

EDUCATION (EDUC)

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Courses primarily for undergraduates:

EDUC 201: Educational Technologies in the PK-6 Classroom

(2-2) Cr. 3. F.S.

Overview of ways to use educational technologies to support instruction in PK-6 settings. Focus on pedagogical approaches that integrate technologies to support learning in the content areas. Laboratory experiences include development of activities to use web 2.0 tools, apps, multimedia, web page development, digital video and other technologies to facilitate learning and teaching.

EDUC 202: Educational Technologies in the 7-12 Classroom

(2-2) Cr. 3. F.S.

Overview of ways to use educational technologies to support instruction in 7-12 settings. Focus on pedagogical approaches that integrate technologies to support learning in the content areas. Laboratory experiences include development of activities to use tool software, multimedia, web page development, digital video and other technologies to facilitate learning and teaching.

EDUC 204: Social Foundations of Education in the United States:

Secondary

(3-0) Cr. 3. F.S.SS.

Introduction to the historical and contemporary landscape of schooling in the United States. Emphasis is placed on topics and tensions in the relationship between school and society (e.g. equity of access to education and competing purposes of education) and the implications of these topics and tensions for teaching and learning at the secondary level in public schools. For prospective teachers in an ISU Secondary Educator Preparation program; open to students who are considering teaching and/or work in education as a career path.

EDUC 205: Social Foundations of Education in the United States: Early Childhood and Elementary Education

Cr. 3. F.S.

Introduction to the historical and contemporary landscape of schooling in the United States. Emphasis on topics and tensions in the relationship between school and society (e.g., equity of access to education and competing purposes of education) and the implications of these topics and tensions for teaching and learning in public schools. Students in K-12 education, secondary, education, or a non-education major should take EDUC 204.

EDUC 216: Learning Community Orientation to Teacher Education

(1-0) Cr. 1. F.

Prereq: All first semester freshman Elementary Education majors are automatically enrolled.

Learning Community for Elementary Education majors to help with their transition to university life. Offers an overview of K-8 teacher certification in Iowa as well as degree and career planning. With the help of guest speakers and peer mentors, students learn about elementary teaching as a profession and are introduced to a social justice orientation to teaching. Offered on a satisfactory-fail basis only.

EDUC 219: Orientation to Teacher Education: FCS Education, History, Math and Science Majors

Cr. 1. F.S.

Prereq: Students seeking teacher licensure in Family and Consumer Sciences, History, Mathematics Science in grades 5-12

Overview of mathematics, science, family and consumer sciences and history secondary education (grades 5-12), teacher licensure requirements in Iowa and other states. Program and career planning. Offered on a satisfactory-fail basis only.

EDUC 245: Landscape of Teaching

(3-0) Cr. 3. F.S.

Prereq: EDUC 205; sophomore classification.

Introduction to the landscape of teaching including instructional planning, basic lesson design and assessment, and philosophies of classroom management that provide equitable learning opportunities for all students in culturally affirming ways. Open to students majoring in Elementary Education or Early Childhood Education.

EDUC 280: Pre-Student Teaching Experience I

(1-8) Cr. 0.5-2. Repeatable. F.S.

Observation and participation in a variety of school settings. (S/F grading may be used in some offerings of some sections.). Offered on a satisfactory-fail basis only.

EDUC 280A: Pre-Student Teaching Experience I: Core Experience

(1-8) Cr. 1-2. Repeatable. F.S.

Prereq: Restricted to students with admission to Educator Preparation Program

Pre-Student teaching experience in school settings. 1/2 day of time needed. Clinical Experience Level 2. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280B: Pre-Student Teaching Experience I: Educational Technologies

(1-8) Cr. 1. Repeatable. F.S.

Prereq: EDUC 201 or EDUC 202.

Pre-Student teaching experience with technologies in various educational settings with K-12 technology leaders. 2 1/2-hour blocks of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280I: Pre-Student Teaching Experience I: Mild/Moderate Disabilities

(1-8) Cr. 1. Repeatable. F.

Pre-Student teaching experience in mild/moderate disabilities in school settings. 2 1/2-hour blocks of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation

EDUC 280J: Pre-Student Teaching Experience I: Mathematics Clinic

Cr. 1. Repeatable. S.

Early field experience where students explore and develop an understanding of research-based instructional practices that could be implemented with middle level students to teach mathematical concepts. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280K: Pre-Student Teaching Experience I: Music

(Cross-listed with MUSIC). Cr. 0.5. Repeatable. S.

Pre-student teaching experience in music in school settings. Permission of Music coordinator required prior to enrollment. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280L: Pre-Student Teaching Experience I: Secondary Education

Cr. 0.5. Repeatable. F.S.

Pre-student teaching experience for secondary education students in school settings. 2 1/2 hour blocks of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280N: Pre-Student Teaching Experience I: Learning Community

(1-8) Cr. 0.5-1. Repeatable. F.S.

Pre-student teaching experience for Preparing Tomorrow's Teachers learning community students in school settings. 2 1/2-hour blocks of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280O: Pre-Student Teaching Experience 1: Art Education

(1-8) Cr. 1. Repeatable. F.S.

Pre-student teaching experience in art education in school settings. 2 1/2-hour blocks of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280S: Pre-Student Teaching Experience I: English as a Second Language (ESL)

(0-4) Cr. 1. Repeatable, maximum of 2 times. F.S.

Prereq: Admission to teacher education.

Pre-student teaching experience in English as a Second Language. 1/2 day of time needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only. EDUC 280 may be taken more than once for credit toward graduation.

EDUC 280T: Pre-Student Teaching Experience I: Tutoring

Cr. 1. Repeatable. F.S.

Pre-student teaching experience tutoring in a school setting focused on mathematics, literacy, and/or other content areas. Two, one-hour blocks of time per week needed. Clinical Experience Level 1. Offered on a satisfactory-fail basis only.

EDUC 290: Independent Study

Cr. 1-3.

Prereq: 6 credits in Education, permission of department chair

Independent study, under faculty supervision, of a topic in the field of education.

EDUC 302: Principles and Practices of Learning with Technology

(2-2) Cr. 3. F.S.

Prereq: EDUC 201 or EDUC 202

Advanced integration of learning technologies into PK-12 educational contexts. Examine current trends in using learning technologies with PK-12 students; explore current applications used in formal and informal educational settings; and discuss issues focused on technology use in education. Required for Learning Technologies minor.

EDUC 315: Transfer Orientation

Cr. 1. F.S.

Offers an overview of Elementary Education requirements, university procedures, K-8 certification in Iowa as well as degree and career planning. With the help of guest speakers and peer mentors, students learn about elementary teaching as a profession and are introduced to a social justice orientation to teaching. Learning community required of all transfer students and change of major students pursuing Elementary Education. Offered on a satisfactory-fail basis only.

EDUC 332: Educational Psychology of Early Childhood and Elementary Education

(3-0) Cr. 3. F.S.

Prereq: PSYCH 230 or HD FS 102, open only to majors in Early Childhood Education or Elementary Education

Psychological theories relevant to student development, learning, and motivation. Review of assessment principles and practices. Implications of theory for teaching children and for assessing learning in educational settings with primary and intermediate grade children.

EDUC 333: Educational Psychology

(Cross-listed with PSYCH). (3-0) Cr. 3. F.S.

Prereq: PSYCH 230 or HD FS 102, application to the teacher education program or major in psychology

Psychological theories relevant to student development, learning, and motivation. Review of assessment principles and practices. Implications of theory for teaching children and for assessing learning in K-12 educational settings, with an emphasis on grades 5 – 12.

EDUC 347: Nature of Science

(Dual-listed with EDUC 547). (3-0) Cr. 3.

Prereq: Admission to the Educator Preparation Program (Secondary Science Education) or permission of instructor

The intersection of issues in the history, philosophy, and sociology of science and their application to and impact on science teaching and learning, science teacher education, and science education research.

EDUC 370: Toying with Technology

Cr. 3. F.S.

Prereq: EDUC 201 or EDUC 202 and admitted to the Educator Preparation Program

Integration of learning technologies into PK-12 STEM contexts with a focus on engineering design and computational thinking. Examine current trends and explore how technology can be used to design creative and innovative hands-on experiences that promote critical thinking and problem-solving skills across STEM-related educational contexts.

EDUC 377: The Teaching of Reading and Language Arts in the Primary Grades (K-3)

(4-0) Cr. 4. F.S.SS.

Prereq: Admission to Educator Preparation Program, EDUC 245, SP ED 250, HD FS 240 (ECE majors); concurrent enrollment in EDUC 405, EDUC 448, EDUC 468A, and EDUC 468C (EL ED majors) or EDUC 438, EDUC 468F, EDUC 468G, SP ED 368.

Theories, teaching strategies, and instructional materials pertinent to teaching reading, writing, listening, and speaking to children in kindergarten through third grade.

EDUC 378: The Teaching of Reading and Language Arts in the Intermediate Grades (4-6)

(4-0) Cr. 4. F.S.SS.

Prereq: EDUC 377; concurrent enrollment in EDUC 449, EDUC 468B, EDUC 468D, and EDUC 443; admitted to Educator Preparation Program

Theories and processes of literacy. Application through reading and writing across the curriculum, integration of language arts, literature-based instruction, and metacognitive strategies.

EDUC 380V: Pre-Student Teaching Experience in FCS Education: Practicum in FCS Labs

(Cross-listed with FCEDS). (0-2) Cr. 1-2. Repeatable. F.S.

Prereq: FCEDS 306 and admission to teacher education

Laboratory experience in foods, hospitality management, culinary, prostart, textiles, fashion design, housing, and human development related to family and consumer sciences courses taught at the secondary level. Planning, implementing, managing, and assessing laboratory lessons in family and consumer sciences. Includes 24 hours practicum: unsupervised. 1/2 day of time needed in schedule. Offered on a satisfactory-fail basis only.

EDUC 395: Teaching Disciplinary Literacy

(Dual-listed with EDUC 595). (3-0) Cr. 3. F.S.

Prereq: EDUC 204 and junior classification.

Analysis and application of strategies to enhance students' disciplinary literacy development in middle and secondary school setting. Research paper related to a course topic for EDUC 595.

EDUC 405: Social Justice Education and Teaching: Early Childhood and Elementary

Cr. 3. F.S.

Prereq: EDUC 201, EDUC 332, junior classification, admission to Educator Preparation Program: concurrent enrollment in EDUC 377, 448, 468A 468C

Opportunity to expand understanding of issues related to educational and social justice at the levels of Self, Systems, and Teaching. Personal growth and awareness; education within a broader social and historical context; equity and justice-oriented teaching. Special attention is given to enacting culturally relevant teaching in grades PK through 6, along with curriculum transformation and social action in those grades. Restricted to those enrolled in Early Childhood and Elementary Education Programs. Elementary education majors should take EDUC 405 with Block 1 practicum.

Meets U.S. Diversity Requirement

EDUC 406: Social Justice Education and Teaching: Secondary

(3-0) Cr. 3. F.S.SS.

Prereq: EDUC 201 or EDUC 202, EDUC 332 or EDUC 333, junior classification, admitted to Educator Preparation Program. Restricted to those enrolled in Secondary and K-12 Education Programs.

Awareness and nature of social justice in relation to the educational system; need for cultural competence; multicultural concepts and theories; awareness of context of cultural groups - their history, perspective, needs, and contributions; problems and issues regarding prejudice, and discrimination based on race, ethnicity, socioeconomic class, gender, sexual identity and language in the school environment. Special attention to culturally relevant teaching in grades 7 through 12, along with curriculum transformation and social action in those grades. Meets U.S. Diversity Requirement

EDUC 407: Principles and Practices of Distance Learning

(Dual-listed with EDUC 507). (3-0) Cr. 3. F.SS.

Prereq: EDUC 407: EDUC 201 or EDUC 202. EDUC 507: EDUC 501.

Review of distance learning pedagogies and technologies in a variety of contexts, identification of underlying principles and frameworks for best practice in this field. Required for the Learning Technologies minor.

EDUC 416: Supervised Student Teaching - Elementary

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; admitted to Educator Preparation Program; senior classification; EDUC 378, EDUC 443, EDUC 448, EDUC 449.

Supervised teaching experience in the elementary grades.

EDUC 416A: Supervised Student Teaching - Elementary: Primary grades (K-3)

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; full admission to Educator Preparation Program; senior classification; EDUC 378, EDUC 443, EDUC 448, EDUC 449; reservation required

Supervised teaching experience in the elementary grades.

EDUC 416B: Supervised Student Teaching - Elementary: Intermediate grades (4-6)

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; full admission to Educator Preparation Program; senior classification; EDUC 378, EDUC 443, EDUC 448, EDUC 449; reservation required

Supervised teaching experience in the elementary grades.

EDUC 416D: Supervised Student Teaching - Elementary: International Student Teaching - Primary Grades

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; full admission to Educator Preparation Program; senior classification; EDUC 378, EDUC 443, EDUC 448, EDUC 449; reservation required

Supervised teaching experience in the elementary grades.

EDUC 416E: Supervised Student Teaching - Elementary: International Student Teaching - Intermediate Grades

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; full admission to Educator Preparation Program; senior classification; EDUC 378, EDUC 443, EDUC 448, EDUC 449; reservation required

Supervised teaching experience in the elementary grades.

EDUC 416Z: Supervised Student Teaching - Elementary: English as a Second Language

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program; senior classification; ENGL 219; ENGL 220; ENGL 425; EDUC 280S; EDUC 480S; EDUC 378.

Supervised teaching experience in the elementary grades.

EDUC 417: Student Teaching

(Dual-listed with EDUC 517). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program or licensed teacher; approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching.

EDUC 417A: Student Teaching: Social Studies-Middle School

(Dual-listed with EDUC 517A). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 417B: Student Teaching: Physical Sciences

(Dual-listed with EDUC 517B). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in physical sciences grades 5-12.

EDUC 417C: Student Teaching: Mathematics

(Dual-listed with EDUC 517C). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in mathematics grades 5-12.

EDUC 417D: Student Teaching: Biological Sciences

(Dual-listed with EDUC 517D). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in biological sciences grades 5-12.

EDUC 417F: Student Teaching: Speech

Cr. arr. Repeatable.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching.

Evaluation of instruction, lesson planning, and teaching in speech.

EDUC 417G: Student Teaching: World Language

(Dual-listed with EDUC 517G). (Cross-listed with WLC). Cr. arr. Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in world languages, secondary grades.

EDUC 417J: Student Teaching: Earth Sciences

(Dual-listed with EDUC 517J). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in earth sciences grades 5-12.

EDUC 417M: Student Teaching: Science - Basic

(Dual-listed with EDUC 517M). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in basic sciences grades 5-12.

EDUC 417N: Student Teaching: International

(Dual-listed with EDUC 517N). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 417P: Student Teaching: Social Studies-High School

(Dual-listed with EDUC 517P). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 417R: Student Teaching: Music-Elementary

(Dual-listed with EDUC 517R). (Cross-listed with MUSIC). Cr. arr.

Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 417S: Student Teaching: Music-Secondary

(Dual-listed with EDUC 517S). (Cross-listed with MUSIC). Cr. arr.

Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program; approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 417Z: Supervised Student Teaching- Secondary: English as Second Language

Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching.

Evaluation of instruction, lesson planning, and teaching in English as a Second Language grades 7-12.

EDUC 418: Secondary Science Methods I

(Dual-listed with EDUC 518). (3-0) Cr. 3. F.

Prereq: EDUC 280L or EDUC 514; undergraduate students must register concurrently for EDUC 280A; graduate students must register concurrently for EDUC 591D

Development of a research-based framework for teaching science that includes student goals, congruent student actions, the character and role of science inquiry, teaching behaviors and strategies, contemporary learning theories, and self evaluation.

EDUC 419: Secondary Science Methods II

(Dual-listed with EDUC 519). (3-0) Cr. 3. S.

Prereq: EDUC 418 or EDUC 518, undergraduate students must register concurrently for EDUC 480B, 480D, or 480J; graduate students must register concurrently for EDUC 517B, 517D, 517J or 517P.

Advancing a research-based framework for teaching science in a variety of school settings; emphasizing the teacher's role, content area reading strategies, science safety and classroom management, issues in using technology, and student assessment.

EDUC 420: Bilingualism, Bilingual Education, and U.S. Mexican Youth

(Dual-listed with EDUC 520). (Cross-listed with US LS). (3-0) Cr. 3. F.

Prereq: EDUC 405 or EDUC 406

Introduction to research on bilingualism and examination of the social, historical, and political contexts of Spanish/English education in U.S. schools. Attention to policy environment, school program structure, mode of classroom instruction, family and community context, and attainment of bilingualism and biculturalism for U.S. Mexican youth.

EDUC 422: Teaching and Learning Iowa History

(Dual-listed with EDUC 522). Cr. 3. SS.

Multicultural and social justice focus on Iowa history; different theme each summer. Effective pedagogical and assessment strategies for integrating these themes into K-12 curriculum.

Meets U.S. Diversity Requirement

EDUC 426: Principles of Secondary Education

(Dual-listed with EDUC 526). (3-0) Cr. 3. F.S.SS.

Prereq: Senior classification and admitted to Educator Preparation Program

Introduction to secondary education teaching strategies, lesson planning that provides equitable learning opportunities for all students, classroom management, legal aspects of schools, professional and ethical issues, current educational issues, professional learning communities, and social-justice oriented teaching.

EDUC 433: Teaching Social Studies in the Primary Grades

(2-0) Cr. 2. F.S.

Prereq: EDUC 377, HD FS 224; concurrent enrollment in EDUC 439, SP ED 405, SP ED 458, and EDUC 468I ; Admitted to Educator Preparation Program

Emphasis is placed on providing equity and justice-oriented social studies learning experiences (e.g. curriculum content, instructional strategies, and assessment) for primary grade children.

EDUC 438: Teaching Mathematics in the Primary Grades

(2-0) Cr. 2. F.S.

Prereq: MATH 195 (minimum grade of C-); MATH 196 (minimum grade of C-); concurrent enrollment in EDUC 377, EDUC 468F, EDUC 468G and SP ED 368

Develop an understanding of effective mathematics teaching practices situated in equitable pedagogies that support primary students' mathematical understanding.

EDUC 439: Teaching Science in the Primary Grades

(2-0) Cr. 2. F.S.

Prereq: EDUC 377, HD FS 224; concurrent enrollment in EDUC 433, EDUC 468I, SP ED 405

Development and application of current methods in the teaching and learning of primary science. Emphasis is on research-based teaching practices, developmental implications, and providing appropriate science learning experiences in the early elementary grades.

EDUC 443: The Teaching of Social Studies

(3-0) Cr. 3. F.S.SS.

Prereq: EDUC 377, concurrent enrollment in EDUC 378, EDUC 449, EDUC 468B and EDUC 468D; Admittance to Educator Preparation Program

Emphasis is placed on providing equity and justice-oriented social studies learning experiences (e.g. curriculum content, instructional strategies, and assessment) for primary and intermediate grade children.

EDUC 448: Teaching Children Mathematics

(3-0) Cr. 3. F.S.SS.

Prereq: MATH 195 (minimum grade of C-); MATH 196 (minimum grade of C-); concurrent enrollment in EDUC 377, EDUC 468A, EDUC 468C, and EDUC 405; admitted to Educator Preparation Program

Develop an understanding of effective mathematics teaching practices situated in equitable pedagogies that support elementary students' mathematical understanding.

EDUC 449: The Teaching of Science

(3-0) Cr. 3. F.S.SS.

Prereq: EDUC 377, concurrent enrollment in EDUC 378, EDUC 468B, EDUC 468D and EDUC 443

Development and application of current methods in the teaching and learning of elementary science. Emphasis is on research-based teaching practices, developmental implications, and providing appropriate science learning experiences in the elementary grades.

EDUC 450: Ethnicity and Learning

(Dual-listed with EDUC 550). (3-0) Cr. 3. Alt. S., offered even-numbered years.

Prereq: EDUC 332 or EDUC 333; EDUC 406

Examination of cultural relevance in education. Development and application of strategies and techniques for implementing multicultural goals and multiethnic perspectives in PreK-12 school classroom settings. Meets U.S. Diversity Requirement

EDUC 452: Assessment for Literacy and Learning

(Dual-listed with EDUC 552). (3-0) Cr. 3. F.S.SS.

Prereq: EDUC 378 or equivalent

Identification, analysis and correction of reading problems in five areas: print knowledge, integration of print knowledge, oral reading fluency, vocabulary, and comprehension.

EDUC 454: Emerging Topics in Educational Technologies

(2-2) Cr. 1-3. Repeatable, maximum of 6 credits. F.S.SS.

Prereq: EDUC 201 or EDUC 202

Development and application of emerging technology topics related to digital learning. Series of 1-3 credit on-line learning modules on current technology being used in education and topics being addressed. These modules extend learning opportunities from other courses and experiences. Required for the Learning Technologies minor.

EDUC 456: Integrating Technology into Literacy

(Dual-listed with EDUC 556). (3-0) Cr. 3. F.SS.

Prereq: EDUC 201 or EDUC 202; EDUC 377

Methods and strategies used to integrate technology into K-8 literacy. Examination of the use and evaluation of technology appropriate for elementary literacy classrooms.

EDUC 459: Critical Approaches to Teaching Children's and Adolescent Literature

(Dual-listed with EDUC 559). (3-0) Cr. 3. F.S.SS.

Prereq: Admitted to Educator Preparation Program; EDUC 377; prerequisite or concurrent enrollment in EDUC 378.

Research and discussion of issues surrounding the classroom use of literature for children and young adults including censorship, diversity, selection, critical literacy and the influences of technology.

EDUC 468: Pre-Student Teaching Experience III

Cr. 1-2. F.S.SS.

Prereq: Admitted to Educator Preparation Program

Application of current methods, and instructional experiences with children in a supervised elementary, middle, or high school classroom while engaged in other methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468A: Pre-Student Teaching Experience III: Primary Grades, Reading and Language Arts

Cr. 1. F.S.SS.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised K-3 elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468B: Pre-Student Teaching Experience III: Intermediate Grades, Reading and Language Arts

Cr. 1. F.S.SS.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised 3-6 elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468C: Pre-Student Teaching Experience III: Primary Grades, Mathematics

Cr. 1. F.S.SS.

Prereq: Admitted to Educator Preparation Program

Application of current methods, and instructional experiences with children in a supervised K-3 elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468D: Pre-Student Teaching Experience III: Intermediate Grades, Science

Cr. 1. F.S.SS.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised 3-6 elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468F: Pre-Student Teaching Experience III: Primary Grades Inclusive, Literacy

Cr. 1. F.S.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised K-3 inclusive elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468G: Pre-Student Teaching Experience III: Primary Grades Inclusive, Mathematics

Cr. 1. F.S.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised K-3 inclusive elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468I: Pre-Student Teaching Experience III: Primary Grades Inclusive, Science

Cr. 1. F.S.

Prereq: Admitted to Educator Preparation Program

Application of current methods and instructional experiences with children in a supervised K-3 inclusive elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468R: Pre-Student Teaching Experience II: Intermediate Grades, Reading Endorsement

Cr. 1. F.S.SS.

Prereq: Admitted to Educator Preparation Program; concurrent enrollment in EDUC 378

Application of current methods and instructional experiences with children in a supervised 3-6 elementary classroom while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 468T: Pre-Student Teaching Experience III: Elementary

Cr. 2. Repeatable, maximum of 4 credits. F.S.

Prereq: Admitted to Educator Preparation Program, successful completion of a Level 2 or Level 3 field experience required.

Application of current methods and instructional experiences with children in a supervised elementary classroom outside of Iowa while engaged in other elementary methods courses. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 480: Pre-Student Teaching Experience III

(Cross-listed with MUSIC). Cr. 0.5-2. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program

Observation and participation in a variety of school settings after admission to the teacher education program. Permission of area coordinator required prior to enrollment. (S/F grading may be used in some offerings of some sections.).

EDUC 480A: Pre-Student Teaching Experience III: History/Social Sciences

(Cross-listed with HIST). Cr. 2. Repeatable, maximum of 2 times. F.

Prereq: Admitted to Educator Preparation Program

Supervised participation in a 5-12 school setting. Permission of History/Social Sciences coordinator required prior to enrollment. 1/2 day of time needed. Clinical Supervision Level 3.

EDUC 480B: Pre-Student Teaching Experience III: Physical Sciences

Cr. 2. Repeatable, maximum of 2 times. F.S.

Prereq: Admitted to Educator Preparation Program

Supervised participation in a 5-12 school setting. Permission of program coordinator required prior to enrollment. 1/2 day of time needed. Clinical Supervision Level 3.

EDUC 480C: Pre-Student Teaching Experience III: Mathematics

Cr. 0.5-2. Repeatable, maximum of 2 times. F.S.

Prereq: Admitted to Educator Preparation Program

Supervised participation mathematics in a 5-12 school setting. Permission of mathematics coordinator required prior to enrollment. 1/2 day of time needed. Clinical Experience Level 3.

EDUC 480D: Pre-Student Teaching Experience III: Biological Sciences

Cr. 2. Repeatable, maximum of 2 times. F.S.

Prereq: Admitted to Educator Preparation Program

Supervised participation in a 5-12 school setting. Permission of program coordinator required prior to enrollment. 1/2 day of time needed. Clinical Supervision Level 3.

EDUC 480E: Pre-Student Teaching Experience III: English

Cr. 1-2. Repeatable, maximum of 2 times. F.S.

Prereq: Admitted to Educator Preparation Program

Supervised participation in a 5-12 school setting. Cross listed with English 480K. Permission of English coordinator required prior to enrollment. 1/2 day of time needed. Clinical Experience Level 3.

EDUC 480G: Pre-Student Teaching Experience III: World Languages and Cultures

Cr. 1-2. Repeatable, maximum of 2 times. F.

Prereq: Admitted to Educator Preparation Program

Supervised participation in a 5-12 school setting. Permission of World Languages and Cultures coordinator required prior to enrollment. 1/2 day of time needed. Clinical Experience Level 3.

EDUC 480J: Pre-Student Teaching Experience III: Earth Science

Cr. 2. Repeatable, maximum of 2 times. F.S.

Prereq: Admitted to the Educator Preparation Program

Supervised participation in a 5-12 school setting. Permission of program coordinator required prior to enrollment. 1/2 day of time needed. Clinical Supervision Level 3.

EDUC 480K: Pre-Student Teaching Experience II: Music

(Cross-listed with MUSIC). Cr. 1-2. Repeatable. F.S.

Prereq: Admission to Educator Preparation Program

Participation in a K-12 school setting. Permission of Music coordinator required prior to enrollment. Clinical Experience Level 2. Offered on a satisfactory-fail basis only.

EDUC 480S: Pre-Student Teaching Experience III: English as a Second Language (ESL)

(0-4) Cr. 2. Repeatable, maximum of 2 times.

Prereq: EDUC 280S, ENGL 219/LING 219; ENGL 220/LING 220; ENGL 511/LING 511; Admitted to Educator Preparation Program

Supervised participation in a school setting. Permission of ESL area coordinator required prior to enrollment. 1/2 day of time needed. Clinical experience level 3. Offered on a satisfactory-fail basis only.

EDUC 480T: Pre-Student Teaching Experience III: Secondary Education

Cr. 2. Repeatable, maximum of 4 credits. F.S.

Prereq: Admitted to Educator Preparation Program, successful completion of a Level 2 or Level 3 field experience.

Supervised participation in a 5-12 school setting outside of Iowa. Permission of content program coordinator required prior to enrollment. Clinical Experience Level 3. Offered on a satisfactory-fail basis only.

EDUC 480V: Pre-Student Teaching Experience in FCS Education: Practicum in Diverse Settings

(Cross-listed with FCEDS). (0-4) Cr. 2. Repeatable. F.S.

Prereq: FCEDS 306 and admission to teacher education.

Laboratory experience in foods, textiles, and human development related to family and consumer sciences exploratory programs. Planning, implementing, managing and assessing laboratory lessons in family and consumer sciences. Includes 48 hours practicum and supervised individual teaching. 1/2 day of time needed in schedule. Offered on a satisfactory-fail basis only.

EDUC 481: Philosophy of Education

(Dual-listed with EDUC 581). (3-0) Cr. 3. Alt. F., offered odd-numbered years.

Introduction to Western philosophy of education. Emphasis is placed on enduring debates about the purposes(s) of education in a just society. Readings include classic and contemporary texts.

EDUC 486: Methods in Elementary School World Language Instruction

(Cross-listed with LING, WLC). (3-0) Cr. 3. F.

Prereq: 25 credits in a world language

Planning, implementation, and assessment of standards-based, student-centered, and thematic instruction in the elementary (K-8) classroom. Special emphasis on K-8 students' communicative skills, cultural knowledge, and content learning.

EDUC 487: Methods in Secondary School World Language Instruction

(Cross-listed with LING, WLC). (3-0) Cr. 3. F.

Prereq: 25 credits in a world language, Admitted to Educator Preparation Program, OPI

Theories and principles of contemporary world language learning and teaching. Special emphasis on designing instruction and assessments for active learning.

EDUC 488: Supervised Tutoring in Reading

(Dual-listed with EDUC 588). (2-2) Cr. 3. F.S.SS.

Prereq: Concurrent enrollment in EDUC 552 or completion of one course in corrective reading; diagnosis and correction of reading problems; graduate status required for EDUC 588

Using formal and informal diagnostic procedures to plan and implement individualized reading instruction. Field experience in tutoring and a related research project.

EDUC 490: Independent Study

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490A: Independent Study: Education

(Cross-listed with MUSIC). Cr. arr. Repeatable. F.S.SS.

Prereq: Permission of instructor; 12 credits in music, approval of department head

Independent Study in Music.

EDUC 490C: Independent Study: Curriculum Construction

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490D: Independent Study: Principles of Education

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490E: Independent Study: Methods of Teaching

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490F: Independent Study: Educational Psychology

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490G: Independent Study: Digital Learning

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490H: Independent Study: Honors

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490J: Independent Study: Social and Cultural Studies

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490K: Independent Study: History/Social Sciences

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490L: Independent Study: Literacy Education

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490M: Independent Study: Mathematics Education

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490N: Independent Study: World Language

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490O: Independent Study: Foundations of Education

Cr. 1-3. F.S.SS.

Prereq: GPA of 2.5 or more for preceding semester

EDUC 490P: Independent Study: Science Education

Cr. 1-3. F.S.

*Prereq: GPA of 2.5 or more for preceding semester***EDUC 494: Practice and Theory of Teaching Literature in the Secondary Schools**

(Cross-listed with ENGL). (3-0) Cr. 3. F.S.

Prereq: ENGL 310, ENGL 397, 9 other credits in English beyond ENGL 250, PSYCH 333, admission to teacher education program

Portfolio review. Current theories and practices in the teaching of literature to secondary school students. Integrating literary study and writing. Preparation and selection of materials. Classroom presentation. Unit planning. (Taken concurrently with EDUC 280, Cr. 2, and SP ED 401).

EDUC 495B: Independent Study: Teaching Speech

(Cross-listed with SP CM). (3-0) Cr. 3. F.

Prereq: C I 301; 9 credits in speech communication; minimum GPA of 2.5 in speech communication courses

Problems, methods, and materials related to teaching speech, theatre, and media in secondary schools.

EDUC 497: Teaching Secondary School Mathematics

(Cross-listed with MATH). (3-0) Cr. 3. F.

Prereq: 15 credits in college mathematics. .

Develop an understanding of instructional planning, lesson implementation, and assessment in grades 5-12 mathematics, with a focus on reform-based mathematics, equity, and conceptual understanding.

EDUC 498: Methods of Teaching History/Social Sciences

(Cross-listed with HIST). (3-0) Cr. 3. F.S.

Prereq: Concurrent enrollment in HIST 480A; Admitted to Educator Preparation Program and 30 credits in subject-matter field; and HIST 301.

Theories and processes of teaching and learning secondary history/social sciences. Emphasis on development and enactment of current methods, assessments, and curriculum materials for providing appropriate learning experiences.

Courses primarily for graduate students, open to qualified undergraduates:**EDUC 501: Foundations of Educational Technology**

(3-0) Cr. 3. F.S.S.

Prereq: Graduate classification

Educational philosophies and theories of teaching, learning, and technologies. Understanding of how people learn with, and through, educational technology, in many settings. Overview of significant topics in educational technology. Major learning theories, including recent debates in how educators conceive of learning; teaching and learning with technology; new literacies practices; and critical theory.

EDUC 502: Teaching Mathematics to English Language Learners

Cr. 3. S.SS.

Prereq: EDUC 448 or EDUC 497/EDUC 597 for degree students. Classroom teaching experience for non-degree students and in-service teachers

Understanding the needs of various English language learners, learn to use ELLs' language and culture as a resource in mathematics classrooms, and implement research-based instructional strategies that are effective to teach mathematics for ELLs. For pre-service/in-service teachers and others who will work or currently works with English language learners (ELLs).

EDUC 503: Designing Effective Learning Environments

(3-0) Cr. 3. F.

Prereq: EDUC 501

Application of theories and models of instructional design. Design decision-making based on the analysis of performance problems and instructional inputs. Practical experience with the design and development of instruction and evaluation principles.

EDUC 504: Evaluating Technology-based Learning Environments

(Cross-listed with HCI). (3-0) Cr. 3. S.

Prereq: EDUC 501

Principles and procedures to plan, design, and conduct effective evaluation studies (formative, summative, usability) in different settings are studied. Opportunities to engage in real or simulated evaluation projects of substantial scope are provided. Create evaluation instruments, develop methods with which to evaluate a product or program, conduct try-outs or usability sessions, analyze the data, report the findings, and recommendations are some of the course activities.

EDUC 505: Using Technology in Learning and Teaching

(3-0) Cr. 3. F.S.SS.

Prereq: Graduate classification

Teaching and learning using educational technology. Selection and evaluation of digital tools for teaching and learning. Research on instructional technology. Tool software. Trends in computer-based instruction.

EDUC 506: Social Justice Education and Teaching: Advanced

(3-0) Cr. 3. F.

Prereq: 6 graduate credits in Education

Engage with justice-oriented multicultural frameworks for transformative education and education research, understand equity in education in historical and contemporary contexts, develop principled approaches to critical self-reflection, interpret educational situations in justice-oriented ways, and counter inequities in education through curriculum, pedagogy, and research.

EDUC 507: Principles and Practices of Distance Learning

(Dual-listed with EDUC 407). (3-0) Cr. 3. F.SS.

Prereq: EDUC 407; EDUC 201 or EDUC 202. EDUC 507: EDUC 501.

Review of distance learning pedagogies and technologies in a variety of contexts, identification of underlying principles and frameworks for best practice in this field. Required for the Learning Technologies minor.

EDUC 508: Algebra in the K-12 Classrooms

(3-0) Cr. 3. S.

Prereq: 6 credits of mathematics; credit or concurrent enrollment in EDUC 448 or EDUC 497 or EDUC 597

Focus on Algebraic reasoning, concepts, and associated procedures in K-12 classrooms, especially middle level. Using algebra and algebraic reasoning to solve a real-life problem. Attention is given to algebraic habits of mind, generalization, representation, and transition from arithmetic algorithms to algebra.

EDUC 509: Geometry in the K-12 Classrooms

(3-0) Cr. 3. F.

Prereq: 6 credits of mathematics; credit or concurrent enrollment in EDUC 448 or EDUC 497 or EDUC 597

Explore the fundamental mathematical theory underlying the content area of geometry and measurement through research-based pedagogies in K-12 classrooms. An investigative approach involving problem solving, reasoning and proof, connections, and communication are emphasized.

EDUC 510: Foundations of Game-based Learning

(Cross-listed with HCI). Cr. 3. S.

Prereq: 12 Graduate Credits

Theories, principles and best practices of utilizing games in educational environments. Topics include the theoretical foundations of learning games and game play, identity development in online environments, and assessment of learning in and out of games.

EDUC 511: Technology Diffusion, Leadership, and Change

(3-0) Cr. 3. S.

Prereq: Admission to graduate study, EDUC 501 or equivalent and EDUC 505 or equivalent

Principles and practices of technology diffusion, leadership and school change. Coursework focuses on technology diffusion broadly and implications on educational contexts. Leadership frameworks and strategies for professional development and organizational change are examined, as well as new literacy practices, critical theory, and current debates in the field.

EDUC 512: Research Trends in Educational Technology

(3-0) Cr. 3. F.

Prereq: Admission to graduate study and at least two courses in research and foundations of instructional technology

Critical review and synthesis of current research trends in educational technology. Designed for students to synthesize knowledge of issues in research, and methods of conducting research in practice.

EDUC 513: Mathematical Problem Solving in K-12 Classrooms

(3-0) Cr. 3. F.

Prereq: 6 credits of mathematics; credit or concurrent enrollment in EDUC 448 or EDUC 497 or EDUC 597

Develop problem solving strategies across all strands of mathematics. Issues surrounding the appropriate role of problem solving in K-12 mathematics classrooms are discussed, including distinctions among teaching "about," "for," and "through" problem solving. Emphasis on task modification and mathematical modeling.

EDUC 514: Introduction to Science Teaching and Learning

(1-2) Cr. 1-4. SS.

Prereq: Admission to M.A.T. program

Introduction to critical issues facing science education, science education goals reflecting contemporary purposes of schooling, and how people learn science.

EDUC 515: Action Research in Education

(3-0) Cr. 3. S.

Prereq: Admission to graduate study.

Methods of conducting and communicating action research focused on improving educational practices. Develop first cycle of action plan with purpose of investigating an educational setting. Learn to identify problems to investigate, select appropriate research methods, collect and analyze data, and draw conclusions from research.

EDUC 516: Antiracist Curriculum Development and Implementation

(3-0) Cr. 3. Alt. S., offered odd-numbered years.

Prereq: 9 credits in Education

Introduction to historical, sociological, philosophical and pedagogical foundations of antiracist/multicultural education. Examination of causes of racism, and other forms of discrimination from different theoretical perspectives and experiential exercises.

EDUC 517: Student Teaching

(Dual-listed with EDUC 417). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program or licensed teacher; approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching.

EDUC 517A: Student Teaching: Social Studies-Middle School

(Dual-listed with EDUC 417A). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 517B: Student Teaching: Physical Sciences

(Dual-listed with EDUC 417B). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in physical sciences grades 5-12.

EDUC 517C: Student Teaching: Mathematics

(Dual-listed with EDUC 417C). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in mathematics grades 5-12.

EDUC 517D: Student Teaching: Biological Sciences

(Dual-listed with EDUC 417D). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in biological sciences grades 5-12.

EDUC 517G: Student Teaching: World Language

(Dual-listed with EDUC 417G). (Cross-listed with WLC). Cr. arr. Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in world languages, secondary grades.

EDUC 517J: Student Teaching: Earth Sciences

(Dual-listed with EDUC 417J). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in earth sciences grades 5-12.

EDUC 517M: Student Teaching: Science - Basic

(Dual-listed with EDUC 417M). Cr. arr. Repeatable. F.S.

Prereq: Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in basic sciences grades 5-12.

EDUC 517N: Student Teaching: International

(Dual-listed with EDUC 417N). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 517P: Student Teaching: Social Studies-High School

(Dual-listed with EDUC 417P). Cr. arr. Repeatable. F.S.

Prereq: GPA 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 517R: Student Teaching: Music-Elementary

(Dual-listed with EDUC 417R). (Cross-listed with MUSIC). Cr. arr. Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 517S: Student Teaching: Music-Secondary

(Dual-listed with EDUC 417S). (Cross-listed with MUSIC). Cr. arr. Repeatable. F.S.

Prereq: Minimum GPA of 2.5; Admitted to Educator Preparation Program, approval of coordinator during semester before student teaching

Evaluation of instruction, lesson planning, and teaching in the liberal arts and sciences.

EDUC 518: Secondary Science Methods I

(Dual-listed with EDUC 418). (3-0) Cr. 3. F.

Prereq: EDUC 280L or EDUC 514; undergraduate students must register concurrently for EDUC 280A; graduate students must register concurrently for EDUC 591D

Development of a research-based framework for teaching science that includes student goals, congruent student actions, the character and role of science inquiry, teaching behaviors and strategies, contemporary learning theories, and self evaluation.

EDUC 519: Secondary Science Methods II

(Dual-listed with EDUC 419). (3-0) Cr. 3. S.

Prereq: EDUC 418 or EDUC 518, undergraduate students must register concurrently for EDUC 480B, 480D, or 480J; graduate students must register concurrently for EDUC 517B, 517D, 517J or 517P.

Advancing a research-based framework for teaching science in a variety of school settings; emphasizing the teacher's role, content area reading strategies, science safety and classroom management, issues in using technology, and student assessment.

EDUC 520: Bilingualism, Bilingual Education, and U.S. Mexican Youth

(Dual-listed with EDUC 420). (3-0) Cr. 3. F.

Prereq: EDUC 405 or EDUC 406

Introduction to research on bilingualism and examination of the social, historical, and political contexts of Spanish/English education in U.S. schools. Attention to policy environment, school program structure, mode of classroom instruction, family and community context, and attainment of bilingualism and biculturalism for U.S. Mexican youth.

EDUC 522: Teaching and Learning Iowa History

(Dual-listed with EDUC 422). Cr. 3. SS.

Multicultural and social justice focus on Iowa history; different theme each summer. Effective pedagogical and assessment strategies for integrating these themes into K-12 curriculum.

Meets U.S. Diversity Requirement

EDUC 523: Teaching Students who Struggle in Mathematics

(3-0) Cr. 3. S.

Prereq: EDUC 438 or EDUC 448

Explore and develop an understanding of research-based instructional practices that could be implemented with elementary students who are struggling with learning mathematical concepts.

EDUC 526: Principles of Secondary Education

(Dual-listed with EDUC 426). (3-0) Cr. 3. F.S.SS.

Prereq: Senior classification and admitted to Educator Preparation Program

Introduction to secondary education teaching strategies, lesson planning that provides equitable learning opportunities for all students, classroom management, legal aspects of schools, professional and ethical issues, current educational issues, professional learning communities, and social-justice oriented teaching.

EDUC 529: Educational Psychology and the Secondary Classroom

(3-0) Cr. 3. SS.

Prereq: Bachelor's degree; admission into a graduate level teacher licensure program

Analysis of psychological research theory related to learning, cognition, motivation, individual differences, and teaching techniques. Student and classroom assessment to facilitate positive learning outcomes. Adaption and differentiation of instruction to meet individual learners' needs. This course can only be used for teacher licensure programs. It is not acceptable for use in meeting the non-licensure M.Ed., M.S. or Ph.D. requirements.

EDUC 533: Theories of Learning

(Cross-listed with PSYCH). (3-0) Cr. 3. F.

Major theories of learning and cognition in educational settings. Emphasis on behavioral, cognitive, constructivist, and sociocultural theories and their implications for educational policy and practice.

EDUC 541: How People Learn: Implications for Teaching Science and Mathematics

(3-0) Cr. 3.

Current theories of learning and motivation in science and mathematics education and their application to classrooms. Examination of teaching models congruent with learning theory and current research in science and mathematics education.

EDUC 546: Advanced Pedagogy in Science Education

(3-0) Cr. 3.

Advanced examination of pedagogy, emphasizing teacher behaviors and strategies, methods of self-assessment, action research, and current issues and trends in science education.

EDUC 547: Nature of Science

(Dual-listed with EDUC 347). (3-0) Cr. 3.

Prereq: Admission to the Educator Preparation Program (Secondary Science Education) or permission of instructor

The intersection of issues in the history, philosophy, and sociology of science and their application to and impact on science teaching and learning, science teacher education, and science education research.

EDUC 548: Restructuring Science Activities

(3-0) Cr. 3. SS.

Prereq: Admitted to Educator Preparation Program or teaching license

Modification of laboratory activities and other everyday science activities so they are more congruent with how students learn, the nature of science, and national standards.

EDUC 550: Ethnicity and Learning

(Dual-listed with EDUC 450). (3-0) Cr. 3. Alt. S., offered even-numbered years.

Prereq: EDUC 332 or EDUC 333; EDUC 406

Examination of cultural relevance in education. Development and application of strategies and techniques for implementing multicultural goals and multiethnic perspectives in PreK-12 school classroom settings. Meets U.S. Diversity Requirement

EDUC 551: Foundations of Reading and Language Arts

(3-0) Cr. 3. Alt. F., offered irregularly.

Prereq: Teaching license

Analyzing, discussing, and researching the theory and practice of current literacy issues.

EDUC 552: Assessment for Literacy and Learning

(Dual-listed with EDUC 452). (3-0) Cr. 3. F.S.SS.

Prereq: EDUC 378 or equivalent

Identification, analysis and correction of reading problems in five areas: print knowledge, integration of print knowledge, oral reading fluency, vocabulary, and comprehension.

EDUC 553: Teaching Adolescent Readers with Reading Difficulties

(Cross-listed with SP ED). (3-0) Cr. 3. SS.

Prereq: Teaching license or senior status

Instructional strategies for enhancing the fluency, vocabulary and comprehension of adolescents with reading difficulties. Attention to content-area reading materials and strategies.

EDUC 555: Literacy, Leadership, and Advocacy

(3-0) Cr. 3. S.

Prereq: Graduate Standing

Examination of the roles of literacy specialists/coaches in diverse pre-K-12 schools and communities. Particular focus placed on current theories, research, standards, and policies relative to literacy processes and instruction, including culturally responsive literacy; processes of successful literacy coaching; and methods of supporting teachers and other school personnel in planning, implementing, and evaluating literacy instruction for all students.

EDUC 556: Integrating Technology into Literacy

(Dual-listed with EDUC 456). (3-0) Cr. 3. F.SS.

Prereq: EDUC 201 or EDUC 202; EDUC 377

Methods and strategies used to integrate technology into K-8 literacy. Examination of the use and evaluation of technology appropriate for elementary literacy classrooms.

EDUC 558: Perspectives on Reading Comprehension

(3-0) Cr. 3. F.

Prereq: Graduate standing

Critical examination of the topics central to the study of reading comprehension, including processes, development, contexts, motivation, teaching and learning, and assessment. Reading and discussion of research literature in reading comprehension and comprehension instruction.

EDUC 559: Critical Approaches to Teaching Children's and Adolescent Literature

(Dual-listed with EDUC 459). (3-0) Cr. 3. F.S.SS.

Prereq: Admitted to Educator Preparation Program; EDUC 377; prerequisite or concurrent enrollment in EDUC 378.

Research and discussion of issues surrounding the classroom use of literature for children and young adults including censorship, diversity, selection, critical literacy and the influences of technology.

EDUC 565: Literacy: Connecting Research, Policy and Practice

(3-0) Cr. 3. F.S.

Prereq: Graduate standing

Critical examination of current policy initiatives and reform efforts that affect how literacy is viewed, assessed, and practiced, as well as how literacy professionals are prepared for their roles in public schools and colleges.

EDUC 567: Teaching Mathematics to Struggling Secondary Learners

(Cross-listed with SP ED). (3-0) Cr. 3.

Prereq: Secondary teaching experience

Instructional methods and assessment techniques for secondary students struggling to learn mathematics. Particular emphasis on current research, practices, and trends in mathematics interventions for at-risk students and students with disabilities.

EDUC 568: New Media Literacies: Understanding Research and Practice

(3-0) Cr. 3. F.

Prereq: Graduate Standing

Designed to increase awareness and understanding of critical issues surrounding the evolving concept of literacy and examine the effect that technology has on the literacy we use every day, teach in our schools, and need in order to function as 21st century citizens.

EDUC 577: Historical Perspectives on Technology Equity: Implications for Policy and Practice

(3-0) Cr. 3. S.

Prereq: Graduate Status

Examination of the definition and origin of the "digital divide" and its relationship to the histories of racism, sexism, classism, and imperialism/globalization. Exploration of the historical, political, sociological, and economic factors that engender global inequities. Exploration and analysis of research-based alternative approaches to alleviating technology inequities in educational settings.

EDUC 578: Pedagogy, Equality of Opportunity, and the Education of Blacks in the United States

(3-0) Cr. 3.

Prereq: Graduate or senior level status or permission of instructor

Examination of the historical, social, economic, political, and legal contexts of the education of Blacks in the U.S. Educational theories and philosophies, Critical Race Theory and Black Feminist Thought form the framework for investigating broad-based, multiple issues of education for Blacks in the U.S. as they are situated in the prevailing dominant views.

EDUC 580: Studies in the Foundations of Education in the United States

(3-0) Cr. 3. SS.

Prereq: Admitted to graduate Educator Preparation Program

Introduction to the historical and contemporary landscape of schooling in the United States. Emphasis is placed on topics and tensions in the relationship between school and society (e.g. equity of access to education and competing purposes of education) and the implications of these topics and tensions for teaching and learning in public schools. Designed for students in a graduate licensure program.

EDUC 581: Philosophy of Education

(Dual-listed with EDUC 481). (3-0) Cr. 3. Alt. F., offered odd-numbered years.

Introduction to Western philosophy of education. Emphasis is placed on enduring debates about the purposes(s) of education in a just society. Readings include classic and contemporary texts.

EDUC 582: History of Public Schooling in the United States

(3-0) Cr. 3.

Prereq: Graduate classification

Examination of the history of public schools in the United States. Historicizes the development of an educational system marked by both profound expectations and extreme inequalities. Readings include primary and secondary materials.

EDUC 588: Supervised Tutoring in Reading

(Dual-listed with EDUC 488). (2-2) Cr. 3. F.S.SS.

Prereq: Concurrent enrollment in EDUC 552 or completion of one course in corrective reading; diagnosis and correction of reading problems; graduate status required for EDUC 588

Using formal and informal diagnostic procedures to plan and implement individualized reading instruction. Field experience in tutoring and a related research project.

EDUC 590: Special Topics

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590A: Special Topics: Curriculum

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590B: Special Topics: Educational Technology

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590C: Special Topics: Science Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590D: Special Topics: Secondary Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590F: Special Topics: Social and Cultural Studies

Cr. 1-3. Repeatable. F.S.

Prereq: 9 graduate credits in Education

EDUC 590G: Special Topics: Mathematics Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590I: Special Topics: Elementary Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590J: Special Topics: World Language Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590K: Special Topics: Educational Psychology

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590L: Special Topics: Social Studies Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 590M: Special Topics: Literacy Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 591: Graduate Level Pre-Student Teaching Experience

(0-2) Cr. 0.5-6. Repeatable, maximum of 3 times. F.S.SS.

Prereq: 15 graduate credits in special area; admission to teacher education.

Supervised pre-student teaching experience in secondary schools. Supervision level 3.

EDUC 591C: Supervised Field Experience: Elementary Education

(0-2) Cr. 1-6. F.S.SS.

Prereq: 15 graduate credits in special area

Supervised on-the-job field experience in special area.

EDUC 591D: Graduate Level Pre-Student Teaching Experience: Secondary Science

(0-2) Cr. 1-4. Repeatable. F.S.

Prereq: 15 graduate credits in specialty area; admission to teacher education

Supervised pre-student teaching experience in secondary science education. Supervision level 3.

EDUC 591G: Graduate Level Pre-Student Teaching Experience: Secondary Mathematics Education

(0-2) Cr. 1-4. Repeatable. F.S.

Prereq: 15 graduate credits in specialty area; admission to teacher education

Supervised pre-student teaching experience in mathematics education. Supervision level 3.

EDUC 591M: Supervised Field Experience: Literacy

(0-2) Cr. 1-6. F.S.SS.

Prereq: 15 graduate credits in special area

Supervised on-the-job field experience in special area.

EDUC 591N: Supervised Field Experience: College Teaching

(0-2) Cr. 1-4. Repeatable, maximum of 3 times. F.S.

Prereq: 15 graduate credits in special area.

Supervised on-the-job field experience in special area.

EDUC 593: Workshops

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593A: Workshops: Curriculum

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593B: Workshops: Educational Technology

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593C: Workshops: Science Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593D: Workshops: Secondary Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593F: Workshops: Social and Cultural Studies

Cr. 1-3. Repeatable. F.S.

Prereq: 9 graduate credits in Education

EDUC 593G: Workshops: Mathematics Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593I: Workshops: Elementary Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593J: Workshops: World Language Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593K: Workshops: Educational Psychology

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593L: Workshops: Social Studies Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 593M: Workshops: Literacy Education

Cr. 1-3. F.S.

Prereq: 9 graduate credits in Education

EDUC 594: Contemporary Curriculum Theory and Principles

(3-0) Cr. 3. F.

Prereq: Graduate standing

Theoretical and historical perspectives of contemporary curriculum; social, cultural, and epistemological aspects of curriculum theory; diverse philosophical positions and approaches to understanding curriculum as it relates to educational settings.

EDUC 595: Teaching Disciplinary Literacy

(Dual-listed with EDUC 395). (3-0) Cr. 3. F.S.

Prereq: EDUC 204 and junior classification.

Analysis and application of strategies to enhance students' disciplinary literacy development in middle and secondary school setting. Research paper related to a course topic for EDUC 595.

EDUC 597: Teaching Secondary School Mathematics

(3-0) Cr. 3. F.

Prereq: 15 credits in college mathematics

Develop an understanding of instructional planning, lesson implementation, and assessment in grades 5-12 mathematics, with a focus on reform-based mathematics, equity, and conceptual understanding.

EDUC 599: Creative Component

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

Creative Component.

EDUC 599A: Creative Component: Curriculum

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599B: Creative Component: Educational Technology

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599C: Creative Component: Science Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599D: Creative Component: Secondary Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599F: Creative Component: Social and Cultural Studies

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599G: Creative Component: Mathematics Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599I: Creative Component: Elementary Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599J: Creative Component: World Language Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599K: Creative Component: Educational Psychology

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599L: Creative Component: Social Studies Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

EDUC 599M: Creative Component: Literacy Education

Cr. 1-3. F.S.SS.

Prereq: 9 graduate credits in Education

Courses for graduate students:**EDUC 602: Educational Inquiry in Action**

(3-0) Cr. 3. S.

Prereq: EDUC 601

Opportunities to learn about a variety of faculty research in the School of Education, engage faculty in conversation about their research, and continue reflecting on the theory and practice of educational inquiry. Offered on a satisfactory-fail basis only.

EDUC 603: Advanced Learning Environments Design

(Cross-listed with HCI). (3-0) Cr. 3. S.

Prereq: EDUC 503

Exploration of advanced aspects of the learning environments design process. Application of analysis, design, development and production, evaluation, implementation, and project management principles. Theory and research in educational technology provides the foundation for design decisions. Focus on current trends in learning environment design and the production and use of educational technology.

EDUC 610: Digital Learning in Teacher Education

(2-0) Cr. 2. F.

Research on using technology in teacher education programs. Application examples studied. Field component involving relating material from class to a teacher education situation.

EDUC 611: Philosophical Foundations of Educational Technology

(3-0) Cr. 3.

Prereq: 12 graduate credits in Education

Exploration of philosophies of science that serve as foundations for research and practice in educational technology, including positivism, post-positivism, interpretivism/constructivism, and critical theory. The roles of language, nature of truth and reality, and acceptable ways of knowing are explored in terms of their implications for educational technology design, delivery, research, and scholarship.

EDUC 612: Socio-psychological Foundations of Educational Technology

(3-0) Cr. 3.

Prereq: 12 graduate credits in Education

Examining socio-psychological theories of educational technology, their historical development, and their implications for the research and design of learning and instructional environments. Emphasis on cognitive and social constructivist paradigms and the creation and use of learning environments supported by technology.

EDUC 615: Seminar

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615A: Seminar: Curriculum

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615B: Seminar: Educational Technology

(0-2) Cr. 1. F.S.

Selected topics in educational technology; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615C: Seminar: Science Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615D: Seminar: Secondary Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615F: Seminar: Social and Cultural Studies

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615G: Seminar: Mathematics Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615I: Seminar: Elementary Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615J: Seminar: World Language Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615K: Seminar: Educational Psychology

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615L: Seminar: Social Studies Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 615M: Seminar: Literacy Education

(0-2) Cr. 1. F.S.

Selected topics in curriculum and instruction; an analysis of research potential; evaluation of impact upon the profession; implications for additional research.

EDUC 690: Advanced Special Topics

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690A: Advanced Special Topics: Curriculum

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690B: Advanced Special Topics: Educational Technology

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690C: Advanced Special Topics: Science Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690D: Advanced Special Topics: Secondary Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690F: Advanced Special Topics: Social and Cultural Studies

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690G: Advanced Special Topics: Mathematics Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690I: Advanced Special Topics: Elementary Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690J: Advanced Special Topics: World Language Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690K: Advanced Special Topics: Educational Psychology

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690L: Advanced Special Topics: Social Studies Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 690M: Advanced Special Topics: Literacy Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699: Research

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699A: Research: Curriculum

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699B: Research: Educational Technology

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699C: Research: Science Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699D: Research: Secondary Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699F: Research: Social and Cultural Studies

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699G: Research: Mathematics Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699I: Research: Elementary Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699J: Research: World Language Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699K: Research: Educational Psychology

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699L: Research: Social Studies Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education

EDUC 699M: Research: Literacy Education

Cr. arr. Repeatable.

Prereq: 9 graduate credits in Education