on how elementary, middle, and secondary teachers evaluate, adapt, and enact them through professional practice; for students with research and/or development interests based in K-16 contexts.

EDTL:6755 Practices of Inquiry in Science Learning Environments 3 s.h.
Contemporary perspectives on inquiry-based science teaching and learning, implications for theory and research; readings, discussions, presentations, and writing to examine and build upon policy-level science education reform discourse, sociological and organizational theory, empirical research in science education.

EDTL:6756 Science Education: The Nature of Science 3 s.h.
Relationship between scientists' work and current theoretical and practical portrayals of the nature of science in K-16 education.

EDTL:6757 Learning in the Science Classroom 2-3 s.h.
Assumptions about learning and about learning theories and their impact on pedagogical actions; how some concepts are planned and implemented.

EDTL:6758 Writing in the Science Classroom 3 s.h.
Literacy in the science classroom; theoretical and pedagogical perspectives; practical classroom activities that lead to effective writing and increased learning.

EDTL:6759 Advanced Pedagogy 3 s.h.
Theoretical and practical perspectives on pedagogy; how to assess practice, provide feedback, and build learning pathways for teachers.

EDTL:6833 History and Foundations of Social Studies Education 3 s.h.
Historical, philosophical, social foundations of social studies education; recent debates over content and instructional processes; student research proposals.

EDTL:6840 Theories and Perspectives in Global Education 3 s.h.
Examination of theories and perspectives within global education that help to understand historical and contemporary social, political, economic, and cultural issues; relationship to international studies, international education, global cultures, human rights, social justice, and other areas; interaction with global educators who conduct research and/or teach in institutes of higher education around the world.

EDTL:6841 Infusing a Global Perspective into the Curriculum 2-3 s.h.
Rationales, conceptualizations, and themes in global perspectives in education; implications for curriculum change; elements of perspective consciousness, cultural universals, cultural diversity, cross-cultural awareness, global systems, global history, global issues; application and evaluation of ideas within fields of study and varied teaching situations.

EDTL:6877 Seminar: Social Studies Education arr.
Periodical literature, trends, curricular developments, research in various aspects of social studies education; for master's and doctoral candidates in social studies education.

EDTL:7015 Ph.D. Seminar in Language, Literacy, and Culture arr.
Historical, recent research and theory in literacy education; topics vary.

EDTL:7033 Seminar on Teacher Education 3 s.h.
History, structure, and politics of teacher education; current practice and agendas for reform; new developments in teacher assessment.

EDTL:7070 Introduction to Qualitative Methods in Literacy Research 3 s.h.
Conceptual and practical exploration of qualitative research design methods, including data collection, analysis, and reporting; understanding proposal writing.

EDTL:7071 Critical Discourse Analysis in Educational Research 3 s.h.
Critical discourse analysis (CDA) as theory and method; social and power relations, identities, and knowledge through written, visual, and spoken texts in social settings, such as schools, families, communities; theoretical and methodological traditions of CDA in educational research; critical approaches to analyzing spoken, written, and visual texts. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7072 Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting 3 s.h.
Advanced course in traditional and contemporary qualitative data analysis methods and varied forms of reporting to understand, critique, and conduct research about literacy learning and teaching. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7073 Ethnographic Methods, Theories, and Texts 3 s.h.
Practical and theoretical background for conducting ethnographic field studies in literacy, schooling, language, or a field of student's choice; methods, methodologies, and perspectives from anthropology, sociology, folklore, journalism, literary criticism, cultural, critical, and composition theory; read historical and contemporary ethnography, consider ethnographic forms of expression (films, graphics, fiction, poems); roles, responsibilities, and ethics of writer, reader, viewer, and informant; tools, methods, and writer's techniques to develop an ethnographic portfolio. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7075 Educational Ethnography 3 s.h.
Study of culture and social organization; how ethnographers become participant-observers of varying degrees in the social setting they study; opportunities to explore ethnographic research methods; focus on ethnography in educational settings; methods used in a variety of contexts including communities, businesses, families, and other social organizations; ethnography committed to social justice; social theory, issues of power and privilege, unequal access to socioeconomic and educational opportunities.

EDTL:7380 Practicum in College Teaching arr.

EDTL:7385 Teaching and Learning in Higher Education 3 s.h.
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as PSQF:7385, EPLS:7385, GRAD:7385, RCE:7385.

EDTL:7405 Research Methods in Second Language Teaching and Learning 3 s.h.
Overview of common research methods used to study second language (L2) teaching and learning and related fields; variety of readings from current L2 publications, presentations, video testimonials by active L2 researchers, discussions of readings, and activities designed to process and apply concepts; field research methods; designing a rigorous research study on topic of student's choice; speaking and writing with confidence about research methods used in other studies.
EDTL:7406 Proposal Writing for Second Language Research
3 s.h.
Procedures and techniques for writing research proposals at the doctoral level; written research proposal dealing with a question in second language teaching and learning.

EDTL:7410 Mixed Methods Research
3 s.h.
Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identification and processing arguments for and against mixed methods research; extend understanding of research in education; how to assess strengths and weaknesses of published mixed methods studies; investigation of one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: EALL:5150.

Requirements: formal introduction to quantitative and qualitative research methods, and familiarity with basic steps of research process. Recommendations: direct experience conducting research studies not required. Same as EPLS:7392.

EDTL:7493 Ph.D. Thesis
arr.

EDTL:7535 Seminar: Research in Mathematics Education
arr.
Analysis of current research, research methodology, curriculum developments in mathematics education; topics vary.

EDTL:7600 Seminar: Current Topics in Music Education
2-3 s.h.
Major areas of professional and research interest.

EDTL:7640 Advanced Research in Music Education
3 s.h.
Design, performance, analysis, and reporting of music research.

EDTL:7707 Research: Science Education
arr.
Planning of individual research projects by M.S. and Ph.D. students.

EDTL:7750 Seminar: Science Education
0-2 s.h.
Discussion of completed faculty and doctoral candidates' research, national issues, program features.

EDTL:7751 Advanced Qualitative Data Analysis
3 s.h.
Varied approaches to qualitative data analysis and philosophical foundations; analysis and interpretation of qualitative data; writing qualitative research findings. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7755 Independent Study in Science Education Research
2-3 s.h.

EDTL:7756 Research Apprenticeship in Science Education
3 s.h.
Practical experiences in science education research in a collaborative, team-oriented environment; apprenticeship model of instruction in which students' participation in authentic tasks and their learning are mutually constitutive; engagement in actual research practices to produce an empirically-based product; development of expertise with some aspect of research methodology determined by instructor; for graduate students with interests in research or development based in K-16 contexts.

EDTL:7774 Qualitative Research with Computer-Aided Qualitative Data Analysis Software
3 s.h.
Qualitative data analysis using computer-aided qualitative data analysis software (CAQDAS); emphasis on methodological approaches to data analysis, and practical and experiential aspects of using CAQDAS to conduct these stages of analysis; opportunity to work with ATLAS.ti, NVivo, Dedoose, and the Coding Analysis Toolkit (CAT); capstone product is a research report based upon qualitative analysis; students strongly encouraged to analyze data from their own research.

Special Education, Upper-Level Undergraduate and Graduate Courses

Courses at the 3000 level are open to students in education and related disciplines.

EDTL:3905 Teaching Deaf and Hard of Hearing Students
3-4 s.h.
Issues in deaf education; management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in English and/or American Sign Language. Requirements: for 4 s.h. option — concurrent enrollment in ASL:2002, if not taken as a prerequisite. Same as ASLE:3905.

EDTL:3915 Introduction: Strategist I (Elementary)
1-2 s.h.
Teaching students with mild disabilities in elementary resource placements; current trends and issues, basic and theoretical approaches, implications of federal and state statutes, multidisciplinary team approaches to providing appropriate educational programming; students complete a practicum with an elementary special education teacher. Requirements: admission to TEP.

EDTL:3931 The Culturally Different in Diverse Settings
3 s.h.
Diversity in society; laws—past and present, experiences, incidents, how they affect society.

EDTL:3938 Assessment of Learning Problems
3 s.h.
Effective use of varied formal and informal assessment techniques for students with learning and behavior problems; techniques that inform teaching decisions. Requirements: admission to TEP and Elementary Strategist I program.
EDTL:3963 Inclusive Theatre 3 s.h.
Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations. Same as THTR:3605.

EDTL:3976 Reading Intervention for Students At Risk 3 s.h.
Reading instructional approaches for students at risk for, or with reading disabilities; students enrolled in lab apply content while working with a reading disability student; use of effective teaching principles and research-based practices for designing and delivering instruction in reading (including oral and silent reading), vocabulary development, reading fluency, comprehension. Requirements: admission to TED.

EDTL:4137 Introduction to Educating Gifted Students 3 s.h.
Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as RCE:4137.

EDTL:4188 Practicum in Teaching and Curriculum Development in Gifted Education 1-6 s.h.
Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as RCE:4188.

EDTL:4189 Practicum in Gifted/Talented Education 1 s.h.
Experience developing course materials for classes offered through the Belin-Blank Center for Gifted Education.

EDTL:4900 Foundations of Special Education 3 s.h.
Students with disabilities, gifted and talented; strategies for effective treatment, collaboration between regular and special education teachers; remediation of academic, behavioral, social problems.

EDTL:4921 Transition and Related Issues 3 s.h.
Curriculums, programs, and delivery systems that help persons with disabilities move from preschool to elementary, elementary to middle school, middle school to high school, and to postsecondary life; emphasis on ecological and task analysis, transition planning strategies, interagency collaboration, self-determination, access to resources and support services.

EDTL:4922 Supervised Teaching: Elementary Strategist I 7 s.h.
Student teaching at the elementary level in a program for students with mild to moderate disabilities. Requirements: elementary education major.

EDTL:4934 Parent-Teacher Communication 1-3 s.h.
Realities of working with parents; interpersonal skills; options for parent support services. Same as PSQF:4134.

EDTL:4936 Home/School/Community Partnerships 3 s.h.
Issues related to collaboration among families, educators, community members in implementing school programs. Same as PSQF:4136.

EDTL:4940 Characteristics of Disabilities 3 s.h.
Etiologies of mild/moderate disabilities; current educational trends; educational alternatives; importance of multidisciplinary team; psychological and social-emotional characteristics of individuals.

EDTL:4950 Behavioral and Social Interventions 3 s.h.
Individual behavioral management, behavioral change strategies, and social interaction strategies, methods, and techniques for individuals with exceptional learning needs.

EDTL:4967 Integrated Disability Studies Practicum 1-3 s.h.
Hands-on, interactive experience to learn what is involved in working with young adult students with multiple learning and cognitive disabilities; four whole-group classroom sessions and required attendance at one UI REACH course.

EDTL:4969 Diversity, Career Exploration, and Transition II 1-3 s.h.
Hands-on, interactive experience to learn what is involved in working with young adult students with multiple learning and cognitive disabilities, and assist them with transitioning into the workplace; three whole-group classroom sessions and required attendance in one of two REACH courses (internship prep or job search strategies).

EDTL:4982 Instructional Decision Making in Education 3 s.h.
Overview of and practical application with curriculum-based procedures for assessment and evaluation; classroom-based measures to make educational decisions for instruction of students, particularly those experiencing academic difficulty.

EDTL:4983 Academic and Behavioral Strategies for Students with Learning Disabilities and Behavioral Disorders 3 s.h.
Merge theory and practices for assessing, planning interventions, delivering instruction, and monitoring progress for individuals who have learning disabilities and emotional/behavioral disorders.

EDTL:4984 Academic Skills for Students with Special Needs 3 s.h.
Introduction to appropriate methodology for teaching academic skills to students with significant learning difficulties; how to teach students effectively regardless of the label that might be applied to them or the setting to which they might be assigned; effective application of classroom-based measurement, curriculum development, and instructional strategies for teaching academic skills to education students with special needs.

EDTL:4987 Introduction to Assistive Technology 3 s.h.
How assistive technology can be used for attainment of goals in education or work. Same as RCE:4187.

EDTL:4990 Interdisciplinary Issues in Disabilities 1-3 s.h.
Critical issues related to interdisciplinary delivery of services to persons with developmental disabilities; observation and participation in staffing and consultation; opportunity for related community experiences.

**EDTL:5961 Foundation of Applied Behavior Analysis** 3 s.h.
Foundation knowledge and basic principles of behavior analysis in philosophical assumptions of behavior analysis, behavioral terminologies, verbal operants, and measurement concepts; first in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Corequisites: EDTL:7953.

**EDTL:5962 Function of Behaviors and Interventions** 4 s.h.
Functional assessment/analysis and interventions designed to change behaviors; describing and implementing components of functional behavioral assessment; using results of a functional assessment to develop a program to teach appropriate behavior and/or decrease inappropriate behaviors; development of an instructional program to teach desired behaviors; third in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Prerequisites: EDTL:5961 and EDTL:7953.

**EDTL:5963 Ethics and Professional Conduct of Behavior Analysts** 2 s.h.
Issues related to ethical and professional conduct of behavior analysts when working with clients according to BACB Professional Disciplinary and Ethical Standards and Guidelines for Responsible Conduct for Behavior Analysts; responsibility of a behavior analyst, behavior analyst's responsibility to client; assessing behavior, behavior analyst and individual behavior change program; fourth in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Prerequisites: EDTL:5961 and EDTL:5962 and EDTL:7953.

**EDTL:5964 Behavior Analyst Practicum** 1-4 s.h.
Development, implementation, and evaluation of techniques that produce behavior changes in clients; discussion of key issues related to techniques of applied behavior analysis; review of various theoretical, conceptual, historical, legal, and practical aspects of behavior analysis; provides a portion of the supervisory component as required by the Behavior Analyst Certification Board (BACB).

**Special Education, Graduate**

**EDTL:6906 Practicum with Exceptional Persons** arr.
Practicum experience with students with disabilities; experiences differ depending upon student's program of study.

**EDTL:6909 Seminar: Graduate Supervised Teaching** 1 s.h.
For students enrolled in graduate student teaching practicum. Requirements: special education major.

**EDTL:6936 Administration of Students with Special Needs** 3 s.h.
Foundation for and skill practice in tasks performed by directors of special education and others administering to needs of special education students, and economically and socially deprived students; for prospective school administrative personnel. Same as EPLS:6236.

**EDTL:6950 Strategist I Student Teaching: Elementary**
Student teaching in an elementary mild and moderate special education program.

**EDTL:6951 Strategist I Student Teaching: Secondary**
Student teaching in a secondary mild and moderate special education program.

**EDTL:6953 Strategist II Student Teaching: Elementary**
Student teaching in K-8 learning disabilities or behavior disorders.

**EDTL:6954 Strategist II Student Teaching: Secondary**
Student teaching in secondary learning disabilities or behavior disorders.

**EDTL:6975 Explicit Instruction** 3 s.h.
Empirically supported methods for teaching reading and mathematics K-12 to students with mild-moderate disabilities; assessment and curricular adaptations to individual needs.

**EDTL:7932 Field Service Project in Special Education Internship** arr.
Part-time or full-time experience as an intern in school districts or area education agencies; develops skills in supervision and administration of special education.

**EDTL:7943 Proseminar: Issues, Trends, and Research in Special Education** 2-3 s.h.
Conceptual and practical development of research across special education and related disciplines; empirical review of the literature; focus on professional writing skills.

**EDTL:7944 Proseminar: Issues, Trends, and Research in Special Education II** 2-3 s.h.
Recent research from a variety of special education areas reviewed by students; simulated comprehensive examinations. Prerequisites: EDTL:7943.

**EDTL:7945 Current Issues and Trends in Learning Disabilities** 3 s.h.
Readings and discussions of current issues and trends in learning disabilities (e.g., definition, prevalence, interventions, subtyping, assessment).

**EDTL:7948 Contemporary Research in Behavioral Disorders** 3 s.h.
In-depth analysis of current research in behavioral disorders; emphasis on evaluating its methodology and contribution to the field.
EDTL:7952 Seminar: Behavioral Assessment and Evaluation 3 s.h.
Broadsens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as PSQF:7352.

EDTL:7953 Seminar: Single Subject Design Research 3 s.h.
Reviews of single subject research, development of student proposals; focus on special education, applied research.